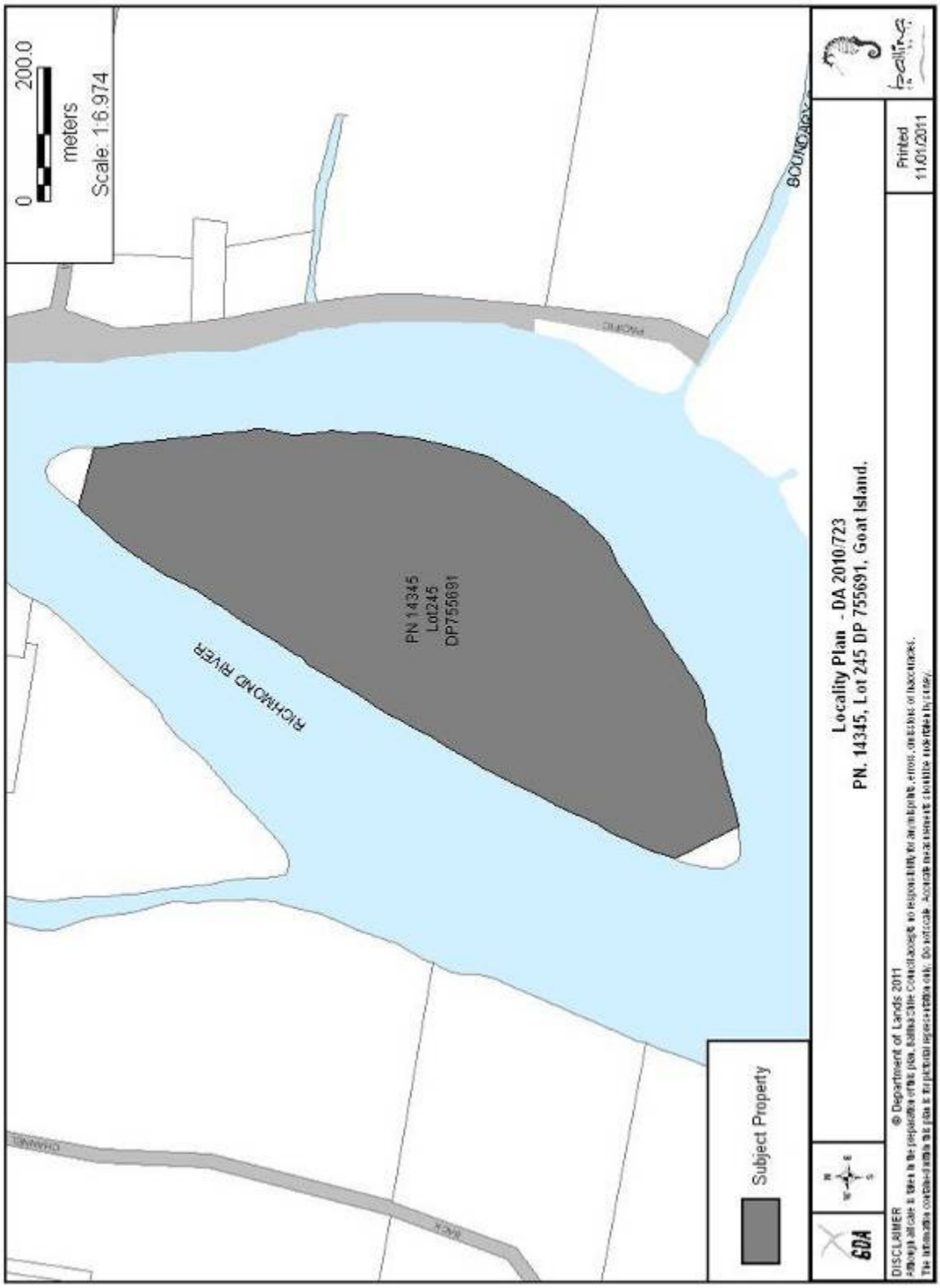
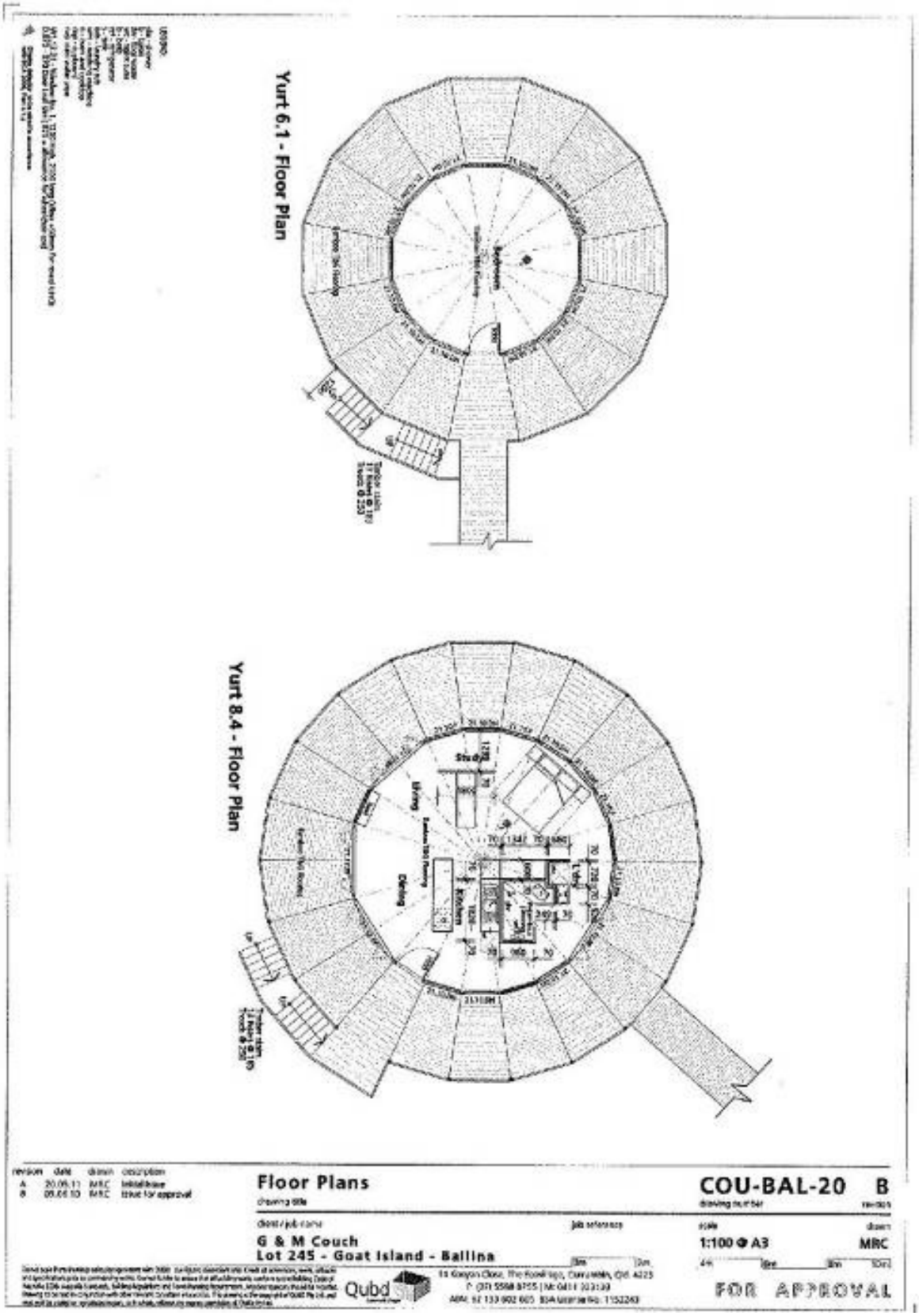
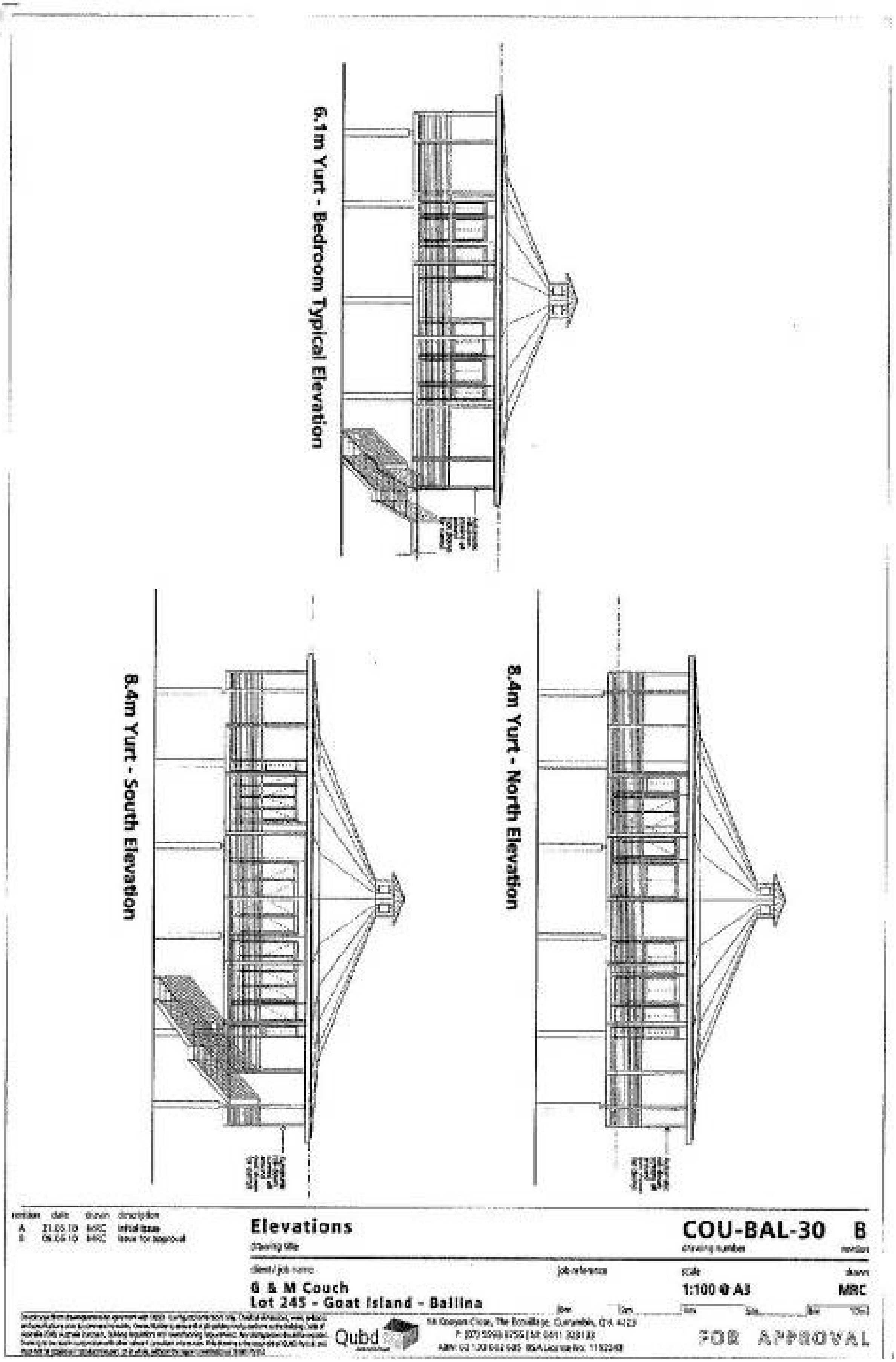
8.2 DA 2010/723 - Goat Island



