

3 March 2016

PDR 10070

Chief Executive Officer  
Douglas Shire Council  
64-66 Front St  
Mossman Qld 4873

**Attention: Neil Beck**

Dear Neil,

**RE: Operational Works Application for a 6 lot subdivision adjacent to Vixies Road and Snapper Island Drive Wonga Beach – Request for information – OP 4332/2011**

We acknowledge receipt of your request for further information, dated 15<sup>th</sup> January 2016, which was issued in relation to the OWA application for the above project.

We provide the following response to each matter raised, using the same notation system, as follows:

**Item 1:**

We confirm that Alan McPherson (RPEQ 809) is the responsible engineer and apologise for the oversight in submitting and unsigned form. The signed form is now attached.

**Item 2:**

Not sure how this occurred as our copy clearly shows that the application is for operational works with Table B completed. We confirm that it is for operational works and attach our copy of IDAS form 6 for completeness.

**Item 3:**

The conditions contained in the decision notice that are relevant to stage 1A are addressed as follows:

- Condition 4 – The engineering drawing show the location and level of the required 600 sqm building pad. This will also serve as the building envelope, however, building envelope plans will be prepared by the surveyor for the project. The plan for the location of the Wisconsin mounds will be prepared by the consultant designing these mounds.
- Condition 5 – see above.
- Condition 6 – See separate submission by BMT WBM.
- Condition 11 – At this stage the project only contains spoon drains and allotment drainage. No SQUID is required at this stage and there are no unprotected outlets to the existing gullies. Further comments relating to drainage are addressed later in this correspondence in response to the RFI.
- Conditions 14 and 15 – Overall water supply and infrastructure plan not required at this stage. Council has agreed that stage 1A lots can be serviced from the existing mains in Snapper Island Drive. The water reticulation system will be continued through to a future connection in Vixies Road.

- Condition 17 – Each allotment can be serviced from the reticulation system shown on the engineering drawings.
- Condition 18 – The matter of onsite effluent disposal is the subject of reports submitted to Council by others.
- Conditions 21 and 22 – Electricity supply and telecommunication requirements are being designed by the electrical consultant for this project and are the subject of a separate submission.

#### **Items 4 and 5:**

The haulage route from the source of supply of the fill material cannot be defined at this stage as a tender for this work has not been awarded. Prior to construction commencing (i.e. before the prestart) the haulage route will be determined in conjunction with the contractor and Council. Any issues will be determined and resolved at that stage.

The internal haul route will be from Vixies road. There is a current access point to the site and this will be utilised. We attach a plan showing the proposed location and requirement for the haulage route. Only minor earthworks will be required and, at this stage, it is intended to provide a gravel surface to the haul route.

#### **Item 6:**

We acknowledge that road grades are at the minimum allowable of 0.3% and below the desirable minimum grade of 0.5%. We seek Council's approval to retain these grades. This design approach was taken to keep the roads as high as possible to accommodate future underground drainage requirements in later stages. It is also a matter of retaining a balance between achieving desirable flood levels on allotments, the location of building pads and envelopes, lot access and maintaining areas above the Q100 flood levels.

The main element of using these grades was to ensure future kerb inlets were high enough to accommodate underground culverts and to ensure the culverts can discharge above backwater levels. This matter was highlighted in earlier engineering reports that supported the application. The design is basically in accordance with the concepts provided.

#### **Item 7:**

We confirm that the flows produced for the 100 year ARI event is contained within the road reserve and attach diagrams and calculation sheets demonstrating that for the two roads the Q100 flows do not encroach onto the verges.

#### **Item 8:**

In response to part of item 7 (drainage easements) and to clarify drain capacities, velocities, flow widths etc., we have prepared a table with the relevant information for the spoon drain (drain 1) and the allotment drain (drain 2). It is accepted that at the higher ARI events velocities in the drains are low, however, we do not consider this to be an issue and comment as follows:

1. Drain 1, which is the spoon drain on the southern boundary, has a concrete invert. Whilst the velocity at high flows is of the order of 0.5 - 0.6 m/s the velocity for the ARI 1 year event is of the order of 0.9 to 1.1 m/s. We consider that as cleansing velocity is achieved at low flows long term silting should not be an issue. This can only be achieved if the invert is concrete as detailed.
2. Drain 2, which is the allotment drain, generally has velocities in the order of 0.65 m/s. At low flows the velocity increases to 0.7 m/s and above. Given that these drains will only carry stormwater from rooves or grassed areas the risk of silting is minimal. Given the width of the easements any minor blockage can be accommodated by the flows. These grassed drains also serve the function of improving water quality (refer to previous submissions at pre-approval stage). As such it is desirable that water

velocities be kept as low as practically possible to allow the removal of Tn and Tp as discussed in the earlier report.

**Item 9:**

It is our understanding that the stormwater management plan has been updated by BMT WBM. A copy of their letter confirming this is attached.

**Items 10 and 11:**

As outlined earlier the overall water supply master plan is not required to be completed at this stage. The provision of water reticulation is in accordance with the previously agreed reticulation plan and a copy of our drawing 10070 – W01 is attached. This plan outlines the agreed reticulation and the design for stage 1 is in accordance with this plan. In relation to condition 16 it is our understanding that this is not required until the 21<sup>st</sup> allotment is applied for.

