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**Melbourne Water
Corporation**

Tarago Water Treatment Plant
Project Impact Assessment

Volume One
July 2007



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Abbreviations

ADT	Average Daily Traffic
AEP	Annual Exceedence Probability
AGO	Australian Greenhouse Office
AHD	Australian Height Datum
ANZECC	Australia and New Zealand Environmental and Conservation Council
ARG	Agency Reference Group
AWS	Automatic Weather Station
BE	Bulk Entitlement
BoM	Bureau of Meteorology
Booster PS	Booster Pump Station
CEMP	Construction Environmental Management Plan
CHMP	Cultural Heritage Management Plan
CFA	Country Fire Authority
CO ₂	Carbon Dioxide
CO ₂ -e	Carbon Dioxide Equivalent (a standard measure for Greenhouse Gas Emissions)
CRG	Community Reference Group
CWS	Clear Water Storage
D/s	Downstream
DAFF	Dissolved Air Flotation Filtration
dBA	Decibels
DEWR	Department of the Environment and Water Resources
DIIRD	Department of Innovation, Industry and Regional Development
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
EES	Environment Effects Statement
EF	Emission Factor
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan



EMS	Environmental Management System
EPA	Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act
ESAA	Electrical Supply Association of Australia
EVC	Ecological Vegetation Class
FFG Act	Flora and Fauna Guarantee Act
GL/a	Gigalitres per annum
GMA	Groundwater Management Area
GMS	Groundwater Management System
HS	Health and Safety
HSMS	Health and Safety Management System
HV	High Voltage
ID	Information Deficient
kL	Kilolitres
kL/d	Kilolitres per day
Km	Kilometres
km/h	Kilometres per hour
kV	Kilovolts
LCT	Landscape Character Type
µg/L	Micrograms per litre
m	Metre
m/sec	Metres per second
m ³ /sec	Cubic metres per second
mg/L	Milligrams per litre
ML/a	Megalitres per annum
ML/d	Megalitres per day
mm	Millimetre
MNES	Matters of National Environmental Significance
MW	Megawatt
MWh	Megawatt hour
NEM	National Electricity Market



NTU	Nephelometric Turbidity Units
O/E score	Observed to expected score
OH&S	Occupational Health and Safety
PIA	Project Impact Assessment
PCRZ	Public Conservation and Resource Zone
PHABSIM	Physical Habitat Simulation
PMST	The Protected Matters Search Tool
PWL	Power Level
RORB	Rainfall/runoff model
SEMP	Site Environment Management Plan (Melbourne Water terminology that is equivalent to CEMP)
SEPP	State Environment Protection Policy
SUZ	Special Use Zone
Tarago WTP	Tarago Water Treatment Plant
TDS	Total Dissolved Solids
TMP	Traffic Management Plan
TP	Test Pit
TWP	Tarago Westernport Pipeline
UV	Ultraviolet Light
VMS	Victorian Visual Management System
VNPA	Victorian National Parks Association
WoV	Waters of Victoria
>	Greater Than
<	Less Than
°C	Degrees Celsius (Temperature)



Executive Summary

INTRODUCTION

GHD Pty. Ltd. (GHD) has been commissioned by Melbourne Water Corporation (Melbourne Water) to assist in attaining the necessary project approvals and undertake the functional design of the proposed Tarago Water Treatment Plant ('Tarago WTP'). As a part of this process GHD, in association with Biosis Research Pty Ltd (Biosis Research) and Beverley Van Praagh, have undertaken an assessment of the site-specific cultural, social, environmental and economic effects of the Tarago WTP at a local, regional, State and Commonwealth level. Extensive consultation with key government agencies has been undertaken, through which it has been determined that the following approvals are required:

- ▶ A Cultural Heritage Management Plan (CHMP); and
- ▶ An amendment to the Baw Baw Shire Planning Scheme (the 'Scheme').

The purpose of this document – the Tarago Water Treatment Plant Project Impact Assessment (the 'PIA') – is therefore:

- ▶ To outline an assessment of the qualitative and quantitative impacts of the construction and operation of the Tarago WTP;
- ▶ To outline how the Tarago WTP complies with all relevant local, State and Federal statutory and policy requirements; and
- ▶ To serve as an incorporated document within the Baw Baw Planning Scheme, under the provisions of the *Planning and Environment Act 1987*.

STRATEGIC BACKGROUND

The Tarago Reservoir was constructed in 1967 to supply water to the Mornington Peninsula and West Gippsland regions. Melbourne Water assumed responsibility for the Tarago Reservoir and the Tarago Water Supply Catchment (the 'Catchment') in 1992, and undertook catchment management initiatives, particularly in respect to water flow from the privately owned land to the east of the reservoir, with the aim to protect water quality in the Tarago Reservoir. These initiatives achieved some success; however, Melbourne Water removed the Tarago Reservoir from supplying the Mornington Peninsula in 1994 due to concerns that the water quality was still not meeting public health standards.

The decision to reconnect the Tarago Reservoir to Mornington Peninsula and Westernport regions is based in part on the findings of a CSIRO report into the impact of climate change on Melbourne water resources. The report, *Implications of Potential Climate Change for Melbourne's Water Resources*, predicted mid-range climate change could reduce Melbourne's water supplies by eight percent by 2020 and by 20 percent by 2050.

As outlined by the Central Region Sustainable Water Strategy, climate change, continued population growth and the drought are likely to result in a 100 billion litres per year shortfall in the drinking water reserves available to Melbourne within 10 years, particularly if recent low inflows of the past decade continue. Within this context, the reconnection of the Tarago Reservoir is seen as an important source of water to meet part of this shortfall (Our Water Our Future, S.5) and has been identified as the next main water resource augmentation for supply to the Mornington Peninsula and Westernport regions. In June 2005, the State Government announced that the Tarago Reservoir would be reconnected to supply the



Mornington Peninsula and Westernport regions by 2011. Ongoing drought conditions have since increased the urgency and importance of this project.

The Catchment is an open catchment. It is unprotected, with a range of land uses including intensive grazing, horticulture, and housing. As a result of these land uses, blue-green algal blooms have occurred and cryptosporidium has been previously detected in the reservoir and catchment. To comply with both the Australian Drinking Water Guidelines (ADWGs) and the Victorian Safe Drinking Water Regulations, a water treatment barrier is therefore necessary before the Tarago Reservoir may be reconnected to supply the Mornington Peninsula and Westernport regions. The Tarago WTP serves as this barrier, and must be constructed and fully operational as soon as practicable.

The next stage of the Government's water plan, formally announced 20 June 2007, brings forward major projects to significantly increase the capacity of the Victorian water supply system. The reconnection of the Tarago Reservoir is integral in dealing with water shortage while these projects are being constructed (Our Water Our Future – The Next Stage of the Government's Water Plan, DSE, June 2007).

TARAGO WATER TREATMENT PLANT PROJECT

The following section outlines the details of the Tarago WTP design, the proposed site and the project programme.

Project Design

The Tarago WTP is sized to treat up to 25 billion litres per year (70ML per day capacity), which is compatible with the capacity of the Tarago Westernport Pipeline.

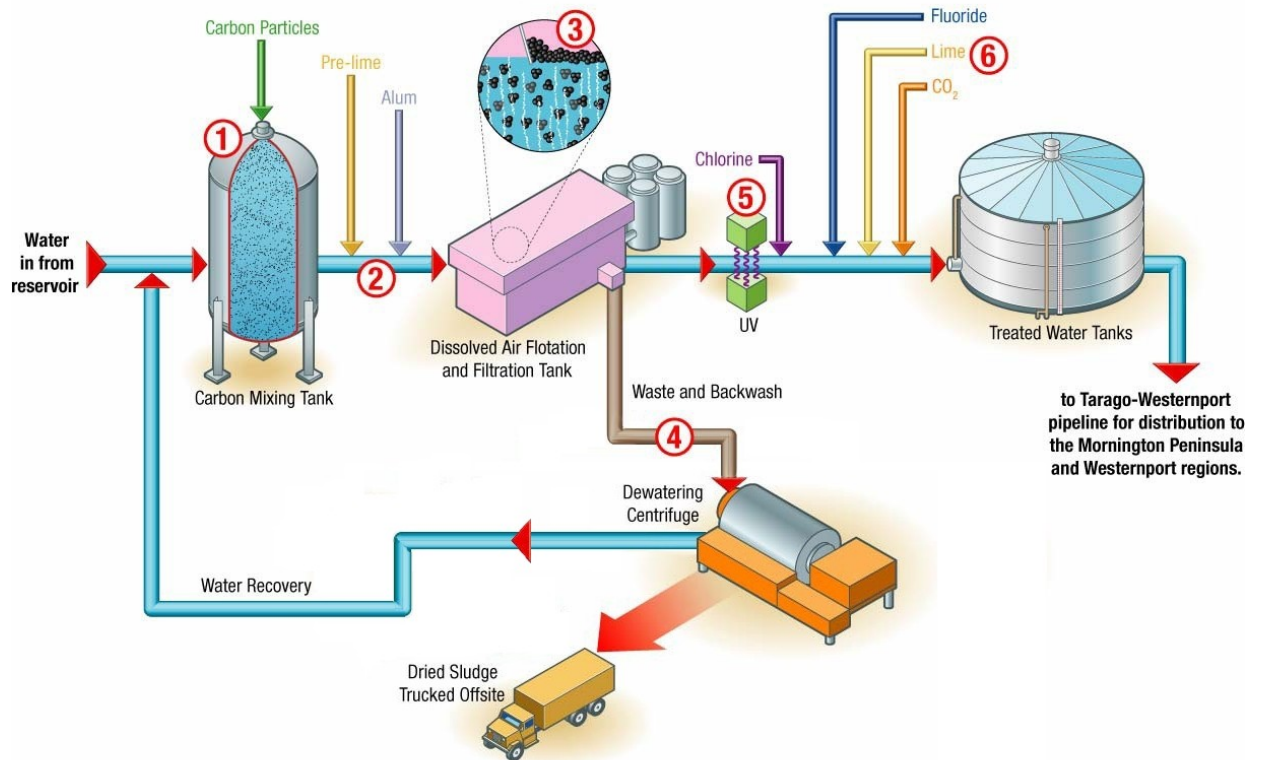
The functional design of the Tarago WTP includes the process design basis, the site layout, details of the treatment plant components and associated works, the design criteria to be used in the detailed design phase and preliminary estimated costs. The functional design report will be finalised by July 2007.

The Tarago WTP treatment process is based on a conventional water treatment plant, which requires filtration, disinfection, fluoridation, PH correction and disposal of filtered solids. **Figure A** outlines a conceptual diagram of the water treatment process, which will be used in the Tarago WTP.

For comparison, the Tarago WTP is similar to the Warragul WTP, which is situated 5 km's north of Warragul on the main Neerim South road and supplies water to Drouin, Buln Buln, Rokeby, Nilma, Darnum and Warragul. The capacity of each treatment plant is the key difference between the Tarago WTP and the Warragul WTP. Some of the project components of the Tarago WTP are therefore marginally bigger than the Warragul WTP; for example, the heights are similar however the footprint of the Tarago WTP is larger. **Figure C** provides a visual perspective of the Tarago WTP.

Two operators will staff the plant 5 days per week generally during business hours; however, the plant will be monitored – and may be operated - externally 24 hours per day, 7 days per week as a part of Melbourne's overall water supply.

Tarago water treatment process



- ① Tiny carbon particles are added when necessary to remove tastes and odours.
- ② Coagulation and flocculation chemicals (pre-lime and alum) are added to make tiny particles in the water clump together.
- ③ Microscopic air bubbles carry the clumps of particles to the surface where they are scooped off. The water is then filtered to remove any remaining suspended material, including micro-organisms.
- ④ Waste skimmed from the surface, and backwash water from filter cleaning processes are removed and dewatered. Water extracted from wastes is sent back to the start of the process.
- ⑤ Filtered water is disinfected using chlorine and possibly ultraviolet light (UV).
- ⑥ Fluoride is added for dental health as per Department of Health guidelines. Lime and carbon dioxide are added to ensure slightly basic pH, and that the treated water is non-corrosive.

Figure A Tarago WTP Conceptual Diagram

Tarago WTP Site

A 15.1-hectare site, located on freehold land, has been selected as the location of the Tarago WTP at 880 Main Neerim Road, Drouin West. The location of the proposed site is to the south-west of Rokeby, on the south of Main Neerim Road and is adjacent to the Glen Cromie Caravan Park. The Site also includes the existing easement, Lot 1 on Title Plan 882982V (Parent Title Volume 06618 Folio 558), currently in Melbourne Water ownership, which provides access from Main Neerim Road to the Tarago WTP site. The Site abuts the Tarago River, which runs along its western boundary, Muddy Creek, which runs along its southern boundary, rural paddocks along its eastern boundary and has a frontage to Main Neerim Road along its northern boundary of approximately 360 m (refer **Figure B**).



Project Programme

The Tarago WTP is required to be fully operational by December 2009 as outlined in the State Government's Central Region Sustainable Water Strategy; however, ongoing drought conditions have increased the urgency and importance of this project. To achieve this Melbourne Water is required to:

- ▶ Attain project approvals;
- ▶ Complete the design of the project; and
- ▶ Construct the Tarago WTP and associated infrastructure.

DSE is managing the water bulk entitlement allocation (expected to be completed by late 2007) as a separate process. The bulk entitlement allocation does not form a part of this project.

APPROVAL FRAMEWORK

Consultation with relevant authorities has been undertaken to determine the specialist and technical information required, against which the relevant authority may assess and approve the project. An agency reference group ('ARG') was established for the duration of the project, and has been an effective and efficient method to ensure that the relevant agencies and authorities have input into the contents of the approvals applications and associated supporting documentation. Relevant agencies and authorities consulted include:

- ▶ Baw Baw Shire Council, Statutory and Strategic Planning Officers;
- ▶ VicRoads;
- ▶ Department of Sustainability and Environment (DSE), Regional Office;
- ▶ DSE, Melbourne;
- ▶ Environment Protection Agency (EPA), South Metro Region;
- ▶ EPA, Gippsland Region;
- ▶ Melbourne Water, Developer Services;
- ▶ Southern Rural Water;
- ▶ Gippsland Water; and
- ▶ Aboriginal Affairs Victoria ('AAV').

After extensive consultation, it has been determined that the following approvals are required to facilitate the construction of the Tarago WTP:

- ▶ Management of Cultural Heritage (Cultural Heritage Management Plan (CHMP) and/or Permit to Disturb); and
- ▶ An amendment to the Baw Baw Shire Planning Scheme.

CULTURAL HERITAGE APPROVALS

While the site is freehold land, and while there is currently no relevant Registered Aboriginal Party in relation to the proposed activity area, representatives of the Yeerung Kurnai Native Title Claimants Group have been consulted through the project planning stage Tarago WTP.

Biosis Research has been commissioned to conduct a cultural heritage assessment of the Site (July 2007) through which the following recommendations were made:



1. Preserve, if possible, the recorded Aboriginal archaeological sites, Rokeby IA1 (AAV8021-0229), Rokeby IA2 (AAV8021-0236), Rokeby IA3 (AAV8021-00237), Rokeby IA4 (AAV8021-0238), Rokeby AS1 (AAV8021-0231), Rokeby AS2 (AAV8021-0232), Rokeby AS3 (AAV8021-0233), Rokeby AS4 (AAV8021-0234), and Rokeby AS5 (AAV8021-0235) within open space. The client would not require a permit to disturb the site if they could be preserved in this fashion. Preferably the location of the artefacts would in each case be covered with ground cover plantings and mulch to prevent disturbance associated with increased public access. However, given that disturbance is likely to be unavoidable, the sites are protected under the *Aboriginal Heritage Act 2006*.
2. During initial soil disturbance associated with construction, monitoring for the presence of archaeological materials should be conducted in the areas of moderate Aboriginal archaeological sensitivity. Monitoring should be carried out by representatives of the relevant local Aboriginal community, and would involve the representatives examining excavated soil for artefacts during the construction works. Should artefacts be located, a qualified archaeologist will need to be on site to record the sites and register the sites with AAV. Consent to Disturb any new sites would need to be obtained from the Minister for Aboriginal Affairs.
3. A section of the study area should be retained as open space, to be utilised as a reserve for archaeological materials. Ideally, this would be located in an area of high archaeological significance, such as the highest point of the ridge at the eastern side of the property. This would serve a dual purpose in both preserving a large part of the areas archaeological resource, and also provide a location for the reburial of any artefacts disturbed by the earthworks. The location chosen to be set aside as a reserve should be determined in consultation with the Yeerung Kurnai Native Title Claimant Group.
4. Under the *Aboriginal Heritage Act 2006* (to be proclaimed on the 28th May 2007), any further cultural heritage works that occur on site may require the preparation of a Cultural Heritage Management Plan (CHMP). This would have to be developed with consultation between the consultant, Melbourne Water, and the relevant Registered Aboriginal Party/Parties for the study area (RAP/s). The aim of the CHMP would be to determine how to best manage the archaeological resources of the study area prior to, during and after construction activities.
5. It is possible, although unlikely, that human remains are located within the study area. If human remains are found, all work in the area must cease and the Police or State Coroner's Office must be immediately notified. The State Coroner's Office can be contacted on (03) 9684 4444. If there are reasonable grounds to suspect that the human remains are Aboriginal, then Aboriginal Affairs Victoria must also be notified on 1300 888 544.

Subsequent to this Assessment, an application for Cultural Heritage Permit to undertake Geotechnical Investigation has been submitted to AAV on the 27 June 2007. In addition, a CHMP (AAV Project No. 10018) forms a part of the approval documentation for the Tarago WTP in accordance with the recommendations of the initial assessment. The CHMP was developed in consultation between the Cultural Heritage Advisor (a qualified Archaeologist), Melbourne Water, AAV and the Yeerung Kurnai Native Title Claimants Group. The CHMP was developed as the proposed works required for the construction and operation of the Tarago WTP will disturb registered Aboriginal archaeological sites and an area of high Aboriginal archaeological sensitivity. The CHMP outlines the extent of the proposed works, potential impacts to Aboriginal cultural heritage, and management strategies for the Aboriginal cultural heritage located in the area. The CHMP will be submitted to AAV in July 2007.



ENVIRONMENTAL APPROVALS

After extensive consultation with the relevant State agencies, it has been determined that no environmental approvals will be required under State legislation. Demonstration of compliance with relevant statutory requirements will be demonstrated through the environmental management plan (the 'EMP').

While a recent search using the Flora Information System ('FIS') database and EPBC Protected Matters Search Tool has shown that threatened flora species may occur within a 10 km radius of the study area, fieldwork has determined that there is unlikely to be suitable habitat to support those species. Discussions with Helen Sloan (Assistant Director, Department of the Environment and Water Resources) have indicated that a referral is required. The referral will be the principal basis for the Minister for the Environment and Water Resources' decision as to whether:

- ▶ Actions are being undertaken as a part of the project that are likely to have a significant impact on matters protected by Part 3 of the EPBC Act; and
- ▶ If approval is necessary and, if so, the type of assessment that will be taken.

The referral will be submitted by the end of July. A decision from the Department of the Environment and Water Resources should be provided 20 business days after lodgement.

PLANNING APPROVALS

Overview

The Site is currently located within the Farming Zone and is subject to the Environmental Significance Overlay Schedule 1 – High Quality Agricultural Land, and a portion of the site is subject to the Rural Floodway Overlay (refer **Figure D**). In addition, the Tarago WTP triggers planning permit requirements through Clause 52.17 Removal of Native Vegetation and 52.29 Land adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road.

Melbourne Water proposes to rezone the site from Farming Zone to Public Use Zone Schedule 1, and that the project be exempt from requiring a planning permit, as triggered by relevant Clauses within the Scheme. Clause 52.03 Specific Sites and Exclusions allows for the exclusion of all other provisions (including the requirement for a planning permit) in the Scheme. It is proposed that the Tarago WTP is listed in the schedule to Clause 52.03 of the Baw Baw Planning Scheme. It is proposed that this Project Impact Assessment is the Incorporated Document.

Melbourne Water therefore proposes that Amendment C50:

- ▶ Rezones the site at 880 Main Neerim Road, Drouin West from Farming Zone to Public Use Zone Schedule 1;
- ▶ Rezones the existing water supply easement described as Lot 1 on Title Plan 882982V (parent title Volume 06618 Folio 558) from Farming Zone to Public Use Zone Schedule 1;
- ▶ Amends the schedule to Clause 52.03 – Specific Sites and Exclusions of the Baw Baw Planning Scheme to exclude the Tarago Water Treatment Plant ('Tarago WTP') from planning controls; and
- ▶ Amends the schedule to Clause 81.01 to include the Tarago Water Treatment Plant Project Impact Assessment as an Incorporated Document.



Incorporated Document

Pursuant to Section 6(2) (j) of the Planning and Environment Act 1987, Melbourne Water proposes that the Tarago WTP Project Impact Assessment acts as the Incorporated Document in the Baw Baw Planning Scheme. The document will be incorporated in the Schedule to Clause 81.01 of the Baw Baw Planning Scheme, and pursuant to Clause 52.03 of the Baw Baw Planning Scheme, the land identified in the document may be developed and used in accordance with the specific controls contained in this document. This schedule allows that land to be used and developed for the purposes set out in this schedule despite any prohibition or restriction which would otherwise apply to those purposes under the provisions of the Scheme.

The Tarago WTP will be developed in accordance with the applicable clauses of the Baw Baw Planning Scheme. A planning permit is not required as typically triggered by these clauses if the project is developed in accordance with this document.

It must be noted that through the detail design and construction of the project, modifications to the functional design may be required to deal with unexpected project issues relating to procurement, timeframes and other unexpected matters. In such cases, changes to the incorporated document should not require an amendment to the Scheme, as per the VPP Practice Notes – Incorporated and Reference Documents:

'an amendment is not required if the changes only serve to revise or update relevant background in the light of changed circumstances or new knowledge and have no effect on the content of the scheme'.

Melbourne Water will inform the ARG through the ongoing consultation process, at which point the need for further consultation with other parties will be determined.

