Site Services Strategy Muswellbrook Shire Council Infrastructure Depot @ Coal Road

Revision	Date	Description	Author/s	Reviewer
0	23/02/24	Information	KS/SF	MS
1	26/11/24	DA Submission	RN/SF	MS

The reader's attention is drawn to the following important information:

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Contents

1 Introduction

1.1 Overview

This report has been prepared by erbas™ on Muswellbrook Shire Council Infrastructure Depot located along Coal Road

The site will consist of a new building incorporating admin, storage areas, and workshop over two levels.

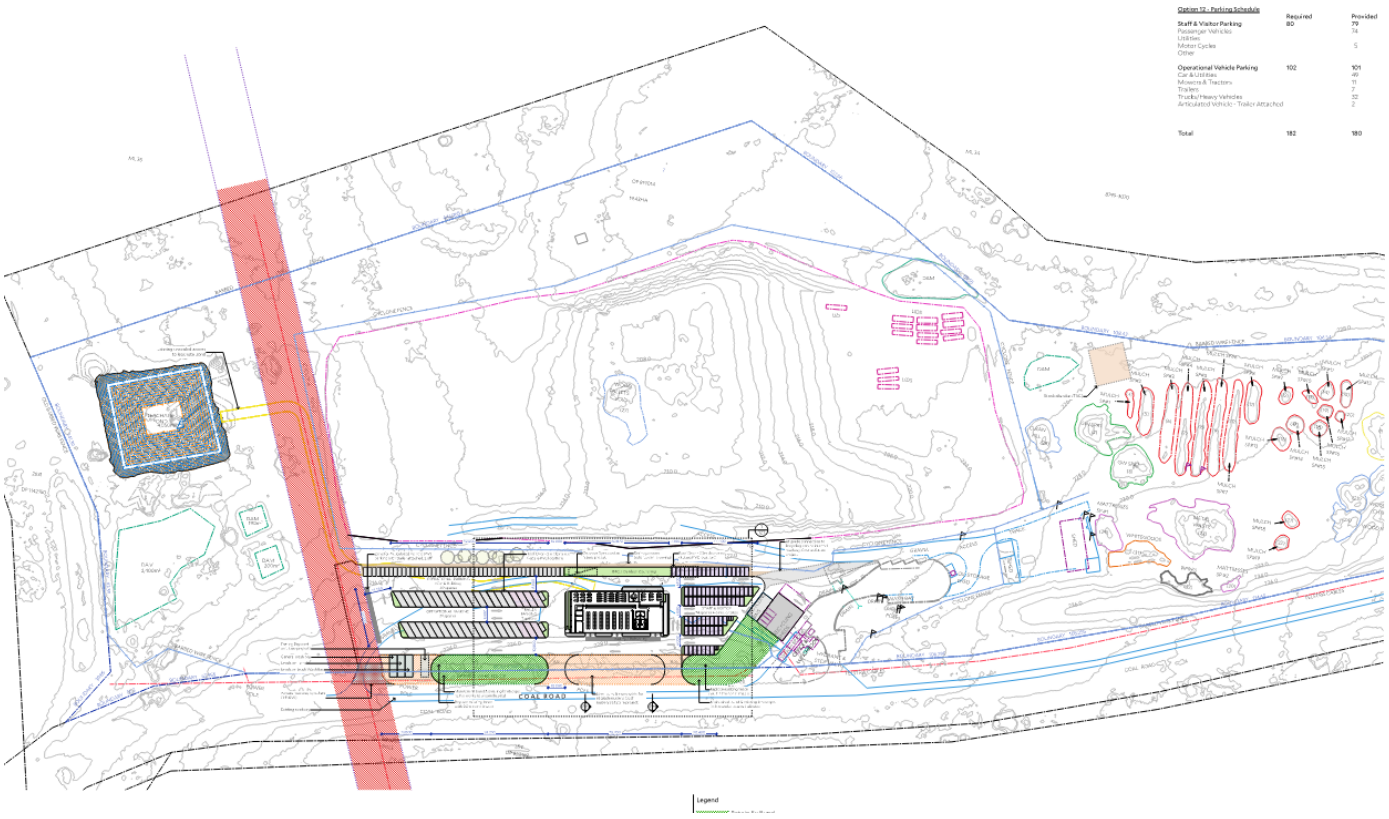

Figure 1 Site Plan

1.2 Purpose

This report has been provided as part of the preliminary investigations to,

1. Assess the impacts of the development on existing utility infrastructure and service provider assets surrounding the site.
2. Identify any infrastructure upgrades required off-site to facilitate the development and any arrangements to ensure that the upgrades will be implemented.
3. Advise our assumptions on the existing capacity of the site to service the proposed development and any extension or augmentation, property tenure or staging requirements for the provision of utilities, including arrangements for electrical network requirements, drinking water, wastewater, gas and how the upgrades will be coordinated, funded and delivered.
4. Identify the existing service infrastructure on the site or within the network which may be impacted by the construction and operation of the proposal and the measures to be implemented to address any impacts on this infrastructure.

