# Appendix 12

RETURN TO APPENDICES LIST

## CSS expenditure including governance and procurement

(Gladstone Area Water Board)

# Efficiency of Contingent Supply Strategy Preparatory Works

## 1 Executive summary

The purpose of this Appendix to GAWB's Expenditure Submission is to explain the Contingent Supply Strategy (CSS) and demonstrate that GAWB's preparatory works expenditure satisfies the tests set out by the Authority to allow costs to be recovered in prices.

### 1.1 Introduction

The CSS was developed by GAWB to allow it to respond, in a timely manner, to the water needs of current and future customers in the event of drought or requirements for additional water use. The strategy involves:

- investigation of available source augmentation options allowing the least cost (highest benefit) solution to be identified and
- undertaking necessary preparatory work and planning to achieve the CSS supply reliability objectives.

The CSS supply reliability objectives are to:

- avoid the imposition of emergency restrictions under the Drought Management Plan and
- defer the possibility of supply failure by at least two years.

In order to improve certainty that the costs of the CSS preparatory works could be recovered in prices, in March 2007 GAWB made submission[1] to the Authority regarding:

- the prudence of GAWB's CSS, including selection of supply from the Fitzroy River as an appropriate contingent source
- the level of efficient costs associated with the development of GAWB's CSS that should be included in prices
- the timing of expenditures which are related to the implementation of the CSS and
- the means by which efficient costs of the CSS should be included in prices for subsequent years.

Endorsement from the Authority of the progression of GAWB's CSS initiatives was received in December 2007. The Authority concluded that:

> *(a) It is prudent for GAWB to continue working towards implementing the Fitzroy Pipeline option as there is a possibility of an unexpected event, such as one or more years of even lower inflows or a failure in inflows in the coming wet season. Under this scenario, the Fitzroy Pipeline would be the prudent option;*
>
> *(b) GAWB should ensure that the necessary arrangements have been entered into to ensure a right of access to supplies of water from the Fitzroy River from mid-2012 should they be required;*

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[1] GAWB *(2007) Submission to the Queensland Competition Authority Fitzroy River Contingency Infrastructure*

*(c) GAWB should continue to work on options such as desalination, air and sea water cooling and alternative supply restrictions;…*[2]

Consistent with the Authority's recommendations, GAWB has undertaken works (and incurred expenditure) related to:

- preparatory work for the Gladstone to Fitzroy pipeline (GFP)
- preparatory work for the Lower Fitzroy River Infrastructure (LFRI) project (to cause the construction of the storage capacity required to supply the GFP with water)
- preparatory work for a seawater desalination plant in the Gladstone region
- regulatory approval processes for the above projects
- development of a decision tool to facilitate choice of a particular augmentation, demand reduction or combination of augmentation and demand reduction at the time of an augmentation trigger.

## 1.2 Prudent processes

GAWB adopted specific governance and procurement arrangements for the CSS. These are discussed in sections 5 and 6.

KPMG was appointed to perform internal governance and finance audits to verify the integrity of the internal processes and controls implemented by the project team.

GAWB opted to deliver the GFP project through a variant of the early contractor involvement model. The intention of adopting this methodology was to provide GAWB with greater flexibility to respond to water supply requirements while advancing components for securing the solution. The final selection of the design contractor was performed through a competitive tender process overseen by an external probity auditor.

GAWB employed external estimators to provide external assurance that the design and calculations of the risk-adjusted price were acceptable.

## 1.3 Prudent response to changing circumstances

GFP preparatory works were originally planned to be complete by November 2008. This deadline was necessary to allow GAWB to deliver the GFP, had low Awoonga Dam inflows continued.

However, rainfall in February 2008 allowed Awoonga Dam to fill to the point that a drought trigger of the GFP project was no longer imminent.

Once the drought was broken, GAWB was faced with two choices:

- immediately cease work on the GFP, with a result that little value would be retained for the expenditure already incurred or
- continue work on the GFP project to a stage where value of the work already commenced could be retained for a period of several years.

Ceasing work would have limited the value of preparatory works for any future drought and prevented GAWB from responding in a timely manner to demand trigger.

GAWB opted to:

- continue the CSS preparatory works

[2] Queensland Competition Authority (2007) *Final Report: Gladstone Area Water Board: 2007 Investigation of Contingent Water Supply Strategy Pricing Practices Stage A,* p.viii

- defer and amend the planned deadline for completing preparatory works and
- defer some work to a new “early works” phase.

Removal of the late-2008 deadline for completing the preparatory works allowed:

- optimisation of design (more time to develop the most economical and functional design, including preparation of the documentation to a stage whereby the design can be maintained for a period of years)
- risk reduction (more time to recognise risks and develop strategies to avoid the cost of risks being realised, which includes allocating risks to the party best able to manage those risks) and
- improved procurement (more time to develop good and competitive contracts and obtain best value for money).

Improved design and risk reduction allowed GAWB to defer CSS program expenses to a new “early works” phase. Early works will occur between the augmentation trigger and the commencement of construction. The early works phase allows the deferral of some activities and expenditures to a later time, when augmentation is certain.

As the program of works changed in April 2008, a Deed of Variation of Preparatory Works Agreement was negotiated with the design contractor. GAWB appointed KPMG to perform an independent audit of all rates embodied in the variation agreement.

## 1.4 Conclusion

GAWB submits that the preparatory works net expenditure of $33m (which includes an offset of $10m funding received from the Commonwealth Government) to 30 June 2010 is economically efficient and that the standard of work undertaken was appropriate.

This conclusion is based on the following observations:

- GAWB undertook only those works necessary to give effect to the CSS and the Authority’s recommendations (that is, the scope of work was efficient).
- GAWB specified projects to an appropriate standard (with the exception of the flow reversibility analysis undertaken pursuant to recommendations from the Coordinator-General, the standard is that necessary to achieve the CSS supply reliability objectives).
- GAWB put in place appropriate governance, procurement and project management arrangements (that is, the works were efficiently procured).

# 2 Contents

# 3 Introduction

## 3.1 Contents of this document

The purpose of this Appendix to GAWB's Expenditure Submission is to explain the Contingent Supply Strategy (CSS) and demonstrate that GAWB's preparatory works expenditure satisfies the tests set out by the Authority to allow costs to be recovered in prices.

The remainder of this section 3 provides an introduction to the CSS.

Section 4 discusses the scope of preparatory works undertaken by GAWB and the standard to which the projects were designed.

Sections 5 and 6 respectively set out the governance and procurement arrangements for the CSS project.

Section 7 sets out the actual expenditure to date and forecast to 30 June 2010.

## 3.2 Introduction to the CSS

The CSS was developed by GAWB to allow it to respond, in a timely manner, to the water needs of current and future customers in the event of drought or requirements for additional water use. The strategy involves:

- investigation of available source augmentation options allowing the least-cost (highest benefit) solution to be identified and
- undertaking necessary preparatory work and planning to achieve the CSS supply reliability objectives.

The CSS supply reliability objectives are to:

- avoid the imposition of emergency restrictions under the Drought Management Plan and
- defer the possibility of supply failure by at least two years.

In order to improve certainty that the costs of the CSS preparatory works could be recovered in prices, in March 2007 GAWB made submission[3] to the Authority regarding:

- the prudence of GAWB's CSS, including selection of supply from the Fitzroy River as an appropriate contingent source
- the level of efficient costs associated with the development of GAWB's CSS that should be included in prices
- the timing of expenditures which are related to the implementation of the CSS and
- the means by which efficient costs of the CSS should be included in prices for subsequent years.

[3] GAWB, *(2007) Submission to the Queensland Competition Authority Fitzroy River Contingency Infrastructure*

Endorsement from the Authority of the progression of GAWB's CSS initiatives was received in December 2007. The Authority concluded that:

> *(a) It is prudent for GAWB to continue working towards implementing the Fitzroy Pipeline option as there is a possibility of an unexpected event, such as one or more years of even lower inflows or a failure in inflows in the coming wet season. Under this scenario, the Fitzroy Pipeline would be the prudent option;*
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> *(b) GAWB should ensure that the necessary arrangements have been entered into to ensure a right of access to supplies of water from the Fitzroy River from mid-2012 should they be required;*
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Consistent with the Authority's recommendations, GAWB has undertaken works (and incurred expenditure) related to:

- preparatory work for the Gladstone to Fitzroy pipeline (GFP)
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- regulatory approval processes for the above projects
- development of a decision tool to facilitate choice of a particular augmentation, demand reduction or combination of augmentation and demand reduction at the time of an augmentation trigger.

## 3.3 Development of the CSS

### 3.3.1 CSS and the Strategic Water Plan

The genesis of CSS was GAWB's 2004 Strategic Water Planning Project, which identified and ranked viable future supply and demand side options against a comprehensive set of evaluation criteria. Securing an additional 30,000ML per annum from the Fitzroy River and constructing a pipeline from Rockhampton to Gladstone emerged as the preferred option.[5]

The CSS was developed in 2006 when GAWB recognised that in most trigger situations a water source would be required at relatively short notice. The Strategic Water Plan outcomes were reassessed having regard to the following threshold criterion:

> *..With relatively limited expenditure upon preparatory works, the project must be capable of delivery with certainty of supply within two years….*

This analysis confirmed a 30,000ML per annum supply from the Fitzroy River as the preferred large-scale option to deal with drought or emergent demand.

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[4] Queensland Competition Authority (2007) *Final Report: Gladstone Area Water Board: 2007 Investigation of Contingent Water Supply Strategy Pricing Practices Stage A,* p.viii

[5] GAWB (2006) *Corporate Plan 2006/07 to 2010/11, p.18*

### 3.3.2 Ongoing investigations into possible supply sources

In conjunction with further preliminary investigations into the preferred large-scale augmentation option, GAWB has continued to investigate alternative options for augmentation. This included consideration of air-cooling of industrial processes and other customer-led demand reduction and alternative supply initiatives, and a desalination plant.

#### *3.3.2.1 Demand reduction*

Central to the CSS is recognition of the importance of flexibility to tailor the final investment decision to that which is most efficient to the particular circumstances that have crystallised. Demand management solutions may provide the most efficient solution.

In 2006 GAWB, in cooperation with CPM and CS Energy, commissioned SIGMA to perform an interim technical feasibility study into dry cooling options to reduce the water use of Callide power stations.[6]

GAWB has recently made changes to its standard contracts to allow customers to propose demand-side solutions before any augmentation is triggered.

GAWB has also written to customers proposing individually negotiated curtailment arrangements. Under a negotiated curtailment arrangement, GAWB would enter into commercial arrangements with some customers who may have a greater ability to reduce water demand as compared with other customers.

Finally, GAWB's commercial framework supports the ability of customers to engage in trading of their contractual water reservations. This promotes the use of water to its highest value.

#### *3.3.2.2 Desalination*

GAWB is continuing to update its options analysis for increments that exceed 10,000ML per annum, which to date have established that the pipeline from the Fitzroy River is the most efficient and cost effective. This is supported by the findings of investigations into the pricing implications of a second source[7], commissioned by GAWB in January 2008 which:

- modelled the impact of delivered water prices of various supply augmentation options and
- compared the modelled prices with prices for bulk water charged elsewhere in Australia.

