



## **ATTACHMENT 3**

**Modified Concept & Project Approvals**

# Modification of Minister's Approval

## Section 75W of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure under delegation executed on 14 September 2011, I approve the section 75W modification of the concept plan approval referred to in Schedule 1, subject to the modified terms of approval outlined in Schedule 2:



Heather Warton  
**Director**  
**Metropolitan and Regional Projects North**

Sydney 24 April 2013

### SCHEDULE 1

<b>Project Approval:</b>	06_0258 granted by the then Minister for Planning on 20 September 2009.
<b>Proponent:</b>	Clarence Property Corporation Pty Ltd
<b>For the following:</b>	Mixed use subdivision at Lot 223 DP 1048494; Lot 3 DP 1042119; Lot 144 DP 1030322 and Lots 10 and 13 DP 1014470 – Tweed Coast Road, South Kingscliff, Tweed local government area.
<b>Modification:</b>	<div>06_0258 MOD 4 - Amendments involving:</div> <ul style="list-style-type: none"><li>• consolidation of medium density residential lots 7, 8, 9, 14 and 15 to form temporary lot 57 within Stage 1A and subsequent new conditions E23 to E42 under new Part E2;</li><li>• new conditions B50 and E31 requiring evidence of approval and construction of the beach access prior to the issue of a construction certificate and subdivision certificate respectively; and</li><li>• timing of payment of monetary contributions.</li></ul>

## SCHEDULE 2

The project approval as described in Schedule 1 is modified as follows:

- (a) Following the words “purposes of drainage” and before the semicolon under clause (2) of Condition A1, insert the words as follows:

(for Stage 1A only, lots 7, 8, 9, 14 and 15 are temporarily consolidated to form medium density residential lot 57)

- (b) Delete Drawing No. DA41K Revision K under Condition A2.

- (c) Delete Drawing No. DA119 Revision B under Condition A2.

- (d) Insert four new rows following the final row of the table under Condition A2 as follows:

Drawings prepared by Newton Denny Chapelle (06_0258 MOD 4)			
		Concept Staging Plan	17/04/13
		Proposed Subdivision Staging Plan Stage 1A	13/03/13
		Proposed Subdivision Staging Plan Stage 1 (Balance)	15/04/13

- (e) Insert new clause (6) following clause (5) under Condition A3 as follows:

Section 75W Modification Request Documentation

- (6) *Section 75W Modification No. 4 Project Approval MP06\_0258 (as Already Modified) for Casuarina Town Centre* prepared by Newton Denny Chapelle on behalf of Clarence Property, dated November 2012; and supplementary information supporting the modification request, prepared by Newton Denny Chappelle, dated 18 April 2013.

- (f) Insert new Condition B51 as follows:

### **B50 Evidence of Approval – Beach Access through Crown Reserve**

The proponent is to obtain approval and any licences from the relevant agencies regarding the provision of the proposed beach access to the east of the icon building. Evidence of the approval for the construction of the beach access shall be provided to the Department prior to the issue of the first Construction Certificate for works within the balance of Stage 1.

*Note:*

- This may require the closure of one of the existing beach accesses.*
- This may require approval under the Crown Lands Act 1989.*
- Relevant agencies may include (but are not limited to) the Tweed Coast Reserve Trust and Crown Lands.*

- (g) Delete the heading titled "PART E–PRIOR TO ISSUE OF SUBDIVISION CERTIFICATE" following Condition D20 and before Condition E1 and replace with the following:

**PART E1–PRIOR TO ISSUE OF SUBDIVISION CERTIFICATE FOR STAGE 1A**

- (h) Delete the following words under Condition E1:

for each stage of the subdivision.

- (i) Delete the following words under Condition E2:

for each stage of the subdivision

- (j) Delete Condition E7 and replace with new Condition E7 as follows:

***E7 Dilapidation Report***

A second dilapidation report is to be prepared by a suitably qualified engineer at the completion of the works to ascertain if any structural damage has occurred to the adjoining and adjacent buildings, infrastructure and roads. The report is to be compared with the pre-construction dilapidation reports required under Conditions B7 and B39, with a recommended course of action to carry out repairs, if required. The report is to be submitted to the Principal Certifying Authority, prior to issue of the Subdivision Certificate.

- (k) Delete Condition E21 and replace with new Condition E21 as follows:

***E21 Section 94 Monetary Contributions***

**Stage 1A Subdivision contributions**

Plan	No. of ET/ Trips	\$ per ET/ Trips	Sub – TOTAL (\$)
Tweed Road Contribution Plan (CP No. 4, Version 5.1, January 2009)	266.5	1,146	305,409
TRCP Sector 7_4 LCA4- Casuarina	266.5	169	45,039
Street Trees (S94 Plan 11)	39	297	11,583
Libraries (S94 Plan 11)	39	816	31,829
Bus Shelters (S94 Plan 12)	39	62	2,418
Cemeteries (S94 Plan 13)	39	121	4,719
Community Facilities (S94 Plan 15)	39	1,352	52,728
Lifesaving (S94 Plan 16)	39	113	4,407
Council Admin (S94 Plan 18)	39	1,812.62	70,692.18

Regional Open Space (Casual- S94 Plan 26)	39	1,064	41,496
Regional Open Space (Structured- S94 Plan 26)	39	3,619	145,470
			<b>715,785.18</b>

#### **STAGES 1 and 2 Retail and commercial contributions**

<b>Plan</b>	<b>No. of ET/ Trips</b>	<b>4 per ET/Trip</b>	<b>Sub- Total (\$)</b>
Tweed Road Contribution Plan (Cp No. 4, Version 5.1, January 2009)	1143.9	1,146	1,310,909
TRCP Sector 7_4 LCA\$- Casuarina	1143.9	169	193,319
Street Trees (s94 Plan 6)		297	
Librarian (S94 Plan 11)		816	
Bus Shelters (S94 Plan 12)		62	
Cemeteries (S94 Plan 13)		121	
Community Facilities (S94 Plan 15)		1,352	
Lifesaving (S94 Plan 16)		113	
Council Admin (S94 Plan 18)		1,812.62	
Regional Open Space (Casual- S94 Plan 26)		1,064	
Regional Open Space (Structured- S94 Plan 26)		3,619	
			<b>1,504,228</b>

Stage 1A subdivision contributions are payable prior to the issue of a Subdivision Certificate. The Stage 1 retail and commercial contributions are payable prior to the issue of the Construction Certificate for the retail and commercial developments.