Survey Plan
Scale 1:1000 @ A3
Real Property Description:
Lot 245 in Deposited Plan 755691
Local Government: Ballina
Parish of Broadwater
County of Rous
north point
PROPOSED RESIDENCE
Site Plan
drawing title
COU-BAL-10
drawing number
D
G & M Couch
Lot 245 - Goat Island - Ballina
1:1000 @ A3
MRC
Qubd
FOR APPROVAL


Yurt 6.1 - Floor Plan
Yurt 8.4 - Floor Plan
Floor Plans
COU-BAL-20
B
G & M Couch
Lot 245 - Goat Island - Ballina
1:100 @ A3
MRC
FOR APPROVAL


6.1m Yurt - Bedroom Typical Elevation
8.4m Yurt - South Elevation
8.4m Yurt - North Elevation
revision date drawn description
A 21.05.10 MRC Initial Issue
B 06.09.10 MRC Issue for approval
Elevations
drawing title
COU-BAL-30
B
G & M Couch
Lot 245 - Goat Island - Ballina
1:100 @ A3
MRC
Qubd
FOR APPROVAL

4. Principal Development Issues

4.1 Heritage

Aboriginal heritage is important in this area with the Cabbage Tree Island Aboriginal settlement being located less than 1km north of Goat Island. The AHIMS search undertaken for Goat Island identified one mythological site (Appendix E). This site is a special women's place that is associated with fertility. It is located in dense vegetation at the northern end of the island and is well away from the dwelling site. The application will not impact on this site in any way.

