



# DBCTM Rehabilitation Cost Review – Positioning Statement Rebuttal

**Queensland Competition Authority**

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**Advisian**  
Worley Group

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## Appendices not included

This Position Statement is to be read in conjunction with the Advisian DBCT Rehabilitation Estimate Report and not in isolation.  
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## Executive summary

The Queensland Competition Authority (QCA) have requested Advisian to address formally our response to the Technical Review Meeting conducted on 18 November 2020. The following response has been constructed to reflect the verbal response provided at this meeting. It is aimed at guiding and assisting the QCA Board to resolve to a position for adoption. Further to this Advisian have reviewed Post Technical Review submissions from both DBCTM (GHD) and the User Group (SLR).

We have concluded the following;

***The Submissions submitted on 4 December 2020 have not reflected any change, or if so, incremental. Advisian maintains its position as presented in this report, articulated in the Technical Review Meeting, and has no further compelling evidence presented by GHD to alter our stance on the key discussion matters. These key matters are presented in this report as a record of our position, our considerations to up-hold our position, and commentary in general notes as a summary or our verbal response to the Technical Review Meeting conducted on 18 November 2020.***

The following table illustrates the current and potential cost positions as determined by the suggested blended position recommended by DBCTM. It also includes a comparison from SLR review.

Table 1 Cost summary

Item	GHD	ADVISIAN	DBCTM blended position	SLR position
	\$'M	\$'M	\$'M	\$'M
RAIL LOOP	\$ 217.37	\$ 113.09	<b>\$ 140.18</b>	\$ 46.93
STOCKYARD	\$ 457.26	\$ 214.91	<b>\$ 307.44</b>	\$ 214.41
SEAWALL	\$ 57.50	\$ 49.24	<b>\$ 57.76</b>	\$ 49.13
OFFSHORE	\$ 269.22	\$ 169.31	<b>\$ 238.79</b>	\$ 169.76
WATER MANAGEMENT	\$ 58.84	\$ 60.89	<b>\$ 76.36</b>	\$ 60.75
QUARRY DAM	\$ 12.10	\$ 77.29	<b>\$ 92.14</b>	\$ 76.23
OFFICES & WORKSHOPS	\$ 48.97	\$ 32.17	<b>\$ 52.69</b>	\$ 32.10
UTILITIES	\$ 34.34	\$ 7.75	<b>\$ 17.09</b>	\$ 5.53
TUG HARBOUR	\$ 37.23	\$ 37.23	<b>37.23</b>	\$ 29.05
ONGOING COSTS	\$ 9.25	\$ 9.25	<b>9.25</b>	\$ 9.25

	\$ 24.52	\$ 50.20	<b>51.97</b>	\$ 50.10
ONCE-OFF COSTS	\$ 2.00	\$ 2.00	<b>2.00</b>	\$ 2.00
	\$ 1.00	\$ -	<b>\$ -</b>	\$ -
<b>Totals</b>	<b>\$ 1,220.35</b>	\$ 814.09	<b>\$ 1,073.65</b>	\$ 735.99

# 1 Waste Disposal

## 1.1 DBCTM Position

DBCTM's position is to use GHD's assumption or use Hogan's Pocket as the Disposal Site. However, the entire cost of expansion of that facility to accommodate the DBCT waste volumes should be included either explicitly or within the relevant rate.

Entity	Recommendation
GHD (edited)	<p>Non-contaminated waste would be disposed of at Hogan's Pocket Waste Facility (65 km from site) and contaminated waste transported to Roma (750 km from site).</p> <p>The gate fee used is \$383 per tonne for contaminated waste.</p> <p>The travel costs to Roma used by GHD is \$225/ tonne for a total resulting disposal cost for contaminated material of \$608/ tonne.</p>
Advisian	<p>Waste disposal at Paget Transfer Station (30 km from site = 1h) and contaminated waste at Hogan's Pocket (65 km from site = 2.5h).</p> <p>Contaminated waste gate fee of \$350.33 per tonne.</p> <p>Transport of ~\$19 per tonne</p>

## 1.2 Consideration

In regard to DBCTM's position on waste disposal Advisian would make the following points:

1. The estimate is based on access to services at the time of estimate.
2. It is not practical or reasonable to transport waste 750kms. Unless the gate fee is significantly less than other options closer to the site.
3. These services are currently available in Mackay. We acknowledge that in the quantities required the existing facility would need to expand its capacity.
4. The services are currently sustainable and profitable at the current gate fees.
5. With the long lead in planning process, it is reasonable to assume that supply of services like waste disposal, at the significant quantities from both DBCT and potentially Hay Point and the number of already established, large country wide suppliers (Collex, Veolia, JJ Richards, etc.) along with a relatively low barrier to entry, would be met through normal market conditions.
6. Advisian have assumed that the higher value waste streams would be scrapped at a zero return to DBCTM. Any new waste facility operator would build these waste streams into the business case for consideration
7. Disused open cut coal mines have been transferred to waste handling operators in the past (Ebenezer coal mine was transferred to Collex). It is probable that this may occur in the future further decreasing the risk of having to transport ~750kms.
8. We acknowledge that we cannot accurately predict what will be available in the 2050s

9. We could consider a "specific" risk position of these services not being available at the assumed gate fee or at the assumed distance. (This is currently sitting in the \$50mil of unallocated owners' contingency). If the depth of contaminated soil is increased, the total cost of contamination soil disposal would increase and should be considered in the overall risk position.

## QCA - Questions

*(a) Is the commercial facility at Roma already able to accommodate the expected volumes of contaminated waste and thus, would not need to be expanded in the future?*

We cannot support the transportation of any material 750kms away from the facility unless there is a compelling cost-benefit-analysis undertaken particular cost per km.

We cannot confirm if Roma needs expanding this at this stage; however, we believe that given the lead-in notice period and further levels of definition (i.e. quantum) That DBCTM would be able to

1. Provide necessary advance notice for potential expansion
2. Provide the wider market the possibly to establish a regulated waste facility
3. We do not expect barriers to entry to exceed normal business parameters, given that when this facility is decommissioning there would several mines also undergoing decommissioning and rehabilitation

*(b) Would the cost of expanding a waste facility be solely borne by DBCTM in an environment where other remediation and waste disposal activities are occurring? If so, what are the estimated costs of expansions?*

We cannot confirm this. However, the rates currently being charged are profitable (because that is why they do it) and sustainable – Facilities generally have a low capital cost requirement save for the land acquisition. There are examples of waste operators in the past – We do know in the Coal seam gas space that provisions are carried on book for future regulated waste facility we broadly would state that a general lined waste facility to accommodate DBCT volumes to be in the order of \$10-15mill

*(c) Are there other existing options for waste disposal in closer landforms that could be considered for disposal?*

Other than, Hogan's Pocket we are unaware of any facilities that could either expand or take contaminated waste at this time.

## 2 Earthworks

### 2.1 DBCTM Position

DBCTM's position is to use volumes and imported clean fill rates calculated/supplied by Advisian respectively as well as use the Bulk Earthworks rate supplied by GHD.

Entity	Recommendation
GHD	\$372/h of 27.64m <sup>3</sup> /hr = 13.46/m <sup>3</sup>
Advisian	<b>\$915/h of 115 m<sup>3</sup>/hr = 7.96/m<sup>3</sup></b>

### 2.2 Consideration

Both the calculated volumes and rates supplied by Advisian have been accepted. In regards to the rate for earthwork removal per m<sup>3</sup> rate the followings points are raised:

#### Bulk Earthwork Volumes

1. It is generally agreed by all parties that the Advisian method to calculate the pre-disturbed topography and consequent earthwork volumes is the more robust method.

#### Bulk Earthwork Rate

1. The rate per cubic meter were built up from known productivities and verified at both a subcontractor and head contractor level in the Queensland market.
2. The plant and equipment chosen was to enable an easy verification of both rate and productivity from any earthmover.
3. We know all earthworks is fill, other than rock. It has all been moved before and the scope would just be putting it back, no significant compaction requirements.
4. No risk is required in the rates for unknown rock quantities.
5. We don't have visibility of what is included in the WQIP bulk earthworks to achieve such a high rate.
6. From page 54 of the Flagstaff report, we know the volumes of earth moved are insignificant, an represent less than \$800k of the contract to Vassallo Constructions Pty Ltd or at 13.46 per cubic meter less than 60,000 cubes.
7. Senex Dam Project in Queensland for 800,000m<sup>3</sup> compaction greater than 95% was the winning bidder at c.\$5.50 per cm and the Underbidder was c.\$7.12 – this is a good comparison for a similar scale.
8. Risk, mobilisation and demobilisation, is not included in the Advisian rate and is considered elsewhere in the estimate, it is not apparent if these are included in the 2014 benchmark used by

DBCTM of between \$9.58 and \$13.37 which when spread across such a small volume of earthworks would increase the rate significantly.