Cultural, Economic, Social and Environmental Effects

As a part of the planning approval process the cultural, social, economic and environmental effects of the Tarago WTP must be considered. These are outlined below.

Cultural Effects

It is important to note that Aboriginal sites and areas of land under the custodianship of a local Aboriginal community usually have a special significance for Aboriginal people. All pre-contact (pre-European settlement) sites in the study area are considered to have cultural significance to the local Aboriginal people. The sites are evidence of past Aboriginal occupation and use of the area, and are a main source of information about the Aboriginal past. Biosis Research has stated that they cannot comment directly on such cultural significance – comment can only be made by the Aboriginal community. For the purpose of construction of the Tarago WTP however, relevant cultural assessments, permits and management plans have been undertaken, and provided to representatives of the Yeerung Kurnai Native Title Claimants Group and Aboriginal Affairs Victoria.

Economic and Social Effects

The construction and operation of the Tarago WTP includes consideration to the following social and economic effects:

- ▶ The Tarago WTP will not impact on the agricultural community within the locality, as it marginally reduces land available for agricultural activity. It does not reduce agricultural viability within the region;



- ▶ The Tarago WTP assists in the provision of a water supply augmentation that will assist in drought recovery, reduce the time in water restrictions and will utilise existing infrastructure (the Tarago Reservoir and Tarago Westernport Pipeline);
- ▶ The Tarago WTP also assists with drought recovery while awaiting the implementation of other key water supply projects;
- ▶ Increased availability and security of supply for existing Melbourne Water urban and rural customers, currently constrained by water restrictions and subject to considerable uncertainty about reliability of supply;
- ▶ Security of water supply for projected urban and business growth in the Mornington Peninsula and Westernport regions;
- ▶ Opportunities for local businesses in the vicinity of the project with an injection into the local economy throughout the construction period, with benefits to the local economy with up to 50 people onsite; and
- ▶ Opportunities for businesses outside the region, such as plant and materials contractors, construction contractors and goods and services providers.

A comprehensive community consultation process has been undertaken. The broader Tarago programme has been in operation since 2000, and has in turn informed the Tarago WTP Planning and Construction consultation plan. The broader programme includes the following:

- ▶ Coordinate the communications, consultation and stakeholder relations associated with all projects and activities associated with the Tarago Reservoir including implementation of the Tarago Catchment Management Plan and the siting of, and construction of the new water treatment plant;
- ▶ Strengthen existing working relationships in the region, especially between Melbourne Water, Gippsland Water, Baw Baw Shire, EPA and the community groups and agencies involved in future management of the Tarago Reservoir and catchment;
- ▶ Build broad community understanding of the need for the reconnection of Tarago Reservoir to Melbourne's water supply, and of the related benefits to the region;
- ▶ Gain community stakeholders' input to finding a suitable site for the water treatment plant; and
- ▶ Work with South East Water to inform customers about the reconnection.

The Tarago WTP Consultation Plan may be broken into two phases, the first phase for the planning and the second phase for the construction of the Tarago WTP. The goal of the former is to undertake consultation with a targeted agency group and with landowners surrounding the Site. The goal of the latter is to continue consultation through the construction phase to demonstrate compliance with approvals, communicate changes to the functional design if necessary and to maintain contact with those materially affected by the construction of the Tarago WTP.

Figure E provides an overview of the Tarago WTP Consultation Plan.

The ARG's contribution has been substantial in determining the design and development of the project. Melbourne Water will continue to consult the ARG throughout the duration of the project, until project completion to ensure that the Tarago WTP is being developed in accordance to that agreed.



Melbourne Water has also been undertaking a consultation program with members of the wider Baw Baw community and individual landowners who may be materially affected by the project. Consultation activities completed to date include:

- ▶ Several community newsletters, specifically outlining the process for determining the best location for the Tarago WTP;
- ▶ Community information tent at Rokeby market on two occasions;
- ▶ A media release in May;
- ▶ A webpage dedicated to the Tarago project;
- ▶ Personal meetings with adjacent or materially affected landowners, where plans were discussed in detail and comments sought.

Melbourne Water has informed GHD that any issues raised through the consultation process will be managed through appropriate design and construction methods. All comments raised by landowners have been recorded. A majority of issues raised had already been considered either as part of the ARG process or have been accounted for in design of the facility.

Melbourne Water will take into account comments made by landowners with regard to building colours and landscaping in finalising architectural plans for the facility. Upon completion of the plans a Community Information Session will be conducted with adjacent landowners to provide a further opportunity to view and discuss design details. Communications will be ongoing with adjacent landowners as the project continues into the construction phase.

Melbourne Water will continue to update the website and release newsletters to the wider community.

Environmental Effects

Qualified professionals have assessed the environmental effects of the Tarago WTP. The recommendations outlined in each relevant study have informed the functional design and site layout of the Tarago Water Treatment Plant. The purpose, identified impacts and associated mitigation techniques of each study are outlined below:

- ▶ Terrestrial Flora and Fauna Assessment;

Purpose: Summarise any ecological issues pertaining to the proposed development; identify potential ecological impacts associated with the project; and outline mitigation measures to avoid and/or minimise potential impacts.

Identified Impact and associated mitigation:

- Construction of an access road to the site will pass through a patch of remnant vegetation near Main Neerim Road. There will therefore be some disturbance and/or removal of native vegetation during this process. As a result, Net Gain offsets are required. The balance of the Site, however, consists of cleared agricultural land and predominantly introduced vegetation ('PIV'). Accordingly, the balance of the site has relatively low conservation significance in terms of the native vegetation and potential fauna habitat.
- Significant flora and fauna do not affect the Tarago WTP footprint.
- The Terrestrial Flora and Fauna assessment did identify one known significant flora species in the study area. There is a small area of indigenous vegetation between the study area and the Glen Cromie Caravan Park that contains the nationally significant Strzelecki Gum (*Eucalyptus*



strzeleckii). This species is also present as scattered trees in the southwest corner of the study area and along Muddy Creek on the southern boundary. Individual trees along Muddy Creek are outside the boundary of the proposed development footprint.

- During the present study, potential habitat for the Giant Gippsland Earthworm was identified. A Giant Gippsland Earthworm specialist was engaged to investigate the potential areas of habitat. The investigation did not identify any Giant Gippsland Earthworms or any indirect evidence of their presence in the study area. It is possible that the study area is just outside the range of this species.
- There is potential habitat for the Growling Grass Frog in wetlands adjacent to the study area. To facilitate their dispersal across the access road and into habitat near the Glen Cromie Caravan Park, mitigation measures to be included in the Construction Environmental Management Plan (the 'CEMP') will be implemented.
- The project will meet the stated objectives of the Net Gain Assessment and the Victorian *Flora and Fauna Guarantee Act 1988*. Documentation includes demonstration that measures have been taken to avoid impacts upon listed threatened species and communities, and that potentially threatening processes have been avoided or minimised.

▸ Aquatic Environment Assessment;

Study Aim: Assess the quality of the instream habitat of Muddy Creek with the aim of providing mitigation measures to minimise potential impacts that the proposed Tarago WTP works may have on the aquatic environment.

Impact:

The Tarago WTP works are approximately 100 metres north of Muddy Creek. The main effect of excavation work is a potential increase in the turbidity of Muddy Creek, which may impact light-requiring species.

Mitigation:

- The CEMP will include a silt barrier and a sediment trap positioned downstream of the working site to manage site runoff and fencing Muddy Creek.
- To minimise the local impact of sediment immobilisation into the waterway, it may be beneficial to consider keeping the Muddy Creek diversion during construction;
- Care will be taken to minimise the potential impacts of construction to protect the hydrology and habitat values of the aquatic environment, including the prevention of instream barriers that impede future flows or obstruct fish passage; and
- Site drainage works will include a stormwater detention and a treatment basin near the western boundary of the property. The discharge from this stormwater basin is proposed prior to discharge to Tarago River via a swale drain along the eastern side of the proposed access road.

▸ Net Gain Assessment;

Scope:

- Describe the flora and habitat values of the site;
- Describe how the proposed project takes into account the 3-step Net Gain process of: avoiding, minimizing and offsetting any impacts to native vegetation;



- Identify Net Gain liabilities; i.e. calculate the proposed losses (in HabHa) using the Vegetation Quality Assessment Manual (DSE 2004);
- Describe Net Gain targets, offset criteria and requirements to compensate for the native vegetation losses that would be incurred;
- Evaluate the offset site and determine the habitat quality and potential offset gains for this site;
- Map the extent, type and condition of the native vegetation within the offset site; and
- Identify appropriate actions and quantify measures to offset native vegetation losses and achieve a Net Gain.

Impacts

- An access road is required to be constructed from Main Neerim Road. This will require a small area (up to 300 m²) of native vegetation to be removed.
- Overall, 0.03 hectares (0.02 habitat hectares) of Shrubby Foothill Forest is planned to be removed for the construction of an access road to proceed. In addition, two large and three medium old trees are proposed to be removed.
- The implications of Net Gain Assessment for the site have been discussed with the Department of Sustainability and Environment (DSE), Gippsland. Representatives from DSE have advised that the default habitat score value of 0.7 for calculation of the offset in vegetation at the site represents an adequate solution. When the multiplication factor for medium conservation significance is taken into account, the overall Net Gain offset target is 0.02 habitat hectares.

Mitigation

- Attempts have been made to avoid and minimise vegetation losses during the project development phase, prior to examining potential offset options, including the following:
 - Avoiding significant native vegetation within the adjoining unmade government road along the western boundary of the property by choosing not to locate the road along this alignment;
 - Minimising removal of native vegetation by selecting an area with the fewest number of large trees for that section of road; and
 - Developing engineering strategies to minimise disturbance to the tree roots by providing a minimum 4-metre offset from tree trunks (except where access road intercepts with Main Neerim Road).
- Melbourne Water has proposed three means of providing offsets to meet the requirements and objectives of Net Gain at the WTP site. These include:
 - Ongoing management of 0.06 Ha of remnant native vegetation (via eliminating woody weeds, and controlling rabbits and high threat herbaceous weeds) along a section of Muddy Creek at the adjoining southern end of the site;
 - Revegetation (to appropriate DSE standards) along a section of Muddy Creek that adjoins the southern boundary of the site; and
 - Protection of 16 very large, 14 large and 13 medium trees along the section of Muddy Creek that adjoins the site.
- ▶ Landscape, Visual and Structures Assessment;



Purpose: This report assesses the visual values of the landscape and the surrounding areas of the proposed Tarago WTP, and the visual impacts of the Tarago WTP. It also provides associated mitigation measures.

Impacts and Mitigation

The landscape Impacts have been divided into two separate stages as outlined in the following tables.

Table 1 Mitigation Measures Stage 1 – Construction

Impact	Mitigation
<ul style="list-style-type: none"> ▶ Vehicles transporting goods to site. 	<ul style="list-style-type: none"> ▶ Alignment of road will run adjacent to the western property boundary and will not impact on the landscape. ▶ Impact to vegetation at entry point to the Main Neerim Road will be minimised.
<ul style="list-style-type: none"> ▶ Construction of road, pipelines and associated excavation. 	<ul style="list-style-type: none"> ▶ Fill will be minimised to protect adjacent mature trees. ▶ Site excavation will be kept to a minimum.
<ul style="list-style-type: none"> ▶ Storage of construction / building materials on site. 	<ul style="list-style-type: none"> ▶ Store objects close to their proposed final location where possible.
<ul style="list-style-type: none"> ▶ Excavation of benches. 	<ul style="list-style-type: none"> ▶ Establish appropriate levels when excavation occurs and locate fill from cut areas to new locations as required to achieve faster grass and planting establishment.

Table 2 Mitigation Measures Stage 2 - Post Construction period

Impact	Mitigation
<ul style="list-style-type: none"> ▶ An increase in traffic due to the operation of the Tarago WTP. ▶ The private road to the Tarago WTP. 	<ul style="list-style-type: none"> ▶ Vegetation along road alignment. Include shrubs and small trees adjacent to the eastern boundary to protect surrounding park and caravan park from visual interruption. ▶ Use road material that is sympathetic to the landscape context in colour, finish and location of source.
<ul style="list-style-type: none"> ▶ Permanent structures and buildings on the site. 	<ul style="list-style-type: none"> ▶ The building design should be sympathetic to the surrounding landscape context. ▶ Utilise materials that reflect the local character, e.g. colour of colour bond that blends with the existing environment. ▶ Utilise materials with lower reflective properties. ▶ Where possible utilise planting of indigenous species to



Impact	Mitigation
	<p>further absorb the proposal into the landscape.</p> <ul style="list-style-type: none">▶ Create a colour palette that is reflective of the local character to further absorb structures into the landscape.

▶ Noise Assessment;

Purpose:

The Noise Assessment examines existing conditions in the vicinity of Site and the potential noise/vibration impacts on sensitive receptors (particularly residential premises) associated with the construction and operational phases of the project.

Impacts

- Applicable operational noise criteria are reasonably low.
- At night, in particular, the noise target is 32dB(A). On the basis of the nearest residential receivers being located approximately 350m from the site, this implies that the overall sound power level of the site should not exceed in the order of 90dB(A).
- The majority of site noise sources (pumps, drives etc) are to be located indoors in the WTP plant buildings.

Mitigation

- Noise emissions from the site will need to be controlled through the design of the buildings. It is anticipated that walls will need to be masonry or concrete walls and roofs will need acoustic treatment.
- Attention will need to be given to ventilation openings design (acoustic louvers may be required) and location. For mechanical plant that is located outside and operate at night, provisions may need to be made for acoustic enclosures and/or screening.
- A construction noise management plan will be prepared in accordance with the recommendations of the Noise Impact Assessment.

▶ Air Quality (Dust and Odour) Assessment;

Purpose: To examine the potential dust and odour impacts on sensitive locations associated with the construction and operation of the proposed Tarago WTP.

Impacts:

- Dust emissions during construction, such as that wind erosion and vehicle emissions.
- There is not expected to be odour impacts during normal operation of the plant. Odour sources are likely to be from the dewatered sludge if there is a high algae count in the water from the reservoir and the sludge is retained on site for extended periods.
- To minimise odour impact during operation the sludge handling and dewatering will occur within a fully enclosed building and dewatered sludge will be regularly removed from the site. Under abnormal raw water quality conditions (high algae count), the Melbourne Water functional requirement also states that the WTP will be stopped if required in these extreme situations.



Mitigation:

- All construction equipment/vehicles will be operated and maintained to minimise the emissions.
- All haulage vehicles are to have their loads covered while transporting material to the work area.
- Vehicular speeds will be limited to 25 km / hour on areas of unconsolidated or un-vegetated soil associated with the project.
- The project EMP will include requirements that visible dust emissions from its various component activities be the focus of prompt mitigation strategies.
- That disturbed soil and the stockpiled material formed from excess cut material will be revegetated as soon as is practicable. In the meanwhile any visible dust emissions from these areas will be managed as part of the EMP.

▶ **Traffic Impact Assessment (TIA):**

Scope:

- A review of the existing road network and subject site conditions;
- An assessment of the proposed car parking and access layout;
- An assessment of the site's traffic generation and distribution;
- An assessment of the proposed site access location and arrangement; and
- Recommendations.

Impact and Mitigation:

The assessment of traffic generation and parking demand identified within this TIA is based on the peak-case scenario and accordingly is considered to be conservative.

The key findings arising from this TIA are:

- The Tarago WTP will generate up to 22 vehicle movements per peak day during construction, which is considered to be negligible in the context of the existing traffic volumes using Main Neerim Road and the surrounding road network;
- Approximately 70% of traffic generated by the site (up to 15 vehicles per day) will approach/depart the site from/to the east and 30% will approach/depart from/to the west. The use of the nearby routes is appropriate and will not cause any adverse impacts to traffic safety or the operation of these roads;
- The proposed location of the site entry maximises sight distance and minimises traffic safety impacts;
- The construction of shoulder widening on both sides of Main Neerim Road, in the vicinity of the site driveway, will assist to improve traffic safety at the proposed site entry;
- The internal access layout, loading areas and parking bays will be designed to satisfy the requirements of the Baw Baw Planning Scheme, the relevant Australian Standards and good engineering practice; and
- A Traffic Management Plan will be prepared prior to construction commencement, including the stipulation of the use of the proposed site entry as the entry to the site during construction.

▶ **Preliminary Geotechnical review:**



A preliminary geotechnical investigation was undertaken at the site by GHD in December 2006 and January 2007. The investigation comprised:

- Four (4) boreholes to between 10.5 m and 15.5 m depth;
- Six (6) test pits to between 2.6 m and 3.5 m depth; and
- Laboratory testing on selected soil samples.

Based on the findings of the preliminary geotechnical investigation, the ground conditions at the site appear to be suitable for the proposed treatment plant infrastructure. Further investigations are recommended during the detailed design phase of the facility to confirm site suitability and address the geotechnical information gaps. The second phase of the geotechnical study may not be conducted until the AAV issue a cultural heritage permit for geotechnical investigations.

► Groundwater and Surface Water Management;

- For groundwater, the risk of impacts to groundwater could be addressed through the EMP for construction activities and the site. It is recommended that all standpipes / monitoring bores are gauged for water level, and that a water sample is collected to confirm the on-site groundwater quality and baseline conditions pre-construction.
- For surface water, a detention basin will be utilised to retard flow from the water treatment plant area. The size, arrangement and location of the detention basin will be determined during detailed design.
- A stormwater management strategy will be prepared during detail design and will include more detail on construction issues, the permanent on-site stormwater treatment works and will be accompanied by water quality modelling.
- Hydraulic modelling indicates that the proposed access road will have an insignificant (approximately 10 mm) impact on flood levels within the Glen Cromie Caravan Park.
- From the hydraulic model the minimum level of the proposed access road along the western boundary low lying area, needs to be approximately 94.23 mAHD (allowing 300 mm freeboard) to avoid overtopping of the road in a 100 year ARI event in Tarago River.

For the following environmental impacts, management techniques are outlined as followed:

► Waste Management;

- All wastes will be managed in accordance with: Environment Protection (Prescribed Waste) Regulations 1998; EPA Publication 344.1, Transport and Management of Used Containers, December 2003; EPA Publication 1100, Classification for Large Containers Contaminated with Prescribed Industrial Waste, April 2007; and Any other relevant EPA guidelines and regulations.
- Wastes which cannot be cost effectively segregated for recycling will be collected by a waste contractor for disposal at a local EPA-licensed landfill or transfer station.
- Dewatered sludge will be transported off site in suitable 10 tonne skips covered with a tarpaulin to reduce the likelihood of spillage or leakage. Melbourne Water will be undertaking further investigation over the next 18 months to identify and assess options for disposal or reuse of the dewatered sludge;
- The quantity of waste from general office and maintenance activities has not been assessed, however, it is expected to comprise paper, packaging and food scraps. A waste contractor for disposal at a local EPA-licensed landfill or transfer station will collect these wastes.

► Reinstatement and Weed Management;



- Keep construction vehicles to agreed working areas and access roads.
- Stripped topsoil will be used for reinstatement on the site.
- Control of weeds can best be achieved by reasonable standard of machine hygiene and the contract will include provision for a weed control program until plantings are established.

In addition, a project OH&S Plan in accordance with Melbourne Water's relevant requirements will be implemented and managed through all phases of the project, including planning & investigation, construction and operation.

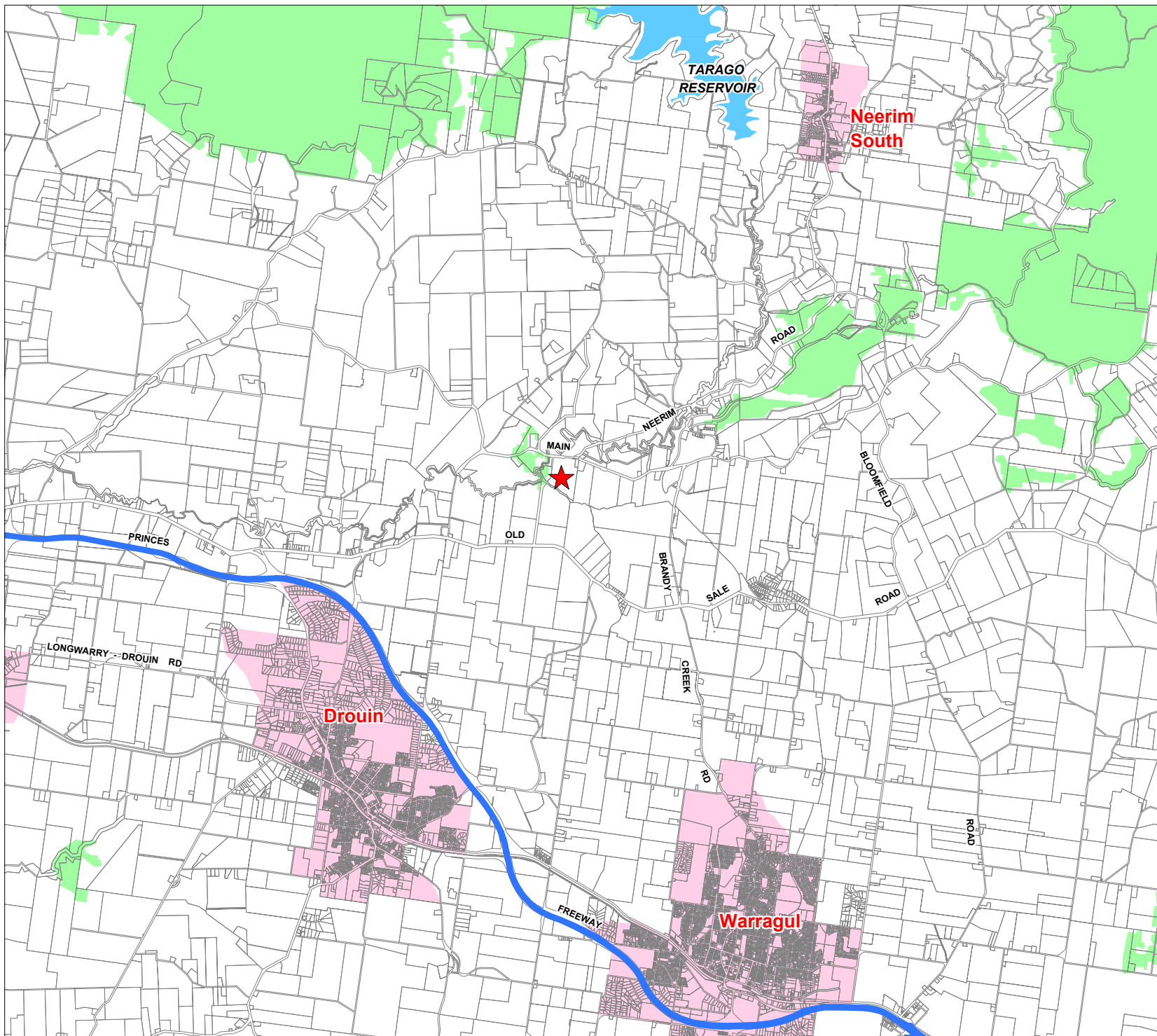
There are two outstanding studies. The second phase of the geotechnical study may not be conducted until the AAV issue a cultural heritage permit for geotechnical investigations. An additional fauna study will also be undertaken during this season, to assess the presence of growling grass frog within the area.