**Item 12:**

The earthworks associated with the construction of the Wisconsin mounds were not part of the documentation prepared by PDR Engineers. They will be the subject of a separate submission from the Waste water Consultants.

**Item 13:**

The operating erosion and sediment control plan will be prepared by the successful contractor and submitted at or prior to the prestart meeting for approval by ourselves and Council. Your concern in this regard is noted and will be expressed to the contractor.

**Item 14:**

The electrical design is being performed by SPA consulting and we understand that they have finalised the overall design requirements with Ergon Energy. We understand that 3 substations are required and SPA will provide a separate submission in relation to this matter.

**Item 15:**

Our understanding is that these matters were the subject of previous reports and requirements have been satisfied.

We trust that the provision of this response, the accompanying drawings and submissions by other consultants address the matters raised and enable Council to complete the assessment of this application and issue the OWA.

Yours faithfully  
**PDR Engineers**

A handwritten signature in black ink, appearing to read 'Alan McPherson', with a horizontal line underneath.

Alan McPherson  
**Senior Civil Engineer**  
**RPEQ 809**

# FNQROC DEVELOPMENT MANUAL

Douglas Shire Council

## STATEMENT OF COMPLIANCE OPERATIONAL WORKS DESIGN

This form duly completed and signed by an authorized agent of the Consulting Engineers shall be submitted with the Operational Works Application for Council Approval.

**Name of Development:** Wonga Beach Aquaculture Resort estate

**Location of Development:** Vixies Rd Wonga Beach

**Applicant:** Wonga Beach Aquaculture Resort Pty Ltd

**Consulting Engineer:** PDR Engineers

It is hereby certified that the Calculations, Drawings, Specifications and related documents submitted herewith have been prepared, checked and amended in accordance with the requirements of the FNQROC Development Manual and that the completed works comply with the requirements therein, except as noted below.

Compliance with the requirements of the Operational Works Design Guidelines	Compliance Yes/No	Non-Compliance refer to non-compliance report / drawing number
Plan Presentation	Y	
Geometric Road Design	Y	
Geotechnical requirements	N/A	
Pavements	Y	
Structures / Bridges	N/A	
Subsurface Drainage	N/A	
Stormwater Drainage	Y	
Site Re-grading	Y	
Erosion and Sediment Control Strategy	Y	
Pest Plant Management	N/A	
Cycleway / Pathways	N/A	
Landscaping	N/A	
Water source & disinfection/treatment infrastructure	N/A	
Water Reticulation	Y	
Sewer reticulation	N/A	
Electrical Reticulation and Street Lighting	Y	Currently being designed
Associated Documentation/ Specification		
Priced Schedule of Quantities		
Supporting information (AP1.08)		
Referral Agency Conditions		

**Consulting Engineers:** PDR Engineers



**Signature** for and on Behalf of PDR Engineers

**Name in Full:** Alan McPherson

**RPEQ:** 809

**Date:** 1<sup>st</sup> December 2015

# IDAS form 6—Building or operational work assessable against a planning scheme

(Sustainable Planning Act 2009 version 3.0 effective 1 July 2013)

This form must be used for development applications for building work or operational work assessable against a planning scheme.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications, you must:

- complete *IDAS form 1—Application details*
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the Sustainable Planning Regulation 2009.

This form must be used for building work or operational work relating on strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994* and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008* that requires assessment against the land use plan for that land. Whenever a planning scheme is mentioned, take it to mean land use plan for the strategic port land, Brisbane core port land or airport land.

This form can also be completed online using MyDAS at [www.dsdip.qld.gov.au/MyDAS](http://www.dsdip.qld.gov.au/MyDAS)

## Mandatory requirements

1. **What is the nature of the work that requires assessment against a planning scheme?** (Tick all applicable boxes.)

- Building work—complete Table A       Operational work—complete Table B

### Table A

a) What is the nature of the building work (e.g. building, repairing, altering, underpinning, moving or demolishing a building)?

b) Are there any current approvals associated with this application? (e.g. material change of use.)

- No       Yes— provide details below

List of approval reference/s	Date approved (dd/mm/yy)	Date approval lapses (dd/mm/yy)

**Table B**

a) What is the nature of the operational work? (Tick all applicable boxes.)

- Road works                       Stormwater                       Water infrastructure  
 Drainage works                       Earthworks                       Sewerage infrastructure  
 Landscaping                       Signage                       Clearing vegetation under the planning scheme  
 Other—provide details

b) Is the operational work necessary to facilitate the creation of new lots? (E.g. subdivision.)

- No     Yes—specify the number of lots being created

c) Are there any current approvals associated with this application? (E.g. material change of use.)

- No     Yes—provide details below

List of approval reference/s	Date approved (dd/mm/yy)	Date approval lapses (dd/mm/yy)

<b>2. What is the dollar value of the proposed building work?</b> (Inc GST, materials and labour.)	\$
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<b>3. What is the dollar value of the proposed operational work?</b> (Inc GST, materials and labour.)	\$
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**Mandatory supporting information**