The investigation found that in relation to selecting a source of water that the pipeline from the Fitzroy River resulted in lower prices for customers than an equivalent capacity desalination plant for the full report.

In contrast, it is expected that for a demand driven augmentation that requires less than 10,000ML, demand management and/or a desalination plant sited in the Gladstone region may represent the best option.[8] Such a smaller augmentation is considered to be possible but less likely, given:

- if the augmentation was initiated by drought it would not meet the objectives of GAWB's drought management plan for an augmentation and

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[6] Letter from Callide Power Management Pty Ltd, dated 6 June 2008

[7] Wedgewood White Ltd (2008) *Pricing Implications of a Second Water Source*

[8] Arup (2008) *Desalination Scoping & Siting Study*

- if the augmentation was initiated by demand, the decision around the appropriate augmentation would be based upon assessment of 20 year likely demand forecasts.

To inform augmentation decision analysis for small-scale augmentations, GAWB commissioned an analysis of desalination costs for a 5GLpa, 15GLpa and an expandable 15GLpa in 2009.[9]

#### 3.3.2.3 Selecting the appropriate augmentation

GAWB is cognisant of the need to transparently and robustly evaluate all investment options in relation to supply and demand reduction solutions to address possible supply failure scenarios.

GAWB is developing a best practice methodology (using the WSAA Real Options framework) to enable it to transparently and robustly evaluate all investment options prior to making its final investment decision, to deliver the most efficient solution to its customers.[10]

### 3.3.3 GFP reversibility

The flexibility to consider option analysis and assessment has been integral to the preparatory works undertaken for the large-scale augmentation initiative. The Coordinator-General indicated that GAWB's business case for the GFP project under the *State-wide Water Policy* should incorporate an evaluation of options to over-size the pipeline at higher increments up to 46,000ML and reverse flow capacity.[11] As part of the work undertaken by the contracted designer for the GFP project, an analysis of the future expandability and reversibility of the designed infrastructure was performed as part of the scope of works.[12]

Work has been completed on reversibility of the GFP as designed,[13] in line with the assumption that flow reversal may be a future requirement. This initiative also contributes to the scope of preparatory works to be undertaken for the LFRI project.

## 4 Scope and standard of CSS preparatory works

In accordance with GAWB's submission, in December 2007 the Authority recommended that preparatory costs should be subject to an *ex post* review and stated that the standard of works should be:

> *Appropriate, in that the proposed works do not involve any unnecessary works and are not over-designed.*

This section discusses the options GAWB has investigated since 2005 and provides an overview of the scope of works undertaken for each project.

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[9] Arup (2009) *Draft report: Real Options analysis desalination cost estimates*

[10] Farrier Swier Consulting (2009) *Real Options Analysis*, OzWater 09 Conference

[11] Letter from the Coordinator General, Mr Ken Smith, received 6 July 2007

[12] CDU (2008) *Optioneering Report; Future Expandability and Reversibility* (Rev Z)

[13] CDU (2009) *Flow Reversal Report January 2009*

## 4.1 Impact of February 2008 rainfall

GFP preparatory works were originally planned to be complete by November 2008. This deadline was necessary to allow GAWB to deliver the GFP, had low Awoonga Dam inflows continued.

However, rainfall in February 2008 allowed Awoonga Dam to fill to the point that a drought trigger of the GFP project was no longer imminent.

Once the drought was broken, GAWB was faced with two choices:

- immediately cease work on the GFP, with a result that little value would be retained for the expenditure already incurred or
- continue work on the GFP project to a stage where value of the work already commenced could be retained for a period of several years.

Ceasing work would have limited the value of preparatory works for any future drought and prevented GAWB from responding in a timely manner to demand trigger.

GAWB opted to:

- continue the CSS preparatory works
- defer and amend the planned deadline for completing preparatory works and
- defer some work to a new “early works” phase.

Removal of the late-2008 deadline for completing the preparatory works allowed:

- optimisation of design (more time to develop the most economical and functional design, including preparation of the documentation to a stage whereby the design can be maintained for a period of years)
- risk reduction (more time to recognise risks and develop strategies to avoid the cost of risks being realised, which includes allocating risks to the party best able to manage those risks) and
- improved procurement (more time to develop good and competitive contracts and obtain best value for money).

Improved design and risk reduction allowed GAWB to defer CSS program expenses to a new “early works” phase. Early works will occur between the augmentation trigger and the commencement of construction. The early works phase allows the deferral of some activities and expenditures to a later time, when augmentation is certain.

## 4.2 CSS project phases

The scope of works for an augmentation will be delivered in five distinct phases:

| | |
|---|---|
| Phase 1 | Preparatory works - necessary to attain a state of preparedness. This may include project management, approvals (as required), appropriate environmental assessments, consultation and communication, engineering investigations, site identification and land acquisition |
| Phase 2 | Preparedness - transition and maintenance phase to maintain and refine preparatory works until imminent trigger |
| Phase 3 | Early works (post-trigger) - finalisation of design, approvals and necessary mobilisation of resources |
| Phase 4 | Construction works - nominal two-year construction program |
| Phase 5 | Commissioning |

During early works, GAWB will finalise activities to achieve the regulatory and commercial approval required for the investment by the commencement of construction.

The activities described in the remainder section detail the CSS preparatory works undertaken by GAWB to achieve phase 2, to have attained a state of preparedness, for the large-scale and small-scale augmentation projects.

## 4.3 GFP project

The purpose of the GFP project was for GAWB to attain the capability to construct an interconnecting pipeline to the Fitzroy River in a nominal two-year construction program. The anticipated construction commencement date was originally November 2008.

The preparatory works, presented below, have been structured into distinct cost centres that align to findings of the Authority in December 2007, which stated that:

> *Preparatory expenditures on items such as project management, approvals, consultation and communication, engineering and investigations and land acquisition are appropriate if there is a high probability of project commencement in the next few years.*

### 4.3.1 Phase 1 - Stage 1 (Scoping and preliminary works)

The purpose of the Stage 1 of the GFP project was to scope and perform preliminary work so that GAWB could attain reasonable certainty that water could be sourced from the Fitzroy River within 24 months of events that might require supply augmentation. For this purpose, GAWB commissioned RLMS in July 2006 to undertake a corridor investigation for a potential water pipeline between the Fitzroy River and the proposed infrastructure corridor between Rockhampton and Gladstone.[14]

In order to meet GAWB's strategic needs of securing water allocations, diversifying water sources and providing a solution within a nominal two-year timeframe, the conclusions drawn from the feasibility investigations were that:

> *A regional pipeline between Fitzroy River and Gladstone currently provides the least cost option.*[15]

This conclusion aligned with GAWB's involvement in the water planning strategies for central Queensland through its membership in 2005 of the Lower Fitzroy Water Supply Planning Group. The purpose of the group was to seek to ensure that sufficient water volumes, at acceptable quality, reliability and cost, were secured from the State government planning processes.[16]

### 4.3.2 Phase 1 - Stage 2 (Securing a solution)

The purpose of Stage 2 of the GFP Project was for GAWB to secure the solution for the delivery mechanism for the large-scale augmentation.

At the conclusion of Stage 2, GAWB planned to have attained a state of preparedness for triggering the construction of a delivery system for a large-scale augmentation, with confidence that a supply could be constructed within 24 months.

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[14] RLMS (2006) *Fitzroy River Water Infrastructure Corridor Investigation Report*

[15] Arup (2006) *Fitzroy River – Gladstone Regional Water Pipeline: Preliminary System Description and Indicative Costing,* p i

[16] Lower Fitzroy Water Planning Group (2005) *Memorandum of Understanding*, p.1

To establish a sound platform for the activities that were planned, GAWB needed to:

- formalise its stakeholder communication strategy
- research procurement options
- select an appropriate contracting model
- prepare for the mobilisation of resources
- secure access to a water source and
- apply for Ministerial approval for the increased expenditure on preparatory works.

Concurrent to these activities, GAWB progressed its regulatory submissions to its Minister and the Authority, and maintained ongoing consideration and development of alternative augmentation options.

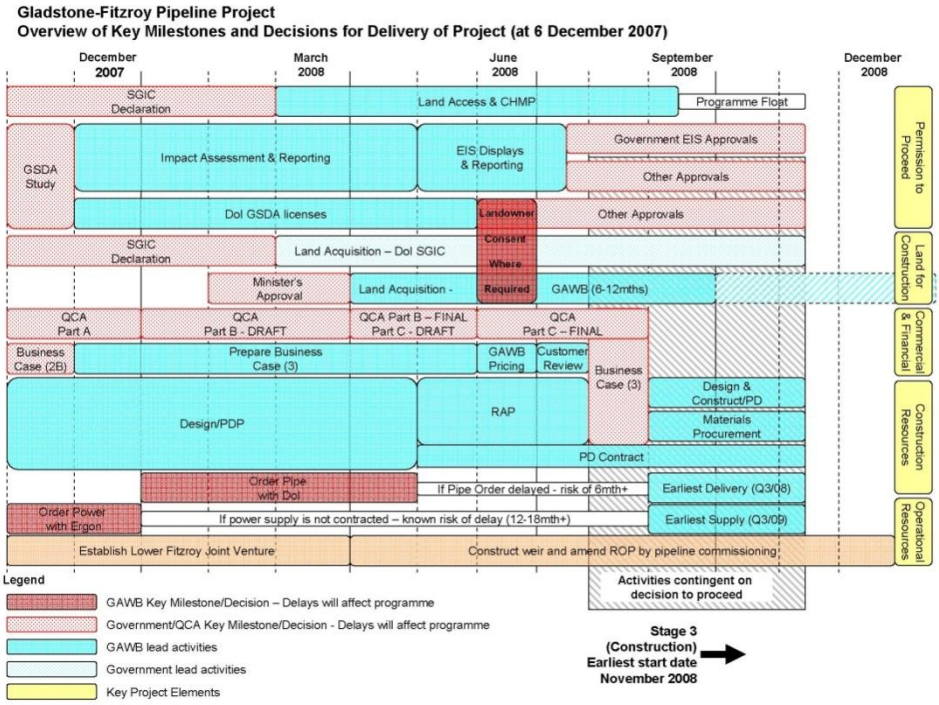
In July 2007, three government declarations confirmed GAWB's role in the water strategy for the central Queensland region.

The first was the declaration GAWB, SunWater and the former Rockhampton and Livingstone Councils (now Rockhampton Regional Council) as members of the Lower Fitzroy Joint Venture (JV). The Coordinator-General appointed the Lower Fitzroy JV to be the proponent responsible for the delivery of a business case to government that investigated the options available for the construction of additional water storages on the Fitzroy River in accordance with the Central Queensland Regional Water Supply Strategy (CQRWSS). The appointment was subject to the formation of the joint venture.