1.3 Executive summary statement

The main utility services of Water, Sewer, Electrical infrastructure is outlined in the following sections below.

- A Fire hydrant system is required in accordance with NCC 2021 E1D2 and AS2419.1:2021
- The information within this report has assumed optimal use of available site information whilst also considering the Building Code of Australia, relevant Australian Standards and Codes, client-driven design guidance, and best practice industry guidelines.

2 Hydraulic Services

2.1 Water Service

An Authority water main is available in the vicinity of the proposed development is located in Coal Road. Refer to Figure 1 Dial Before You Dig MAP below.

The existing site is currently serviced by an 80mm water supply. The existing water meter is sufficient to serve the new facility while maintaining enough capacity for the existing services.

A new 50mm supply will be connected downstream of the existing water meter and reticulated in the ground to the new facility. Refer to the hydraulic services drawing HY-0010.

The water service is designed in accordance with NCC 2022 and AS3500.1:2021.

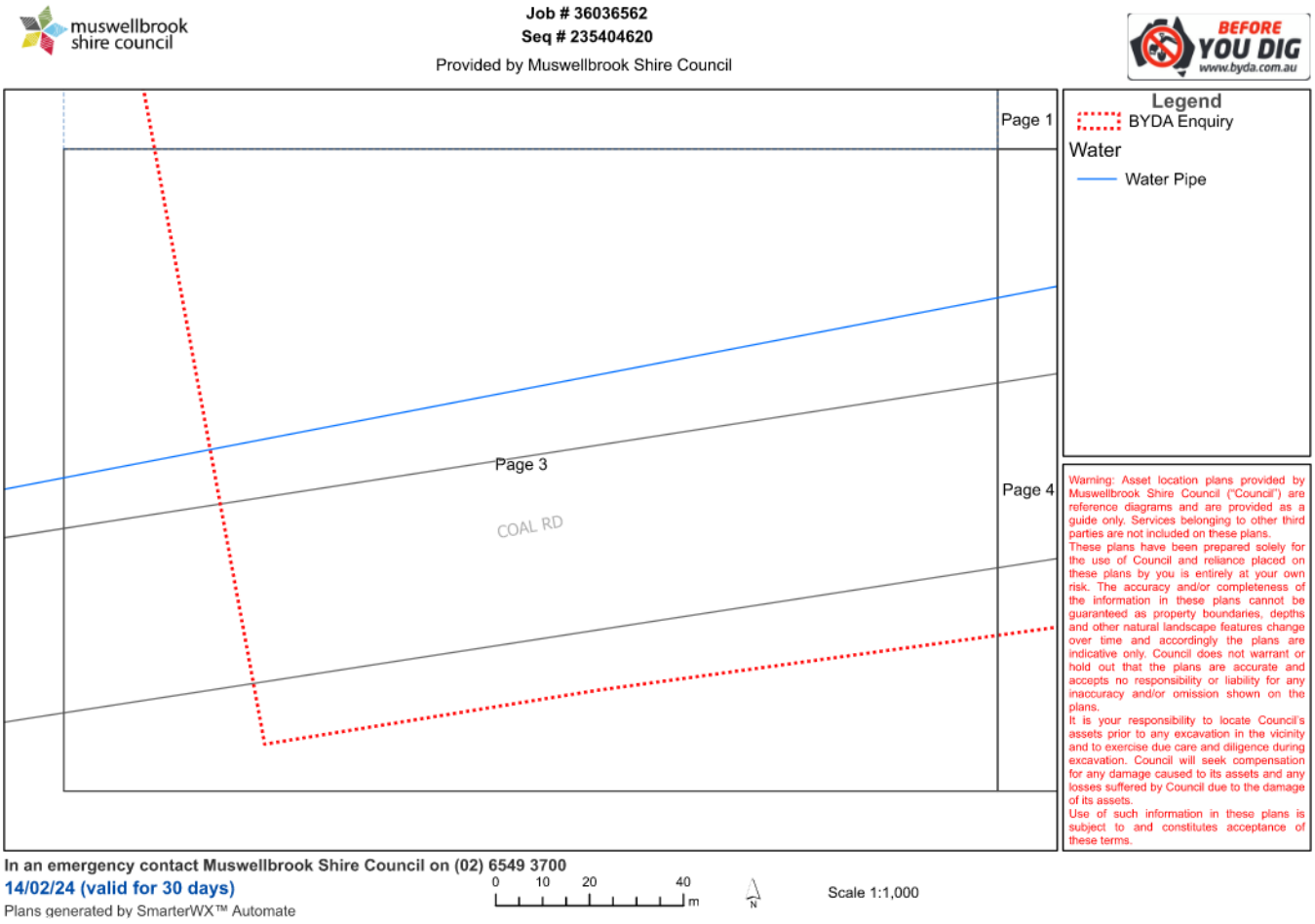

Figure 1 Dial Before You Dig MAP

muswellbrook shire council

WATER & WASTEWATER

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FLOW & PRESSURE TEST

Person/Company Requiring Test	Afshin Safari - Erbas
Address	252 Coal Road Muswellbrook
Date	20th March 2024
Static Pressure	PSI **70** kPa **500**
Size of Main and Material	**80mm PVC** through a 65mm Fire Stand

Residual Flow Pressure (kPa)	Litres Per Second
450	2
350	4
300	5
300	6
180	8
100	10
0	**Maximum Flow - 13**

Kind Regards

Kugan Thiru
Project Engineer
Water & Waste

Figure 2 Pressure and Flow test

2.2 Sewer Drainage

Muswellbrook Shire Council is providing a new sewer main extension from the existing Authority Sewer Main adjacent to Thiess Crescent to the new facility along Coal Road. For information, refer to the Sewer Main extension drawings documented by MM Hyndes Bailey & Co. Refer to Figure 3 below.

The Sewer drainage serving the new facility is designed in accordance with NCC 2022 & AS3500.2:2021. The new facility will connect to the 150mm stub provided by the Sewer Mains extension located on the western side of the new facility.