**4. Confirm that the following mandatory supporting information accompanies this application**

Mandatory supporting information	Confirmation of lodgement	Method of lodgement
<b>All applications involving building work or operational work</b>		
A site plan drawn to an appropriate scale (1:100, 1:200 or 1:500 are recommended scales) which shows the following: <ul style="list-style-type: none"> <li>• the location and site area of the land to which the application relates (<i>relevant land</i>)</li> <li>• the north point</li> <li>• the boundaries of the relevant land</li> <li>• the allotment layout showing existing lots, any proposed lots (including the dimensions of those lots), existing or proposed road reserves, building envelopes and existing or proposed open space (note: numbering is required for all lots)</li> <li>• any existing or proposed easements on the relevant land and their function</li> <li>• any access limitation strips</li> <li>• all existing and proposed roads and access points on the relevant land.</li> </ul>	<input type="checkbox"/> Confirmed	

A statement about how the proposed development addresses the local government's planning schemes and any other planning documents relevant to the application.	<input type="checkbox"/> Confirmed	
A statement addressing the relevant part(s) of the State Development Assessment Provisions (SDAP).	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
<b>Applications for building work (including extensions and demolition that is assessable development)</b>		
Floor plans drawn to an appropriate scale (1:50, 1:100 or 1:200 are recommended scales) which show the following: <ul style="list-style-type: none"> <li>the north point</li> <li>the intended use of each area on the floor plan (for commercial, industrial or mixed use developments only)</li> <li>the room layout (for residential development only) with all rooms clearly labelled</li> <li>the existing and the proposed built form (for extensions only)</li> <li>the gross floor area of each proposed floor area.</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Elevations drawn to an appropriate scale (1:100, 1:200 or 1:500 are recommended scales) which show plans of all building elevations and facades, clearly labelled to identify orientation (e.g. north elevation).	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Plans showing the size, location, proposed site cover, proposed maximum number of storeys, and proposed maximum height above natural ground level of the proposed new building work.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Plans showing the extent of any demolition that is assessable development.	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
<b>Applications for operational work involving earthworks (filling and excavating)</b>		
Drawings showing: <ul style="list-style-type: none"> <li>existing and proposed contours</li> <li>areas to be cut and filled</li> <li>the location and level of any permanent survey marks or reference stations used as datum for the works</li> <li>the location of any proposed retaining walls on the relevant land and their height</li> <li>the defined flood level (if applicable)</li> <li>the fill level (if applicable).</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
<b>Applications for operational work involving roadworks</b>		
Drawings showing: <ul style="list-style-type: none"> <li>existing and proposed contours</li> <li>the centreline or construction line showing chainages, bearings, offsets if the construction line is not the centreline of the road and all intersection points</li> <li>information for each curve including tangent point chainages and offsets, curve radii, arc length, tangent length, superelevation (if applicable) and curve widening (if applicable)</li> <li>kerb lines including kerb radii (where not parallel to centreline) and tangent point changes (where not parallel to centreline)</li> <li>edge of pavement where kerb is not constructed</li> <li>position and extent of channelisation</li> <li>location and details of all traffic signs, guideposts, guardrail and other street furniture</li> <li>pavement markings including details on raised pavement markers</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	



<ul style="list-style-type: none"> <li>• catchpit, manhole and pipeline locations</li> <li>• drainage details (if applicable)</li> <li>• cross road drainage culverts (if applicable)</li> <li>• concrete footpaths and cycle paths</li> <li>• location and details for access points, ramps and invert crossings</li> <li>• changes in surfacing material.</li> </ul>		
<b>Applications for operational work involving stormwater drainage</b>		
<p>Drawings showing:</p> <ul style="list-style-type: none"> <li>• existing and proposed contours</li> <li>• drainage locations, diameters and class of pipe, open drains and easements</li> <li>• manhole location, chainage and offset or coordinates and inlet and outlet invert levels</li> <li>• inlet pit locations, chainage and offset or coordinates and invert and kerb levels.</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
<b>Applications for operational work involving water reticulation</b>		
<p>Drawings showing:</p> <ul style="list-style-type: none"> <li>• kerb lines or edge of pavement where kerb is not constructed</li> <li>• location and levels of other utility services where affected by water reticulation works</li> <li>• pipe diameter, type of pipe and pipe alignment</li> <li>• water main alignments</li> <li>• water supply pump station details (if applicable)</li> <li>• minor reservoir details (if applicable)</li> <li>• conduits</li> <li>• location of valves and fire hydrants</li> <li>• location of house connections (if applicable)</li> <li>• location of bench marks and reference pegs.</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
<b>Applications for operational work involving sewerage reticulation</b>		
<p>Drawings showing:</p> <ul style="list-style-type: none"> <li>• location of all existing and proposed services</li> <li>• location of all existing and proposed sewer lines and manhole locations</li> <li>• location of all house connection branches</li> <li>• kerb lines or edge of pavement where kerb is not constructed</li> <li>• chainages</li> <li>• design sewer invert levels</li> <li>• design top of manhole levels</li> <li>• type of manhole and manhole cover</li> <li>• pipe diameter, type of pipe and pipe alignment</li> <li>• location of house connections (if applicable)</li> <li>• sewer pump station details (if applicable).</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
<b>Applications for operational work involving street lighting</b>		
<p>Drawings showing:</p> <ul style="list-style-type: none"> <li>• location of all light poles and service conduits</li> <li>• location of all other cross road conduits</li> <li>• type of wattage and lighting</li> <li>• any traffic calming devices</li> <li>• additional plans for roundabouts and major roads (if applicable)</li> <li>• details of any variations to normal alignment</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	



