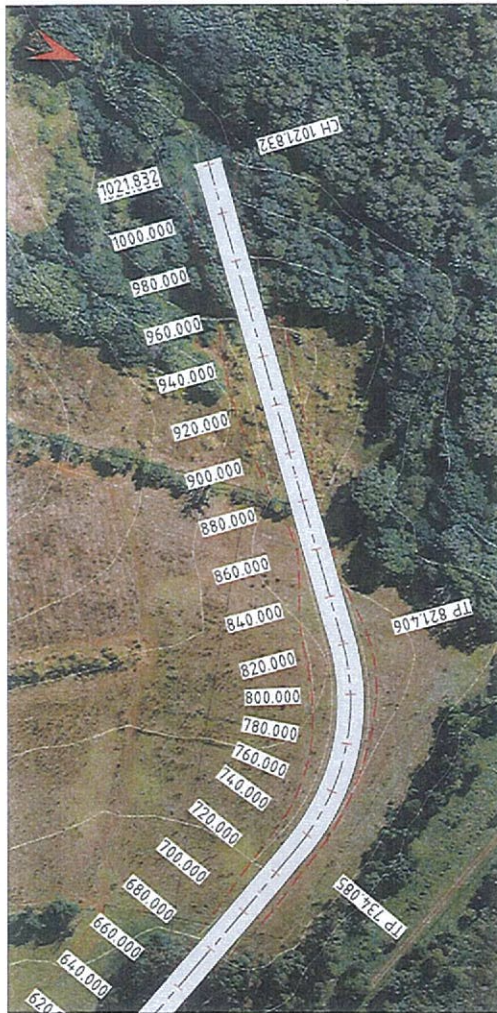
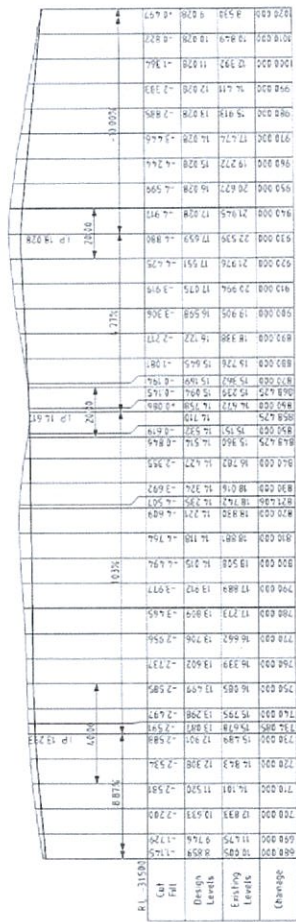


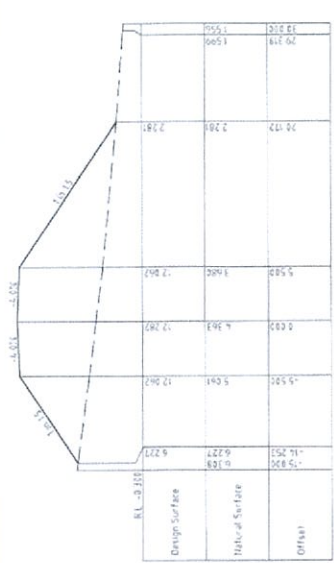


PLAN
AT SCALE 1:1000
A3 SCALE 1:2000

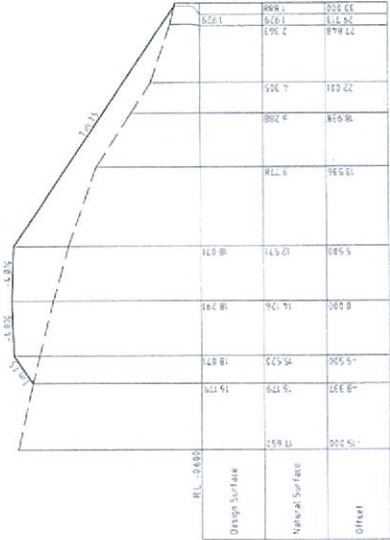
VOLUMES		
CUT	FILL	NET (FILL)
18894 Cu. M.	38375 Cu. M.	19481 Cu. M.



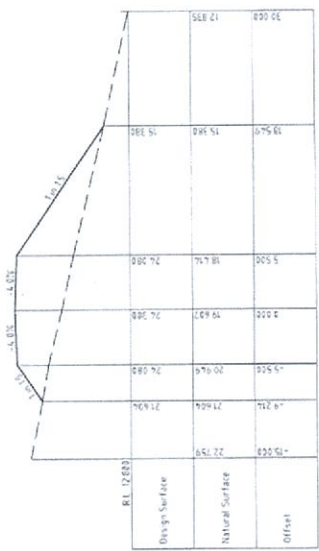
LONG SECTION
AT SCALE 1:2000 VERTICAL AND HORIZONTAL



Ch 240.000



Ch 180.000



Ch 120.000

PROJECT: MAHERS LANE - FRASER DRIVE, BANORA PT
DRAWING NUMBER: 051921

DESIGN UNIT: TWEED SHIRE COUNCIL
COUNCIL OFFICE: 07 4622400
MURRUMBidge: 02 6622213
FAX: 02 6622213
WEBSITE: www.tweedshire.nsw.gov.au

DESIGN ENGINEER: [Name]
CHECK ENGINEER: [Name]
DESIGNED: [Name]
CHECKED: [Name]
DATE: [Date]
DESIGN NO: [Number]
REVISION: [Number]
HORIZONTAL DATUM: [Datum]
VERTICAL DATUM: [Datum]
AND: [Datum]
CO-ORDS ADAPTED: [Adapted]
ACAD FILE NO: [File No]

PLAN TITLE: PLAN, LONG SECTION, VOLUMES AND SAMPLE CROSS SECTIONS

THIS SHEET MAY BE REDUCED 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000 1010 1020 1030 1040 1050 1060 1070 1080 1090 1100 1110 1120 1130 1140 1150 1160 1170 1180 1190 1200 1210 1220 1230 1240 1250 1260 1270 1280 1290 1300 1310 1320 1330 1340 1350 1360 1370 1380 1390 1400 1410 1420 1430 1440 1450 1460 1470 1480 1490 1500 1510 1520 1530 1540 1550 1560 1570 1580 1590 1600 1610 1620 1630 1640 1650 1660 1670 1680 1690 1700 1710 1720 1730 1740 1750 1760 1770 1780 1790 1800 1810 1820 1830 1840 1850 1860 1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010 2020 2030 2040 2050 2060 2070 2080 2090 2100 2110 2120 2130 2140 2150 2160 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Brian Lees

From: Peter Pennycuik [PeterP@TWEED.nsw.gov.au]
Sent: Tuesday, 4 May 2010 11:54 AM
To: Brian Lees
Cc: Anthony Burnham; Cheryl Jackson
Subject: Area E - Altitude Sewer Connection
Attachments: image001.png; image002.png

Brian,

My preliminary analysis of the receiving sewer system proposed for Altitude shows that:

1. The PWWF from Altitude is 23L/s
2. The PWWF from Terranora Village is 39.3L/s
3. Other gravity flows into the receiving sewer system prior to the collector manhole is 18.3L/s
4. Total PWWF into SPS3018 is 104L/s without Altitude and 127L/s with it.
5. The Receiving Gravity Sewer has two controlling reaches.
 - a. One with capacity of 60.3L/s where the total flow is 62.3L/s. – An interconnection between this and a parallel 225 sewer will permit overflow to be transported satisfactorily provided the interconnection does actually work.
 - b. One with a capacity of 76.1L/s where the total flow is 80.6L/s. This section may work satisfactorily under head but a proper hydraulic analysis would be necessary to confirm.
6. The current theoretical capacity of the SPS3018 pumps is 91L/s at 36.4m head, but a recent test indicated performance at 75L/s. Investigations into the condition of the pumps has been ordered, but the upgrade that would be required to pump the total flow including Altitude would require pumps with a duty of 127L/s at 58m head. That equates to 120kW pumps based on an efficiency of 60%, not allowing for some degradation over time. This is a significant upgrade over the existing 55kW pumps and may not be able to be accommodated on the site. Capacity of the wet well is another issue that has not been investigated to date, but the volume for the ten starts per hour criterion indicates that an operating range in excess of 1.6m in the current well would be necessary. This would drown the inlet and reticulation system.