The second was GAWB's appointment as proponent of the Gladstone to Fitzroy pipeline project and the third, the declaration by the Coordinator-General that the GFP project had significant project status[17] for which an Environmental Impact Statement (EIS) was required under Section 26(1)a of the then *State Development and Public Works Organisation Act 1971*. Obtaining environmental approvals along with the securing a design, became a key outcome of the preparatory works.

[17] Letter from the Coordinator General, Mr. Ken Smith, dated 16 July 2007

Diagram 1: GFP Project Milestones




The original target of Stage 2 was to attain a state of preparedness for the commencement of construction by November 2008. See diagram 1 above. Key activities included:

- establishing GAWB appointed resources in Brisbane
- appointing a contractor to complete site selection and a design
- obtaining design documentation suitable for development of a construction agreement
- securing all pre-construction approvals, land tenure, construction materials and resources, a power supply and the rights to access water from the lower Fitzroy River
- submitting a comprehensive business case to the Minister to secure funding for Phase 2 of the project
- development of its involvement in the Lower Fitzroy JV and
- ensuring effective communication was maintained with all stakeholders including government, customers, landholders and the community.

The significant inflows into the Awoonga Dam in February 2008 deferred the urgent need for augmenting in response to the impact of drought, and consolidated GAWB's strategic focus from attaining a "preparedness to construct in November 2008" to ascertaining how to best benefit strategically, without compromising attaining a state of preparedness with an uncertain trigger.

In March 2008, GAWB's engineer (referred to as the owner's engineer, Arup) and the contracted designer (a joint venture of Clough Projects Australia Pty Ltd, Diversified Construction Corporation Pty Ltd and United Group Infrastructure Pty Ltd, known as CDU) reviewed the planned program of works in order to classify activities under a changed construction date scenario.

From mid-2008 GAWB implemented a change management phase to the GFP project that was necessary for the transition to a maintenance stage with an uncertain trigger date. Central to this phase was the planned demobilisation of all resources in a manner that completed activities to a level that could easily be reactivated in the future, if required, whilst retaining the integrity of the work completed in the interim.

The extended timeframe allowed a more measured and cost effective acquisition timetable to be set for land matters and a more comprehensive investigation of all aspects of the required approvals, specifically the EIS.

### 4.3.3 Phase 2 (Preparedness - transition and maintenance stage)

The purpose of the transition and maintenance stage (TAM) is to ensure that GAWB's state of preparedness, achieved through the investment in preparatory works, is maintained in readiness for a nominal two-year construction program, and is able to respond to defined augmentation triggers to meet the Gladstone region's water needs.

The scope of work and work plan for TAM has been developed to achieve the following objectives:

- finalise the demobilisation of the Brisbane office and the transition of the facility to meet the corporate needs of GAWB
- complete tasks begun in or deferred from Phase 1, primarily the EIS, land acquisition and securing a power supply
- negotiatiate a conditional construction contract (specific aspects include: agreed program of works, risk allocation, liquidated damages, re-validation of cost)
- ensure GAWB has the capacity to complete early works, when and if required
- ensure compliance with GAWB's risk management polices through mitigating issues that might inhibit a two-year construction program and
- ensure a prudent spend during TAM stage through the review, assessment and scheduling of a work program for early works that will facilitate the two-year construction program to deliver the optimal allocation of risk between GAWB and CDU in the construction phase.

For ongoing relationship management purposes, GAWB plans to hold quarterly progress review meetings with the CDU. GAWB plans to run further value engineering workshops to challenge fundamental elements of the design and for ongoing refinement and improvement.

### 4.3.4 Standard of work

The designed delivery system has the capacity to supply up to 30,000ML to GAWB's existing distribution system that is of a suitable quality to meet customers' needs. Key components of the state of preparedness achieved by 30 June 2010 are:

- design to the level of 80% with a nominal life of 10 years
- conditional construction contract, expiry 2013
- risk adjusted price for construction
- project risk register
- EIS approval that is valid for four years from approval
- lease for the intake on the Fitzroy River
- easements over land for the pipeline and related infrastructure

- ownership of key sites for the water treatment plant, Ragland pump station and Aldoga reservoir.

From 2011 to 2030, for the purposes of the 2010 price review submission, GAWB envisages that there will need to be some ongoing expenditure to maintain the state of preparedness of the GFP project as well as key milestones due to the longevity of some arrangements in place.

## 4.4 LFRI project

The purpose of GAWB's involvement in the LFRI project is to participate in the development of additional Fitzroy River infrastructure so that the reservations under the CQRWSS can be realised as allocations. This is a critical outcome that impacts on the success of GAWB's contingent strategy to have the capability to construct a large-scale augmentation, if appropriate and required as a source of water for the GFP project's pipeline.

The foundation for this participation occurred in August 2005 when GAWB became a member of the Lower Fitzroy Water Supply Planning Group along with the former Councils of Rockhampton City, Fitzroy Shire, Mt Morgan and Livingstone.

In December 2006 the CQRWSS identified a raising of the existing Eden Bann weir and/or the construction of a new weir at Rookwood as the preferred options to create additional storage on the Fitzroy River. This additional storage would enliven GAWB's entitlement and become the source of water for its large-scale augmentation option.

Early in 2007, the Lower Fitzroy River Sub Regional Water Planning Group collaboratively developed proposals for the establishment of an entity that would be responsible for development, ownership and operation of the existing storages and the future storage on the Fitzroy River.[18] These proposals and a request for endorsement were submitted to government in support of the Group's intention to become joint proponents of the LFRI projects.[19]

In July 2007, the Co-ordinator General appointed the proposed Lower Fitzroy JV (GAWB, SunWater, and the former Rockhampton City and Livingstone Councils) as the proponent to undertake on behalf of the government investigations of the Rookwood Weir and raising of Eden Bann Weir. The appointment was subject to the establishment of the JV and the execution of a relevant partnership agreement.

Under the *Program of Works*[20], the proponent was required to investigate and prepare three preliminary business cases for constructing Rookwood Weir, raising Eden Bann Weir and the potential raising of the Fitzroy barrage.

In November 2008, Rockhampton Regional Council (RRC) (former Rockhampton City and Livingstone Councils) advised that it would withdraw from its involvement in the JV.[21] During late 2008 and early 2009, GAWB and SunWater considered the impact of the withdrawal of RRC upon their agreement to jointly undertake the necessary preparatory works.

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[18] Letter to Mr. Michael Schaumburg from Mr. Gary Stevenson on Lower Fitzroy River Institutional Arrangements, 3 April 2007

[19] Letter to Mr. Gary Stevenson from Mr. Ken Smith, Coordinator General 23 April 2007

[20] Clayton Utz (2007) *Program of Works: Statewide Water Grid Regional Water Infrastructure Projects*

[21] Letter from Mr. Alastair Dawson, CEO, Rockhampton Regional Council, dated 20 November 2008

In March 2009, GAWB and SunWater agreed to continue preparatory works with the objective of providing a joint business case to the Co-ordinator General (and more broadly within government) that would be completed cooperatively by August 2010, detailing:

- the identification of a preferred method to construct infrastructure to both bring into existence all unallocated but allocatable water and the potential enhancement of security of existing allocation holders and
- a strategy to most efficiently align the staging of the construction of the additional infrastructure with emergent demand, with specific consideration of that level of forecast demand that would alter the pathway to meet the above objective in the least cost method (based upon long-term marginal cost).

GAWB's activity to secure access to water was originally classified as a preparatory works activity of Phase 1, Stage 2 of the GFP project, known as the cost centre "Water Rights". In 2009, GAWB separated these activities and related expenditure and assigned them to the LFRI project.

The primary objective of the CSS is to ensure that water will be available to current and perspective customers when required. To achieve its goal of a attaining a state of preparedness for large-scale augmentation, GAWB aims to be in a position whereby an infrastructure asset/s on the Fitzroy River is able to be constructed in a timeframe that aligns to the GFP project.

The state of preparedness that GAWB requires to achieve for the LFRI project is one where many of the preparatory works activities undertaken for the GFP project would not occur until post- trigger for an augmentation.

### 4.4.1 Program of works

The scope of works for the Final Business Case due to be submitted to the Co-ordinator General in 2010 covers the investigation and evaluation of the most appropriate combination of the LFRI.

LFRI project phases are described slightly differently to the GFP project, but the philosophy is the same. The preparatory work is being delivered over two phases as follows:

- Phase 1 Strategic options development
- Phase 2 Business case and environmental impact assessment.

Further work to be completed, should the project proceed to implementation, is proposed to be delivered over three phases as follows:

- Phase 3 Tender design and documents
- Phase 4 Approvals, land acquisition and detail design
- Phase 5 Construction.

Phases 3 to 5 will not proceed until a separate approval is achieved.

The following sections relate only to Phases 1 and 2 of the LFRI project.

### 4.4.2 Phase 1 (Strategic options development)

As per the government's *Program of Works,* the intention of Lower Fitzroy JV was to undertake preliminary technical work to investigate the construction of water storage infrastructure options on the Fitzroy River. For this purpose, the proponent appointed a consultant to complete design and planning activities through to a Preliminary Business Case stage.

Initially a technical committee of SunWater, Rockhampton Regional Council and GAWB representatives was formed to manage the consultancy work.

The purpose of Phase 1 was the identification and development of the strategic options available for the creation of storage assets on the Fitzroy River. Workshops were held to review the possible site options and development options of the project. Options included:

- raising the existing Fitzroy barrage to a number of various developmental levels
- raising the existing Eden Bann Weir to a number of developmental levels
- constructing a new weir at the Rookwood site, again with a number of developmental levels being considered and/or
- project or operational options comprising a combination of any or all of the above.

The workshops established that further investigations were required in order to define the strategic option to be proposed in the business case, namely; investigations into required demand, minimum reliability requirements, social and environmental acceptability of harmonic operation, further investigation into barrage and yield modelling.

The costs incurred were shared equally by the parties to the proposed Lower Fitzroy JV for this phase of the project.

#### 4.4.3 Phase 2 (Business case and environmental impactassessment)

The purpose of Phase 2 is to finalise the environmental impact assessment and the final business case. To achieve these outcomes, the appointed consultant (GHD Ltd) is providing the following services:

- project management
- environmental impact assessment
- consultation
- approvals (insofar as it affects program)
- land access and initial acquisition (insofar as it affects program)
- cultural heritage and native title
- geospatial information system
- engineering (geotechnical, flood hydrology, business case design, numerical hydraulic modelling, yield modelling (water resource modelling) and risk/value management).

The costs proposed by the joint proponents for this phase of the project will be shared equally between SunWater and GAWB.

#### 4.4.4 Standard of works

The first raising of Rookwood Weir would provide a nominal yield of approximately 40,000ML to 60,000ML. The first raising of Eden Bann Weir would provide a nominal yield of approximately 25,000ML and 30,000ML. Currently, the standard of works that will be completed in Phases 1 and 2 will identify the least cost option in order for GAWB to secure its allocation of 30,000ML.

Key components that will be achieved by 30 June 2010 include the majority of work necessary to:

- complete the environmental impact assessment

- attain an agreement with Indigenous groups for the purposes of completing the cultural heritage management plan
- project risk register
- fish passage information
- hydraulic modelling and
- concept designs for three options:
    - raising Eden Bann Weir to a fixed crest
    - constructing Rookwood Weir to a fixed crest
    - constructing Rookwood Weir with gates.