The Jali Aboriginal Land Council has been consulted and a representative visited the site on 22 May 2010 in the company of the owners. The Jali's written response is attached as Appendix F. Essentially they have no objection to the dwelling being erected as proposed but would like to be present at the earthworks stage to check if any artefacts are discovered by this disturbance. The owner has agreed to this and arrangements will be made to notify the local Aboriginal community when earthworks are to commence. If artefacts or objects are discovered during earthworks then work will cease, DECCW will be notified and further consultation and assessment will be required in accordance with the *National Parks and Wildlife Act, 1974*.

European occupation of the Goat Island commenced prior to 1921 as the survey of the island at this date already shows it being used for sugar cane, small crops, a dwelling, shed and fences. Records show that it was granted as freehold to Russell Tasman Smith of Broadwater who was a soldier returning from the Ist World War. The 1921 survey is attached at Appendix G.

The dwelling on the western side of Goat Island was burnt down some time after 1991 and there is little evidence of it left. The sheds that remain are not proposed to be removed. There are two large mango trees that were associated with the dwelling and these are proposed to be retained. The dwelling site selected for this application has no evidence of any European structures and was in an area used for agriculture. Should any heritage items or artefacts be uncovered during earthworks then they will be documented and assessed on merit.

4.2 Flooding

The subject site is entirely within flood liable land. A survey undertaken in January 2010 shows that the height in AHD of the existing ground level on the island in the cleared area at the southern end is quite variable (Appendix H). Generally the ground level is between 1.3m AHD and 2.3m AHD which is similar to the ground levels on Cabbage Tree Island. The natural ground level at the location of the proposed dwelling is approximately 2.0m AHD.

The most relevant flooding information is from the work undertaken by Ballina Shire Council on the Wardell and Cabbage Tree areas including the following:

- Wardell and Cabbage Tree Island Flood Study, BSC, Nov 2007;
- Wardell and Cabbage Tree Island Floodplain Risk Management Study, Feb 2007; and
- Draft Cabbage Tree Island Floodplain Risk Management Plan, Oct 2009.

Applying the information in these documents it is reasonable to conclude the following in relation to flooding on Goat Island:

- It is susceptible to flooding from the Richmond River in floods of a 5 year recurrence level or higher;
- Peak flood levels for a 5 year recurrence flood would be approximately 1.85 m AHD;
- Peak flood levels for a 10 year recurrence flood would be approximately 2.32 m AHD;
- Peak flood levels for a 100 year recurrence flood would be approximately 3.38 m AHD;
- Peak flood levels for a probable maximum flood would be approximately 4.94 m AHD;
- Flood velocities would vary across the island between 0.31 m/s in a 5 year recurrence flood to as high as 1.03 m/s in a 100 year recurrence flood;
- Flood hazard (a function of depth and velocity) across the island varies from very high to high, medium and in one small area low in a 100 year recurrence flood;
- The flood hazard for the surrounding river channels is extreme in a 100 year recurrence flood;
- BSC requires a minimum fill level in its draft Ballina LEP 2010 of 3.7m AHD for any dwellings;
- BSC requires floor levels for any dwellings to be 0.5m above the minimum fill level i.e 4.2m AHD on this site; and
- The key issues are the erection of a dwelling in a high hazard flood area; the residual flood problem; and the emergency response in times of flood.

Dwellings in a High Hazard Flood Areas

The Draft Cabbage Tree Island Floodplain Risk Management Plan, Oct 2009 is the best guide as to how Council might consider proposed dwellings in flood prone river islands. The plan recommends that additional residential dwellings be prohibited on Cabbage Tree Island but that community buildings may be built subject to flood compatible materials and other standards being met. It is not clear from this plan if dwelling replacement would be permitted or if replacement dwellings would be additional residential dwellings. Unless Council is going to refuse future applications to replace existing dwellings as they become aged, then it is reasonable to assume that replacement dwellings are not additional dwellings and would be permitted.

In the case of Goat Island, there has been a dwelling erected on the island since at least before 1921 and it was there (surviving the 1954 and 1974 floods) until it was burnt down some time after 1991. The dwelling the subject of this application is a replacement dwelling for the one burnt down and is not an additional dwelling as referred to in the Draft Cabbage Tree Island Floodplain Risk Management Plan. Referring to the definitions in the Glossary of the Draft Cabbage Tree Island Floodplain Risk Management Plan the subject application fits most easily with the term redevelopment being "*redevelopment: refers to rebuilding in an area*". If redevelopment is to be permitted on Cabbage Tree Island then it should be permitted on Goat Island.

In the subject application the proposed fill level for the location of the dwelling is 3.7m AHD and the proposed floor level is 6.1m AHD. Both these levels meet Council's requirements even considering sea level rise, freeboard and the probable maximum flood. The location proposed is

far safer than the previous location and has better protection from extreme velocities and flood debris from the dense vegetation surrounding it. It is located on a natural high spot on the island and the fill required to raise this area can be easily scraped up from the surrounding cleared land. This means that the filling of the house site (which is a very small area) does not decrease the flood capacity of the Richmond River floodplain.

So although the dwelling is to be located in a high hazard flood area, it will meet the minimum fill level of 3.7m AHD and have a floor level that exceeds the probable maximum flood. In the event of a 100 year recurrence flood there will be no damage to the dwelling or any public infrastructure. The method of construction and scale of the development will ensure that the dwelling will not impact on flood behaviour on Goat Island or any other nearby land.

The Residual Flood Problem

The residual flood problem is based on the fact that the adopted design flood of a 100 year recurrence can be exceeded on rare occasions and damage can result. In this case the floor level of the dwelling will be located above the probable maximum flood and damage to the dwelling even in a probable maximum flood is unlikely. It is accepted that the composting toilet system that is located below the elevated dwelling would be affected by such an event however, it is a robust structure that will be properly secured and is unlikely to be damaged. Flood damage should be minimal even in a probable maximum flood. No damage to public infrastructure is expected in a probable maximum flood.

