Queanbeyan Palerang Regional Council

Queanbeyan Sewage Treatment Plant Upgrade

EIA Scoping Report

FINAL V3 | 30 July 2019

Job number 267007-00

Arup Pty Ltd ABN 18 000 966 165

Arup
Level 5
151 Clarence Street
Sydney NSW 2000
Australia
www.arup.com

ARUP

Document verification

ARUP

Job title		Queanbeyan Sewage Treatment Plant Upgrade			**Job number** 267007-00
Document title		EIA Scoping Report			**File reference** EIA Scoping Report
Document ref					
Revision	**Date**	**Filename**	20190523_EIA Scoping Report.docx		
Draft 1	23 May 2019	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Ali Carrera	Therese Flapper	Tim Cook
		Signature			
FINAL	3 July 2019	**Filename**	190703_EIA Scoping Report_Issue		
		Description	Final report, with response included to EPSDD raised matters		
			Prepared by	Checked by	Approved by
		Name	Ali Carrera	Therese Flapper	Tim Cook
		Signature			
FINAL V2	9 July 2019	**Filename**	190709_EIA Scoping Report_Issue_V2		
		Description	Final Report v2, with responses included to EPSDD raised matters		
			Prepared by	Checked by	Approved by
		Name	Ali Carrera	Therese Flapper	Tim Cook
		Signature	On file	On file	On file
FINAL V3	30 July 2019	**Filename**	190730_EIA Scoping Report_Issue_V3		
		Description	Final Report v3, with added future EP		
			Prepared by	Checked by	Approved by
		Name	Ali Carrera	Therese Flapper	James Logan
		Signature	On file	On file	On file
				Issue Document verification with document	✓

Contents

Tables

Figures

Appendices

Appendix A

Glossary

Acronym	Description
DA	Development Application
DPI Water	Department of Primary Industries Water
EIS	Environment Impact Statement
EP	Equivalent Population
EP Act 1997	*Environment Protection Act 1997*
EPA	Environment Protection Authority
EPBC Act	*Commonwealth Environmental Protection and Biodiversity Conservation Act 1999*
EPD	ACT Environment and Planning Directorate
EPP	ACT *Contaminated Sites Environmental Protection Policy 2009*
IWCM	Integrated Water Cycle Management
LBG	Lake Burley Griffin
LGA	Local Government Area
MCA	Multi Criteria Analysis
NCA	National Capital Authority
P&D Act	ACT *Planning and Development Act 2007*
QPRC	Queanbeyan Palerang Regional Council The Proponent
QSTP	Queanbeyan Sewage Treatment Plant
STP	Sewage treatment plant
The Site	7 Mountain Road, Jerrabomberra, ACT

1 Introduction

1.1 Overview

Queanbeyan Palerang Regional Council (QPRC) (the Proponent) is seeking to upgrade and operate a sewage treatment plant (STP) at 7 Mountain Road, Jerrabomberra, ACT 9 (the Site). The Site currently houses the Queanbeyan Sewage Treatment Plant (QSTP). The Project will utilise a currently undeveloped portion of the site to build new infrastructure facilities that predominantly supersede the currently operational facilities.

There are several drivers for this project:

- Capacity required for current and future population growth
    - The existing STP is estimated to have a design equivalent population (EP) of 34,500 (MWH, 2008) and is currently serving about 50,000 EP.
    - The upgrade facility will cater for a future EP of 75,000.
- Asset life of existing infrastructure, as there is little remaining useful life for some of the existing assets
    - Much of the existing equipment is obsolete and there are issues with maintenance of the existing plant.
- Operability and reliability of STP
    - It is estimated that the existing Queanbeyan STP has about 3 to 5 years' effective service life remaining before its condition or ability to meet load requirements presents a major risk to QPRC and the community.
- Desire for a new STP to provide a level of service that conforms to industry best practice for the protection of public health and the environment
    - There is the potential that the current process is unable to meet more stringent discharge criteria as may be imposed in the future.
- STP design that meets regulator/stakeholder concerns/requirements
    - While the STP is meeting current effluent licence conditions, the maturation lagoons are a key asset in achieving this effluent quality and there is a risk that these lagoons may fail as occurred in 2010 due to flooding.

The Project offers the opportunity to optimise the design of the QSTP to achieve Infrastructure Sustainability Council of Australia (ISCA) rating of 'Excellent' or 'Leading'.

1.2 Purpose of This Report

Proponents of a project that trigger impact assessment under the ACT *Planning and Development Act 2007* (P&D Act) are required to use Form 1M to either:

- Request a Scoping Document for and EIS; or
- Apply for an Environmental Significance Opinion under Section 138AA; or
- Request and Exemption from the Minister for and EIS under Section 211; or
- Provide additional information to support and existing application.

This document has been prepared to request a Scoping Document for an EIS.

1.3 Structure of This Report

This report has been structured around the information requirements identified in Form 1M. Specifically the requirements at Part 9 of the form are addressed in Table 1.

Table 1: Structure of this report

Document requirements:	In this report:
A statement outlining the objectives of the projects and why it is needed;	Section 2.0
Description of the nature/type of project proposed by providing location map(s) of the project site(s), preliminary design drawings and satellite/aerial photographs;	Section 3.0 and Section 4.0
A preliminary risk assessment (PRA) based on the guidance document attached to this form;	Section 5.0, Section 7.0
A description of the natural conservation values of the Site based on the consideration listed in the "Preparation of an application for scoping and Preparation of an ESO" guideline available from the EPSDD website;	Section 6.0
A description of measures within the proposal that seek to avoid and minimise (and as a last resort offset) impact on identified conservation values (for ESO and Section 211 applications only);	Section 5.0, Section 7.0
Any decision made under the EPBC Act in relation to this proposal;	Section 8.0
For s211 applications only, the following additional information is required:	
• Details of qualifications, expertise and experience of the person(s) who conducted previous studies supporting the application;	Not applicable

Document requirements:	In this report:
• Details of public consultation undertaken, as part of statutory requirement, for projects or previous studies including supporting documentation undertaken. Details of public consultation not required for a statutory process should also be included;	Not applicable
• Verification from a qualified person that the information in the previous studies supporting the application is still current	Not applicable

2 Objectives of the Project and need

2.1 Project Objectives

The key objective of the Project is to upgrade the Queanbeyan Sewage Treatment Plant (QSTP) to provide a level of service that conforms to industry practice for the protection of public health and the environment. The project consists of the planning, design and construction of sewage collection, treatment and disposal facilities to serve Queanbeyan within the Queanbeyan Palerang local government area (LGA).

2.2 Justification of Project Description/Site and Alternatives

2.2.1 Justification of Project Description

The QSTP was constructed in the mid-1930s and treats Queanbeyan's sewage prior to discharge of effluent into the Molonglo River. In early 2011, Queanbeyan Palerang Regional Council (QPRC) was faced with growing concern about the capacity and reliability of the QSTP, and engaged Hunter Water Australia P/L to prepare an options study to upgrade the QSTP. This study recommended a major upgrade to the plant. Since that time the condition of assets on site has continued to deteriorate and the population has increased resulting in the design capacity of the existing plant being nearly exceeded.

While maintenance and works are regularly undertaken on the QSTP, the plant is no longer fit-for-purpose. A significant works program is required to address issues including structural failure, equipment obsolescence and maintenance issues, as well as refining the process train. The existing QSTP is estimated to have a design equivalent population (EP) of 34,500 (MWH, 2008) and is currently serving about 50,000 EP. The upgrade facility will cater for a future EP of 75,000.

While the QSTP is meeting current effluent licence conditions, the maturation lagoons are a key asset in achieving this effluent quality and there is a risk that these lagoons may fail again as occurred in 2010 due to flooding.

Some of the existing equipment is obsolete and there are issues with maintenance of the existing plant. There is the potential that the current process is unable to meet more stringent discharge criteria as is proposed in the future.

It is estimated that the existing QSTP has about 3 to 5 years' effective service life remaining before its condition or ability to meet load requirements presents a major risk to QPRC and the community.

2.2.2 Justification of Site

The site of the project is considered suitable as it currently services as a sewage treatment plant (STP). The upgraded facility is wholly within the boundary of the site lease that is approved for sewage treatment operations via a lease.

2.2.3 Justification of Alternatives

Three alternatives were considered:

a) Build a new STP.

b) Build a new STP, using restored parts of QSTP.

c) Restore QSTP and expand as needed to provide sufficient capacity.

A condition assessment was undertaken, which identified that only the aeration tanks, secondary clarifiers and sludge lagoons could be plausibly reused as structures, although not necessarily as their current process unit operations. The inlet works, primary sedimentation tanks, trickling filters and effluent ponds were all discarded as having reuse potential due to their poor condition and in part being affected by the 100 year ARI flood level.

Six build strategy options were compared (Reference – Masterplan, April 2015, https://www.qprc.nsw.gov.au/Major-Works-Projects/Queanbeyan-STP-upgrade?BestBetMatch=sewage|d13b95b2-5146-4b00-9e3e-a80c73739a64|4f05f368-ecaa-4a93-b749-7ad6c4867c1f|en-AU).

These included consideration of both Conventional Activated Sludge and Membrane Bio Reactor technology for each of the three build strategies. The options were as follows:

Table 2: QSTP Upgrade Options

Option	Build Strategy	Treatment Technology
1A	**Build New** all process units and equipment, completely abandon the existing plant	BNR - Biological Nutrient Removal CAS - Conventional process
1B	**Build New** all process units and equipment, completely abandon the existing plant	BNR - Biological Nutrient Removal MBR - Membrane process
2A	**Build New** main process units and **Reuse** some process units from STP	BNR - Biological Nutrient Removal CAS - Conventional process
2B	**Build New** main process units and **Reuse** some process units from STP	BNR - Biological Nutrient Removal MBR - Membrane process
3A	**Renew** main QSTP process units & **Augment** with new additional process units	BNR - Biological Nutrient Removal CAS - Conventional process
3B	**Renew** main QSTP process units & **Augment** with new additional process units	BNR - Biological Nutrient Removal MBR - Membrane process

A Multi Criteria Analysis (MCA) was undertaken of the options considered. Six criteria were used being:

- Cost
- Constructability, including quality, environmental and safety risks, timeframe for completion, likelihood of exceeding discharge licence conditions and extent of temporary works
- Operability, including potential for increase in operating costs, ability to operate, WHS for operational staff, extent of autonomy and remote capability
- Sustainability, including impact on environment, ability to reuse effluent and biosolids and ability to capture gas and resource recovery
- Future Proofing, including achieving licence, increasing capacity and accommodating unexpected increases in flows or influent quality
- Community acceptance and affordability, including impact on rates and QPRC financial position and QPRC reputation.

The MCA was tested in a variety of weighted criteria. Options 1A and 1B were consistently indicated as the preferred options. Thus concluding that the “Build New” strategy is the preferred option.

3 Site Description

3.1 Location

The Site is located at 7 Mountain Road, Jerrabomberra ACT. Table 3 summarises the identification, location and setting of the Site.

Table 3: Site Identification, Location and Setting

Item	Details
Street Address	7 Mountain Road, Jerrabomberra ACT, 2619
Approximate Area	467960 m^2 (Block 27), 479136m^2 (Block 2087)
Current Land Use	Sewage Treatment Plant
Legal Property Description	Block 27 of Jerrabomberra on Deposited Plan 184 (Registered Rural) Block 2087 of Jerrabomberra (Proposed Rural)
Approximate Geographic Coordinates	-35.33480, 149.21731
District	Jerrabomberra
Territory Plan Land Use Zoning	TSZ2: Services NUZ4: River Corridor

Figure 1 presents the Site location and surrounding locality showing zoning.

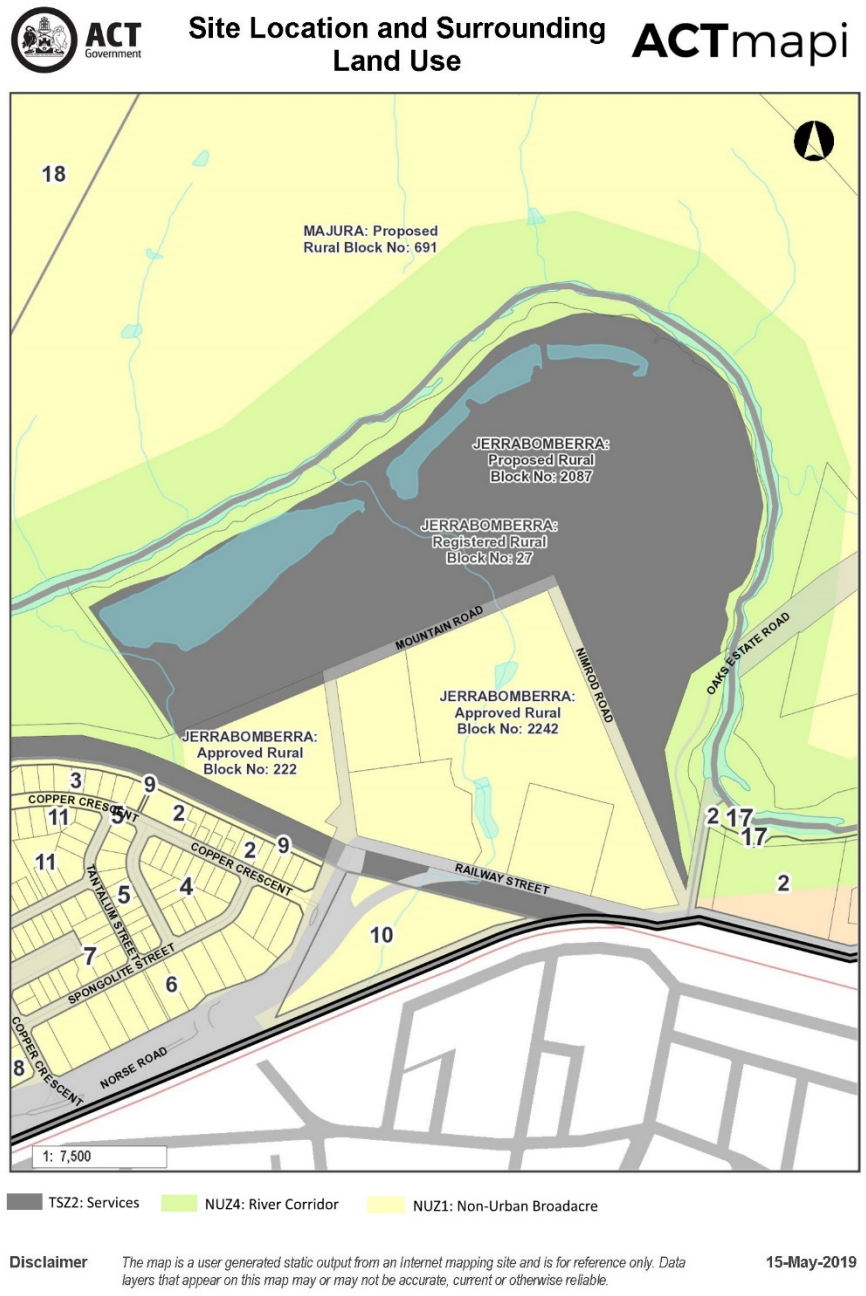
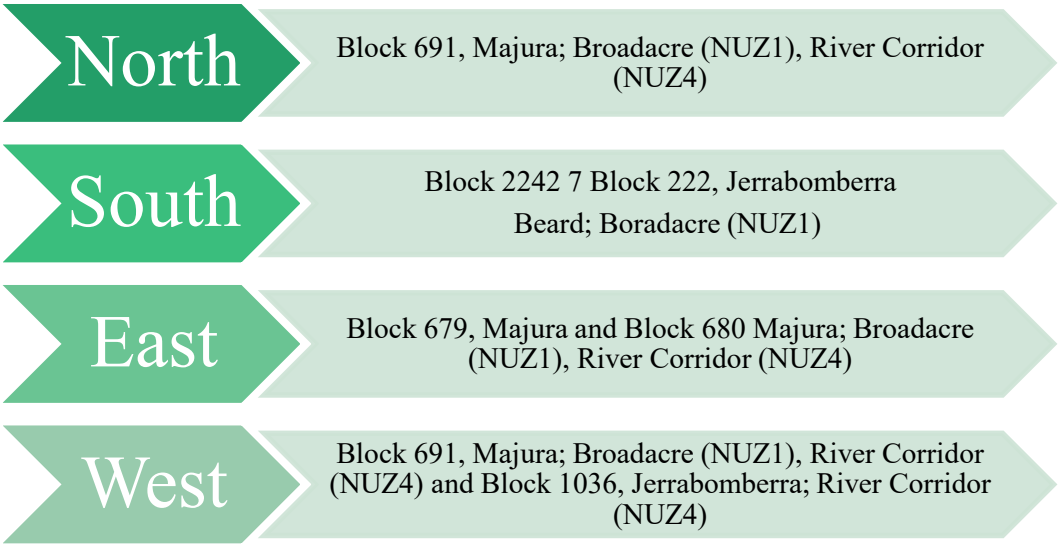


Figure 1: Site Location and Surrounding Land Use

3.2 Surrounding Land Use

The site is surrounded by Non Urban Broadacre (NUZ1) and River Corridor (NUZ4). The surrounding land uses are identified below. The nearest residential location is 0.7 kilometres from site.