GAWB's involvement in the LFRI project has been from both the stance of a potential owner of the infrastructure and a future client of the storage. While GAWB estimates the raising of Eden Bann Weir to cost less than the construction of Rookwood Weir,[22] the capital costs per mega litre of Eden Bann Weir is estimated to be greater than those of Rookwood Weir which would have a greater storage capacity. GAWB is continuing to investigate the options available for both the Eden Bann and Rookwood Weirs. This approach will ensure that the most economically efficient option is chosen once the circumstances of any future augmentation is known.

## 4.5 Small-scale augmentation

An analysis of small-scale augmentation options is an integral part of the CSS which seeks to respond to an environment of uncertainty by developing and holding "supply solutions" that respond to the different "supply failure scenarios" that GAWB has identified as being reasonably possible.

As part of the focus on a small-scale augmentation option, investigations into a seawater desalination plant, demand management, air and seawater cooling, curtailment strategies and other water sources that may be proposed by customers have been considered. Preliminary findings of investigations into these options established that for an augmentation of less than 10,000ML per annum, a desalination plant sited in the Gladstone region represented the best option.[23]

Desalination offers potential as a short-term, scalable supply response or for long-term climate-independent security of a water source. At present, the dynamic operating environment means that project requirements and timing remain uncertain; however investigations into desalination simultaneously provide a competitive benchmark against alternatives and incrementally advance GAWB's preparedness.

As with the approach taken to the large-scale augmentation initiative, the approach to desalination is to also reach a state of preparedness to augment within a nominal two-year construction program, should the need arise. Given the smaller scale of the potential augmentation, the shorter timeframe for construction and necessary preparatory works, a state of preparedness for the desalination plant is considered to be:

- site identification
- approvals time line

[22] GHD (2009) *Lower Fitzroy Infrastructure Project: Project Cost Estimate for Preliminary Business Case*

[23] Arup (2008) *Desalination Scoping & Siting Study*

- clarity as to level of environmental investigations
- dispersion modelling
- network integration modelling
- preliminary investigations, as required, for environmental and engineering purposes (e.g. water quality) and
- concept design that would support a tender process.

GAWB plans to have attained this capability by 30 June 2011.

The purpose of the feasibility study of a desalination plant is twofold:

- to further investigations into the options available to GAWB to augment water supply to its service area and
- to ensure that GAWB's augmentation strategy is the least cost solution that is appropriate for the circumstances at the time.

To gain the capability to assess its options, GAWB needs to both assess the feasibility of a local desalination plant and ascertain a more detailed assessment of likely costs to assist with planning.

The scale of cost and timing of a small-scale augmentation is less than that required for a large-scale augmentation, so GAWB maintains that many of the activities undertaken in preparatory works for the GFP project are not required for the desalination project until an early works stage post-trigger. Therefore, GAWB will have achieved its required state of preparedness for a desalination plant on completion of the feasibility studies described below.

### 4.5.1 Program of works

Currently GAWB is undertaking Stage 1 of the Desalination Project to progress the feasibility study prior to commencing preparatory works sufficiently so that a desalination plant could be commissioned and operable within two years of trigger (anticipated earliest being 1 January 2014). The program of works for this stage has been divided into the following two stages, subject to ongoing review:

- Stage 1a – scoping and siting studies for preliminary works
- Stage 1b – refinement of project definition.

Further work to be completed, should the project proceed to implementation, would be subject to GAWB gaining Ministerial approval.

#### *4.5.1.1 Stage 1a*

The preliminary work completed in 2008/09 produced a multi-criteria analysis of various site locations for a desalination plant within the Gladstone region. This study indicated that co-location of a desalination plant with the existing Yarwun water treatment plant site would be preferable, with a site near the Gladstone Regional Council's sewage treatment plant being marginally second.

Parallel work undertaken established that a quantum rise in the construction cost compared with previous estimates for the expenditure was due to:

- likely poor intake water quality and
- higher estimated cost of construction for the marine intake structure.

#### 4.5.1.2 Stage 1b

The focus for Stage 1b is to continue the feasibility study of a local desalination plant. This will involve improving the accuracy of the estimates methodology surrounding the construction of the marine infrastructure and pre-treatment works; conducting detailed water quality analysis around the potential intake site, investigating the potential savings for co-location with industrial partners; and progressing tasks necessary to a point of readiness for construction.

Further work is being undertaken in 2009/10 to:

- finalise the preferred site for the location of a possible desalination plant for planning purposes
- finalise concept plans with specific focus around marine works
- develop a robust baseline water quality data, as it is relevant to both intake and outfall (i.e. brine dispersal)
- develop risk assessment of the project and
- develop a strategy for the efficient construction of a small-scale desalination plant within a set time of an augmentation trigger to be ready by the earliest date of January 2014.

Stage 1b is planned to be completed by 30 June 2010.

### 4.5.2 Standard of works

Currently, the standard of works that will be completed in Stage 1 will identify the best site for a desalination plant that can deliver up to 10GL per annum.

Key components achieved by 30 June 2010 will be:

- strategy for progressing the various activities required for a state of preparedness and
- best strategic site for the construction of the desalination plant.

From 2011 to 2030, for the purposes of the 2010 price review submission, GAWB envisages that there will be feasibility expenditure in 2011 in order to attain a state of preparedness; and from 2011 onwards, some expenditure to maintain the state of preparedness achieved.

# 5 Governance processes

GAWB implemented specific governance processes for the CSS. These processes are described in this section.

## 5.1 GFP project

To formalise and structure the preparatory works, a steering committee was convened in January 2007 that consisted of GAWB personnel, a Board appointed consultant, and representatives of external advisors and consultants. Monthly meetings were held by the steering committee and reports from these meetings were tabled each month to the Board. Initially, an external consultant, Arup, performed the project and program management roles as well as providing technical advice and coordinated investigative works.

During Stage 2, two key approvals processes needed to be completed:

- seek approval from the shareholding Minister for the authorisation for GAWB to spend an estimated $20.9m on preparatory works of the GFP project and

- make a submission to the Authority in relation to GAWB's ability to recover the cost of the GFP project preparatory works in the 2010 price review.

Post-feasibility, Stage 2 activities required a greater commitment from GAWB with the appointments of a Brisbane-based GAWB project team and a contracted designer.

The GAWB project team was a small client representative team that was co-located with all the contracted designers in premises in Brisbane. This team was directly responsible for monitoring the progress of the project and associated expenditures. It consisted of a Project Director, a contracted Project Manager to represent GAWB's interests in relation to the design and engineering aspect, and a Finance Manager.

The GAWB Board approved a GFP project specific *System of Governance Roles* and an *Authorities and Delegations Manual* that was issued to its project team. Early in 2008, KPMG was appointed to perform internal governance and finance audits to verify the integrity of the internal processes and controls implemented by the project eam.

The final selection of the design contractor was performed through a competitive tender process overseen by an external probity auditor. The recommendation to the Board for the appointment of CDU was made by a tender panel comprising a Board member, an external representative appointed by the Board, GAWB's Chief Executive Officer (CEO) and GAWB's Specialist Engineer.

A Project Delivery Proposal Agreement (PDPA) was signed by representatives of the companies that were party to the CDU joint venture and GAWB.[24] The key outcome of the PDPA was a set of deliverables summarised as:

- design documentation
- construction management documentation
- risk management documentation and
- costing documentation (including a risk adjusted price (RAP)).

Supplementary to the PDPA document was a separate schedule, Schedule 7, which set out GAWB's functional requirements of the GFP project. As per Schedule 7, CDU was required to prepare options reports for key design parameters that had not been concluded at the start of the design phase. The purpose of the options reports was to present to GAWB a credible case for the selection of the preferred design options to enable informed decision-making and demonstrate due diligence.

These reports were the result of discussions held in optioneering workshops attended by representatives of CDU, the owner's engineer (Arup) and GAWB's operations unit; combined with quotes sought from suppliers and financial analysis applied to different scenarios which where then reviewed by the owner's engineer [25]to:

> *Identify areas where there may be weaknesses particularly where the reviewed report lacks clarity or has omitted essential information, contains inconsistencies and/or errors.*

To strengthen the relationship between the CDU and GAWB, a delivery leadership group was formed. The group comprised senior members of the three companies

[24] Minter Ellison (200) *Project delivery proposal agreement Gladstone-Fitzroy Pipeline Project*

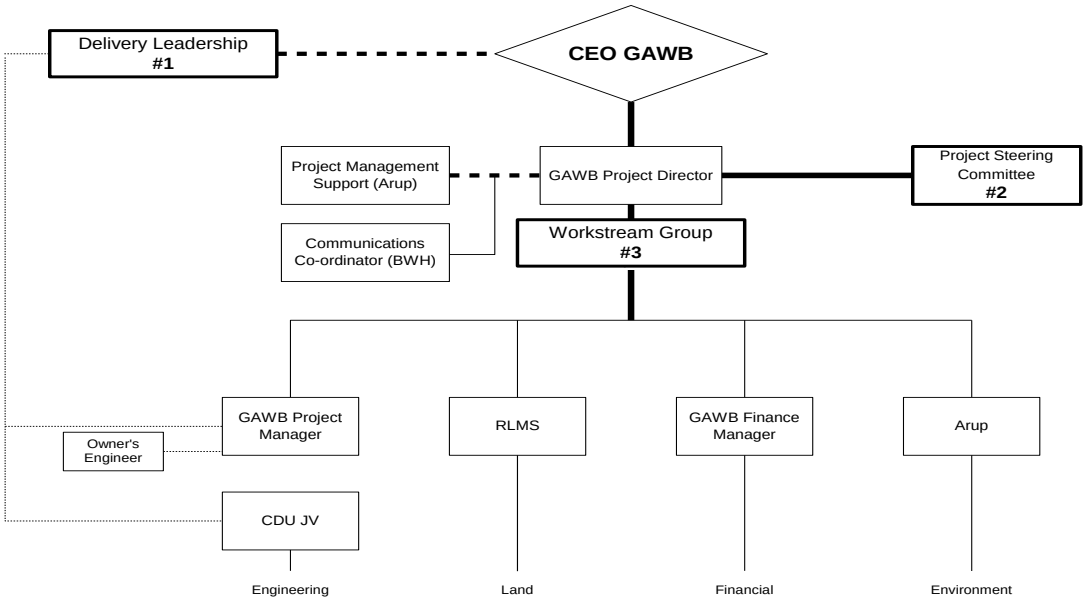
[25] Arup (2008) *Gladstone Fitzroy Pipeline: Comments on CDU Optioneering Reports, p.A1*

that are party to the CDU, CDU Project Manager, GAWB's CEO, GAWB's Project Director and Project Manager. The role of the group was to:

- develop the relationship for the construction phase, including addressing any issues that arise in the design phase between CDU JV and GAWB and
- focus upon the early contractor involvement process and delivery of design phase objectives.

The project's organisation chart is depicted in diagram 2 below.