Consequently, it is difficult to give an indication that the proposed connection to the gravity sewer in Fraser Drive is possible. At best, I would be reluctant to give an approval for a peak flow of 5 to 8 L/s as an interim solution which would not be adequate for the proposed development.

The full development of 300 lots will require some implementation of infrastructure proposed for the total development of Area E.

Peter Pennycuik | Strategic and Assets Engineer
Community and Natural Resources - Water Unit



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From: Fredy Reys [<mailto:Fredy@bradlees.com.au>]
Sent: Wednesday, 24 March 2010 1:11
To: Peter Pennycuik
Cc: Brian Lees
Subject: RE: File Note BradLees Consulting Mtg 11-3-2010.doc

Hi Peter,

Thanks for the information - although not quite what we wanted to hear!

We shall await the outcome of Friday's meeting.

Should you require any further information please do not hesitate to contact our office.

Regards

Fredy

Fredy Reyes

Civil Designer

for and on behalf of
BradLees Consulting

Level 1, 34 Thomas Drive, Chevron Island QLD 4217 - PO Box 2293, Southport QLD 4215 Ph. 07 5528 6411 Fax 07 55286422

8 Pikki Street, Maroochydore QLD 4558 - PO Box 1722, Sunshine Plaza QLD 4558 Ph. 07 5451 1994 Fax 07 5451 1963

Unit 29, 11 - 13 Pearl Street, Kingscliff NSW 2487 - PO Box 1623, Kingscliff NSW 2487 - Ph 02 6674 8133 Fax 02 6674 5003

From: Peter Pennycuick [mailto:PeterP@TWEED.nsw.gov.au]

Sent: Wednesday, 24 March 2010 7:17 AM

To: Fredy Reyes

Subject: RE: File Note BradLees Consulting Mtg 11-3-2010.doc

Fredy, Brian,

My manager has vetoed the possibility of using the supply from the 600mm trunk main, so I don't know where that leaves your project.

The proponents are apparently coming to DAP on Friday and the information I am preparing for that meeting will exclude the 600mm main option.

Regards

Peter Pennycuick | Strategic and Assets Engineer
Community and Natural Resources - Water Unit



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A decorative graphic consisting of a series of overlapping, stylized leaf or wave shapes in shades of green and brown.

From: Fredy Reyes [mailto:Fredy@bradlees.com.au]

Sent: Wednesday, 17 March 2010 4:01

To: Peter Pennycuick

Subject: RE: File Note BradLees Consulting Mtg 11-3-2010.doc

Hi Peter,

Brian Lees

From: Brian Lees
Sent: Monday, 7 June 2010 4:12 PM
To: 'peterp@tweed.nsw.gov.au'
Cc: 'shaunnicholson@metricon.com.au'
Subject: Altitude 1 - Water and Sewer Servicing

Peter,

Thank you for your previous emails regarding the above.

We note comments provided in DAP meeting notes dated 26 March 2010, that interim options to provide supply directly from the 600 mm dia trunk main (previously canvassed at our meeting dated 11 March 2010) are no longer offered and that the section of main through the site is vulnerable to failure.

However, given that our Client, Metricon, has no ability to acquire land as proposed by Council's LEP to construct the ultimate 3 ML reservoir in the south west corner of the estate, and economically it is just not feasible to construct such infrastructure prior to development of Altitude 1, could you please confirm what works could be constructed and what capacity does the existing 600mm dia Duroby main have to service Altitude 1 as an interim measure ?(notwithstanding the trunk main's vulnerability to failure).

In relation to your email dated 4 May 2010 regarding sewer, we understand the difficulty, based on the detail you have provided, in giving approval for a peak flow of 5 to 8 l/s as an interim solution. Although your email suggests that for the 300 lots associated with Altitude 1 some implementation of infrastructure proposed for the total development of Area 'E' will be required.

Can you please confirm or clarify just what infrastructure you are referring to so that we may consider the impacts associated with Altitude 1 ?

We look forward to your reply.

Regards,

Brian Lees
for and on behalf of
BradLees Consulting

Email: brian@bradlees.com.au

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Unit 29, 11 - 13 Pearl Street, Kingscliff NSW 2487 - PO Box 1623, Kingscliff NSW 2487 - Ph 02 6674 8133 Fax 02 6674 5003

Please Note: We have relocated to level 1, 34 Thomas Drive, Chevron Island. Our phone, fax and PO Box will remain the same.

Brian Lees

From: Peter Pennycuick [PeterP@TWEED.nsw.gov.au]
Sent: Thursday, 14 October 2010 7:32 AM
To: Brian Lees
Cc: Anthony Burnham; Cheryl Jackson
Subject: RE: Altitude 1 - Water and Sewer Servicing
Attachments: image001.png; image002.png; image003.jpg

Brian,

As a brief update, we are currently looking at alternative strategies to service the proposed Altitude development.

Water:

About 2ML reservoir at Chambers Reservoir of which 1/3 capacity would be for Altitude and balance for future densification within the existing Chambers Zone. It may be possible for a smaller size if we think we will get better demand management over time. Note, our sizing is based on the new version of our D11 which was released about 6 weeks back – see the Website.

The terrain would require a booster pump station for the upper levels and several pressure reducing valves for the lower levels. It would be necessary for the reservoir to be built as a priority with the first stage as Chambers is already fully committed with its current zone.

Mains to and from the reservoir need to be looked at to determine any upgrades but it is thought that a main from the reservoir to Altitude would be necessary for PH demand.

Sewer:

Our thinking is that the point of connection would be the Banora Point WWTP with possible earlier stage connection points. I have started to construct a model of the gravity system to confirm whether there is capacity leading to SPS3018. The option is to construct a main to SPS 3018 rising mains and inject into one of them (parallel mains) and how we work that. The extreme situation may require a new SRM to the inlet works – an extra 2k in a crowded corridor.

With the gravity suggestion, the first reaches should be no problem but once it reaches the flat section where there is an interconnection with the local gravity system, capacity at PWWF may become an issue. Also, the capacity of the SPS and whether we can upgrade it further may be a limit.

I hope to investigate these issues further and see if we can get a clear strategy for the way forward during the next couple of weeks.

Regards

Peter Pennycuick | Strategic and Assets Engineer
Community and Natural Resources - Water Unit



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From: Brian Lees [<mailto:brian@bradlees.com.au>]
Sent: Monday, 11 October 2010 3:03
To: Peter Pennycuick
Subject: RE: Altitude 1 - Water and Sewer Servicing

Brian Lees

From: Peter Pennycuik [PeterP@TWEED.nsw.gov.au]
Sent: Thursday, 25 November 2010 7:52 AM
To: Brian Lees; Darryl Anderson
Cc: Anthony Burnham; Vince Connell; Patrick Knight; Iain Lonsdale; Joshua Townsend; Rowena Michel; Cheryl Jackson
Subject: Altitude Aspire MP09_0166 - Area E
Attachments: image001.png; image002.png; Altitude Preliminary Stand Alone Sewer Strategy.pdf; Altitude Preliminary Stand Alone Water Strategy.pdf

Brian Lees (BradLees Consulting),
Darryl (Darryl Anderson Consulting),

Attached are the preliminary strategy plans for the servicing of Altitude Aspire as a stand alone development that were tabled by Water Unit at the meeting on Wednesday 24 November.

