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ELECTRICAL SERVICES

STEENSEN VARMING



Melonba New Primary School and Marsden Park New High School Electrical Services SSDA Report

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Sydney August 16th, 2022
Ref. No. 217178

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1.0 Executive Summary

This report has been prepared for the new primary school in Melonba and new high school in Marsden Park in response to the SSDA requirement 21 – Infrastructure Requirements and Utilities.

This report provides an overview of how it is intended to service the site from an electrical and telecommunications services perspective.

2.0 Project Description

Project Briefing Note – Marsden Park new high school and Melonba new primary school	
Aspect	Detail
Project title	Marsden Park new high school and Melonba new primary school (SSD-41372302)
School titles	• Marsden Park new high school • Melonba new primary school
School references when referred to in text	• New high school in Marsden Park • New primary school in Melonba
Project citation (As per DPE Website)	New primary school and new high school to cater for 3,000 students and 219 staff
Project description	Construction of two new schools, new high school in Marsden Park and new primary school in Melonba, located at 20 Kaluta Avenue and 10 Swallowtail Street, Melonba. Marsden Park new high school is a new secondary school comprising: • 97 general learning spaces (GLS) and specialist teaching spaces; • Three supported education learning unit (SELU) rooms; • School hall, and lecture and movement studio; • Administration spaces; • Staff and student facilities; • Library; • Canteen; • Sports courts; • Playing field; • Landscaping and outdoor learning areas; • Covered outdoor learning area (COLA); and • Car parking (shared with Melonba new primary school). Melonba new primary school will comprise: • 44 GLS; • Three SELU rooms; • Administration and staff facilities; • Canteen; • Multi-purpose hall; • Library; • Out of School Hours Care (OSHC); • COLA; • Outdoor play areas including sports courts; and • Landscaped outdoor learning areas.
Site address	• Marsden Park new high school, 20 Kaluta Avenue, Melonba NSW 2765 • Melonba new primary school, 10 Swallowtail Street, Melonba NSW 2765
Allotments	Lot 30 DP 1237735

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Project Briefing Note – Marsden Park new high school and Melonba new primary school

Aspect	Detail
Site area	6.00 hectares: - Marsden Park new high school = 4 hectares - Melonba new primary school = 2 hectares
Site description	The site is located at 20 Kaluta Avenue and 10 Swallowtail Street, Melonba, which is within the Central River City Precinct and Blacktown Local Government Area (LGA). The site is irregular in shape and is sited between two tributaries of Little Creek. The site is generally level but has a gentle fall from the south-eastern corner (RL23) to the north western corner (RL19.5). The site contains no vegetation other than grass and is currently fenced to prevent unauthorised access.
Surrounding development	To the north, east and south of the site is emerging and recently completed low density residential development comprising one and two storey dwellings. To the west of the site is an open space area (which serves a drainage function) and beyond this is Little Creek, a tributary to South Creek that flows north to the Hawkesbury River. Further to the south is an area zoned as B2 Local Centre, which has not yet been developed. The next phase of residential development in the area is located on the western side of Little Creek and is currently in the bulk earthworks phase to create the street network.
Local government area	Blacktown City Council
Aboriginal country	Dharug Nation
Road frontages	Elara Boulevard (northern boundary) Kaluta Avenue – Collector Road (eastern boundary) Swallowtail Street (southern boundary) Galah Street (western boundary)
School capacity	3,000 students: - Marsden Park new high School = 2,000 students - Melonba new primary school = 1,000 students
Staff capacity	219 full time equivalent (FTE) staff: - Marsden Park new high school: 127.9 teaching staff + 22.8 administration and support staff = 150.7 staff - Melonba new primary school = 58.5 teaching staff + 9.4 administration and support staff = 67.9 staff
School access	- New high school in Marsden Park primary pedestrian access will be from Kaluta Avenue. - New primary school in Melonba primary pedestrian access will be from Swallowtail Street. - Car parking for both schools will be accessed via Galah Street. - Kiss and drip facility located on Swallowtail Street and Kaluta Avenue. - Bus laydown located on Kaluta Avenue.

