



Planning &
Environment

**MAJOR PROJECT ASSESSMENT:
Wagga Wagga Water
Treatment Plant Upgrade
SSD 6284**



Secretary's
Environmental Assessment Report
Section 89H of the
Environmental Planning and Assessment Act 1979

July 2015

Cover Photograph: Indicative raw water intake structure, *Environmental Impact Statement*

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1. BACKGROUND

Riverina Water County Council (RWCC) proposes to construct the Wagga Wagga Water Treatment Plant Upgrade project, within the boundary of the existing water treatment plant located off the Sturt Highway (Hammond Avenue) in Wagga Wagga. The project location is shown in **Figure 1**.

RWCC proposes to replace the existing WTP with a new water treatment plant in order to treat water turbidity levels up to 300 NTU and to maintain a secure production of 55ML/d from the Murrumbidgee River to cater for future growth.

The existing plant; along with other WTPs at West, North and East Wagga Wagga and some smaller bore systems; supplies reticulated water to the City of Wagga Wagga and the Shire of Lockhart and Greater Hume. The existing plant was built in stages between the 1930s and early 1960s and a wash-water and sludge handling plant was commissioned in 2006. The existing filtration plant has the capacity to treat approximately 44 ML/d of water, with raw water sourced from the Murrumbidgee River and from groundwater sources such as the East Wagga Borefield.

Microbial pathogens (*Escherichia coli*, *Cryptosporidium* and *Giardia*) and turbidity were identified as key risks associated with water quality of the existing plant. Water quality into the Murrumbidgee River can deteriorate significantly following heavy rain events, with very high turbidity levels seen on occasion. Once turbidity levels reach 100 Nephelometric Turbidity Units (NTU), water is no longer pumped into the existing plant and is instead sourced from the East Wagga Borefield.

As regional demand increases, the system will be unable to rely solely on the East Wagga Borefield and the Murrumbidgee River source will need to be used during high turbidity events.

1.1. Land Use

The site covers an area of 8.43 hectares and is situated on the southern floodplain of the Murrumbidgee River. Existing surrounding land uses are shown in **Figure 2** and include:

- Easts Riverview Holiday Park / Big 4 Wagga Wagga Holiday Park to the east;
- agricultural land to the east;
- commercial and light industrial premises along the Sturt Highway;
- Great Southern Railway to the west of the site;
- Wiradjuri Walking Trail to the west, managed by Crown Lands;
- an electricity substation and depot to the south-west; and
- residential properties to the west.

Significant natural/geographic features surrounding the site include the Murrumbidgee River to the north and Marshalls Creek to the south-west.



Figure 1: Project Location and location of Wagga Wagga (inset) Source: Environmental Impact Statement (RWCC 2014) and Google Maps (inset)



Figure 2: Surrounding land use Source: *Environmental Impact Statement (RWCC 2014)*

2. PROPOSED PROJECT

2.1. Project Description

The proposal involves the construction of a new water treatment plant with a 55 ML/d capacity, utilising a conventional water treatment process. The process includes clarification to settle out solids from raw water and dual media filtration to remove particles in the water with pre- and post-filter chemical dosing. All treated water would meet the standards set out in the Australian Drinking Water Quality guidelines. RWCC proposes to construct the new WTP in two stages, with two options for the clarification processes and project layout being considered.

Option 1 includes two Lamella Clarifiers (with provision for a third clarifier in the future). Option 2 includes two Reactivator Clarifiers with provision for a third clarifier. A number of elements from the existing WTP would be retained and used for the same purpose, or refurbished and repurposed for different uses within the upgraded plant.

The proposal would also include the demolition of a number of existing structures, including the existing raw water intake, pumping station and water treatment shed. The proposal layout, showing elements to be retained, constructed and decommissioned is shown in **Figure 3**.

The Capital Investment Value (CIV) of the proposal is \$40.4 million and the project will create up to 160 construction jobs. Key components of the proposal are listed in **Table 1**.

Table 1: Key Proposal Components

Infrastructure	Description
Amplification of water treatment plant	<ul style="list-style-type: none"> an increase in the capacity of the Wagga Wagga WTP to 55ML/d from a current 44ML/d, through the construction of new plant infrastructure and the refurbishment and repurposing of existing plant infrastructure.
Raw water intake and pumping station	<ul style="list-style-type: none"> the intake to be constructed within the river, and feature: <ul style="list-style-type: none"> raw water intake of three pipes with sliding screens. Each pipe would be installed below ground and would comprise two sections: the lower section to be a 600mm diameter pipe; the draft tube up the river bank would be 1000mm diameter with a pump located inside; a minimum of 1.6m submergence, requiring dredging of the river bed to a depth of 1.7m below the bed surface to provide 1.3m additional water depth and to accommodate 0.4 m depth of rock. The length and width of the river bank affected would be 30m and 4-5m; approximately 255m² of material is expected to be excavated from the lower bank and the bed of the river. the pumping station would be built on Crown Land adjacent to the WTP on the riverbank and includes two duty pumps and one stand-by pump.
Removal of existing raw water intakes	<ul style="list-style-type: none"> the existing intakes would be removed when new intake is operational; coffer dams would be required around each of the intakes to facilitate removal. Each coffer dam to extend no more than 10 m into the water.
Dosage tanks and storage systems	<ul style="list-style-type: none"> tanks would include static mixers for alum and polymer dosing systems; chlorine storage, dosing system and static mixer for clear water storage; fluoride dosing; pH correcting dosing system; lime, potassium permanganate, powdered activated carbon and carbon dioxide dosing points; clear water system upgrade including a new 3 ML clear water storage tank, low level and high level pumping stations fitted with three pumps; an oxidation tank; and a supernatant return tank, should supernatant discharge to Marshalls Creek require to be suspended during operational stage.
Dewatering building	<ul style="list-style-type: none"> two new centrifuges to dewater sludge material from the water treatment process. The existing centrifuge would be decommissioned.
Backwash wastewater collection tank and pumping station	<ul style="list-style-type: none"> to collect the wastewater produced from the clarification and filtration process.
Clarifiers	<ul style="list-style-type: none"> up to three clarifiers would be constructed, and dual media filters would be used for water filtration. Two options of dual-media filters have been shortlisted, including Lamella Clarifier -inclined plates and dual media filters; and Reactivator Clarifier and dual media filters. each clarifier option would have a similar impact in regards to scale, electricity use, noise and visual impact. The footprint of the Lamella clarifier would be slightly smaller than the Reactivator clarifiers.
Electrical works	<ul style="list-style-type: none"> construction of switch rooms, automation and control infrastructure, electrical substations and two new 1500 kVA transformers.
Ancillary works	<ul style="list-style-type: none"> pipeline, control room and testing facilities and internal access roads.
Demolition of existing infrastructure	<ul style="list-style-type: none"> a number of buildings and plant infrastructure would be decommissioned, including existing raw water intakes; water treatment shed; high level pumps; low level pumps; No.1 filters; No. 2 filters; one of two clear water tanks; and lime pit pond.
Existing infrastructure to be retained and used for same purpose	<ul style="list-style-type: none"> a number of buildings and plant infrastructure would be retained for the same purpose, including the East Wagga Borefield aeration plant; one of two clear water tanks; wastewater holding tank; two sludge thickeners; and part of the dewatering building.
Existing infrastructure to be refurbished and repurposed	<ul style="list-style-type: none"> a number of existing buildings and plant infrastructure would be refurbished and repurposed, including Clarifier 1 as a wastewater holding tank; Clarifier 2 as a thickener; and the wash water balance tank.

