

## **Annex U - Capital Investment Value**



# **‘Capital Investment Value’ Construction Cost Estimate**

For

**Proposed Sand Mine**

Located at

**Bob’s Farm NSW**

4 February 2016

**Tuesday, 16 February 2016**

Attention: Mr Bob Lander  
Tattersall Lander Pty Ltd  
PO Box 580  
Raymond Terrace NSW 2324

**Re – Proposed Commercial Sand Mine – Bob's Farm NSW**

Dear Bob,

Please find attached our Elemental Estimate prepared following plans and information supplied by Tattersall Lander Pty Ltd.

The report has been prepared by Quanto Pty Ltd under instruction from Tattersall Lander Pty Ltd and not in any other capacity.

This provides the costs estimated to complete the new Sand Mine leases in a broad sense at this stage of the design process to determine the 'Capital Investment Value' as per the *Environmental Planning and Assessment Regulation 2000* and certain state Environmental Planning Policies.

Furthermore, this report includes for the proposed full time employment opportunities available in the construction and ongoing operation of the aquaculture leases.

We note that in our capacity as quantity surveyors, we have determined an elemental estimate of costs generally from the Schedule of Information nominated in Appendix 1 of this report.

Further to the above, we draw your attention to the Schedule of Exclusions indicated within Appendix 2 of this report.

## **1.0 General Overview**

The general overview indicates the construction of a proposed sand mining operation at Bobs Farm, NSW. The site is approximately 27kms north-east of Newcastle and 14km south-west of Nelson Bay and is bordered by Marsh Road to the north and Nelson Bay Road to the south.

The actual land titles are indicated as Lot 254 DP753204, Lot 51 DP1015671 and Lots 10 & 11 DP1071458. The site is approximately 47.52 hectares, with approximately 39.26 hectares to be mined in stages over at least a 4 year period and estimated to last 13 years in total.

The mining operation is to take place generally in two (2) stages. The first stage involves the dry mining of sand from the site, and the second stage involves the wet mining of sand from below the existing water table.

The complete project involves the purchase of vehicles and machinery that includes excavators, dump trucks, loaders, conveyors, hoppers, pumping equipment and dredging equipment.

The project also requires the construction of temporary gravel haul roads, sealed haul roads as well as upgraded site accesses from Marsh Road and Nelson Bay Road. A site operations shed will also be constructed along with a stockpile and loading area and screening area.

The staged plan of the operation involves the initial clearing of vegetation and stripping of topsoil, the dry extraction and transportation of sand, wet extraction and transportation of sand and finally the vegetation rehabilitation.

The total cost includes the site preparation, construction of roads, shed and stockpile areas, purchase of vehicles and machinery and remediation of the site.

## **2.0 Capital Investment Value Construction Cost Estimate**

Quanto Pty Ltd has been provided with the location and design as prepared by Tattersalls Lander Pty Ltd Development Consultants. We believe the independent estimated construction cost for the complete construction of the new proposed sand mine operation to total \$4,450,000 exclusive of GST. This cost is attached in Appendix "3" of this report.

We have based this cost estimate of works upon the definition of Capital Investment Value which includes 'all costs necessary to establish and operate the project, including the design and construction of the development including structures, associated infrastructure and fixed or mobile plant and equipment'.

We have excluded costs for land, costs for any separate approvals and Good and Services Tax (GST).

We certify that the information provided is accurate at the date of preparation of this report.

## **2.1 Basis of Estimate**

We have based the estimate upon the capital cost estimate on the supplied details, including material and labour take-off estimates.

### **2.1.1 Qualifications**

We have been provided with a number of reports to determine the Capital Investment Value of the project. The reports include:

- Noise Impact Assessment by Vipac Engineers & Scientists;
- Construction Noise Management Plan by Vipac Engineers & Scientists;
- Air Quality Assessment by Vipac Engineers & Scientists;
- Aboriginal Cultural Heritage Assessment by AECOM;
- Bobs Farm Sand Deposit Stage 3 Investigation by Quarry Mining Systems Pty Ltd;
- Traffic Impact Assessment by SECA Solution;
- Preliminary Geotechnical and Acid Sulfate Soils Assessment by Martens Consulting Engineers;
- Groundwater Management Plan by Martens Consulting Engineers;
- Coastal Hazard Assessment by Martens Consulting Engineers; and
- Surface Water Management Plan by Martens Consulting Engineers.