Note: Contribution Plan credits can be obtained from both Zone 6 Contributions (four laning of Tweed Coast Road) and Local Area Charge 4 (various traffic signals) under Contribution Plan No. 4. All other proposed roads and intersections are to be constructed at the developer's expense.

#### **Timing and Method of Payment**

The contribution shall be paid in the form of cash or bank cheque, made out to Tweed Shire Council. For accounting purposes, the contribution may require separate payment for each of the categories above and you are advised to check with Council.

Evidence of the payment to Council, shall be submitted to the Certifying Authority prior to the issue of the Subdivision Certificate.

These charges to remain fixed for a period of twelve (12) months from the date of this approval and thereafter in accordance with the rates applicable in Council's adopted Fees and Charges current at the time of payment.

### Section 94 Plans

A copy of the Section 94 contribution plans may be inspected at the Civic and Cultural Centres, Tumbulgum Road, Murwillumbah and Brett Street, Tweed Heads.

- (l) Delete Condition E22 and replace with new Condition E22 as follows:

#### **E22 Section 64 Monetary Contributions**

A certificate of compliance under Sections 305, 306 and 307 of the *Water Management Act 2000* is to be obtained from Council to verify that the necessary requirements for the supply of water and sewerage to the development have been made with Tweed Shire Council.

Pursuant to Clause 146 of the *Environmental Planning and Assessment Regulation 2000*, a Subdivision Certificate shall **NOT** be issued by a Certifying Authority unless all Section 64 Contributions have been paid and the Principal Certifying Authority has sighted Council's "Contribution Sheet" and a "Certificate of Compliance" signed by an authorised officer of Council.

The current charges applicable are:

#### **STAGE 1A Subdivision contributions**

Plan	No. of ET	\$ per ET	Sub-Total (\$)
Water South East	41	12,150	498,150
South Kingscliff Water Addition	41	182	11,562
Sewer Kingscliff	41	5,838	239,358
			<b>749,070</b>

#### **STAGES 1 and 2 Retail and commercial contributions**

Plan	No. of ET	\$ per ET	Sub-Total (\$)
Water South East	7.68	12,150	93,312
South Kingscliff Water Addition	7.68	282	2,166
Sewer Kingscliff	12.18	5,838	71,106.80
			<b>166,584.80</b>

Stage 1A subdivision contributions are payable prior to the issue of the Subdivision Certificate. The Stage 1 retail and commercial contributions are payable prior to the issue of the Construction Certificate for the retail and commercial developments.

- (m) Insert new heading after Condition E22 as follows:

#### **PART E2–PRIOR TO ISSUE OF SUBDIVISION CERTIFICATE FOR THE BALANCE OF STAGE 1 (LOT 57)**

**(n) Insert new Condition E23 as follows:**

**E23 Part 4A Certificate**

Prior to the registration of final subdivision plan in the Office of the Registrar-General, a Part 4A certificate shall be obtained under section 109D(1)(d) of the *Environmental Planning and Assessment Act 1979*.

The following information must accompany an application for a Subdivision Certificate:

- (1) original plan of subdivision prepared by a registered surveyor and 7 copies of the original plan together with any applicable 88B Instrument and application fees in accordance with the current Fees and Charges applicable at the time of lodgement.
- (2) all detail as tabled within Tweed Shire Council Development Control Plan, Part A5 - Subdivision Manual, CL 7.6 and Councils Application for Subdivision Certificate including the attached notes.

Note: The *Environmental Planning and Assessment Act 1979* (as amended) makes no provision for works under the *Water Supplies Authorities Act 1987* to be certified by an Accredited Certifier.

**(o) Insert new Condition E24 as follows:**

**E24 Compliance Certificate**

Prior to the application for a Subdivision Certificate a Compliance Certificate or Certificates shall be obtained from Council or an accredited certifier for the following:-

- a) Compliance Certificate - Roads
- b) Compliance Certificate - Water Reticulation
- c) Compliance Certificate - Sewerage Reticulation
- d) Compliance Certificate – Drainage

Note:

- i) All compliance certificate applications must be accompanied by documentary evidence from the developers Subdivision Works Accredited Certifier (SWAC) certifying that the specific work for which a certificate is sought has been completed in accordance with the terms of the project approval, the construction certificate, Tweed Shire Council's Development Control Plan Part A5 - Subdivisions Manual and Councils Development Design and Construction Specifications.
- ii) The EP&A Act, 1979 (as amended) makes no provision for works under the *Water Management Act 2000* to be certified by an "accredited certifier".

**(p) Insert new Condition E25 as follows:**

**E25 Defect Liability Bond**

Prior to the issue of a Subdivision Certificate a defect liability bond (in cash or unlimited time Bank Guarantee) shall be lodged with Council.

The bond shall be based on 5% of the value of the works (minimum as tabled in Council's fees and charges current at the time of payment) which will be held by Council for a period of 6 months from the date on which the Subdivision Certificate is

issued. It is the responsibility of the proponent to apply for refund following the remedying of any defects arising within the 6 month period.

Note: The six (6) months Defects Liability Period commences upon the registration of the Plan of Subdivision.

**(q) Insert new Condition E26 as follows:**

***E26 Maintenance Bond***

Prior to the issue of a Subdivision Certificate, a maintenance bond equal to 25% of the contract value of the footpath construction works shall be lodged for a period of 3 years or until 80% of the lots fronting paved footpaths are built on.

Alternatively, the developer may elect to pay a cash contribution to the value of the footpath construction works plus 25% in lieu of construction and Council will construct the footpath when the subdivision is substantially built out. The cost of these works shall be validated by a schedule of rates.

**(r) Insert new Condition E27 as follows:**

***E27 Contamination***

Upon completion of the remediation works on the site, the Proponent shall submit a detailed Site Audit Summary Report and Site Audit Statement and Validation Report to the Certifying Authority. The site audit must be prepared in accordance with the *Contaminated Land Management Act 1997* and completed by a site auditor accredited by the Environmental Protection Agency to issue site audit statements. The site audit must verify that the land is suitable for the proposed uses.