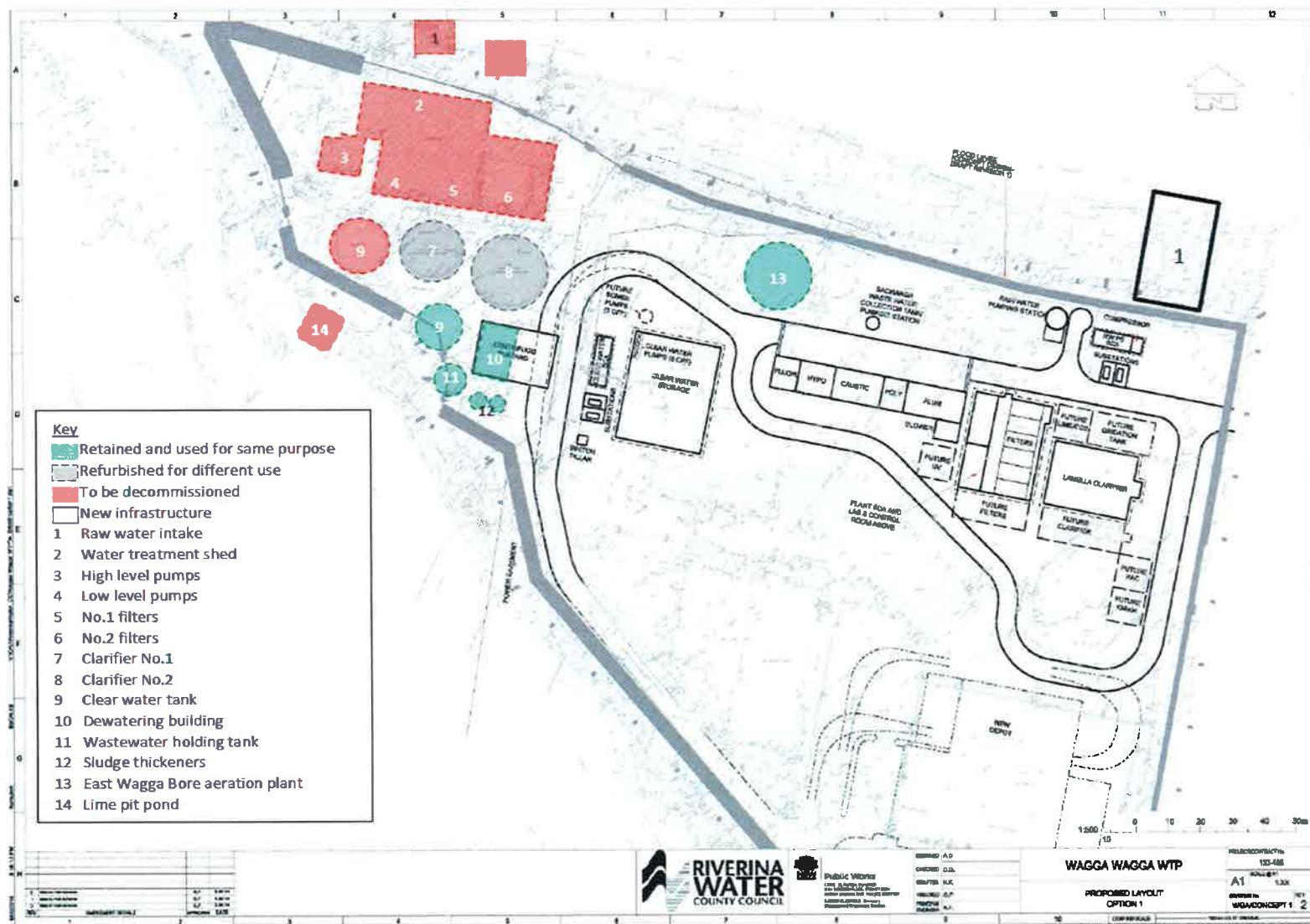


Figure 3: Location of proposed elements to be retained, constructed or decommissioned
 Source: Environmental Impact Statement (based on Option 1 layout) (RWCC 2014)

2.2. Project Need and Justification

It is predicted that the population of Wagga Wagga City will be 77,968 by 2031, an increase of 18,305 persons (30.68 per cent) from 2006, representing an annual growth rate of 1.18 per cent. To meet growing demand, RWCC commenced an Integrated Water Cycle Management (IWCM) Evaluation Study in 2009 and prepared a Demand Management Plan.

An ongoing program has been implemented to reduce consumption to 115 ML/day through more efficient use of water across the RWCC customer base. The Department acknowledges that although these strategies to reduce water consumption have been implemented, demand for potable water will continue to grow in line with population growth, albeit at a reduced rate.

The current Wagga Wagga WTP is ageing and much of the existing infrastructure components are nearing the end of their serviceable life. Problems with the current WTP include:

- the age and condition of the raw water pumping station equipment make it unreliable;
- the current pumping station inlet structure captures river debris and maintenance is difficult; and
- the WTP is unable to treat water with turbidity levels greater than 100 NTU, however turbidity levels in the Murrumbidgee River can remain between 500 and 1,500 NTU for a number of days following a storm or flood event. During times of high turbidity, water demands are currently met through use of the East Wagga Wagga Borefield. However, as the population increases this water source will not be sufficient for supply, and is therefore not sustainable as a long term option.

Upgrade of the WTP would also allow for RWCC to reduce drinking water safety risks. The Australian Drinking Water Guidelines (ADWG) developed by the National Health and Medical Research Council, in collaboration with the Natural Resource Management Ministerial Council, were designed to provide an authoritative reference on what defines safe, good quality water.

One of the key objectives of the WTP upgrade is to produce drinking water quality which meets or exceeds the ADWG as well as RWCC's own targets and specifications, and is capable of producing 55ML/d of treated water to these standards.

3. STATUTORY CONTEXT

3.1. State Significant Development

The proposal is State Significant Development under Division 4.1 of the *Environmental Planning and Assessment Act 1979* (the Act).

Clause 89C(2) of the Act provides that "a State environmental planning policy may declare any development, or any class or description of development, to be State significant development". Clause 8 of *State Environmental Planning Policy (State and Regional Development) 2011* declares a development to be State Significant Development where a development is not permissible without development consent under Part 4 of the *Environmental Planning & Assessment Act 1979* and is listed in Schedule 1 or 2 of the *State Environmental Planning Policy (State and Regional Development) 2011*. Schedule 1 lists development for the purpose of water storage or water treatment facilities (not including desalination plants) that has a capital investment value of more than \$30 million.