3.2.1 Territory Plan

The Territory Plan is used to manage land use change and development within the ACT in a manner that is consistent with government strategy and legislation. Block 27 and Block 2087 are zoned as both Services (TSZ2) and River Corridor (NUZ4). The majority of works proposed are to occur in land zoned as Services. Water sampling is proposed to occur in land zoned as River Corridor. There is limited possible scope for river bank stabilization works in the River Corridor pending site investigations and will be later defined.

The project satisfies the objectives of the current land use zoning – Services. According to the Territory Plan, Services zones aim to:

a) Make provision for essential municipal services such as water, energy, transport and waste disposal

b) Ensure that development is carried out in an economic, safe, environmentally sensitive manner and does not unacceptably affect the health and safety of any nearby residents

c) Ensure that there is minimal impact on adjacent land uses due to any municipal services development

d) Ensure that development is compatible with the surrounding landscape, especially in areas of high visibility, and that appropriate measures are taken to soften the impact of development on the landscape

e) Limit the impact of electro-magnetic interference from development on electrical appliances in nearby premises

f) Enable the development of transport facilities that are accessible and efficient for passengers and goods handling

The type of activities proposed by the Project for the Site are considered appropriate in this zoning subject to a development application.

If the existing STP was to be refurbished, there may be scope for the proposal to be assessed under the Merit Track, but this would require further investigation.

Demolition/decommissioning of the existing infrastructure may be able to be assessed under the Merit Track, as demolition is listed as a permissible activity in the Services Zone Development Table. These activities are however not likely to be included in any EIS undertaken for this current proposal. Inclusion of these activities in a future EIS would likely be the most efficient approval path, after the upgrade facility was completed.

3.2.2 National Capital Plan

The General Policy Plan in the National Capital Plan identifies the Site as a River Corridor area. Under Section 3.2.5.4 of the National Capital Plan 'Public Utility' is a permitted use in a River Corridor. Appendix A of the National Capital Plan defines Public Utility as:

The use of land for the following utility undertakings:

1. Headwork and network undertakings for the provision of sewerage and drainage services or the reticulation of water, electricity, or gas except for gas manufacture and storage
2. Communication facilities, including postal facilities, telecommunication facilities, television/radio broadcasting facilities, and air navigation communication facilities
3. Municipal uses, including street cleaning depots, public toilets, parks and gardens depots, works depots and associated uses.

As the National Capital Plan does not identify any requirements that apply to the land, development applications will be assessed against the requirements of the Territory Plan. As the Territory Plan may not be inconsistent with the National Capital Plan, compliance with the former results in compliance with the latter.

3.2.3 Environment Protection Act 1997

The *Environment Protection Act 1997* (EP Act 1997) provides for a broad range of measures to protect and enhance the environment.

Schedule 1 of the EP Act 1997 details activities which require environmental authorization. These are divided into Class A and Class B activities.

- Class A activities require environmental authorization from the Environment Protection Authority.
- Class B activities require either environmental authorisation or an environmental protection agreement.

The proposed activities on the Site meet the definition of a Class A activity and hence the Proponent will require an Environmental Authorisation under the Act.

QPRC already has an Environmental Authorisation (0417, dated 21 February 2017) for the existing plant that is reviewed on an annual basis.

The current Environmental Authorisation states *"1.1.5 The Authorisation holder shall seek the approval in writing of the EPA to install, construct or modify any equipment or works in or on the premises which would impact on the plant's capacity to achieve Authorisation conditions."*

It should be noted that the current Environment Authorisation is for Block 2087 Oaks Estate (now known as Block 2087 Jerrabomberra). Clarification of the site should be made in the Authorisation, including the applicability of the approval to Block 27 Jerrabomberra.

3.3 Site Description

The Site comprises Block 27 and Block 2087. The existing site layout is presented in Figure 2. The site is irregularly shaped, predominantly built area, Services/ River Corridor site with an area of approximately 4.7 ha. The Site is currently utilised as a STP.

The STP occupies the north to west portion of the Site. The south east corner of the site is brown field, traversed by high voltage energy transmission lines.

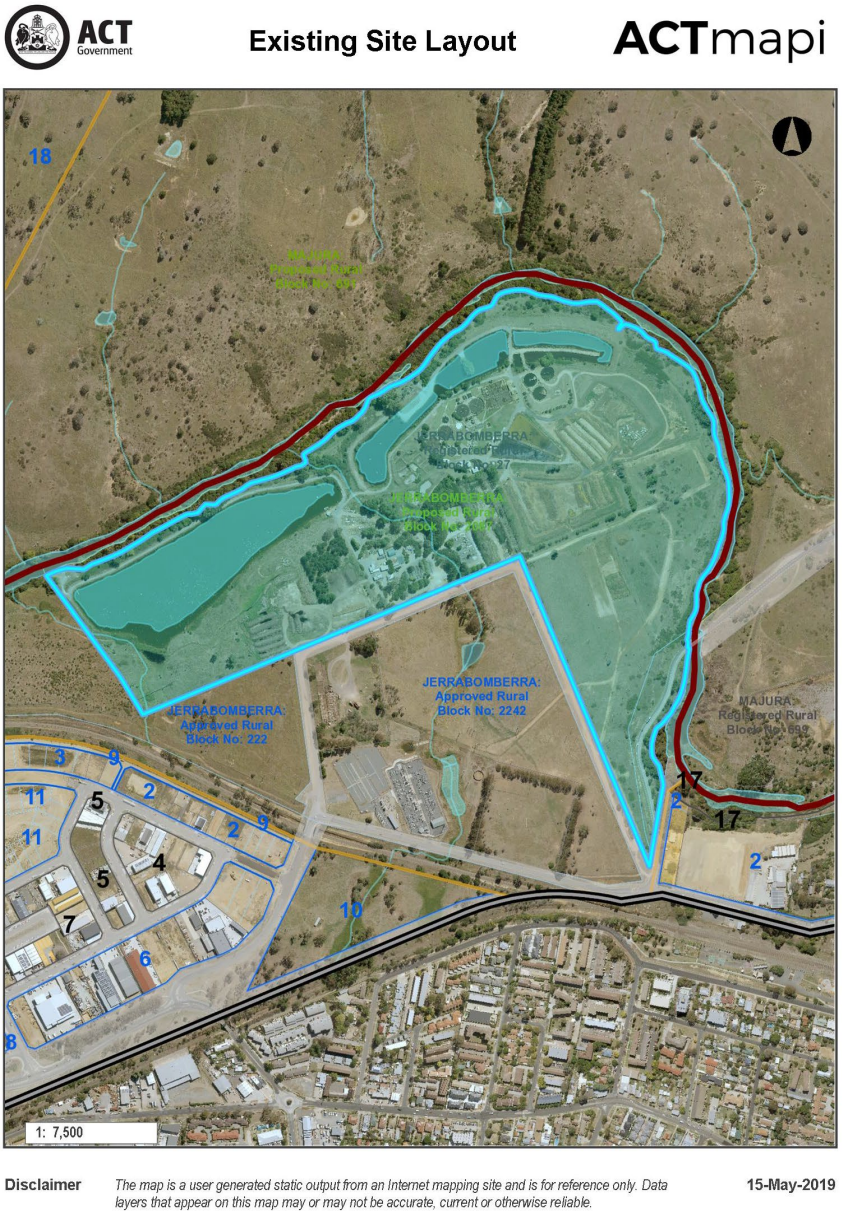


Figure 2: Existing Site Layout

3.4 Land Custodianship

The site is currently leased for 99 years from the ACT Government by QPRC (lease dated 16 August 1938). It is understood that there are less than 20 years remaining on the existing lease title (lease expires 16 August 2037).

3.5 History

The lot has been leased by QPRC for the purpose of a STP since 16 August 1938.

3.6 Topography

The area is characterised by rolling hills. The Site is a hill, with north, east and west sides sloping down to the river. Existing infrastructure is located behind the crest of the hill, and is obscured from public view. Figure 3 illustrates the 5m lines of contour.

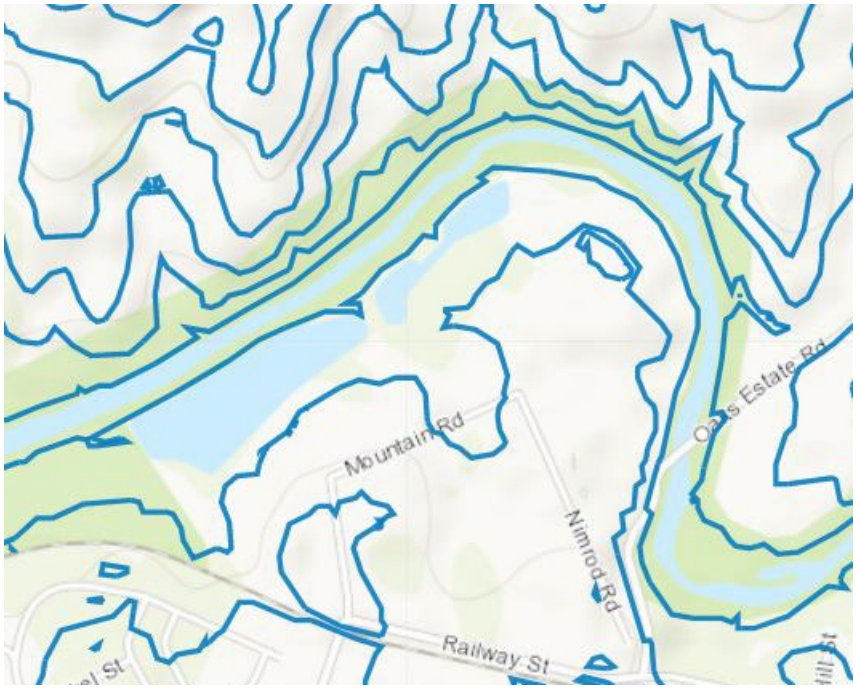


Figure 3: 5m Lines of Contour (ACTmapi, 2015)

3.7 Geology

According to the Geology of Canberra 1:100,000 sheet, the local geology comprises Pittman Formation. Lithologies include interbedded sandstone, siltstone, shale and minor black shale, chert and impure calcareous sandstone (distal quartz turbidites).

3.8 Soils

Based on a review of the Soil Landscapes of Canberra 1:100,000 sheet, the Site is located within the Winnunga landscape. The landscape is characterised by Waning slopes and alluvial fans with slopes 3 - 10%, local relief 9 - 30 m, elevation 560 - 690 m. Small scalded areas common on lower slopes and extensively cleared woodland.

Soils within the Winnunga landscape are typically Shallow (<50 cm), well to moderately well-drained Leptic Tenosols and Rudosols (Lithosols) and moderately deep (50 - 100 cm) Red and Yellow Chromosols (Red and Yellow Podzolic Soils, Non-Calcic Brown Soils) and deep to very deep (>100 cm), moderately well to imperfectly drained, Bleached Red and Yellow Chromosols (Solodic Soils) and Brown and Yellow Sodosols (Solodic Soils).

3.9 Surface Water

Molonglo River surrounds the Site on the west, east and north boundaries. The Molonglo River is part of the Murrumbidgee catchment and flows north west towards Lake Burley Griffin.

A series of maturation ponds lie in the north – north west corner of the block. Water processed through the STP flows to the maturation ponds and is discharged into the Molonglo River.

Prior assessments conducted that have looked at the impacts of the existing STP on Molonglo River and Lake Burley Griffin water quality have concluded the release of fully treated sewage effluent to the river can have both positive and negative impacts on the receiving environments (AECOM, March 2015). The impacts are summarised as follows:

- **Positive impacts:**
  - Effluent discharge from the STP contributes to baseflow and is considered a positive impact on the Molonglo River and downstream, including providing flows to Lake Burley Griffin. Since the construction of the Googong Dam, the STP is one the few sources of inflow into the lake in very low flow conditions
  - The STP discharges contain nitrogen in the form of nitrate, when nitrate from other sources are lacking. Nitrate entering the lake offsets potential reducing conditions occurring in waters at the bottom of the lake.
- **Negative impacts:**
  - The loading of phosphorus and BOD in the effluent discharge which can contribute to blue-green algae growth
  - STP operations can be affected by heavy rains or flood events. For these events, a series of by-passes are designed to protect the sewage process systems. The by-pass directs partially treated sewage to a series of maturation ponds where it is mixed with fully treated sewage prior to discharge. Under extreme flood conditions, faecal bacteria can be washed out from the maturation pond system. It is also noteworthy that while leakage or spills of untreated or partially treated sewage contribute to faecal contamination in the waterways and single event discharges can potentially lead to lake closures, such events are infrequent and the long-term contaminant loads from the STP under by-pass conditions is likely to be quite minor compared to the large loads of faecal bacteria entering the catchment system from other sources (*e.g.* overland runoff from urban/industrial areas, domestic animals and grazing areas, *etc.*).

Upstream of the STP the urban and agricultural land-use influence river water quality, especially total nitrogen and faecal coliform concentrations. Downstream of the STP there is a greater percentage of total nitrogen and chlorophyll-a concentrations that are above relevant guideline concentrations, which may be influenced by STP inputs, but also by other land-uses in the vicinity of the downstream water quality site on the Molonglo River.

During STP diversion events the small amount of matching river water quality data does indicate that there are increased faecal coliform concentrations in the effluent. However, there is a lack of before, during and after diversion river water quality data to draw conclusions of the effects of STP diversions on river water quality. Historically, diversion events from the STP have been associated with elevated faecal coliform concentrations in the Molonglo River, but there is a lack of data to empirically understand broader water quality responses during and immediately following these events (AECOM March 2015).

Detailed models of the Molonglo River quality in the reach from the present STP to the Lake Burley Griffin were modelled (AECOM March 2015). The model was then used to understand the 'baseline' water quality of the river in the hypothetical absence of any STP discharging into the river. This baseline was superimposed with several test scenarios for various future STP loading, effluent quality and flow rate permutations to understand the impacts that future plant operations may have on receiving water quality.

The models suggest that in the vicinity of where the Molonglo River enters the Lake Burley Griffin (even under future possible plant arrangements and EPs):

- Total nitrogen (TN) levels in the river can be perhaps managed to levels similar to the present and historical case even allowing for an increase in served population by adopting an effluent target in the range 5-10mg/L.
- If total phosphorous (TP) effluent targets of 0.1-0.2mg/L were adopted there would be insignificant increases on TP content of the Molonglo River due to the influence of background levels of TP just upstream of the STP and other inputs downstream such as the turf farm, and the river and water quality processes.
- The STP effluent is likely having little impact on the presence of coliforms at this site, owing to the relatively lengthy travel and residence times and the processes of microbiological decay. The scenario 1 model (which has the absence of the STP) results are very similar to those outputs for all other scenarios, indicating coliform sources closer to the location are likely to be much more influential. Achieving similar or greater levels of log-reduction of coliforms at the STP in future may not translate into observable improvements in coliform presence at this site.