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Project Briefing Note – Marsden Park new high school and Melonba new primary school

Aspect	Detail
Parking provision	Parking spaces: - Total = 142 (including 2 adaptable spaces) – staff parking only - Marsden Park new high school students = 0 - Visitor spaces = 0 - Marsden Park new high school bike spaces = 84 - Melonba new primary school bike spaces = 60
Floor area	Gross Floor Area: - Total = 26,745m² - Marsden Park new high school = 19,230m² - Melonba new primary school = 7,515m² Outdoor Play space: - Total = 30,000m² - Marsden Park new high school = 20,000m² - Melonba new primary school = 10,000m² Play space per student: - Total = 10m² per student - Marsden Park new high school = 10m² per student - Melonba new primary school = 10m² per student
Client and application	School Infrastructure NSW
Early works (Not included in this SSDA)	Installation of an electricity substation on Kaluta Avenue

3.0 SEARs Requirements

The Melonba New Primary School and Marsden Park New High School SSDA Report is required by the Secretary's Environmental Assessment Requirements (SEARs). This table identifies the relevant SSDA requirement/s and corresponding reference/s within this report.

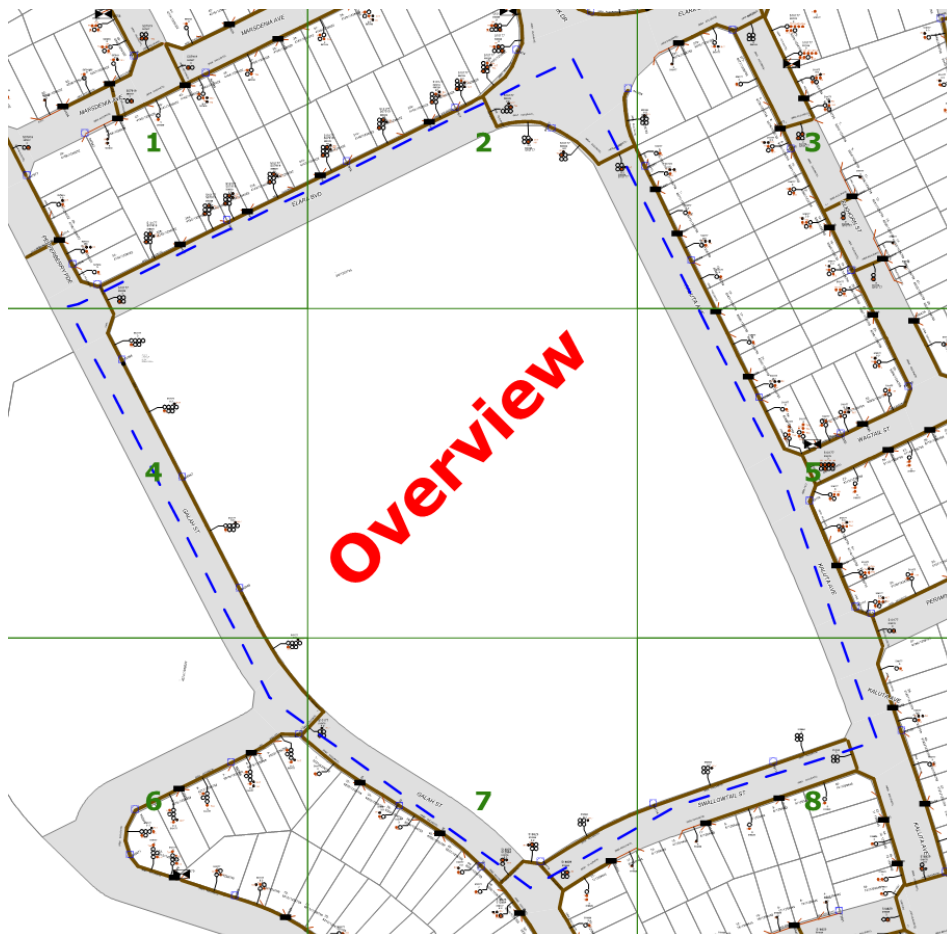
Table 1 – SEARs and Relevant Reference

SSDA Deliverable	Project Response to DGR
Infrastructure Delivery, Management and Staging Plan	- In consultation with relevant services providers - o Assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site - o Identify any infrastructure upgrades required on-site and off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented on time and be maintained - o Provide an infrastructure delivery and staging plan, including description of how infrastructure requirements would be co-ordinated, funded and delivered to facilitate the development

4.0 Electrical Infrastructure

4.1 Existing Electrical Services

There is existing Endeavor Energy HV network in the vicinity.