Emergency Response in Times of Flood

In most situations the key to effective emergency response in times of flood is to get people to safety before it becomes dangerous for emergency personnel to do so. Getting yourself to safety without assistance is the ideal situation. On Cabbage Tree Island there are 170 people including the aged and very young and they are linked by a bridge and road back to Wardell and beyond in floods up to the 10 year recurrence level. So residents typically have motor vehicles and community transport on the island that they can use to evacuate safely as long as they leave before the flood exceeds the 10 year recurrence level. It is unlikely that an evacuation of this size could take place without some outside assistance.

Goat Island is quite different in that there is no access by motor vehicle at ay time and all access to the island is by boat. This means that there is always a boat at the island if a flood warning is issued and any persons on the island can leave early and without assistance. In the case of a flood event approaching the island would get approximately 10 hours warning from the Coraki flood gauge and this is ample time to make things secure and travel by boat for approximately 5 minutes to the nearest boat ramp just south of Andersons Creek, where a vehicle and trailer would be parked (the owners of this ramp have already given permission for this). This would enable residents to travel safely via the Pacific Highway to Wardell, Ballina or Alstonville to safety. Leaving early would ensure that there is minimal velocity in the river and that there is minimal flood debris.

An alternate option is to park the vehicle on the main land on the western side of Goat Island adjacent to a private boat ramp (the owners have already given permission for this) and travel safely via Back Channel Road to Wardell, Ballina or Alstonville to safety. The journey from Goat Island to this boat ramp is less than 5 minutes by boat.

A third option is to park the vehicle on the main land at the East Wardell boat ramp and get access to the Pacific Highway at Wardell. This would require a 15 minute boat journey depending on visibility and flood debris.

Goat Island has a secure and sheltered boat access point that would ensure that the owner's boat would be safely available when a flood warning is issued. The flood evacuation plan (Appendix I) requires that the island be evacuated as soon as a low level flood warning is issued for Coraki (5 year recurrence) and that the local Ballina SES be notified that there is no-one on the island at this time. The evacuation route would be as shown in the flood evacuation plan. Leaving the island early means there will be no flood water over the island that would inhibit the residents walking to the boat.

4.3 Onsite Waste Water Disposal

A composting toilet with a minimal flush system is proposed as the only toilet provided for the dwelling. It will be constructed as part of stage 1. A grey water system will be installed to allow disposal of water from the kitchen, bathroom and laundry. Details of the composting toilet and grey water disposal are in Appendix D.

4.4 Mosquito Management

The property is located in coastal plain and lowlands as defined by Ballina Shire Combined DCP, Chapter 11. However it is not in an area defined as high risk. In accordance with the DCP requirements, effective insect screening will be applied to all windows doors and other openings of the residential premises. The proposed dwelling will have verandas which will be completely screened from insects enabling an outdoor area to continue to be enjoyed during periods of elevated mosquito activity. Having all habitable structures fully screened is compliant with the DCP.

4.5 Dwelling Entitlement

A dwelling house is permissible development in the 1(b) Rural – Secondary Agricultural Land Zone under the Ballina Local Environmental Plan (LEP) 1987. However, clause 12 of LEP 1987 was modified on 26 June 2009 and this has affected the dwelling entitlement for Goat Island. Prior to 26 June 2009, clause 12 (3A) stated:

"(3A) Notwithstanding the provisions of subclause (3), the council may consent to the erection of a dwelling-house on an allotment of land that was lawfully created before the appointed day and upon which a dwelling-house could lawfully have been erected immediately prior to the appointed day."

Sub clause 3A has now been repealed. This means that a dwelling can only be erected on Goat Island if Council considers that a variation to the 40 ha minimum lot size contained in clause 12 (3) (a) (ii) is warranted. A variation to the 40 ha development standard requires an objection to be lodged under SEPP No. 1 and it also requires the concurrence of the Director General of Planning because the proposed variation is more than 10 % of the standard. A SEPP 1 Objection is attached at Appendix J.

NSW GOVERNMENT | Environment, Climate Change & Water

The General Manager
Ballina Shire Council
PO Box 450
BALLINA NSW 2478

Attention: Mr Lachlan Sims

Your reference:
Our reference: AL294
Contact: Toong Chin, 66270233

30 September 2010

Dear Mr Sims

DA 2010/723 – PROPOSED DWELLING ON GOAT ISLAND

I refer to your email of 17 September 2010 seeking the Department's comment on a proposal to erect a dwelling on Goat Island which is located midstream between Broadwater and Wardell in the Richmond River.

Table 9 and 11 of the 2004 Wardell and Cabbage Tree Island Flood Study provides the following flood information in the river channel at Goat Island:

Peak Flood Level (m AHD)			Peak Velocity (m/s)		
5 Year	20 Year	100 Year	5 Year	20 Year	100 Year
1.9	2.8	3.5	0.6 to 0.8	0.8 to 0.9	0.9 to 1.1

Figure 16 of the same report indicates the provisional flood hazard in the river surrounding Goat Island during a 1 in 100 year recurrence flood as extreme, and on the island itself as between high and very high. It is worth noting the Floodplain Development Manual describes the nature of flooding in a high flood hazard category as:

- possible danger to personal safety
- able bodied adults would have difficulty in wading to safety
- potential for significant structural damage to buildings

The proposal has clearly considered the flood risks in Goat Island, ie, fill the house pad to 3.7m AHD (above the 1 in 100 year recurrence flood level), design the dwelling on posts which are capable of withstanding floods and with a floor level of 6.1m AHD which is above the Probable Maximum Flood level of 5.0m AHD, and when a flood occurs the occupants would watch the development of the flood at Coraki and evacuate by boat well before it arrives.

In 2009 Council completed a floodplain risk management plan for Cabbage Tree Island. Measures recommended in the plan include a revision to Council's Policy Statement No.11 to prohibit the development of new dwellings on Cabbage Tree Island. This is because of the exposure of the residents to the high flood risk from the Richmond River and the high isolation risk associated with the low flood immunity provided by Back Channel Road, the only evacuation route out of the island.