Please note that these have not been finalised and sizing and staging, if any, of the works has not been determined.

With reference to sewer, much depends upon whether it is physically possible to upgrade SPS3018 sewer pump station on its existing site. The proposed strategy as presented has a local sewer pump station in the development with a rising main to the gravity sewer in Fraser Drive, a significant upgrade of the SPS 3018 which will also need to include any upgrade for the current loading on SPS3018 which appears to be greater than the current pumps were sized for, and a new parallel main to the Banora Point WWTP. If SPS3018 cannot be adequately upgraded on the existing site, the rising main from the Altitude SPS may have to bypass the section of gravity sewer in Fraser Drive and connect to the proposed parallel main. A full analysis of the total system has not yet been completed.

The water supply strategy features a new reservoir at Chambers Reservoir, a distribution main from the reservoir to the development and three distinct pressure zones – a high level area above 70mAHD requiring a pressure boosting pump station, a low level zone below 35mAHD requiring a number of pressure reducing valve (PRV) installations and the zone between those levels fed directly from the proposed reservoir. It is possible, but not yet confirmed by analysis, that the existing main that fills Chambers reservoir and WPS 22 on Fraser Drive will be adequate for the filling of the new reservoir as well. The new reservoir should be built to have the same elevations for floor and TWL as the existing reservoir so that they will both operate together.

Further analysis of these strategies will be required to confirm the extent of works necessary.

Peter Pennycuik | Strategic and Assets Engineer
Community and Natural Resources - Water Unit



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Legend

PMP_ST

NODE_TYPE

- Proposed SPS
- Proposed Upgrade
- Existing Manholes

Rising_Mains

PIPE_TYPE

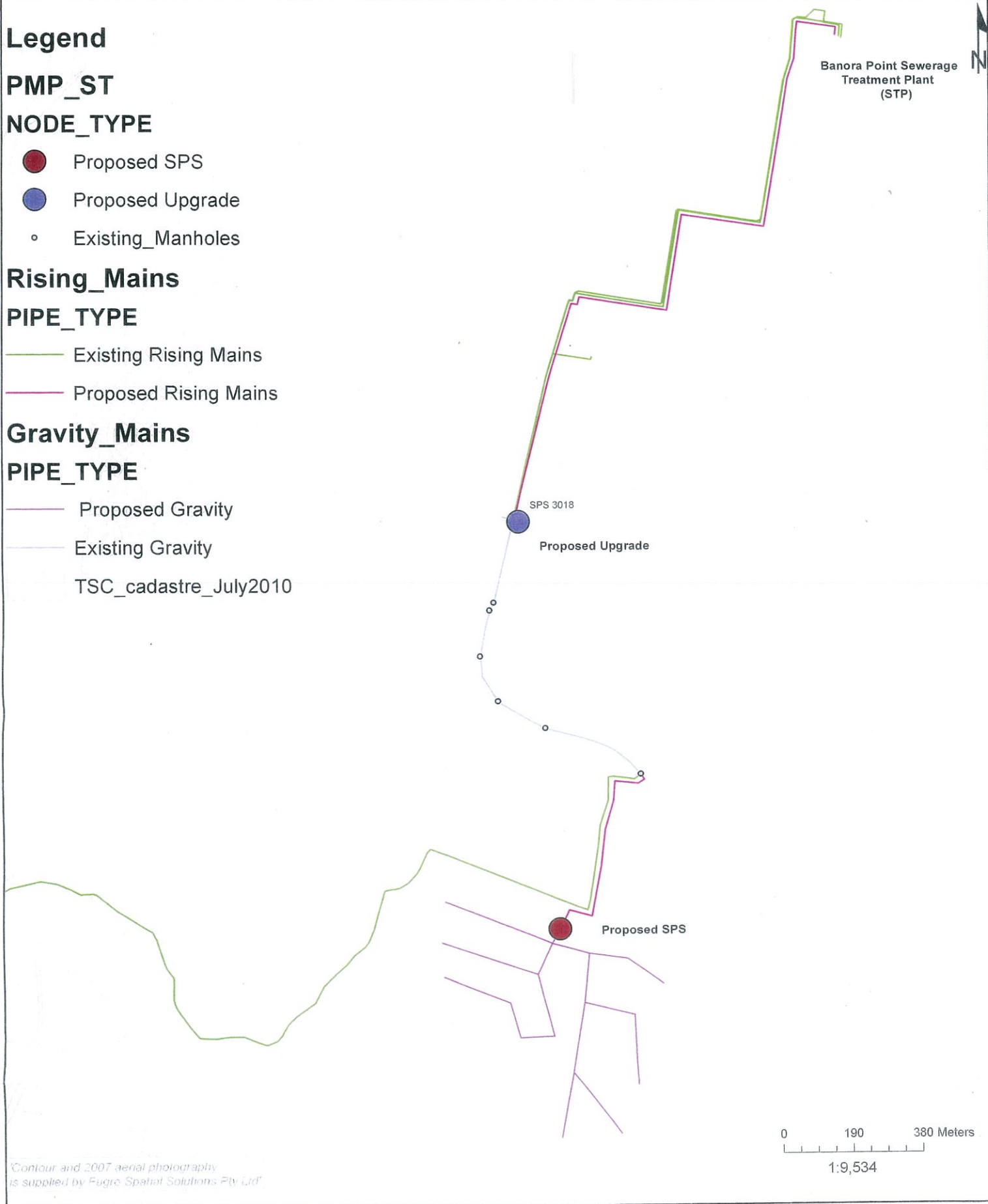
- Existing Rising Mains
- Proposed Rising Mains

Gravity_Mains

PIPE_TYPE

- Proposed Gravity
- Existing Gravity

TSC_cadastre_July2010



Altitude Aspire Stand Alone Sewer Strategy

Filepath: F:\Strategic\Network Strategies\Sewer -Altitude Aspire Standalone strategy\Assets\Map\Map

Copyright: 2009

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Coordinate System - MGA Zone 56
Datum - GDA 94

Cadastre 14 October, 2009
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TWEED
SHIRE COUNCIL

APPENDIX 16

- Preliminary Estimate of Project Development Costs (excl GST)

30th November 2010

Darryl Anderson Consulting
Suite 7, 8 Corporation Circuit
TWEED HEADS SOUTH NSW 2486

Attention: Mr Darryl Anderson

Dear Sirs

Re:

**'ALTITUDE 1' TERRANORA
CAPITAL INVESTMENT VALUE FOR AREA E + CLUBHOUSE**

We have reviewed the documentation and detail below the estimate of capital investment value:

1. Earthworks		\$ 5,300,000.00
2. Internal Work		\$ 13,315,000.00
2.1 Road	\$ 4,500,000	
2.2 Stormwater Drainage	\$ 3,770,000	
2.3 Sewer Drainage	\$ 1,400,000	
2.4 Water Supply	\$ 1,300,000	
2.5 Landscaping	\$ 750,000	
2.6 Additional Reticulation, Telstra & Lighting	\$ 1,595,000	
3. External Work		\$ 1,990,000.00
3.1 Intersection Works	\$ 450,000	
3.2 Pump Station & Rising Main	\$ 160,000	
3.3 Trunk water Main	\$ 330,000	
3.4 Stormwater Treatment	\$ 600,000	
3.6 Major Culverts	\$ 450,000	
4. Clubhouse		\$ 1,170,000.00
4.1 Construction	\$ 550,000	
4.2 Fitout	\$ 20,000	
4.3 Facilities & Fitout	\$ 600,000	
5. Sales Office		\$ 347,684.00
5.1 Construction	\$ 347,684	
Subtotal		\$ 22,122,684.00
Plus G.S.T.		\$ 2,212,268.40
TOTAL		\$ 24,334,952.40

The above cost includes temporary works, diversions, construction costs inclusive of labour, personnel and long service levies.