Endeavour Energy Existing Network

4.2 Proposed Electrical Services

Based on a preliminary maximum demand rate of 80VA/m² applied to the development, we estimate the maximum demand is in the order of 2603Amps for new high school in Marsden Park and 1175 Amps for the new primary school in Melonba.

Based on the estimated maximum demand, 2 x 1500KVA Kiosk Substations are proposed to serve for the site.

Endeavour Energy application was lodged, and Supply offer letter has been provided by Endeavour Energy. Endeavour Energy has assessed that the existing feeder that is proposed to connect these substation does not have sufficient capacity. To supply the requested load, the substation will be connected to a different feeder and the works involves upgrading and extension of existing HV feeders. All works associated with the establishment and installation of the new substation will be funded by the customer. The scope and works to be undertaken will be in accordance with the Endeavour Energy's Connection Policy and must comply with all the latest relevant technical bulletins, important notices, policies, regulations and network standards. All service works will comply with the requirements of the NSW service and Installations Rules.

Refer to Appendix for further details.

Substation location has been finalised and the final design application will be lodged with Endeavour Energy as the intention is early procurement of the substation. Substation works are to be coordinated with Early works and recommendation is to supply and install the substation in coordination with civil and landscape works to avoid ripping up after they are built. The contractors will need to incorporate measures to minimise risk of damage to the substation during construction.

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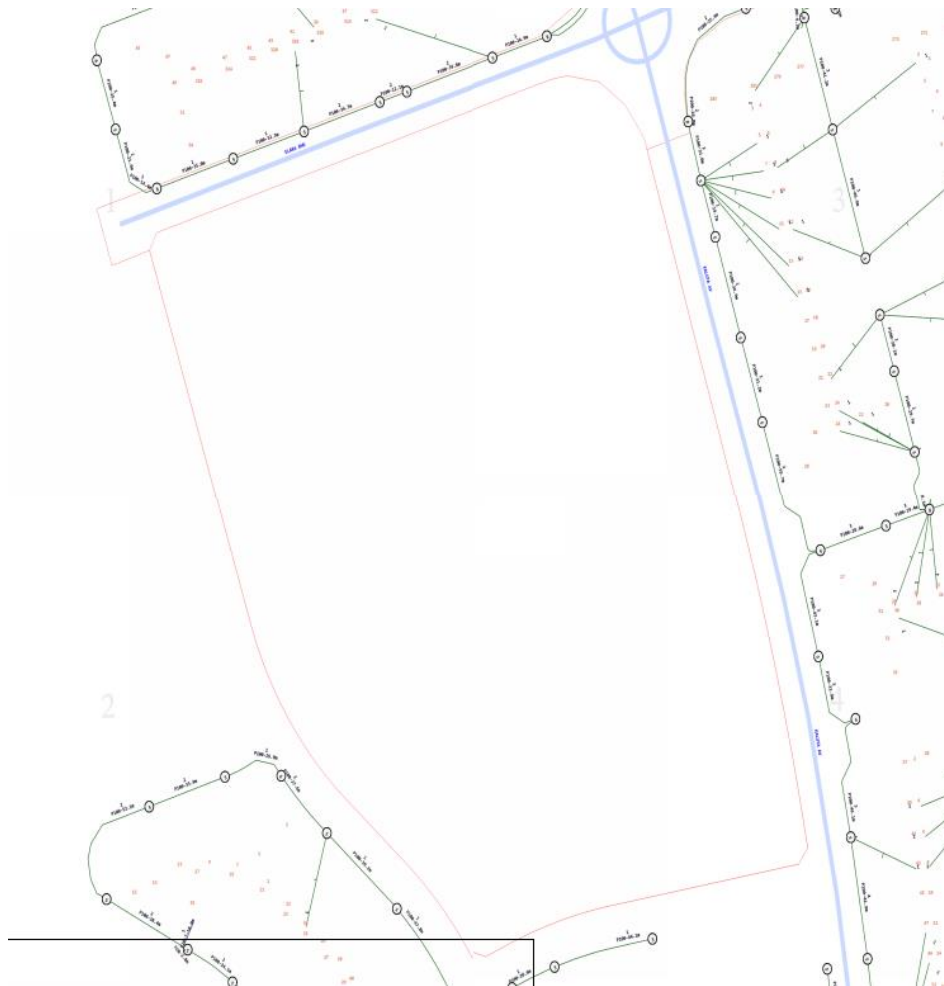
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5.0 Telecommunications