THE WAY FORWARD

After a comprehensive analysis of the impact of the project on the site and surrounds and consultation with the ARG it is reasonable to conclude that construction of the Tarago WTP can proceed once the following approvals are obtained:

- ▶ A Ministerial Amendment of the Baw Baw Shire Planning Scheme under provisions of the Planning and Environment Act 1987 may be granted for the project to proceed. All works associated with the project will be undertaken in accordance with this PIA;
- ▶ AAV issue the cultural heritage permit for the geotechnical work to be undertaken on site; and
- ▶ AAV endorse the Cultural Heritage Management Plan.

Upon receipt of the required approvals, Melbourne Water will continue to meet with the ARG through the project cycle to ensure continued input into the project by all members and to demonstrate that the project is being undertaken generally in accordance with this PIA.



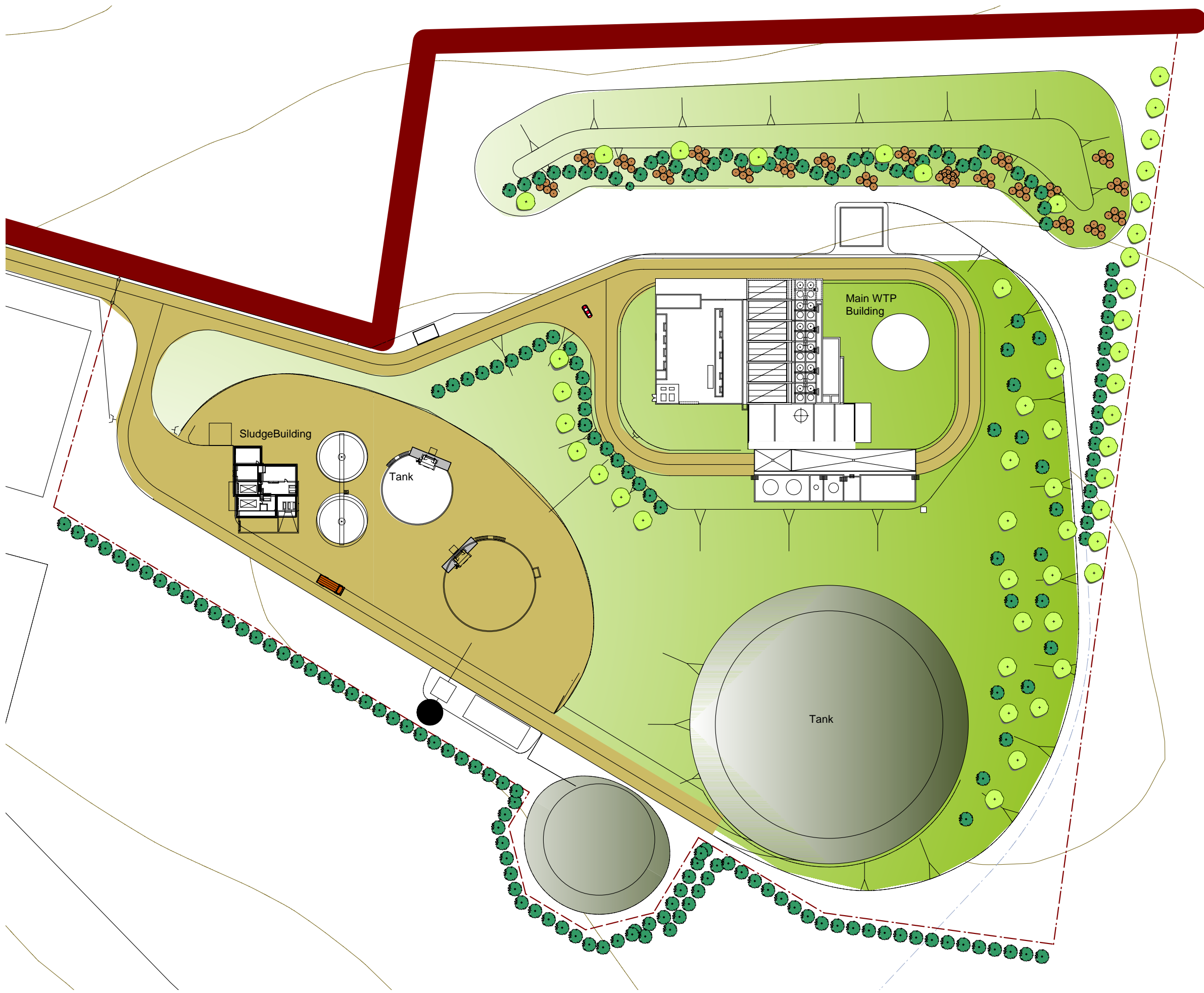
★ TARAGO WATER TREATMENT PLANT PROPOSED SITE



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Kilometres

Scale: 1:100,000 @ A4

**Figure B
LOCALITY PLAN**



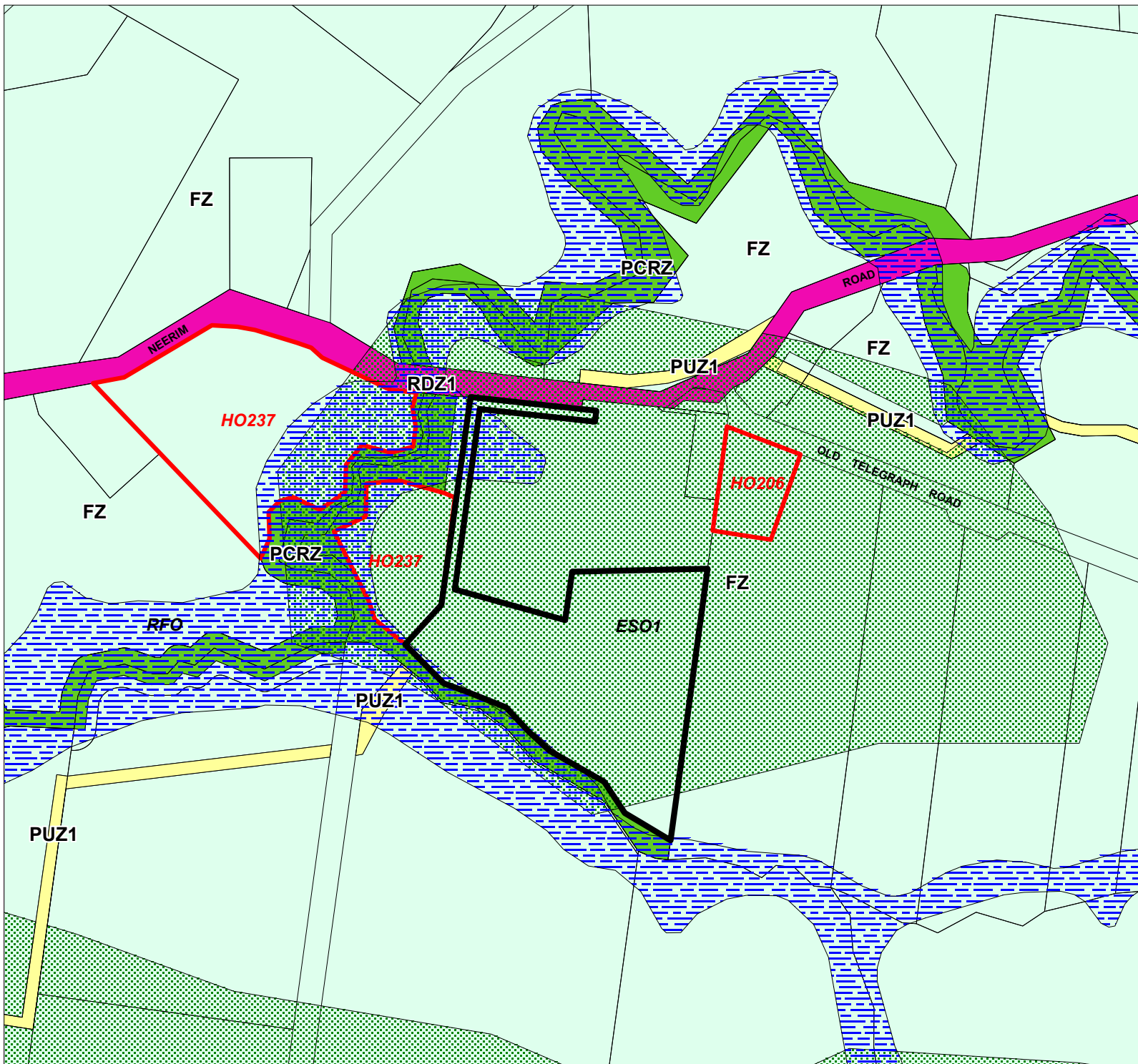
LEGEND

- 1.8metre high cyclone mesh boundary fence.
- Access track.
- Extent of cut and fill batters (grassed).
- Proposed screen planting of indigenous trees.
- Proposed screen planting of indigenous shrubs.







Proposed Water Treatment Plant with planting 5 years post construction.

Scale 1:1200






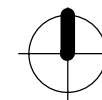


EXISTING ZONES

-  SITE BOUNDARY
-  FARMING ZONE
-  PUBLIC USE 1 ZONE (Service and Utility)
-  PUBLIC CONSERVATION AND RESOURCE ZONE
-  ROAD ZONE - Category 1
-  WATERCOURSES

EXISTING OVERLAYS

-  ENVIRONMENTAL SIGNIFICANCE 1
-  HERITAGE
206. Glen Cromie Park
237. Weatherboard former Buln Buln Hall
-  RURAL FLOODWAY

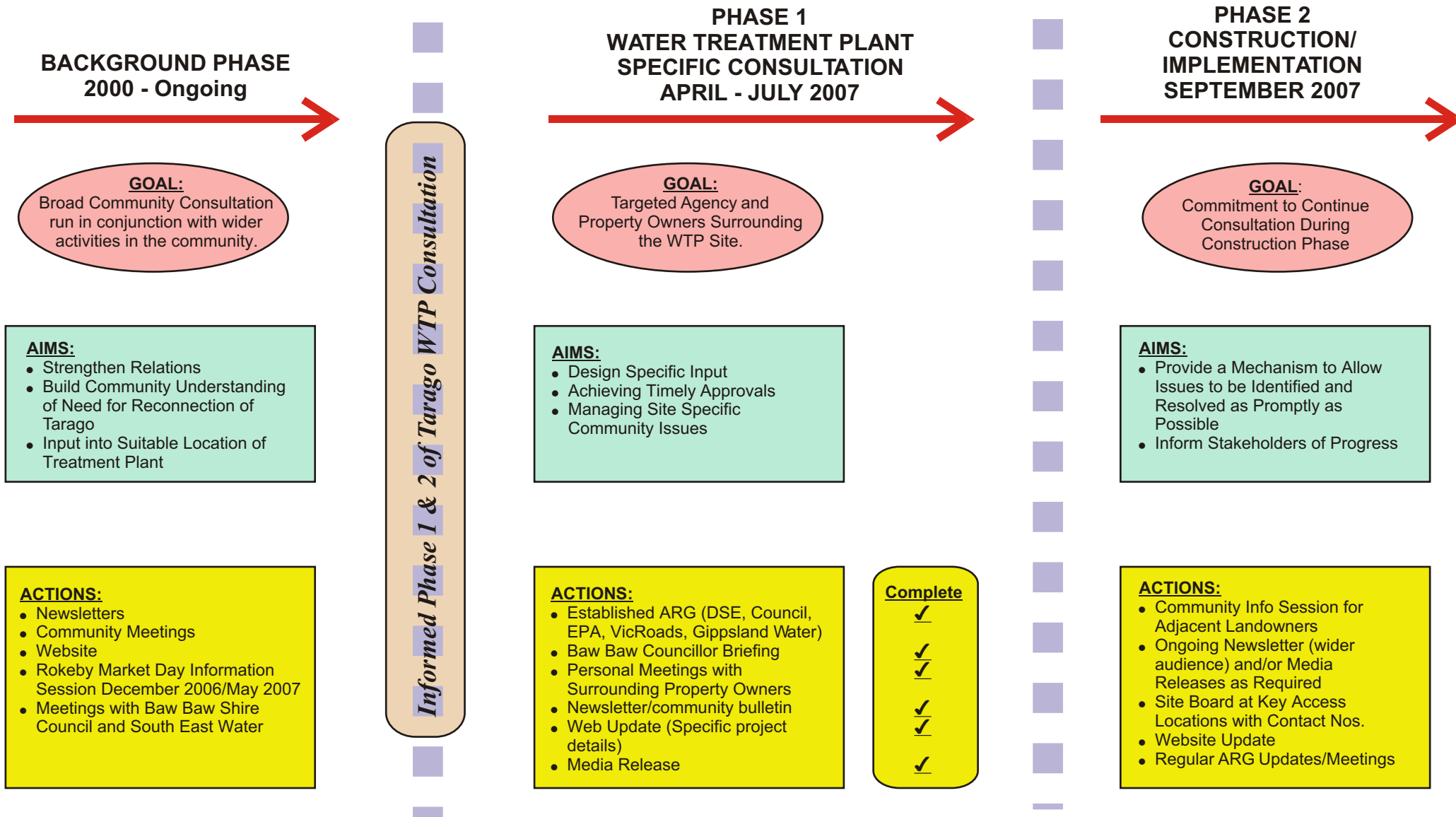


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**Figure D
EXISTING ZONING AND
OVERLAYS**

Figure E: Tarago Water Treatment Plant Consultation Plan





1. Introduction

GHD Pty. Ltd. (GHD) has been commissioned by Melbourne Water Corporation (Melbourne Water) to assist in attaining the necessary project approvals and undertake the functional design of the proposed Tarago Water Treatment Plant ('Tarago WTP'). As a part of this process GHD, in association with Biosis Research and Beverley Van Praagh, have undertaken an assessment of the site-specific cultural, social, environmental and economic effects of the Tarago WTP at a local, regional, State and Commonwealth level. An analysis of relevant legislation (**refer Appendix A**) and extensive consultation with key government agencies has been undertaken, through which it has been determined that the following approvals are required:

- ▶ A Cultural Heritage Management Plan (CHMP) (**refer Appendix B**); and
- ▶ An amendment to the Baw Baw Shire Planning Scheme (the 'Scheme') (**refer Appendix C**).

1.1 Purpose of this Document

The purpose of this document – the Tarago Water Treatment Plant Project Impact Assessment (the 'PIA') – is therefore:

- ▶ To outline an assessment of the qualitative and quantitative impacts of the construction and operation of the Tarago WTP;
- ▶ To outline how the Tarago WTP complies with all relevant local, State and Federal statutory and policy requirements; and
- ▶ To serve as an incorporated document within the Baw Baw Planning Scheme, under the provisions of the *Planning and Environment Act 1987*.

1.2 Strategic Background

The Tarago Reservoir was constructed in 1967 to supply water to the Mornington Peninsula and West Gippsland regions. Melbourne Water assumed responsibility for the Tarago Reservoir and the Tarago Water Supply Catchment (the 'Catchment') in 1992, and undertook catchment management initiatives, particularly in respect to water flow from the privately owned land to the east of the reservoir, with the aim to protect water quality in the Tarago Reservoir. These initiatives achieved some success; however, Melbourne Water removed the Tarago Reservoir from supplying the Mornington Peninsula in 1994 due to concerns that the water quality was still not meeting public health standards.

The decision to reconnect the Tarago Reservoir to Mornington Peninsula and Westernport regions is based in part on the findings of a CSIRO report into the impact of climate change on Melbourne water resources. The report, *Implications of Potential Climate Change for Melbourne's Water Resources*, predicted mid-range climate change could reduce Melbourne's water supplies by eight percent by 2020 and by 20 percent by 2050.

As outlined by the Central Region Sustainable Water Strategy, climate change, continued population growth and the drought are likely to result in a 100 billion litres per year shortfall in the drinking water reserves available to Melbourne within 10 years, particularly if recent low inflows of the past decade continue. Within this context, the reconnection of the Tarago Reservoir is seen as an important source of water to meet part of this shortfall (Our Water Our Future, S.5) and has been identified as the next main



water resource augmentation for supply to the Mornington Peninsula and Westernport regions. In June 2005, the State Government announced that the Tarago Reservoir would be reconnected to supply the Mornington Peninsula and Westernport regions by 2011. Ongoing drought conditions have since increased the urgency and importance of this project.

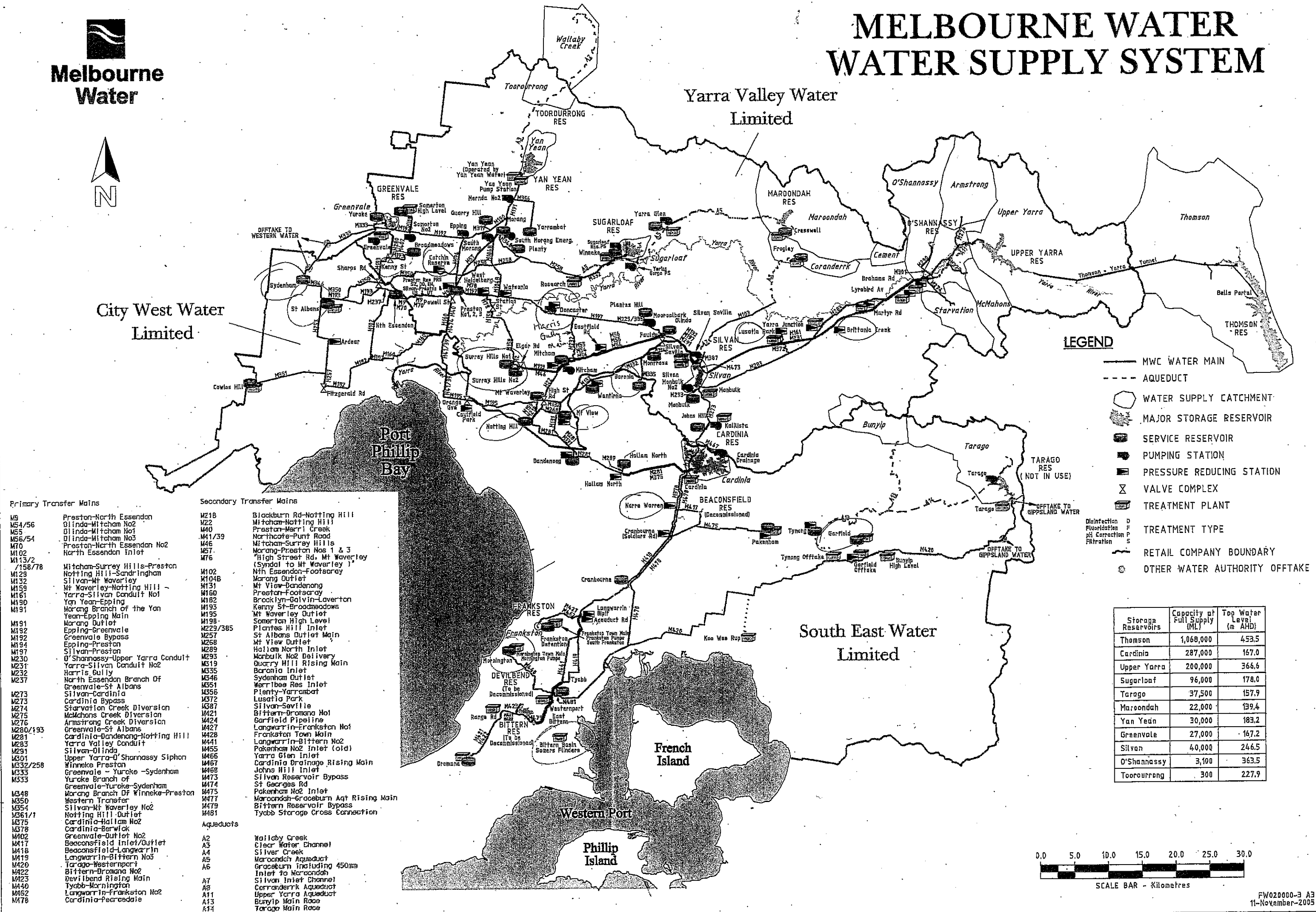
The Catchment is an open catchment. It is unprotected, with a range of land uses including intensive grazing, horticulture, and housing. As a result of these land uses, blue-green algal blooms have occurred and cryptosporidium has been previously detected in the reservoir and catchment. To comply with both the Australian Drinking Water Guidelines (ADWGs) and the Victorian Safe Drinking Water Regulations, a water treatment barrier is therefore necessary before the Tarago Reservoir may be reconnected to supply the Mornington Peninsula and Westernport regions. The Tarago WTP serves as this barrier, and must be constructed and fully operational as soon as practicable.

The next stage of the Government's water plan, formally announced 20 June 2007, brings forward major projects to significantly increase the capacity of the Victorian water supply system. The reconnection of the Tarago Reservoir is integral in dealing with water shortage while these projects are being constructed (Our Water Our Future – The Next Stage of the Government's Water Plan, DSE, June 2007).