**(s) Insert new Condition E28 as follows:**

***E28 Retaining Walls***

All retaining walls are to be certified by a suitably qualified geotechnical/structural engineer. The certification is to be submitted with the Subdivision Certificate application and shall state that the retaining walls have been designed and constructed in accordance with AS4678-2002 Earth Retaining Structures and are structurally sound.

**(t) Insert new Condition E29 as follows:**

***E29 Dilapidation Report***

A dilapidation report is to be prepared by a suitably qualified engineer at the completion of the works to ascertain if any structural damage has occurred to the adjoining and adjacent buildings, infrastructure and roads. The report is to be compared to any previous dilapidation reports prepared for the site, and recommend a course of action to carry out repairs if required. The report is to be submitted to the Principal Certifying Authority, prior to issue of the Subdivision Certificate.

**(u) Insert new Condition E30 as follows:**

***E30 Registration of Easements / Restrictions to Use / Right of Carriageway***

- 1) The creation of easements for services, rights of carriageway and restrictions as to user are applicable under Section 88B of the *Conveyancing Act 1919*, including (but not limited to) the following:



- a) Easements for sewer, water supply and drainage over all public services/infrastructure on private property.
  - b) Drainage Easements are to be placed over all subsurface drains and interallotment drainage, benefiting and burdening the property owners. Maintenance of the subsurface drains is to be included in the 88B instrument.
  - c) Documentary easements for access must be created over the appropriate lots in the subdivision to provide for public access and access to lifts, lobbies, fire stairs, service areas, loading areas and car parking areas
- 2) Any Section 88B Instrument creating restrictions as to user, rights of carriageway or easements which benefit Council shall contain a provision enabling such restrictions, easements or rights of way to be revoked, varied or modified only with the consent of Council.
  - 3) Privately owned infrastructure on community land may be subject to the creation of statutory restrictions, easements etc in accordance with the *Community Land Development Act 1989*, *Strata Schemes Management Act 1996*, *Conveyancing Act 1919*, or other applicable legislation.
  - 4) In addition to the above certification, the following is to be included in the Section 88B Instrument to accompany the final plan of subdivision:
    - (a) A restriction as to user for each lot that has the benefit of a retaining wall that prevents any cut or fill greater than 0.3m in vertical height within a zone adjacent to the wall that is equal to the height of the wall.
    - (b) Each lot burdened and or benefited by a Type 1 wall as defined in AS4678-2002 Earth Retaining Structures, shall contain a restriction to user advising the landowner of the need to maintain the wall in accordance with that standard.
    - (c) A restriction as to user for all lots requiring the infiltration of all stormwater runoff from roof, hardstand / carparking, and impermeable landscaping areas in storm events up to the 3 month ARI event (deemed to be 40% of the 1 year ARI event), assuming a maximum infiltration rate of 3m per day.
    - (d) the Instrument creating the right of carriageway/easement to drain water shall make provision for maintenance of the right of carriageway/easement by the owners from time to time of the land benefited and burdened and are to share costs equally or proportionally on an equitable basis.
  - 5) The restriction is to be clearly marked on the plan of subdivision and Council is to be nominated as the sole party to vary, modify and/or extinguish the restriction.

(v) **Insert new Condition E31 as follows:**

***E31 Evidence of Construction – Beach Access through Crown Reserve***

Evidence of the construction of the beach access east of the icon building shall be provided to the Department prior to the issue of a Subdivision Certificate for any works within the balance of Stage 1.

**(w) Insert new Condition E32 as follows:**

**E32 Electricity**

Prior to the issue of a Subdivision Certificate the following is to be provided to the PCA:

- (1) The production of written evidence from the local electricity supply authority certifying that reticulation of underground electricity (residential and rural residential) has been completed; and
- (2) The reticulation is to include the provision of fully installed electric street lights to the relevant Australian standard. Such lights to be capable of being energised following a formal request by Council.

**(x) Insert new Condition E33 as follows:**

**E33 Water and Sewerage**

Prior to issuing a Subdivision Certificate, reticulated water supply and outfall sewerage reticulation shall be provided to all lots within the subdivision in accordance with Tweed Shire Council's *Development Control Plan Part A5 - Subdivisions Manual*, Council's *Development Design and Construction Specifications* and the Construction Certificate.

Note: The *Environmental Planning and Assessment Act 1979* (as amended) makes no provision for works under the *Water Management Act 2000* to be certified by an Accredited Certifier.

**(y) Insert new Condition E34 as follows:**

**E34 Utilities – Telephone and Electricity**

The project is to be connected to all available services (water, electricity and telephone) prior to issue of the Subdivision Certificate. Such connections, and any extension of services required to the development, are to be carried out at full cost to the Proponent.

**(z) Insert new Condition E35 as follows:**

**E35 Damage to Public Infrastructure**

Any damage caused to public infrastructure (roads, footpaths, water and sewer mains, power and telephone services etc) during construction of the development shall be repaired in accordance with Council's adopted Design and Construction Specifications prior to the issue of a Subdivision Certificate and/or prior to any use or occupation of the buildings.

**(aa) Insert new Condition E36 as follows:**

**E36 Stormwater Gully Lintels**

All stormwater gully lintels shall have the following notice cast into the top of the lintel: 'DUMP NO RUBBISH, FLOWS INTO CREEK' or similar wording in accordance with Council's adopted Design and Construction Specification.

(bb) Insert new Condition E37 as follows:

**E37     *Asset Creation Form***

Council's standard "Asset Creation Form" shall be completed (including all quantities and unit rates) and submitted to Council with the application for Subdivision Certificate.

(cc) Insert new Condition E38 as follows:

**E38     *Works as Executed Plans***

Prior to the issue of a Subdivision Certificate, Works as Executed Plans shall be submitted in accordance with the provisions of Tweed Shire Council *Development Control Plan A5 - Subdivisions Manual* and Council's *Development Design and Construction Specification, D13 - Engineering Plans*.

The plans are to be endorsed by a Registered Surveyor OR a Consulting Engineer certifying that:

- (1) all drainage lines, sewer lines, services and structures are wholly contained within the relevant easement created by the subdivision;
- (2) the plans accurately reflect the Work as Executed.