Diagram 2: GFP Project Organisation Chart




The owner's engineer performed a review in March 2008 of the deliverables to be received under the PDPA.[26] Following this review, the owner's engineer developed the format of the formal documentation review process that would involve representatives from CDU, external consultants and GAWB's Operations Unit.[27] The objectives of this process were to gain:

- confidence that over-arching objectives and functional requirements (for the project) were achieved
- confidence that contractual requirements would be met
- confidence that, should the project progress to construction, there need not be significant cost variations that could be attributed to the design
- confidence that the scheme would work according to GAWB's specific needs, abilities and constraints as agreed during the PDPA stage
- greater certainty that the proposals represented value for money

[26] Arup (2008) *Gladstone – Fitzroy Pipeline: Review of PDPA Deliverables, PowerPoint presentation to GAWB Board*

[27] Arup (2008) *Memorandum: Deliverables review process and procedures*

- confidence that the scheme would meet expectations with regard to quality and standards as described in Schedule 7 of PDPA
- confidence that the scheme could be constructed efficiently within the required timeframe.

In conjunction with the review of the actual designs, GAWB employed external estimators to provide external assurance that the design and calculations of the RAP were acceptable. This appointment required the estimator to develop an independent total cost estimate (TCE), compare its TCE with the CDU's RAP, then document the variances and make recommendations to GAWB regarding their findings.

The outcome of this external validation process was the refinement and negotiation of the proposed attributes of final value of the RAP, clarification of clauses for the construction contract, and the inclusion of a proposal that the RAP be re-validated on trigger of an augmentation.

Discussions regarding these aspects of the RAP and the implications for the construction contract have continued into the Transition and Maintenance stage (TAM) of the project.

In line with the previous stage of the project, the Board approved an *Authorities and Delegations Manual* specifically for TAM in 2009.

GAWB is currently negotiating a conditional construction contract with CDU which is subject to various conditions precedent, including that GAWB issues a notice to proceed once the triggers for construction have occurred. The contract will preserve GAWB's options to use an alternative contractor if this is considered appropriate.

During Stage 2, both the Steering Committee and CDU established, maintained and regularly updated risk registers for the GFP project. These registers are recognised within GAWB's internal risk framework and will be fully integrated into GAWB's risk register by June 2010.

## 5.2 LFRI project

In August 2005, GAWB signed a memorandum of understanding along with the former Rockhampton City, Fitzroy Shire, Mt Morgan and Livingstone Councils to form the Lower Fitzroy River Sub Regional Water Planning Group; whereby they agreed to form a voluntary and consensus based forum in order to:

> *Cooperate and consult each other with respect to regional water issues so as to achieve the best possible outcomes*[28].

Subsequent to the publication of the *CQRSSS*, in 2007 the group explored the institutional arrangements that may apply to an entity responsible for the proposed storage infrastructure on the Fitzroy River. In December 2007 the parties to the proposed joint venture signed a memorandum of understanding[29] with the following objectives:

> (a) to have an effective structure to own, operate and manage in stream assets in the Fitzroy River for the long term

[28] Lower Fitzroy Water Supply Planning Group (2005) *Memorandum of Understanding* 24 August 2005

[29] Rockhampton City Council, Livingstone Shire Council, SunWater & GAWB (2007) *Memorandum of Understanding, p.4*

*(b)* to hold a resource operations licence in relation to the operation and management of such in stream assets under Queensland *Water Act 2000*

(c) to meet bulk water customer and retail customer requirements, including water product development

(d) to establish pricing for the provision of water and related services and

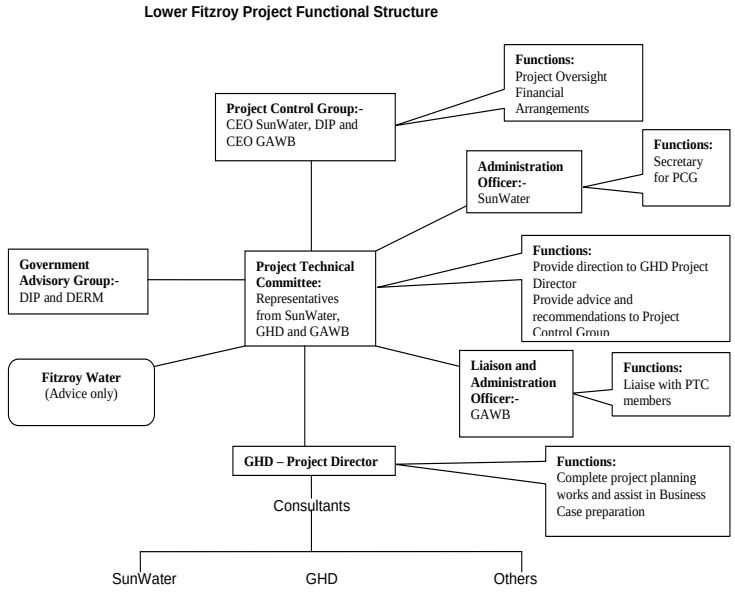
(e) to hold and trade spare water allocations.

In 2008 the parties to the proposed JV agreed that a corporate vehicle was the best method to advance the necessary preparatory works, with each member having an equal shareholding. In November 2008, GAWB submitted a business case to its Minister concerning its investment as a shareholder in the proposed company. GAWB's business case also sought the approval of the Treasurer for the investment in shares of a company as required by section 60A of the *Statutory Bodies Financial Arrangements Act 1982 (Qld).*

After the withdrawal of Rockhampton Regional Council from the negotiations, GAWB updated the Co-ordinator General on the progress of the works and the status of the JV negotiations in February 2009. GAWB advised that SunWater and GAWB would not progress the establishment of the JV entity but would work cooperatively on the development of a business case.[30]

For this purpose a functional structure has been put in place, depicted in diagram 4 below, with regular meetings of the Project Technical Committee and monthly progress reports being tabled to the Board.

Diagram 4: LFRI Project Functional Structure




Concurrent to GAWB's involvement in the project, GAWB's water allocation under the CQRWSS has now been formalised through the amendment of the Fitzroy Basin Resource Operations Plan 2004 in July 2009.

During Phase 2, GHD Ltd will establish, maintain and regularly update a risk register for the LFRI project that will be presented at Project Technical Committee meetings.

[30] Letter from Mr. Colin Jensen dated 19 March 2009

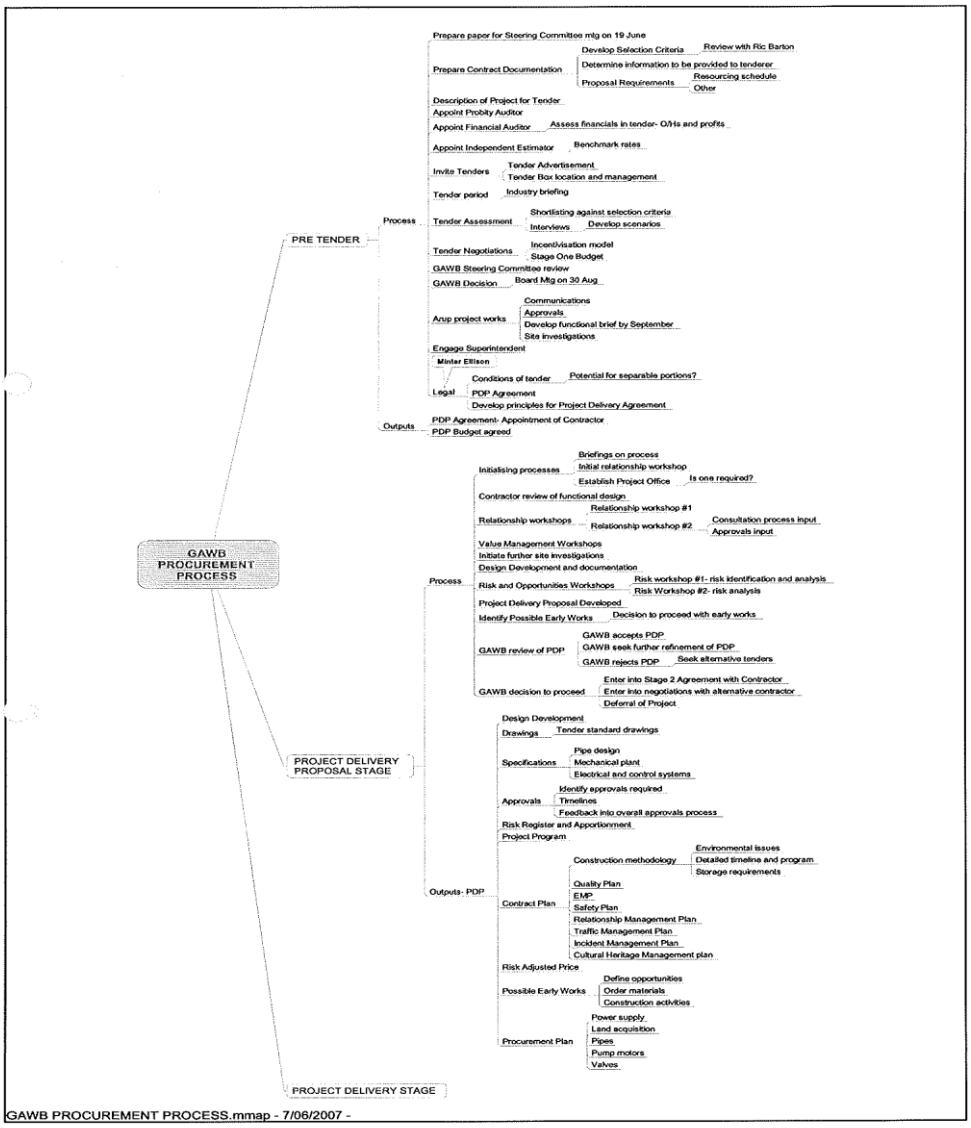
# 6 Procurement processes

GAWB also implemented specific procurement processes for the CSS. These processes are described in this section.

## 6.1 GFP project

The critical procurement process was the appointment of a contracted designer in late 2007. In preparation for GAWB to go to the market with a competitive tender process in mid-2007, the steering committee mapped the proposed procurement process for this appointment, depicted in diagram 5 below.

Diagram 5: GAWB Procurement Process




GAWB commissioned legal consultants to explore the options available for the delivery of the project.[31] The models considered included a conventional head contracting design (tender, contract award/administer), design and construct, an alliance, managing contractor and an early contractor involvement.

[31] Minter Ellison (2007) *Discussion Paper – Project Delivery Models*

In the context of attaining a state of preparedness to construct in November 2008, GAWB's underlying requirements of the selection process were to:

1. achieve the completion of construction by mid-late 2010
2. provide time and cost certainty concerning the construction phase by April 2008
3. Provide flexibility in decision to proceed and/or pace construction until April 2008
4. achieve GAWB value for money requirements
5. reflect principal resource capacity.
6. maintain consistency of technical solution with GAWB objectives and functional design.[32]

GAWB decided to deliver the GFP project through a variant of the early contractor involvement (ECI) model. The intention of adopting this methodology was to provide GAWB with greater flexibility to respond to water supply requirements while advancing components for securing the solution. The proposed contracting process comprised of two stages:

- design stage under a Project Delivery Proposal Agreement (PDPA) and
- construction stage under a Project Delivery Agreement (PDA).