C/- PO Box 856 Alstonville NSW 2477
Tel: (02) 6627 0200 Fax: (02) 6628 3937
ABN 30 841 387 271
www.environment.nsw.gov.au

Goat Island is adjacent to Cabbage Tree Island and is very similar in its exposure to the high flood risk from the Richmond River. For this reason the floodplain risk management plan for Cabbage Tree Island should provide guidance in assessing this development application.

The only means of evacuation from Goat Island is by boat, often considered as an even more precarious mode of transport than road in times of flood. The consequence of fast flowing floodwater and therefore the risk of accident and loss of life would be high. It is therefore difficult to see how approval of this development would accord with the general thrust of the Cabbage Tree Island floodplain risk management plan.

If you wish to discuss any aspects of the letter please contact me on 66270233.

Yours sincerely

Toong CHIN
Senior Natural Resource Officer
Urban and Coastal Water Programs, North Coast
Climate Change, Policy and Programs

NSW GOVERNMENT | Environment, Climate Change & Water

The General Manager
Ballina Shire Council
PO Box 450
BALLINA NSW 2478

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Yours sincerely

Toong CHIN
Senior Natural Resource Officer
Urban and Coastal Water Programs, North Coast
Climate Change, Policy and Programs

Development Application 2010/723
Dwelling House – Goat Island

RECOMMENDED DRAFT CONDITIONS OF CONSENT

1. DEFERRED COMMENCEMENT CONDITIONS

The operation of this consent is deferred pursuant to Section 80(3) of the *Environmental Planning and Assessment Act* 1979 until the following conditions have been met to the satisfaction of Council. This deferred commencement consent will lapse if the following conditions have not been met prior to 24 March 2012.

1.1 ***Preliminary site investigation***

A preliminary site investigation is prepared and reported to Council in accordance with "Guidelines for Consultants Reporting on Contaminated Sites", September 2000, published by the NSW Department of Environment and Climate Change (DECC).

The preliminary site investigation report shall:

- Identify all past and present potentially contaminating activities;
- Identify potential contamination types;
- Discuss the site condition;
- Provide a preliminary assessment of site contamination; and
- Assess the need for further investigations.

If the preliminary site investigation identifies contamination, the contaminated land consultant will be required to develop a detailed investigation report and, if required, develop a remediation strategy and validation process. On completion of the investigation, the consultant is to provide a report to Council detailing the site assessment, remediation and validation in accordance with the appropriate guidelines for the proposed future use.

Dependent on outcomes of the preliminary site investigation and further investigation, if required, the application may be required to obtain a formal audit statement, as per the form approved under Section 53B of the Contaminated Land Management Act 1997. The audit statement will need to be prepared and submitted by a NSW Accredited Contaminated Site Auditor and will need to indicate the suitability for the intended land use.

1.2 ***Flood hazard risk indemnity***

At the applicant's expense, a Flood Hazard Risk Assessment shall be undertaken for the site and the proposed development. A Flood Hazard Risk Report shall be submitted to Council detailing the findings of the assessment and shall contain recommended emergency and evacuation procedures for the island in a flood event. The recommendations shall detail procedures for floods of various levels including a 1-in-20-year, 1-in-50-year, and 1-in-100-year flood event. The recommendations and procedures contained in the Flood Hazard Risk Report shall become conditions of consent applicable to the land and its use for residential purposes.

1.3 ***Environmental management – site filling***

Prior to the activation of this consent, the applicant shall submit to the satisfaction of Council a management plan for the extraction of filling from the site. The management plan shall include the following:

- details of the means of acquiring the fill material from the site (including details of the methods and machinery to be used);
- identification of the location and to what depth works will occur;
- procedures for managing acid sulphate soils, should they be discovered;
- procedures for the ongoing management of the drainage of the site;
- an assessment of the likely impacts of the fill acquisition on the adjoining wetlands and intended methods to minimise or mitigate this impact;
- environmental protection measures to be utilised during the operational phase of the acquisition, including sediment and erosion control;
- details of measures to be implemented to prevent additional mosquito breeding sites through the lowering of the soil level and creation of increased water ponding; and
- details of the ongoing restoration of the excavated area, including proposed maintenance procedure and methods of revegetation.

2. GENERAL CONDITIONS

General

2.1 Development being carried out generally in accordance with the plans and associated documentation lodged by, or on behalf of, the applicant, including plans prepared by Qubd Sustainable Design as detailed in the following table, except as modified by any condition in this consent.

Drawing	Reference	Revision	Date
Site Plan	COU-BAL-10	D	26 June 2010
Floor Plans	COU-BAL-20	B	9 June 2010
Elevations	COU-BAL-30	B	9 June 2010
Sections	COU-BAL-31	C	26 June 2010

2.2 ***Commencement of occupation or use***
Occupation or use of the (premises/site) for the purposes authorised by this consent shall not commence until all conditions of this consent have been complied with, unless alternative arrangements have been made with Council.

2.3 ***Building Inspections***
If Council is appointed as the Principal Certifying Authority (PCA), forty eight (48) hours notice is to be given to enable the following inspections to be carried out. NB: All required plumbing and drainage inspections are to be carried out by Council.

a. **When the foundation trenches are open, the steel reinforcement is in position before the concrete is poured.**
b. **When the drainage pipelines beneath the building have been laid by the plumber so that a water test can be carried out before they are backfilled.**

c. **When the steel is in position before any concrete floor slabs are poured.**
d. **When the external drainage lines have been laid by the licensed plumber so that a water test can be carried out before they are backfilled.**
e. **When the septic/sullage absorption trenches have been dug before they are backfilled.**
f. **On completion of the framework with the roof covering in position before the internal walls and ceiling are fixed.**
g. **On completion of the water supply "rough in" and/or plumbing stackwork prior to the internal lining of the building.**
h. **On completion of the building before occupation.**

Building Construction Requirements

2.4 ***Building Code of Australia Compliance***
The buildings are to comply with the requirements of the *Building Code of Australia* and relevant Australian Standards.

2.5 ***Issue of construction certificate***
The erection of a building under the terms and conditions of this Development Consent must not be commenced until:

a. Detailed plans and specifications of the building have been endorsed with a Construction Certificate by:
   (i) *Ballina Shire Council; or*
   (ii) *An accredited certifier; and*
b. The person having the benefit of the development consent has appointed a Principal Certifying Authority (PCA) and has notified Ballina Shire Council (if Council is not the PCA) of the appointment; and
c. The person having the benefit of the development consent has given at least two (2) days notice to the Council of the person's intention to commence the erection of the building.