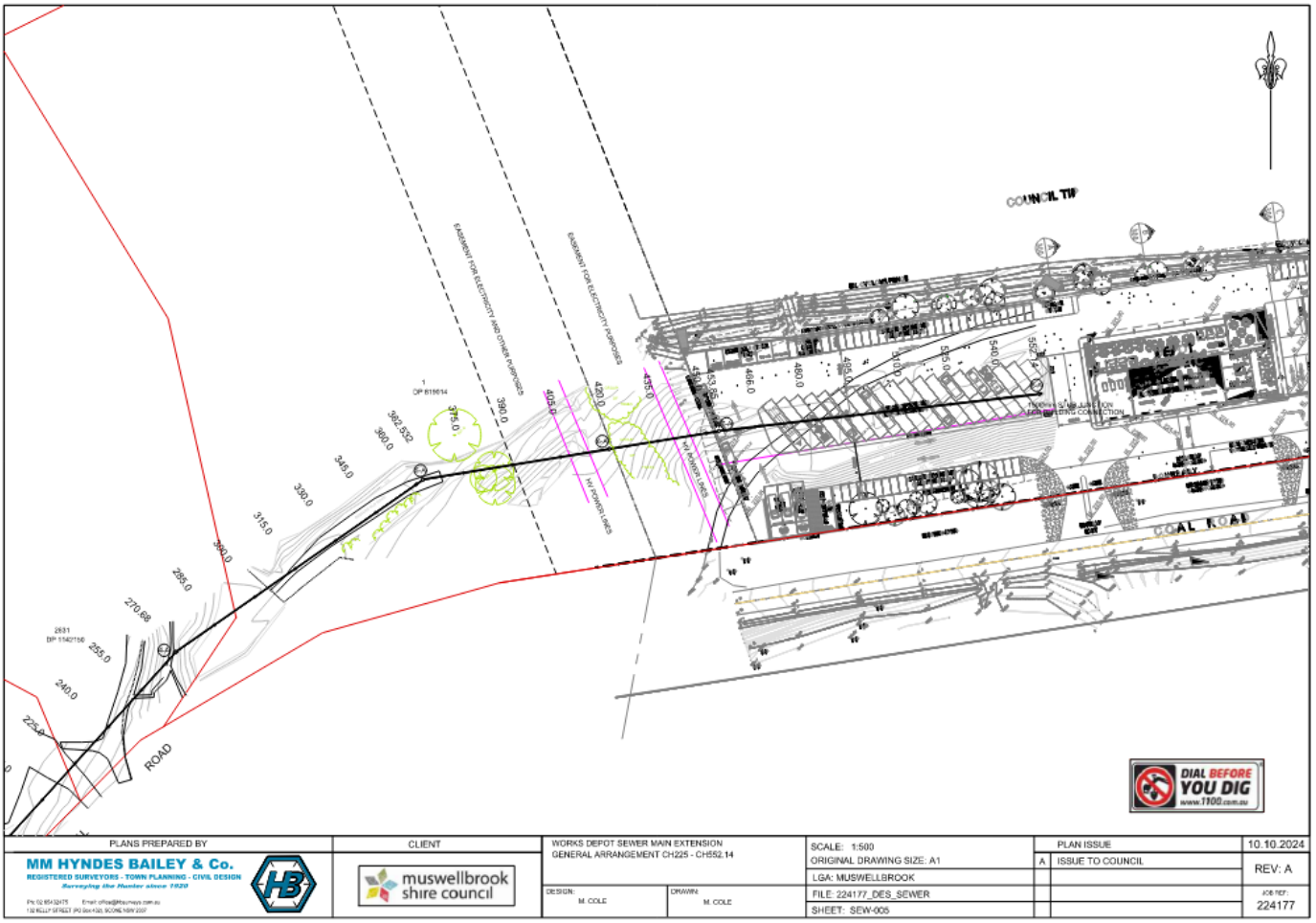

Figure 3 Sewer Mains Extension

2.3 Fire Hydrant Service

The proposed facility has a floor area greater than 500m2. NCC 2022 E1D2 requires a Fire Hydrant System to be provided in buildings with such an area.

The new hydrant system is proposed to connect to the 80mm Authority Water Main in Coal Road. Due to the limited pressures and flows available in the water main, a 12,000L Fire Tank and Hydrant Pumps are required to meet the requirements of AS2419.1:2021.

The Fire Hydrant tank is located above ground and is to be constructed of either Concrete or Steel. Adjacent to the fire tank, a secure, weather-proof Fire Hydrant Pump Room is required. The pump room is to be positioned no further than 20m from a hardstand (position the fire brigade park truck).

A new Fire Hydrant Booster Assembly is required adjacent to the new vehicular entry and within the site of the main building entrance. The Booster Assembly is a "tank type" booster as a Fire Tank is required.

External fire hydrants are positioned around the perimeter of the building to provide fire hydrant coverage to the new facility. The fire hydrants are to be positioned no closer than 10m to the building.

Refer to drawing HY-0010 indicating the Fire Hydrant Booster, Pump Room and Fire Tank positions. Refer to drawing HY-9000 for details of the pump room and booster assembly.

The Fire Hydrant system is designed in accordance with NCC 2022, AS2419,1:2021.

2.4 Truck Wash Bay

The hydraulic drawings propose a covered truck wash bay for the new facility, including the pre-treatment requirements.

A Trade Waste application is required to be submitted to the council to confirm the pre-treatment requirements.

2.5 Existing Site Services

3 Existing Electrical Services

The existing incoming power supply come from an overhead Ausgrid pole mounted substation. This reticulates overhead to private power pole. The existing spare capacity of the substation is unknown at this stage, but appears to be 200kVA.

Further works will be required prior to Tender Stage to determine whether the existing pole mounted transformer will be adequate for the proposed development. A new 400kVA will likely be required.

Below diagram shows our current understanding to the existing infrastructure serving the site.

Figure 1, Existing Electrical infrastructure

There is a consumer main reticulating underground from the private pole to the site external main switchboard (MSB).

Figure 2, Existing Electrical MSB

It is proposed that the existing MSB be retained as an MDB, and be back fed from the new Main Switch Board.

Figure 3, Existing Electrical MSB

The existing DBs appears to be an older style and may require an upgrade for future upgrade works.