Note: Where works are carried out by Council on behalf of the proponent it is the responsibility of the proponent to prepare and submit works-as-executed plans.

(dd) Insert new Condition E39 as follows:

**E39     *Survey Marks***

Where new state survey marks and/or permanent marks are placed a copy of the locality sketch relating to the marks shall be submitted to Council within three months of registration of the Subdivision Certificate in accordance with the Survey Practices Regulation.

(ee) Insert new Condition E40 as follows:

**E40     *CCTV Inspection***

Prior to the issue of a Subdivision Certificate and also prior to the end of defects liability period, a CCTV inspection of the stormwater pipes and sewerage system including joints and junctions will be required to demonstrate that the standard of the stormwater system is acceptable to Council.

Any defects identified by the inspection are to be repaired in accordance with Council's adopted Development Design and Construction Specification.

All costs associated with the CCTV inspection and repairs shall be borne by the proponent.

(ff) Insert new Condition E41 as follows:

**E41 Section 94 Monetary Contributions**

**BALANCE OF STAGE 1 Subdivision contributions**

Plan	No. of ET/ Trips	4 per ET/Trip	Sub- Total (\$)
Tweed Road Contribution Plan (Cp No. 4, Version 5.1, January 2009)	78	1,146	89,388
TRCP Sector 7_4 LCA\$- Casuarina	78	169	13,182
Street Trees (s94 Plan 6)	12	297	3,564
Librarian (S94 Plan 11)	12	816	9,792
Bus Shelters (S94 Plan 12)	12	62	744
Cemeteries (S94 Plan 13)	12	121	1,452
Community Facilities (S94 Plan 15)	12	1,352	16,224
Lifesaving (S94 Plan 16)	12	113	1,356
Council Admin (S94 Plan 18)	12	1,812.62	21,751.44
Regional Open Space (Casual- S94 Plan 26)	12	1,064	12,768
Regional Open Space (Structured- S94 Plan 26)	12	3,619	44,760
			<b>214,981.44</b>

The balance of Stage 1 subdivision contributions are payable prior to the issue of the Subdivision Certificate.

Note: Contribution Plan credits can be obtained from both Zone 6 Contributions (four laning of Tweed Coast Road) and Local Area Charge 4 (various traffic signals) under Contribution Plan No. 4. All other proposed roads and intersections are to be constructed at the developer's expense.

**Timing and Method of Payment**

The contribution shall be paid in the form of cash or bank cheque, made out to Tweed Shire Council. For accounting purposes, the contribution may require separate payment for each of the categories above and you are advised to check with Council.

Evidence of the payment to Council, shall be submitted to the Certifying Authority prior to the issue of the Subdivision Certificate.

These charges to remain fixed for a period of twelve (12) months from the date of this approval and thereafter in accordance with the rates applicable in Council's adopted Fees and Charges current at the time of payment.

## Section 94 Plans

A copy of the Section 94 contribution plans may be inspected at the Civic and Cultural Centres, Tumbulgum Road, Murwillumbah and Brett Street, Tweed Heads.

(gg) Insert new Condition E42 as follows:

### **E42 Section 64 Monetary Contributions**

A certificate of compliance under Sections 305, 306 and 307 of the *Water Management Act 2000* is to be obtained from Council to verify that the necessary requirements for the supply of water and sewerage to the development have been made with Tweed Shire Council.

Pursuant to Clause 146 of the *Environmental Planning and Assessment Regulation 2000*, a Subdivision Certificate shall **NOT** be issued by a Certifying Authority unless all Section 64 Contributions have been paid and the Principal Certifying Authority has sighted Council's "Contribution Sheet" and a "Certificate of Compliance" signed by an authorised officer of Council.

The current charges applicable are:

#### **BALANCE OF STAGE 1 Subdivision contributions**

Plan	No. of ET	\$ per ET	Sub-Total (\$)
Water South East	13.4	12,150	162,810
South Kingscliff Water Addition	13.4	282	3,779
Sewer Kingscliff	12	5,838	70,056
			<b>236,645</b>

The balance of Stage 1 subdivision contributions are payable prior to the issue of the Subdivision Certificate for Stages 1A and the balance of Stage 1. The Stage 1 retail and commercial contributions are payable prior to the issue of the Construction Certificate for the retail and commercial developments.

# Modification of Minister's Approval

Section 75W of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure under delegation executed on 14 September 2011, I approve the section 75W modification of the project approval referred to in Schedule 1, subject to the modified terms of approval outlined in Schedule 2.



Heather Warton  
Director  
Industry, Social Projects & Key Sites

Sydney      24      September      2013

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## SCHEDULE 1

<b>Project Approval:</b>	06_0258 granted by the then Minister for Planning on 20 September 2009.
<b>Proponent:</b>	Clarence Property Corporation Pty Ltd
<b>For the following:</b>	Mixed use subdivision at Lot 223 DP 1048494; Lot 3 DP 1042119; Lot 144 DP 1030322 and Lots 10 and 13 DP 1014470 – Tweed Coast Road, South Kingscliff, Tweed local government area.
<b>Modification:</b>	<div>06_0258 MOD 5 - Amendments involving:<ul style="list-style-type: none"><li>• The construction of a retaining wall on the south-east boundary of the site and associated works adjacent to the cul-de-sac head of Road 6.</li></ul></div>

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## SCHEDULE 2

The project approval as described in Schedule 1 is modified as follows:

**(a) Insert the following plans at the end of the Table under Condition A2:**

Drawing prepared by Newton Denny Chapelle (06_0258 MOD 5)			
C56	Rev 6	Road 6- Cul de Sac Head Grades	27.08.2013
Drawing prepared by ADG (06_0258 MOD 5)			
S02	08	Retaining Wall Layout and Details	22.07.2013
S04	06	Wall and Stair Details	22.07.2013

**(b) Insert new clause (7) following clause (6) under Condition A3 as follows:**

Section 75W Modification Request Documentation

- (7) Section 75W Modification No. 4- Concept and Project Approval MP06\_0258 Casuarina Town Centre, Tweed Coast Road, Casuarina prepared by Newton Denny Chapelle on behalf of Clarence Property, dated 18 July 2013; and supplementary information amending the modification request, prepared by Newton Denny Chapelle, dated 27 August 2013.

