CHAPTER 18

GLADSTONE – FITZROY

PIPELINE PROJECT

Environmental Impact Statement

Summary of Impacts and Cumulative Effects

Gladstone Area Water Board

Contents

Gladstone Area Water Board

18. Summary of impacts and cumulative effects

18.1 Introduction

Each chapter of the EIS contains a summary of the impacts relevant to that subject area. That summary information is not repeated here, however high level summary and conclusions are provided in relation to the impacts of the project.

This chapter also provides a summary of the likely cumulative effects that could occur as a consequence of the project in conjunction with the development of other proposals that are currently under study and any interactive effects that may occur as a result of the interrelationship of impacts.

18.2 Summary of impacts

Throughout the site selection and design processes for the project, attention has been paid to the minimisation of adverse effects on the environment and communities during construction and operation of the project. For example, the alignment of the pipeline and siting of infrastructure has taken into account sensitive environmental sites such as Yellow Chat habitat and remnant vegetation, and has avoided residential areas where possible.

Iterations of the design process have allowed environmental factors to be considered, for example in the selection of creek crossing methods. Where possible, creeks with permanent water or significant vegetation will be crossed through trenchless methods, reducing in-stream disturbance and disturbance to riparian vegetation.

Community engagement has also been undertaken as part of the project, to inform landowners and the public about the project. This has included a free call 1800 information line and project email to answer queries from interested stakeholders, and newsletters to landowners and GAWB's customers.

The EIS describes the baseline environment in the project area for each topic area considered. This information has been gathered through fieldwork, review of existing mapping, aerial photography, published records and data obtained from statutory and non-statutory bodies such local councils, government departments or local interest groups.

The potential impacts identified in the EIS relate mainly to the following aspects of the project:

- The clearing of the 30 m construction width for the pipeline (the right-of-way (ROW)), with some direct impacts to vegetation and associated habitat areas
- Construction activity (for example clearing and trenching) in the ROW with the potential for temporary dust and noise generation, disruption to land uses, and reduction in visual amenity
- Construction at creek crossings with potential impacts to riparian vegetation, stream banks and water quality
- Traffic generation during construction and operation and the potential impacts to roads in the project area
- The operation of the water treatment plant (WTP) with the potential for noise generation, impacts to visual amenity and transport of waste residue
- The generation of testing water during the commissioning of the WTP and pipeline and the disposal of this water to land or waterways
- Potential for weed and weed seed spread during construction and operation.

Where adverse impacts have been identified, mitigation measures have been proposed to manage the impact. The Australian Pipeline Industry Association Code of Environmental Practice – Onshore Pipelines has been used as a guide for the development of mitigation measures. The residual impact has then been assessed taking into account the proposed mitigation measures. The residual impacts have been assigned a significance using significance criteria developed for each topic area, and can also be beneficial. The majority of impacts arising from the project have been assessed as negligible to minor adverse significance once mitigation measures are considered.

In the case of vegetation clearing, it is not possible to completely mitigate the adverse effects, however vegetation offsets may be secured through the vegetation clearing permit process under the *Vegetation Management Act 1999*.

Carbon emissions from the construction and operation of the project have been assessed as having a negligible impact (see Chapter 10 Air Environment). However, there is the potential for these emissions to be offset through the carbon offsetting program that GAWB is investigating for the whole of its operations.

Two historical cultural heritage sites have been identified as likely to be impacted by the project – the Woolwash to Frogmore Pipeline and Twelve Mile Road. Both sites will be photographically recorded prior to construction commencing, to contribute to the cultural heritage record.

Importantly, the potential impacts to matters of National Environmental Significance (Threatened Species and Ecological Communities) have been assessed against the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act*) criteria and found that the project is not likely to have a significant impact on these matters.

The mitigation measures described in each chapter have also been included in the Environmental Management Plan (EMP), with other measures where necessary. This EMP included in the EIS (Chapter 20, Planning Environmental Management Plan), forms the basis for the development of the Construction and Operations EMPs which will be developed in those phases of the project.

The economic assessment has assessed the project as having a contribution to the local and regional economy and the provision of employment opportunities during construction and operation. The project also contributes to the continued economic growth of the region through the provision of water to GAWB's Gladstone customers. Consideration has also been given in the design of the pipeline for possible bulk water supply to local authorities along the pipeline, contributing to water supply security in the region.