If you require any further clarification, please contact the writer.

Yours faithfully
GMP MANAGEMENT

IAN W. PERT (Director)

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Files\Content.Outlook\NTDOBF30\30th Nov 10.docx

APPENDIX 17

- Original Director General Requirements (DGR)



Planning

70
Rec'd [unclear]
[unclear]
Contact: Tom Fitzgerald
Phone: (02) 9228 6521
Fax: (02) 9228 6540
Email: thomas.fitzgerald@planning.nsw.gov.au

Our ref: 09_0166
File ref: S09/00194

Darryl Anderson
Director
Darryl Anderson Consulting Pty Ltd
Suite 7/8 Corporation Circuit
TWEED HEADS SOUTH NSW 2486

Dear Mr Anderson

09_0166 Altitude 1 Development at Terranora: Director-General's Requirements for Environmental Assessment

The Department has received your application for a proposed subdivision of land into approximately 300-lots (MP09_0166) at the southern end of Fraser Drive, Terranora in the Tweed Local Government Area.

The Director-General's Environmental Assessment Requirements (DGRs) for the environmental assessment of the project application are attached to this correspondence at **Attachment 1**. These requirements have been prepared in consultation with the relevant government agencies including Council.

Attachment 2 lists the relevant plans and documents which will be required upon submission of your proposal. A list of some relevant technical and policy guidelines which may assist in the preparation of the Environmental Assessment (EA) are attached at **Attachment 3**.

It should be noted that the DGRs have been prepared based on the information provided to date. Under section 75F(3) of the *Environmental Planning and Assessment Act 1979* (the Act), the Director-General may alter or supplement these requirements if necessary and in light of any additional information that may be provided prior to the proponent seeking approval for the project.

If the EA is not exhibited within 2 years of the date of issue of these requirements, you should consult further with the Director-General in relation to the preparation of the EA.

Please contact the Department at least two weeks before you propose to submit the EA for the project to determine the:

- fees applicable to the application. Note that you will need to provide a signed statement from a Quantity Surveyor to verify the capital investment value (CIV) of the project;
- consultation and public exhibition arrangements that will apply; and
- number and format (hard-copy or electronic versions) of the EA that will be required.

Prior to exhibiting the EA, the Department will review the document to determine if it adequately addresses the DGRs. The Department may consult with other relevant government agencies in making this decision. If the Director-General considers that the EA does not adequately address the DGRs, the Director-General may require you to revise the EA. Following this review period, the EA will be made publicly available for a minimum period of 30 days.

If your proposal includes any actions that could have a significant impact on matters of National Environmental Significance (NES), it will require an additional approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

This approval is in addition to any approvals required under NSW legislation. It is your responsibility to contact the Commonwealth Department of the Environment, Water, Heritage and the Arts in Canberra (6274 1111 or www.environment.gov.au) to determine if the proposal is likely to have a significant impact on matters of NES and would require an approval under the EPBC Act. The Commonwealth Government has accredited the NSW environmental assessment process for assessing any impacts on matters of NES. As a result, if it is determined that an approval is required under the EPBC Act, please contact the Department immediately as supplementary DGRs will need to be issued.

Please note that under section 75U of the Act, Part 3A applications do not require certain permits/approvals required under other legislation. These matters are considered as part of the Part 3A assessment process. For example, Section 87 permits and Section 90 consents under the *National Parks and Wildlife Act 1974* are not required for Part 3A applications. Section 75U applies from the date of issue of the DGRs. Notwithstanding, the Department still requires an equivalent level of information within the EA as would ordinarily be required for the issue of any such permit/approval to enable an assessment of the relevant works. Please notify the Department should any sub-surface testing be required during the preparation of your EA.

Copies of responses from government agencies to the Department's request for key issues and assessment requirements are enclosed at **Attachment 4**. The response from the Northern Rivers Catchment Management Authority will be forwarded by Friday 27 November 2009.

If you have any queries regarding these requirements, please contact Tom FitzGerald using the contact details provided above.

Yours sincerely



Alan Bright
A/Director
Regional Projects
as delegate for the Director General

23/11/09

Attachment 1

Director-General's Environmental Assessment Requirements

Section 38 of the Environmental Planning and Assessment Act 1979

Application number
09_0166
Project
300-lot residential at the southern end of Fraser Drive, Terranora (known as Altitude 1), and provision of infrastructure and dedication of open space areas. Key elements of the project include: • opening and construction of all proposed roads; • construction of a temporary intersection to Fraser Drive; • provision of underground services (water, sewer, stormwater, power and telephone); and • bulk earthworks to establish final landforms.
Location
Lot 1 DP 304649, Lot 1 DP 175235, Lot 1 DP 781687, Lot 2 DP 778727, Lot 1 DP 781697, Lot 1 DP 169490, and Lots 40 and 43 DP 254416 at the southern end of Fraser Drive, Terranora, Tweed LGA
Proponent
Metricon Qld Pty Ltd
Date issued
General requirements
The Environmental Assessment (EA) for the Project Application must include: 1. An executive summary; 2. A detailed description of the proposal; 3. A thorough site analysis including constraints mapping and description of the existing environment; 4. Consideration of any relevant statutory and non-statutory provisions and identification of any non-compliances with such provisions, in particular relevant provisions arising from environmental planning instruments, Regional Strategies (including draft Regional Strategies) and Development Control Plans; 5. Consideration of the consistency of the project with the objects of the <i>Environmental Planning and Assessment Act 1979</i>; 6. Consideration of impacts, if any, on matters of National Environmental Significance under the <i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>; 7. An assessment of the potential impacts of the project and a draft Statement of Commitments, including a description of mitigation and management options that will be used to prevent, control, abate or mitigate identified environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented; 8. The plans and documents outlined in Attachment 2; 9. A signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading; and 10. An assessment of the key issues specified below and a table outlining where in the EA these key

issues have been addressed.

Key Issues

The EA must address the following key issues:

1. Strategic Planning

- 1.1 Justify the proposal with reference to relevant local, regional and State planning strategies. In particular provide justification for any inconsistencies with these planning strategies.
- 1.2 Provide an assessment of how the proposal aligns with development of the Terranora E urban release area as a whole.

2. Subdivision Design, Layout and Desired Future Character

- 2.1 Provide an assessment of the Proposal against the provisions of the *Tweed Local Environment Plan 2000* (TLEP), in particular Clause 53D of the TLEP relating to the Terranora E urban release area.
- 2.2 Demonstrate the consistency of the proposed subdivision design and layout with the *North Coast Urban Design Guidelines*, *Coastal Design Guidelines for NSW*, *NSW Coastal Policy 1997* and *SEPP 71 – Coastal Protection*.
- 2.3 Identify the type of subdivision proposed across the site i.e. community title, Torrens, strata. A draft community management statement should be provided if any community title is proposed.
- 2.4 Demonstrate that the proposal provides for the establishment of a suitable neighbourhood character for the area. Provide details of potential building envelopes, built form, potential housing typologies, aesthetics, energy and water efficiency, public safety, any proposed design quality controls and the means for implementing them, and identify opportunities to orientate allotment configurations and shapes to maximise solar access, aspect and views.
- 2.5 Demonstrate that slope sensitive building design initiatives have been considered in the subdivision design to ensure there is a suitable access gradient and minimal cut and fill.
- 2.6 Provide details of any staging (for the subject site and the overall Terranora E area) that demonstrates the lots will be released in an orderly and coordinated manner, including the release of allotments for sale, the installation of services and infrastructure.
- 2.7 Outline the long-term management and maintenance of any areas of open space or conservation including ownership and control, management and maintenance funding, public access, revegetation and rehabilitation works and bushfire management.
- 2.8 Investigate the opportunity for passive and active recreational open spaces.
- 2.9 Assess the potential for land use conflicts between with neighbouring property and provide suitable buffers (or other mitigation measures) where appropriate to mitigate these impacts. This is particularly relevant where development is proposed to adjoin or be close to land that is used for agriculture.