The below excerpt from Page 22 of Flagstaff report Review of Water Quality Improvement Project Phase 2 ("WQIP2")

"Flagstaff says where the estimate for the budget development for these works was based upon a quotation by BMD Contractors then it is a reasonable market assessment of the works. BMD will have taken into account the unknown aspects and applied a risk premium to them in giving that quotation."

### **Imported Clean fill price**

1. Generally both parties accepted that the rate is ok.
2. The rate used is very conservative, it is a landscape supplier for screened topsoil, two rates were obtained ~\$40 and \$48.50 with the more conservative rate chosen. We only require clean fill, not top soil.
3. If the contaminated soil depth is increased, the amount of clean fill required increases.
4. With the rail network and material handling equipment at DBCT along with large earthmoving equipment at the mine sites and it is feasible to have clean fill delivered to the stock yard below \$25 per cube. This would require some investigation to confirm this.
5. No buying gains have been considered in the opportunities portion of the estimate.

### **QCA - Questions**

QCA have decided not to raise this direct issue however Advisian strongly believe that this issue is fundamental to the construct of the price and the resulting contingency allowance – For example if the GHD rate is adopted there should be NO contingency or risk allocated to the Bulk earthworks rate in any application with the exception of unknown unknowns.



## 3 Soil and Substrate Removal

### 3.1 DBCTM Position

DBCTM's position is use a Mid-Point of Advisian's and GHD's depth for contaminated soil as well as contaminated substrate for both the roads and Substation.

Entity	Recommendation
GHD	GHD assumed removal of 400 mm of bedding coal and contaminated soil. GHD assumed removal of 500 mm of material under roads removed. GHD assumed removal of 1 metre of material under substation areas, classified as low contamination substrate.
Advisian	<b>Advisian assumed removal of 250 mm of contaminated soil based on recent commercial experience with a producer with similar expected hydrocarbon contamination in the soil. Advisian assumed removal of 250 mm of road substrate based on recent commercial experience with a producer with similar expected hydrocarbon contamination of road substrate. Advisian assumed removal of 250 mm of material under substation areas.</b>

### 3.2 Consideration

In regard to DBCTM's position on Soil and substrate removal Advisian would make the following points:

1. We do not know the depth of contamination.
2. We do not know the level of contamination.
3. An allowance has been made to establish the depth and level of contamination during the environmental scope setting.
4. Advisian has assumed the material used to construct roads and pads was uncontaminated at the time of construction
5. Advisian did not have drawings of the roads and pad areas and have assumed these have been compacted to 95% or greater.
6. We expect that the majority of contamination would be in the top 100mm and 250mm average depth is enough to capture anything further.
7. Advisian has not taken up any opportunity that there is less than 250mm average depth of contamination or that the level of contamination is less than "Heavily Contaminated".in fact subject to further soil testing across a broad area it could be significantly less.
8. Advisian has assumed any large spill would be required to be cleaned up through operating budgets. As mandated by Enviro Management Plan for Tier 1 Operator / Legislation

#### QCA -Question

*(a) Based on all available information and noting future contamination studies will be conducted to determine the actual depths of contaminated material for removal, what are the appropriate assumptions for depths of removal of contaminated material at each of the three areas discussed above?*

Advisian believes that the 250mm average depth of contamination remains a conservative position.

## 4 Offshore Pile Removal

### 4.1 DBCTM Position

DBCTM's position is to accept the complete removal of piles into estimate and rehabilitation plan.

Entity	Recommendation
GHD	<b>GHD considered two options (full or partial removal) and estimated for full removal of piles. Its justification for this choice was that completely removing piles maximised long-term rehabilitation of the offshore domain.</b>
Advisian	Advisian came to the position that complete removal of piles could have a detrimental impact on marine life. Given the agreed positions of letting the sea floor fill in naturally over time, its position was for the piles to be cut to just below the existing seafloor level.

### 4.2 Consideration

In regard to DBCTM's position on Offshore Pile Removal Advisian would make the following points:

1. There is no argument on the price of either method.
2. There are a currently number of piles cut off just below the sea floor that were used during construction.
3. These cut off piles have been in situ since construction and do not appear to be having a detrimental impact on the environment.
4. Advisian's advice remains that the piles should be only partially removed as the longer-term benefits of full removal do not appear to outweigh the expected short-term disturbance.