18.3 Cumulative Effects

The following assessment of cumulative effects is limited by the level of information currently available on the other proposed projects. The proposed projects identified for the area are the Stanwell - Gladstone Infrastructure Corridor (SGIC) and the Gladstone State Development Area (GSDA) described in Chapter 1, Introduction. There are currently no committed projects within the SGIC, limiting the information available for a comprehensive assessment to be undertaken. The assessment predicts the main effects which are likely to occur using the available information and assumptions which have been made in the absence of definitive information are based on best practice and project team experience.

The purpose of the SGIC is to reduce the potential cumulative effects of multiple projects in the fast-growing region by locating infrastructure in one purposely chosen location that will minimise impacts on the environment and community. It is intended to lessen the disruption caused by investigation and construction such as noise, air and transport impacts on individual landowners, surrounding communities and the environment that would otherwise occur if access to multiple pipeline routes was sought on a project-by-project basis. Future infrastructure projects within this corridor will be required to adequately manage its impacts, which will include consideration of potential cumulative impacts relating to concurrent projects.

Similarly, within the GSDA the land is currently being used for, or is planned for, large-scale industrial development. Again, there are no committed projects within this area with sufficient detail available to enable a comprehensive assessment of cumulative impacts to be undertaken. The use and planning of the area for that purpose will reduce cumulative impacts to other land uses.

The co-location of projects within the GSDA and the SGIC should limit potential cumulative impacts to within their respective boundaries even though it is possible for the impacts of construction or operation of more than one project to occur concurrently. With the exception of the Gladstone Pacific Nickel slurry pipeline which is proposed to align within SGIC, the details of these future projects are not known. It is assumed any future pipeline projects in the SGIC are likely to have similar impacts to those described for this project and when occurring at the same time can have a greater effect on the surrounding environment. The impacts that may potentially have a cumulative effect with other projects include:

- Land use disturbances during construction and maintenance of the project would occur over a greater area and time period as more projects progress
- The potential for erosion and sedimentation, or impacts from the disturbance of acid sulfate soils (ASS) are increased if construction activities occur over a greater area
- The area of vegetation cleared for each project would have a cumulative effect on the loss of habitat for flora and fauna and on the loss of visual amenity
- The area of disturbance to creeks and waterways would increase as future projects are constructed in the same alignment. To some extent this is minimised through the selection of appropriate creek crossing methods
- Air quality impacts from dust generation would be worsened if multiple projects are constructed in similar timeframes
- Noise arising from construction and operation activities of several projects may have a cumulative effect on adjacent sensitive receptors (residential areas)
- Traffic volumes on local and regional roads would increase with each project constructed
- There is greater potential for the loss or damage to items of cultural heritage significance during construction over a wider area
- The economic benefits of many projects occurring at once would have a cumulative benefit in the economic growth and employment in the region
- Increased construction activity in the local area has the potential to increase the pressure on the already strained accommodation market as new workers are attracted to the region.

The management of these types of effects is to be implemented though individual project EISs and Construction and Operational EMPs. As future projects are progressed, cumulative impacts are unavoidable; however the severity of these effects will depend on the environmental management practices of each future project that is to be implemented. These impacts will generally be confined to the width of the SGIC – approximately 100 m.

18.4 Interactive Effects

Interactive effects arise where effects from one environmental element bring about changes in another environmental element. The potential interactive effects identified in the EIS are summarised below:

- There is the potential for noise, air quality, visual amenity and traffic impacts during construction and operation to have an interactive effect on the amenity of residential areas surrounding the WTP. Mitigation measures implemented as part of this project would reduce the severity of these impacts.
- Disturbance to ASS or contaminated land during construction may have an interactive effect by impacting surface or groundwater quality. The implementation of an ASS Management Plan and management of potentially contaminated sites would reduce the risk of this occurring.
- Removal of vegetation during construction could increase erosion and sedimentation of surface or groundwater. Measures to reduce vegetation clearing and implement erosion and sediment controls during construction are described in Chapter 20, Planning Environmental Management Plan, and would reduce this impact.