<ul style="list-style-type: none"> <li>• details of lighting levels.</li> </ul>		
<b>Applications for operational work involving public utility services</b>		
Drawings showing: <ul style="list-style-type: none"> <li>• any existing light poles and power poles</li> <li>• any existing underground services</li> <li>• details of proposed services</li> <li>• alteration to existing services.</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
<b>Applications for operational work involving landscaping works</b>		
Drawings showing: <ul style="list-style-type: none"> <li>• the location of proposed plant species</li> <li>• a plant schedule indicating common and botanical names, pot sizes and numbers of plants</li> <li>• planting bed preparation details including topsoil depth, subgrade preparation, mulch type and depth, type of turf, pebble, paving and garden edge</li> <li>• the location and type of any existing trees to be retained</li> <li>• construction details of planter boxes, retaining walls and fences</li> <li>• the proposed maintenance period</li> <li>• irrigation system details.</li> </ul>	<input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	

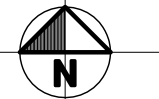
**Privacy**—Please refer to your assessment manager, referral agency and/or building certifier for further details on the use of information recorded in this form.

**OFFICE USE ONLY**

Date received

Reference numbers

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.



SHAKER GRID

VIXIE ROAD

5  
SP128931

UPGRADE EXISTING TRACK TO  
PROVIDE 3.5m WIDE INTERNAL  
HAULAGE ROUTE WITH 150mm  
COMPACTED TYPE 2.1 ROADBASE.

50  
SP155078

Existing Track

FUTURE STAGES

ESPLANADE

FUTURE STAGES

FUTURE STAGES

DD

8 9 10 11

3

4

11  
SP113397

16  
RP744773

17  
RP744773

18  
RP744773

19  
RP744773

**STAGE 1A**

BOWMAN CL.

SNAPPER ISLAND DRIVE

WONGA BEACH VILLAGE PTY. LTD.  
PROPOSED SUBDIVISION  
STAGE 1A

SNAPPER ISLAND DRIVE-WONGA BEACH  
INTERNAL HAULAGE ROUTE

# Channel Report

<Name>

**User-defined**

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 Slope (%) = 0.3500  
 N-Value = 0.015

**Calculations**

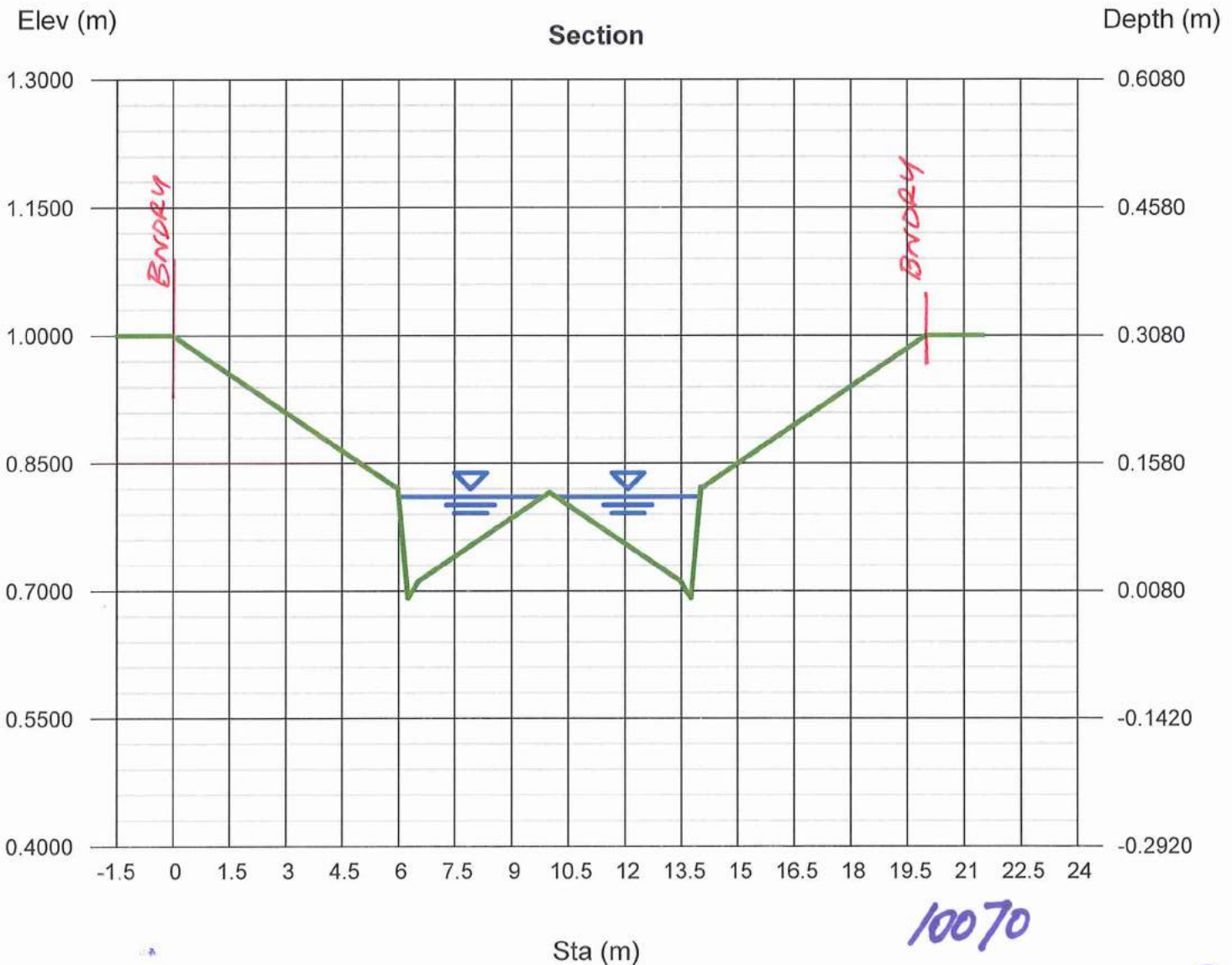
Compute by: Known Q  
 Known Q (cms) = 0.2400