The proposed works will require a capital investment value of \$40.4 million for water treatment facilities and therefore is deemed State Significant Development under the *State Environmental Planning Policy (State and Regional Development) 2011*.

3.2. Delegated Authority

In accordance with the Minister's delegation dated 16 February 2015, the Executive Director, Infrastructure and Industry Assessments, can determine the subject application as Council has not objected to the proposal, no political statement has been made and less than 25 public submissions have been received objecting to the proposal.

3.3. Permissibility

Clause 8 of the *State Environmental Planning Policy (Infrastructure) 2007* allows for development for the purpose of water treatment facilities carried out by or on behalf of a public authority without consent on a number of land use zones. The Wagga Wagga WTP site is zoned IN2 Light Industrial under the *Wagga Wagga Local Environmental Plan 2010* (LEP), which is not a prescribed zone where works for a water treatment facility can be undertaken without development consent under the *State Environmental Planning Policy (Infrastructure) 2007*. However, water treatment facilities are permitted with consent in the zone under the Wagga Wagga LEP 2010.

3.4. Environmental Planning Instruments

Under Section 79C of the *Environmental Planning and Assessment Act 1979*, the Minister must take into consideration any relevant planning instrument including any exhibited draft. The Department has considered the development against the relevant provisions of several relevant planning instruments including:

- *State Environmental Planning Policy (State and Regional Development) 2011*;
- *State Environmental Planning Policy (Infrastructure) 2007*;
- *State Environmental Planning Policy No 33 – Hazardous and Offensive Development*;
- *State Environmental Planning Policy No. 44 – Koala Habitat Protection*; and
- *Wagga Wagga Local Environmental Plan 2010*.

The Department is satisfied that, subject to the implementation the recommended conditions of approval, the proposal is generally consistent with the aims, objectives and provisions of these instruments.

3.5. Objects of the EP&A Act

Decisions made under the EP&A Act must have regard to the objects of the EP&A Act, as set out in section 5 of the Act (see glossary at **Appendix E**). The proposal complies with the objects of EP&A Act as it would deliver water supply facilities to promote the social welfare of the State. The proposal also supports the orderly development of land within an existing water treatment plant site, therefore protecting the land for public welfare purposes.

3.6. Ecologically Sustainable Development

The Act adopts the definition of Ecologically Sustainable Development (ESD) found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision – making processes and that ESD can be achieved through the implementation of:

- (a) *the precautionary principle,*
- (b) *inter-generational equity,*
- (c) *conservation of biological diversity and ecological integrity,*
- (d) *improved valuation, pricing and incentive mechanisms.*

The Department's assessment has given due consideration to ESD as follows:

- environmental investigations where conducted to ensure that potential impacts are understood and mitigated;
- the proposal would ensure that growing demand for good quality drinking water is met whilst reducing drinking water safety risks for the benefit of future generations;
- the Department's assessment of the impacts is based on a conservative and rigorous assessment of the likely extent of ecological impacts. The Department has considered

- appropriate contingency strategies to ensure that adequate measures are put in place to offset impacts and to prevent threats of serious or irreversible environmental damage; and
- the Department's assessment has considered the requirement for appropriate contingency strategies to offset impacts in relation to flora and fauna, noise, traffic, water and flooding which are consistent with the precautionary principle.

On this basis, it is considered that the development would be ecologically sustainable within the context of the above principles. If approved, the proposal would continue to ensure a reliable potable water supply for future generations.

3.7. Environmental Planning and Assessment Regulation 2000

Subject to any other references to compliance with the Regulation cited in this report, the requirements for Notification (Part 6, Division 6) and Fees (Part 15, Division 1AA) have been complied with.

3.8. Secretary's Environmental Assessment Requirements

The EIS is compliant with the Secretary's Environmental Assessment Requirements and is sufficient to enable an adequate consideration and assessment of the proposal for determination purposes.

4. CONSULTATION AND SUBMISSIONS

4.1. Exhibition

Under section 89F of the Act and clause 83 of the EP&A Regulation, the Department is required to make the Environmental Impact Statement publicly available for at least 30 days. The Department exhibited the proposal from Wednesday 28 January 2015 until Monday 2 March 2015 (a total of 34 days) on its website and at the following exhibition locations:

- Department of Planning and Environment: Information Centre;
- Wagga Wagga City Library, Wagga Wagga; and
- Nature Conservation Council, Newtown.

The Department also advertised the public exhibition in the *Border Mail* on Tuesday 27 January 2015 and the *Riverina Leader* on Wednesday 28 January 2015, and notified State and relevant local government authorities directly in writing.

Eight submissions were received during the exhibition period, comprising five submissions from public authorities; two submissions from local government authorities; and one submission from the general public.

4.2. Public Authorities

Seven submissions were received from State agencies and local government entities. No public authority objected to the proposal; however some raised key issues for consideration. The key issues raised in public authority submissions are listed in **Table 2**. Urana Shire Council and NSW Department of Health raised no comments in relation to the proposal.

Table 2: Key issues raised by public authorities

<i>Authority</i>	<i>Key Issues Raised</i>
<i>Environment Protection Authority</i>	<ul style="list-style-type: none"> does not object provided the discharge does not exceed the EPL water quality limits; recommends a number of conditions relating to an erosion and sediment control plan; measures to minimise dust from construction; and compliance with noise levels.
<i>Department of Primary Industries</i>	<ul style="list-style-type: none"> notes the status of the proposed levee and consideration of flood related impacts and potential future approval requirements under Part 8 of the <i>Water Act 1912</i>;

Authority	Key Issues Raised
<i>(including NSW Office of Water)</i>	<ul style="list-style-type: none"> recommends that design, construction and rehabilitation works for excavation within the bed and banks of the Murrumbidgee River be in accordance with the NSW Office of Water's <i>Guidelines for Controlled Activities on Waterfront Land</i> (July 2012); if total groundwater take will exceed 3ML over a period of less than 12 months during construction, a licence will be required under the <i>Water Act 1912</i>; and acknowledges that consultation has occurred to facilitate a Section 60 approval under <i>Local Government Act 1993</i> to construct or extend water treatment works.
<i>Roads and Maritime Services</i>	<ul style="list-style-type: none"> supports continued use of left turn only egress from the site due to the proximity of the driveway to the bridge over Marshalls Creek and roundabout at the Sturt Highway and Koorungal Road intersection; consideration should be given to delineating the 2 way traffic flow at the entrance to the highway to decrease the potential for delay to vehicles entering the site; recommends a number of conditions relating to site egress, the installation of a splitter island, driveway access design, and that the costs be borne by the Applicant.
<i>Office of Environment & Heritage</i>	<ul style="list-style-type: none"> is concerned that the higher flood levee will be developed prior to commencement of construction under a separate approval. OEH recommends that approval of the WTP be subject to conditions related to the levee upgrade to avoid impacts to upstream flooding; requests that all construction work generating loud noise be limited to between April and October to minimise impacts on the Grey-headed Flying-fox; recommends that a protocol for mitigating construction impacts on the Grey-headed Flying-fox be prepared as part of a Construction Environmental Management Plan; considers that indicative landscape features such as the Murrumbidgee River and Marshalls Creek increases the likelihood of Aboriginal cultural heritage existing within the proposed activity area; and advises of protocol to be followed should the Applicant discover and/or harm any Aboriginal object in, on or under the land.
<i>City of Wagga Wagga</i>	<ul style="list-style-type: none"> recommends that the heritage assessment provided in the EIS be updated to include a previously prepared Conservation Management Plan; advises that a contribution in accordance with the 'Development Servicing Plan No 1: Sewerage Services' may be imposed should the design of the proposal change to include wastewater discharge to sewer or enhanced building floor area; and requests that a Flood Management and Evacuation Plan be prepared for the site, including details of operations during times of flood, details of safe evacuation of personnel, management of stockpiles and machinery, and storage of chemicals and liquids.