Melbourne Water has purchased a parcel of land for the proposed Tarago WTP at 880 Main Neerim Road, Drouin West (the 'Site') (Refer **Appendix D**). The Site is located to the southwest of Rokeby, on the south of Main Neerim Road and is adjacent to the Glen Cromie Caravan Park. The Minister for Water announced the purchase of the land on 14 May 2007.

This PIA relates directly to the Site and the impact that the Tarago WTP will have on the social, cultural, economic and environmental values of the Site and surrounds.

MELBOURNE WATER WATER SUPPLY SYSTEM



LEGEND

- MWC WATER MAIN
- - - AQUEDUCT
- WATER SUPPLY CATCHMENT
- MAJOR STORAGE RESERVOIR
- SERVICE RESERVOIR
- ⊕ PUMPING STATION
- ⊖ PRESSURE REDUCING STATION
- ⊗ VALVE COMPLEX
- ⊕ TREATMENT PLANT
- TREATMENT TYPE
 - D Disinfection
 - F Fluoridation
 - P pH Correction
 - S Filtration
- RETAIL COMPANY BOUNDARY
- OTHER WATER AUTHORITY OFFTAKE

Primary Transfer Mains		Secondary Transfer Mains	
M9	Preston-North Essendon	M218	Blackburn Rd-Notting Hill
M54/56	Blinda-Mitcham No2	M22	Mitcham-Notting Hill
M35	Blinda-Mitcham No1	M40	Preston-Warril Creek
M56/54	Blinda-Mitcham No3	M41/39	Northcote-Punt Road
M70	Preston-North Essendon No2	M46	Mitcham-Surrey Hills
M102	North Essendon Inlet	M57	Morang-Preston Nos 1 & 3
M113/2		M76	'High Street Rd, Mt Waverley' (Syndal to Mt Waverley)
/158/78			Nth Essendon-Footscray Marang Outlet
M129	Mitcham-Surrey Hills-Preston	M102	Mt View-Bandanang
M132	Notting Hill-Sandringham	M104B	Preston-Footscray
M159	Silvan-Mt Waverley	M131	Brooklyn-Galvin-Laverton
M161	Mt Waverley-Notting Hill	M160	Kenny St-Broadmeadows
M190	Yarra-Silvan Conduit No1	M182	Mt Waverley Outlet
M191	Yan Yean-Epping	M193	Somerton High Level
	Morang Branch of the Yan Yean-Epping Main	M229/385	Plantas Hill Inlet
M191	Morang Outlet	M257	St Albans Outlet Main
M192	Epping-Greenvale Bypass	M268	Mt View Outlet
M194	Epping-Preston	M289	Hollam North Inlet
M197	Silvan-Preston	M293	Manbulk No2 Delivery
M230	O'Shannassy-Upper Yarra Conduit	M319	Quarry Hill Rising Main
M231	Yarra-Silvan Conduit No2	M335	Boronja Inlet
M232	Harris Gully	M346	Sydenham Outlet
M237	North Essendon Branch Of Greenvale-St Albans	M351	Werrilbee Res Inlet
	Silvan-Cardinia	M356	Plenty-Yarrambat
M273	Cardinia Bypass	M372	Lusafia Park
M273	Starvation Creek Diversion	M387	Silvan-Seville
M274	McMahons Creek Diversion	M421	Bittern-Dracawa No1
M275	Armstrong Creek Diversion	M424	Garfield Pipeline
M276	Greenvale-St Albans	M427	Langwarrin-Frankston No1
M280/193	Cardinia-Dandenong-Notting Hill	M428	Frankston Town Main
M281	Yarra Valley Conduit	M441	Langwarrin-Bittern No2
M283	Silvan-Blinda	M455	Pakenham No2 Inlet (old)
M291	Upper Yarra-O'Shannassy Siphon	M466	Yarra Glen Inlet
M301	Winnakee Preston	M467	Cardinia Drainage Rising Main
M332/258	Greenvale - Yurcke - Sydenham	M468	Johns Hill Inlet
M333	Yurcke Branch Of Greenvale-Yurcke-Sydenham	M473	Silvan Reservoir Bypass
M348	Morang Branch Of Greenvale-Yurcke-Sydenham	M474	St Georges Rd
M350	Morang Branch Of Winnakee-Preston	M475	Pakenham No2 Inlet
M354	Western Transfer	M477	Maroondah-Graceburn Aqt Rising Main
M361/1	Silvan-Mt Waverley No2	M479	Bittern Reservoir Bypass
M375	Notting Hill Outlet	M481	Tyabb Storage Cross Connection
M378	Cardinia-Hollam No2		
M402	Cardinia-Berwick		
M417	Greenvale-Outlet No2		
M418	Beaconsfield Inlet/Outlet		
M419	Beaconsfield-Langwarrin		
M420	Langwarrin-Bittern No3		
M422	Tarago-Westernport		
M423	Tarago-Westernport		
M440	Bittern-Dracawa No2		
M462	Devilbend Rising Main		
M478	Tyabb-Mornington		
	Langwarrin-Frankston No2		
	Cardinia-Pearcedale		

Storage Reservoirs	Capacity at Full Supply (ML)	Top Water Level (m AHD)
Thomson	1,068,000	453.5
Cardinia	287,000	167.0
Upper Yarra	200,000	366.6
Sugarloaf	96,000	178.0
Tarago	37,500	157.9
Maroondah	22,000	139.4
Yan Yean	30,000	183.2
Greenvale	27,000	167.2
Silvan	40,000	246.5
O'Shannassy	3,100	363.5
Toorourrong	300	227.9

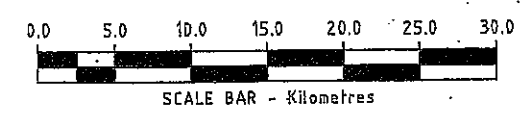


FIGURE 1: OVERALL SYSTEM SCHEMATIC

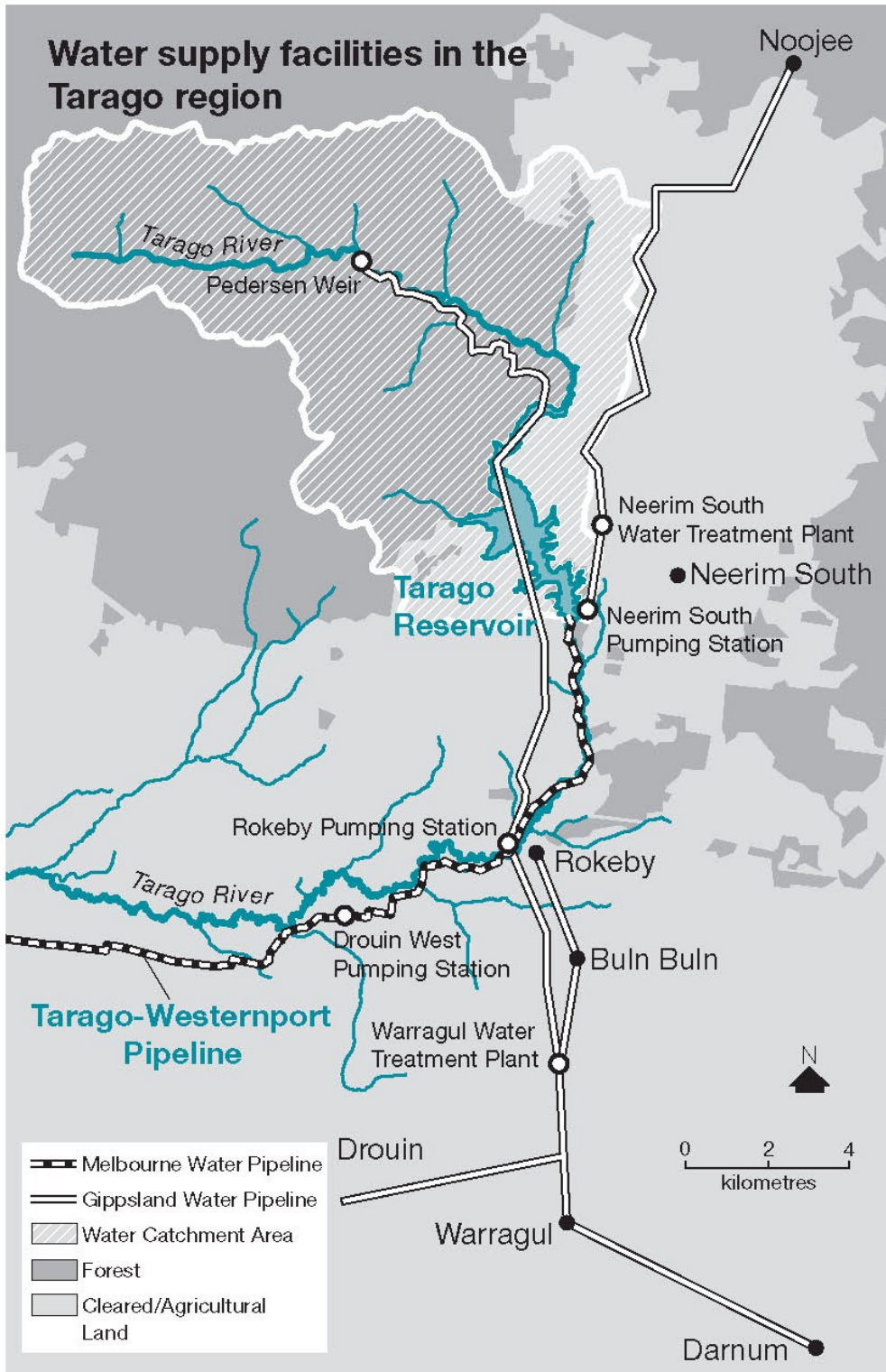


Figure 2 Tarago Water Facilities System



1.3 Project Programme

It is required that the Tarago WTP is fully operational by December 2009, as outlined in the State Government's Central Region Sustainable Water Strategy; however, ongoing drought conditions have increased the urgency and importance of this project. To achieve this Melbourne Water is required to:

- ▶ Attain project approvals;
- ▶ Complete the design of the project; and
- ▶ Construct the Tarago WTP and associated infrastructure.

To achieve the above, Melbourne Water and GHD commenced a streamlined project impact assessment, approvals and design and implementation programme for the proposed Tarago WTP in January 2007, with a completion date of July 2007. This includes the following:

- ▶ Consultation with relevant authorities and community members;
- ▶ Identification of required planning, cultural heritage and environmental approvals;
- ▶ Functional design of the Tarago WTP; and
- ▶ Procurement planning for design, construction and operator activities.

An integral aspect of this process is the planning, cultural heritage and environmental assessments undertaken by qualified professionals. The assessment includes the impact of the project on the given values and recommended mitigation techniques to be undertaken by Melbourne Water through the construction and operation of the Tarago WTP. The assessments includes the following:

- ▶ Cultural Heritage (Biosis Research Pty Ltd) (**refer Appendix B**);
- ▶ Terrestrial Flora and Fauna (GHD Pty Ltd) (**refer Appendix E**);
- ▶ Aquatic Environment (GHD Pty Ltd) (**refer Appendix F**);
- ▶ NetGain Assessment (GHD Pty Ltd) (**refer Appendix G**);
- ▶ Landscape, Visual and Structures (GHD Pty Ltd) (**refer Appendix H**);
- ▶ Noise (GHD Pty Ltd) (**refer Appendix I**);
- ▶ Air Quality (GHD Pty Ltd) (**refer Appendix J**);
- ▶ Traffic Impact (GHD Pty Ltd) (**refer Appendix K**);
- ▶ Groundwater & Surface Water Management (GHD Pty Ltd) (**refer Appendix L**);
- ▶ Geology and Geotechnical Aspects (GHD Pty Ltd) (**refer Appendix M**);
- ▶ Spoil Management (GHD Pty Ltd); and
- ▶ Reinstatement and Weed Management (GHD Pty Ltd).



1.4 Bulk Water Entitlement Allocation Process

This document does not cover the above work undertaken by DSE, Melbourne Water and GHD in regard to the Bulk Water Entitlement Allocation Process.

DSE is managing the water bulk entitlement allocation (expected to be completed by late 2007) as a separate process and does not form a part of this project. DSE is currently managing the bulk water entitlement allocation process for the Bunyip and Tarago River System in accordance with the Water Act 1989 as a separate process.



2. Project Description

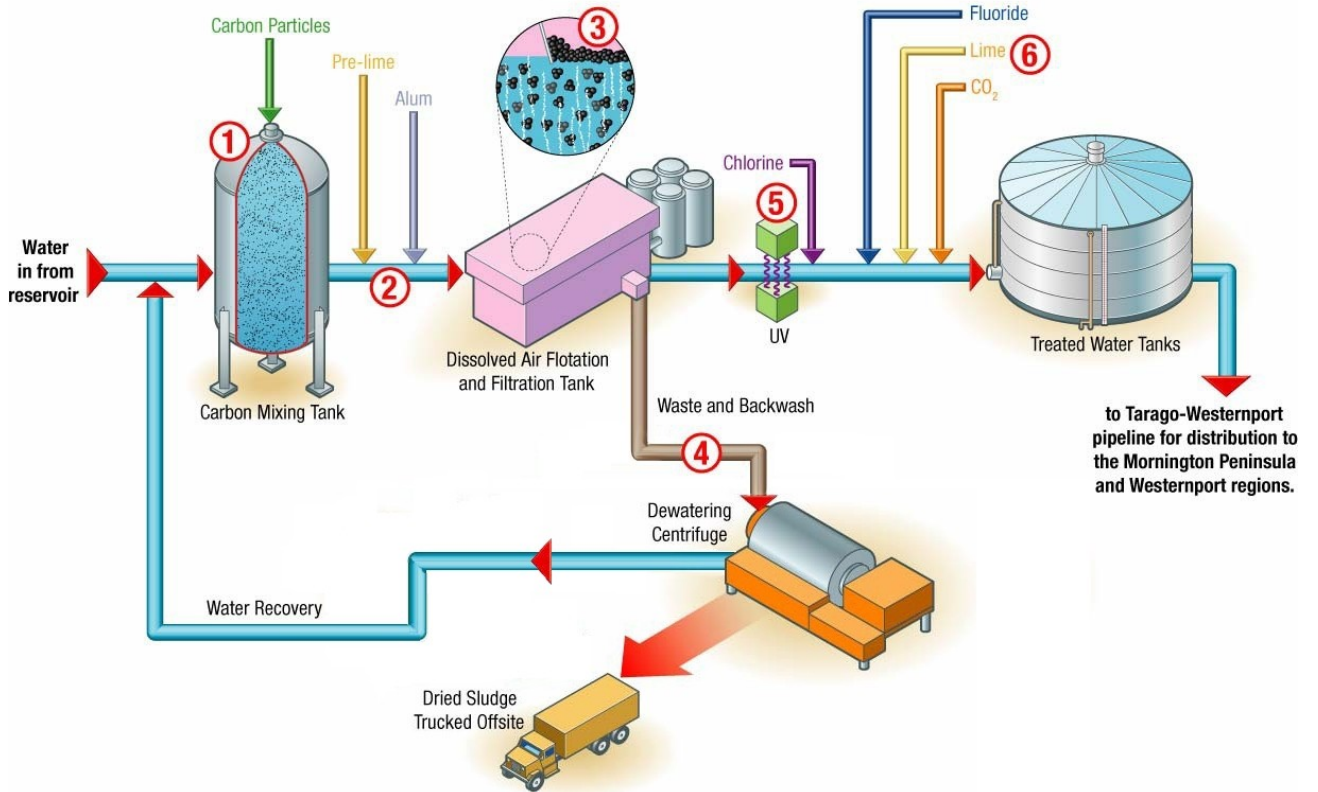
2.1 Overview

The Tarago WTP is sized to treat up to 25 billion litres per year (70ML per day capacity), which is compatible with the capacity of the Tarago Westernport Pipeline.

The functional design of the Tarago WTP includes the process design basis, the site layout, details of the treatment plant components and associated works, the design criteria to be used in the detailed design phase and preliminary estimated costs. The functional design report will be finalised by July 2007.

The Tarago WTP treatment process is based on a conventional water treatment plant, which requires filtration, disinfection, fluoridation, PH correction and disposal of filtered solids. **Figure 3** outlines a conceptual diagram of the water treatment process, which will be used in the Tarago WTP. For comparison, the Tarago WTP is similar to the Warragul WTP, which is situated 5 km's north of Warragul on the main Neerim South road and supplies water to Drouin, Buln Buln, Rokeby, Nilma, Darnum and Warragul. The capacity of each treatment plant is the key difference between the Tarago WTP and the Warragul WTP. Some of the project components of the Tarago WTP are therefore marginally bigger than the Warragul WTP; for example, the heights are similar however the footprint of the Tarago WTP is larger.

Tarago water treatment process



- ① Tiny carbon particles are added when necessary to remove tastes and odours.
- ② Coagulation and flocculation chemicals (pre-lime and alum) are added to make tiny particles in the water clump together.
- ③ Microscopic air bubbles carry the clumps of particles to the surface where they are scooped off. The water is then filtered to remove any remaining suspended material, including micro-organisms.
- ④ Waste skimmed from the surface, and backwash water from filter cleaning processes are removed and dewatered. Water extracted from wastes is sent back to the start of the process.
- ⑤ Filtered water is disinfected using chlorine and possibly ultraviolet light (UV).
- ⑥ Fluoride is added for dental health as per Department of Health guidelines. Lime and carbon dioxide are added to ensure slightly basic pH, and that the treated water is non-corrosive.

Figure 3 Tarago Water Treatment Plant Process



2.2 Site Layout and Components

The water treatment plant site layout and components are outlined in **Appendix Q – Functional Design Drawings**.

2.2.1 Tarago WTP elements

The water treatment plant contains the following elements:

- ▶ Main Plant Building;
- ▶ Centrifuge Building;
- ▶ 8 m high concrete tank;
- ▶ Single story Chemical buildings and storage;
- ▶ A steel 6 m high tank 73 m in diameter;
- ▶ Concrete tanks 5 m high; and
- ▶ Micro wave communications tower

The key functions of the above are outlined in **Table 3**.

Table 3 Structures and key functions

Structure	Key Functions
Main Plant Building	Encloses the 'DAFF Area', 'Filter/UV Gallery' and the 'Control Area' <u>DAFF Area</u> : Section of the main building containing the delay tank, 2 no. flash mixer tanks, inlet channel, flocculators, and DAFF units. <u>Filter/UV Gallery</u> : Section of the main building containing the filter process pipework (eg. filter, backwash, air supply, filter to waste, washwater pipework), UV units, filtered water & UV water channels, chemical dosing chamber, blower room and DAF recycle pumps. <u>Control Area</u> : Section of the main building containing the control room, test room, switch room No. 1, IT server communications room, meeting room, amenities and viewing area to the filters. The control area is located above the 'Filter/UV Gallery' and is accessible via stairs and a lift.
PAC Contact Tank	The powdered activated carbon (PAC) contact tank
PAC Building	A building for storage, batching and dosing of PAC
Dry Chemical Building	An annexe on the south side of the main plant building comprising separate rooms for batching and dosing of dry chemicals and a switch room No. 2.
Wet Chemical Storage	A storage and dosing area for liquid chemicals
Chlorine Building	Separate building for storage of chlorine drums and associated equipment



Structure	Key Functions
Treated Water Storage	The treated water storage tank
Treated Water Pump Station	Houses the treated water pump, backwash pumps, service water pumps, chlorine booster pumps and switch room for the Main Switchboard No. 4.
Washwater Holding Tank	The washwater holding tank with submersible washwater transfer pumps
Thickeners	2 no. gravity sludge thickeners
Supernatant Holding Tank	The filter to waste and supernatant holding tank with submersible supernatant return pumps
Centrifuge Building	Houses the centrifuges & skips, thickened sludge transfer pumps, sludge recirculation pump, centrifuge feed pumps, centrate pumps, centrate tank, polymer room and switch room No. 3. The thickened sludge holding tank is attached to the side of the centrifuge building.
Emergency Storage	A storage tank for process drainage and overflows, or emergency storage of thickened sludge, with a submersible return pump
Stormwater Detention Pond	The stormwater detention pond
Maintenance Sheds	Two double garage size sheds providing space for maintenance and for storage of spare parts.

The buildings and infrastructure have been set out to be constructed at 3 bench heights or cut levels. The larger two-storey main plant building is set at 133 m, 12 m below the hilltop. The 72 m water tank is set at 129 m bench and the other smaller tanks are set at bench height at 125 m approximately 20 m below the hilltop. The watercourse tower is proposed to be located in the vicinity of the WTP structures. The final location is dependant on the required mast height and structural form of the tower. For this visual impact assessment, the tower is assumed to be a guyed steel mast approximately 15m above the top of the Main Plant Building and 20m above the top of the hill.

2.2.2 Connecting Pipelines

The existing Tarago Westernport Pipeline runs north south within the Melbourne Water, Water Supply Easement, along the west boundary of the site. This pipeline is 1050 mm dia metre mild steel concrete lined. The connecting pipelines are within the land purchased by Melbourne Water for the WTP project. The following is proposed:

- ▶ A 1050 dia metre pipeline will connect to the existing pipeline and west east to the WTP. A pressure reduction valve will be located near the WTP.
- ▶ From the Treated Water Storage in the WTP, a second 1050 dia pipeline will run east west and connect into the existing pipeline.
- ▶ The length of each of these proposed pipelines are approximately 300 metres.
- ▶ The pipelines will be buried in trench approximately 2.3 metres deep below the finished surface level and 2.2 metres wide.



- ▶ The pipeline is located in the grassed paddock. There will be no disturbance to vegetation to construct the pipeline.

2.2.3 Power Supply

The plant will be supplied from the SP AusNet 22kV distribution system that serves the area surrounding the plant. This power supply for the Tarago WTP will be taken from the existing 22kV aerial distribution running along Old Telegraph Road and Main Neerim Road. SP AusNet plans to re-conductor this existing aerial network along the road so it can meet the power demand for the plant.

From the main road the supply will then be routed on approximately 4 new poles as three spans of new three-phase overhead conductor. It is proposed that this incoming aerial supply be routed along the eastern side of the access road. An SP AusNet easement of up to 14m will be required to limit future construction and/or tree planting that might affect SP AusNet assets. This easement can extend into the access road if required.