3.10 Flood

Flooding is an issue at the existing site. The maturation lagoons lie below the level of the 1 in 100-year flood level and were damaged by the 1 in 20 year floods of 2010, leading to failure of Pond 2 embankment and release of around 30 ML of treated effluent plus additional pond sediment. Repair works have since remediated the flood damage.

Figure 4 shows (in yellow) the Q100 flood line for the existing STP site. The river is shown schematically in blue, and the main STP process assets are outlined in green. Any future work will need to ensure that the infrastructure is protected from the Q100 flood (illustrated in Figure 5), and that any existing infrastructure that lies within the Q100 is decommissioned appropriately.

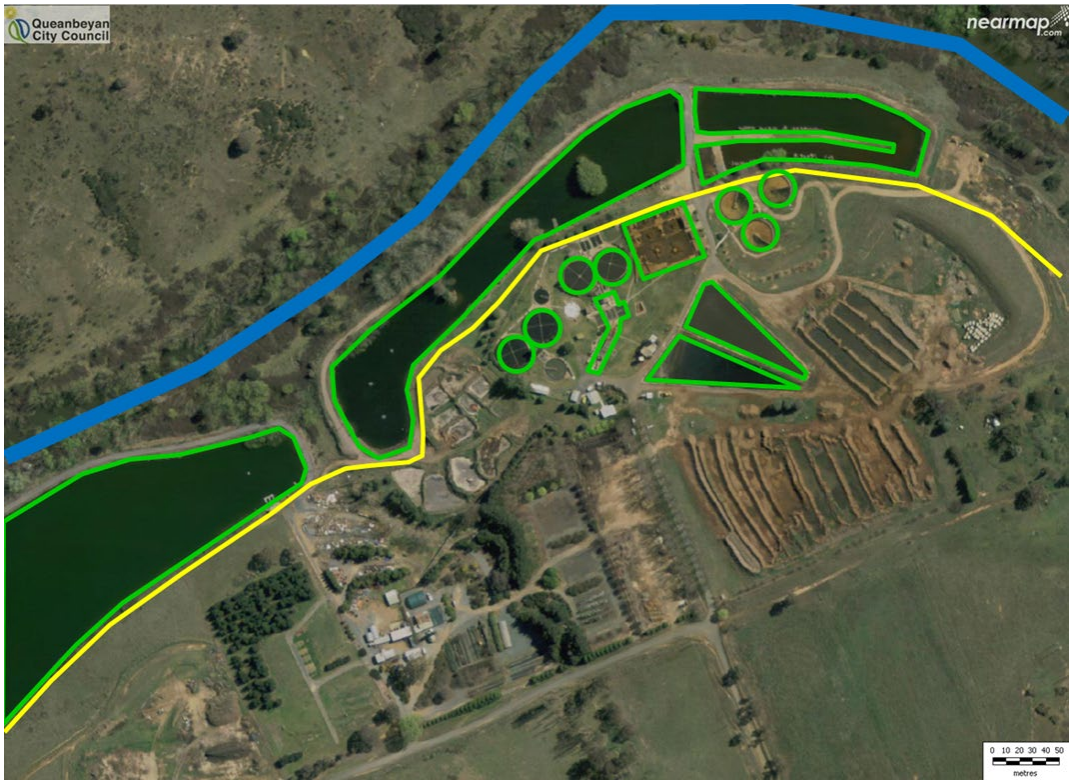


Figure 4: Contour of Q100 flood line in relation to Queanbeyan STP infrastructure

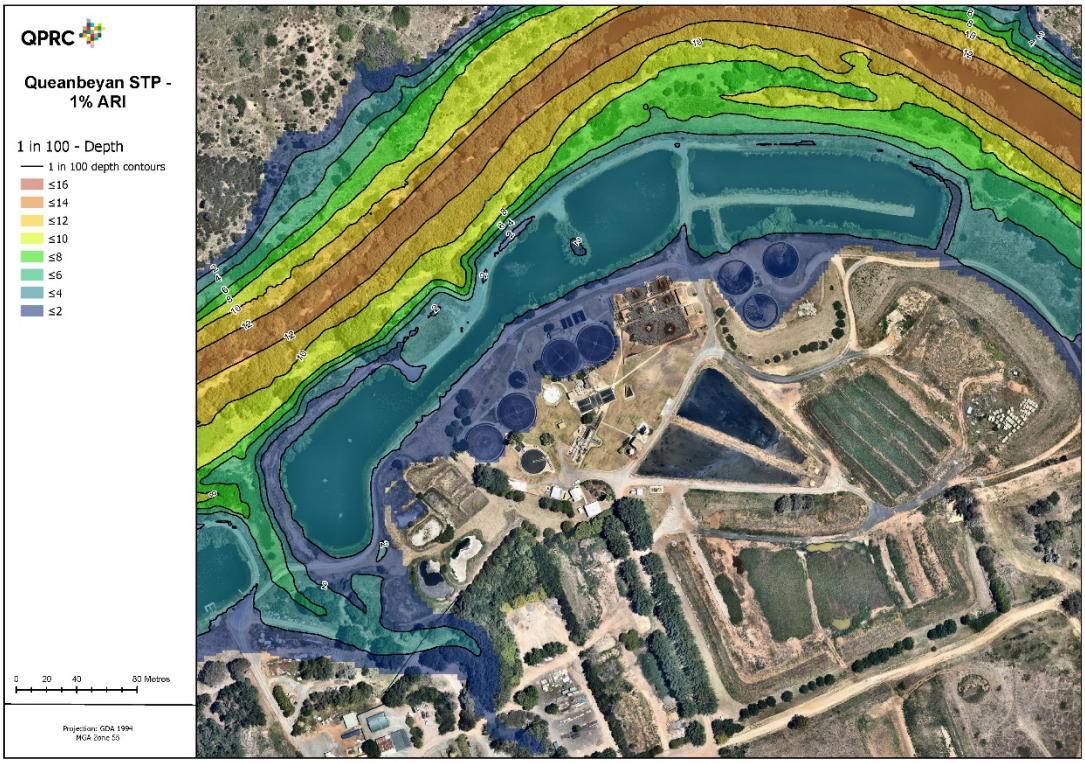


Figure 5: Q100 flood level

ACTmapi Flood map shows the extent of flooding of the nearby Molonglo River. A review of the ACTmapi Flood map indicates that the maturation lagoons are likely to be flooded during a 1% Annual Exceedance Probability (AEP) flood event, however the area proposed to locate the upgrade STP is not likely to be flooded. This is illustrated on Figure 6.

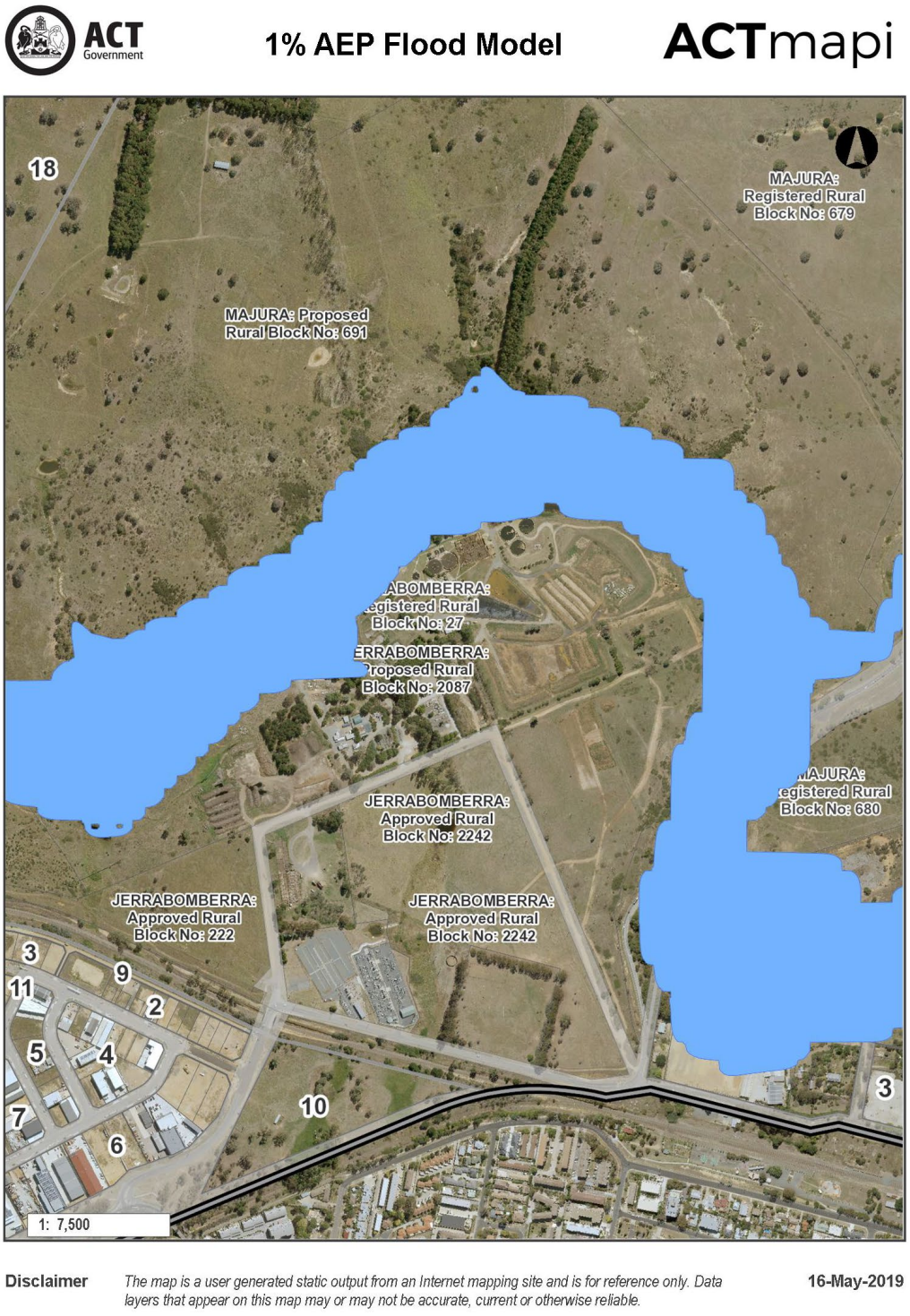


Figure 6: 1% AEP Flood Model Extent

3.11 Hydrogeology

A review of the Hydrogeological Landscapes of the Australian Capital Territory report (Muller, et al., 2017) indicates the Site is located in the Reedy Creek Hydrogeological Landscape. The area covers approximately 50 km^2 and extends either side of Sutton Road from near Queanbeyan to the northern boundary of the ACT.

Within the Reddy Creek landscape there is an unconfined to semi-confined aquifer in fractured rock and saprolite and lateral flow through unconsolidated colluvial and alluvial sediments on slopes and in flow lines. Depth to water table typically ranges from <2 – 8m below ground level. Hydraulic gradient is gentle to moderate ranging between 10 – 30%.

3.12 Significant Species, Vegetation Communities, and Registered Trees

Based on a review of ACTmapi, the following vegetation communities, and significant species were identified adjacent to the site, with none located in the build zone area proposed (Figure 12). The results are illustrated in Figure 7 and Figure 8. No Registered Trees were identified in the vicinity of the site.

- Golden Sun Moth (*Synemon plana*) is identified at Block 2242 adjacent south of the Site, not within the site or leased area and is not likely to be impacted.
- Vegetation Communities:
  - Urban and developed areas (URB) on the north to north west section of the site
  - Exotic shrubland (EXS) along the river corridor
  - ACT Grassland Communities: Native Grassland, is identified in the leased area of the site, but not within the proposed build zone of the upgraded STP facility. Picture 1 to Picture 2 below show the area of native grassland not in the build zone. This area will likely be subject to flora and fauna survey and may potentially be used / accessed during construction activities as a laydown / compound area.

Picture 3 to Picture 4 show the disturbed nature of the vegetation in the build zone.

Picture 1: View to south east across Native Grassland area (south east of build zone) (1 April 2018)

Picture 2: View to north across Native Grassland area (south east of build zone) (1 April 2018)

Picture 3: View of build zone disturbed landscape (17 June 2019)

Picture 4: View of build zone disturbed landscape (17 June 2019)

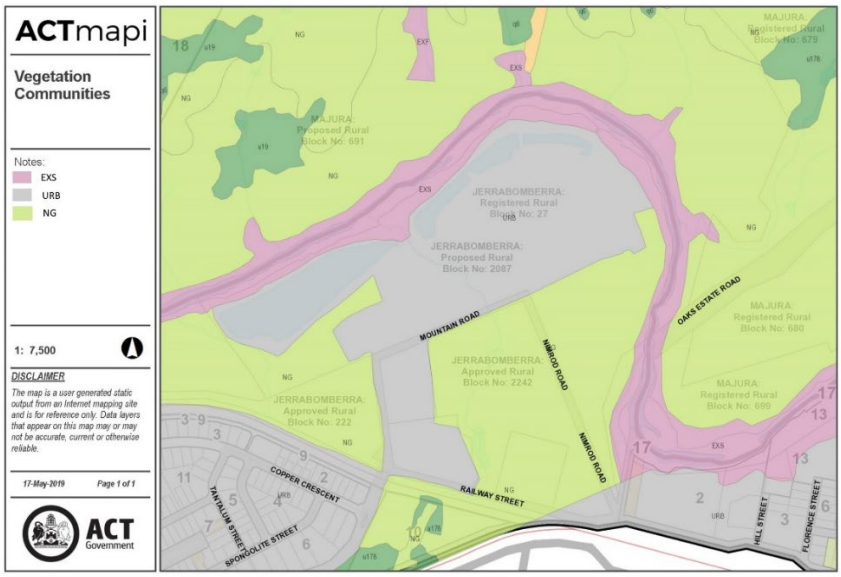


Figure 7: Vegetation Communities

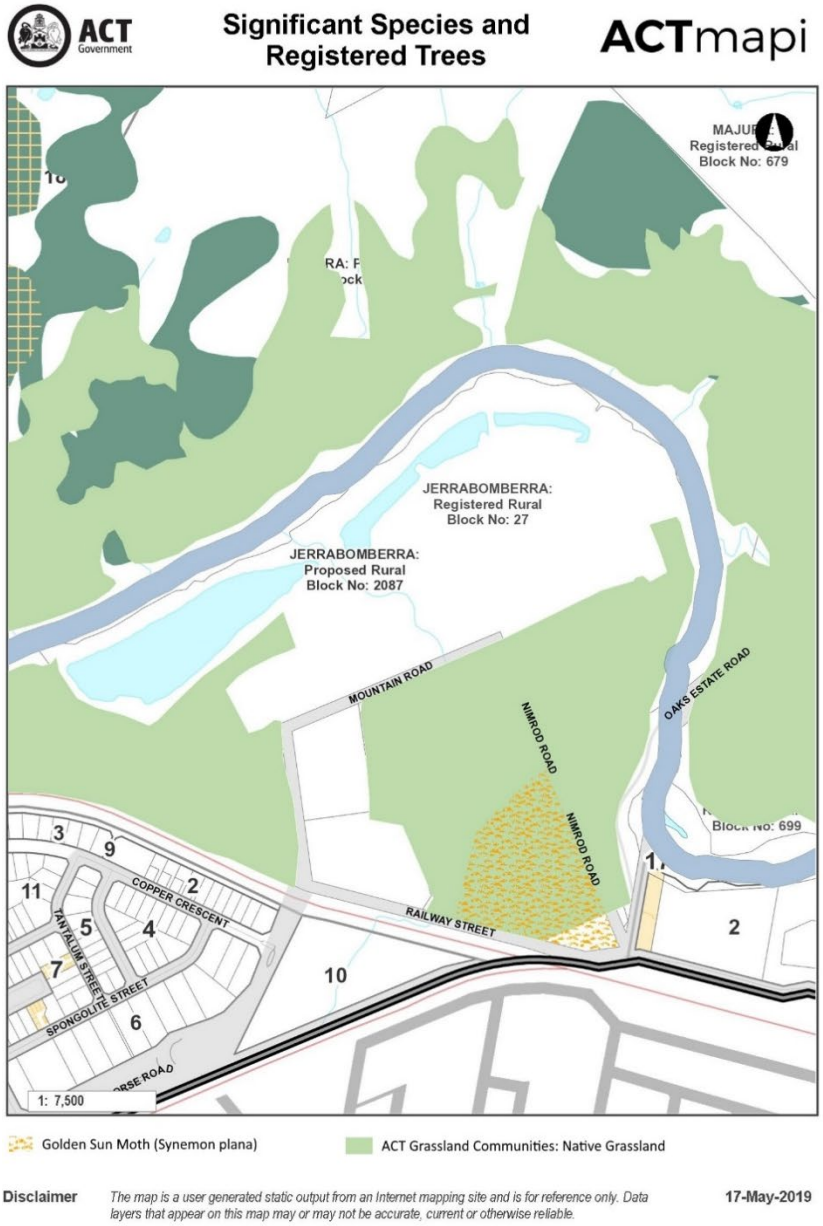


Figure 8: Significant Species and Registered Trees

3.13 Bushfire

Although the Queanbeyan suburbs are densely populated, the majority of the LGA is significantly vegetated. These areas are quite bushfire prone, especially in the north-eastern mountain ranges.