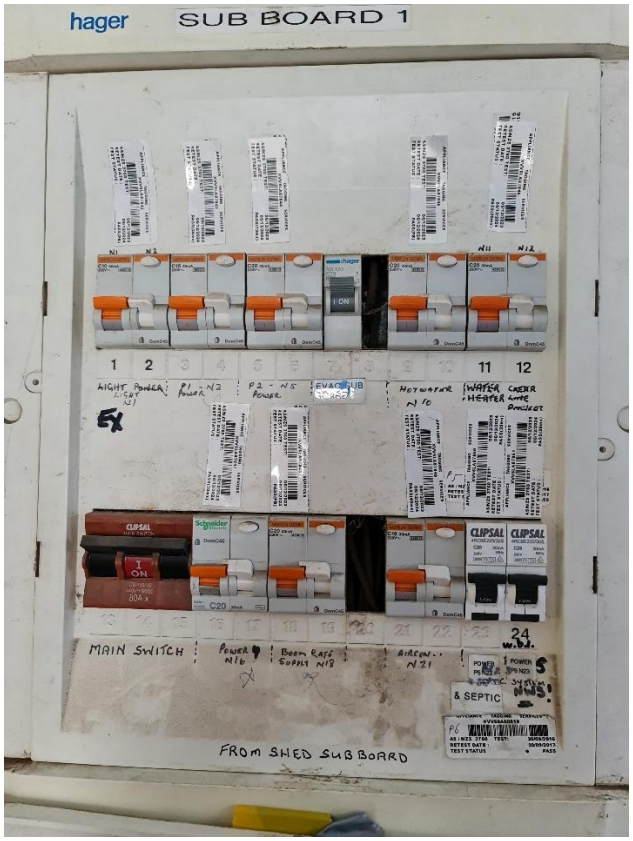

Figure 4, Existing Electrical DBs

4 Existing Communications (Telstra/NBN)

The carrier in-ground services public information revealed the presence of telecommunication conduits and pits located on Coral Road servicing the site.

Below diagram shows our current understanding to the existing infrastructure serving the site. There is a carrier lead-in reticulating underground from the comms pit on Coral Road to the site building distributor.

Further confirmation and design will be required prior to Tende Issue to determine whether NBN (fibre optic services are present in the street.

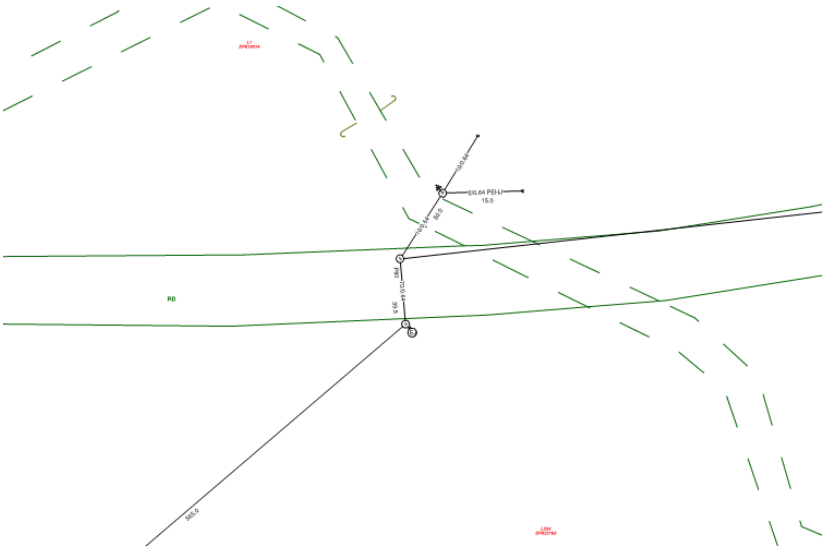

Figure 5, Existing Communications infrastructure

Figure 6, Existing Communications infrastructure

5 Proposed New Electrical Site Works

Incoming Power Supply Arrangement. We envisage the electrical infrastructure will require upgrade for the new building.

Existing Electrical MSB – This will be retained and converted to an MDB. The existing supply is to be removed and a new submain to be installed from the new MSB to this MDB.

Existing Electrical Submains – We will require the installation of new submain from the transformer and private pole to the new main switchboard.

Existing Electrical Distribution Bopards (DBs') – Existing electrical DBs in the existing shed to be retained. New DB's to be installed in the new building.

Incoming Telecommunication Arrangement – The presence of NBN cabling adjoining the site will need to be confirmed. New fibre optic cable will need to be installed from the boundary to new NBN equipment in the new building. If NBN is not present, the project will require the installation of a satellite system for telephont services.

New Communication Racks – New communication racks and structured cabling required to meet the new standards and suit the fitout requirements.