5.1 Existing Telecommunications Services

There is existing NBN Co network in the vicinity.



Existing NBN Network

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5.2 Proposed Telecommunications Services

Applications shall be submitted to NBN Co. by the Department of Education – Information Technology Directorate for a new fibre optic telecom service providing Internet and Public Telephone connectivity for the School.

The Telecom Service providers will be responsible for supplying, installing and terminating the incoming fibre optic cabling, while the Customer will be responsible for providing an appropriate cable pathway within the plot.

Conduits and pits within the property shall be provided as part of the development work. Separate lead-ins are required for both primary and high school.

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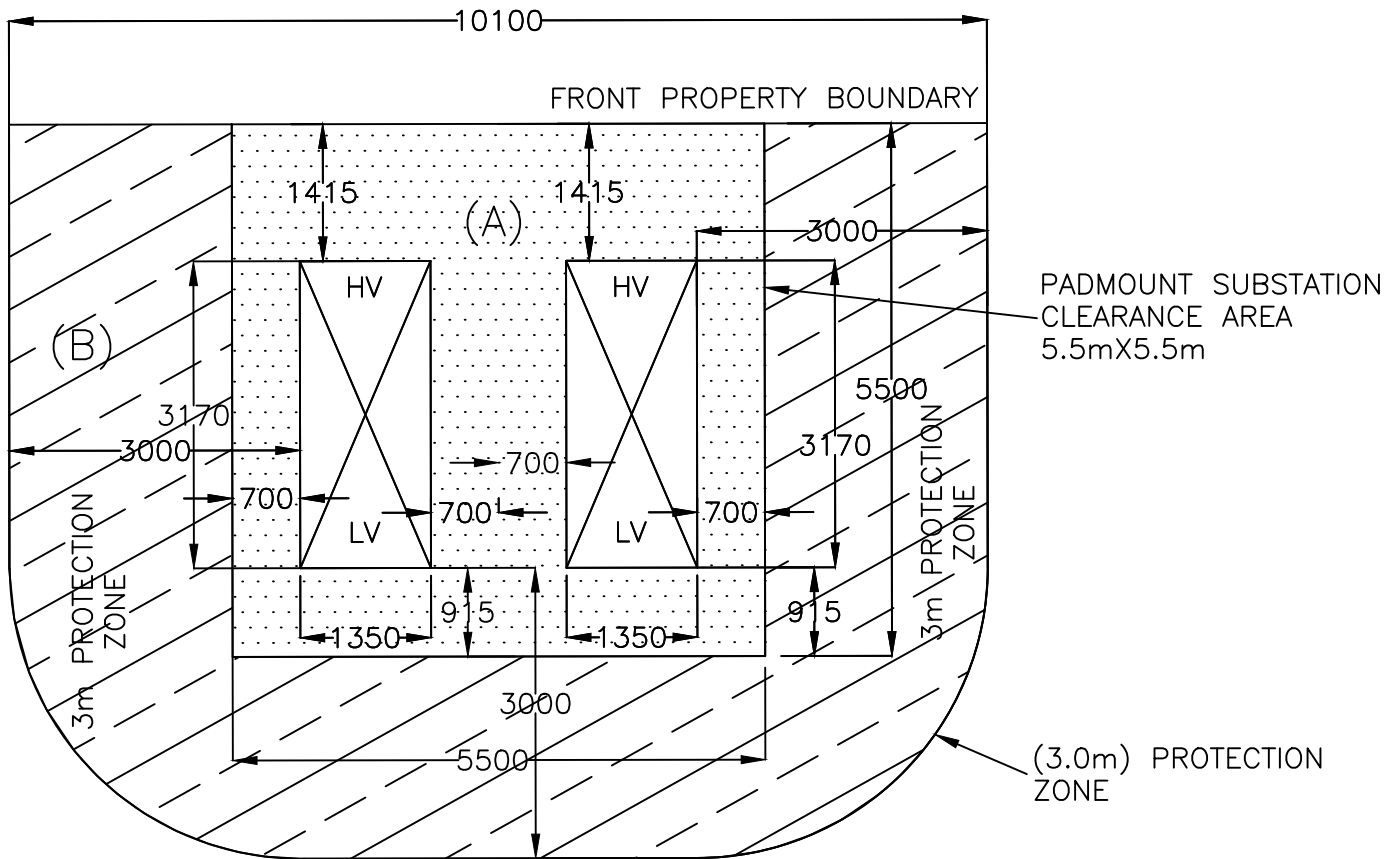
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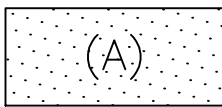
6.0 Appendix

6.1 Endeavour Energy Substation Spatial Requirements

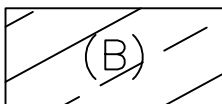


PROTECTION ZONE DIAGRAM – SITE SPECIFIC CONDITIONS FOR PADMOUNT SUBSTATION

SCALE: 1:100



PADMOUNT SUBSTATION CLEARANCE AREA
5.5m x 5.5m SUBSTATION CLEARANCE