A review of ACTmapi Bushfire mapping indicates that the majority of the lot is in a bushfire prone area shown in red in Figure 9.

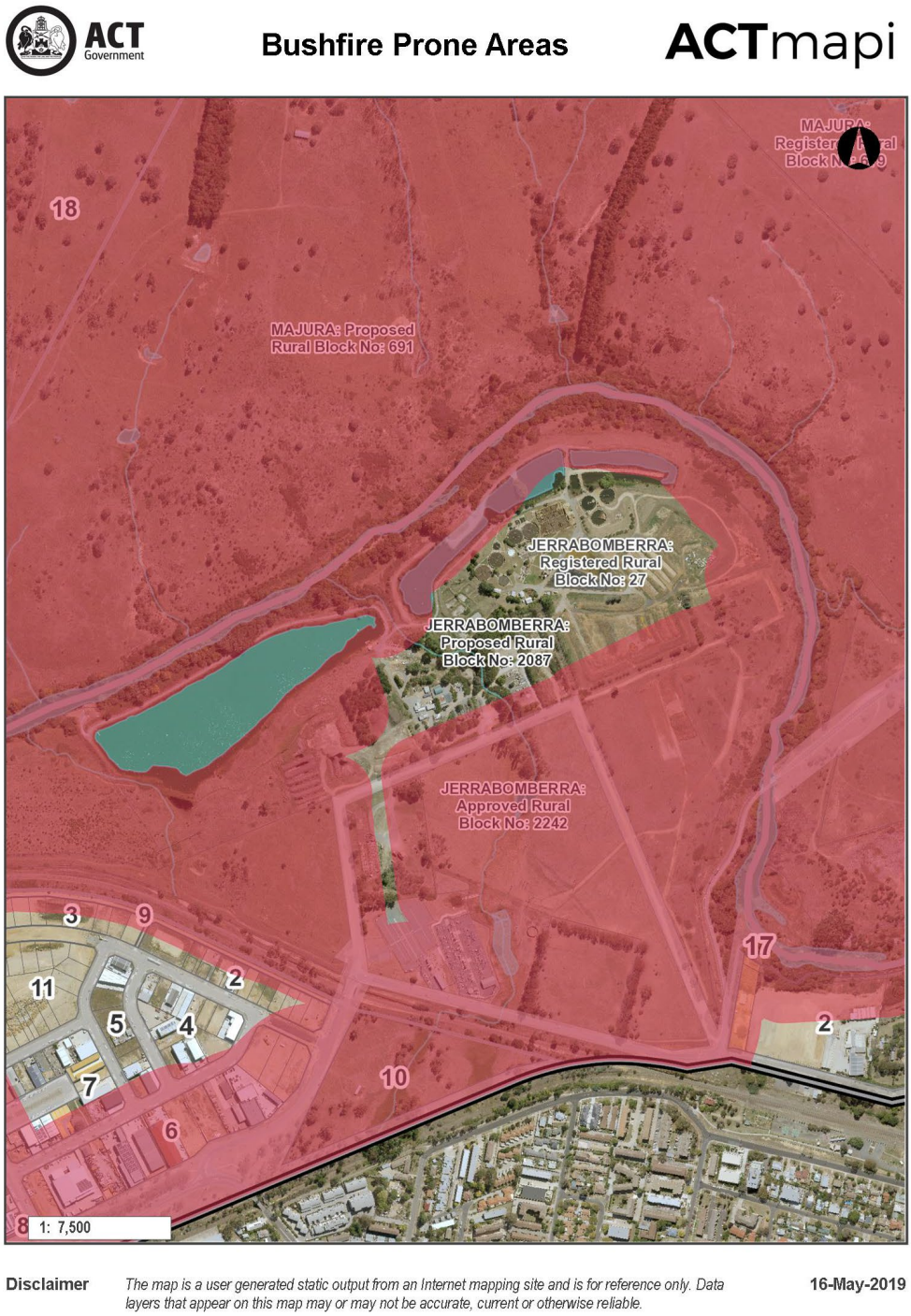


Figure 9: Bushfire prone area

3.14 Heritage Records

A review of the ACT Heritage Register (Environment, Planning and Sustainable Development Directorate, 2018) shows that there are no Non-Aboriginal heritage items on the Site.

Aboriginal heritage has been identified on the Jerrabomberra Interim Heritage Register as "*Oaks Estate 1* An occupation site indicated by a scatter of flaked stone artefacts in a disturbed context.

The site is located within the western half of Block 2087, Jerrabomberra District. There is high potential for further Aboriginal cultural materials in the locality" (ACT Heritage Council, 2000), although none are likely to be associated with the proposed build zone as this has been substantially disturbed for more than 80 years.

3.15 Contamination History

There is known contamination on the site due to burial of solids and screenings. Contamination likely includes stockpiles of biosolids, wet and dry sludges, screens and grit, onsite material burial, possibly asbestos, asbestos lined pipes, general waste disposal. Biosolids are likely to also contain metals.

Stage 1 and Stage 2 contamination assessments are to be undertaken as required.

A review of Access Canberra, Register of Contaminated Sites, does not identify other contaminated land at the Site.

3.16 Australian Noise Exposure Forecast (ANEF)

Canberra Airport is situated north west of Queanbeyan giving rise to flight paths directly over the western portion of the LGA. Figure 10 displays the noise effects caused by the nearby airport on the Queanbeyan LGA.

ANEF modelling produces a noise exposure (ANEF) map showing contours for 20, 25, 30, 35 and 40 ANEF units. Higher contour numbers represent greater cumulative amounts of aircraft noise over an average one-year period. ANEF units are not decibel measurements - they are measures of adverse community reaction to aircraft noise. Above 20 ANEF homes, schools, hospitals and nursing homes should have noise insulation and above 25 ANEF, aircraft noise is too great for these buildings even with insulation. Even at 15 ANEF, 35% of people are seriously or moderately affected by aircraft noise. ANEF of less than 20 is acceptable for the building of new residential dwellings.

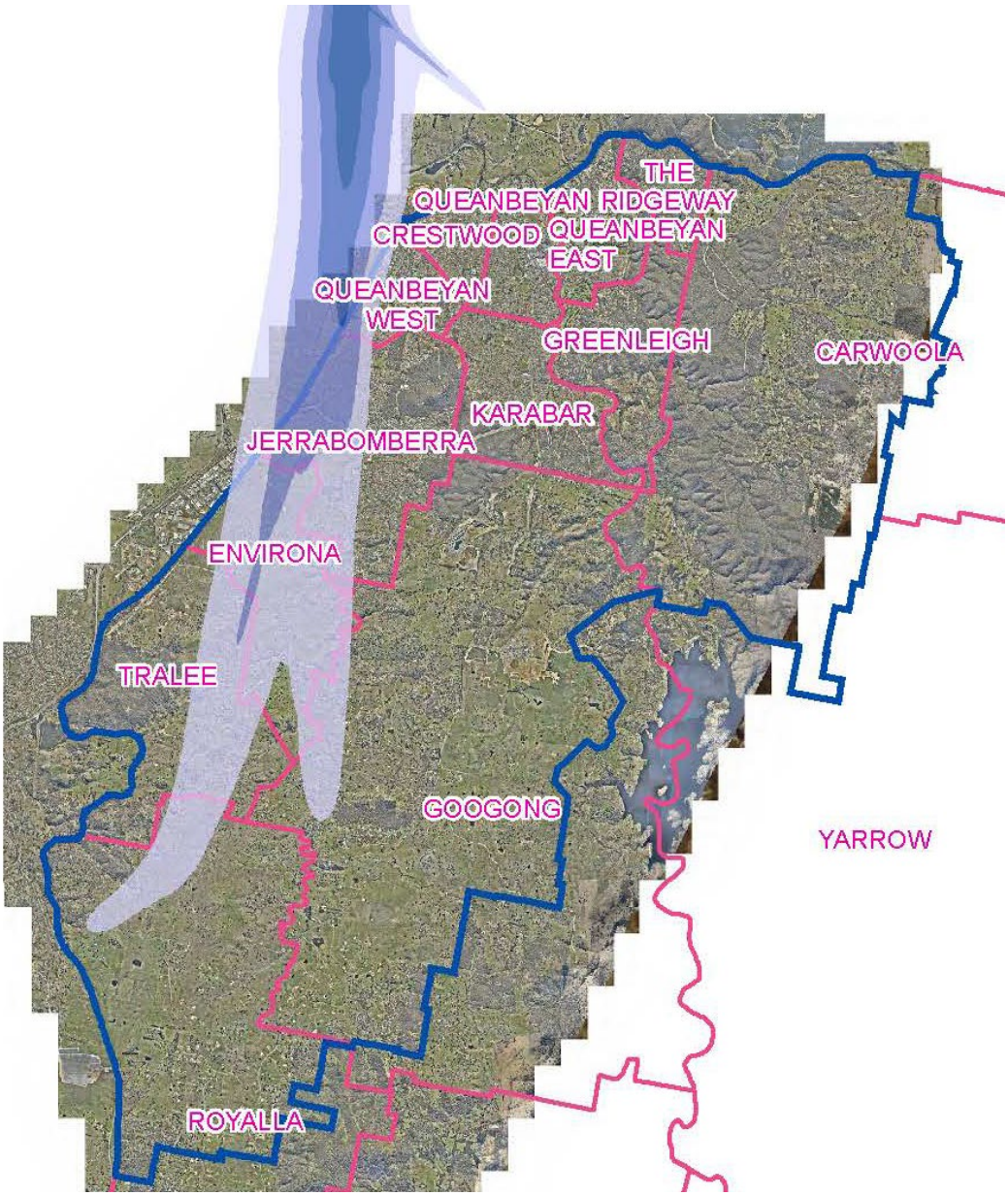


Figure 10: ANEF for airport noise levels in the QPRC LGA

4 Description of the Project

4.1 Overview

The project involves planning, designing and constructing an upgrade to the existing QSTP facility. The upgrade facility will cater for a future EP of 75,000, including the following facilities and components:

- Inlet Screens
- Primary Treatment
- Secondary biological treatment
- Tertiary treatment
- Disinfection (as may be required)
- Sludge treatment
- All buildings
- Access Road.

4.2 Site Layout

The current layout for the site is presented in Figure 11, this is located in the north west section of the lot.

The upgrade facilities are proposed to be constructed in the south east section of the lot, which is a currently empty, as shown in Figure 12. This is referred to as the ‘build zone’. This figure also shows an indicative location where a potential construction compound and stockpile may be located, and the existing access road to be upgraded.

Figure 13 shows the general arrangement of the upgrade facility and is indicative only, being subject to change during the design process and remaining within the identified build zone.

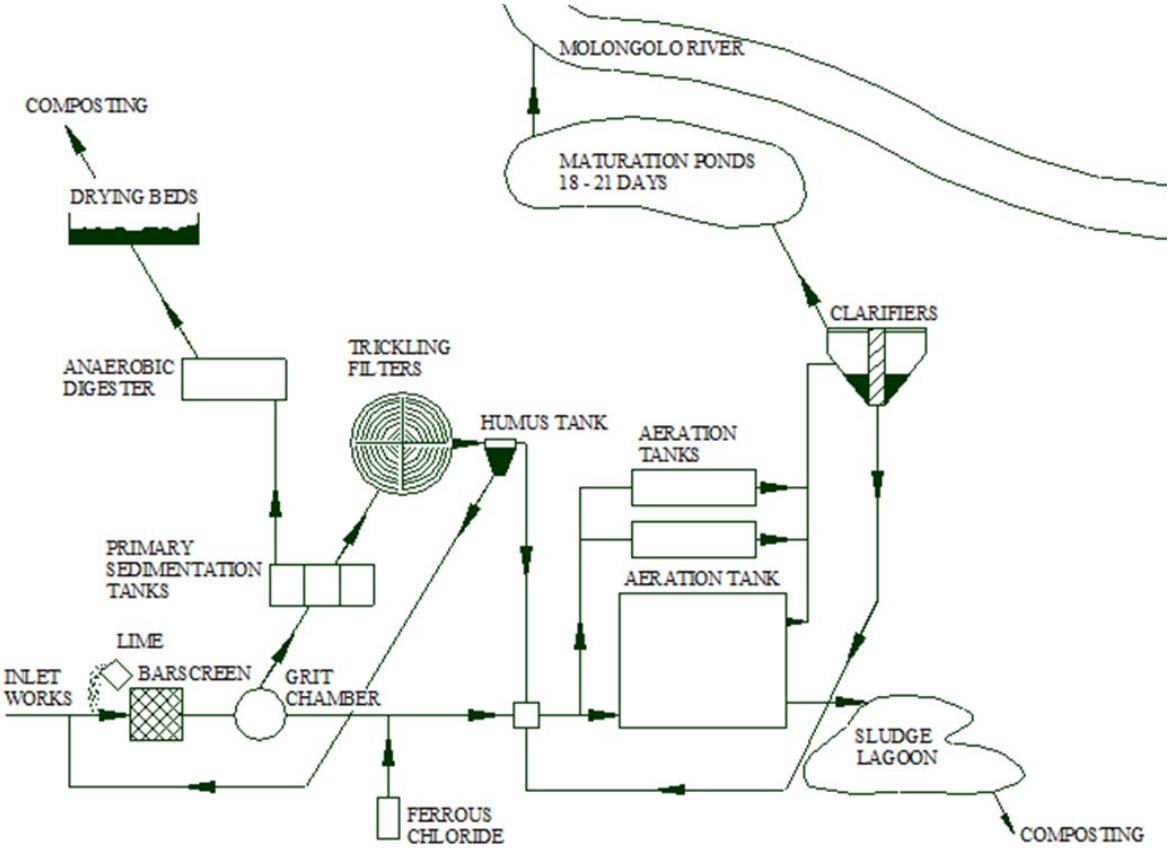


Figure 11: QSTP process flow and discharge to Molonglo River

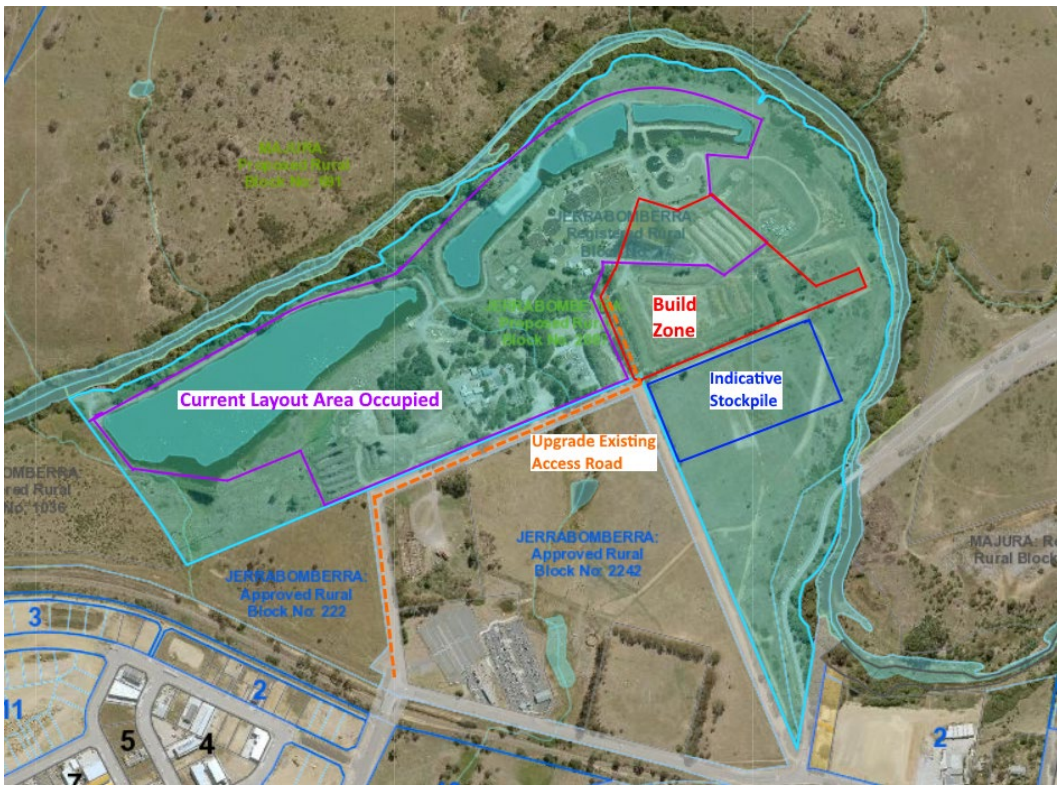


Figure 12: Location of 'Build Zone'