**Highlighted**

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 Q (cms) = 0.240 \*  
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 Velocity (m/s) = 0.5762 \*  
 Wetted Perim (m) = 7.7102  
 Crit Depth, Yc (m) = 0.1097  
 Top Width (m) = 7.6516  
 EGL (m) = 0.1358

**(Sta, El, n)-(Sta, El, n)...**

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10070  
 CH. 240 SNAPPER ISL. RD.

# Channel Report

<Name>

**User-defined**

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 Slope (%) = 0.3500  
 N-Value = Composite

**Highlighted**

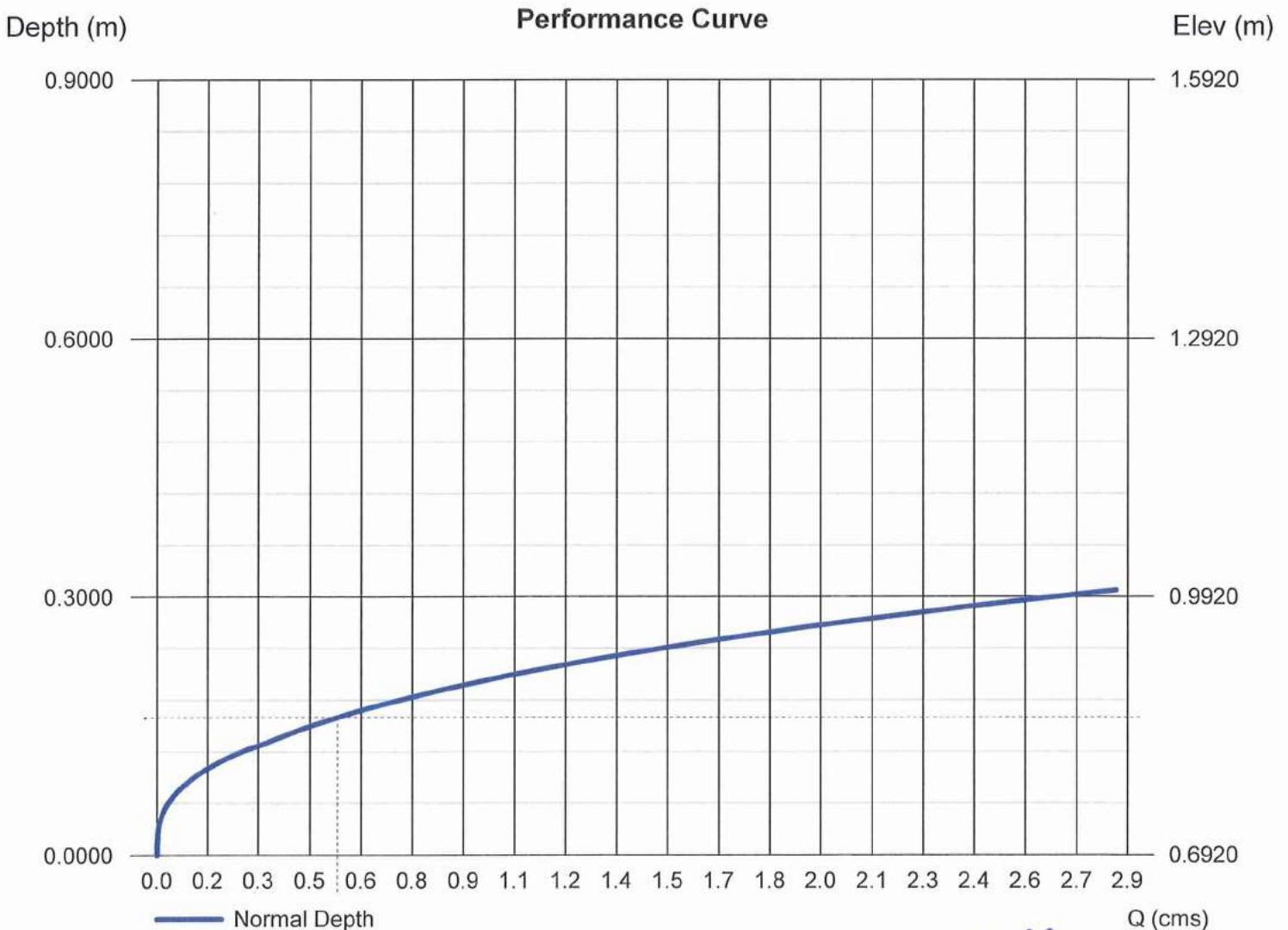
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 Area (sqm) = 0.7806  
 Velocity (m/s) = 0.6796  
 Wetted Perim (m) = 10.2143  
 Crit Depth, Yc (m) = 0.1463  
 Top Width (m) = 10.1495  
 EGL (m) = 0.1837

**Calculations**

Compute by: Q vs Depth  
 No. Increments = 50

**(Sta, El, n)-(Sta, El, n)...**

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10070

CH. 240 SNAPPER ISL RD.