**(c) Insert new part (5) into Condition B2 as follows:**

- (5) The design of the retaining wall along the south-east boundary of the site adjacent to Road 6 (as referred to in Condition A2 as MOD 5) is to be amended to incorporate the following:
- A lockable gate to accommodate Council's standard padlock.
  - The 100mm thick concrete infill is to have a minimum crossfall grade of 1% falling towards the face of the retaining wall.

The final design including to confirm compliance with the above requirements shall be submitted for the approval of Council prior to the issue of a Construction Certificate for these works.

**(d) Insert new Condition B7A as follows:**

**B7A- Retaining Wall: South-east boundary adjacent to Road 6**

Notwithstanding Condition B7 above, prior to the commencement of work in relation to the retaining wall referred to in Condition A2 as MOD 5, the Proponent is to engage a qualified structural engineer to prepare a Pre-Construction Dilapidation Report detailing the current structural condition of all existing and adjoining buildings, infrastructure and roads including properties identified as No's 32, 34 and 36 Eclipse Lane.

The report shall be submitted to the satisfaction of the Certifying Authority prior to the issue of the Construction Certificate for these works. A copy of this report is to be forwarded to Council and the Department.

**(e) Insert new Condition B7B as follows:**

**B7B- Repair works to No.36 Eclipse Lane**

Within 1 week of the completion of the Dilapidation Report required to be undertaken in accordance with Condition B7A, the proponent is to submit a Report to the Certifying Authority and the Department which compares the current state of the property identified as No.36 Eclipse Lane with the pre-construction Dilapidation Report undertaken in accordance with Conditions B7.

The Report is to compare the structural state of the property and is to clearly identify any damage to the property which has occurred as a consequence of construction activities. The report is to include a recommended course of action and a timeframe to carry out the repair works. Any repair work considered to be high risk (ie. potential to cause harm or threaten the safety of the occupants of the property) is to be carried out within a week of the completion of the Report unless otherwise agreed to in revised action plan prepared in consultation with the property owner of No.36 Eclipse Lane.

**(f) Insert new Condition C3A as follows:**

**C3A- Retaining Wall: South-east boundary adjacent to Road 6**

Notwithstanding Condition C3 above, prior to the commencement of works in relation to the retaining wall referred to in Condition A2 as MOD 5, the Proponent is to prepare a Vibration Management Plan which demonstrates how compliance with Condition D15 will be achieved. The Plan is also to identify what monitoring measures will be implemented to record vibration impacts to neighbouring properties including, with respect to properties identified as No's 32, 34 and 36 Eclipse Lane. The Plan is to include measures for reactive management of elevated vibration levels. The results of the monitoring are to be made available to Council or the Department on request.

**(g) Insert new Condition E7A as follows:**

**E7A – Retaining Wall: Post Construction Dilapidation Report**

Notwithstanding Condition E7 above, within 1 week of the completion of the works relating to the construction of the retaining wall referred to in Condition A2 as MOD 5, the Proponent is to engage a suitably qualified engineer to ascertain if any damage has occurred to the adjoining and adjacent buildings and structures including, with respect to properties identified as No's 32, 34 and 36 Eclipse Lane. The report is to be compared to the pre-construction dilapidation reports undertaken in respect to Conditions B7 and B7A. The report is to include a recommended course of action to carry out the repairs (if required) within 1 month of the date of completion of the report, unless otherwise agreed to in writing by the Director, Industry Social Projects and Key Sites of the Department of Planning and Infrastructure. The report is to be submitted to the Principal Certifying Authority within 2 week of the completion of the works.

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**END OF MODIFICATION: Project Approval 06\_0258 MOD 5**

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## **ATTACHMENT 4**

**Statement of Commitment  
– Conceptual Approval**

## 6.00 STATEMENT OF COMMITMENTS – CONCEPT PLAN

The following Statement of Commitments are referable to the Casuarina Beach Town Centre Concept Plan Application as originally lodged, reviewed and revised in this **Preferred Project Report**.