Once in the vicinity of the WTP the overhead HV system will be diverted underground to a ground mounted substation (transformer) located adjacent to the building. At this stage SP Ausnet have proposed that a 1000kVA transformer would be installed.

It should be noted that the provision of any construction power from the SP AusNet distribution network would rely on the completion of the above works including substation installation, from where a temporary supply could be taken until the Main Switchboard is installed later in the construction period.

Melbourne Water and SP AusNet have been in correspondence in regard to requirements for the Tarago WTP (**Refer Appendix N – SP AusNet Correspondence**).

2.2.4 Communications

It is proposed that the primary communications connection into the Melbourne Water Wide Area Network is Telstra landline, with a microwave link as secondary system. Melbourne Water is currently investigating a number of routing options for the provision of the microwave link, which will require a number of repeater sites given the location of the Tarago WTP.

A communications tower will be required at the plant for mounting of microwave aerial. The location, height and type of tower (free standing or guyed) required will need to be confirmed once the microwave routing investigation is completed. The expected completion for this investigation is July 2007.

2.2.5 Access to the Site

A single lane sealed road will be provided from Main Neerim Road to the WTP. The access road is located within the existing Water Supply Easement, owned by Melbourne Water. The access road will be built over the Tarago Westernport Pipeline in some locations. Melbourne Water's Civil Asset Management Group has received a copy of the preliminary functional design drawings and has provided conditions for the design and construction of works in the pipeline.

The intersection with Main Neerim Road is located on the south side approximately 200 metres east of Tarago River. To further improve the safety of entry and exit movements at the site entry, it is proposed that the design will incorporate shoulder widening on both sides of Main Neerim Road in the vicinity of the site driveway. A 50 metre long lane widening is proposed on the south side to the east of the



intersection. A 55 metre long shoulder widening is proposed on the north side approximately 50 metres either side of the intersection.

Due to the topography of Main Neerim Road and the potential sight distance problems that exist if an inappropriate location is selected for a temporary site access, it is recommended that the proposed site entry be constructed first, and that all construction vehicles use this driveway to access the site.

The proposed alignment of the access road is along the north boundary of property (within the easement) parallel to Main Neerim Road, running west to the corner of the property and then along the west boundary of the property within the easement. The access road then runs through the land acquired by Melbourne Water.

The alignment of the access road has been selected to minimize impact on trees along the western boundary and takes into account the surface water considerations. Some vegetation will be removed within the road reserve to construct the intersection and access road.

2.2.6 Vegetation and Landscape Works

Revegetation, screening and landscape works will be undertaken as a part of this project.

Revegetation using indigenous species will provide a number of benefits including:

- ▶ Rehabilitation of weedy and degraded areas;
- ▶ Restoration and provision of wildlife habitat; and
- ▶ Enhanced visual amenity via landscaping with locally indigenous species.

Following initial revegetation of the site, Melbourne Water aim to revegetate on an on-going basis with works staged over several years. Ongoing revegetation should prioritise areas that enhance, link and/or increase areas of existing remnant native vegetation. An outline of the landscape work specification includes:

- ▶ Site preparation;
- ▶ Planting design principles;
- ▶ Sourcing seedlings; and
- ▶ Associated works.

2.3 Design Process

The functional design of the Tarago WTP includes the process design basis, the site layout, details of the treatment plant components and associated works, the design criteria to be used in the detailed design phase and preliminary estimated costs. The functional design report will be finalised by July 2007.

Detailed design will proceed on all project components, based on the function design outcomes. Some aspects may be subject to relatively minor changes during detailed design, due to specific stakeholder requirements, further investigations and final contractual details for supply of components and construction of the works.



2.4 Project Construction

Estimated duration of construction is approximately 15 months and this consists of the access road, power supply, site works, below ground works to construct the pipework, conduits and structure foundations, above ground works to construct the buildings and structures and then the fitout of process equipment, filter media and commissioning the plant.

Melbourne Water will be engaging a contractor in mid 2007 to start the construction planning and then undertake the procurement and supply of materials and the construction of the works by a series of work packages. In line with this PIA, the Contractor will be required to prepare the Construction Environment Management Plans (CEMPs), Quality Assurance and OH&S plans for the construction phase for approval by Melbourne Water.

2.5 Operations Monitoring

Two operators will staff the plant 5 days per week generally during business hours; however, the plant will be monitored – and may be operated - externally 24 hours per day, 7 days per week as a part of Melbourne's overall water supply.

Melbourne Water will draft standard operating procedures for the Tarago WTP.



3. Subject Site

3.1 Site Context

The site is located in South East Gippsland north of Drouin. There are a number of larger towns in the vicinity of the site, such as Warragul, Yarragon, Trafalgar and Moe. The district is scattered throughout with smaller communities such as Drouin West, (only kilometres from the site), Drouin, Brandy Creek, Robin Hood and Buln Buln to the east.

The area is primarily used for agriculture, primarily dairy farming and sheep grazing. Properties are generally large allotments used for agricultural purposes.

The landscape is defined by characteristically steep- rounded hills with the Tarago river running in a north east- south west direction through the site, Brandy Creek running in a north West- South East direction and the Muddy creek running east- west. There are a number of high features with steep descents into creek corridors and rivers.

Figure 4 outlines the locality of the Site.

3.2 Site Description

A 15.5 hectare site, located on freehold land, has been selected as the location of the Tarago WTP at the rear of 860 Main Neerim Road, Drouin West. The location of the proposed site is to the south-west of Rokeby, on the south of Main Neerim Road and is adjacent to the Glen Cromie Caravan Park. The Site also includes an existing easement, Lot 1 on Title Plan 882982V (Parent Title Volume 06618 Folio 558), currently in Melbourne Water ownership which provides access from Main Neerim Road to the Tarago WTP site. The site abuts the Tarago River along its western boundary, Muddy Creek along its southern boundary, rural paddocks along its eastern boundary and has a frontage to Main Neerim Road along its northern boundary of approximately 360 m.

The site is currently used as a grazing paddock. There is an existing driveway from Main Neerim Road to a house located at the north-eastern corner of the property. There is no other vehicle access from Main Neerim Road to the subject site.

Grades on the site are quite steep in some locations. From the northern boundary (i.e. from Main Neerim Road) the site falls to the west and to the south, with a low point near the north-western corner of the property. The grades on the site then rise again steeply to an east-west oriented ridge, two thirds of the way into the property. The site then falls towards the Muddy Creek at the southern boundary.

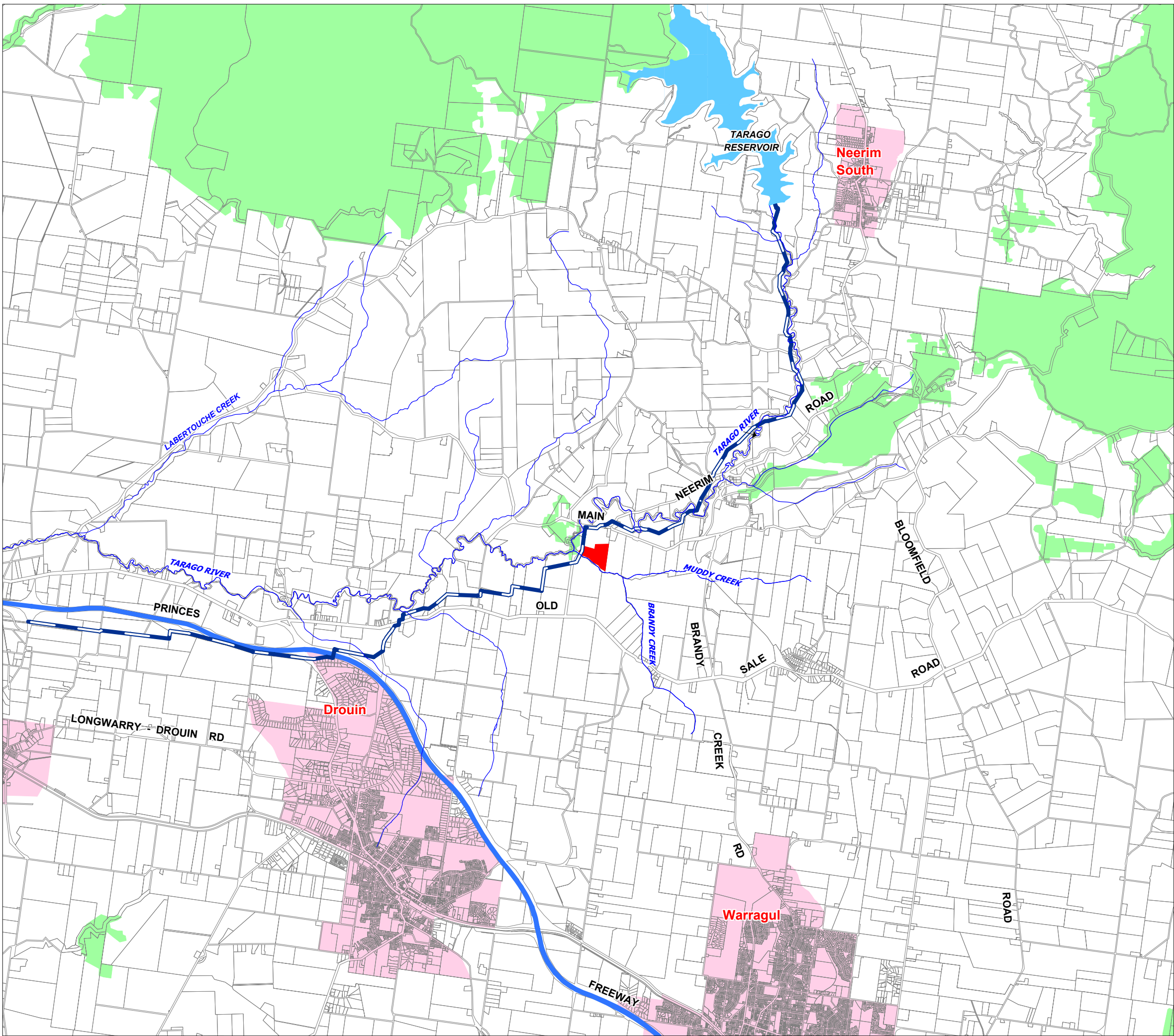
Figure 5 outlines the surrounding land uses. Figure 6 and 7 outline the Site and the Zones and Overlays respectively.



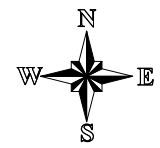
Table 1 outlines a summary of the site and surrounds.

Table 4 Site and Surrounds - Summary

	Description	Details
Title Details	V9394F505, Lot 1 TP 882982 CA 14B, RES1PS 608584, Drouin East Parish (15.51 hectares) Lot 1 on Title Plan 882982V (Parent Title Volume 06618 Folio 558) Refer Appendix D	Freehold land
Address	880 Main Neerim Road, Drouin West, VIC, 3818	Farming Zone (FZ) Environmental Significance Overlay Schedule 1 Good Quality Agricultural land (ESO1) Rural Floodway Overlay (RFO)
Municipality	Baw Baw Shire Council	
Land Owner	Melbourne Water Corporation	
Access	Via Lot 1, the Tarago Westernport Pipeline easement - off Main Neerim Road	
Surrounding land uses		
North	Main Neerim Road	Main Neerim Road: Road Zone Category 1
	Water Supply Easement	Public Use Zone Schedule 1 (PUZ1) Rural Floodway Overlay (RFO)
South	Muddy Creek and rural land uses	Public Use and Conservation Zone (PUCZ)
East	Rural land uses	Farming Zone (FZ)
West	Tarago River, then the Glen Cromie Caravan Park	Public Use and Conservation Zone (PUCZ)



- TARAGO WATER TREATMENT PLANT PROPOSED SITE
- URBAN CENTRES
- FORESTS AND PARKS
- WATERWAYS
- TARAGO WESTERN PORT PIPELINE






0 0.5 1
Kilometres
Scale: 1:70,000 @ A3

**Figure 4
LOCALITY PLAN**

Melbourne Water Corporation
Tarago Water Treatment Plant
Ref. No. 31/20600 - July 2007





-  TARAGO WATER TREATMENT PLANT PROPOSED SITE
-  WATERWAYS
-  TARAGO WESTERN PORT PIPELINE

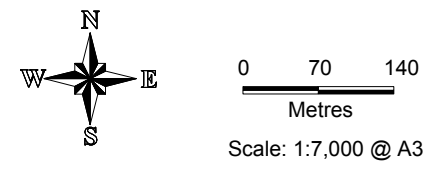


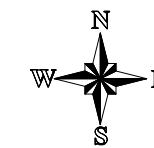
Figure 5
SITE AND SURROUNDS

Melbourne Water Corporation
Tarago Water Treatment Plant
Ref. No. 31/20600 - July 2007





- TARAGO WATER TREATMENT PLANT PROPOSED SITE
- WATERWAYS
- TARAGO WESTERN PORT PIPELINE



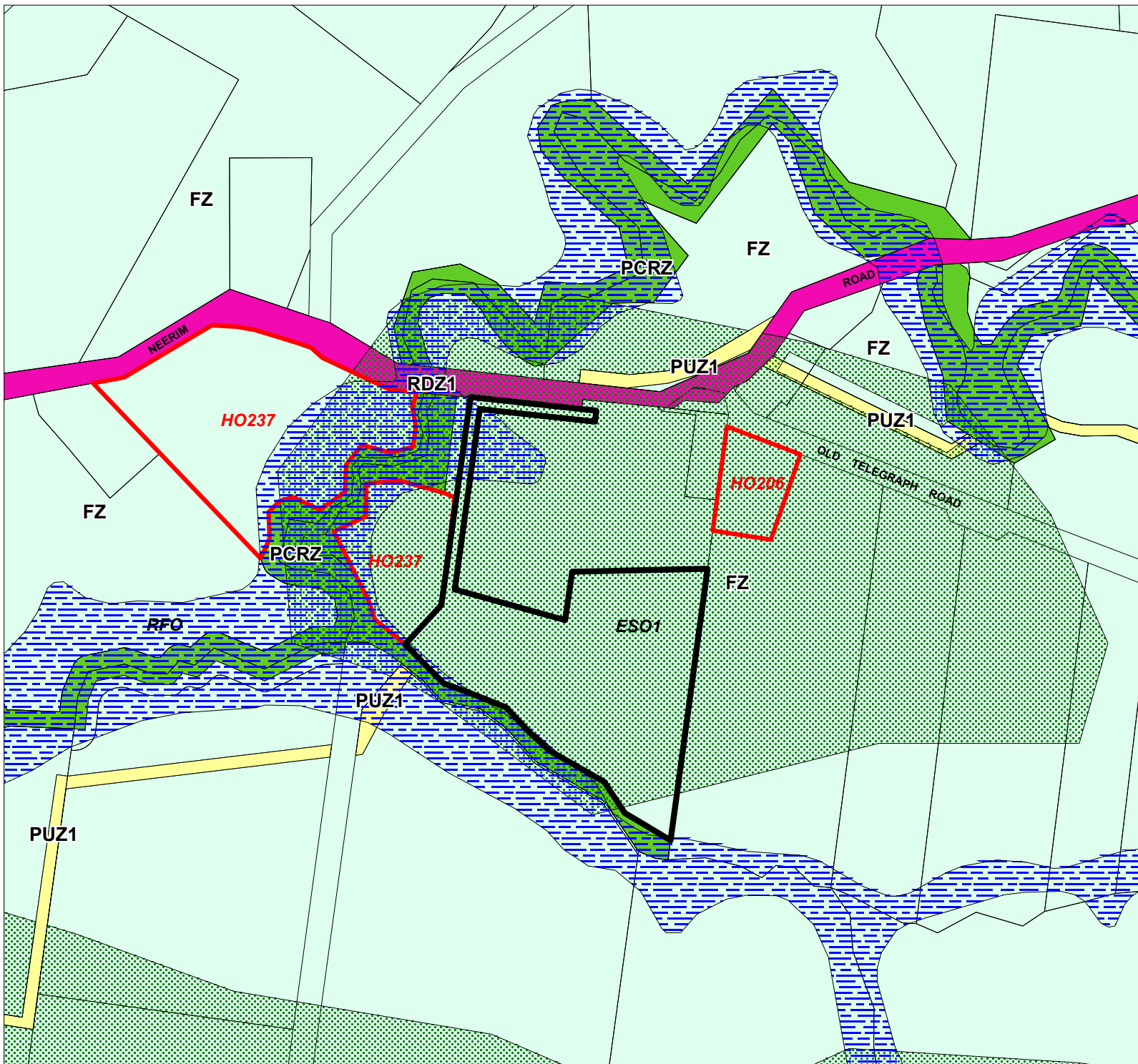
0 36 72
Metres

Scale: 1:3,600 @ A3


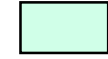




Figure 6
TARAGO WATER TREATMENT PLANT SITE

Melbourne Water Corporation
Tarago Water Treatment Plant
Ref. No. 31/20600 - July 2007



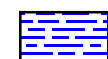


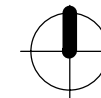


EXISTING ZONES

-  SITE BOUNDARY
-  FARMING ZONE
-  PUBLIC USE 1 ZONE (Service and Utility)
-  PUBLIC CONSERVATION AND RESOURCE ZONE
-  ROAD ZONE - Category 1
-  WATERCOURSES

EXISTING OVERLAYS

-  ENVIRONMENTAL SIGNIFICANCE 1
-  HERITAGE
206. Weatherboard former Buln Buln Hall
237. Glen Cromie Park
-  RURAL FLOODWAY



0 100 200
Metres

Scale: 1:10,000 @ A4

**Figure 7
EXISTING ZONING
AND OVERLAYS**

Melbourne Water Corporation
Tarago Water Treatment Plant

Ref. No. 31/20600 - July 2007





4. Approvals Framework and Consultation

4.1 Overview

The relevance of various legislation and related approval requirements is generally determined by the type, location and intensity of any proposed development, the discretion of the relevant authorities, and the findings and recommendations of specialist studies.

Legislation considered as part of the PIA include:

- ▶ Environmental Protection, Biodiversity and Conservation Act (EPBC) 1999 (Commonwealth legislation);
- ▶ Environment Effects Act 1978 (Victorian State legislation);
- ▶ Flora and Fauna Guarantee Act 1988 (Victorian State legislation);
- ▶ Planning and Environment Act 1987 (Victorian State legislation);
- ▶ Various land acts relevant to public land;
- ▶ Water Act 1989 (Victorian State legislation);
- ▶ Aboriginal Heritage Act 2006 (Victorian State legislation);
- ▶ Native Title Act 1993 (Commonwealth legislation); and
- ▶ Heritage Act 1995 (Victorian State legislation).

An analysis of the above legislation is outlined in **Appendix A**.

All activities associated with construction and operation phases of the project will comply with the appropriate State and Commonwealth environmental legislation and regulations.

The documents relevant to the Environmental Management Plan for the project are also listed in **Appendix A**.

4.2 Statutory Authority Input

Consultation with relevant authorities has been undertaken to determine the specialist and technical information required, against which the relevant authority may assess and approve the project. An agency reference group ('ARG') was established, and has been an effective and efficient method to ensure that the relevant agencies and authorities have input into the contents of the approvals applications and associated supporting documentation. Relevant agencies and authorities consulted include:

- ▶ Baw Baw Shire Council, Statutory and Strategic Planning;
- ▶ VicRoads;
- ▶ Department of Sustainability and Environment (DSE) – Regional Office;
- ▶ Department of Sustainability and Environment (DSE) Melbourne (EES);
- ▶ Department of Sustainability and Environment (Heritage Victoria);
- ▶ Environment Protection Agency (EPA), South Metro Region;



- ▶ EPA, Traralgon;
- ▶ EPA, Gippsland Region;
- ▶ Southern Rural Water;
- ▶ Gippsland Water; and
- ▶ AAV.

4.3 Environmental Approvals

After extensive consultation with the relevant State agencies, it has been determined that no environmental approvals will be required under State legislation. Demonstration of compliance with relevant statutory requirements will be demonstrated through the environmental management plan (the 'EMP' (Refer **Appendix A** for statutory documents considered as a part of this EMP).

While a recent search using the Flora Information System ('FIS') database and EPBC Protected Matters Search Tool has shown that threatened flora species may occur within a 10 km radius of the study area, fieldwork has determined that there is unlikely to be suitable habitat to support those species. Discussions with Helen Sloan (Assistant Director, Department of the Environment and Water Resources) have indicated that a referral is required. The referral will be the principal basis for the Minister for the Environment and Water Resources' decision as to whether:

- ▶ Actions are being undertaken as a part of the project that are likely to have a significant impact on matters protected by Part 3 of the EPBC Act; and
- ▶ If approval is necessary and, if so, the type of assessment that will be taken.

The referral will be submitted by the end of July. A decision from the Department of the Environment and Water Resources should be provided 20 business days of lodgement.

4.3.1 Environmental Protection Act

Extensive consultation with EPA has determined that a works approval is not required.

EPA provided correspondence to Melbourne Water (dated 11 April 2007) affirming that, subject to a number of conditions. Melbourne Water have therefore designed the treatment plant to incorporate the design features suggested in the letter to eliminate/minimise the risk of any discharge to the environment. Melbourne Water has in turn provided additional information to the EPA (dated June 28 2007), providing the following information:

- ▶ A description of the key elements of the treatment plant process;
- ▶ The residuals management;
- ▶ Chemical systems; and
- ▶ Environmental control measures.

Melbourne Water propose to keep the EPA informed through the following mechanisms:

- ▶ Forwarding the functional design report, following Value Engineering (Aug/Sept 2007);
- ▶ Forwarding the design drawings relevant to the components referred to above; and



- ▶ Providing project updates via the Agency Reference Group meetings, which are proposed to be held during the design and construction phases.

4.4 Consultation

Melbourne Water is implementing a Communications, Consultation and Stakeholder Plan for the Tarago Programme, which includes:

- ▶ The Tarago Catchment Management Plan Implementation;
- ▶ Environmental Flow Study;
- ▶ River Health Improvements; and
- ▶ Supporting local initiatives designed to benefit the environment and community.