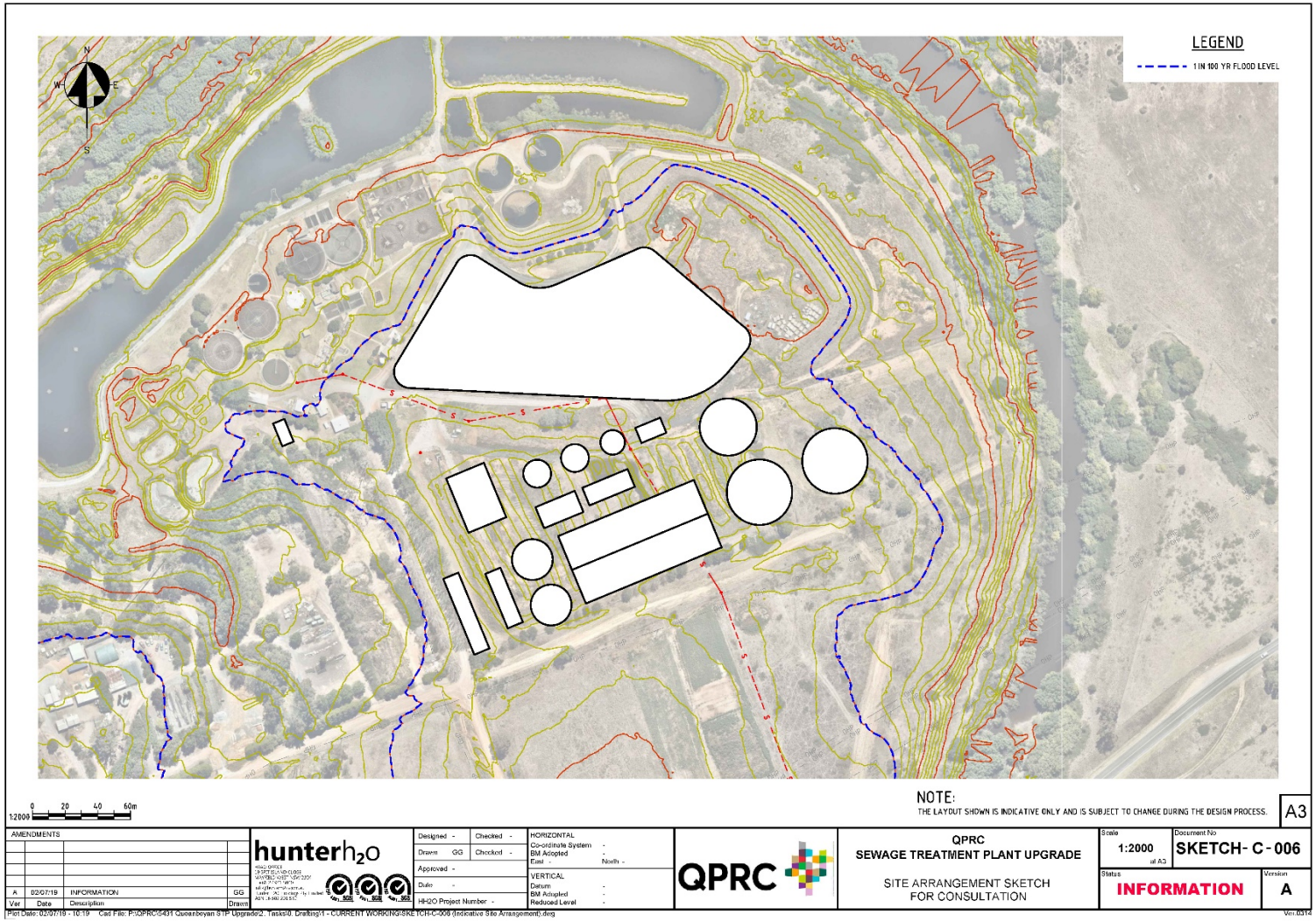


Figure 13: Indicative general arrangement of upgrade facility in build zone

4.3 Construction of the Project

Prior to construction, a Construction Environmental Management Plan (CEMP) would be prepared. All construction works would be undertaken in accordance with the construction environmental controls presented within the EIS and include consideration or relevant Project approval conditions.

4.4 Operation of the Project

The QSTP will continue to operate under the current conditions and there are no substantive operational changes for operating the upgrade facility.

5 Assessment Track

5.1 Impact Assessment Track

QPRC operates a STP on land bordering the Molonglo River within the ACT. The collection system for this STP is located in NSW and the discharge is to the Molonglo River, which flows to Lake Burley Griffin (LBG). The National Capital Authority (NCA), a Federal Government department, manages LBG.

A regulatory approval roadmap is provided in Section 5.12.

5.2 Development Application

The site is located in the ACT on Territory Land and is therefore subject to the requirements of the ACT Territory Plan 2008. The site is zoned as TSZ2: Services and NUZ4: River Corridor land uses under the Territory Plan.

The proposed activity requires an environment impact statement (EIS) under Schedule 4 of the ACT *Planning and Development Act 2007* (P&D Act).

ACT Health (together with the NCA) regulates discharges to LBG. The Minister responsible for the ACT Public Health Act 1997 has the ability to declare the proposal impact applicable and therefore requiring an EIS to be undertaken.

It is unlikely that this will occur given that an EIS is already required and that the proposal will improve the quality of the inputs into the Molonglo River and other receptors. Nevertheless, consultation with ACT Health is ongoing as part of the EIS preparation.

The construction of a “sewage treatment facility” is not a prohibited activity in the zone (TSZ2: Services and NUZ4: River Corridor).

The Development Application (DA) would likely be assessed under the Impact Track. A completed EIS is required to be submitted with a DA submitted under the Impact Track. This applies to the whole site zoned TSZ2: Services and NUZ4: River Corridor (small areas bordering the Molonglo River).

Any development undertaken on the site must meet the requirements of the Transport and Services Development Code and the Non-Urban Zones Development Code.

At this stage, there does not appear to be anything to differentiate potential developable areas of the site in relation to the DA path. All areas are likely to require assessment under the Impact Track.

If the existing STP was to be refurbished, there may be scope for the proposal to be assessed under the Merit Track, but this would require further investigation.

Demolition/decommissioning of the existing infrastructure may be able to be assessed under the Merit Track, as demolition is listed as a permissible activity in the Services Zone Development Table. These activities are however likely to be

included in any EIS undertaken for the proposal in future and not this current Scoping Study.

5.3 National Capital Plan

Consultation with the NCA and compliance with the provisions of the Federal Government's National Capital Plan would likely be required. The NCA (together with ACT Health) regulate the discharge to LBG. Specifically, the requirements relating to Urban Areas, Broadacre Zones and LBG, Hills Ridges and Buffers, River Corridors and Mountains and Bushland would need to be considered.

A Works Approval or Development Control Plan is unlikely to be required as the site is not located near any Designated Areas.

5.4 Environmental Impact Assessment (EIA)

EIA is used to assess the impact of a project on the environment. Under ACT legislation, an EIS is to be prepared as required for the STP upgrade DA (see Section 16.1.1 above) under the P&D Act. This would include various specialist studies that would be identified in the Scoping Document, which outlines what must be addressed in the EIS. The Scoping Document is prepared by the ACT Environment, Planning and Sustainable Development Directorate (EPSDD).

In order to apply for a Scoping Document, a Preliminary Risk Assessment (PRA) must be completed in accordance with AS/NZS 14004:2004 Environmental Management Systems and AS/NZS ISO 13000:2009 Risk Management. The PRA must accompany the request for a Scoping Document.

Similarly, if works are proposed in NSW (such as for the collection network), environmental approvals consideration would be required for this as well. It is possible that, depending on the scale of the works, QPRC could be the determining authority for those works. This will be assessed later and does not form part of this document.

Continued engagement with EPSDD, ACT Health, ACT Government Stakeholders, NSW EPA (Environmental Protection Authority) and the NCA will be conducted throughout the preparation of the EIS.

5.5 Preliminary Environmental Assessment

A Preliminary Environmental Assessment considering constraints and issues for the current site has been undertaken as part of the Masterplan. Consideration has also been given to how some of these issues can be managed. The results of this review are given below.

Table 4: Current site environmental aspects and potential mitigation

Environmental Aspect	Potential Mitigation
Odour	*Issue* The nearest sensitive receptor is at the south-eastern boundary of the site in Oaks Estate and Beard Estate. All possible measures would need to be considered to reduce the emission of odours that could potentially affect sensitive receptors. Wind and other meteorological aspects need to be determined to assess their effect on potential odour emission. No conditions exist in the Licence. *Mitigation* Liaison with stakeholders should occur to determine if odour emissions are occurring. Considerations should be taken for any activity during construction which could increase the levels of odour emissions.
Noise and Vibration	*Issue* All reasonable steps would need to be taken to reduce construction equipment noise and minimise impact on neighbouring properties. The nearest sensitive receptor is at the south-eastern boundary of the site. *Mitigation* Construction activities would be restricted to certain times of the day, e.g. Monday to Friday 7 am – 6 pm, Saturday 8 am to 1 pm. No work would be undertaken on Sundays or public holidays. Equipment selection and design should consider noise impact implications. Blowers and other potentially noisy equipment could be housed in suitably designed buildings to provide noise attenuation.
Transport and Traffic	*Issue* There would likely be an increase in traffic to the site during construction works; including construction vehicles, deliveries and construction personnel travelling to and from site. This could lead to a large amount of congestion, resulting in a disruption to other transport routes. Further, the extra traffic may increase the possibility of erosion along road-sides. *Mitigation* Speed limits should be adjusted to manage traffic appropriately. There should also be an increase in road signage. Machinery should be maintained and checked to be in working order. Further, road load limits and sight distances should be taken into

Environmental Aspect	Potential Mitigation
	consideration when formulating a traffic management plan. The approach roads to the plant will need to be upgraded.
Chemical Handling	*Issue* There is potential during construction and operation for the occurrence of spills and leaks. This could potentially contaminate soil and waterways. Further, the health of fauna, flora, and humans could be adversely affected. *Mitigation* Designated areas should be determined to accommodate potentially damaging materials. The storage and handling of chemicals should be in accordance with the safety data sheet and other guidelines. There should be appropriate procedures and emergency plans in place, and these plans should be included in staff inductions and training.
Sludge Handling	*Issue* Large amounts of contaminated material (in the form of sludge) would be produced during operational activities. If managed inappropriately, this could contaminate local waterways and soil. Section 3 of the Licence indicates that sewage sludge and screenings should be managed on site such that there is no discharge to surface water or groundwater. It is anticipated that in the new plant, this practice would not be allowed to continue but instead treatment and disposal should occur. Reuse of sewage sludge in the ACT should be in accordance with the National Water Quality Management Strategy Draft Guidelines for Sewage Systems Sludge (Biosolids). *Mitigation* Proper disposal methods and safety plans should be designed and incorporated into staff inductions and training. The design of systems that produce sludge should allow for safe removal.
Land Use	*Issue* The site is an existing STP and this use would continue under this project. There are adjacent land users who may be affected by construction or operational impacts. *Mitigation* Appropriate liaison with the different stakeholders to maintain open and clear communication channels should be incorporated. An allowance for stakeholder feedback would also assist mitigation.

Environmental Aspect	Potential Mitigation
Soil Contamination	*Issue* There is known contamination on the site due to burial of solids and screenings. *Mitigation* Consider location of new works to avoid contaminated areas. Provide for remediation in the scope of works for construction.
Flora and Fauna	*Issue* The STP site is not likely to be a habitat for any threatened species (though this needs to be checked during the EIS) and therefore it is unlikely that the proposed construction works at the site will have an impact on any threatened species. Threatened ecological communities listed in the EPBC Act should be considered. Those communities which are likely to occur near to the site but not within the build zone are: • Natural Temperate Grasslands of the Southern Tablelands of NSW and the ACT (Endangered) • White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered). • Golden Sun Moth (Synemon plana) (Critically Endangered) identified at Block 2242 south of the Site. Consideration should also be given to ecological communities that may be present in the maturation lagoons. *Mitigation* Tree removal would be minimised in design. Environmental management plans would be required for construction and operation stages. There are no trees in the current build zone area or species of significance known.
Air Quality	*Issue* Local air quality could be affected by emissions from construction traffic and equipment. Earthworks required as part of the construction works may give rise to dust impacts. It is not anticipated that there will be long-term impacts on air quality from the operation of the STP. *Mitigation* Construction vehicles and equipment would be required to have been serviced within the six-month period prior to the commencement of construction activities;

Environmental Aspect	Potential Mitigation
	Limit the area of bare ground to be exposed at any one time (where possible); Water down bare ground during construction, particularly during windy conditions.
Water Quality	*Issue* Operationally the proposed upgrades to the plant will improve treated effluent quality and therefore reduce the potential impacts of effluent leaving the site. Impacts to water quality could arise during construction due to sediment run-off. The Licence indicates various load limits for pollutants. *Mitigation* A project specific construction environmental management plan would be prepared prior to construction commencement. In maintaining current environmental flow levels, a monitoring system will need to be put in place. Further, effluent quality will still need to be monitored to minimise the risk of contamination in the effluent. Detailed design phase should consider river bank restoration and protection to guard against flood damage and spills from ponds.

5.6 Environmental Authorisation

The proposal is classified as a *Class A* activity under the ACT *Environment Protection Act 1997* and requires an Environmental Authorisation for the operation of the site. QPRC already has an Environmental Authorisation (0417 dated 21 February 2017) for the existing plant that is reviewed on an annual basis. The current Environmental Authorisation states "*1.1.5 The Authorisation holder shall seek the approval in writing of the EPA to install, construct or modify any equipment or works in or on the premises which would impact on the plant's capacity to achieve Authorisation conditions*."

The Authorisation includes the effluent discharge to the Molonglo River.

It should be noted that the current Environment Authorisation is for Block 2087 Oaks Estate (now known as Block 2087 Jerrabomberra). Clarification of the site should be made in the Authorisation, including the applicability of the approval to Block 27 Jerrabomberra.

5.7 Environmental Protection Agreement

An Environment Protection Agreement may be required for *Class B* activities (under the ACT *Environment Protection Act 1997*) carried out during construction on the site. This would be confirmed once further information regarding the design and construction of the proposed sewage treatment plant is known.