4.3. Public Submission

One submission objecting to the proposal was received from the Wagga Floodplain Residents Protection Association Ltd. The submission raises concerns about potential flooding impacts on nearby properties once the existing levee is upgraded, and requests that the facility be located away from the floodplain. The Department has considered the issues in its assessment of the proposal.

4.4. Applicant's Response to Submissions Report

RWCC provided a response to the issues raised in a document titled 'Response to Submissions Report' (RtS). No changes were proposed however additional information was received regarding flooding impacts on the operation of the water treatment plant.

The Department forwarded a copy of the RtS to agencies. A copy of the report can be found at **Appendix C** of this report. A number of agencies provided further submissions and the issues raised are summarised in **Table 3**.

Table 3: Key issues raised in submissions on the Response to Submissions Report

Authority	Key Issues Raised
<i>Environment Protection</i>	<ul style="list-style-type: none"> notes that it understand that RWCC propose to increase the daily volume discharge limit for treated wastewater discharge into Marshalls Creek and that a licence

Authority	Key Issues Raised
<i>Authority</i>	<ul style="list-style-type: none"> variation to EPL No. 614 will be made following consent being granted; and EPA advises that it proposes to include the project specific noise levels identified in 6.9.6 of the EIS in the licence following consent being granted.
<i>Department of Primary Industries (including NSW Office of Water)</i>	<ul style="list-style-type: none"> advises that the information provided is considered satisfactory, and recommends a condition of approval requiring consultation with the NSW Office of Water during the preparation of the Construction Environmental Management Plan.
<i>Roads and Maritime Services</i>	<ul style="list-style-type: none"> notes that access for oversized construction vehicles may be addressed through the preparation of a Traffic Management Plan; and recommends a condition of approval be imposed requiring ingress and egress travel lanes to be delineated by appropriate land marking.
<i>Office of Environment and Heritage</i>	<ul style="list-style-type: none"> holds concern that the RtS does not adequately address flooding concerns, and requests further information regarding operational impacts prior to construction of the 1 in 100 year levee; and requests that OEH assist with further development of the Grey-headed Flying-fox construction protocol, to identify actions to sufficiently mitigate impacts of the proposed upgrade.
<i>City of Wagga Wagga</i>	<ul style="list-style-type: none"> advises that a full Flood Management and Evacuation Plan should be prepared for the site, as comments in the RtS do not adequately address this matter; and recommends that the heritage assessment be updated to include reference to the final Conservation Management Plan that has been prepared for the site.

5. ASSESSMENT

5.1. Section 79C Evaluation

Table 4 identifies the matters for consideration under Section 79C that apply to State significant development, in accordance with Section 89H of the EP&A Act (refer glossary at **Appendix E**). The table represents a summary for which additional information and consideration is provided for in **Section 5** (Key and Other Issues) and relevant appendices or other sections of this report and the EIS, referenced in the table.

The EIS has been prepared by the applicant to consider these matters and those required to be considered in the SEARs and in accordance with the requirements of section 78(8A) of the EP&A Act and Schedule 2 of the EP&A Regulation.

Table 4: Section 79C(1) Matters for Consideration

Section 79C(1) Evaluation	Consideration
(a)(i) any environmental planning instrument	Complies – see Section 3
(a)(ii) any proposed instrument	Not applicable
(a)(iii) any development control plan	Not applicable*
(a)(iv) the regulations	The development application satisfactorily meets the relevant requirements of the Regulation, including the procedures relating to development applications (Part 6 of the Regulations), public participation procedures for SSD and schedule 2 of the Regulation relating to environmental impact statements. Refer to discussion at Section 3.8.
(a)(v) any coastal zone management plan	Not applicable
(b) the likely impacts of that development	Appropriately mitigated or conditions – refer to Sections 5.2 to 5.5.
(c) the suitability of the site for the development	Suitable – Refer to Section 3.2
(d) any submissions	Refer to Sections 4.2, 4.3 and 4.4
(e) the public interest	Refer to Section 5.6

Section 79C(1) Evaluation	Consideration
Biodiversity levels exempt if: (a) On biodiversity certified land (b) Biobanking Statement exists	Not applicable

* Under clause 11 of the SRD SEPP, development control plans do not apply to state significant development.

5.2. Flooding

Issue

The proposed site is located adjacent to the southern bank of the Murrumbidgee River and the north-eastern bank of Marshalls Creek. Marshalls Creek enters the river immediately downstream of the north-western corner of the WTP site. The site drains to Marshalls Creek, and subsequently to the Murrumbidgee River.

The WTP site is protected from by a 1 in 20 year flood levee but is prone to inundation during events larger than this. The EIS assumed that the existing flood levee would be upgraded to provide 1 in 100 year (182.1 Australian Height Datum) flood protection prior to the WTP replacement. Increased flood protection is not part of the project for which RWCC is seeking approval and would be assessed under a separate approval process.

RWCC has subsequently advised the Department that the levee upgrade has been postponed until after the WTP replacement. The levee design has been modified to accommodate the footprint of the WTP. The construction delay is due to space limitations on site during the WTP replacement. RWCC advises that no mitigation measures have been identified as a result of the changes in timing of levee construction, as typically there is three days warning before the river breaks its banks in which to prepare the site.

Department's Consideration and Conclusion

The Department considers the proposed site for the upgraded WTP to be appropriate, as it is close to the Murrumbidgee River water source which minimises environmental costs and impacts associated with pumping water over long distances. The project also provides for continuation of an existing use at this site.

During flood events greater than a 1 in 20 year flood, the proponent would implement processes to mitigate impacts on the WTP. During construction, mobile plant and equipment would be relocated off site and any relevant temporary works would be carried out to minimise flood impacts.

Due to the topography of the site, the control room, switchroom, clear water pumps, centrifuges, IT networks and communication systems would sit above the 1 in 100 year flood level. Whilst chemical storage tanks would not be located in sites above the 1 in 100 year flood level, the Applicant has committed to placing them within buildings to provide greater flood protection. Additionally, when advance warning is available, the chemical storage tanks would be filled to eliminate the risk of floating. With prior flood warning, equipment such as critical pumps, motors, switchboards, compressors, valve articulators and control systems would also be relocated to higher ground.

