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BOWRAL AND DISTRICT HOSPITAL REDEVELOPMENT

GAS ENCLOSURE RELOCATION – CIVIL ENGINEERING REPORT

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ISSUE AUTHORISATION

PROJECT: Bowral and District Hospital Redevelopment – Gas Enclosure Relocation
Project No: 5266

Rev	Date	Purpose of Issue / Nature of Revision	Prepared by	Reviewed by	Issue Authorised by
A	12/05/20	Issue for Information	NK	KH	KH
B	25/05/20	Issue for Information	NK	KH	KH

Executive Summary

This report has been prepared to discuss the medical gas enclosure relocation at Bowral and District Hospital. This report will address civil items associated with this relocation, namely:

- Sediment and Erosion Control
- Stormwater Quality
- Pavements
- Grading

This civil engineering report has been prepared on behalf of NSW Health Infrastructure to accompany a Section 4.55 application to modify State Significant Development 8980 (SSDA approval) which was approved by NSW Department of Planning, Industry and Environment (the Department) on 21 February 2019. The original SSDA approval was subsequently modified by SSD 8980 MOD 1, which was approved by the Department on 15 November 2019. The SSDA approval is for the redevelopment of the Bowral and District Hospital, located 97-103 Bowral Street, Bowral within Wingecarribee Shire local government area.

This civil engineering report is prepared having regard to the relevant Secretary's Environmental Assessment Requirements (SEARs) issued by the Department to the original SSD application on 30 January 2018.

NSW Health Infrastructure now seeks to further modify the SSD approval to capture the relocation of medical gas and oxygen enclosures from the southern side of the hospital building to the western portion of the site, adjacent to the vehicular ramp to the upper hospital level and adjacent to the vehicular access provided from Bowral Street. The proposed location for the enclosures has been selected on the basis that it provides a consolidated area for medical gases, it allows vehicular and maintenance access, and it does not impede future expansion of the hospital. The new location for the enclosures has been subject to input from relevant fire, electrical, architectural, and medical gas disciplines and endorsed by NSW Health Infrastructure.

Contents

1 Introduction

enstruct group has been engaged by ADCO Construction as the civil engineering consultant for the redevelopment of Bowral and District Hospital.

This report has been prepared to discuss the proposed gas enclosure relocation and the civil works associated with this, and ensures design meets required relevant Council and Australian Standards and specifications.

2 Civil Engineering

2.1 Sediment and Erosion Control

Sediment and erosion control measures will remain as approved under MOD 1 and are to be in place throughout construction in accordance with Wingecarribee Shire Council specifications and Managing Urban Stormwater: Soils and Construction Vol 1, 4th Edition, Landcom, 2004. The measures will prevent soil tracking onto roadways or material entering waterways or stormwater systems. Controls such as sandbags at inlet pits and sediment fences surrounding civil works are required. It is the responsibility of the contractor to update the layout of the sediment and erosion control measures suitably as construction works progress.

2.2 Stormwater Quality and Quantity

Pollutant removal and stormwater treatment has been provided for the approved Bowral and District Hospital Redevelopment which covered the previous gas enclosure location. The gas enclosure location, as now proposed, will connect to the Bowral Hospital redevelopment stormwater system. This stormwater system will not require additional stormwater pollutant treatment measures or Onsite Stormwater Detention (OSD) as this system included sufficient controls when the gas enclosure was at the previous location. In addition, the proposed new location sees that there is no net increase to hardstand areas and no increase in water volume or pollutant loading.

From the above, the already provided OSD and water quality controls will meet the requirements for the proposed relocation of the gas enclosure and nothing additional will be required.

2.3 Pavements and Earthworks

Pavement design will be in accordance with Australian New Zealand Industrial Gas Association (ANZIGA) guidelines and AS1894: The storage and handling of non-flammable cryogenic and refrigerated liquids. As per ANZIGA Concrete Pad Details for Vacuum Insulated Vessels up to 60 000L storage capacity, pavements will be designed for loads on hardstanding of a 25.0T Tri or Dual Axle group loading.

Prior to placing concrete, the ground will need to be prepared to ensure it can achieve a minimum of 150KPa bearing capacity.

2.4 Grading and Levels

The roadway will be graded to suit truck and spatial requirements as required by ANZIGA and in AS1894. Pavements will have limited fall to assist gas refuelling and parking.

The proposed pavement will connect to the existing driveway and Ascot Road with suitable grades for Heavy and Medium Rigid Vehicles (HRV and MRV).

2.5 Turning Path and Vehicle Size

Refer to the traffic engineer to ensure sufficient spatial requirements have been provided to accommodate the relevant size gas truck including adequate parking and loading facilities.

3 Conclusion

Sediment and erosion control measures will be in place throughout construction as identified and approved under MOD 1. The proposed gas enclosure location will allow connection into the Bowral Hospital redevelopment stormwater system. This stormwater system will not require additional stormwater pollutant treatment measures or OSD as there will be no net increase to hardstand areas, water or pollutant loading. Pavement and roadway grades will be designed as per ANZIGA guidelines and AS: 1894 and be suitable for loads on hardstanding of a 25.0T Tri or Dual Axle group loading. The traffic engineer is responsible for specifying spatial requirements for relevant size gas trucks including parking and loading facilities.