5.8 Waterway Works Licence

Works undertaken within the Molonglo River Corridor would likely require a Waterway Works License (ACT government). Further detail regarding any proposed river bank remediation works is required to determine the need for this approval.

5.9 Contaminated Land Management

As part of the EIS, a contamination assessment would likely be needed to determine the contamination status of the site and remedial actions that might be required.

Development of the site would be subject to the ACT *Contaminated Sites Environmental Protection Policy 2009* (EPP). It is likely the site is listed on the ACT Contaminated Sites Register; given STPs are recognised in the EPP as a potential source of contaminants.

5.10 Waste Management

The management of waste from the proposed development, including waste generated from construction, demolition of existing infrastructure and waste products from the operation of the site must be considered.

Early consultation with ACT NoWaste and the ACT EPA regarding waste management would be required, particularly given the current shortage of landfill space in the ACT.

It is understood that biosolids, screenings and grit are currently stored on site. It is also understood that solids management is unlikely to be allowed or undertaken on site in the new STP design.

Additional approvals would likely need to be sought from EPSDD, QPRC, ACT NoWaste, ACT EPA and NSW EPA to allow management of biosolids to occur at the proposed end point. The current Environmental Authorisation states "*3.2 Reuse of sewage sludge in the ACT should be in accordance with the National Water Quality Management Strategy Draft Guidelines for Sewage Systems Sludge (Biosolids) Management 1998*."

The concept design should be progressed to demonstrate how sludge would be managed (i.e. level of dewatering and treatment) such that biosolids could be able to be moved and processed (reused or disposed of) appropriately off-site. The EIS can likely be submitted prior to identifying the final end-point of the biosolids; however this will require further confirmation and consultation with the EPSDD and the relevant stakeholders. If disposal occurs within NSW, then the NSW agencies would need to be consulted. In addition, approvals would likely be required to allow transportation of waste outside of the ACT.

5.11 Infrastructure Approvals

Section 60 of the NSW *Local Government Act (1993)* requires Department of Primary Industries Water (DPI Water) to approve:

A council must not, except in accordance with the approval of the Minister for Primary Industries, do any of the following:

a) As to works of water supply-construct or extend a dam for the impounding or diversion of water for public use or any associated works

b) As to water treatment works-construct or extend any such works

c) As to sewage-provide for sewage from its area to be discharged, treated or supplied to any person

d) As to flood retarding basins prescribed by the regulations-construct or extend any such basins.

DPI Water provide approval following a 5 Step process for a detailed design and construction procurement. QPRC are required to involve DPI Water at each Step and seek their consultation and formal endorsement. Essentially this means that the following documents are submitted and approved:

- Masterplan and options report
- Concept design report
- Detailed design report.

(http://www.water.nsw.gov.au/Urban-water/Country-Towns-Program/Best-practice-management/Regulations-for-water/Water-and-sewage-treatment-works/Construction-of-a-detailed-design/default.aspx).

The NSW Government's Best-Practice Management of Water Supply and Sewerage Framework require local water utilities to prepare and implement a sound 30-year Integrated Water Cycle Management (IWCM) Strategy, which includes a Financial Plan. The IWCM, which must be submitted to and approved by DPI Water, is closely linked to the Section 60 approvals process. A 30-year IWCM Strategy addresses the complex linkages between elements of the urban water cycle (water supply, sewage and stormwater) and community expectations. This is done within the urban area and between the urban area and its water related physical and legislative operating environment. This multi-level, transparent and systematic approach encourages cost-effective integration of these urban water systems in consultation with the local community.
(http://www.water.nsw.gov.au/Urban-water/Country-towns-program/Best-practice-management/Integrated-Water-Cycle-Management/Integrated-Water-Cycle-Management/default.aspx)

This requirement is likely to be associated with any funding support requested by QPRC of the NSW government.

5.12 Regulatory Approvals Roadmap

<table>
<tr><th colspan="2">Authority & Legislation</th><th>Master Plan</th><th colspan="5">Concept Design</th><th colspan="5">Detailed Design</th><th>Construction</th></tr>
<tr><td rowspan="3">Planning</td><td>ACT
Environment and Planning and Sustainable Development Directorate (EPSDD) – Planning and Land Authority
• Planning and Development Act 2007
• Planning and Development Regulation 2008
• Territory Plan</td><td>• Preliminary engagement with EPSDD</td><td colspan="10">Development Approval for STP (Impact Track):</td><td>• Comply with conditions of Development Approval
• Incorporate approval conditions into Statement of Requirement for Construction</td></tr>
<tr><td colspan="2">EIS Scoping Document Request:
• Preliminary Risk Assessment (PRA)
• Submit Application Form 1M & PRA to EPSDD
• EPSDD has 30 days to provide Scoping Document
• Valid for 18 months

Confirm activity is consistent with crown lease conditions:</td><td colspan="2">EIS Preparation:
• Confirmation of Scoping Document requirements
• Continued engagement with EPSDD
• Lodge Draft EIS with EPSDD</td><td colspan="2">EIS Exhibition:
• Minimum 20 day public notification
• Revise EIS addressing concerns and any design changes
• Submit Revised EIS</td><td colspan="2">EIS Approval:
• Planning consideration of revised EIS
• Receipt of EIS Adequacy Report (EISAR) – EIS complete
• Valid for 18 months
• Ensure mitigation & management measures are incorporated into the Detailed Design</td><td colspan="2">Development Application:
• Meet with EPD to seek pre-application advice
• Lodge DA with drawings, plans, EIS & letter of completion and statement against relevant criteria
• Lodgement check 3-5 days
• Public notification and decision on DA (30-45 days from date of lodgement)
• Notice of decision</td></tr>
<tr><td colspan="10">Approval requirements for off-site disposal / reuse of bio-solids (depends on jurisdiction where waste product will be used – assume NSW Biosolids Guidelines apply)
• Identify off-site disposal / reuse options including interim and long term options and local or regional solutions
• Identify planning and approvals requirements for options
• Engagement with ACT Government stakeholders
• Determine best option
• Commence approval process with EPSDD</td></tr>
<tr><td>NSW
Department of Planning & Environment
• Environmental Planning & Assessment Act 1979
• Environmental Planning and Assessment Regulation 2000</td><td>• Confirm no NSW Planning requirements for STP site</td><td colspan="10">Development Approval for STP:
• No Development Approval from NSW Planning & Environment required for STP
Approval requirements for off-site disposal / reuse of bio-solids:
• Identify off-site disposal / reuse options including interim and long term options and local or regional solutions
• Identify planning and approvals requirements for options
• Engagement with NSW Government stakeholders and Queanbeyan City Council (as required)
• Determine best option
• Commence approval process with Queanbeyan City Council and/or NSW Planning & Environment</td><td>• Continued engagement with EPD & QPRC regarding off-site disposal / reuse of bio-solids (as required)</td></tr>
<tr><td>National
National Capital Authority
• National Capital Plan
• Australian Capital Territory (Planning and Land Management) Act 1988 (Cth)
• Commonwealth Places (Application of Laws) Act 1970-1973 (Cth)</td><td>• Preliminary engagement with National Capital Authority</td><td colspan="10">• Continued engagement with NCA as stakeholder
• NCA Works Approval or Development Control Plan will be required if Commonwealth-owned land or ACT land zoned as ‘Designated’ or ‘Mains Avenues and Approaches’ (as shown in ACTMAPi)</td><td>• Continued engagement with NCA as stakeholder</td></tr>
</table>

	Authority & Legislation	Master Plan	Concept Design	Detailed Design		Construction

Environment	**ACT**
	Environment , Planning and Sustainable Development Directorate
	• *Environment Protection Act 1997*
	• *Environment Protection Regulation 2005*
	• *Nature Conservation Act 2014*
	• *Fisheries Act 2000*
	• *Heritage Act 2004*
	• *Lakes Act 1976*
	• *Climate Change and Greenhouse Gas Reduction Act 2010*
	• *Water Resources Act 2007*
	• *Public Unleased Land Act 2013*
	Transport Canberra and City Services Directorate
	• *Tree Protection Act 2005*
	• *Waste Management and Resource Recovery Act 2016*
	• *Waste Management and Resource*
	• *Recovery Regulation 2017*
	• *ACT Waste Management Strategy 2011-2025*
		• Preliminary engagement with stakeholders:
		  • EPSDD - Water
		  • EPSDD - Climate Change
		  • Access Canberra - ACT EPA
		  • ACT NOWaste
		  • Conservator of Flora and Fauna
		  • EPSDD - ACT Heritage
		  • TCCS
			Preliminary Environmental Assessment:
			• Continued engagement with stakeholders
			• Assessments:
			  ▪ Contamination
			  ▪ Flora and Fauna
			  ▪ Archaeology and Heritage
			  ▪ Air and Odour
			  ▪ Noise and Vibration
			  ▪ Geotechnical
			  ▪ Surface & Groundwater Quality
				Environmental Impact Statement:
				• Prepare Preliminary Risk Assessment from Preliminary Environmental Assessment in accordance with As/NZS 14004:2004 Environmental Management Systems and AS/NZS ISO 13000:2009 Risk Management
				• Submit Environment Significance Opinion (ESO) and EIS Scoping Document Request to Planning (see Planning Roadmap)
				• Detailed assessment as per Scoping Document
				• Ensure mitigation & management measures are incorporated into the Concept Design and Detailed Design
				• See Planning Roadmap for EIS and Development Approval Process
					• Commence construction approvals (as required):
					  ▪ Seek approval from TCCS for use of verges and other leased land during construction
					  ▪ Tree damaging activity approval
					• Update Environmental Authorisation
					• Waterways Work Licence
					• Approval for disposal to landfill
					• Environmental Protection Agreement for Construction Greater-than 0.3ha (held by principal contractor from ACT EPA)
					• Continue engagement with stakeholders
						• Comply with conditions of Development Approval
						• Incorporate approval conditions into Statement of Requirement for Construction
						• Ensure mitigation measures are incorporated into Construction Management Plans, including waste management plan and pollution control plan (in accordance with Schedule 1 of *Environment Protection Guidelines for Construction and Land Development in the ACT* (ACT EPA 2011)
						• Ensure Contractor has Environment Protection Agreement (if required)

			Approval requirements for off-site disposal / reuse of bio-solids: • Identify off-site disposal / reuse options including interim and long term options and local or regional solutions • Identify planning and approvals requirements for options • Engagement with ACT Government stakeholders • Determine best option • Commence environmental assessments (as required)			
	NSW **Environment Protection Authority** • *Protection of the Environment Operations Act 1997 (Note: Further legislation will apply for off-site disposal / reuse of bio-solids approvals)*	• Preliminary engagement with NSW EPA	**Preliminary Environmental Assessment:** • Continued engagement with NSW EPA as stakeholder	**Environmental Impact Statement:** • Continued engagement with NSW EPA as stakeholder **Approval requirements for off-site disposal / reuse of bio-solids:** • Identify off-site disposal / reuse options including interim and long term options and local or regional solutions • Identify planning and approvals requirements for options • Engagement with NSW Government stakeholders • Determine best option • Commence environmental assessments (as required)		• Continued engagement with NSW EPA as stakeholder
	National **Department of the Environment** • *Environment Protection and Biodiversity Conservation Act 1999* **National Capital Authority** • *National Capital Plan*	• Preliminary engagement with National Capital Authority	**Preliminary Environmental Assessment / Environmental Impact Statement:** • Continued engagement with NCA as stakeholder **EPBC Referral:** • Engagement with Department of the Environment • Determine need for EPBC Referral and Submit EPBC Referral (as required) • Department of the Environment determine whether the project is considered a Controlled Action • Commence bilateral EIS process (only required if project is considered a Controlled Action) (**Note:** if on Designated or Commonwealth land in the ACT then: - ACT (Planning & Land Management) Act 1988 (Cth) - Commonwealth Places (Application of Laws) Act 1970-1973 (Cth) also apply			• Comply with conditions of EPBC Referral (if applicable) • Continued engagement with NCA as stakeholder

Authority & Legislation		Master Plan	Concept Design	Detailed Design	Construction
Infrastructure	**ACT** *None*				
	NSW **NSW Office of Water** • *Local Government Act 1993* • *Note: Based on the 5 Step process for a detailed design and construction procurement* • *Australian Guidelines for Water Recycling (AGWR) Phase 1, 2006* • *Note: If a recycled water product is generated*	**Step 1 & Step 2 Submission:** • involve the Office of Water in the early stages of the options study • provide the draft options study report to the Office of Water for comment • discuss comments with the Office of Water if required • arrange amendment of the report if required • provide the final draft report to the Office of Water for endorsement **IWCM:** • IWCM Issues Paper **Recycled Water:** • Consider if recycled water product to be produced	**Step 3 Submission:** • involve the Office of Water in the early stages of the concept design • provide the draft concept design report to the Office of Water for comment • discuss comments with the Office of Water if required • arrange amendment of the report if required • provide the final draft report to the Office of Water for endorsement • The concept design should include detailed consideration of environmental and all other relevant regulatory requirements. Supporting investigations and reports identified in the option study, such as an environmental impact statement **IWCM:** • IWCM Draft Strategy Paper • Typical residential bills defined • 30 year renewals plan • 30 year TAMP **Recycled Water:** • Draft Recycled Water Quality Management Plan	**Step 4 Submission:** • involve the Office of Water in the key aspects of process design beyond those included in the concept design report • provide the draft detailed design report to the Office of Water for comment • discuss comments with the Office of Water if required • arrange amendment of the report if required • provide the final draft report to the Office of Water for endorsement The detailed design should include information about: • process units • process and hydraulic flow (using diagrams) • process controls and instrumentation • wastewater management strategies **Step 5 Submission:** • Section 60 approval will be issued after the Office of Water has endorsed the amended detailed design **IWCM:** • Final IWCM Strategy • Financial Plan **Recycled Water:** • Final Draft Recycled Water Quality Management Plan	**Recycled Water:** • Final Recycled Water Quality Management Plan • Process proving report and results
	National *None*				

Authority & Legislation		Master Plan	Concept Design	Detailed Design	Construction
Health	**ACT** **ACT Health** • *Public Health Act 1997*	• Preliminary engagement with ACT Health	• Continued engagement with ACT Health with particular regard to their role as co-regulators (with the NCA) of inputs into Lake Burley Griffin	• Continued engagement with ACT Health	• Continued engagement with ACT Health (as required)
	NSW **NSW Health** • *Public Health Act 2010* • *Local Government Act 1993* • *Australian Guidelines for Water Recycling (AGWR) Phase 1, 2006*	**Step 1 & Step 2 NOW Submission:** • Involve NSW Health • NOW will generally seek NSW Health endorsement of the Step 1 and Step 2 submission **Recycled Water:** • Consider if recycled water product to be produced	**Step 3 NOW Submission:** • Involve NSW Health • NOW will generally seek NSW Health endorsement of the Step 3 submission **Recycled Water:** • Draft Recycled Water Quality Management Plan	**Step 4 & Step 5 NOW Submission:** • Involve NSW Health • NOW may seek NSW Health endorsement of the Step 4 and Step 5 submission **Recycled Water:** • Final Draft Recycled Water Quality Management Plan	**Recycled Water:** • Final Recycled Water Quality Management Plan
	National *None*				

6 Natural Conservation Values

The Site is subject to previous development and has been fully disturbed. The natural conservation values of the site have been assessed in the sections of the report outlined in the table below.

Table 5: Natural Conservation Values Assessed in This Report

Natural Conservation Values	In this report
Is the location important in maintaining existing processes or natural systems of the ACT?	Section 3.3 The location is not important in maintaining existing processes or natural systems in the ACT.
Is the location important in exhibiting unusual richness of diversity of flora, fauna or landscapes?	Section 3.12 The location is not important in exhibiting unusual richness of diversity of flora, fauna or landscapes.
Is the location important in its possession of uncommon, rare or endangered flora, fauna, communities, natural landscapes or phenomena?	Section 3.12 The location is not known to possess uncommon, rare or endangered flora, fauna, communities, natural landscapes or phenomena. It is a highly disturbed STP site.
Is the location important in demonstrating the principal characteristics of the range of landscapes, environments or ecosystems, the attributes of which identify them as being characteristic of their class?	Section 3.12 The location is a mix of urban vegetation and exotic species in a highly modified landscape and is a long-term functioning STP site.
Is the location important for information contributing to a wider understanding of the ACT's natural history, by virtue of its use as a research site, teaching site, type locality, reference or benchmark site?	Section 3.5 The site has no history as use of a research site, teaching site, type locality, reference or benchmark site.