AREA. NO SERVICES OR STRUCTURES
ALLOWED



PROTECTION ZONE
PROTECTION ZONE MEASURED 3.0m
FROM THE SUBSTATION PLINTH.
SUBJECT TO SITE SPECIFIC
CONDITIONS FPJ4689

* SUBSTATION PLINTH 1.35m x 3.17m AT TOP OF CONCRETE
(ALL OFFSETS TO PLINTH SHOWN FROM TOP OF CONCRETE)

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6.2 Endeavour Energy Supply Offer

18 May 2022



Endeavour Energy Ref: ULL3480
Customer Ref:

Henderson Consulting Engineers Pty Ltd
PO Box 6034
WOLLONGONG NSW 2500

Attention: Peter Henderson

CONNECTION OFFER – STANDARD CONNECTION SERVICE

ULL3480 – LOT 30, DP 1237735, Connection of Load Application: Elara Bouvard, MELONBA

Thank you for your application providing information of the proposed development at the above location. Your application has been registered under the above reference number. Please quote this reference number on all future correspondence.

This connection offer is made in accordance with the Terms and Conditions of the Model Standing Offer for a Standard Connection Service available on our website. To accept this offer, please complete the enclosed Notice of Advice form and obtain your Level 3 Accredited Service Provider (ASP) signature on the form prior to returning it to Endeavour Energy.