### **2.1.2 Assumptions**

This estimate has been based upon the following assumptions;

- Australian Work Place Agreements are in place;
- Professional & Consultants Fees;

- Statutory Permits are in place prior to construction;
- Manual labour is to be sourced locally;
- Current provisions for site security are sufficient for construction activities;

### **2.1.3 Exclusions**

- No provision for delay costs with regard to permitting beyond what would be reasonably expected;
- No provision for delay costs associated with obtaining statutory approvals;
- Land acquisition costs;
- Contracted transportation costs;
- Environmental testing and remediation of contaminants;
- Influence of Market Forces such as concurrent projects and resource/commodity prices on labour and material costs; and
- Cost increases beyond February 2016.

## **2.2 Quantity and Cost Basis**

### **2.2.1 Quantities General**

The majority of quantities used have been based upon material take-offs and drawings supplied.

### **2.2.2 Pricing General**

All costs to complete are in Australian dollars.

### **2.2.3 Manual Labour Rates**

The rate is based upon a nominal 40 hour work week and excludes escalation.

### **2.2.4 Freight**

No formal logistics study has been completed. An allowance has been included for freight of bulk materials and other equipment.

### **2.2.5 Escalation Assessment**

No allowances have been made for escalation.

Please refer to the Elemental Trade Breakup Estimate and Detailed Cost Report indicated within Appendix 3 of this report to total \$4,450,000 exclusive of GST.

### **3.0 Development Job Creation**

Quanto Pty Ltd has not been provided with information in regard to jobs creation in both the process of construction and the operational phase of the development.

It is expected however that around 80 jobs would be generated directly by the project. Of these, there would be about 7-10 on site full time, 50-70 in transportation, 15 in downstream manufacturing and laboratory activities and 10 in the use of product for recreational purposes.

We also believe that the above estimates for job creation are a conservative estimate whereby depending upon the actual output within growth production, further employment opportunities could arise.

### **4.0 Disclaimer**


Quanto Pty Ltd have prepared this report in part on the basis of information supplied in the ordinary course of business by the Tattersall Lander Pty Ltd. Whilst all professional care and skill have been exercised to validate its accuracy and authenticity, Quanto Pty Ltd is unable to provide and guarantee in that regard, and will not be liable to any party for loss arising as a result of any such information subsequently being found to be inaccurate or lacking authenticity.

Quanto Pty Ltd have provided this report on designs and reports of the current proposed development provided.

### **5.0 Conclusion**

Should you have any queries or require further clarification, please do not hesitate to contact Bob Macansh of Quanto Pty Ltd.

Yours Sincerely

A handwritten signature in black ink, appearing to be 'B Macansh', is written over a light purple rectangular background.

Bob Macansh (AAIQS, JP)  
Director  
Quanto Pty Ltd

# **Appendix 1**

## **Schedule of Information**



## **Schedule of Information**

The following is a schedule of information used in preparation of the cost plan:

- Plan of Proposed Sand Mine as prepared by Tattersalls Lander Pty Ltd;
- Noise Impact Assessment by Vipac Engineers & Scientists;
- Construction Noise Management Plan by Vipac Engineers & Scientists;
- Air Quality Assessment by Vipac Engineers & Scientists;
- Aboriginal Cultural Heritage Assessment by AECOM;
- Bobs Farm Sand Deposit Stage 3 Investigation by Quarry Mining Systems Pty Ltd;
- Traffic Impact Assessment by SECA Solution;
- Preliminary Geotechnical and Acid Sulfate Soils Assessment by Martens Consulting Engineers;
- Groundwater Management Plan by Martens Consulting Engineers;
- Coastal Hazard Assessment by Martens Consulting Engineers; and
- Surface Water Management Plan by Martens Consulting Engineers.

## **Appendix 2**

### **Schedule of Exclusions**

## **Schedule of Exclusions**

- Land and Legal Costs;
- Delay Costs;
- Finance Costs;
- Rise and fall;
- Council & Authority Fees;
- Holding costs and interest charges;
- Removal of hazardous materials and contaminated soil;
- Goods & Services Tax;
- Staging, phasing or delay costs; and
- Cost increases beyond February 2016.