7 Preliminary Risk Assessment

7.1 Methodology

The matrix methodology outlined below has been adopted from the ACT Planning & Land Authority "Preparation of an application for scoping" publication. It is consistent with AS/NZS ISO 14004:2004 (environmental management systems) and AS/NZS ISO 13000:2009 (risk management).

7.1.1 Evaluating Likelihood

The likelihood of an impact occurring is best described in terms of probability. Overlaying this is the need to recognise uncertainty that may be associated with potential impacts. Best practice dictates that where there is scientific uncertainty, a precautionary approach is warranted which will in turn identify a higher level of risk. Each identifiable potential impact can be assigned a likelihood between 'rare' and 'certain'. Table 6 identifies the criteria used to determine the likelihood of an impact.

Table 6: Description of likelihood

Likelihood Rating Criteria		
Likelihood		**Description**
1	Rare	Event occurs in exceptional situations - Odds ≤ 1:1000
2	Unlikely	Event occurs in extraordinary situations, generally not for this type of activity / project - Odds ≤ 1:100
3	Possible	Event may occur at some time and has happened previously in similar circumstances. Odds ≥ 10:1
4	Likely	Event will occur especially if unmanaged or controls ineffective. Odds 50:50
5	Certain	Event will occur frequently (more than once) especially if unmanaged or controls ineffective. Odds ≥ 100:1

7.1.2 Evaluating Consequences

The consequences of an impact requires a degree of subjective assessment which may consist of several elements. For the purpose of the preliminary risk assessment the risk rating process is illustrated as a process in Table 7. Increased consequence from left to right and increased likelihood from top to bottom. The resulting juncture of consequence and likelihood produces the risk rating on a scale of negligible to significant.

Several of the elements are interrelated and a consequence is considered to be major if any one of the elements can be expected to be a major impact. A subjective decision is needed for each possible impact as to the level of consequence taking a balanced view of the impact against each of the elements. The consequence of an impact used in the risk assessment is the reasonably foreseeable consequence.

Table 7: Risk Assessment Matrix

LIKELIHOOD	CONSEQUENCE				
	Very Low	Low	Medium	High	Very High
Rare	Low	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Moderate	Moderate	High
Possible	Low	Moderate	Moderate	High	High
Likely	Moderate	Moderate	High	High	Extreme
Certain	Moderate	High	High	Extreme	Extreme

7.2 Project Risks Considered

A pre-mitigation risk assessment is presented in Table 8.

Table 8: Pre-mitigation risk assessment

Identified Risk	Description	Likelihood	Consequence	Unmitigated Risk
Hydrology	Dirty run-off from site works	Possible	High	High
	Leaching to groundwater	Possible	High	High
Biodiversity	Works to accommodate endangered or threatened species.	Possible	High	High
Soils/geomorphology	Discovery of contaminated soils	Likely	High	High
	Unexpected ground conditions	Likely	Medium	High
Heritage	Discovery of European heritage structures on site	Unlikely	Medium	Moderate

Identified Risk	Description	Likelihood	Consequence	Unmitigated Risk
	Discovery of aboriginal heritage items on the site	Likely	High	High

7.3 Measures to Avoid Impacts

Table 9 describes the process taken to mitigate risks identified in Table 8. Table 10 presents the risks after risk mitigation.

Table 9: Evaluating consequence

Risk Rating & Control Approach		
Initial Risk Rating		Control Measure
L	Low	Negligible impact on focus area Routine governance procedures and reporting framework at project manager level Risks managed and reviewed using project risk matrix
M	Moderate	Minor impact on focus area Project specific governance control measures and reports at Section Manager level Risks managed and reviewed using project risk matrix
H	High	Major impact on risk area Project specific governance control measures and reports at QCC Director level Risks managed and reviewed using specific Risk Strategy and Plan
E	Extreme	Catastrophic impact on focus area Project specific governance control measures and reports at QCC General Manager level Risks managed and reviewed using specific Risk Strategy and Plan

Table 10: Mitigated risk assessment (preliminary)

Identified Risk	Description	Mitigation	Likelihood	Consequence	Unmitigated Risk
Hydrology	Dirty run-off from site works	Require contractors to prepare and implement erosion and sediment or water management plans for site works. Design for stormwater run-off management. Protect watercourses from the works or divert them around the works.	Unlikely	Medium	Moderate
	Leaching to groundwater	Design works that involve transfer or storage of liquids to be bunded.	Unlikely	Medium	Moderate
Biodiversity	Works to accommodate endangered or threatened species where required.	Undertake ecological assessment early in the design process to identify threatened and endangered species. No known species currently identified in desktop studies.	Unlikely	Medium	Moderate
Soils/geomorphology	Discovery of contaminated soils	Undertake contaminated site assessment.	Possible	Medium	Moderate
	Unexpected ground conditions	Undertake staged geotechnical testing, beginning early in the concept design phase.	Possible	Medium	Moderate
Heritage	Discovery of European heritage structures on site	Undertake heritage assessment during site assessment. Incorporate EIA outcomes into the design. No known heritage items currently identified in desktop studies.	Unlikely	Low	Low
	Discovery of aboriginal heritage items on the site	Undertake heritage assessment during site assessment. Incorporate EIA outcomes into the design. Document an unexpected finds protocol into the contract documents. No known heritage items currently identified in desktop studies.	Unlikely	Low	Low

7.4 Natural Conservation Values Risk Analysis

No substantive impact on natural conservation values is anticipated during construction or operation of the project as noted in the Table below.

Table 11: Possible impacts of project on natural conservation values

Conservation Value	Possible Impacts
Ecology and the natural environment	The site is highly disturbed and has been for 80 years. There are no known or likely ecological or natural environment elements remaining on the site in the build zone. The site has been used for sewage related operational activities for over 80 years.
Heritage	There are no heritage items listed or known to be located within the site area and none are anticipated to be encountered. There are no known or anticipated associated heritage related structures for the project during either construction of operation.
Planning and land status	The site is currently under lease with the ACT government for the identified purpose and there are no substantive impacts on land use change, planning, lease or land status.
Traffic and transportation	*Construction:* There will be some increase in traffic and transport associated with construction movements and materials being delivered to site. Traffic modelling will be undertaken to confirm the extent. The road servicing the site however is not a thoroughfare and will only slightly impact QPRC operations of the current site access. This impact is anticipated to be very minimal. *Operation:* Operation will involve the increased transport of chemical delivery to the site, and the increased movement of trucks of waste biosolids from the site. The road servicing the site however is not a thoroughfare and will only slightly increase movements form the current state. This impact is anticipated to be very minimal.
Changes to soils, air, water or groundwater	*Construction:* During construction, soils will be disturbed within the build zone. This site soils are highly disturbed due to more than 80 years of site operations and no substantive impact on natural conservation value is anticipated. No changes to air, water or groundwater are anticipated based on the likely construction methods and design. *Operation:* No operation related changes to soils, air, water or groundwater are anticipated. The site stormwater and surface water will be captured and managed. Groundwater studies will confirm if any possible impacts required mitigation in the design and operation, but it is not anticipated to be substantive.
Climate change	The site is to be built above the 1 in 100 year flood impact zone (plus 500mm) which accommodates and considers climate change river events. The site design and operation will consider and implement methods to mitigate bushfire risk. Materials and durability are designed and specified to mitigate climate change risk. The project is not anticipated to be impacted or generate impact on climate change matters.

Conservation Value	Possible Impacts
Social impacts, including human health and socio-economic wellbeing	The site has been operated as a sewage treatment facility for over 80 years and is proposed to continue this same activity into the future. There are no substantive historical social human health or socio-economic negative impacts associated with the site. The site provides for human health improvement through the treatment of sewage. Economic modelling and rates impact assessment are being undertaken to mitigate impacts of financial burden.
Landscape and visual impacts	The site is highly disturbed and has been for over 80 years. Landscape and visual amenity elements of design and operation will be assessed to reduce impacts. The nearest receptor is 700m from the site and there is no historical evidence of substantive impacts. There may be some visual impact during construction activities, however the site is not located in a thoroughfare and the nearest receptor is 700m away.
Utilities and infrastructure	The site includes current underground pipelines and survey and mapping of these assets has occurred. There are no other key assets of utilities or infrastructure associated with the build zone. New facilities and changes to utilities and infrastructure will occur as part of the build such as power upgrade and possibly additional / altered sewage rising mains. These are not anticipated to impact conservation values as they are located within the current lease area and disturbed site.
Materials and waste	*Construction:* Construction materials and water will be managed in accordance with an approved CEMP and monitored. No substantive wastes are anticipated associated with construction. *Operation:* Waste biosolids, screens and grit will be generated by the upgrade facilities. The waste biosolids are proposed to be reused for likely agricultural or other beneficial purposes in a manner that complies with relevant legislation. As such, there is no anticipated substantive impacts from materials or waste due to operations.
Noise, lighting and vibrations	*Construction:* Construction activities would be restricted to certain times of the day, e.g. Monday to Friday 7 am – 6 pm, Saturday 8 am to 1 pm. No work would be undertaken on Sundays or public holidays. Lighting will be minimal and the nearest receptor is 700m away. *Operation:* Equipment selection and design will consider noise impact implications. Blowers and other potentially noisy equipment could be housed in suitably designed buildings to provide noise attenuation. There are no anticipated substantive noise, lighting or vibration issues.

8 Decisions Under the EPBC Act

As part of the EIS, an assessment under the *Commonwealth Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) would likely be required to determine whether the proposal would have a significant impact on Matters of National Environmental Significance.

If an EPBC Act referral is submitted to the Department of the Environment and if the proposed action is determined to be a controlled action under the EPBC Act and requires an EIS under the ACT P&D Act, the ACT Government may invoke the bilateral agreement. If the bilateral agreement applies the subsequent scoping document and EIS assessment report will be prepared by the ACT with input from the Australian Government.

The STP site is not likely to have significant impact on a habitat for any threatened species (though this needs to be confirmed during the EIS) and therefore it is unlikely that the proposed construction works at the site will have an impact on any threatened species.

A search of ACTmapi (May 2019) indicates that currently no known Natural Temperate Grasslands of the Southern Tablelands of NSW and the ACT (Endangered) or White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Critically Endangered) is found at the Site.

The Golden Sun Moth (Synemon plana) (Critically Endangered) identified at Block 2242 south of the Site.

9 Government Consultation Undertaken

Planning for the QSTP upgrade project has been ongoing for several years. Government stakeholder consultation has been conducted in relation to this potential upgrade beginning in 2016, with discussions related to, and submissions to, the QSTP upgrade masterplan. Operational government consultation has been ongoing, as required across the life of the STP. An indication of some of formal targeted consultation undertaken related to the Project is recoded in Table 12 below.

Table 12: Summary of government consultation related to the Project

Agency	Date of consultation	Summary of Consultation
ACT and Region Catchment Management Coordination Group	6 December 2016	Letter: submission to QSTP upgrade masterplan
	15 December 2016	Letter: submission to QSTP upgrade masterplan
	23 October 2017	Meeting: Water Quality Standards
	1 April 2019	ACT Regulators meeting: Minutes are attached in Appendix A.
EPA	13 November 2008	Letter: in-principle support for the study and the proposed updated STP.
	20 January 2017	Email: submission to QSTP upgrade masterplan
	23 October 2017	Meeting: Water Quality Standards
	31 January 2018	Letter from QPRC to EPA: Queanbeyan Sewage Treatment Plant Discharge Parameters for Design and Construction
	27 February 2018	Email: EPA response to QPRC letter dated 31 January 2018, Queanbeyan Sewage Treatment Plant Discharge Parameters for Design and Construction
	27 November 2018	Memorandum: QPRC response to EPA email dated 27 January 2018, Cost Versus Total Phosphorus Removal
	14 December 2018	Letter: EPA response to QPRC memorandum dated 27 November 2018, Queanbeyan Sewage Treatment Plant Discharge Parameters for Design and Construction
	28 March 2019	Turner & Townsend: Risk Workshop – EPA attended the workshop and minutes were distributed.
	1 April 2019	ACT Regulators meeting: Minutes are attached in Appendix A.
Icon Water	21 December 2016	Letter: submission to QSTP upgrade masterplan

	23 October 2017	Meeting: Water Quality Standards
NCA	28 November 2016	Letter: submission to QSTP upgrade masterplan
NSW Department of Primary Industries – Office of Water	3 February 2017	Letter: submission to QSTP upgrade masterplan
	26 March 2019	Turner & Townsend: CSR Workshop – DPI Water was invited to attend the workshop and minutes were distributed. They were unable to attend
	28 March 2019	Turner & Townsend: Risk Workshop – DPI Water was invited to attend the workshop and minutes were distributed. They were unable to attend
NSW Health	23 December 2016	Letter: submission to QSTP upgrade masterplan
TransGrid	16 June 2015	QPRC acceptance of easements for powerlines on south east corner of the Site
Transport Canberra and City Services Directorate	26 March 2019	Turner & Townsend: CSR Workshop
	28 March 2019	Turner & Townsend: Risk Workshop – TCCS was invited to attend the workshop and minutes were distributed. They were unable to attend

10 References

Abell, R., 1992. *Canberra 1:100 000 scale geological map,* Canberra: 1st edition, BMR.
Access Canberra, 2019. *Register of Contaminated Sites.* [Online]
Available at:
https://www.accesscanberra.act.gov.au/app/services/contaminated_sites/#/
[Accessed May 2019].
ACT Government, 1997. *Environment Protection Act 1997 ,* Canberra: ACT Government.
ACT Government, 2007. *Planning and Development Act 2007,* Canberra: ACT Government.
ACT Government, 2019. *ACTMapi.* [Online]
Available at: http://www.actmapi.act.gov.au/
[Accessed May 2019].
ACT Heritage Council, 2000. *ACT Heritage Register INTERIM HERITAGE PLACES REGISTER,* Canberra: ACT Government.
ACTmapi, 2015. *2015 5m Contours.* [Online]
Available at:
http://data.actmapi.act.gov.au/arcgis/rest/services/actmapi/contours_2015/MapServer/1
[Accessed May 2019].
Environment, Planning and Sustainable Development Directorate, 2018. *ACT Heritage Register.* [Online]
Available at: https://www.environment.act.gov.au/heritage/heritage_register
[Accessed May 2019].
GHD, 2016. *Queanbeyan Sewage Treatment Plant Upgrade Project Masterplan,* Queanbeyan: Queanbeyan Palerang Regional Council.
Jenkins, B., 2000. *Soil Landscapes of the Canberra 1:100,000 Sheet map and report,* Sydney: Department of Land and Water Conservation.
Muller, R. et al., 2017. *Hydrogeological Landscapes of the Australian Capital Territory, Second edition,* Wagga Wagga, NSW: Office of Environment and Heritage.
National Capital Authority, 2016. *National Capital Plan,* Canberra: ACT Government.
National Capital Authority, 2018. *Territory Plan,* Canberra: ACT Government.