The Department considers that the proposed flood impact mitigation measures for events greater than a 1 in 20 year flood are adequate. The design of the WTP would minimise potential environmental damage by reducing the risk of flooding to chemical storage tanks, and would be constructed to minimise damage to the facility itself. Whilst major flood events may require the facility to temporarily cease operation, continued water supply for the RWCC catchment during flood events is ensured through the use of the East Wagga, West Wagga and North Wagga water treatment plants.

Additionally, the Department notes that the Applicant is committed to progressing with a separate assessment of the upgraded 1 in 100 year levee through a Review of Environmental Factors under Part 5 of the Environmental Planning and Assessment Act 1979, which would result in a high protection for the site during flood events.

The Department has recommended a condition of approval requiring the preparation of a Flood Management and Evacuation Sub-Plan as part of the Construction Environmental Management Plan for the proposal. The plan is to include details about the operation of the site in times of flood; safe evacuation of personnel; the management of machinery, stockpiles and other loose material; and the storage of chemicals and liquids.

5.3. Biodiversity

Issue

The ecological assessment considered the impacts of construction and operation; vegetation clearing within the site boundary; and aquatic ecology impacts associated with the operation of the WTP and the discharge of supernatant to Marshalls Creek and potential risk of spills.

The proposal would potentially impact upon a colony of approximately 350 individual Grey-headed Flying-fox (GHFF), listed as a threatened species under both the *Threatened Species Conservation Act 1995* and the *Environment Protection and Biodiversity Conservation Act 1999*. The colony is situated within 100 metres of the site, in two separate groups (one occurring on the northern bank of the Murrumbidgee River and the other occurring on 'Bat Island', in the Murrumbidgee River, north-east of the proposal site). The location of the colony is shown in **Figure 4**.



Figure 4: Location of Grey-headed Flying-fox colony Source: *Environmental Impact Statement (based on Option 1 layout) (RWCC 2014)*

The colony usually leaves the roost site during winter months (May-August). The greatest impact of the proposal would likely be from noise from the new river intake construction. Loud noises can significantly affect a roosting colony and construction noise is likely to travel further, being undertaken over water at river level. The GHFF colony is particularly vulnerable to disturbance during the breeding season when juvenile flying-foxes are dependent on mothers, as mother flying-foxes may abandon their young if disturbed. This could potentially lead to juvenile deaths.

The aquatic environments associated with the Murrumbidgee River and Marshalls Creek are part of the Aquatic Ecological Community in Natural Drainage System of the Lower Murray River Catchment (Lower Murray Aquatic EEC). Aquatic habitat features within the river include open water, riffles, depositional bars and snags, which would provide opportunities for habitat foraging, breeding and shelter. Construction of the river intake may impact upon habitat for three threatened fish species occurring in EEC, including Silver Perch (*Bidyanus bidyanus*) Trout Cod (*Maccullochella macquariensis*) and Murray Cod (*Maccullochella peelii*). Sources of impacts could include sedimentation caused by erosion, dredging and reclamation of the river bed and replacement of benthic habitat with a permanent instream structure.

Department's Consideration and Conclusion

Grey Headed Flying Fox

Construction of the river intake is the activity most likely to generate noise. The Department acknowledges that the development is unlikely to have a significant impact on the local GHFF colony if construction of the river outlet is undertaken during the winter months outside of the breeding season and when the local population is largely absent. It is considered appropriate that construction associated with the river intake be undertaken between April to October, to the greatest extent practicable, to avoid adverse impacts on the flying-fox population.

Construction of the water treatment plant would occur approximately 200m from the roost site at its closest point; and would likely be concurrent with construction of the river intake. The RtS Report notes that this construction period is expected to take 12 to 16 months, with the majority of the louder noise-generating activities likely to take place during the non-breeding period of the GHFF.

The Department has recommended a number of conditions to minimise the impacts of construction noise on the colony of GHFF. These include a condition that all construction works associated with the river intake must be undertaken in the non-breeding period for the flying-fox, during April-October. To mitigate any impacts associated with the construction of the water treatment plant itself outside of this period, the Applicant is required to implement a protocol for mitigating impacts on the flying-fox as a part of the Construction Environmental Management Plan. The protocol is to include actions to be undertaken if GHFF are found in the vicinity of the development site, provisions for ongoing monitoring, and additional measures for reducing impacts to GHFF.

Aquatic Impacts

As part of the Construction Environmental Management Plan, the Applicant has committed to the implementation of mitigation measures including induction for all workers via toolbox meetings; appropriate erosion and sediment control procedure; and the release of any fish caught during construction of the intake back into the river. In addition, fish screens would be incorporated into the design of the raw water intake to minimise fish (including larval stages) entry and entrainment. The Department considers that these screens would provide adequate protection for fish species within the vicinity of the intake. Additionally, the Applicant has committed to undertake a number of management actions during operation of the upgraded WTP including the monitoring of bank stabilisation works; regular inspections

of the river intake screens to identify required repairs; and the implementation of design controls to prevent any chemical spills from entering the waterway.

The Department has recommended a number of conditions to address potential impacts to aquatic habitats, including a requirement for the preparation of a Soil and Water Quality Management Plan as part of the Construction and Operation Environmental Management Plans. The Department considers that, with the implementation of the proposed mitigation measures and the recommended conditions of approval, works would not significantly impact threatened fish species and the Lower Murray Aquatic EEC.

5.4. Traffic

Issue

The main access to the WTP site is off Hammond Avenue (Sturt Highway, HW4). At this location, Hammond Avenue is a two-way, single carriage road with a bridge over Marshalls Creek located immediately west of the WTP site entrance. The highway narrows from a four lane carriageway (two lanes in each direction) adjacent to the driveway of the WTP as it approaches the nearby two lane bridge over Marshalls Creek. These are shown at **Figure 5** and **Figure 6**. Traffic at this location typically consists of both light and heavy vehicles travelling at around 50 km/h. Traffic in the vicinity of the WTP is estimated in the order of 17,400 Annual Average Daily Traffic (AADT).



Figure 5: WTP site access from Hammond Avenue looking east Source: Google Maps 2014



Figure 6: Site distances to the west of the WTP entrance Source: *Environmental Impact Statement (based on Option 1 layout) (RWCC 2014)*

Site access and egress from the WTP site would use the existing driveway at Hammond Avenue. Construction traffic would consist of a mix of light vehicles, heavy vehicles delivering equipment and supplies, heavy vehicles delivering water treatment chemicals, heavy vehicles carrying plant and waste transporters and contractors. During construction there would be on average 5 to 10 truck deliveries per day (10 to 20 truck movements into and out of the WTP site) comprising large delivery vehicles such as a semi-trailer (19m in overall length); courier vehicles; cement mixer trucks; and smaller delivery trucks. In addition, with a workforce of around 30 people, Riverina Water County Council anticipates that there may be approximately 100 light vehicle movements per day to and from site. The proposed works are unlikely to require full road closures along Hammond Avenue, however turning restrictions for construction traffic into and out of the WTP may need to be imposed to ensure safe traffic conditions.

Traffic movements during operation of the proposed WTP upgrade are unlikely to increase over the figure of approximately 100 vehicles per day seen for the current WTP.

