
Roebourne Aquatics Centre

Draft Concept Plan Estimate

December 2014

CONFIDENTIAL

Client:	City of Karratha
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Name	Organisation	Date	Method
Samantha Stewart	City of Karratha	14/12/14	Email

AUTHORISATION

Prepared by:	Sharon Yap
Reviewed by:	Neil Dickson
Authorised for release by:	Neil Dickson

CONTACT

Neil Dickson
Director
Donald Cant Watts Corke (WA) Pty Ltd

ABN 54 123 100 087

L2, 982 Wellington St
West Perth WA 6005

P: +61 8 9324 1950
F: +61 8 9481 8267

Neil.Dickson@dcwc.com.au
www.dcwc.com.au

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Executive Summary

All costs in this report exclude GST unless stated otherwise.

Donald Cant Watts Corke has been engaged by City of Karratha (CoK) to provide a Concept Stage Estimate for the proposed Roebourne Aquatics Centre project.

The project involves the demolition of the existing facility (pool and buildings), construction of a new 448sqm pool, refurbishment and extension to existing change facilities to incorporate additional functional spaces.

Donald Cant Watts Corke Concept Plan Estimate, excluding GST, is:

Element	Budget (\$)
Construction Cost @ Perth Prices	\$ 4,756,600.00
Roebourne Loading @ 55%	\$ 2,616,130.00
	<hr/>
	\$ 7,372,730.00
Horizon Power Prov.Sum	\$ 130,000.00
Design Contingency @ 5%	\$ 368,636.50
Construction Contingency @ 5%	\$ 387,068.33
Public Art @ 1%	\$ 73,727.30
Professional Fees @ 12%	\$ 615,028.38
Client Costs @ 4% (Perth Prices)	\$ 209,766.06
Escalation @ 3%	\$ 341,677.13
Project Total	\$ 9,498,633.69

Estimate Summary

The breakdown of this estimated cost of the work is provided below:

CODE	ITEM	TOTAL
CONSTRUCTION COST (PERTH PRICE)		
A Preliminaries		
00PR	Preliminaries	542,600
Preliminaries Subtotal		542,600
B Shell & Core		
01SB	Substructure	107,600
02CL	Columns	39,800
03UF	Upper Floors	10,000
04SC	Staircases	-
05RF	Roof	-
06EW	External Walls	74,200
07WW	Windows	81,500
08ED	External Doors	1,000
09NW	Internal Walls	16,000
10NS	Internal Screens	6,500
11ND	Internal Doors	-
Shell & Core Subtotal		339,600
C Fit out		
12WF	Wall Finishes	4,200
13FF	Floor Finishes	3,000
14CF	Ceiling Finishes	17,300
15FT	Built-in Fitments	-
16SE	Special Equipment	-
Fit out Subtotal		24,500
D Internal services		
17SF	Sanitary Fixtures	84,000
18PD	Sanitary Plumbing	incl
19WS	Water Supply	incl
20GS	Gas Service	excl
21SH	Space Heating	n/a
22VE	Ventilation	37,000
23EC	Evaporative Cooling	n/a
24AC	Air Conditioning	26,000
25FP	Fire Protection	excl
26LP	Light and Power	158,000
27CM	Communications	-
28TS	Transportation Systems	excl
29SS	Special Services	-
Internal services Subtotal		305,000
BUILDING COST		1,211,700
E External Works		
30CE	Centralised Energy Systems	-
31AR	Alterations and Renovations	282,200
32XP	Site Preparation	226,400
33XR	Roads, Footpaths and Paved Areas	144,400
34XN	Boundary Walls, Fencing and Gates	84,800
35XB	Outbuildings and Covered Ways	557,400
36XL	Landscaping and Improvements	2,194,200
External Works Subtotal		3,489,400
F External Services		
37XK	External Stormwater Drainage	10,000
38XD	External Sewer Drainage	-
39XW	External Water Supply	15,000
40XG	External Gas	-
41XF	External Fire Protection	-
42XE	External Electric Light and Power	-
43XC	External Communications	5,500
44XS	External Special Services	25,000
External Services Subtotal		55,500
CONSTRUCTION COST @ Perth Prices		4,756,600