## **Appendix 3**

### **Elemental Estimate and Cost Report**

# Full Estimate Summary

**Job Name :** 13158 BOBS FARM CIV  
**Client's Name:** Tattersall Lander Pty Ltd

**Job Description**  
 Capital Investment Value for Sand Mine  
 development located at Bob's Farm NSW

Trd No.	Trade Description	Trade %	Cost/m2	Sub Total	Mark Up %	Trade Total
	Machinery and Equipment	63.45		2,823,498		2,823,498
	Site Preparation	6.39		284,502		284,502
	Construction	5.51		245,000		245,000
	Roadworks	23.30		1,037,000		1,037,000
	Remediation	0.67		30,000		30,000
	Waste Management	0.67		30,000		30,000
	Subtotal - Excluding GST					<u>4,450,000</u>
	Schedule of Information					
	List of Exclusions					
		100.00		4,450,000		4,450,000
Final Total : \$						4,450,000

# Trade Breakup

<b>Job Name :</b>	<u>13158 BOBS FARM CIV</u>	<b>Job Description</b>
<b>Client's Name:</b>	<u>Tattersall Lander Pty Ltd</u>	Capital Investment Value for Sand Mine development located at Bob's Farm NSW

Item No.	Item Description	Quantity	Unit	Rate	Mark Up %	Amount
<i>Trade :</i> <b>1   <u>Machinery and Equipment</u></b>						
1	22 tonne tracked excavators	2.00	No.	160,000.00		320,000.00
2	44 tonne articulated dumper	1.00	No.	300,000.00		300,000.00
3	Loader	1.00	No.	140,000.00		140,000.00
4	Suction/Cutter Dredge	1.00	No.	300,000.00		300,000.00
5	Conveyer system	1.00	Item	50,000.00		50,000.00
6	Hoppers	1.00	No.	30,000.00		30,000.00
7	Water Carts	1.00	No.	170,000.00		170,000.00
	<u>Processing Plant - McLanahans</u>					
8	Clean Water Receiving	1.00	No.	22,811.00		22,811.00
9	Clean Water Pump & Motor	1.00	No.	39,741.00		39,741.00
10	Feed regulating sumps	1.00	Item	79,886.00		79,886.00
11	Slurry pumps & motors	1.00	Item	65,136.00		65,136.00
12	Separator Feed Manifold	1.00	No.	5,291.00		5,291.00
13	Separators to feed Attritioners	1.00	Item	41,310.00		41,310.00
14	2 x Attrition Banks	1.00	Item	466,560.00		466,560.00
15	Hydrosizers	1.00	Item	123,525.00		123,525.00
16	Feed manifold for spiral banks	1.00	No.	5,291.00		5,291.00
17	12 bank 5 turn SC21 spirals	1.00	Item	94,770.00		94,770.00
18	Fines Separator	1.00	No.	16,200.00		16,200.00
19	Fines dewatering screen	1.00	No.	20,250.00		20,250.00
20	Underpan	1.00	No.	5,670.00		5,670.00
21	Discharge chute	1.00	No.	5,822.00		5,822.00
22	Glass sand dewatering screen	1.00	No.	81,000.00		81,000.00
23	Underpans	1.00	No.	19,440.00		19,440.00
24	Discharge chutes	1.00	No.	15,795.00		15,795.00
25	Central control cabinet	1.00	No.	202,500.00		202,500.00
26	Structure, stairways & platforms	1.00	No.	202,500.00		202,500.00
<u>Machinery and Equipment</u>					<b>Total :</b>	<b>2,823,498.00</b>
<i>Trade :</i> <b>2   <u>Site Preparation</u></b>						
	<u>Excavation</u>					