The key aims of the Tarago Programme include:

- ▶ Coordinate the communications, consultation and stakeholder relations associated with all projects and activities associated with the Tarago Reservoir including implementation of the Tarago Catchment Management Plan [CMP] and the selection of a site for, and construction of the new water treatment plant;
- ▶ Strengthen existing working relationships in the region, especially between Melbourne Water, Gippsland Water, Baw Baw Shire, EPA and the community groups and agencies involved in future management of the Tarago Reservoir and catchment;
- ▶ Build broad community understanding of the need for the reconnection of Tarago Reservoir to Melbourne's water supply, and of the related benefits to the region;
- ▶ Gain stakeholder input to finding a suitable site for the water treatment plant; and
- ▶ In the longer term, to work with South East Water to inform customers about the reconnection.

4.4.1 Phase 1 and Phase 2 Tarago WTP Consultation

The above broader programme has been in operation since 2000, and has in turn informed the Tarago WTP Planning and Construction consultation plan. The Tarago Water Treatment Plant Consultation Plan may be broken into two phases, the first for the planning and the second for the construction of the Tarago WTP. The goal of the former is to undertake consultation with a targeted agency group and with landowners surrounding the Site.

The Tarago WTP Consultation Plan is outlined in **Figure 8**.

The matter will give effect to an outcome where the views of affected parties are known.

An Agency Reference Group (ARG) has been established for the duration of the project, comprising statutory authority representatives. The ARG's contribution has been substantial in determining the design and development of the project. Melbourne Water will continue to consult the ARG throughout the duration of the project, until project completion to ensure that the Tarago WTP is being developed in accordance to that agreed.



Melbourne Water has also been undertaking a consultation program with members of the wider Baw Baw community and individual landowners who may be materially affected by the project. Consultation activities completed to date include:

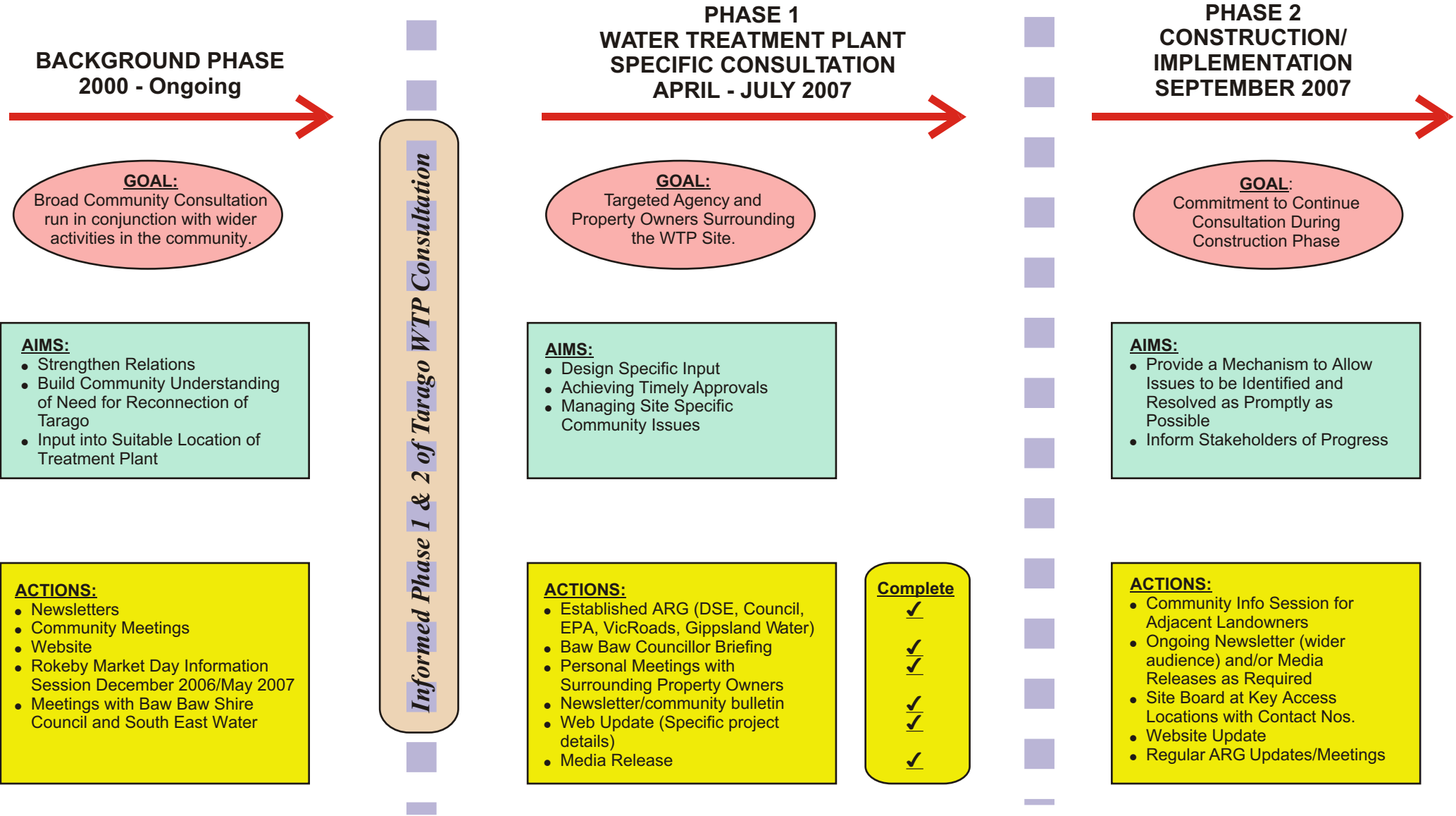
- ▶ Several community newsletters, specifically outlining the process for determining the best location for the plant
- ▶ Community information tent at Rokeby market on two occasions
- ▶ A media release in May
- ▶ A webpage dedicated to the project
- ▶ Personal meetings with adjacent or materially affected landowners, where plans were discussed in detail and comments sought.

The consultation process has not resulted in any issues being raised that cannot be managed through appropriate design. All comments raised by landowners have been recorded. A majority of issues raised had already been considered either as part of the ARG process or have been accounted for in design of the facility.

Melbourne Water will take into account comments made by landowners with regard to building colours and landscaping in finalising architectural plans for the facility. Upon completion of the plans a Community Information Session will be conducted with adjacent landowners to provide further opportunity to view and discuss details. Communications will be ongoing with adjacent landowners as the project continues towards the construction phase

Melbourne Water will continue to update its website release newsletters to the wider community.

Figure 8: Tarago Water Treatment Plant Consultation Plan





4.4.2 Treatment Plant Project

To establish clear expectations about the level of stakeholder involvement in the treatment plant site selection process and planning, the following structures are in place:

Site Selection

Melbourne Water has carried out the process of identifying and securing a preferred site for a new water treatment plant in close consultation with Gippsland Water, Baw Baw Shire Council and the EPA.

Together, these organisations were able to ensure that the site selection process:

- ▶ Considered the existing and future water supply requirements of the region;
- ▶ Maximises opportunities for integration between the treatment plant project and CMP implementation initiatives;
- ▶ Included the opportunity to identify and explore potential benefits to the region; and
- ▶ Met the requirements of all necessary statutory approvals processes.

The community has also had the opportunity to comment on the site options / location. Consultation with the wider community has been undertaken through media coverage, a newsletter drop and Melbourne Water attending the Rokeby Market in late 2006. Stakeholders include:

- ▶ Representatives of agencies and key community interests have been involved through a Project Reference Group;
- ▶ The Project Reference Group membership is based on the range of interests represented at a communications/community engagement workshop held in Neerim South in November 2005. This group is independently facilitated and while having no formal decision-making powers, it plays an important advisory role; and
- ▶ Materially affected landowners.

Agency Reference Group

An Agency Reference Group, including DSE, Baw Baw Shire, VicRoads, and the EPA has been formed, with Gippsland Water and Southern Rural Water also invited to attend. The purpose of this group is to involve all referral agencies in a regular forum, to provide information about the project and to understand from each of them, what their requirements are, and to streamline the required approvals. This group has been briefed separately to ensure they are aware of all issues and to set up a series of formal briefing, info sessions to keep them informed of the requirements around the next steps in planning.

4.4.3 Mechanisms for Informing and Involving Stakeholders and the Wider Community

Melbourne Water is using a number of communication tools to inform and involve stakeholders and the wider community. These include:

- ▶ Integrated community bulletin distributed through local groups/networks, placed on community notice boards in local centres and at Tarago Reservoir Park, and sent to an initial mailing list;
- ▶ Community information sessions such as attendance at Rokeby Market December 2006 and May 2007;
- ▶ Regular progress meetings with South East Water;



- ▶ Clear links to project information on Melbourne Water's website, e.g.:
 - Summary of site evaluation work;
 - Community bulletins;
 - General news updates on the Catchment Management Plan and Treatment Plant;
- ▶ Use of available local/regional and metro media;
- ▶ Notices advertising community info displays in libraries and other suitable community venues; and
- ▶ Individual visits to properties neighbouring the Treatment Plant site.

The Consultation Strategy and related documentation is located in **Appendix P**.

Details relating to specific individuals have been provided to DSE separately, for the purpose of privacy for landowners.



5. Cultural Heritage Approvals

5.1 Cultural Heritage Assessment

Biosis Research was commissioned to conduct a cultural heritage assessment of the Site (July 2007 – **Refer Appendix B**). The full report presents the results of the field survey and sub surface testing carried out in the study area, and offers management recommendations for the study area based on the field assessment, consultation with the Aboriginal communities and a review of previous cultural heritage studies conducted in the area.

The archaeological survey was undertaken on Tuesday 27 March 2007 by Ashley Matic (Archaeologist, Biosis Research) and Rob Douthat (Gippsland Cultural Heritage Unit). During this survey, one new Aboriginal archaeological site was identified; Rokeby IA1 (7824-0229), and two large areas of archaeological potential were identified within the study area. Following the survey, it was recommended by Rob Douthat (Gippsland Cultural Heritage Unit) that a program of archaeological sub-surface testing was undertaken in the study area, to both determine the extent of the identified site and to identify if any further sites exist within the study area.

The sub-surface testing of the area was carried out over two days (1 and 2 May 2007), and was conducted by Ashley Matic (Archaeologist, Biosis Research) with Darren Mobourne, Valda Mullett, Dusty Dow and Dale Hayes (Representatives, Yeerung Kurnai Native Title Claimants Group). A total of eight new Aboriginal archaeological sites were found, and further components to the site identified during the survey were also identified. Every transect excavated contained artefact material, which would seem to indicate that the entire ridgeline is covered by a low-density scatter of stone artefact material.

Consultation in regard to the content of the report included with the Gippsland Cultural Heritage Unit and Heritage Victoria. It should be noted that while there are currently no relevant Register Aboriginal Party in relation to the proposed activity area, representatives of the Yeerung Kurnai Native Title Claimants Group were consulted through this project planning stage.

The following recommendations were made:

6. Preserve, if possible, the recorded Aboriginal archaeological sites, Rokeby IA1 (AAV8021-0229), Rokeby IA2 (AAV8021-0236), Rokeby IA3 (AAV8021-00237), Rokeby IA4 (AAV8021-0238), Rokeby AS1 (AAV8021-0231), Rokeby AS2 (AAV8021-0232), Rokeby AS3 (AAV8021-0233), Rokeby AS4 (AAV8021-0234), and Rokeby AS5 (AAV8021-0235) within open space. The client would not require a permit to disturb the site if they could be preserved in this fashion. Preferably the location of the artefacts would in each case be covered with ground cover plantings and mulch to prevent disturbance associated with increased public access. However, given that disturbance is likely to be unavoidable, the sites are protected under the *Aboriginal Heritage Act 2006*.
7. During initial soil disturbance associated with construction, monitoring for the presence of archaeological materials should be conducted in the areas of moderate Aboriginal archaeological sensitivity. Monitoring should be carried out by representatives of the relevant local Aboriginal community, and would involve the representatives examining excavated soil for artefacts during the construction works. Should artefacts be located, a qualified archaeologist will need to be on site to record the sites and register the sites with AAV. Consent to Disturb any new sites would need to be obtained from the Minister for Aboriginal Affairs.



8. A section of the study area should be retained as open space, to be utilised as a reserve for archaeological materials. Ideally, this would be located in an area of high archaeological significance, such as the highest point of the ridge at the eastern side of the property. This would serve a dual purpose in both preserving a large part of the areas archaeological resource, and also provide a location for the reburial of any artefacts disturbed by the earthworks. The location chosen to be set aside as a reserve should be determined in consultation with the Yeerung Kurnai Native Title Claimant Group.
9. Under the *Aboriginal Heritage Act 2006* (to be proclaimed on the 28th May 2007), any further cultural heritage works that occur on site may require the preparation of a Cultural Heritage Management Plan (CHMP). This would have to be developed with consultation between the consultant, Melbourne Water, and the relevant Registered Aboriginal Party/Parties for the study area (RAP/s). The aim of the CHMP would be to determine how to best manage the archaeological resources of the study area prior to, during and after construction activities.
10. It is possible, although unlikely, that human remains are located within the study area. If human remains are found, all work in the area must cease and the Police or State Coroner's Office must be immediately notified. The State Coroner's Office can be contacted on (03) 9684 4444. If there are reasonable grounds to suspect that the human remains are Aboriginal, then Aboriginal Affairs Victoria must also be notified on 1300 888 544.

5.2 Application for Cultural Heritage Permit to undertake Geotechnical Investigation

An application has been lodged (27 June 2007) with the AAV to carry out an activity that will harm or is likely to harm Aboriginal Cultural Heritage under Section 36 (1) (c) of the *Aboriginal Heritage Act 2006*. The proposed activity is the geotechnical investigation of the study area, including boreholes and testing trenches. The works will be undertaken in the vicinity of 9 sites, which were identified during the initial assessment (**Refer Appendix B for the Permit application documentation**).

5.3 Cultural Heritage Management Plan (AAV Project No. 10018)

In accordance with recommendation number 4, a Cultural Heritage Management Plan has been undertaken and submitted separately (refer Appendix B). Melbourne Water has been liaising with Kate Morton (Bairnsdale office) to prepare the CHMP (AAV Project No. 10018). The CHMP was developed as the proposed works required for the construction and operation of the Tarago WTP will disturb registered Aboriginal archaeological sites and an area of high Aboriginal archaeological sensitivity. The CHMP forms a part of the approvals required under the *Aboriginal Heritage Act 2006*.

The CHMP has been developed in consultation with Aboriginal Affairs Victoria, Cultural Heritage Advisor (a qualified Archaeologist), Melbourne Water Corporation, Aboriginal Affairs Victoria and the Yeerung Kurnai Native Title Claimants Group. The CHMP outlines the extent of the proposed works, potential impacts to Aboriginal cultural heritage, and management strategies for the Aboriginal cultural heritage located in the area.



6. Planning Compliance Considerations

6.1 Overview

After consultation with the Baw Baw Shire Council and the Department of Sustainability and Environment, it was determined that an amendment to the planning scheme would be required to facilitate the project. Due to the critical nature of the project, the objective of the approvals process to facilitate the construction of the Tarago WTP is to ensure that the approvals timeframe is minimised, while providing the appropriate level of detail against which relevant authorities may assess, and approve, the project. This objective is unlikely to be resolved through the planning process normally available.

Melbourne Water proposes that the Tarago WTP is of genuine State significance, and it is appropriate that the Minister use the power to amend the Baw Baw Planning Scheme afforded through Section 20(4) of the Planning and Environment Act 1987. Melbourne Water have obtained agreement with both Department of Sustainability and Environment (Regional and Melbourne) and Baw Baw Shire Council planning officers, that will Council resolve to support the Minister for Planning being the Planning Authority for the amendment. This resulting in the Minister exempting himself from all the requirements of Sections 17, 18 and 19 of the Planning and Environment Act 1987 in respect to Amendment C50.

Melbourne Water has subsequently lodged a request with Baw Baw Council. Resolution was sought and gained on July 11 2007. All correspondence relating to planning matters is located within **Appendix C**.

In order to demonstrate compliance with Ministerial Direction No. 11, on the Form and Content of Planning Schemes under Section 7(5) of the Act, the following has been considered:

- ▶ Who is the most appropriate Planning Authority;
- ▶ What land is affected by Amendment C50;
- ▶ What the amendment does;
- ▶ Strategic Assessment of the Amendment;
- ▶ Why is the Amendment required;
- ▶ How Amendment C50 implements the objectives of planning in Victoria;
- ▶ How does the amendment address the views of any relevant agency?
- ▶ The impact that the amendment will have on the resource and administrative costs of the responsible authority.

The Amendment documentation is located in **Appendix C**.

6.2 Planning Authority

It is proposed that Amendment C50 is prepared by the Minister for Planning. The Minister for Planning is the planning authority for this amendment. The amendment request has been prepared by GHD Pty Ltd on behalf of Melbourne Water Corporation.



6.3 Land affected by the amendment

The amendment applies to:

- ▶ 880 Main Neerim Road, Drouin West (V9394F505, Lot 1 TP 882982 CA 14B, RES1PS 608584, Drouin East Parish;
- ▶ The existing water supply easement from Main Neerim Road to the rear of 860 Main Neerim Road (Lot 1 on Title Plan 882982V (parent title Volume 06618 Folio 558)); and
- ▶ Main Neerim Road.

Please refer **Appendix D** for relevant titles.

6.4 What the amendment does

Melbourne Water proposes that Amendment C50:

- ▶ Rezones the site at the rear of 860 Main Neerim Road, Drouin West from Farming Zone to Public Use Zone Schedule 1;
- ▶ Rezones the existing water supply easement described as Lot 1 on Title Plan 882982V (parent title Volume 06618 Folio 558) from Farming Zone to Public Use Zone Schedule 1;
- ▶ Amends the schedule to Clause 52.03 – Specific Sites and Exclusions of the Baw Baw Planning Scheme to exclude the Tarago Water Treatment Plant ('Tarago WTP') from planning controls; and
- ▶ Amends the schedule to Clause 81.01 to include the Tarago Water Treatment Plant project Impact Assessment as an Incorporated Document.

Melbourne Water proposes to rezone the site from Farming Zone to Public Use Zone Schedule 1, and that the project be exempt from requiring a planning permit, as triggered by other relevant Clauses of the Scheme. Clause 52.03 Specific Sites and Exclusions allows for the exclusion of all other provisions (including the requirement for a planning permit) in the Scheme. It is proposed that the Tarago WTP is listed in the schedule to Clause 52.03 of the Scheme –with reference to an incorporated document that details the scope of the project.

6.5 Strategic assessment of the amendment

The strategic rationale for this amendment is outlined in Section 1.2 of this report.

6.6 Why is the amendment required?

6.6.1 To meet Melbourne Water's obligations under the Water Industry Act 1994

The Tarago Catchment is an open catchment with a range of land uses including agricultural and rural residential. Blue-green algal blooms have occurred and cryptosporidium has been previously detected in the Reservoir and Catchment. In order to comply with both the Australian Drinking Water Guidelines (ADWGs) and the Victorian Safe Drinking Water Regulations, a water treatment barrier is necessary for Tarago Reservoir to be reconnected to supply the Mornington Peninsula and Westernport regions. The construction of a water treatment plant is therefore required.

The amendment is therefore required to:



- ▶ Assist in the provision of sustainable and cost effective water supply from the Tarago Reservoir Catchment, as outlined in the Central Region Sustainable Water Strategy (Victorian Department of Sustainability and Environment, p90, 2006); and
- ▶ Facilitate Melbourne Water in meeting its Statement of Obligations (pursuant to the Water Industry Act 1994), including the following:
 - Managing water resources in a sustainable manner;
 - Managing risk to protect public safety, quality and security of supply;
 - Undertaking continuous review, innovation and improvement; and
 - Collaborating with other public authorities and government agencies to take into account regional needs.

6.6.2 Ministerial Intervention for Planning Matters

Justification for Ministerial Intervention

An amendment to the Planning Scheme (Amendment C50) is required before construction of the Tarago WTP can commence.

As per the criteria outlined in the Planning Practice Note, 'Ministerial powers of intervention in planning and heritage matters', the project is of State or Regional significance AND there is a need for urgency AND the public interest would be served by immediate action. It is reasonable that the Minister should consider using powers of intervention for the following reasons:

- ▶ The determination of the application will have a substantial effect on the achievement of State Government's planning objectives, particularly, the provision of sustainable and cost effective water supply from the Tarago Reservoir Catchment, as outlined in the Central Region Sustainable Water Strategy (Victorian Department of Sustainability and Environment 2006, p.90);
- ▶ The implementation of the project is required to facilitate Melbourne Water in meeting its obligations under the Water Industry Act 1994, including the following:
 - (a) Managing water resources in a sustainable manner;
 - (d) Managing risk to protect public safety, quality and security of supply;
 - (g) Undertaking continuous review, innovation and improvement; and
 - (h) Collaborating with other public authorities and government agencies to take into account regional needs.
- ▶ The project has significant implications beyond the immediate locality, particularly, the supply of water to the Mornington Peninsula and Westernport regions.

Consideration of issues

The matter will give effect to an outcome where the issues have been reasonably considered as follows:

- ▶ The Tarago WTP forms an integral part of the wider Tarago Project. Melbourne Water has been working with Gippsland Water, the Baw Baw Shire Council and local landowners, environmental and community groups to plan and manage the Tarago Water Supply Catchment and its waterways for the long-term; and



- ▶ As part of the wider Tarago Project, there are five principal areas of activity, one of which was to investigate suitable locations for siting of the Tarago Water Treatment Plant (Tarago WTP). The proposed site is located at the rear of 860 Main Neerim Road, Drouin West, to the south-west of Rokeby, on the south of Main Neerim Road and adjacent to the Glen Cromie Caravan Park. The Minister announced the purchase of the land on 14 May 2007.
- ▶ The project design elements and the site-specific environmental, social and cultural effect of the project have been carefully considered and documented in detail in the Tarago WTP Project Impact Assessment (PIA).