# Channel Report

<Name>

**User-defined**

Invert Elev (m) = 0.7450  
 Slope (%) = 0.3500  
 N-Value = Composite

**Highlighted**

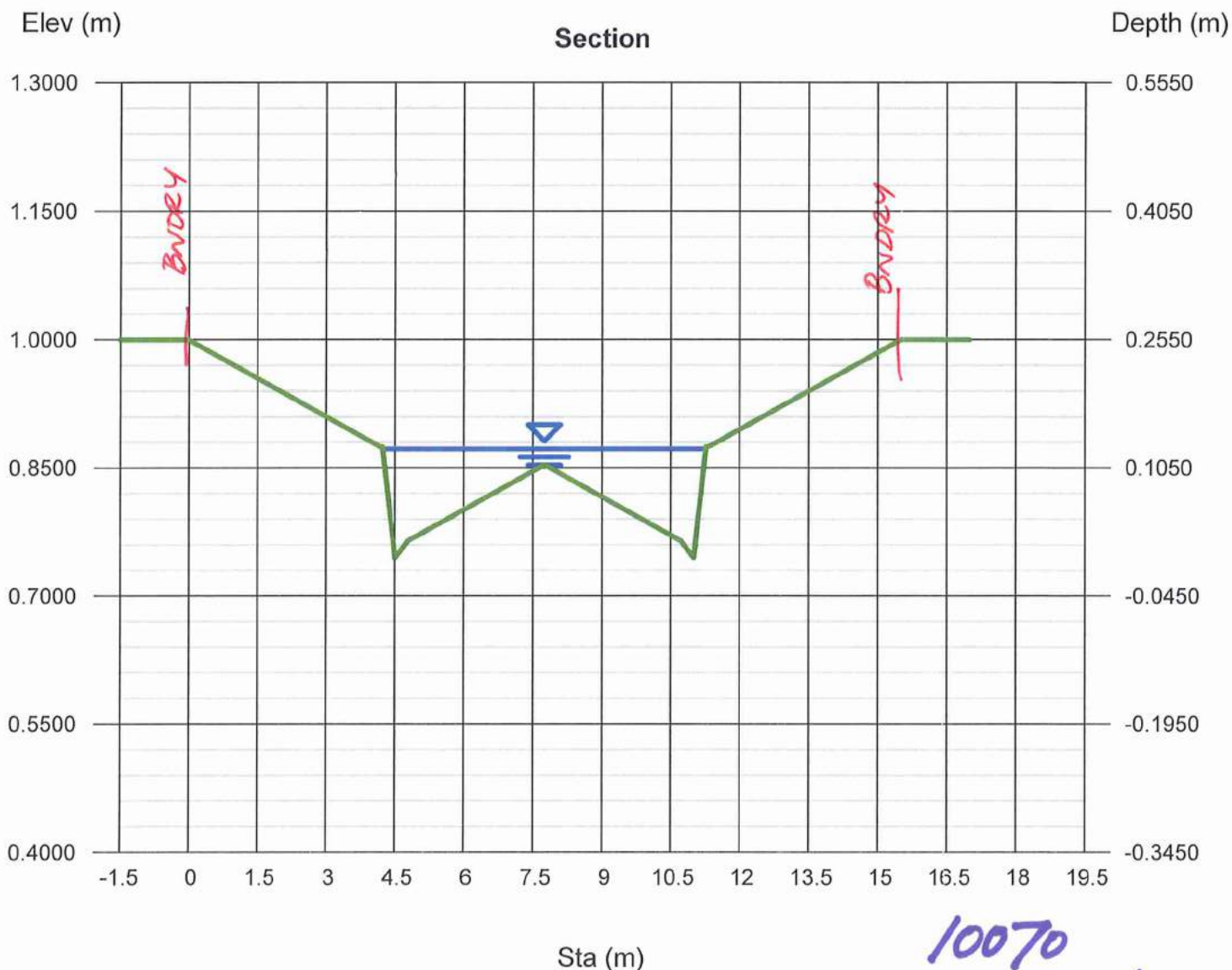
Depth (m) = 0.1275 \*  
 Q (cms) = 0.3180 \*  
 Area (sqm) = 0.4738  
 Velocity (m/s) = 0.6712 \*  
 Wetted Perim (m) = 7.0919  
 Crit Depth, Yc (m) = 0.1219  
 Top Width (m) = 7.0296  
 EGL (m) = 0.1505

**Calculations**

Compute by: Q vs Depth  
 No. Increments = 50

**(Sta, El, n)-(Sta, El, n)...**

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10070  
 CH. 95, ROAD 'B'



