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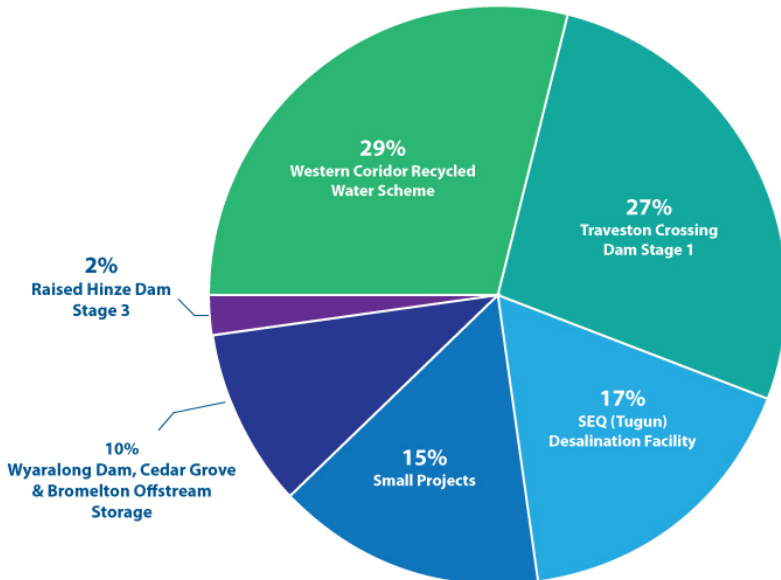
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2. PROJECT DESCRIPTION

Water security in South East Queensland (SEQ) is absolutely critical to long term social cohesion and economic growth. Most parts of SEQ have been affected by a lack of reliable rainfall over recent years and a subsequent significant reduction in security of water supply. Water levels in major storages have fallen to the point where Level 6 water restrictions are required to maintain adequate supplies. This has come at a time of high and continued population and economic growth in SEQ.

Currently, SEQ urban water supplies are highly reliant on rainfall in the North Pine, Somerset and Wivenhoe catchments, to the north-west of Brisbane. These catchments supply 72% of the yield from above ground storages, while catchments to the south and southwest supply 16% and catchments to the north, closer to the coast, supply just 12% (MWH, 2007). The Traveston Crossing Dam has been identified as part of a suite of other projects that will increase the diversity of supply of water for SEQ. The site of Traveston Crossing Dam has been identified as best meeting the need for a new, high yield surface water storage in the northern sector of the SEQ water supply grid (**Figure 2-1**).

Figure 2-1 Anticipated Yield of Proposed Supply Initiatives to 2015



The site for the dam is situated in a coastal rainfall catchment (Upper Mary Valley) of some 2,100 m² in area. The Upper Mary Valley is a hydrologically efficient catchment which receives up to 55% more rain on average per year than the Wivenhoe Dam catchment. Investigations indicate the dam will be full or near full more than 80% of the time and will have lower evaporation rates than both Wivenhoe Dam and Borumba Dam (see Chapter 15 of the Supplementary Report for further discussion).

2.1 The Project

The Project involves the construction and operation of a major new dam and associated infrastructure and the construction or relocation of existing infrastructure likely to be impacted by the Project.

The Project is located on the Mary River in SEQ, some 27 km upstream of Gympie in the Mary River catchment (**Figure 2-2**).

When completed in 2011, the dam will deliver an additional 70,000 ML/a of water to SEQ. The dam has a proposed Full Supply Level (FSL) of EL 71.0 m Australian Height Datum (AHD). At this FSL, the dam will provide storage capacity of approximately 153,000 ML and will inundate some 3039 ha. The main channel of the Mary River will be inundated for a length of some 36.5 km.

The dam is proposed to be constructed as a Roller Compacted Concrete (RCC) dam across the valley floor with a wall height of up to 59 m above its foundations (approximately 25 m above ground level), an earth embankment and saddle dam structure on the left abutment with a conventional mass and reinforced concrete spillway on the right abutment. Flood gates, multi-level water offtakes, a fishway and turtle ramp will be incorporated into the design.

2.1.1 Preliminary Site Works

This section describes the preliminary site works which are required for mobilisation to site and facilitate the timely construction of the Project. These activities are proposed to commence immediately after State and Commonwealth approval of the EIS, in preparation for the main construction phase of the project. It is important to note that some of the proposed activities (such as vegetation clearing) may require separate State approval. These approvals will be obtained prior to commencement of the preliminary activities. Furthermore, an overall Preliminary Site Works Environmental Management Plans (PEMP) will be prepared and implemented for this stage of the works. This plan will build on the measures identified in the EMP located in Chapter 30 of the Supplementary Report, and will provide detailed management measures for each of the activities described below.