3. Visual Impact

- 3.1 Demonstrate that the subdivision design and layout of the dwellings is able to preserve the scenic values of the area, in particular the integrity of the ridgelines, and the views and environmental qualities of Terranora Broadwater and the adjacent SEPP 14 Wetland.

4. Infrastructure Provision

- 4.1 Identify existing capacity of, and requirements for the provision of all appropriate services and infrastructure, including: sewerage, water, stormwater, electricity, waste disposal, telecommunications, gas, open space, roads and transport, pedestrian and cycle-friendly infrastructure, community facilities and social infrastructure, and State Infrastructure. Undertake consultation with relevant agencies and provide evidence of this consultation. Identify and describe staging, if any, of proposed infrastructure works.
- 4.2 Provide an assessment of how the provision for services and infrastructure required at both a State and local level will be managed (refer to submissions from agencies at **Attachment 4**). Consult with relevant agencies and include an outline of the program of works for such services and infrastructure, and provide estimates of cost, timing of works, and sources of funding.

5. Transport and Accessibility	
5.1	Prepare a transport and accessibility impact study in accordance with Table 2.1 of the RTA's <i>Guide to Traffic Generating Developments</i> .
	<u>Alternative Modes of Transport</u>
5.2	Address how the Proposal is consistent with the objectives and principles of the NSW Government's <i>Integrating Land Use and Transport Policy</i> package and the <i>NSW Planning Guidelines for Walking and Cycling</i> .
5.3	Identify measures to manage travel demand and increase the use of public and non-car transport modes.
5.4	Outline any proposed cycleways and ensure connectivity with existing cycleways in the area, especially Fraser Drive.
5.5	Identify the likely transport infrastructure and recurrent servicing costs for Government in proceeding with the development.
5.6	It is noted the subject site is located outside the Tweed Heads bus contract region and is not serviced by public transport. Residential developments outside of the bus contract regions are generally only provided with local school bus services. Boundaries of bus contract regions are subject to review every five years following the census. Please contact Mr. Phil Sullivan, Manager – Northern Region on (02) 4928 8701 or email phil.sullivan@transport.nsw.gov.au regarding the process for potential allocation of bus services to the proposal.
	<u>Traffic and Roads</u>
5.7	Demonstrate that the proposed road layout can achieve a high degree of pedestrian and cycle access, and can support future bus access in accordance with the NSWTI bus planning guidelines for regional areas. Also identify and address how staging of the development will impact on accessibility across different transport modes.
5.8	Demonstrate that the proposed internal road layout maximises connectivity within the development, to the broader Terranora Area E urban release area, and to the surrounding environment.
5.9	Analyse the impacts of an expected increase in traffic on the existing road network surrounding the site, and provide measures to ensure that traffic impacts on the existing and future local road network are minimised. Address how the proposed temporary access to Fraser Drive will affect the amenity of local roads
5.10	Provide an assessment of the feasibility and environmental impacts of the proposed temporary access to Fraser Drive. Including: • Provide justification for the proposed location and design of the temporary access and its suitability; • identify the expected life of the temporary access and any staging of works and/or construction of the permanent road alignment; • identify how the temporary intersection is proposed to be controlled; • provide an assessment of the safety and capability of the proposed temporary intersection; and • address any potential adverse environmental effects (including noise, amenity etc...) for adjacent landowners.
5.11	Provide an assessment of how the future permanent alignment of Broadwater Parkway and Fraser Drive is anticipated to work in terms of timing, payment and constraints (refer to Tweed Shire Council's comments on Infrastructure, Roads and Access in Attachment 4).
5.12	Ensure environmental objectives are not significantly compromised by the design and layout of the proposed road network, including the proposed Broadwater Parkway's interaction with the SEPP 14 wetland.
5.13	Investigate the opportunity for road alignments to follow existing land contours. The objective is to minimise cut and fill, preserve the integrity of the existing topography, and take advantage of existing overland drainage opportunities.
	<u>Public Access</u>
5.14	Ensure public access to and along the adjacent SEPP 14 wetland and Terranora Broadwater is not compromised, and provide new opportunities for controlled public access and disabled access where appropriate.
6. Hazard Management and Mitigation	
<u>Contamination</u>	

6.1	Identify any deep soil, surface water and groundwater contamination on site and assess appropriate mitigation measures and monitoring program necessary in accordance with the provisions of <i>SEPP 55 – Remediation of Land</i> .
Acid Sulfate Soils	
6.2	Identify the presence and extent of acid sulfate soils (ASS) and potential acid sulphate soils (PASS) on the site and, where relevant, provide appropriate mitigation measures for the development's construction and operational stages. Identify the need for an Acid Sulfate Management Plan and prepare if necessary (prepared in accordance with ASSMAC Guidelines).
Bushfire	
6.3	Address the requirements of <i>Planning for Bush Fire Protection 2006</i> (RFS) and ensure that any proposed Asset Protection Zones do not adversely effect environmental objectives (e.g. buffers) and provision is made for their appropriate management into the future.
Geotechnical	
6.4	Provide an updated assessment of any geotechnical limitations that may occur on the site and if necessary, appropriate design considerations that address these limitations.
Flooding	
6.5	Provide an updated assessment of any flood risk on site (for the full range of floods including events greater than the design flood, up to probable maximum flood; and from coastal inundation, catchment based flooding or a combination of the two) and having consideration of any relevant provisions of the <i>NSW Floodplain Development Manual 2005</i> , the <i>NSW Sea Level Rise Policy Statement</i> (DECCW, 2009), the <i>Draft Flood Risk Management Guide: Incorporating Sea Level Rise Benchmarks in Flood Risk Assessments</i> (DECCW, 2009), and the <i>Draft NSW Coastal Planning Guideline: Adapting to Sea Level Rise</i> (DoP, 2009). The assessment should determine: the flood hazard in the area; address the impact of flooding on the proposed development, address the impact of the development (including filling) on flood behaviour of the site and adjacent lands; and address adequate egress and safety in a flood event.
6.6	Assess the potential impacts of sea level rise and increases in rainfall intensity on the flood regime of the site and adjacent lands.
7 Earthworks	
7.1	Provide a detailed site survey showing existing and proposed contours, levels and quantities of cut and fill earthworks, and provide details of the source of fill including types of material and soils.
7.2	Outline all erosion and sediment control measures proposed during works, and provide for the appropriate management and discharge of stormwater onsite. Ensure riparian areas, waterways, and the SEPP 14 wetland adjacent to the site are not adversely affected by the proposed development.
8. Stormwater	
8.1	Address stormwater quality and quantity, including lawful points of discharge. A comprehensive stormwater management plan should be provided for the whole site, in conjunction with the wider Area E and contributing external catchments. This plan must provide for the appropriate management of stormwater and ensure there are no adverse environmental impacts as a result of the proposal. The plan must also include a conceptual design layout for the preferred stormwater treatment train showing location, size and key functional elements of each part of the system and identify the anticipated effect of each element.
8.2	Address and outline measures for Integrated Water Cycle Management based on Water Sensitive Urban Design principles which addresses impacts on the surrounding environment, drainage and water quality and quantity controls for the catchment, so that there is no water pollution resulting from the development.
8.3	Provide an assessment of the proposal against the provisions of the following: - the <i>Tweed Urban Stormwater Quality Management Plan 2000</i>; - Tweed Shire Council's <i>Terranora Broadwater Management Plan 2004</i>; and - The Draft Cobaki and Terranora Broadwater Catchment Management Plan (currently