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
1. Development Contributions	<ul style="list-style-type: none"> <li>The proponent will pay the lawful contributions in accordance with any condition(s) of consent calculated in accordance with any relevant Section 94 Contribution Plan(s), taking into account any referable or other applicable credits for prior contributions to the public benefit.</li> <li>Such contributions will be paid at each Stage of the development relevant to such payment.</li> </ul>	<ul style="list-style-type: none"> <li>The Proponent and the Local Government Authority agreeing to a range of lawful contributions to ensure the timely delivery of local infrastructure and community services.</li> <li>Provide certainty for the delivery and quality of the public domain elements of the project.</li> <li>Ensure the project's compatibility with local strategies.</li> </ul>	<ul style="list-style-type: none"> <li>Payment will be effected prior to the issue of a subdivision certificate for the Project Application for Stage 1A &amp; 1B Works, namely, the Stage 1 construction of the proposed shopping centre and all roads, open space embellishment in Stage 1A as contained in the Landscape Concept Report (EDAW) - see Attachment 2 and infrastructure works relating to sewer, water and drainage in Stage 1A.</li> </ul>
2. Urban Design	<ul style="list-style-type: none"> <li>Urban Design Guidelines will be developed to ensure design excellence is achieved in the architecture of private buildings and the public domain (streets, parks and squares). This will include building designs and standards.</li> <li>The Guidelines will also take into account the Tweed DCP requirements and the Urban Design Report of Malcolm Middleton and the Landscape Concept Report (EDAW) see Attachment 2.</li> <li>The detailed Urban Design Guidelines will be provided as part of project or development applications for subdivision and</li> </ul>	<ul style="list-style-type: none"> <li>Ensuring that over the various stages of the development there is consistency of standards for the built environment.</li> <li>That the built form meets the best modern Australian coastal design standards.</li> <li>Ensuring that the Sustainability Objectives of the development are implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Guidelines issued prior to the issue of a Construction Certificate for any building works whether private or public.</li> <li>Construction of the built form both public and private will follow the issue of construction certificate for same.</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>infrastructure works or building works for each of the neighbourhood stages of the Town Centre.</p> <ul style="list-style-type: none"> <li>○ To ensure that the built forms meet the floor space ratios, heights and other criteria as contained in the table found at Section 5 “Project Amendments” of the Preferred Project Report.</li> <li>○ These guidelines will be submitted with future project or development applications for subdivision and infrastructure works.</li> <li>○ To ensure that any further development applications comply generally with the Concept Application Plans of approval.</li> </ul>		
3. Environmentally Sustainable Development	<ul style="list-style-type: none"> <li>○ The Proponent is committed to an adherence to the principles of sustainability as defined in the Environmental Planning and Assessment Act 1979. The proposed development will incorporate a range of relevant ESD initiatives to minimize the impact of the projected development on the environment including reduction in energy, water and waste generation by adherence to an implementation of, a suite of on-site management plans detailed in and/or attached to the Environmental Assessment, and upon which management protocols the proponent relies.</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure that all development on the site is managed and designed in an environmentally sustainable manner.</li> </ul>	<ul style="list-style-type: none"> <li>○ From Stage 1A but will be implemented in all Stages of the Project.</li> </ul>
4. Foreshore Protection	<ul style="list-style-type: none"> <li>○ The proponent agrees to fund in perpetuity any restorative actions, including the erection of visual barriers, which may be required as a result of unauthorized tree or vegetation clearing fronting the development within</li> </ul>	<ul style="list-style-type: none"> <li>○ A well-managed foreshore area which meets the best achievable environmental standards and meets the reasonable expectations of the local community</li> </ul>	<ul style="list-style-type: none"> <li>○ ongoing</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>Crown Reserve 1001008, to the satisfaction of the Department of Lands.</p> <ul style="list-style-type: none"> <li>Targeted surveys for the endangered species "<i>Geodorung densiflorum</i>" will be undertaken and mitigation measures for impacts on the species identified, to the extent identified by the survey.</li> <li>No asset protection zones will be located within the Crown Reserve 1001008.</li> <li>No works will be undertaken on Crown Reserve 1001008.</li> <li>The proponent undertakes to effect mitigation measures and to implement such measures for any works adjoining Crown land to ensure that there is no impact on the Crown land.</li> </ul>		
5. Open Space and Public Walkway/ Cycle Connections	<ul style="list-style-type: none"> <li>The proponent will dedicate 4164m<sup>2</sup> of privately held 7(f) zoned lands and 7351m<sup>2</sup> of privately held 2(e) zoned lands, aggregating 11515m<sup>2</sup>, (4.4% of the subject lands) as public open space to encourage a larger, more legible public realm which promotes permeability along the foreshore. The dedication will be in accordance with <b>ML Design Plan No. MP30-(Q)</b> and <b>Cardno Drawing No. DA40(J)</b>.</li> <li>The public open space will facilitate the realignment and upgrading of the existing foreshore cycleway.</li> <li>This land has or will be dedicated to Tweed Council.</li> </ul>	<ul style="list-style-type: none"> <li>The Town Centre Park will create a large open recreational area for the whole of the Casuarina Beach village. It will cater for a wide variety of public uses from passive recreation to organized public events.</li> <li>Allows full public access to the foreshore.</li> <li>Allows full north-south pedestrian and cycle permeability throughout the length of the site.</li> <li>Full north-south pedestrian and cycle permeability throughout the length</li> </ul>	<ul style="list-style-type: none"> <li>Lands to be dedicated in accordance with the <b>ML Design Plan No. MP30-(Q)</b> and <b>Cardno Drawing No. DA40(J)</b>.ML will be embellished in accordance with <b>Attachment 2 (EDAW)</b> and dedicated to Council prior to the issue of a subdivision certificate for the Stage 1A Project Application Works.</li> <li>All landscape works including walkway/ cycleway and open space works and embellishments will be completed prior to the issue of a subdivision</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<ul style="list-style-type: none"> <li>○ The proponent will design and build all the landscape elements of the public space including the walkway/cycleway areas and in accordance with <b>Attachment 2 (EDAW)</b>.</li> <li>○ Landscaping is to rely heavily on the use of native species.</li> <li>○ Provision will be made in the public domain for Surf Lifesaving Facilities as an adjunct to the Salt Surf Lifesaving Club.</li> </ul>	<ul style="list-style-type: none"> <li>○ of the site.</li> <li>○ Cycleway/walkways provide for easy east-west pedestrian and cycle links through the site.</li> <li>○ There will be an upgrading of the foreshore walkway/cycleway.</li> <li>○ The choice of local native plants will improve the habitat of the local fauna.</li> </ul>	<p>certificate for the <b>in the Stage in which the landscape and other works are located</b> <del>Stage 1 Works.</del></p>
6. Foreshore Access and Public Beachside Car Parking	<ul style="list-style-type: none"> <li>○ The proponent will establish approximately 175 metres of publicly accessible beach access consisting of parkland and esplanade roadway, directly east of the centre east west axis boulevard as shown on <b>ML Design Plans MP-31(J) and MP-30(Q)</b> and <b>Cardno Eppell Olsen Plans Nos. 8491-901(F), 8491-902(F) and 8491-903(F)</b>.</li> <li>○ The proponent will provide a minimum of 170 car spaces at a rate of 300 public spaces per kilometre length of beach within 200m of the beach in accordance with the <b>Cardno Eppell Olsen Plan 8491-909(C)</b>.</li> <li>○ The proponent will undertake these works and dedicate them to Council.</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure full 24 hour a day access to the foreshore and walkway/cycleway for the public.</li> <li>○ Visitors to Casuarina Beach will have easy access to the parkland, the beach and the village facilities.</li> </ul>	<ul style="list-style-type: none"> <li>○ All car parking works and land to be dedicated for roads and car parking as depicted in <b>ML Design Plans MP-31(J) and MP-30(Q)</b> and <b>Cardno Eppell Olsen Plans Nos. 8491-901(F), 8491-902(F), 8491-903(F) and 8491-909(C)</b> completed prior to the issue of a subdivision certificate and dedicated as part of the subdivision certificate approval process <b>for the Stage in which the car parking works and land to be dedicated are located.</b></li> </ul>
7. Traffic Management	<ul style="list-style-type: none"> <li>○ The proponent will design and construct all roads within the Town Centre in accordance with Australian Standards and in accordance with <b>Cardno Drawing No. DA23(H)</b>.</li> <li>○ The roadworks include connecting Casuarina Way's missing north-south</li> </ul>	<ul style="list-style-type: none"> <li>○ There will be a high coordinated approach to the traffic management on the site.</li> <li>○ The mix will ensure that a proper hierarchy of roads and walkway/cycleways will be set up and the</li> </ul>	<ul style="list-style-type: none"> <li>○ <del>All roadworks/walkway/cycleway works will be constructed prior to the issue of a subdivision certificate for the lots created by the Stage 1 Works.</del> <b>All roadworks/walkway/cycleway works in</b></li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>link and creating a new and safer access point to the Coast Road.</p> <ul style="list-style-type: none"> <li>○ The proponent will design and construct all the pedestrian and cycle pathways in accordance with <b>Cardno Plans Nos. DA40(J) and DA42</b> and plans contained in <b>Attachment 2 – Landscape Concept Report, Casuarina Town Centre (EDAW) – Pedestrian Links, Cycle Circulation.</b></li> <li>○ The road network will be capable of servicing the local bus needs. Provision for bus stops will be made.</li> <li>○ The proponent will design and install all the traffic management measures, like traffic lights, in accordance with Australian Standards as may be required by the Cardno Eppell Olsen Report forming part of this application and the conditions of approval of this application.</li> <li>○ The proponent will undertake the works required for Dianella Drive and as depicted in the Cardno Eppell Olsen report forming part of this application or as may be required by the conditions of approval.</li> <li>○ The proponent will dedicate the roads to Tweed Council at the time of applying for a subdivision certificate.</li> </ul>	<p>traffic movements are compatible with the pedestrian cycle movements particularly given the tourist village style of development.</p> <ul style="list-style-type: none"> <li>○ Separation of the retail traffic around the supermarket from the quieter recreational traffic uses near the foreshore.</li> <li>○ Creates the opportunity for improved and faster bus services.</li> <li>○ A safer exit/entry point to the Coast Road for the residents of Casuarina Beach.</li> </ul>	<p>Stage 1A will be constructed prior to the issue of a subdivision certificate for the lots created by the Stage 1A works. All other roadworks/ walkway/cycleway works in other stages will be constructed prior to the issue of a subdivision certificate for the respective Stage of which those works form part.</p>
8. Drainage -Swale	<ul style="list-style-type: none"> <li>○ The proponent will fill in the drainage swale.</li> <li>○ The swale will be replaced by underground stormwater pipe drainage before discharging back to the</li> </ul>	<ul style="list-style-type: none"> <li>○ An efficient drainage system which does not create any adverse environmental impacts.</li> <li>○ A more useable</li> </ul>	<p>To be constructed in Stage 1.</p>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>existing drainage system at the northern end of the playing field area.</p> <ul style="list-style-type: none"> <li>An area of 3180m<sup>2</sup> of the land comprising the swale will be dedicated as open space once it has been recontoured, grassed and a cycleway/walkway constructed thereon. The dedication shall be in accordance with <b>ML Design Plan MP-30(Q)</b> and <b>Cardno Drawing No. DA40J</b></li> </ul>	<p>landscaped public area at grade with lands to the north and south of the current swale.</p> <ul style="list-style-type: none"> <li>A better edge treatment between lands to the north and south of the swale.</li> </ul>	
9. Infrastructure	<ul style="list-style-type: none"> <li>The proponent has identified in the Cardno Report the infrastructure required to support all of the proposed development in the Concept Plan. The areas of infrastructure include: <ul style="list-style-type: none"> <li>sewerage</li> <li>water supply</li> <li>telecommunications</li> <li>electricity supply</li> <li>waste disposal</li> </ul> </li> <li>Specific commitments include: <ul style="list-style-type: none"> <li>Upgrading of the pumps in Pump Station 2 and the installation of additional main capacity of the sewer mains.</li> <li>A connecting 150 mm diameter main to the main water supply.</li> <li>All infrastructure works will be carried out in accordance with <b>Cardno Drawings</b> referenced in <b>Exhibit Book 1</b> or as may be required by conditions of approval.</li> <li>The proponent undertakes to ensure that the quality of any runoff into Cudgen Creek and to the ocean, both during and after</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Casuarina Beach Town Centre will be well serviced with all its basic infrastructure needs from the beginning of the project. The Town Centre site is infill development and its infrastructure has been designed to accord with the overall infrastructure designed for Casuarina Beach.</li> </ul>	<ul style="list-style-type: none"> <li>Infrastructure works will be undertaken and will be completed prior to the issue of a subdivision certificate for the lots created by the application.</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	construction of the development, will be equal to or better than current levels.		
10. Water Sensitive Urban Design	<ul style="list-style-type: none"> <li>○ The proponent commits to implementing a Water Sensitive Urban Design Strategy (WSUD) in accordance with the WSUD outlined in the <b>Cardno Report on Engineering and Environmental Matters dated June 2008</b> submitted as Attachment 2 to the Environmental Assessment Report.</li> <li>○ Specific actions are: <ul style="list-style-type: none"> <li>• The on-site stormwater management system will capture and retain virtually all the run-off from the site.</li> <li>• The east west swale will be moved.</li> <li>• Modifications to the frontal swale.</li> <li>• Re-contouring of the site will improve the drainage patterns.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ The system will substantially reduce the contaminant loads in Cudgen Creek and the Pacific Ocean.</li> <li>○ It meets environmentally sustainable principles.</li> </ul>	<ul style="list-style-type: none"> <li>○ The WSUD will be delivered at the same time as infrastructure works and prior to the issue of a subdivision certificate for the lots created by this application.</li> </ul>
11. Soil Contamination	<ul style="list-style-type: none"> <li>○ The proponent undertakes to comply with any and all guidelines endorsed by the relevant Authority to assess the extent of any surface or subsurface contamination prior to commencement of construction.</li> </ul>	<ul style="list-style-type: none"> <li>○ A safer site fit for habitation.</li> </ul>	<ul style="list-style-type: none"> <li>○ Works will be undertaken in Stage -1A and completed prior to the issue of a subdivision certificate for the lots created.</li> </ul>
12. Management of Construction Noise, Vibration, Dust, Soils and Erosion	<ul style="list-style-type: none"> <li>○ Management of construction noise, vibration, dust, soil and erosion during the construction phase of the development will be undertaken strictly in accordance with the relevant management plans and in accordance with aforementioned and approved Environmental Management Plan for the development.</li> </ul>	<ul style="list-style-type: none"> <li>○ Minimise the impacts of the construction activity on the environment and on the neighbouring communities.</li> <li>○ Cleaner site during construction.</li> </ul>	<ul style="list-style-type: none"> <li>○ Implement prior to the issue of a construction certificate.</li> <li>○ During construction works.</li> </ul>
13. Management of	<ul style="list-style-type: none"> <li>○ The proponent undertakes</li> </ul>	<ul style="list-style-type: none"> <li>○ Minimise the impacts</li> </ul>	<ul style="list-style-type: none"> <li>○ Implemented prior</li> </ul>