The Roads and Maritime Services (RMS) raised concerns that vehicles exiting the site may cause delay to vehicles entering the site from the highway. RMS requested that the existing driveway be separated into an ingress and egress lane to alleviate potential delays to heavy vehicles entering the site from Hammond Avenue.

Department's Consideration and Conclusion

The Department considers that the impact to the surrounding road network from additional truck and light vehicle movements in and out of the site per day during construction would be negligible. Distribution of heavy vehicle movement across the day is not specified, however the volume and frequency of these movements (10 to 20 movements (5-10 deliveries)) per day or fewer than one per hour) is unlikely to cause significant queuing, as traffic would be able to pass right turning vehicles via a second lane on Hammond Avenue. The EIS notes that sight distances to the east and west from the WTP driveway are generally considered good (although the bridge over Marshalls Creek does impede slightly on line of site to the west), further enabling safe ingress and egress from the site.

The anticipated volume of deliveries also suggests that it is unlikely that a heavy vehicle would enter the site at the same time one is leaving which could delay or cause queuing of heavy vehicles on site due to the narrow driveway width as suggested by RMS. Whilst increased light vehicle movements are likely to be concentrated in the morning and evening,

the Department is of the opinion that this would have minimal impact on existing traffic activity as traffic egress would be limited to left turns.

RMS advised in its response to the Response to Submissions that vehicles exiting the site may cause delay to vehicles entering from Hammond Avenue (Sturt Highway), and suggested that traffic be delineated by providing line marking in the driveway. The Department acknowledges that there is insufficient width to delineate the driveway, and has recommended a condition of approval requiring the Applicant ensure the safe ingress and egress of vehicles through measures detailed in a Traffic Management Plan. The Department also notes that during construction, traffic movements in each direction in/out of the site are likely to be confined to a small number of periods within the day, including start/stop work and lunch time traffic peaks. Therefore, the likelihood that large volumes of traffic attempting enter and exit the site concurrently would be reduced.

The Department also notes that, by ensuring that all traffic egress from the site be left out only, delays to traffic turning right into the site from Hammond Avenue would be minimised. Whilst the majority of traffic forced to exit left out (east) of the site would arguably be heading west towards Wagga Wagga, the Department considers that the left-out requirement is reasonable, as turn-back opportunity is provided by a roundabout approximately 300 metres east of the site at the intersection of Koorinal Road and Hammond Avenue (Sturt Highway).

The Department notes that during operation, worker vehicle movements, as well as deliveries and maintenance vehicle movements are unlikely to increase over the figure of approximately 100 vehicles per day seen for the current WTP. It is considered that the impact from this on the surrounding road network would be negligible. Accordingly, no specific conditions to manage operational traffic impacts have been recommended.

5.5. Other Issues

Table 4: Other Issues

Issue	Potential Impact	Conclusion and Recommendation
<i>Water Quality, Hydrology and Soils</i>	<ul style="list-style-type: none"> Water quality could be impacted by excavation of the bed and lower bank of the Murrumbidgee River to a depth of 1.7m to construct the raw water intake, and installation of a coffer dam to construct the new river water intake. This could pose a high risk to water quality and the aquatic environment as groundwater would be intercepted. Excavations up to 5m would be required to construct the Clear Water Storage and Filter Wastewater Collection Tank. Excavations of up to 4m for the clarifiers and filters would be required. It is unlikely that groundwater would be intercepted, however these activities could have impacts to soil and water resources through sedimentation, erosion, dust nuisance and compact soil. Water quality of surface waters could be affected by sediment conveyed from unsealed ground surfaces, chemical contamination in the event of spill, overflow from water storage structures, the release of supernatant to Marshalls Creek and the future cessation of water discharge to Marshalls Creek. 	<ul style="list-style-type: none"> Erosion and sediment impacts would be managed through the preparation of a Soil and Water Management Plan as part of the CEMP. A Vegetation Management Sub-Plan would also be prepared. The Applicant has committed to the construction of coffer dams and continuous pumping of groundwater to manage the impacts from the construction of the raw water intake. The Department considers that proposed spill management, stockpile control measures and riverbank stabilisation measures are appropriate. To mitigate the accidental release of chemicals into the environment, the Applicant has committed to the monitoring of liquid storage tanks, implementation of chemical storage and delivery protocols and water quality sampling and testing. The Department considers that these measures would adequately manage potential impacts.
<i>Noise and Vibration</i>	<ul style="list-style-type: none"> The nearest noise sensitive receptor is the Easts Riverview Holiday Park to the east and dwellings along Lonergan Place approximately 170m west of the site. 	<ul style="list-style-type: none"> The Applicant has committed to managing construction noise. All potentially impacted residents would be informed prior to noise generating works, the

Issue	Potential Impact	Conclusion and Recommendation
	<ul style="list-style-type: none"> • During construction some receptors will experience noise above the "Noise Affected" management level identified in the <i>Interim Construction Noise Guideline</i> (DECC, July 2009). However they do not exceed the "Highly Noise Affected Level" of 75 dBA. Noise generated by construction works is predicted to reach 69 dBA at the holiday park, and up to 57 dBA for dwellings on Lonergan Place. • Vibration from construction is unlikely to impact on structures in the holiday park or the Riverside Residence or other Heritage items associated with the existing WTP. • The Applicant has established a project-specific noise level criteria of 38 dBA in accordance with the <i>Industrial Noise Policy</i>. The predicted operational noise levels at all receivers comply with this criteria, except for the north-west corner of the holiday park, which would have a maximum noise impact of 41 dBA. • The potential for sleep disturbance as a result of operational noise has been considered in accordance with EPA policy. Night time noise levels would be 42 dBA at Lonergan Place receivers and 33 dBA at the holiday park, against sleep disturbance goals of 57 (LA1(1 min)) dBA and 48 (LA1(1 min)) dBA, respectively. 	<p>quietest plant and equipment would be used, noisy activities would be avoided during the early morning where possible, and noisiest tasks would be scheduled during normal workday hours. The Department has recommended a condition requiring the implementation of the best practice approaches described in the <i>Interim Guidelines for Construction Noise</i> (DECC, July 2009) to minimise noise impacts.</p> <ul style="list-style-type: none"> • The Applicant has committed to techniques to mitigate impacts. These include housing noisy equipment in insulated buildings and locating air-conditioning condensers on building facades not directly facing residential receivers. The Department considers that these measures would assist to manage operational noise impacts. • The Department has also recommended conditions that reinforce the Applicant's commitment to noise management. Both the Construction Environmental Management Plan and Operation Environmental Management Plan are required to include a Noise and Vibration Management Plan. These plans will identify all potentially sensitive receivers, detail measures to avoid and/or mitigate high noise levels, and detail the consultation process for noise management.
<p><i>Aboriginal and Historic Heritage</i></p>	<ul style="list-style-type: none"> • The existing WTP site is heritage listed at the local level. No individual buildings have been found to have exceptional heritage significance, however buildings considered to have potential high heritage value on site include an original pump-house and a Victorian-era dwelling known as 'Riverside Residence'. • No Aboriginal sites have been recorded at the site and no known items of Aboriginal cultural heritage are likely to be harmed or impacted by the activity. However, OEH notes that Aboriginal cultural heritage has been identified close to the site and that landscape features including the Murrumbidgee River adjacent to the site increases the likelihood of impacts to Aboriginal cultural heritage. The potential for impacts on Aboriginal cultural remain, particularly where soil disturbance and earthworks occur. 	<ul style="list-style-type: none"> • Whilst the WTP is heritage listed at the local level, the Department considers the overall impact would be minimal as the proposal would allow the historic use of the site to continue. No buildings or structures with potential heritage value would be demolished during construction of the WTP, however the aesthetic values of the Riverside Residence may be impacted by the construction of new infrastructure adjacent to the building. An archival recording for the residence would be carried out prior to works. The Department considers that this impact can be adequately managed through the proposed measures. • The Applicant has committed to managing potential Impacts to Aboriginal heritage by limiting the scope of works to those only proposed within the site footprint, appropriate staff training and the ceasing of any works in the event that an Aboriginal heritage item or suspected human skeletal material is discovered. • In the event of the discovery of human remains or an Aboriginal heritage item, the proposed stop works measures would adequately mitigate impacts.
<p><i>Air Quality</i></p>	<ul style="list-style-type: none"> • Dust generation may occur during construction from exposed areas of soil, excavation and stockpiles, rock crushing, vehicles travelling on unsealed roads, concrete cutting, on-site concrete batching or similar construction activities. Additional air 	<ul style="list-style-type: none"> • A number of mitigation measures to manage air quality during construction of the proposal are proposed, including ongoing maintenance of vehicle exhaust systems, covering of potential dust sources and the use of dust containment