Views of affected parties

The matter will give effect to an outcome where the views of affected parties are known.

An ARG has been established for the duration of the project, comprising statutory authority representatives. The ARG's contribution has been substantial in determining the design and development of the project. Melbourne Water will continue to consult the ARG throughout the duration of the project, until project completion to ensure that the Tarago WTP is being developed in accordance to that agreed.

Melbourne Water has also been undertaking a consultation program with members of the wider Baw Baw community and individual landowners who may be materially affected by the project. Consultation activities completed to date include:

- ▶ Several community newsletters, specifically outlining the process for determining the best location for the plant;
- ▶ Community information tent at Rokeby market on two occasions;
- ▶ A media release in May;
- ▶ A webpage dedicated to the project; and
- ▶ Personal meetings with adjacent or materially affected landowners, where plans were discussed in detail and comments sought.

All comments raised by landowners have been recorded. A majority of issues raised had already been considered either as part of the ARG process or have been accounted for in design of the facility.

Melbourne Water will take into account comments made by landowners with regard to building colours and landscaping in finalising architectural plans for the facility. Upon completion of the plans a Community Information Session will be conducted with adjacent landowners to provide further opportunity to view and discuss details. Communications will be ongoing with adjacent landowners as the project continues towards the construction phase

Melbourne Water will continue to update its website release newsletters to the wider community.

Melbourne Water has provided a consultation strategy for agency review (**Refer Appendix P**). For privacy reasons, contents of this strategy have been withheld from public review, and are for the review of DSE only.



Request for Ministerial Intervention

Due to the critical nature of the project, the objective of the approvals process is to facilitate the construction of the Tarago WTP to ensure that the approvals timeframe is minimised, while providing the appropriate level of detail against which relevant authorities may assess, and approve, the project. This objective is not likely to be resolved through the planning process normally available.

Melbourne Water proposed that the Tarago WTP is of genuine State significance, and it is appropriate that the Minister use the power to amend the Baw Baw Planning Scheme afforded through Section 20(4) of the *Planning and Environment Act 1987*.

As per previous discussions with Department of Sustainability and Environment, Melbourne Water requested that Council resolved to support the Minister for Planning being the Planning Authority for the amendment, thereby resulting in the Minister exempting himself from all the requirements of Sections 17, 18 and 19 of the *Planning and Environment Act 1987* in respect to Amendment C50. Council resolved that the Minister is the Planning Authority for this amendment at the Council meeting of July 11 2007 (Refer Appendix C).

6.7 How does the amendment implement the objectives of planning in Victoria?

Consistent with *Part 4 of the Planning and Environment Act 1987*, the objectives of planning in Victoria include:

- ▶ To provide for the fair, orderly, economic and sustainable use of land;
- ▶ To provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity;
- ▶ To protect public utilities and other assets and enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community; and
- ▶ To balance the present and future interests of all Victorians.

6.7.1 Fair, orderly, economic and sustainable use of land

This amendment provides clear strategic and statutory direction for use and development of the site required for the construction of the Tarago WTP. It is considered that the Farming Zone is an inappropriate strategic land use designation for the long-term use of the site for the Tarago WTP. Melbourne Water is therefore proposing to rezone the site from Farming Zone to the most appropriate zone available through the Victorian Planning Provisions, the Public Use Zone Schedule 1. In addition, it is considered that, as the proposed zoning designates the site for development and use in accordance with the scope of the Tarago WTP rather than agricultural land uses, that the Tarago WTP be exempt for the permit requirements of the Environmental Significance Overlay Schedule 1 – High Quality Agricultural Land and Rural Floodway Overlay, and of Clause 52.17 and 52.29.

6.7.2 To provide for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity

The Tarago Reservoir is an important natural resource for the State of Victoria. The Amendment seeks to contribute to the provision of a sustainable water source.



6.7.3 To protect public utilities and other assets and enable the orderly provision and coordination of public utilities and other facilities for the benefit of the community

As outlined above, Melbourne Water must ensure that all public drinking water supplies comply with the quality standards specified for drinking water in the Safe Drinking Water Act 2003 and the Safe Drinking Water Regulations 2005. The Tarago WTP is therefore required to ensure that Melbourne Water meet their statutory responsibilities in supplying safe drinking water to their customers.

6.7.4 Balance the present and future interests of all Victorians

As outlined above, Tarago Reservoir must come back on line in order to meet the water supply needs of present and future Victorians.

6.7.5 Environmental effects and any relevant social and economic effects

Cultural, Economic, Social and Environmental Effects

As a part of the planning approval process the cultural, social, economic and environmental effects of the Tarago WTP must be considered. These are outlined below.

Cultural Effects

It is important to note that Aboriginal sites and areas of land under the custodianship of a local Aboriginal community usually have a special significance for Aboriginal people. All pre-contact (pre-European settlement) sites in the study area are considered to have cultural significance to the local Aboriginal people. The sites are evidence of past Aboriginal occupation and use of the area, and are a main source of information about the Aboriginal past. Biosis Research has stated that they cannot comment directly on such cultural significance – comment can only be made by the Aboriginal community. For the purpose of construction of the Tarago WTP however, relevant cultural assessments, permits and management plans have been undertaken, and provided to representatives of the Yeerung Kurnai Native Title Claimants Group.

Economic and Social Effects

The construction and operation of the Tarago WTP includes consideration to the following social and economic effects:

- ▶ The Tarago WTP will not impact on the agricultural community within the locality, as it marginally reduces land available for agricultural activity. It does not reduce agricultural viability within the region;
- ▶ The Tarago WTP assists in the provision of a water supply augmentation that will assist in drought recovery, reduce the time in water restrictions and will utilise existing infrastructure (the Tarago Reservoir and Tarago Westernport Pipeline);
- ▶ The Tarago WTP also assists with drought recovery while awaiting the implementation of other key water supply projects;
- ▶ Increased availability and security of supply for existing Melbourne Water urban and rural customers, currently constrained by water restrictions and subject to considerable uncertainty about reliability of supply;
- ▶ Security of water supply for projected urban and business growth in the Mornington Peninsula and Westernport regions;



- ▶ Opportunities for local businesses in the vicinity of the project with an injection into the local economy throughout the construction period, with benefits to the local economy with up to 50 people onsite; and
- ▶ Opportunities for businesses outside the region, such as plant and materials contractors, construction contractors and goods and services providers.

A comprehensive community consultation process has been undertaken. The broader Tarago programme has been in operation since 2000, and has in turn informed the Tarago WTP Planning and Construction consultation plan. The broader programme includes the following:

- ▶ Coordinate the communications, consultation and stakeholder relations associated with all projects and activities associated with the Tarago Reservoir including implementation of the Tarago Catchment Management Plan and the siting of, and construction of the new water treatment plant;
- ▶ Strengthen existing working relationships in the region, especially between Melbourne Water, Gippsland Water, Baw Baw Shire, EPA and the community groups and agencies involved in future management of the Tarago Reservoir and catchment;
- ▶ Build broad community understanding of the need for the reconnection of Tarago Reservoir to Melbourne's water supply, and of the related benefits to the region;
- ▶ Gain community stakeholders' input to finding a suitable site for the water treatment plant; and
- ▶ Work with South East Water to inform customers about the reconnection.

The Tarago WTP Consultation Plan may be broken into two phases, the first phase for the planning and the second phase for the construction of the Tarago WTP. The goal of the former is to undertake consultation with a targeted agency group and with landowners surrounding the Site. The goal of the latter is to continue consultation through the construction phase to demonstrate compliance with approvals, communicate changes to the functional design if necessary and to maintain contact with those materially affected by the construction of the Tarago WTP.

Figure E provides an overview of the Tarago WTP Consultation Plan.

The ARG's contribution has been substantial in determining the design and development of the project. Melbourne Water will continue to consult the ARG throughout the duration of the project, until project completion to ensure that the Tarago WTP is being developed in accordance to that agreed.

Melbourne Water has also been undertaking a consultation program with members of the wider Baw Baw community and individual landowners who may be materially affected by the project. Consultation activities completed to date include:

- ▶ Several community newsletters, specifically outlining the process for determining the best location for the Tarago WTP;
- ▶ Community information tent at Rokeby market on two occasions;
- ▶ A media release in May;
- ▶ A webpage dedicated to the Tarago project;
- ▶ Personal meetings with adjacent or materially affected landowners, where plans were discussed in detail and comments sought.



Melbourne Water has informed GHD that any issues raised through the consultation process will be managed through appropriate design and construction methods. All comments raised by landowners have been recorded. A majority of issues raised had already been considered either as part of the ARG process or have been accounted for in design of the facility.

Melbourne Water will take into account comments made by landowners with regard to building colours and landscaping in finalising architectural plans for the facility. Upon completion of the plans a Community Information Session will be conducted with adjacent landowners to provide a further opportunity to view and discuss design details. Communications will be ongoing with adjacent landowners as the project continues into the construction phase.

Melbourne Water will continue to update the website and release newsletters to the wider community.

Environmental Effects

Qualified professionals have assessed the environmental effects of the Tarago WTP. The recommendations outlined in each relevant study have informed the functional design and site layout of the Tarago Water Treatment Plant. The purpose, identified impacts and associated mitigation techniques of each study are outlined below:

► Terrestrial Flora and Fauna Assessment;

Purpose: Summarise any ecological issues pertaining to the proposed development; identify potential ecological impacts associated with the project; and outline mitigation measures to avoid and/or minimise potential impacts.

Identified Impact and associated mitigation:

- Construction of an access road to the site will pass through a patch of remnant vegetation near Main Neerim Road. There will therefore be some disturbance and/or removal of native vegetation during this process. As a result, Net Gain offsets are required. The balance of the Site, however, consists of cleared agricultural land and predominantly introduced vegetation ('PIV'). Accordingly, the balance of the site has relatively low conservation significance in terms of the native vegetation and potential fauna habitat.
- Significant flora and fauna do not affect the Tarago WTP footprint.
- The Terrestrial Flora and Fauna assessment did identify one known significant flora species in the study area. There is a small area of indigenous vegetation between the study area and the Glen Cromie Caravan Park that contains the nationally significant Strzelecki Gum (*Eucalyptus strzeleckii*). This species is also present as scattered trees in the southwest corner of the study area and along Muddy Creek on the southern boundary. Individual trees along Muddy Creek are outside the boundary of the proposed development footprint.
- During the present study, potential habitat for the Giant Gippsland Earthworm was identified. GHD engaged a Giant Gippsland Earthworm specialist to investigate the potential areas of habitat. The investigation did not identify any Giant Gippsland Earthworms or any indirect evidence of their presence in the study area. It is possible that the study area is just outside the range of this species.
- There is potential habitat for the Growling Grass Frog in wetlands adjacent to the study area. To facilitate their dispersal across the access road and into habitat near the Glen Cromie Caravan Park, mitigation measures to be included in the Construction Environmental Management Plan (the 'CEMP') will be implemented.



- The project will meet the stated objectives of the Net Gain Assessment and the Victorian *Flora and Fauna Guarantee Act 1988*. Documentation includes demonstration that measures have been taken to avoid impacts upon listed threatened species and communities, and that potentially threatening processes have been avoided or minimised.

► Aquatic Environment Assessment;

Study Aim: Assess the quality of the instream habitat of Muddy Creek with the aim of providing mitigation measures to minimise potential impacts that the proposed Tarago WTP works may have on the aquatic environment.

Impact:

The Tarago WTP works are approximately 100 metres north of Muddy Creek. The main effect of excavation work is a potential increase in the turbidity of Muddy Creek, which may impact light-requiring species.

Mitigation:

- The CEMP will include a silt barrier and a sediment trap positioned downstream of the working site to manage site runoff and fencing Muddy Creek.
- To minimise the local impact of sediment immobilisation into the waterway, it may be beneficial to consider keeping the Muddy Creek diversion during construction;
- Care will be taken to minimise the potential impacts of construction to protect the hydrology and habitat values of the aquatic environment, including the prevention of instream barriers that impede future flows or obstruct fish passage; and
- Site drainage works will include a stormwater detention and a treatment basin near the western boundary of the property. The discharge from this stormwater basin is proposed prior to discharge to Tarago River via a swale drain along the eastern side of the proposed access road.

► Net Gain Assessment;

Scope:

- Describe the flora and habitat values of the site;
- Describe how the proposed project takes into account the 3-step Net Gain process of: avoiding, minimizing and offsetting any impacts to native vegetation;
- Identify Net Gain liabilities; i.e. calculate the proposed losses (in HabHa) using the Vegetation Quality Assessment Manual (DSE 2004);
- Describe Net Gain targets, offset criteria and requirements to compensate for the native vegetation losses that would be incurred;
- Evaluate the offset site and determine the habitat quality and potential offset gains for this site;
- Map the extent, type and condition of the native vegetation within the offset site; and
- Identify appropriate actions and quantify measures to offset native vegetation losses and achieve a Net Gain.

Impacts

- An access road is required to be constructed from Main Neerim Road. This will require a small area (up to 300 m²) of native vegetation to be removed.



- Overall, 0.03 hectares (0.02 habitat hectares) of Shrubby Foothill Forest is planned to be removed for the construction of an access road to proceed. In addition, two large and three medium old trees are proposed to be removed.
- The implications of Net Gain Assessment for the site have been discussed with the Department of Sustainability and Environment (DSE), Gippsland. Representatives from DSE have advised GHD that the default habitat score value of 0.7 for calculation of the offset in vegetation at the site represents an adequate solution. When the multiplication factor for medium conservation significance is taken into account, the overall Net Gain offset target is 0.02 habitat hectares.

Mitigation

- Attempts have been made to avoid and minimise vegetation losses during the project development phase, prior to examining potential offset options, including the following:
 - Avoiding significant native vegetation within the adjoining unmade government road along the western boundary of the property by choosing not to locate the road along this alignment;
 - Minimising removal of native vegetation by selecting an area with the fewest number of large trees for that section of road; and
 - Developing engineering strategies to minimise disturbance to the tree roots by providing a minimum 4-metre offset from tree trunks (except where access road intercepts with Main Neerim Road).
- Melbourne Water has proposed three means of providing offsets to meet the requirements and objectives of Net Gain at the WTP site. These include:
 - Ongoing management of 0.06 Ha of remnant native vegetation (via eliminating woody weeds, and controlling rabbits and high threat herbaceous weeds) along a section of Muddy Creek at the adjoining southern end of the site;
 - Revegetation (to appropriate DSE standards) along a section of Muddy Creek that adjoins the southern boundary of the site; and
 - Protection of 16 very large, 14 large and 13 medium trees along the section of Muddy Creek that adjoins the site.
- ▶ Landscape, Visual and Structures Assessment;

Purpose: This report assesses the visual values of the landscape and the surrounding areas of the proposed Tarago WTP, and the visual impacts of the Tarago WTP. It also provides associated mitigation measures.

Impacts and Mitigation

The landscape Impacts have been divided into two separate stages as outlined in the following tables.

Table 5 Mitigation Measures Stage 1 – Construction

Impact	Mitigation
▶ Vehicles transporting goods to site.	▶ Alignment of road to be close to western property boundary and therefore not as visually impacting and



Impact	Mitigation
	absorbed into the landscape.
	<ul style="list-style-type: none"> Impact to vegetation at entry point to the Main Neerim Road should be minimised.
<ul style="list-style-type: none"> Construction of road, pipelines and associated excavation and fill required to achieve this. 	<ul style="list-style-type: none"> Fill should be minimised to protect adjacent mature trees. Keep site excavation to a minimum and only excavate where absolutely necessary.
<ul style="list-style-type: none"> Storage of construction / building materials on site 	<ul style="list-style-type: none"> Store objects close to their proposed final location where possible
<ul style="list-style-type: none"> Excavation of benches as required to achieve three levels for buildings and tank sites 	<ul style="list-style-type: none"> Establish appropriate levels when excavation occurs and locate fill from cut areas to new locations as required to achieve faster grass and planting establishment.

Table 6 Mitigation Measures Stage 2 - Post Construction period

Impact	Mitigation
<ul style="list-style-type: none"> The increase in traffic due to the operation of the Water Treatment Plant. The private road to the Water Treatment Plant 	<ul style="list-style-type: none"> Plant additional vegetation along road alignment. Include shrubs and small trees adjacent to the eastern boundary to protect surrounding park and caravan park from visual interruption. Utilise road material that is sympathetic to the landscape context in colour, finish and location of source.
<ul style="list-style-type: none"> Permanent structures and buildings on the site. 	<ul style="list-style-type: none"> The building design should be sympathetic to the surrounding landscape context. Utilise materials that reflect the local character such as colour bond that blends with the existing environment. Utilise materials with lower reflective properties. Where possible utilise planting of indigenous species to further absorb the proposal into the landscape. Create a colour palette that is reflective of the local character to further absorb structures into the landscape.



Impact	Mitigation
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► Noise Assessment;

Purpose:

The Noise Assessment examines existing conditions in the vicinity of Site and the potential noise/vibration impacts on sensitive receptors (particularly residential premises) associated with the construction and operational phases of the project.

Impacts

- Applicable operational noise criteria are reasonably low.
- At night, in particular, the noise target is 32dB(A). On the basis of the nearest residential receivers being located approximately 350m from the site, this implies that the overall sound power level of the site should not exceed in the order of 90dB(A).
- The majority of site noise sources (pumps, drives etc) are to be located indoors in the WTP plant buildings.

Mitigation

- Noise emissions from the site will need to be controlled through the design of the buildings. It is anticipated that walls will need to be masonry or concrete walls and roofs will need acoustic treatment.
- Attention will need to be given to ventilation openings design (acoustic louvers may be required) and location. For mechanical plant that is located outside and operate at night, provisions may need to be made for acoustic enclosures and/or screening.
- A construction noise management plan will be prepared in accordance with the recommendations of the Noise Impact Assessment.

► Air Quality (Dust and Odour) Assessment;

Purpose: To examine the potential dust and odour impacts on sensitive locations associated with the construction and operation of the proposed Tarago WTP.

Impacts:

- Dust emissions during construction, such as dust from both mechanical disturbance and wind erosion of crustal material, and vehicle and other exhaust emissions form the range of motor vehicles.
- There is not expected to be odour impacts during normal operation of the plant. Odour sources are likely to be from the dewatered sludge if there is a high algae count in the water from the reservoir and the sludge is retained on site for extended periods.
- To minimise odour impact during operation the sludge handling and dewatering will occur within a fully enclosed building and dewatered sludge will be regularly removed from the site. Under abnormal raw water quality conditions (high algae count), the Melbourne Water functional requirement also states that the WTP will be stopped if required in these extreme situations.

Mitigation:



- All construction equipment\vehicles will be operated and maintained to minimise the emissions.
- All haulage vehicles are to have their loads covered while transporting material to the work area.
- Vehicular speeds will be limited to 25 km / hour on areas of unconsolidated or un-vegetated soil associated with the project.
- The project EMP will include requirements that visible dust emissions from its various component activities be the focus of prompt mitigation strategies.
- That disturbed soil and the stockpiled material formed from excess cut material will be revegetated as soon as is practicable. In the meanwhile any visible dust emissions form these areas will be managed as part of the EMP.

▸ Traffic Impact Assessment (TIA):

Scope:

- A review of the existing road network and subject site conditions;
- An assessment of the proposed car parking and access layout;
- An assessment of the site's traffic generation and distribution;
- An assessment of the proposed site access location and arrangement; and
- Recommendations.

Impact and Mitigation:

The assessment of traffic generation and parking demand identified within this TIA is based on the peak-case scenario and accordingly is considered to conservative.

The key findings arising from this TIA are:

- The Tarago WTP will generate up to 22 vehicle movements per peak day during construction, which is considered to be negligible in the context of the existing traffic volumes using Main Neerim Road and the surrounding road network;
- Approximately 70% of traffic generated by the site (up to 15 vehicles per day) will approach/depart the site from/to the east and 30% will approach/depart from/to the west. The use of the nearby routes is appropriate and will not cause any adverse impacts to traffic safety or the operation of these roads;
- The proposed location of the site entry maximises sight distance and minimises traffic safety impacts;
- The construction of shoulder widening on both sides of Main Neerim Road, in the vicinity of the site driveway, will assist to improve traffic safety at the proposed site entry;
- The internal access layout, loading areas and parking bays will be designed to satisfy the requirements of the Baw Baw Planning Scheme, the relevant Australian Standards and good engineering practice; and
- A Traffic Management Plan will be prepared prior to construction commencement, including the stipulation of the use of the proposed site entry as the entry to the site during construction.

▸ Preliminary Geotechnical review:

A preliminary geotechnical investigation was undertaken at the site by GHD in December 2006 and January 2007. The investigation comprised:

- Four (4) boreholes to between 10.5 m and 15.5 m depth;



- Six (6) test pits to between 2.6 m and 3.5 m depth; and
- Laboratory testing on selected soil samples.

Based on the findings of the preliminary geotechnical investigation, the ground conditions at the site appear to be suitable for the proposed treatment plant infrastructure. Further investigations are recommended during the detailed design phase of the facility to confirm site suitability and address the geotechnical information gaps. The second phase of the geotechnical study may not be conducted until the AAV issue a cultural heritage permit for geotechnical investigations.

► Groundwater and Surface Water Management;

- For groundwater, the risk of impacts to groundwater could be addressed through the EMP for construction activities and the site. It is recommended that all standpipes / monitoring bores are gauged for water level, and that a water sample is collected to confirm the on-site groundwater quality and baseline conditions pre-construction.
- For surface water, a detention basin will be utilised to retard flow from the water treatment plant area. The size, arrangement and location of the detention basin will be determined during detailed design.
- A stormwater management strategy will be prepared during detail design and will include more detail on construction issues, the permanent on-site stormwater treatment works and will be accompanied by water quality modelling.
- Hydraulic modelling indicates that the proposed access road will have an insignificant (approximately 10 mm) impact on flood levels within the Glen Cromie Caravan Park.
- From the hydraulic model the minimum level of the proposed access road along the western boundary low lying area, needs to be approximately 94.23 mAHD (allowing 300 mm freeboard) to avoid overtopping of the road in a 100 year ARI event in Tarago River.