<b>PROJECT COMPONENT</b>	<b>COMMITMENT</b>	<b>ENVIRONMENTAL OUTCOME</b>	<b>TIMING FOR COMPLETION</b>
Construction Waste	to adopt approved targets as performance requirements for the management of construction waste as may be set by the conditions of approval.	of the construction activity on the environment and on the neighbouring communities.	to the issue of a construction certificate.
14. Management of Construction Traffic	<ul style="list-style-type: none"> <li>○ A Construction Management Plan will be prepared prior to the issue of a Construction Certificate. The Plan will include the principles set out in this Report to minimize construction traffic impacts at all times of the construction process.</li> </ul>	<ul style="list-style-type: none"> <li>○ Minimise the impacts of the construction activity on the environment and on the neighbouring communities.</li> </ul>	<ul style="list-style-type: none"> <li>○ Implemented prior to the issue of a construction certificate.</li> </ul>
15. Aboriginal and European Cultural Heritage Assessment	<ul style="list-style-type: none"> <li>○ If human remains are located during the project, all works will halt in the immediate area to prevent any further impacts to the find or finds. The local police, the Aboriginal community and DECC will be notified. If the remains are found to be of Aboriginal origin and the police consider the site not an investigation site for criminal activities, the DECC should be contacted and notified of the situation and works will not resume in the designated area until approval in writing is provided by the DECC. In the event that a criminal investigation ensues, works will not resume in the designated area until approval in writing from the Police and DECC is obtained.</li> <li>○ If Aboriginal cultural objects are uncovered due to the development activities, all works will halt in the immediate area to prevent any further impacts to the find or finds. A suitably qualified archaeologist and Aboriginal community representatives will be contacted to determine the</li> </ul>	<ul style="list-style-type: none"> <li>○ A respectful recognition of past settlement of land.</li> </ul>	<ul style="list-style-type: none"> <li>○ Consultation will be undertaken within the Tweed Byron Local Aboriginal Council and if considered appropriate by the Aboriginal Council the commemorative will be created prior to the issue of a subdivision certificate for the subdivision created by the Project Application Stage 1A Works.</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>significance of the find(s). The site will be registered in the AHIMS (managed by DECC) and the management outcome for the site included in the information provided to the AHIMS. (It is also recommended that the Aboriginal community representatives are consulted in developing and implementing management strategies for all sites, with all information required for informed consent being given to the representatives for this purpose).</p> <ul style="list-style-type: none"> <li>○ All reasonable efforts will be made to avoid impacts to Aboriginal Cultural Heritage values at all stages of the development works. If impacts are unavoidable, mitigation measures will be negotiated with the Aboriginal community and DECC.</li> <li>○ If objects are uncovered the applicant will consult with and involve Aboriginal representatives for the project, in the ongoing management of the Aboriginal Cultural Heritage values.</li> <li>○ An Aboriginal Cultural Education Program will be developed for the induction of personnel and contractors involved in the construction activities on site. The program will be developed in collaboration with the Aboriginal community.</li> <li>○ The proponent will, in consultation with The Tweed Byron Local Aboriginal Council, give consideration to the erection of a suitable commemorative installation which could mark or</li> </ul>		