The purpose for identifying preliminary site works is to provide guidance to conditioning of the project approval to allow for necessary preparation works to commence as soon as possible (after necessary approvals in accordance with appropriate additional approvals and management plans) whilst the main construction activities remain subject to conditions which may involve a longer timeframe to address.

For the purposes of this report, the preliminary site works are described in relation to the location of the activities.

General Works – Project Area

Conduct investigations of potentially contaminated sites, and commence remediation if required.

Dam Construction Footprint

The construction footprint includes the area as identified on **Figures 2-3** and **Figure 2-4**. The following activities are proposed:

- establishment of access roads to allow access to proposed dam site;
- establishment of site offices (demountable/ relocatable buildings, no accommodation), including associated stormwater and drainage controls;
- conduct geotechnical investigations for the following:
 - geotechnical drilling in the Mary River at the proposed dam wall alignment, utilising a drill rig from a free floating pontoon or similar; and
 - geotechnical drilling and trial blasting on the right abutment to determine the suitability of the material for construction purposes (note that this activity constitutes an ERA, and is further described in Section 7.5 of this report.
 - vegetation clearing in the dam construction area on both the left and right abutments.
- commencement of excavation of alluvium along the proposed dam wall alignment. The extent of the excavation is shown on Figure 2-3. The proposed excavation will be to a depth of approximately 15 m below ground level, to the water table. The excavation will cease at this point, and it is anticipated that approximately 700,000m³ of material will be excavated during the Preliminary Works phase. The material will be used for a range of purposes including preparation of site areas (pad/ foundation preparation), including site offices, lay-down and storage areas; and construction of haul roads;
- commence excavation of spillway channel on right embankment; and
- conduct sampling up and downstream of the proposed dam wall location to obtain samples of gravel and sand to determine suitability as construction materials. The sampling will be

proposed by using an excavator from the river bank. The volume of material proposed to be extracted will be less than 200m³, therefore will not trigger ERA 19 – Dredging. However, all other approvals will be obtained prior to the commencement of this activity.

Roads

- Vegetation clearing and commencement of bulk earthworks for the following roads;
- Dam Access Road;
- Gympie-Brooloo Road;
- Meddleton Road and interchange;
- Mary-Valley Road; and
- Hasthorpe-Goomong Road.

Supporting Infrastructure

- Freshwater Species Conservation Centre (Stage 1) - vegetation clearing, bulk earthworks and connection to services;
- site selection for the proposed construction camp. Once the site has been identified, it is proposed to commence vegetation clearing, bulk earthworks connection to infrastructure services;
- commencement of the relocation of utility relocation, including Energex and Telstra; and
- commencement of the relocation of the Energex substation, which will include vegetation clearing bulk earthworks.

2.1.2 Dam Access Road

Chapter 13 (Transport and Access Arrangements) of the EIS identified and assessed the proposed increases in traffic volumes associated with the construction phase of the project. In particular, it identified general transport and construction traffic routes including access to the dam site.

Since the EIS was released for public consultation in October 2007, Queensland Water Infrastructure Pty Ltd (QWI) has undertaken further traffic investigations associated with the proposed site access road (east) and has further consulted with the Department of Main Roads (DMR) on the issue. The investigation identified functional and safety issues associated with vehicles crossing the Bruce Highway to enter the site from a north to south direction, and re-entering the highway in a southerly direction.

As a result of the consultation with DMR, the dam access road has been redesigned to remove all right turns in and out of the site, directly onto the Bruce Highway (**Figure 2-4**). Submissions received during the public notification period have also identified road safety concerns for this area of the Bruce Highway.

The key components of the alternative access road include:

- a six span bridge approximately 150 m in length, over the existing Bruce Highway;
- approximately 3 km of new road (referred to as the service road) that will intersect with Traveston Road;
- 1 km of road from the overpass to the proposed dam wall (referred to as the Dam access road); and
- other elements such as street lighting, line marking, signage, roadside furniture, drainage, and landscaping.

The proposed service road will be a two lane, two way bitumen road, which will intersect with Traveston Road, and extend approximately 3 km in a southerly direction (**Figure 2-4**). At this point, the road will cross west over the Bruce Highway via the proposed overpass bridge, and continue west for 1 km to the location of the proposed dam wall. The majority of the land on which the road is proposed to be built is already owned by QWI; however, QWI is currently in negotiations for the partial acquisition of the properties outside the purchase area.

This alternative option will provide safer access from the Bruce Highway for all construction traffic requiring access to the eastern side of the dam. It will also form the main access to the dam wall during the operation of the dam.

An assessment of potential impacts associated with the realignment of the Dam Access Road is provided in Part C (Chapter 31) of the Supplementary Report.