GAWB, at its discretion, had the right to elect to proceed to the construction stage with the contractor, or seek submissions from other contractors.

In Stage 2 the scale of proposed services to be provided by external parties increased markedly. GAWB made specific project staff appointments in line with GAWB's internal Human Resources policies that were approved by the Board. Appointments of external consultants required the submission of scopes of service and quotes (including a breakdown of the hourly rates for the proposed individuals to be involved). This resulted in Service Provider Agreements between the consultants and GAWB.

With the change of program in April 2008, a Deed of Variation of Preparatory Works Agreement (variation to the PDPA) was negotiated with CDU that applied from 1 July 2008 onwards. The key changes reflected in this variation were:

- an extended applicable timeframe
- a revised set of deliverables
- inclusions of a profit and overhead margin for services provided post- Stage 2 and
- movements in labour rates that had occurred to 1 July 2008.

GAWB appointed KPMG to perform an independent audit of all rates embodied in the variation agreement.

The scale of activity planned for TAM is markedly less than Stage 2 of the project. GAWB has continued to apply the same procurement processes as earlier stages, and any involvement by the CDU during this stage is covered under the variation agreement to the PDPA. GAWB envisages that maintenance will involve a number of relatively less critical activities being scheduled in 2009/10.

[32] Letter from Minter Ellison RE: Gladstone – Fitzroy Pipeline Project ECI Procurement Approach dated 12 June 2007

## 6.2 Lower Fitzroy River Infrastructure project

In September 2008, SunWater requested engineering consultants, GHD Ltd, to provide them with an expression of interest (EOI) for engineering, management, environmental and stakeholder management services for works associated with the Lower Fitzroy JV. In December 2008, GHD Ltd lodged with GAWB a Preliminary Scope of Work to progress the project to Final Business Case for project funding and approval by the Department of Infrastructure and Planning.

GAWB had just finalised a Service Provider Agreement with GHD Ltd, and as the JV group formation was imminent, it was agreed that GAWB would engage GHD Ltd directly on behalf of the imminent JV until it was formed. GHD Ltd was requested to provide a detailed scope of work and cost estimate based on GAWB's Service Provider Agreement.

The scope was phased as follows:

- Phase 1 to coincide with JV formation – November to December 08
- Phase 2 to coincide with the end of 2008/09 financial year
- Phase 3 to end of design stage
- Phase 4 to include implementation.

In February 2009, GAWB requested GHD Ltd to revise the scope of work, in particular the program that relaxed the completion of implementation from mid to late 2012. The end of Phase 2 is now planned to coincide with the end of the 2009/10 financial year, and GAWB is continuing negotiations with GHD Ltd to ensure that best value for money is achieved.

While it was agreed that the necessary expenditure would be shared equally by GAWB and SunWater, it was ultimately decided this would occur directly, not through the medium of a corporate vehicle, as had been contemplated prior to the withdrawal of Rockhampton Regional Council.

GAWB has revised its business case for re-lodgement with its Minister and, notwithstanding the impact of the change in the form of the transaction, the reason for the expenditure remains unchanged; that is to achieve a similar level certainty from the involvement in the LFRI project as GAWB has from the GFP project in order to strategically assess and progress, if required, a large-scale augmentation.

# 7 CSS Expenditure to 30 June 2010

## 7.1 GFP project expenditure

In respect to the CSS preparatory expenditure, the Authority recommended in December 2007 that:

- *Efficient preparatory costs should be taken in to account when determining prices at the next regulatory reset; and*
- *The appropriate WACC rate for capitalising preparatory costs is the WACC rate that applies from time to time to GAWB's regulated assets.*[33]

[33] Queensland Competition Authority (2007) *Final Report: Gladstone Area Water Board: 2007 Investigation of Contingent Water Supply Strategy Pricing Practices Stage A*

The amounts shown in the following sections are either the historical cost incurred or the forecast future costs that have not been adjusted by weighted average cost of capital (WACC).

GAWB's definition of eligible costs that has been applied to CSS preparatory works is:

> *The types of expenditures, which will be accepted in any subsequent review, that are necessary to be incurred to allow the augmentation to be implemented cost-effectively within the required time.*[34]

The following table summarises the estimated expenditure to be incurred by GAWB at 30 June 2010.

| CSS Cost Centre | Initial Forecast to mid 2008 $M | Expenditure By Stage to 30 June 2010 | | | | | |
|---|---|---|---|---|---|---|---|
| | | Total Actual 2005/06 $M | Total Actual 2006/07 $M | Total Actual 2007/08 $M | Total Actual 20008/09 $M | Forecast 2009/10 $M | Overall Total $M |
| ***Sub-total GFP Project*** | 23.9 | 0.2 | 1.8 | 14.9 | 10.9 | 4.3 | 32.1 |
| ***Federal Funding*** | | | | -10.0 | | | -10.0 |
| ***Net Overall Cost of GFP Project*** | | 0.2 | 1.8 | 4.9 | 10.9 | 4.3 | 22.1 |
| | | | | | | | |
| ***Desalination*** | 1.0 | 0.0 | 0.0 | 0.5 | 0.4 | 0.3 | 1.2 |
| | | | | | | | |
| ***Total Cost of Securing Water*** | | 0.0 | 0.0 | 0.2 | 2.3 | 6.0 | 8.5 |
| | | | | | | | |
| ***Total Regulatory Submissions & Decision Tool*** | | 0.0 | 0.3 | 0.4 | 0.6 | 0.3 | 1.6 |
| | | | | | | | |
| **Total CSS Preparatory Works:** | 24.9 | 0.2 | 2.1 | 6.0 | 14.2 | 10.9 | 33.4 |

The following sections discuss the variances to initial forecasts submitted to QCA in 2007 by major cost centre.

In relation to the estimates for the rest of 2009/10, GAWB will continue to complete the following CSS activities:

- Large-scale augmentation:
    - maintain the investment to date in designing a delivery system and

[34] Queensland Competition Authority (2007) *Final Report: Gladstone Area Water Board: 2007 Investigation of Contingent Water Supply Strategy Pricing Practices Stage A*

- progress its involvement in securing a water source by coordinating the completion of tasks required of the joint proponents of the LFRI project to the end of Phase 2.

- Small-scale augmentation:
  - progress the feasibility studies of the establishment of a desalination plant for informed decision making.

Costs and cost comparisons in the remainder of section 7.1 are set out in standardised tables. The following table explains the costs listed in each column of the standard table.

| CSS Cost Centre | Initial Forecast to mid 2008 $M | Expenditure By Stage to 30 June 2010 | | | | |
|---|---|---|---|---|---|---|
| | | Total Spend to 30 June 2008 $M | July 2008 to 31 Dec 2008 $M | Jan to June 2009 (TAM) $M | Forecast 2009/10 (TAM) $M | Overall Total $M |
| Grouping of activity undertaken for the project | Initial March 2007 estimate of proposed cost of GFP Project that was based on a November 2008 commencement of construction | Actual amount incurred to 30 June 2008. | Actual amount incurred to 31 Dec 2008. GFP Project finalisation of design, demobilisation and change management period. | Beginning of transition and maintenance of GFP Project. | Ongoing transition and maintenance of GFP Project | **Overall total estimated to be spent to 30 June 2010** |

### 7.1.1 GFP project - project management

The purpose of the project management cost centre is:

> *to perform all necessary governance activities necessary to plan, coordinate, monitor and report on the project. This includes ongoing internal and external stakeholder engagement, risk management, appointment of a contracted designer and the compilation of business cases as required.*

The original estimate presented to the QCA of $3.5m was based on a November 2008 construction commencement.

| CSS Cost Centre | QCA: Initial Forecast to mid 2008 $M | Expenditure By Stage to 30 June 2010 | | | | |
|---|---|---|---|---|---|---|
| | | Total Spend to 30 June 2008 | July 2008 to 31 Dec 2008 $M | Jan to June 2009 (TAM) $M | Forecast 2009/10 (TAM) $M | Overall Total $M |
| Project Management | 3.5 | **2.726** | 0.943 | 0.944 | 0.703 | **5.315** |

However, the initial estimate did not take into account the following critical elements:

- the significant role of project management should the program change
- the significant impact of an uncertain construction date and
- provision for the necessity to develop an agreement with a constructor.

The key impacts of these elements on actual and forecast expenditure are:

- From March 2008, project management expertise has been required to assess, plan then implement a change management phase that finished early in TAM (February 2009). This involved a comprehensive review of the realignment of the entire program and its activities in order to assess the most efficient and effective utilisation of the resources.
- There was a need for revision, then renegotiation, of contractual arrangements in place.
- There was ongoing commitment of the cost of GAWB project management staff to the project.
- In addition, the negotiation of a variation to the PDPA meant that GAWB incurred legal, consultant, CDU and its own personnels' costs that had not been envisaged. The variation agreement was not officially finalised until March 2009.
- Preliminary discussions for the negotiation of the construction contract occurred in April 2008, however it was dependent on the completion of the process embodied in the PDPA and any changes reflected in the variation agreement prior to then agreeing the content of the actual contract. Costs associated with negotiations will be the main cost of TAM forecast project management in 2009/10.

GAWB was cognisant of the fact that the new version of the proposed risk adjusted price to be provided under the terms of the variation agreement to the PDPA, referred to as risk adjusted price version zero (RAP0)[35], would have consequent impacts on GAWB's strategies in the future, namely:

  - pricing implications for customer consideration
  - benchmarking for future consideration of other possible constructors and
  - securing funding should augmentation occur.

Therefore, the investment in project management expertise of a strategic level is seen as a key prudent expenditure that will provide value for money in the future.

### 7.1.2 GFP project - approvals

The purpose of the approvals cost centre is:

> *to compile and apply for all environmental, Indigenous and cultural heritages, Native Title, agency and landholder approvals, as required, so that GAWB meets its legislated obligations and obtains access to sites for the activities of this stage.*

The initial estimate presented to the QCA of $1.9m was based upon material assumptions concerning:

[35] CDU (2008) *Basis of Estimate For Gladstone Fitzroy Pipeline Project (Rev Z*)

- access to land and
- certainty of alignment within the State Government Infrastructure Corridor (SGIC).

These assumptions proved conservative.

| CSS Cost Centre | QCA: Initial Forecast to mid 2008 $M | Expenditure By Stage to 30 June 2010 | | | | |
|---|---|---|---|---|---|---|
| | | Total Spend to 30 June 2008 $M | July 2008 to 31 Dec 2008 $M | Jan to June 2009 (TAM) $M | Forecast 2009/10 (TAM) $M | Overall Total $M |
| Approvals | 1.9 | **2.475** | 0.709 | 0.374 | 0.585 | **4.143** |

The scale of work undertaken for approvals was in line with the need to complete a comprehensive business case, as per the Program of Works***,*** that included detailed analysis of the economic and financial issues, public interest issues, policy implications of Native Title, cultural heritage and environmental impacts relating to the project. In addition, all costs related to gaining access to sites and liaising with landholders for the purposes of engineering and environmental studies have been included in this cost centre.