Basis of Concept Stage Estimate

SCHEDULE OF INPUT INFORMATION

The Concept Stage estimate is based on concept plan and information issued by Peter Hunt Architect (PHA) and other consultants as listed:

- Site Layout dated 3 December 2014
- Building Layout dated 3 December 2014
- Pool works estimate from Geoff Nannes & Partners dated 4 December 2014
- Mechanical service estimate from SG&K dated 5 December 2014
- Electrical services estimate from Landro Electrical Consulting dated 10 December 2014
- Hydraulic services estimate from SPP Group dated 26 November 2014

METHODOLOGY

Building Cost

The building cost is estimated by measuring each element from concept plans, with elemental rates applied to the measured quantities. Elements that could not be measured in detail are given as items. The retained building is generally being stripped back to the superstructure with all new internal walls/doors, finishes and fitments. The roof is being retained.

The extension of this building will replicate the existing.

External Works

Allowances have been made for external works elements measured from concept plans. Items included in external works are site preparation, filling to make levels, formation of the pool, all external hard surfaces etc. We have also made a Provisional Allowance for the shade structure across the pool of \$422,000. This budget does represent a risk and should be confirmed as early as possible at the next stage.

External Services

External services elements are based upon services consultants' estimate. We have generally assumed the site has sufficient services infrastructure with the exception of power where we have allowed a \$130k provisional sum for Horizon Power Headworks.

EXCLUSIONS

The following costs are excluded from the Concept Estimate:

- Sprinklers and associated tanks and pumps
- Works outside the site boundary
- Excavation into rock
- Removal of hazardous materials
- Diversion of existing services infrastructure
- Upgrading capacity of existing services infrastructure (except Horizon Power where a \$130k allowance has been included).
- Loose FFE
- Land costs
- Finance costs

Cost Risks and Degree of Uncertainty

The Draft Concept Estimate has been developed from early design information, so there is an inherent level of cost uncertainty.

The Concept Estimate is an opinion of cost only. It does not represent the actual cost of the works, which will be determined by the market at time of tender.

The actual cost can be influenced by factors beyond our control including:

- Market conditions at time of tender
- Procurement method
- Project management procedures
- Tender documentation

The main cost risks on this project at this stage include:

COST RISK	MITIGATION	ACTION BY
Scope changes / increase	No mitigation apart from design contingency allowance.	QS, architect, PM
The design solution results in a building cost that is greater than the allowance within the cost plan.	Prepare a cost plan at concept and obtain architects and engineers agreement on assumptions and allowances.	QS, architect, engineers, PM
Latent site conditions eg. Removal of rocks	There are some allowance for removal of rock. If the allowance is insufficient, the remaining can be funded from contingencies.	Architect, QS
Services infrastructure upgrades.	The preliminary investigation has been carried out by the engineers that have a good knowledge of the site. The assumptions should be checked at commencement of design.	Engineers
Uncertain other project costs.	Allowances have been made within the cost estimate Professional fees and Escalation. These costs need to be reviewed and confirmed.	CoK
Program	The estimate includes an adequate allowance for escalation calculated based on AIQS cost index for 12 months. However, any delay beyond these dates could caused an increase in cost. There is no other mitigation apart from close monitoring the whole process in order to achieve the planned milestones.	CoK, Architect