Issue	Potential Impact	Conclusion and Recommendation
	<p>quality impacts may arise from exhaust emissions from construction traffic and machinery and chemical use.</p> <ul style="list-style-type: none"> • Operation may produce negligible emissions from the use and handling of chemicals used for the treatment process. Sludge is unlikely to produce significant odours. 	<p>methods where necessary. If stockpiles remain for longer than a 10 day period, they would be covered or stabilised with quick growing, sterile grasses.</p> <ul style="list-style-type: none"> • During detailed design, a Hazard and Operability (HAZOP) study would be undertaken to identify relevant Safety Data Sheets. These data sheets would be used to manage the use of chemicals across the site during the operation phase of the proposal. All chemicals would be stored in an enclosed storage tank or room. In addition, sludge would be stored and dewatered within enclosed treatment infrastructure prior to being transported off site to landfill.
Visual Amenity	<ul style="list-style-type: none"> • Public views of the site are predominantly from the Easts Riverview Holiday Park (east) and the Murrumbidgee River (north). • Construction would have a moderate impact on the holiday park, and a moderate to low impact on the Murrumbidgee River. • The operation of the WTP would have a minor impact on most of the surrounding receivers. 	<ul style="list-style-type: none"> • During construction, the Applicant would revegetate disturbed areas around the boundary of the holiday park with native grasses and shrubs, and around the raw water intake with shrubby vegetation. • Once established, the revegetated areas would adequately screen views from the holiday park and the Murrumbidgee River.
Waste Management	<ul style="list-style-type: none"> • Approximately 255m³ of alluvial material would be excavated from the river bed and lower bank of the Murrumbidgee River; material from excavations for site levelling; vegetation cleared from the river intake site; general construction waste; demolition waste generated by the removal of existing river intakes; redundant mechanical and electrical equipment; and general waste from staff. • The EPA advises that a variation of Environmental Protection License 614 would be required when the river water has high turbidity that would result in supernatant disposed to Marshalls Creek exceeding the current limit of 1 ML/day, which could theoretically increase to 2.22 ML/day when treating raw water with 300 NTU turbidity. • During operation, the main waste streams would be supernatant (backwash waste water) and dewatered sludge. Supernatant would continue to be disposed to Marshalls Creek as per current practice, with an expected average discharge of 1.45 ML/day with a maximum discharge of 2.22 ML/day. • As much as 21 tonnes/day of dewatered sludge would be produced when treating high turbidity levels (i.e. 300 NTU) during operation. Data for the Murrumbidgee River indicates that this would unlikely be sustained for more than one or two days. 	<ul style="list-style-type: none"> • The current level of Total Suspended Solids in wastewater discharged to Marshalls Creek is not expected to exceed the 30 mg/L limit currently set by the EPL. The Department advises that the Applicant consider any future need to amend any existing EPL to be consistent with the project. • During operation, dried solids (dewatered sludge) would be transported to landfill via heavy vehicles, with the potential of up to six truck movements per day during times of high water turbidity. • The Department has recommended a number of conditions related to the management of waste. The Applicant would be required to maximise the reuse and/or recycling of waste materials generated on site, shall not allow any waste generated outside the site to be received at the site for storage, and shall ensure that all liquid and/or non-liquid waste generated by the project is assessed and classified in accordance with <i>Waste Classification Guidelines</i> (DECC, 2008).
Greenhouse Gas Emissions and Energy Use	<ul style="list-style-type: none"> • The total energy consumption of the current WTP in 2013/2014 was 2,494,085 kWh, which equates to 2,245 tonnes CO₂. • During construction, activities to generate greenhouse gas emissions would include the operation of plant, machinery, transportation of materials to and from the site. • During operation of the WTP, greenhouse gas emissions would be created through the operation of the sludge management system and the consumption of electricity. 	<ul style="list-style-type: none"> • Proposed construction mitigation measures include the use of well-maintained plant and equipment, incorporation of energy efficient considerations in site inductions, proper fitting and maintenance of vehicle exhausts, and minimisation of haulage vehicle movements. • The Department notes that, during the operational phase of the proposal, greenhouse gas emissions would equal

Issue	Potential Impact	Conclusion and Recommendation
<i>Hazards and Risks</i>	<ul style="list-style-type: none"> • Construction activities are likely to encounter hazardous materials, such as asbestos and lead which may be present within buildings and structures to be demolished, as well as chemicals currently in use on-site. • A Preliminary Hazard Analysis has found that the storage volume of sodium hydroxide and sodium hypochlorite, which are corrosive substances classified as Class 8 under the Dangerous Goods Class Classification, could potentially be considered to be hazardous. • Consideration has also been given to the safe transportation of sodium silicofluoride, which is classified as a toxic Class 6.1 dangerous good. 	<p>900t CO₂e-year, a reduction of approximately 60% in existing plant emissions.</p> <ul style="list-style-type: none"> • The Department notes that a Safety Management Plan and an Incident Response Plan are to be prepared to include measures to reduce the risk of direct human contact to hazardous materials. Safe handling procedures would also be applied. • To mitigate the risk posed by chemicals to WTP staff, chemicals would be transported, stored, handled and dosed in accordance with all relevant legislation, Australian Standards and guidelines. • The Department considers that proposal is unlikely to impact on public safety as hazards are unlikely beyond the boundary of the WTP site. • The Department has recommended a condition of approval be imposed requiring all dangerous goods be stored and handled in accordance with relevant Australian Standards, minimum bund volume requirements, and DECC's <i>Environment Protection Manual Technical Bulletin – Bunding and Spill Management</i>. Additionally, a Hazards, Risk and Safety management plan shall be included in both the Construction and Operation Environmental Management Plans.