2.6 ***Construction Certificate to be Consistent with DA***
Any Construction Certificate issued in association with this development must ensure that any certified plans are consistent (in terms of site layout, site levels, building location, size, internal/external design, external configuration and appearance) with the approved development application plans.

2.7 ***Compliance certificate***
Where Council is not the Principal Certifying Authority, the applicant shall ensure that a Compliance Certificate is submitted to Council on completion of the building. Such Certificate is to certify that all required inspections have been completed; compliance with the approved plans, development consent conditions, the *Building Code of Australia* and relevant Australian Standard requirements.

Heritage

2.8 The Jali Local Aboriginal Land Council Sites Officer is to be present on the site during any excavation undertaken as part of the development. Upon discovery of any Aboriginal relics within the meaning of the *National Parks and Wildlife Act* 1974 within the subject site, the operator shall immediately

notify the National Parks and Wildlife Service (NPWS) and the Jali Local Aboriginal Land Council and shall cease operations within the vicinity thereof until such time as the consent from the NPWS is obtained for the destruction, removal or protection thereof and the quarry operator has complied with the direction of the Service in that respect.

Vegetation Management

2.9 All native vegetation on the site shall be protected during works approved in this development consent. The removal or clearing of any native vegetation from the site requires separate development approval from Council.

3. PRIOR TO ISSUE OF CONSTRUCTION CERTIFICATE

The following conditions in this section of the consent must be complied with or addressed prior to the issue of any Construction Certificate relating to the approved development.

General

3.1 ***Long Service Levy***
In accordance with Section 109F of the *Environmental Planning and Assessment Act* 1979 a Construction Certificate will not be issued with respect to the plans and specifications for construction works until any long service levy payable under section 34 of the *Building and Construction Industry Long Service Payments Act* 1986 has been paid. Currently this rate is 0.35% of the cost of the construction works costing $25,000 or more. Works less than $25,000 are not subject to the levy.

3.2 ***Administration and Inspection Fees***
Where Council is not the Principal Certifying Authority, the following fees are to be paid to Council prior to the issue of a Construction Certificate:
- administrative certificate handling and registration fee
- plumbing, drainage and water service inspection fee

3.3 ***Dewatering***
Dewatering activities require a licence issued by the Department of Environment, Climate Change and Water (DECCW). If required a copy of the licence is to be provided to the Principal Certifying Authority prior to the issue of a Construction Certificate.

Building Construction Requirements

3.4 Where Council is nominated as the Principal Certifying Authority, the following information is to be submitted to and approved by Council prior to the issue of a Construction Certificate:
a. Certification from a suitably qualified consulting engineer that the proposed building is designed to withstand the force of flowing flood waters, including debris and buoyancy.
b. Details of flood compatible materials to be utilised in the building to withstand the effects of frequent flood immersion.

On Site Sewage Management System

3.5 Prior to the issue of a Construction Certificate, the applicant shall submit an application in accordance with Section 68 of the *Local Government Act* 1993 providing details of the On Site Sewage Management System (OSSMS) for the development. The OSSMS shall be designed to meet the following requirements:

a) The evapotranspiration and absorption (ETA) beds or equivalent shall have two (2) runs of 90mm slotted pipe in each ETA bed.

b) The ETA beds or equivalent shall have four (4) metres separation between each ETA bed.

c) The ETA beds or equivalent shall be fully turfed with a suitable species of grass to prevent surface erosion and help with nutrient uptake and regularly maintained by mowing.

d) The ETA beds or equivalent shall be installed in a raised area utilising clean suitable fill to the 1 in 20 year flood fill level.

e) The ETA beds or equivalent shall utilise a dosing siphon to evenly dose the beds. The dosing siphon shall be installed in a suitably sized tank which shell be suitably anchored into the ground.

f) Cast iron concreted bolted screw top inspection openings or suitable alternative shall be installed with an 88-degree swept junction at each inlet to the ETA beds.

Site Filling

3.6 ***Fill curtilage of dwelling***
The site is to be filled to a minimum level of RL 3.9 metres AHD. Such filling is to include a minimum of three (3) metres around the curtilage of the building, including the approved on site sewage management system and associated land application area. The site filling shall be undertaken in accordance with the approved management plan referenced in Section 1 of this consent. Certification from a registered practicing surveyor verifying compliance with this height is to be submitted to Council prior to the issue of a Construction Certificate.

3.7 ***Site filling***
All site filling shall be in compliance with the requirements of Level 1 geotechnical testing for:

- *Australian Standard 2870 – 1996* Residential Slabs and Footings Code
- *Australian Standard 3798 – 1996* Guidelines on Earthworks for Commercial and Residential Developments

Certification from a suitably qualified practicing Geotechnical Engineer verifying the site filling is in accordance with *Australian Standard 2870 & Australian Standard 3798* and that the filling has adequate bearing capacity for building construction is to be submitted to Council prior to the issue of a Construction Certificate.

4. PRIOR TO CONSTRUCTION WORK COMMENCING

The following conditions in this section of the consent must be complied with or addressed prior to commencement of construction works relating to the approved development.

General

4.1 ***Builder's sign***
A suitable sign is to be provided on the building site in a prominent location, indicating the builder's name, licence number and contact telephone numbers (including after hours numbers).

4.2 ***Building waste containment***
A suitable waste container capable of holding blowable type building waste must be made available on the building site during the course of construction. Building waste such as paper, plastic, cardboard, sarking etc. must be regularly cleaned up and placed in the waste container so that it cannot be blown off the building site and litter the locality.

4.3 ***Builder's toilet***
A suitable builder's toilet is to be provided on-site before building work commences. Such facility is to either connect to Council's sewer or a suitable approved chemical closet is to be provided.

4.4 ***Plumber's permit***
An application for a plumber's permit is to be completed and submitted to Council by the NSW licensed plumber undertaking the plumbing work on the site prior to the commencement of construction works. The application form can be found on Council's web site at : www.ballina.nsw.gov.au/building services/application form/permit for plumbing and/or drainage form.

Erosion and Sediment Control

4.5 To prevent the pollution of waterways, the applicant/builder is to ensure that adequate sediment and erosion control measures are in place prior to the commencement of works on the site and are to be maintained during the construction of the development until the site has been stabilised by permanent vegetation cover or a hard surface. This is to include:

a. The prevention of soil erosion and the transportation of sediment material into any natural or constructed drainage systems, watercourses and/or wetlands;
b. Service trenches are to be backfilled as soon as practicable;
c. Downpipes are to be connected as soon as practicable or temporary downpipes installed;
d. Buffer vegetation zones are to be retained adjoining stormwater drains or watercourses.
e. Suitable erosion barriers ie. Cloth fencing or hay bales are to be provided where soil may wash into watercourses.