# Channel Report

<Name>

**User-defined**

Invert Elev (m) = 0.7450  
 Slope (%) = 0.3500  
 N-Value = Composite

**Highlighted**

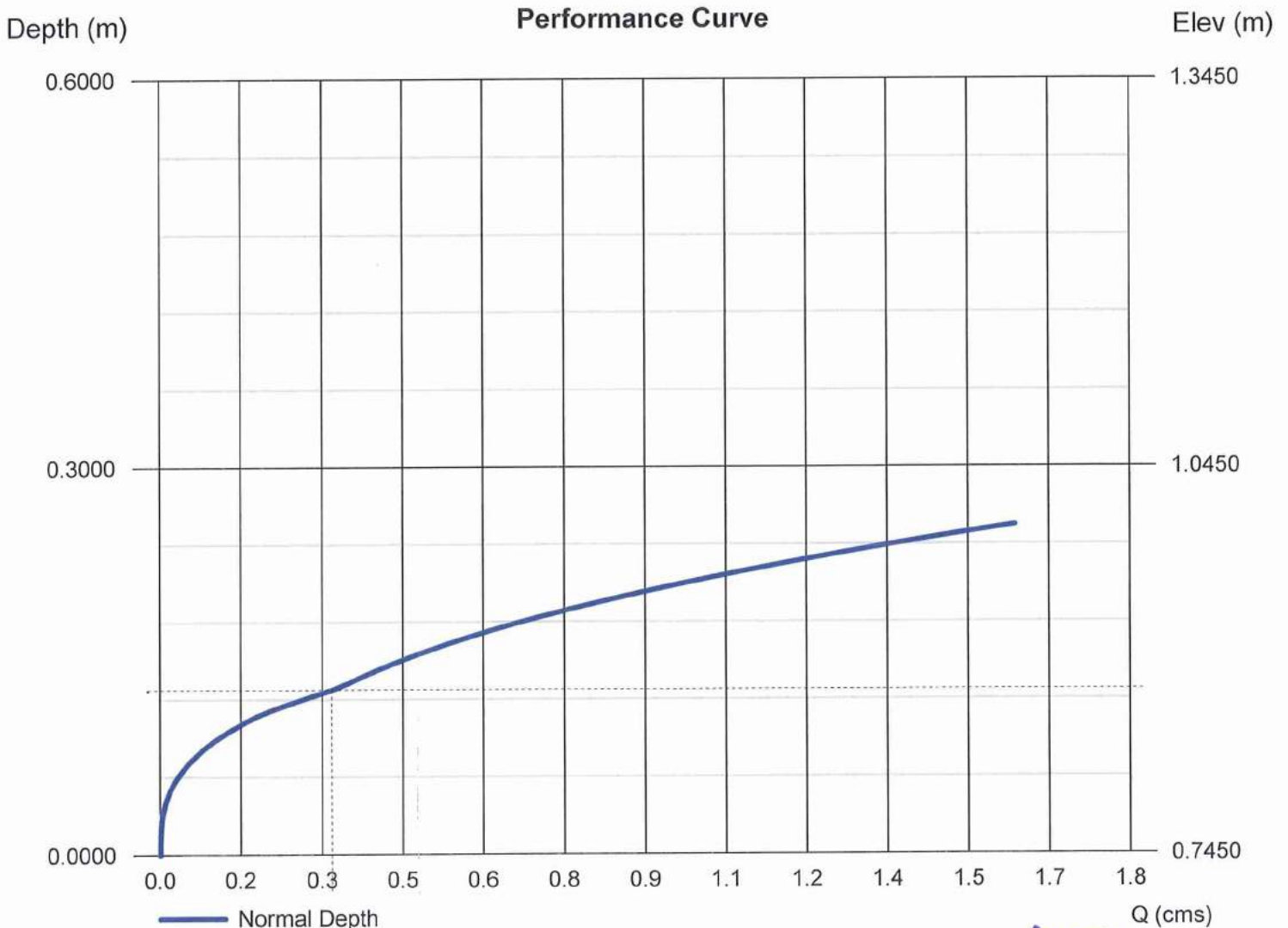
Depth (m) = 0.1275  
 Q (cms) = 0.3180  
 Area (sqm) = 0.4738  
 Velocity (m/s) = 0.6712  
 Wetted Perim (m) = 7.0919  
 Crit Depth, Yc (m) = 0.1219  
 Top Width (m) = 7.0296  
 EGL (m) = 0.1505

**Calculations**

Compute by: Q vs Depth  
 No. Increments = 50

**(Sta, El, n)-(Sta, El, n)...**

(0.0000, 1.0000)-(4.1800, 0.8750, 0.020)-(4.2300, 0.8750, 0.012)-(4.5000, 0.7450, 0.012)-(4.7800, 0.7650, 0.012)-(7.7500, 0.8540, 0.015)-(10.7200, 0.7650, 0.012)-(11.0000, 0.7450, 0.012)-(11.2700, 0.8750, 0.012)-(11.3200, 0.8750, 0.012)-(15.5000, 1.0000, 0.020)



*10070  
 CH. 95 ROAD 'B'*

Our Ref: L.B18865.001.docx

Tel: +61 7 3831 6744  
Fax: + 61 7 3832 3627

21 March 2016

ABN 54 010 830 421

[www.bmtwbm.com.au](http://www.bmtwbm.com.au)McCLOYGROUP  
Suite 1, Level 3 426 King Street Newcastle West NSW 2300  
PO Box 2214 Dangar NSW 2309

Attention: James Goode

Dear James

**RE: WONGA BEACH AQUACULTURE RESORT P/L - OWA APPLICATION - 8/13/1625**

We write in relation to item 6 of the Negotiated Decision Notice 2013 for the above application. Item 6 states:

*The Wonga Beach Integrated Stormwater Management Plan, prepared by BMT WBM and dated April 2013, must be updated so as to demonstrate the additional fill required to achieve the higher finished design levels in Condition 3 of this Development Permit, will not have direct or cumulative impacts to neighbouring or downstream properties.*