5.6. Public Interest

The proposal is considered to be in the public interest as it would have significant benefits including:

- delivering an upgraded water treatment plant to improve the reliability of pumping station equipment, therefore improving the consistency of water supply;
- delivering a more sustainable long term water source for the Wagga Wagga population capable of treating water with turbidity levels up to 300 NTU, an increase from the current capacity of 100 NTU;
- providing further investment in public infrastructure in a major regional centre; and
- supporting the creation of up to 160 new employment opportunities during the construction stage of the development.

6. CONCLUSIONS AND RECOMMENDATIONS

The proposed upgrade and amplification of the Wagga Wagga WTP would allow for the treatment of water with turbidity levels up to 100 NTU at a capacity of up to 55 ML/day. This would allow Riverina Water County Council to meet growing water demand as the population of Wagga Wagga City increases, as well as reduce drinking water safety risks.

The Department has assessed the SSD application, EIS, submissions on the development, and the Applicant's Response to Submissions Report, in accordance with the objects of the EP&A Act and the principles of ecologically sustainable development.

It is acknowledged that Riverina Water County Council typically uses less than 50 per cent of its licenced water allocation and does not propose to increase its extraction limit. Therefore no impacts to downstream water users or allocations are expected. The Department is of the opinion that the operational impacts of the proposal will be largely undetectable compared to existing operational impacts. However short term impacts such as increased noise and traffic may occur over the 18 month construction period.

The Environment Impact Statement assumed that the flood protection of the site would be increased from a 1 in 20 year flood to a 1 in 100 year flood, however due to constructability issues related to the amplification proposal, this has been postponed until after construction of the WTP is complete. The Department accepts that the WTP would be constructed such that flooding impacts to the facility would be minimised and that the upgrade of the levee would be pursued as a separate approval process following the WTP upgrade. Notwithstanding, it is recommended that a Flood Management and Evacuation Plan be prepared to address operational impacts of flooding on the facility and the safe evacuation of personnel for any rainfall event that would breach the levee.

Potential impacts to terrestrial fauna are likely to be indirect and greatest during the breeding season for the grey-headed flying-fox. Appropriate scheduling of construction to ensure that the noisiest activities (for the water intake) are scheduled between April and October, to the greatest extent practicable, are expected to be sufficient to minimise indirect impacts on the established colony of grey-headed flying-foxes which roosts approximately 100 metres from the site. The Department has recommended a condition to this effect.

The applicant has committed to managing erosion, dredging and reclamation impacts of the river bed on the aquatic environment during construction with standard measures employed by industry to be detailed in a soil and erosion management plan. Operational impacts on the aquatic environment would be managed by stabilisation and landscaping of the riverbank and installation of screens on the intake to minimise the potential for fish (and other aquatic macro-organisms) to become entrained. The Department is satisfied that, with the adoption of these measures, the impacts on terrestrial and aquatic fauna and their environments will be acceptable.

During construction there are likely to be an additional 10 to 20 truck movements and approximately 100 light vehicle movements per day to and from the site. RMS raised concerns that vehicles exiting the site may delay vehicles entering the site from the Sturt Highway (Hammond Avenue). The Department is satisfied that a left turn only for traffic leaving the site and entering Hammond Avenue as proposed by the Applicant would be sufficient to mitigate this potential impact. Traffic movements during operation of development are unlikely to increase over the figure of approximately 100 vehicles per day that access the current WTP. The Department considers that impacts to the surrounding road network are likely to be minor and has recommended a condition of approval requiring the Applicant implement appropriate measures to ensure the safe ingress and egress of traffic from the site.

The Applicant has also proposed an array of mitigation measures to manage minor impacts associated with the development to Aboriginal and historic heritage; air quality; noise and vibration; visual amenity; waste management; greenhouse gas emissions; and hazards and risks. A number of conditions of approval have also been recommended to manage these impacts.

On balance, the Department believes that the project's benefits would outweigh its residual impacts; that it is in the public interest and should be approved, subject to conditions.

Based on the Department's assessment, it is recommended that the Executive Director, Infrastructure and Industry Assessments, approve the State Significant Development application under Section 89E of the EP&A Act, by signing the attached Instrument of Development Consent (**Appendix F**).

Prepared by


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APPENDIX A ENVIRONMENTAL IMPACT STATEMENT

See the Department's website at
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6148

APPENDIX B SUBMISSIONS

See the Department's website at
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6148

APPENDIX C APPLICANT'S RESPONSE TO SUBMISSIONS

See the Department's website at
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6148

APPENDIX D OTHER RELEVANT REPORTS OR DOCUMENTS

See the Department's website at
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6148

APPENDIX E GLOSSARY

Ecologically Sustainable Development can be achieved through the implementation of:

- a) *the precautionary principle – namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measure to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:*
 - i) *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and*
 - ii) *an assessment of the risk-weighted consequences of various options,*
- b) *Inter-generational equity – namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*
- c) *Conservation of biological diversity and ecological integrity – namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
- d) *Improved valuation, pricing and incentive mechanisms – namely, that environmental factors should be included in the valuation of assets and services, such as:*
 - i) *polluter pays – that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,*
 - ii) *the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,*
 - iii) *environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems. (Cl.7(4) Schedule 2 of the Regulation)*

Objects of the Act

- a) *to encourage:*
 - i) *the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
 - ii) *the promotion and co-ordination of the orderly and economic use and development of land,*
 - iii) *the protection, provision and co-ordination of communication and utility services,*
 - iv) *the provision of land for public purposes,*
 - v) *the provision and co-ordination of community services and facilities, and*
 - vi) *the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
 - vii) *ecologically sustainable development, and*
 - viii) *the provision and maintenance of affordable housing, and*
- b) *to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
- c) *to provide increased opportunity for public involvement and participation in environmental planning and assessment.*

Section 79C(1) of the EP&A Act

(1) Matters for consideration - general

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

- (a) *the provision of:*
 - (i) *an environmental planning instrument, and*
 - (ii) *any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and*
 - (iii) *any development control plan, and*
 - (iv) *any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under 93F, and*

- (v) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and
- (vi) any coastal zone management plan (within the meaning of the Coastal Protection Act 1979),
that apply to the land to which the development application relates,
- (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts on the locality,
- (c) the suitability of the site for the development,
- (d) any submissions made in accordance with this Act or regulations,
- (e) the public interest.

Note. See section 75P (2) for circumstances in which determination of development application to be generally consistent with approved concept plan for a project under Part 3A.

Note. The consent authority is not required to take into consideration the likely impact of the development on biodiversity values if:

- (a) the development is to be carried out on biodiversity certified land (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995), or
- (b) a biobanking statement has been issued in respect of the development under Part 7A of the Threatened Species Conservation Act 1995.

APPENDIX F RECOMMENDED CONDITIONS OF CONSENT

See the Department's website at

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6148