Endeavour Energy has completed a preliminary desk top assessment of the information provided in your application and issued an enclosed Supply Offer. Your next step is to obtain the services of a Level 3 ASP to prepare and provide an electrical design to Endeavour Energy in the form of a Proposed Method of Supply. This activity is customer funded contestable work and you will need to pay for it. An estimate of fees related to review of your design is attached.

A list of the Accredited Service Providers is available at the NSW Trade and Investment website: <https://energysaver.nsw.gov.au/households/you-and-energy-providers/installing-or-altering-your-electricity-service> or can be obtained via phone 13 77 88.

Please note under the National Electricity Rules (NER) customer may choose to enter into a negotiated agreement. A negotiation framework describing this process is available on our website.

Should you have any enquiries regarding your application please contact the undersigned.

Yours faithfully,

A handwritten signature in black ink that reads "Eugene Lorenzo".

Eugene Lorenzo
Customer Network Engineer
Ph: 02 9853 7909
Email: CWTech@endeavourenergy.com.au

18 May 2022

Endeavour Energy Ref: ULL3480

Endeavour Energy
PO Box 811
Seven Hills NSW 1730
cwadmin@endeavourenergy.com.au

Attention: Customer Connections Administrator

NOTICE OF ADVICE

**APPOINTMENT OF ACCREDITED DESIGNER FOR THE PROPOSED DEVELOPMENT AT:
LOT 30, DP 1237735, ELARA BOUVARD, MELONBA**

*** Please complete and return when a Level 3 Service Provider has been nominated***

Please accept this letter as notification that I intend to proceed with the development described above. I own or am developing the land and works on the land, (and/or where relevant on public land). I intend to supply this development to Endeavour Energy requirements.

By signing this Notice of Advice I am accepting the Terms and Conditions of Endeavour Energy's Model Standing Offer for a Standard Connection Service.

The Level 3 Service Provider appointed is:

The Fees will be Paid to Endeavour Energy by:

Name / Company:

Address:

Email: Phone:

.....
Signature of Level 3 ASP

.....
Name of Level 3 ASP

.....
Signature of Applicant/ Applicant's Representative

.....
Name of Applicant/ Applicant's Representative

.....
Date

.....
Company Name

The signatory warrants that they are authorised to execute this Application.

APPLICATION NO: ULL3480

DATE: 18 May 2022

SUBJECT: SUPPLY OFFER FOR

Elara Bouvard, MELONBA

Endeavour Energy has carried out a desk top assessment and has prepared the attached Supply Offer for this development.

The supply offer will assist your Level 3 ASP to develop the most efficient solution to meet your needs whilst complying with Endeavour Energy's standards and with the Terms and Conditions of the Model Standing Offer for a Standard Connection Service. Please find below a list of some requirements that will need to be addressed by your nominated Level 3 ASP.

- Field visit to verify physical details
- Trench length
- Cable length
- Length of cable using existing ducts
- Length of new ducts required to be installed
- Substation location shown on a preliminary sketch and HV switchgear numbers
- Types and number of poles to be replaced or installed
- Complexity of trenching (ie rock, under-bore, commercial area etc)
- Earthing requirements and complexity
- Overhead construction and isolation point requirements
- Asset Valuation form must be completed including any extraordinary costing requirements
- Environmental issues addressed in a fully documented Environmental Assessment
- Generation requirements
- Rail Crossing requirements

A sketch of the proposed design utilising the GIS as a base must be returned with the above information.

This Supply Offer is part of the Connection Offer for a Standard Connection Service and is valid for three (3) months from the date of issue.

Where this Connection Offer has lapsed, you or your Level 3 ASP must contact Endeavour Energy with the request to extend the Connection Offer. Endeavour Energy will assess your request and will inform you of the outcome. It must be recognised that the network is being constantly extended/augmented as new customers get connected. This means that for your Connection Offer to be extended, your Supply Offer may require alteration. If this is the case, additional fees to cover administrative costs may apply.