For the following environmental impacts, management techniques are outlined as followed:

► Waste Management;

- All wastes will be managed in accordance with: Environment Protection (Prescribed Waste) Regulations 1998; EPA Publication 344.1, Transport and Management of Used Containers, December 2003; EPA Publication 1100, Classification for Large Containers Contaminated with Prescribed Industrial Waste, April 2007; and Any other relevant EPA guidelines and regulations.
- Wastes which cannot be cost effectively segregated for recycling will be collected by a waste contractor for disposal at a local EPA-licensed landfill or transfer station.
- Dewatered sludge will be transported off site in suitable 10 tonne skips covered with a tarpaulin to reduce the likelihood of spillage or leakage. Melbourne Water will be undertaking further investigation over the next 18 months to identify and assess options for disposal or reuse of the dewatered sludge;
- The quantity of waste from general office and maintenance activities has not been assessed, however, it is expected to comprise paper, packaging and food scraps. A waste contractor for disposal at a local EPA-licensed landfill or transfer station will collect these wastes.

► Reinstatement and Weed Management;

- Keep construction vehicles to agreed working areas and access roads.
- Stripped topsoil will be used for reinstatement on the site.



- Control of weeds can best be achieved by reasonable standard of machine hygiene and the contract will include provision for a weed control program until plantings are established.

In addition, a project OH&S Plan in accordance with Melbourne Water's relevant requirements will be implemented and managed through all phases of the project, including planning & investigation, construction and operation.

There are two outstanding studies. The second phase of the geotechnical study may not be conducted until the AAV issue a cultural heritage permit for geotechnical investigations. An additional fauna study will also be undertaken during this season, to assess the presence of growling grass frog within the area.

6.8 State Planning Policy Framework

The amendment implements planning mechanisms that provide for clearer administration of the State Planning Policy Framework (SPPF).

The SPPF's of particular relevance are outlined below:

- ▶ *15.02 – Floodplain Management*

While the project affects a floodway area, the project will not increase the risk of flood, and will be constructed to ensure the protection of life, property and community infrastructure. The SEPP – Waters of Victoria has been considered as a part of the functional design and project layout (**refer Appendix L**).

- ▶ *15.04 – Air Quality*

An Air Quality Assessment has been undertaken as a part of this PIA (**refer Appendix J**), which outlines that the Tarago WTP will not reduce community amenity.

- ▶ *15.05 – Noise Abatement*

A noise assessment has been undertaken to outline compliance with relevant SEPPs (**refer Appendix I**).

- ▶ *Clause 15.09 Conservation of Native Flora and Fauna*

A Flora and Fauna assessment has been undertaken as a part of this PIA (**refer Appendix E**). This assessment has identified the nationally significant *Eucalyptus strzeleckii* within the study area. A Giant Gippsland Earthworm specialist has investigated potential areas of habitat within the proposed development footprint. No worms were detected during the investigation. Vegetation to be removed for the construction of an access road off Main Neerim Road is expected to require a Net Gain Assessment. This will document the native vegetation losses, which is anticipated to be small. As part of Victoria's Native Vegetation Framework, field inspection of the native trees proposed to be removed, is expected to be required to allow calculation of Net Gain implications. The site does not appear to have significant constraints with respect to flora and fauna. There is one eucalypt species (*Eucalyptus strzeleckii*) of national conservation significance present within the study area. This species will not be impacted directly by the development. Appropriate mitigation measures will be implemented for the protection of the species.

- ▶ *Clause 18.09: Water Supply, Sewerage and Drainage.*

The project assists in the efficient and effective use of existing water supply infrastructure.



6.9 Local Planning Policy Framework

This amendment will not have any implications for the LPPF.

6.10 Proper use of the Victorian Planning Provisions

6.10.1 Existing Zone - Farming Zone

The site is currently located within the Farming Zone (FZ) (refer Figure 7). The purpose of the FZ Clause 35.07 is:

To provide for the use of land for agriculture; To encourage the retention of productive agricultural land; To ensure that non-agricultural uses, particularly dwellings, do not adversely affect the use of land for agriculture; To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision; To protect and enhance natural resources and the biodiversity of the area.

It is considered that the Farming Zone is an inappropriate strategic land use designation for the long-term use of the site for the Tarago WTP.

6.10.2 Existing Overlays

Environmental Significance Overlay 1

All but a small portion of the south east corner of the site is affected by the Environmental Significance Overlay 1 (ESO1) Clause 42.01, environmental objective of which is as follows:

To recognise the finite nature of high quality agricultural land; To protect high quality agricultural land; To protect high quality agricultural land because of its versatility, productivity and ability to sustain a wide range of agricultural uses without degradation; To protect the potential production from high quality agricultural land; To discourage development which results in the conversion of high quality agricultural land to a non-soil based use or a use which does not utilise the productive potential of the land.

Baw Baw Shire Council has undertaken a review of the rural areas of the Shire to identify appropriate areas where each of the new rural zones could be applied in a manner, which would facilitate the achievement of all the strategic objectives in the planning scheme.

Council has authorisation from the Minister for Planning to prepare an amendment to the Baw Baw Planning Scheme to introduce the new zones and the Amendment C44 is on public exhibition until 29 June 2007. This exhibition will provide an opportunity for submissions to be lodged with Council.

The current proposal includes reference to the site, proposing to remove the ESO1 affecting the site.

The Agricultural viability of the site is not dramatically reduced, with the existing grazing still taking place over a large proportion of the site. The adjacent landowner will continue agricultural practices and will not be detrimentally affected by the Tarago WTP. The productive potential of the site is therefore maintained to the current level.

Rural Floodway Overlay

The Rural Floodway Overlay (RFO) affects a portion of the site located in the northwest corner of the site, the objectives of which are as follows:



To implement the State Planning Policy Framework and the Local Planning Policy; Framework, including the Municipal Strategic Statement and local planning policies; To identify waterways, major floodpaths, drainage depressions and high hazard areas which have the greatest risk and frequency of being affected by flooding; To ensure that any development maintains the free passage and temporary storage of floodwater, minimises flood damage and is compatible with flood hazard, local drainage conditions and the minimisation of soil erosion, sedimentation and silting; To reflect any declarations under Division 4 of Part 10 of the Water Act, 1989 if a declaration has been made; To protect water quality and waterways as natural resources in accordance with the provisions of relevant State Environment Protection Policies, and particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria).

This overlay affects a small portion of the site. Melbourne Water is the referral authority for any planning permit triggered by buildings and works within this overlay.

Melbourne Water Developer Services as the referral authority for development within this overlay have provided an internal memorandum outlining that the Melbourne Water Waterways Group is satisfied that works won't impact on the Tarago River Floodplain, but works will be required to mitigate any potential risks or impacts on environmental values and quality. Accordingly, the waterways group would have no objection to the issuing of a planning permit subject to conditions. Such conditions may be met through the design process.

In addition to the above, the proposed works associated with the Tarago WTP triggers planning approval for the following Clauses.

6.10.3 Other relevant Clauses

- ▶ Clause 52.17 Removal of Native Vegetation; and
- ▶ Clause 52.29 – Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road.

In order to provide adequate detail to the Planning Authority, assessments have been undertaken to document compliance with the requirements of these Clauses.

Clause 52.17 Removal of Native Vegetation

The purpose of this Clause is to:

'To protect and conserve native vegetation to reduce the impact of land and water degradation and provide habitat for plants and animals; To achieve the following objectives: To avoid the removal of native vegetation. If the removal of native vegetation cannot be avoided, to minimise the removal of native vegetation through appropriate planning and design. To appropriately offset the loss of native vegetation. To provide for the management and removal of native vegetation in accordance with a native vegetation precinct plan or property vegetation plan. To manage vegetation near buildings to reduce the threat to life and property from wildfire.'

A permit is required to remove, destroy or lop native vegetation. As a part of the road construction process, native vegetation must be removed.

Overall, 0.03 hectares (0.02 habitat hectares) of Shrubby Foothill Forest is planned to be removed for the construction of an access road to proceed. In addition, two large and three medium old trees are proposed to be removed.



As Native vegetation is being removed, the Victoria's Native Vegetation Management – A Framework for Action 2002 Framework has been considered as a part of the requirements for planning approval. This framework aims to ensure that Victoria's native vegetation is protected and sustainable, and that vegetation removal is minimised. Vegetation clearance for works must consider the requirements of this Framework.

An assessment of the Net Gain requirements associated with vegetation removal is required by DSE to construct the access road (**Refer Appendix G – NetGain Assessment**) a summary of which is as follows:

- ▶ Flora:
 - Native vegetation at the site consists of Shrubby Foothill Forest (EVC 45), which is classified as 'least concern' in Victoria. A total of 100 plant species (49 indigenous, 51 introduced) was previously recorded from the study area (GHD 2007).
 - One species, *Eucalyptus strzeleckii*, which is classified as vulnerable at the national level under the Environment Protection and Biodiversity Conservation Act 1999 and vulnerable at the state level under the Flora and Fauna Guarantee Act 1988, was recorded near the area.
 - There is no suitable habitat within the study site for any other national or state significant species previously recorded in the local area (Flora Information System) or predicted to occur in the local area (EPBC Act Protected Matters Search Tool).
 - The study area occurs within the Highlands Southern Fall.
- ▶ Conservation Significance:
 - As the site has been chosen to avoid any *Eucalyptus strzeleckii* growing nearby, the area is considered to have 'medium' conservation significance.
- ▶ Net Gain Assessment
 - Attempts have been made to avoid and minimise vegetation losses during the project development phase, prior to examining potential offset options.
 - These measures include;
 - Avoiding significant native vegetation within the adjoining unmade government road along the western boundary of the property by choosing not to locate the road along this alignment;
 - Minimising removal of native vegetation by selecting an area with the fewest number of large trees for that section of road; and
 - Developing engineering strategies to minimise disturbance to the tree roots by providing a minimum 4-metre offset from tree trunks (except where access road intercepts with Main Neerim Road).

GHD has discussed the implications of Net Gain Assessment for the site with the Department of Sustainability and Environment (DSE), Gippsland. Representatives from DSE have advised GHD that the default habitat score value of 0.7 for calculation of the offset in vegetation at the site represents an adequate solution. When the multiplication factor for medium conservation significance is taken into account, the overall Net Gain offset target is 0.02 habitat hectares.



Offsets

Melbourne Water has proposed three means of providing offsets to meet the requirements and objectives of Net Gain at the WTP site. These include:

- ▶ Ongoing management of 0.06 Ha of remnant native vegetation (via eliminating woody weeds, and controlling rabbits and high threat herbaceous weeds) along a section of Muddy Creek at the adjoining southern end of the site;
- ▶ Revegetation (to appropriate DSE standards) along a section of Muddy Creek that adjoins the southern boundary of the site; and
- ▶ Protection of 16 very large, 14 large and 13 medium trees along the section of Muddy Creek that adjoins the site.

Overall, the proposed offset measures will more than compensate for the losses associated with the removal of native vegetation from the site and will adequately fulfil the Net Gain requirements of the proposed development.

6.10.4 Clause 52.29 – Land Adjacent to a Road Zone, Category 1, or a Public Acquisition Overlay for a Category 1 Road.

The purpose of Clause 52.29 includes '*to ensure appropriate access to identified roads...*'.

A Traffic Impact Assessment has been undertaken for the Tarago WTP (**Refer Appendix K**). The TIA has been undertaken by a qualified Traffic Engineer and developed in close consultation with VicRoads.

The scope of the Traffic Impact Assessment includes:

- ▶ A review of the existing road network and subject site conditions;
- ▶ An assessment of the proposed car parking and access layout;
- ▶ An assessment of the site's traffic generation and distribution;
- ▶ An assessment of the proposed site access location and arrangement.

The TIA also provides recommendations to Melbourne Water.

The proposal for the Tarago WTP is in accordance with the Decision guidelines of this Clause as follows:

- ▶ Compliance with the SPPF and LPPF of the Baw Baw Shire Council Planning Scheme and Other relevant policies and standards.
 - The internal access layout, loading areas and parking bays will be designed to satisfy the requirements of the Baw Baw Planning Scheme, the relevant Australian Standards and good engineering practice.
 - On-site car parking is to be provided in accordance with Clause 52.06 of the Baw Baw Planning Scheme and the Australian Standard for Off-street Car Parking (AS2890.1-2004, Parking Facilities, Part 1: Off-Street Car Parking). It is recommended that a minimum of 5 car spaces be provided on-site, which will more than cater for expected parking demands on-site.
 - Any formal car spaces provided on-site will be designed to satisfy the requirements of Clause 52.06 of the Baw Baw Planning Scheme and the Australian Standard for Off-street Car Parking (AS2890.1-2004, Parking Facilities, Part 1: Off-Street Car Parking).



- The loading requirements for the water treatment plant are to be provided in accordance with Clause 52.07 of the Baw Baw Planning Scheme.
- ▶ The views of VicRoads;
 - The proposed location of the site entry will be designed in accordance with Figure 3.1 of AS2890.2-2002 to maximise sight distance and minimise traffic safety impacts.
 - Due to the topography of Main Neerim Road and the potential sight distance problems that exist if an inappropriate location is selected for a temporary site access, it is recommended that the proposed site entry be constructed first, and that all construction vehicles use this driveway to access the site.
 - The driveway radius and taper will be designed to ensure that up to semi-trailers can enter and exit the access driveway safely and efficiently, which will be checked by an appropriate turning template (and/or AutoTURN).
 - A grade no steeper than 1:20 will be provided from the site entry to a point approximately 16.0m to 19.0m into the site, from a point at least 3.1m from the edge line of the near traffic lane.
 - To further improve the safety of entry and exit movements at the site entry, it is proposed that the design will incorporate shoulder widening on both sides of Main Neerim Road in the vicinity of the site driveway.
- ▶ The effect of the proposal on the operation of the road and on public safety.
 - Melbourne Water will prepare a Traffic Management Plan prior to the commencement of construction on the site, including the stipulation of the use of the proposed site entry as the entry to the site during construction.

6.10.5 Proposed Zone

Public Use Zone – Schedule 1

The purpose of this zone is:

‘To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies. To recognise public land use for public utility and community services and facilities. To provide for associated uses that are consistent with the intent of the public land reservation or purpose.’

The proposed use is for a public utility. The amendment therefore designates the site to the most appropriate zone for the proposed Tarago WTP. The proposed provisions will allow for the construction and on going operation of the Tarago WTP within the timeframes required to ensure Melbourne Water meet their requirements.

The proposed zone is outlined in [Figure 9 – Proposed Zoning](#)

Incorporated Document

Pursuant to Section 6(2) (j) of the Planning and Environment Act 1987, Melbourne Water proposes that the Tarago WTP Project Impact Assessment acts as the Incorporated Document in the Baw Baw Planning Scheme. The document will be incorporated in the Schedule to Clause 81.01 of the Baw Baw Planning Scheme, and pursuant to Clause 52.03 of the Baw Baw Planning Scheme, the land identified in the document may be developed and used in accordance with the specific controls contained in this



document. This schedule allows that land to be used and developed for the purposes set out in this schedule despite any prohibition or restriction which would otherwise apply to those purposes under the provisions of the Scheme.

The Tarago WTP will be developed in accordance with the applicable clauses of the Baw Baw Planning Scheme. A planning permit is not required as typically triggered by these clauses if the project is developed in accordance with this document.

It must be noted that through the detail design and construction of the project, modifications to the functional design may be required to deal with unexpected project issues relating to procurement, timeframes and other unexpected matters. In such cases, changes to the incorporated document should not require an amendment to the Scheme, as per the VPP Practice Notes – Incorporated and Reference Documents:

'an amendment is not required if the changes only serve to revise or update relevant background in the light of changed circumstances or new knowledge and have no effect on the content of the scheme'.

Melbourne Water will inform the ARG through the ongoing consultation process, at which point the need for further consultation with other parties will be determined.

6.11 How does the amendment address the views of any relevant agency?

As outlined above, the amendment facilitates Melbourne Water in meeting its obligations under of the Water Industry Act 1994.

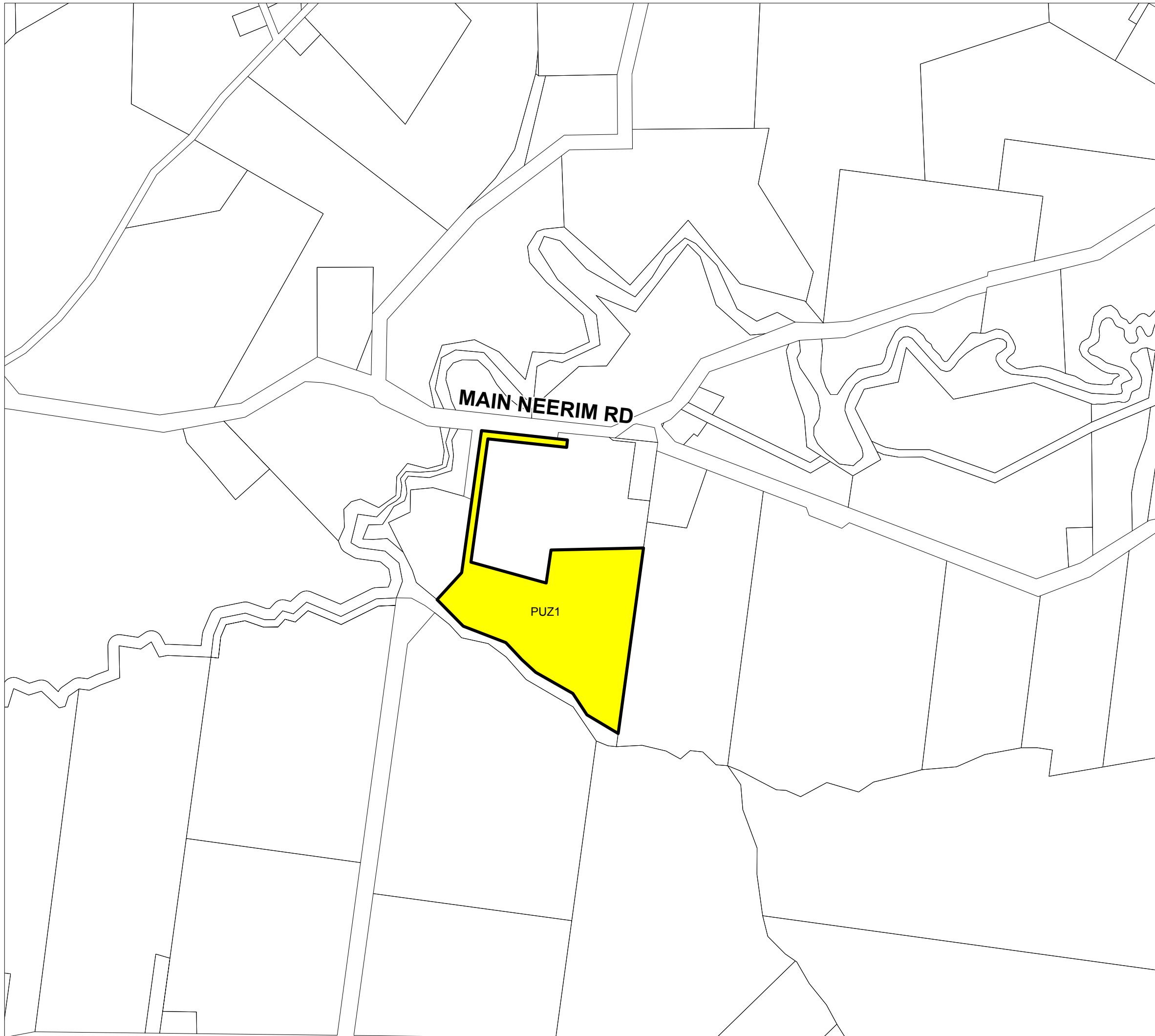
An Agency Reference Group (ARG) was been established and will continue for the duration of the project. The ARG comprises statutory authority representatives, to assist in determination of issues to be addressed and appropriate means of addressing these issues, throughout the planning and implementation phases of the project.

The ARG's contribution has been substantial in determining project features, and in the development of this document.

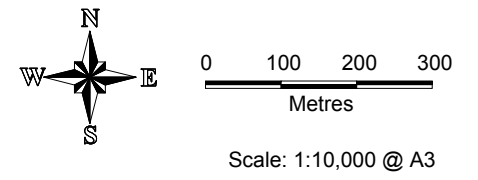
6.12 What impact will the new planning provisions on the resource and administrative costs of the responsible authority?

The proposed amendment will assist in minimising resource and administrative costs to Baw Baw Shire Council, as the Minister for Planning will be the planning authority for the amendment.

In addition, the new planning provisions relevant to the site are appropriate for the proposed land use, thereby reducing the unnecessary need for planning permits relating to the operations relating to the Tarago WTP in the future.



 PROPOSED LAND ZONING



**Figure 9
TARAGO WATER
TREATMENT PLANT
SITE ZONING**

Melbourne Water Corporation
Tarago Water Treatment Plant
Ref. No. 31/20600 - July 2007





7. Conclusion

After a comprehensive analysis of the impact of the project on the site and surrounds and consultation with the ARG it is reasonable to conclude that construction of the Tarago WTP can proceed once the following approvals are obtained:

- ▶ A Ministerial Amendment of the Baw Baw Shire Planning Scheme under provisions of the Planning and Environment Act 1987 may be granted for the project to proceed. All works associated with the project will be undertaken in accordance with this PIA; and
- ▶ AAV endorse the Cultural Heritage Management Plan.

Upon receipt of the required approvals, Melbourne Water will continue to meet with the ARG through the project cycle to ensure continued input into the project by all members and to demonstrate that the project is being undertaken generally in accordance with this PIA.

In keeping with the objective of this document, this Project Impact Assessment will serve an incorporated document until the construction of the Tarago WTP, at which point an amendment to the Baw Baw Planning Scheme will remove reference to this document in the relevant Schedules.



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Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	Nina Cunningham Kate Steele	Steve Young	* <i>Steven Young</i>	Steve Young	* <i>Steven Young</i>	20/07/2007

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