#### QCA-Question

*(a) Recognising the uncertainty and lack of clear standards that define the 'natural state' standard, which method for offshore pile removal (full or partial) best reflects DBCTM's obligations for remediation?*

A more specific risk position could also be considered if Board members feel that the likelihood full removal is significant.

## 5 Indirect Labour and Project Management Costs

### 5.1 DBCTM Position

DBCTM's position is to reinstate the DBCTM Proposal for Project Management.

Entity	Recommendation
GHD	GHD utilised two approaches for indirect labour rates. It used a first principles build-up for one portion of its estimate, and its subcontractor (Axiom) applied a 10% allowance to the direct costs estimated for rehabilitation works. The latter approach outlined that the project management team was assumed to be supplied by DBCTM.
Advisian	<b>Advisian assumed project management would be outsourced to a relevant Tier 1 contractor and built up the relevant costs based on an organisational structure it developed (QCA pp. 48–49). It also added a 10% allowance (\$50 million) for costs it assumed DBCTM would bear as part of its project management role but implied this was highly conservative and included for comparison purposes with GHD. It suggested this cost could be approximately 5% of direct cost.</b>

### 5.2 Consideration

In regard to DBCTM's position on Indirect Labour and Project Management Costs Advisian would make the following points:

1. The GHD approach would be man marking. If the DBCTM team deliver the works you could use the same team identified in the Advisian org chart and remove the contractor's margin.
2. The Advisian org chart is sufficient to deliver the works.

#### QCA - Question

*(a) Is it prudent and efficient to assume that DBCTM would have a significant project management role in the rehabilitation of DBCT to warrant the estimate project management costs in GHD's cost estimate?*

It is unclear how DBCTM would precisely execute the delivery of the project however suggests it is best place to Project Manage the process. We recognise that DBCTM has capacity and has delivered projects within site before.

However, the full scope of the Rehabilitation is significantly different when compared to ad-hoc projects performed in the pasts and includes multidisciplinary work facets – It would be traditional for this complexity and risk be managed by a General Contractor who has physically undertaken construction works in the past.

The delivery strategy promoted and priced by Advisian is more reflective of a risk transferred model which when brought to market would attract multinational Tier 1 Constructor who have mature systems and process and financial strengths to execute the works as a whole. Once competitiveness tender we could see the tension also reflect in the price.

Whilst we adopted the \$50 million allowance for project management in the GHD report for comparative purposes in our assignment we questioned that if the traditional method as described would only require a PMO to management the works – typically this is a Controls Team with no workforce addressing the Reporting Requirements of the Contract. We do recognise that there will be costs associated with procurement and have assumed these to be included. In any case we believe the PMO costs to be in the order of 3% of the direct costs and a further 2% for Procurement.

To this end it appears that our Costings with the adoption of the \$50 million for DBCTM reflects a duplication -and could be significantly reduced. (ie we don't need to price the PM services effectively twice)

## 6 Risk and Contingency Allowance

### 6.1 DBCTM Position

Reinstate GHD Contingencies Based on Industry Standards and Benchmarked by DBCTM Experience.

Entity	Recommendation
GHD	GHD applied an additional 25 per cent to direct costs as risk and contingency allowance.9 It did not provide an explanation for this assumption nor a reference for this benchmark.
Advisian	<b>Advisian built-up a risk profile for each type of work by domain, based on prevailing documentation and verified its risk profiles during its site visit. It also included client risks and other contingencies based on an assumption of project management by a Tier 1 contractor</b>

### 6.2 Consideration

In regard to DBCTM’s position on Risk and Contingency Allowance Advisian would make the following points:

1. The Advisian risk approach is far more considered than the blanket approach of \$100mil by GHD.
2. Undertake @ Risk Modelling

#### QCA - Question

(a) What is the prudent and efficient approach for estimation of risk and contingency allowances for the remediation cost estimate?

Advisian has not used the conventional method to apply risk and contingency simply because the basis of estimate was undertaken on a first principal approach support by an analysis of level of definition supported by site visits and industry knowledge. Advisian consider the level of definition obtained during our estimate was considered in excess of 85% given that the facility exists and able to be quantified. We applied Industry acceptable Contingencies by class of work reflecting the level of risk to be expected.

Our approach reflects the expected risk transfer to a Tier 1 Contractor and the risk priced as contingency and risk allocation.

If we were to adopt the AACE and DTMR Class of Estimate. We would advocate a maximum of 15% contingency given the level of definition we acquired and when tendered, definition will be 100% save for traditional risk allocation