Appendix A

ACT Regulators Meeting
Minutes, 01 April 2019

A1 Meeting Minutes

Minutes

Client:	Queanbeyan-Palerang Regional Council (QPRC)
Project:	Queanbeyan Sewage Treatment Plant Upgrade (STPU) Project
Meeting date:	01 Apr 2019
Meeting location:	DPMH, 16 Challis St, Dickson ACT
Meeting title:	ACT Regulators Meeting

Attendees

Inv.	Attd.	Dist.	Full name	(initials)	Organisation	Position
☒	☒	☒	Peter Cox	(**PC**)	QPRC	Project Manager
☒	☒	☒	Dominic Riches	(**DR**)	EPSDD	Impact Assessment
☒	☒	☒	Terri English	(**TE**)	EPSDD	Impact Assessment
☒	☒	☒	James Bennett	(**JB**)	EPSDD	Impact Assessment
☒	☒	☒	Patrick Paynter	(**PP**)	EPSDD	Infrastructure and Planning
☐	☐	☒	Daniel Walters	(**DW**)	EPSDD	Policy
☐	☒	☒	Heath Chester	(**HC**)	ACT EPA	Environmental Water Officer
☒	☒	☒	James Logan	(**JL**)	ARUP	Project Management/Environment
☒	☒	☒	Matt Kendall	(**MK**)	Catchments and Water	Executive Manager
☒	☒	☒	Evan Mercer	(**EM**)	UTR	Consultant, Technical Regulation
☒	☒	☒	Simon Grice	(**SG**)	UTR	Senior Manager
☒	☒	☒	Sayem Choudhury	(**SC**)	TCCS	Place Coordinator
☒	☒	☒	Martin Lomé	(**ML**)	Turner & Townsend	Project Director
☐	☐	☒	Yousef Mubaideen	(**YM**)	Turner & Townsend	Senior PM
☒	☒	☒	Kim Raysmith	(**KR**)	Turner & Townsend	CSR Manager
☒	☒	☒	Michael Guarriello	(**MG**)	Turner & Townsend	Senior CM
☒	☒	☒	David Perry	(**DP**)	Hunter H2O	Principle Engineer

Signed: Martin Lomé - Project Director **Date:** 02/04/2019

Discussion topic		Resp.	Due
1	**Introduction**		
1.1	General introduction to ACT governing bodies and the QPRC teams. Brief history of the project.	Note	
1.2	Daniel Walters from EPSDD Policy was missed from the invitation list, but will be sent the minutes and included in correspondence	Note	
2	**General Discussion**		
2.1	QPRC intention to maintain best for region (**BFR**) approach to design. Noting ICON confirmed they are no longer partnering on the project.	PC Note	
2.2	QPRC is seeking to fully comprehend the stakeholder and regulatory process.	PC Note	
2.3	Water quality is an issue for Lake BG and Lower Molonglo – PC noted QPRC were committed to doing what is right for water quality and meeting ACT requirements noting that there may be implications for project cost and funding.	PP/PC Note	
2.4	HC noted the discharge license is current, the new STP would need to meet the same conditions or better. The existing licence will remain in place.	HC Note	
2.5	JB outlined a linear planning process involving [1] EIS, [2] Detailed design, and [3] DA. The maximum capacity of the plant will have a bearing on the level of detail required in the EIS. The EIS process will involve developing mitigation measures that will form part of the EIS approval and will be incorporated into to the DA approval.	Note	
2.6	PP stated that the EIS and DA processes can progress concurrently. However the EIS is required to be complete before the DA approval. This would lengthen the DA approval process.	Note	
2.7	Exhibition and comment from community is required as a part of the EIS process. This is followed by public notification.	Note	
2.8	EIS requirements are to address the requirements of NSW and ACT legislation. QPRC to identify areas of difference. The EIS will need to clearly demonstrate how the requirements of both are met.	Note	
2.9	As the plant existed prior to the Utilities Act it does not have an ICRC licence. Ministerial exemption may be granted for the proposed upgrade.	SG Note	
2.10	Scoping of the EIS will draw out the assist to identify the approval / EIS requirements and identify triggers for approvals processes	Note	

	Discussion topic	Resp.	Due
2.11	QPRC is seeking to align the EIS approvals between ACT and NSW. ACT are willing to accept one EIS submission that takes into account both NSW and ACT legislation.	PC Note	
2.12	Note ESDD set the Environmental Protection Policy - not the EPA.	Note	
2.13	EIS scoping exercise is the next step – this will identify triggers for approvals and development of the approvals process for the STP. QPRC to identify the differences between the ACT and NSW legislative requirements.	Note	
2.14	PC noted the project requires both ACT and NSW regulators to work together to complete approvals.	PC Note	
2.15	As QPRC is a utility constituted under NSW law, existing authorisation to operate the plant has been issued by DI Water NSW. PC noted that ideally there should only be one operating licence and one discharge licence.	PC Note	
2.16	PC requested JB and/or TE to provide a number of dot points to outline the next steps for the approvals process.	JB/TE	5/04
2.17	It was agreed that the QPRC Master Plan Approvals Road Map should be issued to all parties for comment and mark up.	ML	05/04
2.18	QPRC project team to liaise with ACT regulators to develop the approvals process as the EIS scoping exercise progresses.	QPRC team	Ongoing
2.19	The truck main crosses Canberra Avenue which is on Commonwealth land and therefore TCCS consideration is likely if work on the sewer is required upstream of the Canberra Ave Crossing.	Note	
2.20	MC distributed for information a copy of letter dated 15 December 2016 from EPSDD Director General addressed to Peter Tegart General Manager QPRC regarding "Comment on the Masterplan for Queanbeyan-Palerang Regional Council Sewage Treatment plant Upgrade."	Note	
2.21	Further to the letter identified in 2.20, PC noted that subsequent correspondence had taken place that would also be circulated to the relevant parties for information.	PC	05/04

End of Minutes

	Authority & Legislation	Master Plan	Concept Design	Detailed Design	Construction
Planning	**ACT** **Environment and Planning and Sustainable Development Directorate (EPSDD) – Planning and Land Authority** • *Planning and Development Act 2007* • *Planning and Development Regulation 2008* • *Territory Plan*	• Preliminary engagement with EPSDD	**Development Approval for STP (Impact Track):** **EIS Scoping Document Request:** • Preliminary Risk Assessment (PRA) • Submit Application Form 1M & PRA to EPSDD • EPSDD has 30 days to provide Scoping Document • Valid for 18 months **Confirm activity is consistent with crown lease conditions:** **EIS Preparation:** • Confirmation of Scoping Document requirements • Continued engagement with EPSDD • Lodge Draft EIS with EPSDD **EIS Exhibition:** • Minimum 20 day public notification • Revise EIS addressing concerns and any design changes • Submit Revised EIS **EIS Approval:** • Planning consideration of revised EIS • Receipt of EIS Adequacy Report (EISAR) – EIS complete • Valid for 18 months • Ensure mitigation & management measures are incorporated into the Detailed Design **Development Application:** • Meet with EPD to seek pre-application advice • Lodge DA with drawings, plans, EIS & letter of completion and statement against relevant criteria • Lodgement check 3-5 days • Public notification and decision on DA (30-45 days from date of lodgement) • Notice of decision **Approval requirements for off-site disposal / reuse of bio-solids (depends on jurisdiction where waste product will be used – assume NSW Biosolids Guidelines apply)** • Identify off-site disposal / reuse options including interim and long term options and local or regional solutions • Identify planning and approvals requirements for options • Engagement with ACT Government stakeholders • Determine best option • Commence approval process with EPSDD		• Comply with conditions of Development Approval • Incorporate approval conditions into Statement of Requirement for Construction
	NSW **Department of Planning & Environment** • *Environmental Planning & Assessment Act 1979* • *Environmental Planning and Assessment Regulation 2000*	• Confirm no NSW Planning requirements for STP site	**Development Approval for STP:** • No Development Approval from NSW Planning & Environment required for STP **Approval requirements for off-site disposal / reuse of bio-solids:** • Identify off-site disposal / reuse options including interim and long term options and local or regional solutions • Identify planning and approvals requirements for options • Engagement with NSW Government stakeholders and Queanbeyan City Council (as required) • Determine best option • Commence approval process with Queanbeyan City Council and/or NSW Planning & Environment		• Continued engagement with EPD & QPRC regarding off-site disposal / reuse of bio-solids (as required)
	National **National Capital Authority** • *National Capital Plan* • *Australian Capital Territory (Planning and Land Management) Act 1988 (Cth)* • *Commonwealth Places (Application of Laws) Act 1970-1973 (Cth)*	• Preliminary engagement with National Capital Authority	• Continued engagement with NCA as stakeholder • NCA Works Approval or Development Control Plan will be required if Commonwealth-owned land or ACT land zoned as 'Designated' or 'Mains Avenues and Approaches' (as shown in ACTMAPi)		• Continued engagement with NCA as stakeholder

Authority & Legislation	Master Plan	Concept Design	Detailed Design	Construction
Environment				

ACT
Environment , Planning and Sustainable Development Directorate
• *Environment Protection Act 1997*
• *Environment Protection Regulation 2005*
• *Nature Conservation Act 2014*
• *Fisheries Act 2000*
• *Heritage Act 2004*
• *Lakes Act 1976*
• *Climate Change and Greenhouse Gas Reduction Act 2010*
• *Water Resources Act 2007*
• *Public Unleased Land Act 2013*
Transport Canberra and City Services Directorate
• *Tree Protection Act 2005*
• *Waste Management and Resource Recovery Act 2016*
• *Waste Management and Resource*
• *Recovery Regulation 2017*
• *ACT Waste Management Strategy 2011-2025*
	• Preliminary engagement with stakeholders:
	  • EPSDD - Water
	  • EPSDD - Climate Change
	  • Access Canberra - ACT EPA
	  • ACT NOWaste
	  • Conservator of Flora and Fauna
	  • EPSDD - ACT Heritage
	  • TCCS
		Preliminary Environmental Assessment:
		• Continued engagement with stakeholders
		• Assessments:
		  ▪ Contamination
		  ▪ Flora and Fauna
		  ▪ Archaeology and Heritage
		  ▪ Air and Odour
		  ▪ Noise and Vibration
		  ▪ Geotechnical
		  ▪ Surface & Groundwater Quality
			Environmental Impact Statement:
			• Prepare Preliminary Risk Assessment from Preliminary Environmental Assessment in accordance with As/NZS 14004:2004 Environmental Management Systems and AS/NZS ISO 13000:2009 Risk Management
			• Submit Environment Significance Opinion (ESO) and EIS Scoping Document Request to Planning (see Planning Roadmap)
			• Detailed assessment as per Scoping Document
			• Ensure mitigation & management measures are incorporated into the Concept Design and Detailed Design
			• See Planning Roadmap for EIS and Development Approval Process
				• Commence construction approvals (as required):
				  ▪ Seek approval from TCCS for use of verges and other leased land during construction
				  ▪ Tree damaging activity approval
				• Update Environmental Authorisation
				• Waterways Work Licence
				• Approval for disposal to landfill
				• Environmental Protection Agreement for Construction Greater-than 0.3ha (held by principal contractor from ACT EPA)
				• Continue engagement with stakeholders
					• Comply with conditions of Development Approval
					• Incorporate approval conditions into Statement of Requirement for Construction
					• Ensure mitigation measures are incorporated into Construction Management Plans, including waste management plan and pollution control plan (in accordance with Schedule 1 of *Environment Protection Guidelines for Construction and Land Development in the ACT* (ACT EPA 2011)
					• Ensure Contractor has Environment Protection Agreement (if required)

		Approval requirements for off-site disposal / reuse of bio-solids: • Identify off-site disposal / reuse options including interim and long term options and local or regional solutions • Identify planning and approvals requirements for options • Engagement with ACT Government stakeholders • Determine best option • Commence environmental assessments (as required)		
NSW **Environment Protection Authority** • *Protection of the Environment Operations Act 1997 (Note: Further legislation will apply for off-site disposal / reuse of bio-solids approvals)*	• Preliminary engagement with NSW EPA	**Preliminary Environmental Assessment:** • Continued engagement with NSW EPA as stakeholder	**Environmental Impact Statement:** • Continued engagement with NSW EPA as stakeholder **Approval requirements for off-site disposal / reuse of bio-solids:** • Identify off-site disposal / reuse options including interim and long term options and local or regional solutions • Identify planning and approvals requirements for options • Engagement with NSW Government stakeholders • Determine best option • Commence environmental assessments (as required)	• Continued engagement with NSW EPA as stakeholder
National **Department of the Environment** • *Environment Protection and Biodiversity Conservation Act 1999* **National Capital Authority** • *National Capital Plan*	• Preliminary engagement with National Capital Authority	**Preliminary Environmental Assessment / Environmental Impact Statement:** • Continued engagement with NCA as stakeholder **EPBC Referral:** • Engagement with Department of the Environment • Determine need for EPBC Referral and Submit EPBC Referral (as required) • Department of the Environment determine whether the project is considered a Controlled Action • Commence bilateral EIS process (only required if project is considered a Controlled Action) (**Note:** if on Designated or Commonwealth land in the ACT then: - ACT (Planning & Land Management) Act 1988 (Cth) - Commonwealth Places (Application of Laws) Act 1970-1973 (Cth) also apply		• Comply with conditions of EPBC Referral (if applicable) • Continued engagement with NCA as stakeholder

Authority & Legislation	Master Plan	Concept Design	Detailed Design	Construction
Infrastructure **ACT** *None*				
NSW **NSW Office of Water** • *Local Government Act 1993* • *Note: Based on the 5 Step process for a detailed design and construction procurement* • *Australian Guidelines for Water Recycling (AGWR) Phase 1, 2006* • *Note: If a recycled water product is generated*	**Step 1 & Step 2 Submission:** • involve the Office of Water in the early stages of the options study • provide the draft options study report to the Office of Water for comment • discuss comments with the Office of Water if required • arrange amendment of the report if required • provide the final draft report to the Office of Water for endorsement **IWCM:** • IWCM Issues Paper **Recycled Water:** • Consider if recycled water product to be produced	**Step 3 Submission:** • involve the Office of Water in the early stages of the concept design • provide the draft concept design report to the Office of Water for comment • discuss comments with the Office of Water if required • arrange amendment of the report if required • provide the final draft report to the Office of Water for endorsement • The concept design should include detailed consideration of environmental and all other relevant regulatory requirements. Supporting investigations and reports identified in the option study, such as an environmental impact statement **IWCM:** • IWCM Draft Strategy Paper • Typical residential bills defined • 30 year renewals plan • 30 year TAMP **Recycled Water:** • Draft Recycled Water Quality Management Plan	**Step 4 Submission:** • involve the Office of Water in the key aspects of process design beyond those included in the concept design report • provide the draft detailed design report to the Office of Water for comment • discuss comments with the Office of Water if required • arrange amendment of the report if required • provide the final draft report to the Office of Water for endorsement The detailed design should include information about: • process units • process and hydraulic flow (using diagrams) • process controls and instrumentation • wastewater management strategies **Step 5 Submission:** • Section 60 approval will be issued after the Office of Water has endorsed the amended detailed design **IWCM:** • Final IWCM Strategy • Financial Plan **Recycled Water:** • Final Draft Recycled Water Quality Management Plan	**Recycled Water:** • Final Recycled Water Quality Management Plan • Process proving report and results
National *None*				

Authority & Legislation		Master Plan	Concept Design	Detailed Design	Construction
Health	**ACT** **ACT Health** • *Public Health Act 1997*	• Preliminary engagement with ACT Health	• Continued engagement with ACT Health with particular regard to their role as co-regulators (with the NCA) of inputs into Lake Burley Griffin	• Continued engagement with ACT Health	• Continued engagement with ACT Health (as required)
	NSW **NSW Health** • *Public Health Act 2010* • *Local Government Act 1993* • *Australian Guidelines for Water Recycling (AGWR) Phase 1, 2006*	**Step 1 & Step 2 NOW Submission:** • Involve NSW Health • NOW will generally seek NSW Health endorsement of the Step 1 and Step 2 submission **Recycled Water:** • Consider if recycled water product to be produced	**Step 3 NOW Submission:** • Involve NSW Health • NOW will generally seek NSW Health endorsement of the Step 3 submission **Recycled Water:** • Draft Recycled Water Quality Management Plan	**Step 4 & Step 5 NOW Submission:** • Involve NSW Health • NOW may seek NSW Health endorsement of the Step 4 and Step 5 submission **Recycled Water:** • Final Draft Recycled Water Quality Management Plan	**Recycled Water:** • Final Recycled Water Quality Management Plan
	National *None*				