The declaration of the significant project status, in July 2007, meant that GAWB was then required to compile a comprehensive EIS. Initial investigations were undertaken in late 2007, however lack of accessibility to some sites combined with the need to revisit sites after significant rains meant that unforeseen delays occurred in completing the EIS in early 2008. GAWB was dependent on advice from Department of Infrastructure and Planning (DIP) concerning expected timing to confirm GAWB's route through the GSDA and also the declaration of the SGIC. Within these constraints during 2007 and early 2008, GAWB was working to a planned November 2008 construction date, meaning that those activities could not be deferred until certainty was obtained. The substantial delays in both of these matters increased costs concerning land access and the collection of data for environmental approvals. This delay also had an impact on the efficiency of completing investigations for engineering purposes.

The change of program in March 2008 allowed a more measured and thorough approach to be taken to the EIS. A portion of the costs of the EIS can also be attributed to the success of the communication strategy and the public consultation process undertaken by GAWB which allowed the community to voice concerns regarding the project. Through the EIS public consultation process, GAWB received 28 submissions that were dealt with in a supplementary EIS submitted to DIP in June 2009. This included specific issues raised by the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) about the species of importance, the yellow chat bird, which required further investigations.

Since June 2008, in summary, GAWB comprehensively reviewed, approved and published its EIS, investigated the process for attaining a community infrastructure designation (CID) approval, and progressed the completion of a cultural heritage management plan.

The final site selection and route definition were key decisions for all activities in Stage 2, therefore land access was critical for consultations with landholders that

required one-to-one communication outside GAWB's normal sphere of influence. Activities such as the investigations for an EIS, geotechnical investigations, easement negotiations, and the compilation of a cultural heritage management plan needed to be undertaken.

In TAM, GAWB will address the four submissions received to the supplementary EIS process in order to gain approval to its EIS, finalise a cultural heritage management plan, progress preliminary investigations into approvals associated with the EIS (e.g. vegetation clearing, Queensland Rail access permit and Powerlink access) and continue investigating the option of a community infrastructure designation.

### 7.1.3 GFP project - land

The purpose of the land cost centre is:

> *to negotiate and acquire the ownership, licences and easements for the pipeline and associated infrastructure sites.*

The initial estimate presented to the QCA of $5.1m was based on a commencement of construction in November 2008 and assumed that GAWB would be required to make a nominal, not a full (e.g. an option fee) payment to DIP to secure its positioning of the SGIC.

| CSS Cost Centre | QCA: Initial Forecast to mid 2008 $M | Expenditure By Stage to 30 June 2010 | | | | |
|---|---|---|---|---|---|---|
| | | Total Spend to 30 June 2008 $M | July 2008 to 31 Dec 2008 $M | Jan to June 2009 (TAM) $M | Forecast 2009/10 (TAM) $M | Overall Total $M |
| Land Acquisition | 5.1 | **0.128** | 0.172 | 0.136 | 1.758 | **2.195** |

As with the other activities in the project, the change of program removed the urgency to acquire land; and a more measured and planned approach has been undertaken. This has allowed the deferral of the finalisation of the land acquisition program to the TAM forecast for 2009/10. GAWB considered the implications of pursuing options over the required land and determined that, given the uncertain construction date, it would only acquire ownership of sites critical for the construction of the infrastructure within a nominal two-year time frame. This included lots for the water treatment plant at Alton Downs, the site for a pump station at Raglan and land for a reservoir at Aldoga.

For the purpose of the pipeline, GAWB will negotiate and secure 28 easements in Alton Downs and one access to the Raglan pump station. The intake on the Fitzroy River will be situated on a site currently leased by SunWater, and GAWB is currently finalising this access arrangement.

Given the change in program in April 2008, GAWB has modified its approach to the negotiations with the State regarding the licence for the two state development areas (SDA) in the GFP project area. GAWB intends to secure a first right of refusal regarding the route alignment within the SGIC and the Gladstone SDA. The timing and scale of any applicable licence fee or capital contribution are yet to be determined.

### 7.1.4 Communication

The purpose of the communication cost centre is:

> *to manage all aspects of ongoing internal and external stakeholder communications.*

The initial estimate presented to the QCA of $1.5m was based on a commencement of construction in November 2008 and envisaged the establishment of a comprehensive communication platform that would be required throughout the entire project.

| CSS Cost Centre | QCA: Initial Forecast to mid 2008 $M | Expenditure By Stage to 30 June 2010 | | | | |
|---|---|---|---|---|---|---|
| | | Total Spend to 30 June 2008 $M | July 2008 to 31 Dec 2008 $M | Jan to June 2009 (TAM) $M | Forecast 2009/10 (TAM) $M | Overall Total $M |
| Communication & Consultation | 1.5 | **0.356** | 0.132 | 0.0 | 0.040 | **0.528** |

The Referral Notice issued by the Premier in February 2007 directed GAWB, under Section 24 of the *Queensland Competition Authority Act 1997*, to consult with GAWB's customers and other relevant stakeholders. As part of the consultation process, GAWB compiled a communication strategy that consisted of a communication plan and a public engagement plan.

The communication plan focused on corporate and community relations activities to build a stable platform for GAWB to commence the preparatory works of the GFP project. Specific goals were to:

- position GAWB as a responsible water manager for the region
- build GAWB's profile within the community as a good corporate citizen and
- facilitate GAWB's special projects.

To achieve these goals, the aim of the public engagement plan was to efficiently and effectively manage stakeholder interactions for the duration of the entire GFP project, should the need arise. Through this plan, GAWB aimed to:

- inform and educate the community about the GFP project
- provide opportunities for the community to participate in, and comment on, the EIS for the project and
- develop relationships and communicate directly with relevant stakeholders to assist with negotiations related to acquiring the pipeline easement and/or land for related infrastructure.

Given the critical need to facilitate effective interactions with stakeholders, external communication protocols were defined and implemented for all interactions on behalf of the project with external stakeholders.

In Stage 2, the emphasis of the communication strategy broadened from interactions with government and customers to interactions with stakeholders in the central Queensland region.

In TAM, GAWB will continue its stakeholder communications through a newsletter and ongoing meetings with landholders.

### 7.1.5 GFP project - engineering/technical support

The purpose of the original engineering cost centre was:

> *to complete all investigations and studies necessary for the route selection and detailed design of the pipeline and associated infrastructure.*

The significant rain event critically changed this purpose:

> *To complete all investigations and studies necessary for the route selection and level of design of the pipeline and associated infrastructure necessary to:*
>
> - *provide GAWB with confidence in the risk adjusted price for construction and*
> - *provide GAWB with the ability to go to the market, if required, to procure a constructor.*

In line with the change of emphasis of this cost centre, the purpose during TAM has transitioned to one of technical support, as required.

| CSS Cost Centre | QCA: Initial Forecast to mid 2008 $M | Expenditure By Stage to 30 June 2010 | | | | |
|---|---|---|---|---|---|---|
| | | Total Spend to 30 June 2008 $M | July 2008 to 31 Dec 2008 (Stage 2B) $M | Jan to June 2009 (TAM) $M | Forecast 2009/10 (TAM) $M | Overall Total $M |
| Engineering / Technical Support | 6.9 | **11.238** | 7.333 | 0.137 | 0.737 | **19.445** |

The initial estimate presented to the QCA of $6.9m was based on a commencement of construction in November 2008 and was compiled prior to GAWB initiating its tender process for the selection of the final design contractor. As part of the tender process, an analysis of the six submissions[36] received identified that the median cost of services to be provided by the designers was $11.6m. An outcome of the tender process was that GAWB gained greater clarity about the costs involved in the design and the suggestion of the potential efficiencies to be gained from the establishment of a project office, given the diverse range of skills that would be drawn from different organisations.

Consideration was not given in the initial forecast of $6.9m to:

- associated ancillary costs of the designer providing their services
- importance of the owner's engineer role
- cost of a review process for validation of deliverables post-design and
- contingent amount should the construction date be deferred.

To gain the most value from the CDU's resources to be employed, and to achieve internal design efficiencies as well as a measure of control for GAWB, it was decided that the GFP project team and the contracted designers would be co-located in a Brisbane office. The contracted designers were employees of six separate organisations (three JV companies, Maunsells Aecom, Worley Parsons

[36] Arup (2007) *Gladstone Fitzroy Pipeline Tender Evaluation*, pg.149

and Welcon). This cost was not included in the initial forecast for the submission to the QCA.

The optioneering process undertaken during the design phase ensured that value for money was incorporated into the major design elements finalised during CDU's engagement, as per the requirement of Schedule 7 to the PDPA. A further layer of review was added to this through the formal review of the options reports by Arup in their capacity as owner's engineer.[37]

The critical impact on the overall cost of engineering was the significant inflows into the Awoonga Dam that occurred in February 2008 and the subsequent review of the program of works to achieve a state of preparedness for an uncertain construction date. The direct changes that impacted on the engineering process were:

- where prudent planned activities were deferred
- the deliverables to be received under the contract with the designer were refined
- the necessary review process was clarified
- planned demobilisation was to be implemented
- a platform for negotiating a conditional construction contract was formulated and
- the need for an 'early works' stage was identified, expected to be post-trigger and the six months prior to the commencement of construction.

The overall significance of this change on the engineering cost centre was the impact on the required level of design which must:

- provide the best value for money from the resources already deployed
- facilitate GAWB attaining a level of preparedness
- provide sufficient flexibility for GAWB to go to the market, if required
- be to a sufficient level so that refinement and modifications could be carried out efficiently in the future and
- be to a level that adds integrity of the risk adjusted price (RAP) to be provided.

In March 2008 GAWB determined that a level of 80% complete design was sufficient to achieve the above outcomes and the most efficient utilisation of the combined resources working on the project (see Attachment A) which depicts the options considered in relation to the level of design and potential costs involved. The completion of detailed design will be outstanding at the time of triggering augmentation but would be finished in the early works stage, prior to commencing the construction works. Attachment B depicts the proposed phases in the future, if a large-scale augmentation is triggered.

Since July 2008, GAWB has comprehensively reviewed the deliverables provided by CDU, finalised design to a level cognisant with a holding phase of the project, demobilised resources and involved estimators in the risk adjusted price calculation.

The PDPA was based on a cost recovery model for incurring expenditure whereby the parties to the CDU JV did not gain a margin unless construction was not triggered within six months of GAWB issuing an acceptance notice that the documentation received under the agreement was of a suitable and expected

[37] Minter Ellison (200) *Project delivery proposal agreement Gladstone-Fitzroy Pipeline Project*

standard. Under this clause, due to the change of program, GAWB has incurred a one-off Profit & Overhead margin cost of $1.9m in June 2009.

In TAM, non-urgent engineering activities will be finalised; and ongoing engineering studies to clarify risk items that were identified in Stage 2 will be completed.