on exhibition).	
9. Water Supply	
9.1	Address the issue of provision of a sustainable water supply for the development site. Ensure there is adequate water supply for the development. If an alternative other than town water supply is proposed then provide an assessment of the water requirements. The assessment should include Water Management Plans detailing how a sustainable and efficient water supply can be sourced and implemented with minimal reliance on accessing valuable surface and groundwater resources.
10. Surface water	
10.1	In accordance with the correspondence from the NSW Office of Water and DECCW (refer to Attachment 4), provide an assessment of any impacts on surface water as a result of the development, including any impacts on quantity, quality and the hydrological regime.
10.2	Provide an assessment of measures to ensure the following water quality objectives for the proposal are met: • There is no pollution of waters during the construction and operational phases; • There is no inconsistency with any Statement of Joint Intent established by the Healthy Rivers Commission; and • Ensure the proposal is not inconsistent with the relevant River Flow Objectives and Water Quality Objectives for the area.
10.3	Provide an assessment of the proposal against the provisions of the draft <i>Tweed River Area Unregulated and Alluvial Water Sources Water Sharing Plan</i> , if relevant.
Water Management Structures/ Dams	
10.4	Identify any water management structures on site (dams, sediment basins etc) and provide an assessment of their management as part of the proposal (refer to the letter from NSW Office of Water in Attachment 4 for further details).
Riparian Areas	
10.5	Identify all riparian areas on site including any creeks, wetlands, drainage lines etc.. and outline the intended management, protection and restoration of these areas, including monitoring and mitigation measures. The protection and restoration of riparian zones will maintain and improve the ecological functions of watercourses and forms a key part of ensuring appropriate water quality is achieved. If any works are proposed within the riparian areas (such as bridges, culverts, stormwater outlets, walking tracks etc...) then this should be identified.
In addition to sections 10.1 and 10.3 above, provide the following: • Identify the sources of surface water. • Details of stream order (using the Strahler System). • Details of any proposed surface water extraction, including purpose, location of existing pumps, dams, diversions, cuttings and levees. • Detailed description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling. • An evaluation of the proposed methods of excavation, construction and material placement. • A detailed description of all potential environmental impacts of any proposed development in terms of vegetation, sediment movement, water quality and hydraulic regime. • A description of the design features and measures to be incorporated into any proposed development to guard against long term actual and potential environmental disturbances, particularly in respect of maintaining the natural hydrological regime and sediment movement patterns and the identification of riparian buffers. (See note below) • Details of the impact on water quality and remedial measures proposed to address any possible adverse effects.	
Note: Recommended Core Riparian Zones: • Minimum of 10m for any intermittently flowing 1st order watercourse • 20m for any permanently flowing 1st order or any 2nd order watercourse	

- 20m-40m (merit based assessment) for any 3rd order or greater watercourse.

11. Groundwater

- 11.1 In accordance with the correspondence from the NSW Office of Water (refer to Attachment 4), provide an assessment of groundwater issues associated with the development, the location of the water table, the nature and profile of the groundwater regime, if any works will intercept the water table, any potential contamination issues, any proposed use of groundwater resources, any associated impacts on registered bores, any works that may result in increased groundwater discharge, impact on the stability of potential acid sulfate soils in the vicinity, or affect groundwater dependent native vegetation, and any impacts on the quantity and quality of groundwater.

12. Heritage and Archaeology

- 12.1 Identify whether the site has significance to Aboriginal cultural heritage and identify appropriate measures to preserve any significance. The assessment must address the information and consultation requirements of the draft *Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation* (DEC 2005) and the *Part 3A EP & A Act Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation* (Department of Planning and DEC, 2007).
- 12.2 Carry out a detailed heritage assessment by a suitably qualified consultant that includes consultation undertaken with the relevant Local Aboriginal Land Council/s and Aboriginal community groups. The assessment should include:
- Up to date surveys by suitably qualified archaeological consultants and include evidence of consultation with traditional Aboriginal custodians;
 - Identification of the nature and extent of impacts on Aboriginal Cultural Heritage values across the project area. If impacts are proposed as part of the final development, clear justification for such impacts should be provided;
 - A description of the actions that will be taken to avoid or mitigate impacts of the project on Aboriginal Cultural Heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented;
 - An assessment of the archaeological and Aboriginal significance of the site's Aboriginal Cultural Heritage values. If impacts on Aboriginal cultural values are proposed as part of the final development, an assessment of the regional significance of the values to be impacted, the extent to which these values are protected elsewhere in the landscape and consideration of the proposed impacts in the context of 'intergeneration equity' should be undertaken; and
 - Evidence that effective community consultation with Aboriginal communities has been undertaken in assessing impacts, developing options and making final recommendations. DECCW supports broad-based Aboriginal community consultation and as a guide the 'Interim Community Consultation Requirements for Applicants' provides a useful model to follow.
- 12.3 Identify any items of non-indigenous heritage significance and, where relevant, provide measures for the conservation of such items.

13. Flora and Fauna

- 13.1 Provide a up-to-date assessment of any potential direct and indirect impacts of the development on flora and fauna, taking into consideration impacts on any threatened species, populations, ecological communities and/or critical habitat and any relevant recovery plan in accordance with the draft *Guideline for Threatened Species Assessment (Part 3A)* and *Threatened Species Assessment Guideline: The Assessment of Significance*. Describe the actions that will be taken to avoid or mitigate impacts or compensate unavoidable impacts, where relevant.
- 13.2 A field survey of the site should be conducted as part of this assessment in accordance with DECCW's *Threatened Biodiversity Survey and Assessment Guidelines*.
- 13.3 Likely impacts on threatened species and their habitat need to be assessed, evaluated and reported on. The assessment should specifically report on the the guiding principles for threatened species assessment at section 1.2 of the draft *Guideline for Threatened Species Assessment (Part 3A)*. Identify measures to protect remaining native fauna and flora on the site where appropriate.