Attachments

1. Estimate Details

Elemental Breakdown

Project: Roebourne Aquatics
Building: Concept Design Cost Plan

Details: 2014-12-09_Concept Design Estimate

Autoc ode	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Preliminaries							
	<u>Builders prelims OH&P calculated as % of NPC + DC + CC</u>						
A	Builders prelims OH&P	13	%	4,340,732.19	54,259,152	0.01	542,592
							542,592
Demolition							
A	Allowance to remove existing pool shell and concourse	454	m2	100.00	45,435		45,435
B	Allowance to remove shade structures	2	No	2,500.00	5,000		5,000
C	Allowance to remove existing fencing	210	m	50.00	10,500		10,500
D	Allowance to remove existing structures including foundations	80	m2	100.00	8,000		8,000
E	Allowance to remove existing trees	1	Item	10,000.00	10,000		10,000
F	Allowance to remove Verandah to rear of office	1	Item	5,000.00	5,000		5,000
G	Allowance to fill existing pool area	545	m3	25.00	13,625		13,625
H	Allowance for miscellaneous removal	1	Item	10,000.00	10,000		10,000
I	Removal of hazardous materials excluded		Note				
J	Removal of rock excluded		Note				
							107,560
Substructure							
A	Allowance for new slab and foundations	152	m2	250.00	38,000		38,000
B	Allowance for ramp	5	m2	350.00	1,750		1,750
							39,750
Columns							
A	Allowance for intermediate columns (if required)	1	Item	10,000.00	10,000		10,000
							10,000
Upper Floors							
A	No upper floors required						0
Staircases							
A	No staircases required						0
Roof							
A	Allowance for steel frame	157	m2	250.00	39,250		39,250
B	Allowance for roof sheeting, flashings and plumbing	157	m2	175.00	27,475		27,475
C	Allowance for roof safety system	1	No	2,500.00	2,500		2,500

Elemental Breakdown

Project: Roebourne Aquatics				Details: 2014-12-09_Concept Design Estimate			
Building: Concept Design Cost Plan							
Autoc ode	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Roof							(Continued)
D	Allowance for sundry roofing items	1	Item	5,000.00	5,000		5,000
							74,225
External Walls							
A	Allowance for core filled blockwork walls to match existing	195	m2	350.00	68,250		68,250
B	Allowance for render to walls	195	m2	55.00	10,725		10,725
C	Allowance for sundry items	1	Item	2,500.00	2,500		2,500
							81,475
Windows							
A	Allowance for window to disabled toilet	1	No	1,000.00	1,000		1,000
							1,000
External Doors							
A	Allowance for single doors	1	No	1,500.00	1,500		1,500
B	Allowance for double doors	2	No	3,000.00	6,000		6,000
C	Allowance for doors to gas room	1	No	3,500.00	3,500		3,500
D	Allowance for roller shutter to Storage	1	No	5,000.00	5,000		5,000
							16,000
Internal Walls							
A	Allowance for internal walls	59	m2	110.00	6,490		6,490
							6,490
Internal Screens							
A	Assumed no screens required						0
Internal Doors							
A	Allowance for internal double door	1	No	3,000.00	3,000		3,000
							3,000
Wall Finishes							
A	Allowance for tiles to Disabled Toilet	30	m2	140.00	4,200		4,200
B	Assumed no other wall finishes						
							4,200
Floor Finishes							
A	Allowance for tiled finish to DWC	5	m2	140.00	700		700
B	Allowance for sealer to concrete	152	m2	15.00	2,280		2,280
							2,980
Ceiling Finishes							
A	Allowance for plasterboard ceiling to all areas	157	m2	110.00	17,270		17,270
							17,270

Elemental Breakdown

Project: Roebourne Aquatics	Details: 2014-12-09_Concept Design Estimate
Building: Concept Design Cost Plan	

Autoc ode	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Fitments							(Continued)
A	Allowance for fitments to DWC	1	Item	2,000.00	2,000		2,000
							2,000
Special Equipment							
A	Assume none required						0
Sanitary Fixtures							
A	Services consultant estimate (includes existing building and extension)	1	Item		79,500		79,500
B	Builders work and margins	1	Item		3,975		3,975
							83,475
Sanitary Plumbing							
A	Included in Sanitary Fixtures						0
Water Supply							
A	Included in Sanitary Fixtures						0
Gas Service							
A	Assumed not required						0
Space Heating							
A	Assumed not required						0
Ventilation							
A	Services consultant estimate (includes existing building and extension)	1	Item	35,000.00	35,000		35,000
B	Builders work and margins	1	Item		1,750		1,750
							36,750
Evaporative Cooling							
A	Services consultant estimate	1	Item		0		0
B	Builders work and margins	1	Item		0		0
							0
Air Conditioning							
A	Services consultant estimate (includes existing building and extension)	1	Item	24,000.00	24,000		24,000
B	Builders work and margins	1	Item		1,200		1,200
							25,200
Fire Protection							