The fees applicable to this phase of the project will need to be paid prior to design certification and are outlined in the Network Price List available on the Endeavour Energy website.

18 May 2022

Endeavour Energy Ref: ULL3480

SUPPLY OFFER

(Based on a desktop assessment)

Development Details & Applicant's Assessed Load:

This application is for 2 x schools (Melonba Primary School & Marsden Park High School) on 1-lot and will require a single point of supply.

Endeavour Energy Assessed Load:

The total requested load for both Schools is 3778A/phase based on the AS3000 load density calculation.

Connection Options:

Please submit a method of supply for the development.

Based on the preliminary design provided with the application, 2x 1500kVA PM substation is being proposed.

Endeavour Energy has assessed that the existing feeder "Vine St – MS1132" that is proposed to connect these substations does not have sufficient capacity.

To supply this load, the proposed substations are to be connected to feeder MS1152. This will require upgrading of existing PM subs to 3-Fdr RMUs and extension of existing HV feeders. In addition, as the proposed substations are 1500kVA, the number of switches available is limited to two switches.

Therefore, the preliminary method of supply will be:

- 1) Upgrade PM SUB 36555 to a 3 fdr RMU – new switch to be open
- 2) Upgrade PM SUB 36872 to a 3 FDR RMU – new switch to be closed
- 3) Ring in the 2 PM SUBS between the new switches f the above PM Subs.
- 4) Development will be supplied by MS1152 after other Projects switching is performed, (Currently FDR MS132).

Please investigate the above and advise if it is feasible through the method of supply submission.

All works associated with the establishment and installation of the new substation will be funded by the customer.

The scope and works is to be undertaken in accordance with the Endeavour Energy's Connection Policy and must comply with all the latest relevant technical bulletins, important notices, policies, regulations and network standards.

All service works are to comply with the requirements of the NSW service and Installations Rules.

18 May 2022

Endeavour Energy Ref: ULL3480

Initial Funding Arrangements

Endeavour Energy Supplied Materials:

Nil

Endeavour Energy Funded and Constructed:

Nil

**Endeavour Energy Funded and Level1 ASP Constructed – Reimbursement
Paid by Endeavour Energy**

Transformer only

Reimbursement to be paid to Endeavour Energy by Customer:

Nil

Customer Funded Monopoly Services:

Network switching, commissioning, contractor inspection, ancillary fees, etc.

Customer Funded Contestable Works:

All other works required

ANCILLARY FEE ESTIMATE

***(for assessment of the Proposed Method of
Supply and approval of the Design)***



CAP No. : ULL3480

Proposed Location: Lot 30, DP 1237735, Elara Bouvard
MELONBA

Detailed below is the **estimate** of the proportion of applicable Ancillary Network Services Fees (GST Inclusive) related to design assessment for your information only. The final fees for this phase of the project will be sent to you with a Design Brief. Ancillary Network Services Fees will also apply for the construction and connection phase of the project (e.g., site establishment fee). These fees will be conveyed to you after the receipt of a signed Letter of Intent indicating that you will proceed with the construction phase of the project.

Standard Connection Offer Fee	18-05-2022	\$271.61
Design Information Fee	18-05-2022	\$3621.64
Design Certification Fee	18-05-2022	\$2716.23
Administration Fee	18-05-2022	\$359.27
Estimate Total (inc GST)		\$6968.75

Where Endeavour Energy assets may need to be placed on private property, property easements will be required. Urgent action should be taken to create easements so that timely acquisition and registration with the Land and Property Information (NSW) can be completed.

Endeavour Energy will accept a property tenure bond while the property owner is in the process of creating the easement. The property tenure bond will be returned after the easement has been registered.

Please do not make any fee payment at this time.

Once the design fee amount has been finalised Endeavour Energy will send a request for the fees and property tenure bond payment (if required) to your nominated Level 3 Accredited Service Provider.