13.4	Provide an assessment of the proposal that ensures (if possible) adverse impacts on identified areas of ecological significance are avoided or mitigated (including the adjacent SEPP14 wetland, Endangered Ecological Communities, threatened species habitat etc...)
13.5	Outline measures for the conservation of existing wildlife corridor values and/or connective importance of any vegetation on the subject land. Address measures to protect and manage the riparian corridor and adjacent aquatic habitats.
13.6	Provide appropriate buffers and habitat protection measures for known significant ecological habitats as identified in the constraints map contained in Figure 3.4 of the <i>Tweed Area E Local Environment Study</i> (Parsons Brinckerhoff, 2004).
13.7	Assess the need for artificial wetlands to assist in the rehabilitation of the adjacent SEPP 14 Wetland and managing the overall water quality of the development.
13.8	Provide a detailed Vegetation Management Plan (VMP) for that area of the site zoned 7(a) Environmental Protection (Wetlands and Littoral Rainforests) and for future dedication to the Tweed Shire Council. As a minimum the VMP should incorporate scoped and appropriate performance requirements for any habitat/wetland rehabilitation works (e.g. in relation to the diversity and density of plantings, seedling survival and growth rates, cumulative crown coverage, and the abundance and diversity of weed species) referenced to appropriate benchmarks (such as comparable, undisturbed vegetation communities).
14. Biting Insects	
14.1	Address the potential for an increase in the impact of biting insects on the amenity of the area, in particular salt marsh mosquitoes. The assessment should address impacts on future residents, and potential increases in mosquito borne disease. Undertake consultation with Council and the NSW Area Health Authority and provide for measures to control and ameliorate their effects, including measures to minimise their breeding habitat. Prepare a biting insect management plan if the problems are considered severe.
14.2	Provide evidence of consultation with Tweed Shire Council regarding a recently submitted project entitled 'Fish Move In, Mosquitoes Move Out', and discuss the implications of this project for the development within the assessment.
15. Noise	
15.1	Assess any potential noise impacts resulting from, and impacting on, the development. In particular the potential impacts from road traffic noise for future residents. Outline appropriate mitigation measures to mitigate noise impacts.
16. Socio-economic Impacts	
16.1	Provide a social impact assessment for the development. Address the social and economic context of the development in terms of infrastructure requirements, public transport, community services and facilities (including schools and medical services). Identify the need for any additional and/or augmentation of social and community infrastructure and resources. In particular explore the potential and methods for a new educational facility to be provided for.
16.2	Identify opportunities to incorporate affordable housing into the proposal.
16.3	Provide an assessment of the future potential cumulative impacts of the development on the LPMA's Tweed Coast Regional Crown Reserve No. 1012191 that encompasses Terranora Broadwater to the north-west and the Tweed River to the south. In particular address the effects the future residential population may have on the Reserve through the likelihood of increased visitation and recreational use (refer to the LPMA letter in Attachment 4)
17. Planning Agreements and/or Developer Contributions	
17.1	Address and provide details on the likely scope of any planning agreement and/or developer contributions with Council and/or any Government agencies.
17.2	Provide an assessment of any land proposed to be dedicated to public authorities and outline how this will be managed and funded into the future.
Consultation	
You should undertake an appropriate and justified level of consultation with the following agencies during the preparation of the environmental assessment:	
(a) <i>Agencies or other authorities:</i>	
• Tweed Shire Council;	

- Department of Environment, Climate Change and Water;
- NSW Office of Water;
- Department of Housing;
- Northern Rivers Catchment Management Authority;
- NSW Rural Fire Service;
- Land and Property Management Authority – especially in relation to Crown roads and owners consent issues;
- Department of Transport and Infrastructure;
- Roads and Traffic Authority;
- Department of Health;
- Department of Education and Training.

(b) Public:

Document all community consultation undertaken to date or discuss the proposed strategy for undertaking community consultation. This should include any contingencies for addressing any issues arising from the community consultation and an effective communications strategy.

The consultation process and the issues raised should be described in the Environmental Assessment.

Deemed Refusal Period

60 days

Attachment 2

Plans and Documents to accompany the Application

Plans and Documents of the development

The following plans, architectural drawings and diagrams of your proposal as well as the relevant documents will be required to be submitted for your application:

1. The **existing site survey plan** is to be drawn to 1:500 scale (or other appropriate scale) and show:
 - the location of the land, the measurements of the boundaries of the land, the size of the land and north point;
 - the existing levels of the land in relation to buildings and roads;
 - location and height of existing structures on the site; and
 - location and height of adjacent buildings and private open space.
2. An **aerial photograph** of the subject site with the site boundary superimposed.
3. A **Site Analysis Plan** must be provided which identifies existing natural elements of the site (including all hazards and constraints), existing vegetation, property dimensions, footpath crossing levels and alignments, existing pedestrian and vehicular access points and other facilities, slope and topography, natural features such as watercourses, rock outcrops, utility services, boundaries, orientation, view corridors and all structures on neighbouring properties where relevant to the application (including windows, driveways etc.).
4. A **locality/context plan** drawn to 1:500 scale (or other appropriate scale) should be submitted indicating:
 - significant local features such as parks, community facilities and open space, water courses and heritage items;
 - the location and uses of existing buildings, shopping and employment areas;
 - traffic and road patterns, pedestrian routes and public transport nodes; and
 - The existing site plan and locality plan should be supported by a written explanation of the local and site constraints and opportunities revealed through the above documentation.
5. A **zoning plan** must be provided which shows the existing zoning overlaid with the proposed development layout. An extract of the land use table or relevant clauses from the subject LEP is required.
6. **Subdivision plans** are to show the following:-
 - The location, boundary dimensions, site area and north point of the land, and names of roads fronting the land;
 - Title showing the description of the land with lot and DP numbers etc;
 - Existing and proposed subdivision pattern including all measurements and sites areas of existing and proposed allotments;
 - Location and details of all proposed roads and footpaths;
 - Location of all structures proposed and retained on site;
 - Location and details of access points to the subdivision;
 - Existing vegetation on the land and vegetation to be retained;
 - Location of services and infrastructure, and proposed methods of draining the land;

	• Any easements, covenants or other restrictions either existing or proposed on the site; • Type of subdivision proposed (Torrens, strata and/or community title). • Cross sections of roads, including gradients, widths, road names, footpaths etc. • Existing and proposed finished levels in relation to roads, footpaths and structures; • Riparian zones, including any creeks, wetlands, drainage lines etc. • Landforming plan showing all areas of cut and fill, including pre and post development levels and associated drainage and retaining structures. 7. Stormwater Management Plan - illustrating the concept for stormwater management from the site and must include details of any major overland flow paths through the site and any discharge points. Where an on-site detention system is required, the type and location must be shown and must be integrated with the proposed landscape design. Site discharge calculations should be provided; 8. Landscape Concept Plan – showing planting design and plant/tree species to be used, listing botanical and common names, mature height and spread, number of plants to be utilised in relation to the treatment of communal/public open space areas, footpaths, driveways and the public domain including details of street trees, furniture, signage, lighting and surface treatments (i.e. pavers). 9. Site Management Plan – to avoid, remedy or mitigate adverse effects on the surrounding environment during the undertaking of earthworks. Include: • a list of buildings, structures and roads to be demolished and removed; • details of bulk earthworks proposed (including volumes, locations, stockpiles, and any other relevant matter) • proposed measures to avoid adverse impacts on Aboriginal heritage; • traffic management measures; • acoustic and vibration management measures; • stormwater management measures; • description and plan of erosion and sediment controls measures to be utilised; • methods for dust management; • material recycling measures; • hazardous substances (e.g. asbestos, lead based paint) report and works plan; • redundant services to be removed; • vegetation to be cleared; • site fencing and security; • waste management and disposal measures; • a delegated liaison officer for consultation with adjacent property owners; • emergency and complaint contacts; • proposed sequencing of activities on site; and • any other measures required to avoid, remedy, or mitigate any adverse impacts of the activity.;
Specialist advice	Specialist advice, where required to support your Environmental Assessment, must be prepared by suitably qualified and practising

	consultants in relation to issues including, but not limited to, the following: • Planning; • Flora and Fauna; • Bushfire; • Transport; • Landscaping; • Geotechnical and/or hydrogeological (groundwater); • Stormwater/drainage; • Water quality; • Flooding; • Urban Design/Architectural; • Contamination in accordance with the requirements of SEPP 55; and • Acid Sulfate Soils.
Documents to be submitted	• Both hard copy and electronic versions of the Environmental Assessment will be required to be submitted. Please contact the Department prior to submitting your Environmental Assessment to determine how many copies will be required. • If the Environmental Assessment is bulky, you will be required to package up each Environmental Assessment ready for distribution by the Department to key agencies.
Electronic Documents	Electronic documents presented to the NSW Department of Planning for publication via the Internet must satisfy the following criteria: • Adobe Acrobat PDF files and Microsoft Word documents must be no bigger than 1.5 Mb. Large files of more than 1.5 Mb will need to be broken down and supplied as different files; • File names will need to be logical so that the Department can publish them in the correct order. Avoid sending documents that are broken down in more than 10 files; • Image files should not be bigger than 2Mb. The file names will need to be clear and logical so the Department can publish them in the correct order; • Graphic images will need to be provided as [.gif] files; • Photographic images should be provided as [.jpg] files; • Large maps will need to be presented as individual files and will need to be calibrated to be no more than 2Mb each; and • Images inserted into the document will need to be calibrated to produce files smaller than 1.5Mb. Large images will need to be presented as individual files and will need to be calibrated to be no more than 2Mb each. The file names will need to be clear and logical so the Department can publish them in the correct order. Alternatively, these electronic documents may be placed on your own web site with a link to the Department of Planning's website.