#### 7.1.6 GFP project - assets

The purpose of the assets cost centre is:

> *to acquire all necessary assets to complete preparatory stage of the project in readiness for a two-year efficient construction program.*

Specifically in relation to asset creation, the Authority stated that:

> *Asset creation should be deferred until the preferred contingent supply source is settled. Any items purchased in advance of construction will be at GAWB's own risk.*[38]

In line with the above ruling of the Authority as to "acceptable expenditures", the amounts incurred on the GFP project for assets that are in GAWB's asset register or classified as minor or pooled assets have been removed from the overall net total of CSS preparatory works of $33.089.

The reasoning for this is twofold; firstly, the assets in the asset register ($162k) will be incorporated in the pricing model and secondly, the minor and pooled assets ($116k) that were expensed are being utilised as operational assets on an ongoing basis within GAWB and are no longer for the sole purpose of the project.

The initial estimate presented to the QCA of $5.0m was based on market conditions at the time, the number of significant projects taking place and the lag in procuring pipe supply.

| **CSS Cost Centre** | **QCA: Initial Forecast to mid 2008 $M** | **Expenditure By Stage to 30 June 2010** | | | | |
|---|---|---|---|---|---|---|
| | | **Total Spend to 30 June 2008 $M** | **July 2008 to 31 Dec 2008 (Stage 2B) $M** | **Jan to June 2009 (TAM) $M** | **Forecast 2009/10 (TAM) $M** | **Overall Total $M** |
| Asset Creation | 5.0 | **0.0** | 0.0 | 0.0 | 0.136 | **0.136** |

A combination of factors impacted on the planned Stage 2 procurement activity that resulted in GAWB deciding that it was prudent to defer these activities. These included:

- change in market conditions affecting availability of supply and
- change in the program of works and the uncertainty of a trigger.

During TAM, GAWB is monitoring the market for indications that market forces may require a review of this deferment, and GAWB plans to secure access to a power supply to be provided by Ergon.

[38] Queensland Competition Authority (2007) *Final Report: Gladstone Area Water Board: 2007 Investigation of Contingent Water Supply Strategy Pricing Practices Stage A*

### 7.1.7 GFP project - contingency

For the purposes of budgeting for TAM for 2009/10, GAWB has allowed a contingency across all cost centres totalling $331k.

| CSS Cost Centre | QCA: Initial Forecast to mid 2008 $M | Expenditure By Stage to 30 June 2010 | | | | |
|---|---|---|---|---|---|---|
| | | Total Spend to 30 June 2008 $M | July 2008 to 31 Dec 2008 (Stage 2B) $M | Jan to June 2009 (TAM) $M | Forecast 2009/10 (TAM) $M | Overall Total $M |
| Contingency | 0.0 | | | | 0.331 | **0.331** |

### 7.1.8 GFP project - federal funding

GAWB's intention to improve its supply reliability aligns with the Australian Government's *Water for the Future* strategy which has four key priorities:

- taking action on climate change
- using water wisely
- securing water supplies and
- healthy rivers.

Under this federal strategy, the GFP project received an initial $10m funding grant in June 2008 from the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA). This grant is underpinned by the clauses and conditions contained in a Funding Deed[39], which stipulates three critical milestones of the GFP project, summarised below:

**DEWHA Funding Deed Milestones**

| Milestone Number | Milestone Detail | Planned Completion Date |
|---|---|---|
| 1. | Signing of the funding Deed | 23rd June 2008 |
| 2. | Commencement of construction of the pipeline and a plan for completion accepted by the Department. | Dependent on GAWB trigger date for construction |
| 3. | Satisfactory completion of a final progress report for the project. | Dependent upon (2.) |

The funding deed stipulates that payments made under the deed are subject to GAWB demonstrating that the funds provided by DEWHA have been fully spent, or will be fully spent in the near future. While the funding deed includes an expenditure budget for the proposed preparatory works well in excess of the funding amount, the funding condition for the first milestone was satisfied through GAWB incurring

[39] Department of the Environment, Water, Heritage and the Arts (2007) *Funding Deed in relation to funding for the following project: Rockhampton to Gladstone Pipeline*

$12.1m of expenditure up to 31 March 2008. The $10m in funding received was eligible to be offset against this expenditure. In order for GAWB to receive the second funding grant of $9.5m, GAWB must complete all aspects of the preparatory works, plan for the completion of the pipeline and commence construction. According to the Deed, this includes knowledge of the weir costs on the Fitzroy River.

Although the funding was aligned to the GFP project, the second milestone is dependent on the proponent of the LFRI project having completed Phases 1, 2 and 3. GAWB is currently a joint proponent for Phases 1 and 2 only.

## 7.2 Desalination

In December 2007, the findings of the Authority concluded that:

> *GAWB should ensure that necessary arrangements have been entered into to ensure a right of access to supplies of water from the Fitzroy River mid-2012 should they be required.*
>
> *GAWB should continue to work on other options such as desalination, air and sea water cooling and alternative supply restrictions.*[40]

In 2007 GAWB submitted to the QCA its intention to assess the feasibility of a desalination plant through the estimated expenditure of $1m.

| CSS Cost Centre | Expenditure By Stage to 30 June 2010 | | |
|---|---|---|---|
| | **Total Spend to 30 June 2008 $M** | **July 2008 to June 2010 $M** | **Overall Total $M** |
| **Desalination** | **0.484** | 0.651 | **1.135** |

The amounts expended on feasibility studies into desalination include:

- $484k to June 2008. This included creating a roadmap for the construction of a desalination plant and an analysis of 35km of coastline to narrow down the best site to six zones.
- $351k to June 2009. This included multi-criteria analysis of various site locations for a desalination plant within the Gladstone region. This study indicated that co-location of a desalination plant with the existing Yarwun water treatment plant site would be preferable, with a site near the Gladstone Regional Council's sewage treatment plant being marginally second.
- $300k to June 2010. This includes continuing the feasibility study of a local desalination plant. This will involve improving the accuracy of the estimates methodology surrounding the construction of the marine infrastructure and pre-treatment works; investigating water quality analysis needs; investigating the potential savings for co-location with industrial partners; and progressing tasks necessary to a point of readiness for construction.

## 7.3 LFRI project

Through involvement in the central Queensland water group, GAWB had been working in concert with other service providers in that region. For the purposes of

[40] Queensland Competition Authority (2007) *Final Report: Gladstone Area Water Board: 2007 Investigation of Contingent Water Supply Strategy Pricing Practices Stage A*

GAWB's initial submission to the QCA, costs relating to this involvement were not included as:

- the area was outside the GAWB's region and statutory area of responsibility
- there was a lack of clarity as to who would be the proponent
- GAWB was one of a number of water providers involved e.g. former councils and SunWater and
- no indication in the information available to GAWB at the time of the submission to the QCA that there was a requirement to undertake a material level of preparatory work.[41]

Subsequent to making this submission to the QCA in July 2007, GAWB was declared a joint proponent of the LFRI project. Through the progression of this joint proponency, GAWB was able to better understand the exact nature and requirements of the LFRI project including the likely costs of constructing and the level of necessary preparatory works required.

As outlined in section 4.4, for GAWB to achieve its goal of attaining a state of preparedness for a large-scale augmentation, GAWB had to be in a position whereby the LFRI project was able to be constructed in a timeframe that aligned with the GFP project. Through the joint proponency, GAWB has incurred levels of expenditure that were necessary to achieve this objective on environmental issues, design and geo-technical investigations. The preparatory works being undertaken allow for a greater degree of understanding and provide a greater level of confidence regarding the final costing and options for development of the LFRI project including:

- project delivery timeframe
- requirements for deeper foundations following geotechnical investigations
- significant changes in spillway design
- need for additional river crossings and
- landholder impact costs.

Initial activities undertaken to secure access to water from the Fitzroy River were incurred in a cost centre of the GFP project, known as 'water rights', however, as outlined above, there was no forecast included for the LFRI activities in the submission made to QCA.

[41] The State Government provided a cost estimate of $28M for the development of the LFRI as part of the CQWRSS. Prior to GAWB becoming a joint proponent to the project, DIP engaged Parsons Brinkerhoff (PB) to review this initial cost estimate. PB subsequently revised the estimated cost of the LFRI from $28M to $42M.

| CSS Cost Centre | Expenditure By Stage to 30 June 2010 | | |
|---|---|---|---|
| | **Total Spend to 30 June 2008** | **July 2008 to June 2010 $M** | **Overall Total $M** |
| Water Rights | **0.170** | 0.123 | **0.293** |
| Lower Fitzroy | | 7.728 | **7.728** |
| Lower Fitzroy – contingency | | 0.500 | **0.500** |
| **Total Cost of Securing Water** | **0.170** | **8.084** | **8.521** |

Costs incurred until December 2008 were due to GAWB's involvement in the Lower Fitzroy Water Planning Group's proposal to become a joint proponent of the project for storage infrastructure on the Fitzroy River, and relate to the share of costs of negotiating the Lower Fitzroy JV.

Since January 2009, GAWB's cooperative working relationship with SunWater to deliver a Final Business Case to the Co-ordinator General by June 2010 is reflected in GAWB's share of costs incurred to June 2010 ($7.725m). Contingent to this amount is an amount of $0.236m for cultural heritage surveying and preliminary studies that may be undertaken prior to 30 June 2010.

In order to attain a state of preparedness, the options for the infrastructure being considered need to be able to have two dry seasons for construction prior to GAWB accessing its allocation. With the earliest anticipated requirement for a supplementary supply being 1 January 2014, to achieve this timeframe, there are some preliminary investigations that fall outside the scope of Phases 1 and 2 that may need to be undertaken early in 2010.

## 7.4 Regulatory submissions

GAWB deemed it prudent to be proactive in informing the QCA of its intention to incur significant expenditure on the CSS's preparatory works that it would then endeavour to recoup through the 2010 price review.

| CSS Cost Centre | Expenditure By Stage to 30 June 2010 | | |
|---|---|---|---|
| | **Total Spend to 30 June 2008** | **July 2008 to June 2010 $M** | **Overall Total $M** |
| Regulatory Submission | **0.739** | 0.310 | **1.049** |
| Real Options | | 0.560 | **0.560** |
| **Total Regulatory Submissions** | **0.739** | **0.870** | **1.609** |

In addition, GAWB was required to make a submission to its Minister for approval for GAWB to spend over $5m on a significant project on the GFP project. There was no forecast identified for these activities in the submission made to QCA in 2007.

## 8 Conclusion

GAWB submits that the preparatory works net expenditure of $33m (which includes an offset of $10m funding received from the Commonwealth Government) to 30 June 2010 is economically efficient and that the standard of work undertaken was appropriate.

This conclusion is based on the following observations:

- GAWB undertook only those works necessary to give effect to the CSS and the Authority's recommendations (that is, the scope of work was efficient).
- GAWB specified projects to an appropriate standard (with the exception of the flow reversibility analysis undertaken pursuant to recommendations from the Co-ordinator General, the standard is that necessary to achieve the CSS supply reliability objectives).
- GAWB put in place appropriate governance, procurement and project management arrangements (that is, the works were efficiently procured).