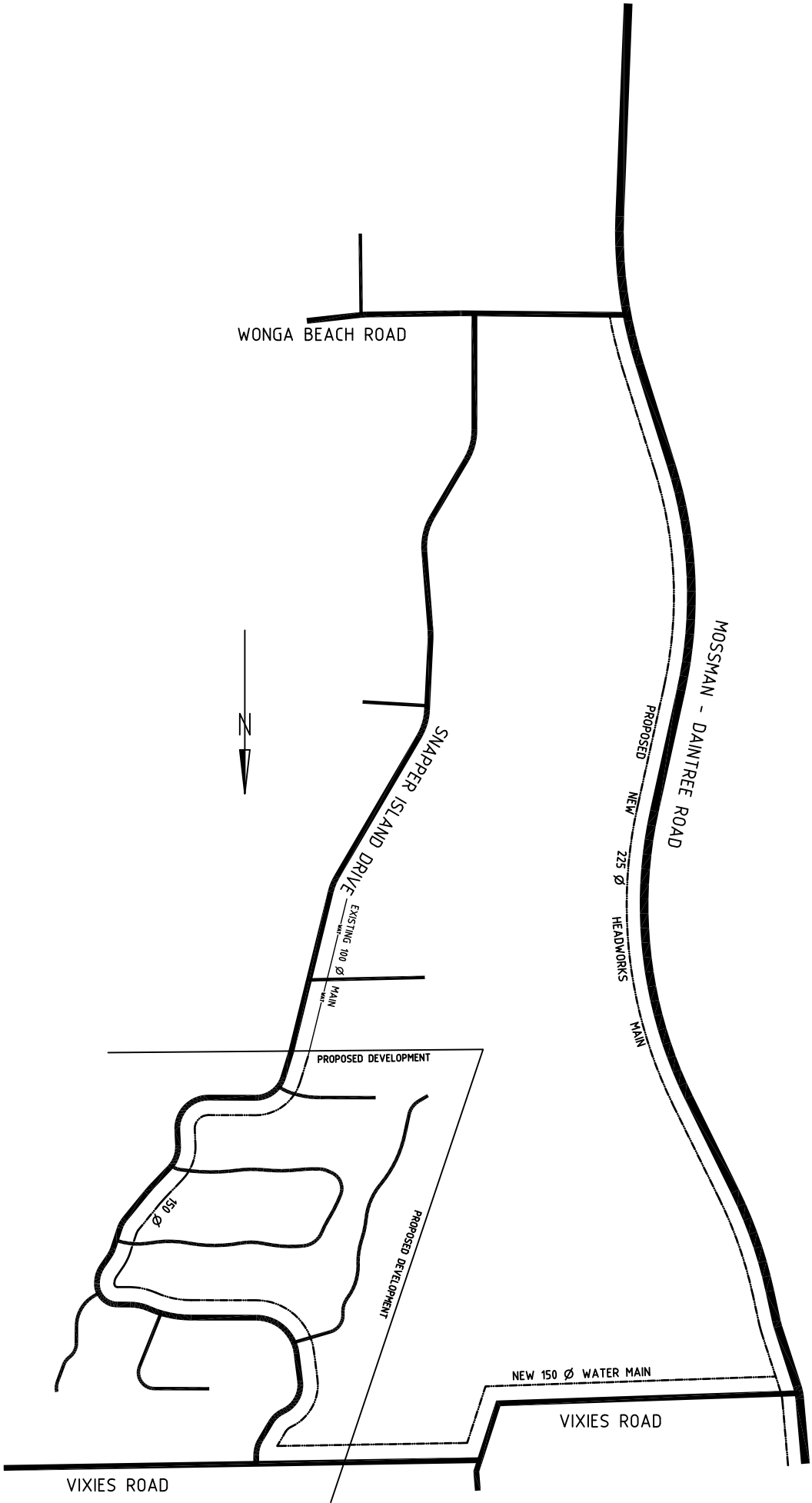
Our report 'Wonga Beach Integrated Stormwater Management Plan' of 2013 with regards to flood impacts, assumes that all developable areas are filled to above both Q100 and storm tide levels and as such represents a conservative assessment of the site flood impacts.

Taking this into account, the additional fill specified in item 6 remains less than that modelled in the above report. As such, any impacts associated with the additional fill are predicted to be less than those presented in our 2013 report.

Based on the conservative nature of the original assessment we consider the 2013 report to still be applicable and current.

Yours Faithfully  
**BMT WBM****Ian Clark**  
**Senior Scientist**





SCALE 1:5000  
 50 0 50 100 150 200 250 m

ISSUE	DESCRIPTION	DATE	ISSUE	DESCRIPTION	DATE
A	FOR COUNCIL SUBMISSION	APRIL 2013			

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**engineers**

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 A/LN 88 311 411

CLIENT: **WONGA BEACH AQUACULTURE RESORT PTY LTD**  
 PROJECT: **SUBDIVISION AT VIXIE ROAD WONGA BEACH**  
 TITLE: **PROPOSED PRIMARY WATER MAINS**

SCALE	AS SHOWN	DRAWN	AKC
DATE	APRIL 2011	DESIGNED	AKC/AMP
APPROVED		CHECKED	AMP
DWG NUMBER	<b>10070-W01</b>		REV. <b>A</b>