Attachment 3 State Government technical and policy guidelines

The following list provides relevant technical and Policy Guidelines which may assist in the preparation of the Environmental Assessment. It should be noted, however, that this list is not exhaustive as other documents and policies may need to be reviewed. It is also important to note that not of all of these guidelines may be relevant to your proposal.

The majority of these documents can be found on the relevant Departmental Websites, on the NSW Government's on-line bookshop at <http://www.bookshop.nsw.gov.au> or on the Commonwealth Government's publications website at <http://www.publications.gov.au>.

Aspect	Policy /Methodology
Biodiversity	
	Draft Guidelines for Threatened Species Assessment (Part 3A) (DEC & DPI, 2005)
	Threatened Species Assessment Guideline: The Assessment of Significance (DECC, 2007)
	Threatened Biodiversity Survey and Assessment Guidelines (DECCW, 2009)
	Guidelines for Development Adjoining DECC Land (DECC, 2008)
	Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003)
	Policy and Guidelines: Aquatic Habitat Management and Fish Conservation (NSW Fisheries, 1999)
	Threatened Species Management Manual (NPWS, 1998)
Coastal Planning	
	NSW Coastal Policy 1997 - A sustainable Future for the New South Wales Coast, NSW Government, 1997
	Coastal Design Guidelines for NSW, PlanningNSW, February 2003
	NSW Wetlands Management Policy (DLWC, March 1996)
	Coastline Management Manual (NSW Government 1990)
	Northern Rivers Farmland Protection Project (DIPNR & DPI, 2005)
Community Consultation	
	Guidelines For Major Project Community Consultation, (NSW Department of Planning, 2007)
Bushfire	
	Planning for Bushfire Protection 2006 (NSW Rural Fire Service)
Contamination and Soils	
	Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (DUAP & EPA, 1998)
	Best Practice in Contaminated Sites (Commonwealth DEH, 1999, ISBN 0 642 546460)
	Contaminated Sites: Sampling Design Guidelines (EPA, 1999)
	NSW Acid Sulfate Soil Management Advisory Committee - Acid Sulfate Soil Manual (ASSMAC, 1998).
	National Environment Protection (Assessment of Site Contamination) Measure (NEPC 1999)

Aspect	Policy /Methodology
	Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites (EPA, 1997)
	Contaminated Sites – Guidelines on Significant Risk of Harm and Duty to Report (EPA, 1999)
Environmental Management Systems	
	NSW Government Interim Water Quality and River Flow Environmental Objectives (DEC)
	Guidelines for the preparation of Environmental Management Plans (DIPNR, 2004)
Heritage	
Aboriginal	Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, 2005)
	Interim Community Consultation Requirements for Applicants (DEC, 2004)
	Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (Department of Planning & DEC, 2007)
Non-Indigenous	Assessing Heritage Significance Update for Heritage Manual, NSW Heritage Office, 2000
	Statements of Heritage Impact, NSW Heritage Office 2002
	NSW Heritage Manual, NSW Heritage Office 1996
Noise	
	Environmental Criteria for Road Traffic Noise (EPA, 1999)
	NSW Industrial Noise Policy (EPA, 1999)
	Chapter 171 Noise Control Guideline, <i>Construction Site Noise, Environmental Noise Control Manual</i> , 1994
	Acoustics - Road traffic noise intrusion - Building siting and construction (Standards Australia, 1989, AS 3671-1989)
	Interim Construction Noise Guideline (DECC, 2009)
Safety and Hazards	
	Electrical Safety Guidelines (Integral Energy)
	Crime prevention and assessment of development applications 2001
Traffic & Transport	
	Guide to Traffic Engineering and Guide to Geometric Design of Rural Roads (Austroads, 2003, AP-G1/03)
	Guide to Traffic Generating Developments (RTA, 2002)
Urban Design: Cycleway/Pathway Design	
	Guidelines for the Design and Construction of Paths and Cycleways along Watercourses and Riparian Areas (Version 2) (DIPNR/DNR)
Vibration	
	Assessing Vibration: A Technical Guideline (DEC, 2006)
Water	
Water Quantity	NSW Farm Dams Policy (DNR, 1999)
Water Quality	Water quality guidelines for the protection of aquatic ecosystems for upland rivers. (ANZECC, 2000)
	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000)
	NWQMS Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC, 2000)

Aspect	Policy /Methodology
	Healthy Rivers Commission Report into Coastal Lakes and Statement of Joint Intent
	State Water Management Outcomes Plan
Effluent Reuse	Environmental Guidelines for the Utilisation of Treated Effluent by Irrigation (NSW DEC 2004)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC 1997)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC 2000)
	Environmental and Health Protection Guidelines: 'Onsite Sewage Management for Single Households', February 1998 (Silver Book)
Floodplain	NSW Government Floodplain Development Manual - the Management of Flood Liable Land (DIPNR, 2005)
	Practical Consideration of Climate Change – Floodplain Risk Management Guideline (DECC, October 2007)
Groundwater	NSW State Groundwater Quality Protection Policy (DLWC, 1998, 0 7313 0379 2)
	NSW State Groundwater Quality Protection Policy (DLWC 1998)
	NSW Groundwater Policy Framework Document – General (DWE)
	NSW Groundwater Quantity Management Policy (DWE)
	NSW Groundwater Quality Management Policy (DWE)
	NSW State Groundwater Dependent Ecosystem Policy (DWE)
	NSW State Rivers and Estuaries Policy (DWE)
	NSW Wetlands Management Policy (DWE)
	NSW Farm Dams Policy (DWE)
	NSW Salinity Strategy (DWE)
	NSW Water Conservation Strategy(DWE)
Stormwater	Managing Urban Stormwater: Soils & Construction – Volume 1 (NSW Landcom, March 2004) - "The Blue Book"
	Managing Urban Stormwater: Soils & Construction – Volume 2 (DECC, January 2008)
	Managing Urban Stormwater: Harvesting and Reuse (DEC, May 2006)
	Constructed Wetlands Manual (NSW DLWC 1998)
Waterways	Waterways Crossing Design & Construction (Version 4 – DIPNR/DNR Draft Guidelines)
	Guidelines for Controlled Activities - Riparian Corridors, Watercourse crossings, laying pipes and cables in watercourses, outlet structures, and in-stream works (DWE, 2008)
	Independent Public Inquiry into Coastal Lakes: Final Report (Healthy Rivers Commission, 2002)
Wetlands	NSW Wetlands Management Policy (DLWC 2000)
	NSW State of the Rivers and Estuaries Policy (DWE 1993)
Planning	
	Tweed Area E Local Environmental Study (Parsons Brinckerhoff 2004)
	State Environmental Planning Policy (Affordable Rental Housing) 2009 - Director-General's Site Compatibility Certificate: Guidelines For Applications (DoP, 2009)
	State Environmental Planning Policy (Affordable Rental Housing) 2009 -

Aspect	Policy /Methodology
	Notes for Industry (DoP, 2009)
	State Environmental Planning Policy (Affordable Rental Housing) 2009 - Community Guide (DoP, 2009)
Attachment 4: Agency Responses to Request for Key Issues	

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