# Trade Breakup

Job Name : 13158 BOBS FARM CIV

Job Description

Client's Name: Tattersall Lander Pty Ltd

Capital Investment Value for Sand Mine development  
located at Bob's Farm NSW

Item No.	Item Description	Quantity	Unit	Rate	Mark Up %	Amount
Trade : 2 <u>Site Preparation</u> (Continued)						
1	Clear vegetation from site	39.26	ha	2,500.00		98,150.00
2	Strip topsoil and stockpile	1.00	Item	60,202.00		60,202.00
	<u>Fencing</u>					
3	Allowance for fence to Nelson Bay Road side of site	841.00	m	150.00		126,150.00
<u>Site Preparation</u> Total :						284,502.00
Trade : 3 <u>Construction</u>						
	<u>Shed</u>					
1	Construct aluminium clad steel portal framed shed on concrete slab	300.00	m2	650.00		195,000.00
2	Allowance for services to site (electrical, sewer and water)	1.00	Item	50,000.00		50,000.00
<u>Construction</u> Total :						245,000.00
Trade : 4 <u>Roadworks</u>						
1	Temporary gravel haul road	13,500.00	m2	30.00		405,000.00
2	Temporary bitumen sealed haul road	5,400.00	m2	80.00		432,000.00
3	Upgrade to entrance from Nelson Bay Road	1.00	Item	115,000.00		115,000.00
4	Upgrade to entrance from Marsh Road	1.00	Item	85,000.00		85,000.00
<u>Roadworks</u> Total :						1,037,000.00
Trade : 5 <u>Remediation</u>						
1	Allow to respread topsoil over exposed areas at completion	1.00	Item	30,000.00		30,000.00
<u>Remediation</u> Total :						30,000.00
Trade : 6 <u>Waste Management</u>						
1	Allowance for waste management	1.00	Item	30,000.00		30,000.00
<u>Waste Management</u> Total :						30,000.00
Trade : 7 <u>Subtotal - Excluding GST</u>						
<u>Subtotal - Excluding GST</u> Total :						

# Trade Breakup

<b>Job Name :</b>	<u>13158 BOBS FARM CIV</u>	<b>Job Description</b>
<b>Client's Name:</b>	<u>Tattersall Lander Pty Ltd</u>	Capital Investment Value for Sand Mine development located at Bob's Farm NSW

Item	Item Description	Quantity	Unit	Rate	Mark	Amount
No.					Up %	
Trade :      8 <u>Schedule of Information</u>						
1	Plan of proposed Sand Mine as prepared by Tattersall Lander Pty Ltd		Note			
2	Noise Impact Assessment by Vipac Engineers & Scientists		Note			
3	Construction Noise Management Plan by Vipac Engineers & Scientists		Note			
4	Air Quality Assessment Vipac Engineers & Scientists		Note			
5	Aboriginal Cultural Heritage Assessmnet by AECOM		Note			
6	Bob's Farm Sand Deposit Stage 3 Investigation by Quarry Mining Systems Pty Ltd		Note			
7	Traffic Impact Assessment by SECA Solutions		Note			
8	Preliminary Geotechnical and Acis Sulfate Soils Assessment by Martens Consulting Engineers		Note			
9	Groundwater Management Plan by Martens Consulting Engineers		Note			
10	Coastal Hazard Assessment by Martens Consulting Engineers		Note			
11	Surface Water Management by Martens Consulting Engineers		Note			
<u>Schedule of Information</u>				Total :		
Trade :      9 <u>List of Exclusions</u>						
1	Delay Costs		Note			EXCL
2	Land and Legal Acquisition Costs		Note			EXCL
3	Contracted Transportation Costs		Note			EXCL
4	Environmental testing & remediation of contaminants costs		Note			EXCL
5	Influence of market forces such as concurrent projects and resource/commodity prices on labour and materials costs		Note			EXCL
6	Finance Costs		Note			EXCL
7	Rise & Fall		Note			EXCL
8	Council & Authority Fees		Note			EXCL
9	Holding Costs & Interest Charges		Note			EXCL
10	Removal of hazardous materials and contaminated soil		Note			EXCL
11	Goods & Services Tax		Note			EXCL
12	Staging, phasing or delay costs		Note			EXCL
13	Cost increases beyond February 2016		Note			EXCL



# Trade Breakup

<b>Job Name :</b>	<u>13158 BOBS FARM CIV</u>	<b><u>Job Description</u></b>
<b>Client's Name:</b>	<u>Tattersall Lander Pty Ltd</u>	Capital Investment Value for Sand Mine development located at Bob's Farm NSW

<b>Item</b>	<b>Item Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Mark</b>	<b>Amount</b>
<b>No.</b>					<b>Up %</b>	
<b><u>List of Exclusions</u></b>					<b>Total :</b>	