Failure to comply with this requirement may result in an on-the-spot fine being issued by an authorised officer of Council.

On Site Sewage Management System

4.6 Council's approval to install the On Site Sewage Management System and a Council stamped consultant's report/plan is to be supplied to the installation plumber prior to construction works commencing and must be produced at the time of inspection by Council officers.

4.7 The area identified for the installation of the land application area shall be pegged out, and Council's Onsite Sewage Management Officer contacted, to inspect the chosen location prior to undertaking any excavation work.

5. DURING CONSTRUCTION

The following conditions in this section of the consent must be complied with or addressed during the course of carrying out the construction works relating to the approved development.

General

5.1 ***Hours of building work***

Any building work involving the use of noisy mechanical plant or noisy equipment (including the delivery of materials to and from the site) must only be carried out within the following times:

Monday to Friday	7.00am to 6.00pm
Saturday	8.00am to 1.00pm
Sunday	No noisy work at all

No noise generating construction activities are to take place on Sundays or public holidays.

5.2 ***Footing/slab design***

The footings and/or slab are to be designed by a qualified practising Structural Engineer in accordance with *Australian Standard 2870 Residential Slabs and Footing Code*. Such design is to address both the soil classification and adequate bearing capacities of the foundation material. The details are to be submitted to the Principal Certifying Authority prior to commencement of construction.

5.3 ***Compliance with Codes***

All house drainage and sanitary plumbing work must be carried out in accordance with the requirements of the *NSW Code of Practice Plumbing* and *Drainage and National Plumbing and Drainage Code AS 3500.*

5.4 ***BASIX Compliance***

The development is to be constructed in accordance with the BASIX design requirements as depicted in the submitted BASIX Certificate. Certification from the relevant builder, owner builder and/or contractor certifying that the development has been built in accordance with the submitted BASIX Certificate is to be submitted to the Principal Certifying Authority (PCA) on completion of the building and prior to occupation.

5.5 ***Minimum floor level***

The finished floor height of the building is to be constructed at RL 6.1 metres AHD. Certification from a registered practicing surveyor verifying compliance with this height is to be submitted to Council at completion of the timber floor prior to work proceeding beyond this stage.

Vegetation Management

5.6 During construction works, all vegetation and/or trees located immediately adjacent to the construction site, inclusive of the marina and loading/unloading area, are to be protected with temporary fencing. This fencing is to be established a minimum of 2 metres from the greater of either the identified critical root zone or the drip line of the subject vegetation. No removal of vegetation, earthworks and/or storage of any vegetative matter, soil, goods and/or equipment is permitted within the fenced areas.

On Site Sewage Management System

5.7 All work associated with the installation of On-Site Sewage Management System (OSSMS) shall be completed in accordance with Council's *On-Site Sewage & Wastewater Management Strategy 2008*.

5.8 Gypsum shall be added to the bottom of the ETA beds or equivalent prior to backfilling with aggregate at a rate of 0.5kg per square metre.

5.9 Any electrical work associated with the installation of the new OSSMS must be undertaken by a qualified NSW electrical contractor.

5.10 On completion of the work the applicant shall submit to Council written certification from the licenced Electrical Contractor that the work has been installed in accordance with the relevant *Australian Standards*.

5.11 The following water reduction devices shall be installed during construction as part of the approved On Site Sewage Management System:

a. Water conserving front loading washing machine
b. 6/3 dual flush cisterns to all toilets
c. Aerators to taps
d. Water conserving shower roses to all showers

5.12 An external overflow relief gully shall be provided to the drainage line during installation. The gully must be a minimum of 75mm above the surrounding surface and a minimum of 150mm below the lowest sanitary fitting level.

5.13 A septic tank outlet effluent filter is to be fitted to outlet tee of the greywater tank during construction to the satisfaction of Council. and in accordance with the manufacturers' specification. The owner is to ensure that a maintenance schedule for the regular cleaning of the filter is initiated.

5.14 A distribution box for the approved OSSMS shall be installed on a level bed of concrete. All pipe work shall be sealed on both sides withy a suitable lid maintained above ground level.

5.15 Any Telemetry work associated with the installation of the OSSMS must be undertaken by a qualified NSW Licenced Electrical Contractor or a Registered Cabler qualified under the *Australian Communications & Media Authority (ACMA)*.

5.16 The greywater storage tank shall be suitably anchored into the ground to prevent the tank from moving.

5.17 The external components (composting chamber) of the composting toilet shall be installed on a level concrete slab/plinth designed to handle the wait of the system when full.

5.18 The concrete slab/plinth shall be situated under the floor of the dwelling above the 1-in-100 year flood levels.

5.19 The concrete slab/plinth shall be constructed so as to have a minimum height of 500mm from the 1 in 100 year fill level and suitable anchored to the ground.

5.20 The external components (composting chamber) of the composting toilet shall be suitably anchored to the concrete slab/plinth.

5.21 The internal door from the composting toilet room to the living area shall be airtight and sealed.

5.22 The composting toilet room shall be permanently vented to the outside.

5.23 The external vent pipe shall be painted black with a weatherproof paint to help airflow and updraft.

5.24 Liquor from the composting toilet shall be plumbed into the greywater tank.

5.25 The Greywater tank and associated constructed wetland shall be installed in a raised area utilising clean suitable fill to the 1 in 100 year flood fill level.

5.26 Reeds utilised in the constructed wetland shall not be sourced from the natural environment. Reeds shall be obtained from a commercial supplier, e.g. nursery, or other non-naturally occurring sustainable grower, that specialises in wetland and grass species.

5.27 Reeds utilised in the constructed wetland shall be certified as sterile and free of plant pathogens.

5.28 Reeds utilised in the constructed wetland shall be planted out as to achieve a planting density of 5 plants/m2. The reeds shall be of a species as recommended by Sewage Solutions, and installed by the licensed plumber as soon as practicable, upon completion of the system.

