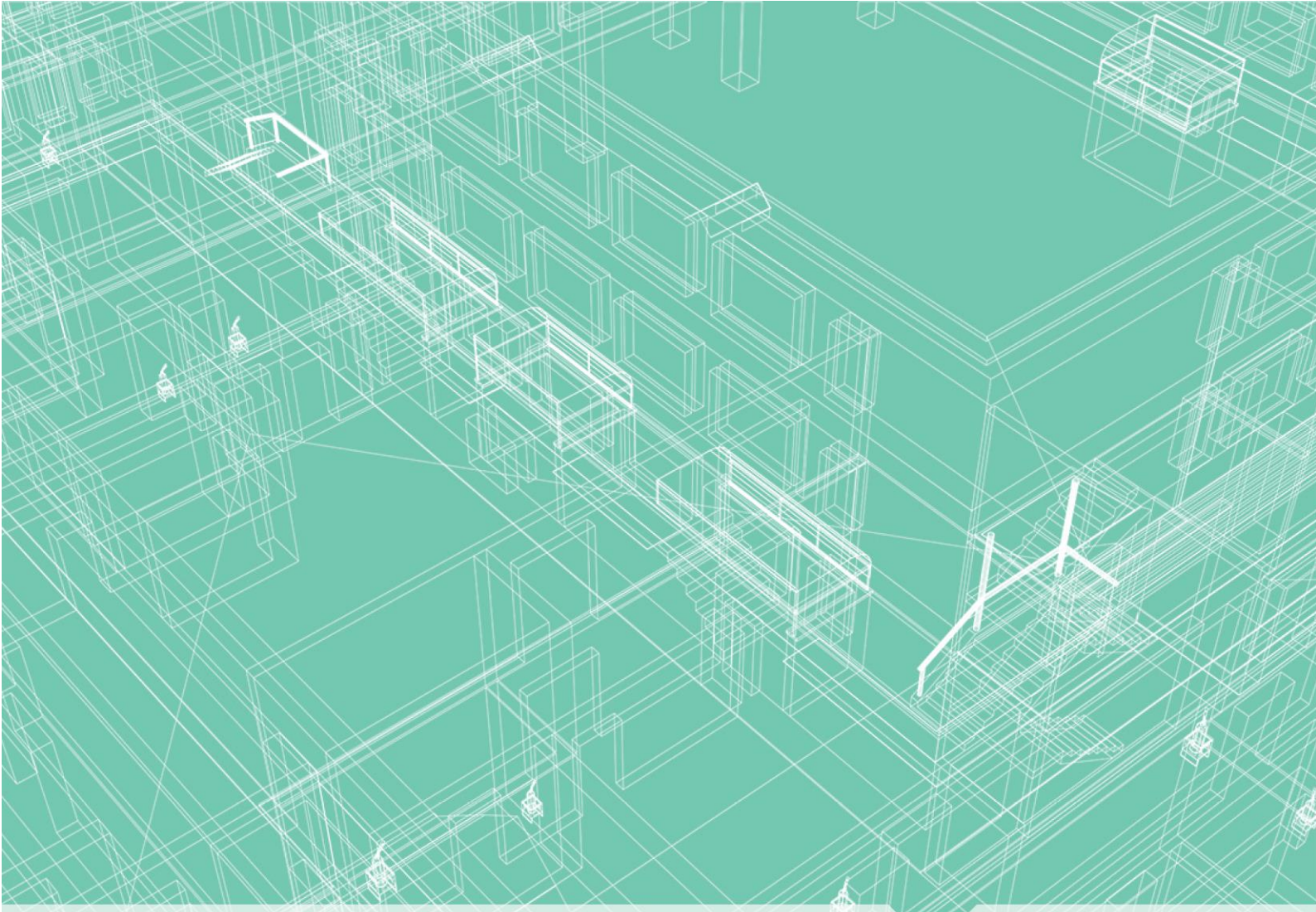

INTEGRATED WATER MANAGEMENT PLAN FOR SSDA

TWEED VALLEY HOSPITAL

STAGE 2

JHA

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DOCUMENT CONTROL SHEET

Project Number	190009
Project Name	Tweed Valley Hospital
Description	Integrated Water Management Plan
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Revision History