Elemental Breakdown

Project: Roebourne Aquatics	Details: 2014-12-09_Concept Design Estimate
Building: Concept Design Cost Plan	

Autocode	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Fire Protection							(Continued)
A	Assumed not required						0
Light and Power							
A	Services consultant estimate (includes existing building and extension)	1	Item		150,000		150,000
B	Builders work and margins	1	Item		7,500		7,500
							157,500
Communications							
A	Assumed none required						0
Transportation Systems							
A	Assumed not required						0
Special Services							
A	Assumed none required						0
Centralised Energy Systems							
A	Assumed none required						0
Alterations and Renovations							
A	WORKS TO EXISTING BUILDING (Extension Measured Elsewhere)						
	<u>Demolition Works</u>						
B	Allowance for breaking up existing slab	80	m2	50.00	4,000		4,000
C	Allowance for demolition of walls etc	114	m2	25.00	2,850		2,850
D	Allowance for forming new openings in existing walls	3	No	1,500.00	4,500		4,500
E	Allowance for removal windows/screens	5	m2	50.00	225		225
F	Allowance for stripping out existing finishes	1	Item	5,000.00	5,000		5,000
G	Allowance for stripping out existing services and fittings	1	Item	5,000.00	5,000		5,000
H	Allowance for works to Verandah	1	Item	5,000.00	5,000		5,000
	<u>New Works</u>						
I	Allowance for new concrete slab	104	m2	100.00	10,400		10,400
J	Allowance for new external walls	95	m2	155.00	14,725		14,725
K	Allowance for render to external walls	177	m2	55.00	9,735		9,735
L	Allowance for new roof						Excluded

Elemental Breakdown

Project: Roebourne Aquatics
Building: Concept Design Cost Plan

Details: 2014-12-09_Concept Design Estimate

Autoc ode	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Alterations and Renovations							(Continued)
M	Allowance for repairs to existing roof	1	Item	10,000.00	10,000		10,000
N	Allowance for new verandah	45	m2	250.00	11,250		11,250
O	Allowance for external doors; single	3	No	2,000.00	6,000		6,000
P	Allowance for external doors; double	1	No	3,000.00	3,000		3,000
Q	Allowance for windows / screens; Provisional Allowance	2	No	1,000.00	2,000		2,000
R	Allowance for internal walls	50	m2	150.00	7,500		7,500
S	Allowance for internal doors	7	No	1,200.00	8,400		8,400
T	Allowance for toilet partitions and doors	8	No	1,500.00	12,000		12,000
U	Allowance for tiled finishes to wet areas	41	m2	150.00	6,150		6,150
V	Allowance for carpet/vinyl to office/control/first aid and store areas	63	m2	100.00	6,300		6,300
W	Allowance for tiled wall finishes to wet areas	233	m2	140.00	32,620		32,620
X	Allowance for plaster and paint to all other areas	195	m2	50.00	9,750		9,750
Y	Allowance for moisture resistant ceilings to wet areas	41	m2	110.00	4,510		4,510
Z	Allowance for plasterboard ceilings to other areas	63	m2	100.00	6,300		6,300
AA	Allowance for fitments to Change 1	1	Item	20,000.00	20,000		20,000
AB	Allowance for fitments to Change 2	1	Item	20,000.00	20,000		20,000
AC	Allowance for fitments to Control Room	1	Item	10,000.00	10,000		10,000
AD	Allowance for fitments to Office	1	Item	20,000.00	20,000		20,000
AE	Allowance for fitments to First Aid Room	1	Item	10,000.00	10,000		10,000
AF	Allowance for Fitments to Store	1	Item	5,000.00	5,000		5,000
AG	Allowance for sundry items	1	Item	10,000.00	10,000		10,000
AH	Note: All services included elsewhere						
							282,215
Site Preparation							
A	Allowance for general site clearance	1,970	m2	15.00	29,557		29,557
B	Allowance for imported fill to make levels; Provisional Allowance	852	m3	40.00	34,080		34,080
C	Allowance for bank/mounding outside perimeter; Provisional Allowance	736	m3	30.00	22,080		22,080
D	Allowance for retaining walls (gabions or similar) to manage fill levels	188	m2	450.00	84,600		84,600
E	Allowance for excavation for pool	675	m2	30.00	20,250		20,250
F	Allowance for excavation for balance tanks etc	360	m2	30.00	10,800		10,800
G	Allowance for make good to old site	1	Item	25,000.00	25,000		25,000
							226,367