5.29 The wetland shall be constructed by using a concrete constructed wetland cell suitably anchored into the ground.

5.30 Under no circumstances shall liners be utilised in place of wetland cells.

Erosion and Sediment Control

5.31 Soil erosion and sediment control measures shall be designed, installed and maintained in accordance with Managing Urban Stormwater – Soils and Construction, LANDCOM, March 2004.

5.32 The discharge of sediment and waste materials including concrete waste, paint, plaster, and the like material into any natural or constructed drainage system, watercourse or wetland constitutes a breach of development

approval conditions. Council's authorised officers may issue a Clean Up Notice, Prevention Notices and/or on-the-spot fine in accordance with the *Protection of the Environment Operations Act* 1997.

5.33 If necessary, dust control measures such as wetting down, covering stockpiles and physical barriers shall be used to control and prevent a dust nuisance to surrounding properties.

Acid Sulfate Soils

5.34 Acid sulfate soils (ASS) may be encountered while excavating greater than 1.5m below the natural ground surface, therefore monitoring of this excavated material shall occur. Should ASS materials be disturbed, they should be stored separately to non-ASS material, bunded and treated with lime to neutralise any acid production from the oxidation process.

Waste Management

5.35 All demolition, construction or the like waste shall be transported and disposed of to an approved waste facility or if alternative disposal methods are sought, that written approval is granted by Council. **It is an offence to transport waste to a place that can not lawfully be used as a waste facility.**

Filling

5.36 The applicant shall ensure that any fill material imported to the site for the proposed development is only obtained from fill sources with approved testing. The supplier of the fill material must certify to Council at the completion of construction that the material was free of contaminants, being natural or otherwise.

6. PRIOR TO OCCUPATION OR USE

Unless otherwise stated all development and works referred to in other sections of this consent are to be completed together with the following conditions prior to occupation or use.

Issue of Occupation Certificate

6.1 The use or occupation of the dwelling shall not commence until an Occupation Certificate has been issued by the Principal Certifying Authority.

6.2 Where Council is not the Principal Certifying Authority (PCA) the applicant shall ensure that a Certificate of Occupation prepared by the PCA is submitted to Council prior to the occupation or use of the dwelling.

Building Construction Requirements

6.3 ***Erosion Controls***
All temporary soil erosion controls employed during construction are to be removed and other permanent measures put in place as necessary.

6.4 ***Temporary Infrastructure***

All temporary builder's signs or other site information signs, temporary toilet facilities, waste storage bins and the like are to be removed upon completion of site works.

6.5 ***Glazing Certification***
The manufacturer's certification that any glazing used within the building complies with relevant Australian Standards (including required Pascal ratings (stress pressure/water penetration)) shall be submitted to the PCA prior to the occupation or use of the building.

6.6 ***Termite Protection Certification***
On completion of the building and prior to its occupation or use, a certificate verifying that the method of termite protection is in accordance with Australian Standard 3660 shall be submitted to the PCA.

6.7 ***Water Proofing Certification***
On completion of the building and prior to its occupation or use, a certificate verifying that the installation of the water proofing system to the wet areas is in accordance with the requirements of the Building Code of Australia and AS 3740 shall be submitted the PCA.

On Site Sewage Management System

6.8 An "Approval to Operate" for the On Site Sewage Management System (OSSMS) is to be obtained prior to the issue of an Occupation Certificate.

6.9 Prior to the issue of an Occupation Certificate, the applicant shall submit to Council written certification from the licenced electrical contractor that OSSMS has been installed in accordance with the relevant *Australian Standards*.

6.10 Prior to the issue of an Occupation Certificate, certification is to be submitted to Council detailing that the completed OSSMS works, including the approved Land Application Area, has been installed in accordance with the approved design. The certification shall be accompanied by a *"works as executed"* diagram of the completed OSSMS.

6.11 Prior to the occupation or use of the dwelling, the OSSMS land disposal areas are to be fenced to prevent access to any vehicular, stock, or pedestrian traffic.

6.12 A Telecommunications Cabling Advice Form (commonly known as the TCA1 form) completed by the electrical contractor or licensed cabler for all telemetry work installed as part of the approved OSSMS is to be provided to the customer and a copy forwarded to Council.

6.13 Prior to the issue of an Occupation Certificate, signage made from durable, moisture resistant material shall be affixed in a visible location adjacent to the internal components of the OSSMS instructing users in the use of the system in accordance with the manufacturers' requirements. The sign shall advise that under no circumstances are sanitary pads, cigarette butts or the like to be disposed of in the system.

6.14 Prior to the issue of an Occupation Certificiate, signage made from weatherproof and U.V resistant material shall be affixed in a visible location

adjacent to the external components of the OSSMS instructing persons in the safe removal and disposal of the composting material. The signage shall include details of the minimum twelve (12) month requirement for the compost to remain in the processor compartment.

Mosquito Management

6.15 In accordance with the provisions of Chapter 11 (Mosquito Management) of the Ballina Shire Combined Development Control Plan, all rooms capable of being used for sleeping are to be provided with adequate insect screening.

7. CONDITIONS OF USE/DURING OCCUPATION

The following conditions are to be complied with in the day-to-day use or operation of the approved development.

Amenity

7.1 The land use on the site shall not interfere with the amenity of the locality by reason of the emission of noise, vibration, odours, fumes, smoke, vapour, steam, dust, water, waste products and the like.

Waste Management

7.2 Any waste generated on site shall be managed in accordance with the requirements of the Department of Environment, Climate Change and Water (DECCW) pursuant to the provisions of the following:

- *Protection of the Environment Operations Act* 1997,
- *Protection of the Environment Operations (Waste) Regulation* 1996, and
- *Waste Avoidance and Recovery Act* 2001

On Site Sewage Management System

7.3 Gardens or other areas that require regular surface watering shall not be sited within the effluent land disposal areas of the On Site Sewage Management System (OSSM), or in areas that may impact on the effluent disposal area.

7.4 The following water reduction devices shall remain installed and maintained during the life of the development in conjunction with the approved On Site Sewage Management System:

a. Water conserving front loading washing machine
b. 6/3 dual flush cisterns to all toilets
c. Aerators to taps
d. Water conserving shower roses to all showers

7.5 No more than four (4) persons shall permanently reside on the property at any given time to ensure the efficient operation of the approved OSSM.

7.6 Water usage shall be spread evenly throughout the week during the use of the development to avoid heavy peak loads and ensure the efficient operation of the approved OSSMS. This can be achieved by avoiding