Issued To	Revision and Date						
Lend Lease	REV	A	B	C	D	E	F
	DATE	12/06/19	18/06/19	26/06/19	07/08/19	16/08/19	20/09/19

CONTENTS

1 INTRODUCTION

JHA Engineers have been engaged by Lend Lease to provide design of hydraulic and fire services for the proposed Hospital development located at 771 Cudgen Road, Cudgen.

This report has been prepared by JHA to summarise any proposed alternative water supplies, proposed end uses of potable water and non- potable water initiatives for the proposed Tweed Valley Hospital project.

The following documentation has been considered for the preparation of this report:

- Architectural drawings for Stage 2 of the Tweed Valley Hospital prepared by Bates Smart
- Concept Plan and Stage 1 Early and Enabling Works – Water Management Plan by ACOR, TVH_IWMP_HF_SSD_001 rev 06
- Concept Plan and Stage 1 Environmentally Sustainable Design (ESD) Report by Steensen Varming 177167-SUS001 rev 06
- Ecological Sustainable Development Report by LCI – Response to Draft SSD 9575

Table 1.1 details the SEARs requirements for Stage 2 works and references relevant sections within this report that address each requirement. These are intended to be quick references to key sections only. Each item should be considered with the context of this report in its entirety.

Table 1.1: SEARs – Utilities

Requirement	Relevant Report Section
Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design.	-

This document and related work has been prepared following JHA Consulting Engineers Quality and Environmental Management Systems, which are based on AS/NZS ISO 9001 and ISO 14001.

2 DESCRIPTION OF THE PROPOSAL

2.1 OVERVIEW

On the 11 June 2019 the Minister for Planning and Public Spaces granted approval for the Concept Proposal and Stage 1 Early and Enabling Works for the new Tweed Valley Hospital (SSD 9575) located at 771 Cudgen Road, Cudgen (Lot 11 DP1246853). All documents relating to this consent can be found on the major project website of DPIE[1].

The Environmental Impact Statement (EIS) has been prepared to assist in the State Significant Development (SSD) Stage 2 Application for the Tweed Valley Hospital which will be assessed under Part 4 Division 4.7 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act). This, along with supporting documentation, will provide a clear outline of the Stage 2 Application.

The Tweed Valley Hospital Project broadly consists of:

- Construction of a new Level 5 major regional referral hospital to provide the health services required to meet the needs of the growing population of the Tweed-Byron region (in conjunction with the other hospitals and community health facilities across the region);
- Delivery of the supporting infrastructure required for the Tweed Valley Hospital, including green space and other amenities, roads and car parking, external road upgrades and connections, utilities connections, and other supporting infrastructure.

2.1.1 STAGE 2 HOSPITAL MAIN WORKS AND OPERATION

The Stage 2 SSD component will seek consent for the Main Works and Operation of the Tweed Valley Hospital, including:

- Construction of Main Hospital Building: A main entry and retail area, Administration, Community Health, In-Patient units, Outpatient clinics and day only units, Child and Adolescent Services, Intensive Care Unit, Mental Health Unit, Maternity Unit and Birthing Suites, Renal Dialysis, Pathology, Pharmacy, Radiation and Oncology as part of integrated Cancer Care, Emergency Department, Perioperative Services, Interventional Cardiology, Medical Imaging, Mortuary, Education / Training / Research, Back of House services, Rooftop Helipad
- Construction of Support Buildings referred to as the Health Hub containing: Oral Health, Community Health, Aboriginal Health, Administration, Education / Training / Research.
- Internal roads and carparking, including multi-deck parking for staff, patients and visitors.
- Construction of temporary building for the 'Tweed Valley Skills Centre'
- External road infrastructure upgrades and main site access.
- Environmental and wetland rehabilitation, including rehabilitation of existing farm dam as outlined in the Biodiversity Development Assessment Report (BDAR) prepared for the Concept Proposal and Stage 1 works
- Site landscaping.
- Signage.