Elemental Breakdown

Project: Roebourne Aquatics
Building: Concept Design Cost Plan

Details: 2014-12-09_Concept Design Estimate

Autoc ode	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Roads, Footpaths and Paved Areas							(Continued)
A	Allowance for concrete finish to hardstandings	905	m2	125.00	113,125		113,125
B	Allowance for hardstanding adjacent to entry	1	Item	15,000.00	15,000		15,000
C	Allowance for crushed road base	100	m2	65.00	6,500		6,500
D	Allowance for gutters / drainage channels	65	m	150.00	9,750		9,750
							144,375
Boundary Walls, Fencing and Gates							
A	Allowance for boundary fence; 2.1m security fence including foundation	145	m	200.00	29,000		29,000
B	Allowance for fence around Verandah	10	m	200.00	2,000		2,000
C	Allowance for concrete wall	25	m	250.00	6,250		6,250
D	Allowance for turnstiles	2	No	10,000.00	20,000		20,000
E	Allowance for metal gates to storage	1	No	7,500.00	7,500		7,500
F	Allowance for double gate to office area	1	No	5,000.00	5,000		5,000
G	Allowance for single gate (including remote control)	1	No	5,000.00	5,000		5,000
H	Allowance for signage	1	No	10,000.00	10,000		10,000
							84,750
Outbuildings and Covered Ways							
A	Allowance for retractable shade cloth canopy; Provisional Allowance	384	m2	1,100.00	422,400		422,400
B	Allowance for foundations	6	No	7,500.00	45,000		45,000
C	Allowance for BBQ's	2	No	10,000.00	20,000		20,000
D	Allowance for shade structure to BBQ's	2	No	35,000.00	70,000		70,000
							557,400
Landscaping and Improvements							
	<u>Swimming Pool</u>						
A	Allowance for Drainage Mattress	448	m2	133.93	60,000		60,000
B	Allowance for Pool Structure	448	m2	1,808.04	810,000		810,000
C	Allowance for Tiling	448	m2	227.68	102,000		102,000
D	Allowance for Balance Tank	448	m2	401.79	180,000		180,000
E	Allowance for Backwash Tank	448	m2	133.93	60,000		60,000
F	Allowance for Hobs	448	m2	89.29	40,000		40,000
G	Allowance for Pool Furniture	448	m2	156.25	70,000		70,000
H	Allowance for CJ's	448	m2	40.18	18,000		18,000

Elemental Breakdown

Project: Roebourne Aquatics	Details: 2014-12-09_Concept Design Estimate
Building: Concept Design Cost Plan	

Autoc ode	Description	Quantity	Unit	Rate	Subtotal	Factor	Total
Landscaping and Improvements							(Continued)
I	Allowance for Pool Plant; reticulation, PCB, pumps, fliters, valve, chemicals etc	1	Item	801,000.00	801,000		801,000
J	Allowance for S/S Handrails to pool	35	m	750.00	26,250		26,250
	<u>Landscaping</u>						
K	Allowance for grass to BBQ areas	239	m2	50.00	11,925		11,925
L	Allowance for shrubs	1	Item	15,000.00	15,000		15,000
							2,194,175
External Stormwater Drainage							
A	Provisional Allowance for swales	1	Item	10,000.00	10,000		10,000
							10,000
External Sewer Drainage							
A	Assume existing service is okay						0
External Water Supply							
A	Assume existing supply is okay						
B	Provisional Allowance for additional reticulation	1	Item	15,000.00	15,000		15,000
							15,000
External Gas							
A	Assumed none required						0
External Fire Protection							
A	Assumed none required						0
External Electric Light and Power							
A	Assumed none required						0
External Communications							
A	Allowance for PA System (no details)	1	Item	5,500.00	5,500		5,500
							5,500
External Special Services							
A	Allowance for CCTV and Access Control	1	Item	25,000.00	25,000		25,000
							25,000
	0						4,756,249