[1] https://www.planningportal.nsw.gov.au/major-projects/project/10756

- Utilities and service works.

The works outlined above comprise five key components, which are subject to various funding allocations and may be delivered independently to each other. Stage 2 has therefore been defined in the following sub-stages[2]:

- Stage 2A – Main Hospital Building complete with supporting roads, services infrastructure and landscaping
- Stage 2B – Main Hospital Building incremental expansion areas
- Stage 2C – Health Hub
- Stage 2D – Tweed Valley Skills Centre
- Stage 2E – Multi-deck car park

Development consent is sought for the all 5 components of Stage 2 under this SSDA.

Plans for Stage 2 Main works and Operation are attached in Appendix B of the EIS. Approval of Stage 2 will enable the new Tweed Valley Hospital to be built which will provide a much-needed contemporary health service facilities for the surrounding region.

2.1.2 POTENTIAL FUTURE EXPANSIONS

Any subsequent stages or modifications to the proposal would be subject to separate applications as required including the potential future expansion of the facility.

[2] Stages are not listed in chronological order and may be delivered independently to each other

3 PROPOSED ALTERNATIVE WATER SUPPLIES

The new hospital site does not have any alternative authority water supplies available to supply the development and hence are not proposed for the Tweed Valley Hospital project.

3.1 POTABLE WATER

Given the nature of the proposed development and the need for infection control and to avoid potential contaminations, potable water systems for human consumption, hygiene purposes, cistern flushing and process equipment for the site to be supplied from the primary water supply from the water main located in Turnock Street as nominated by Tweed Shire Council.

3.2 NON-POTABLE WATER

Alternative non-potable water supply is proposed to be supplied from reuse water tank located adjacent to the service yard to provide supplementary landscape irrigation and cooling tower makeup water.

Calculations undertaken from the available historical rainfall data, available roof collection area, volume of expected condensate discharge, RO discharge and water balance calculations have indicated the project will benefit from both a cost and environmental perspective by implementing a reuse system.

Refer to Appendix A for water balance calculations.

Reuse water collection and distribution to other non-potable applications such as toilet flushing, fire tank makeup water have been discounted due to risks associated compromising the stringent infection control measures within this type of environment.

4 PROPOSED END USERS

4.1 POTABLE WATER

Potable cold water is proposed to be used for the following applications:

- Sanitary fixtures, with staff and patient areas
- Clinical areas for staff and patient sanitation
- Appliances and equipment, including sanitisers, dishwashers and other specialist equipment
- Fire hydrant services
- Fire sprinkler services
- Fire hose reel services

4.1.1 HIGH EFFICIENCY FIXTURES

To reduce the sites potable water demand, Water efficient fixtures and fittings shall be used for staff and public amenities areas only.

Water efficient fixtures and fittings complying with WELS requirements shall not be used in any clinical areas.

4.1.2 METERING

To reduce the site's potable water consumption, effective metering strategy is proposed as per SSD1 ESD report by Steensen Varming to clearly identify leaks, poor operational performance and to assist in water management of specific floors/departments to meet the overall targets for the site.

4.2 NON-POTABLE WATER

As stated in Section 3.2, the non-potable water supply is proposed to supplement landscape irrigation and cooling tower makeup via collection and reuse of the roof water, RO discharge and A/C condensate.

5 APPENDIX A

Description	Value
Size of rainwater tank	400 kL
Rainwater + reuse water captured (annually)	17.70 ML
Total reuse demand	28.40 ML