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>identify the Aboriginal occupation of this part of the Tweed Coast and past disturbance to their heritage sites.</p> <ul style="list-style-type: none"> <li>o In conjunction with the Tweed Byron Local Aboriginal Land Council the proponent will give consideration to the interpretation, on site, of the sand mining history of the area and its shaping of the current coastal landscapes to establish an historical connection between the new suburb and its past setting.</li> <li>o A copy of the Report will be sent to:</li> </ul> <p>The Chief Executive Officer Tweed Byron Local Aboriginal Land Council PO Box 1401 Kingscliff NSW 2487</p> <p>Mr Kyle Slabb Tweed Byron Local Aboriginal Land Council PO Box 1401 Kingscliff NSW 2487</p> <p>Ms Jackie McDonald 63 Tringa Street West Tweed Heads NSW 2321</p> <p>Mrs Joyce Summers 26 Brier Crescent Varsity Lakes QLD 4227</p> <p>The Manager Aboriginal Heritage Information Management System Department of Environment and Climate Change PO Box 1967 Hurstville NSW 2770</p> <ul style="list-style-type: none"> <li>o Two copies of the Report will be sent to:</li> </ul> <p>Northern Region</p>		

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	Archaeologist Northern Aboriginal Heritage Unit Department of Environment and Climate Change PO Box 914 Coffs Harbour NSW 2450		
16. Flooding	<ul style="list-style-type: none"> <li>○ The proponent undertakes that the development footprint will be located to avoid flooding impacts from a result of sea level rise and a probable maximum flood.</li> <li>○ The proposed development will be in accordance with the NSW Government Flood Prone Land Policy.</li> </ul>	<ul style="list-style-type: none"> <li>○ Reduce the impact of flooding and flood liability on occupants of the flood plain and to reduce losses resulting from flooding.</li> </ul>	<ul style="list-style-type: none"> <li>○ Implemented prior to the issue of a construction certificate.</li> </ul>
17. Asset Protection	<ul style="list-style-type: none"> <li>○ The proponent undertakes that all landscaping to the site is to comply with the principles of Appendix 5 of <i>Planning for Bushfire Protection 2006</i>.</li> </ul>	<ul style="list-style-type: none"> <li>○ To ensure protection of the public and community assets generally.</li> </ul>	<ul style="list-style-type: none"> <li>○ All landscape works will be completed prior to the issue of a subdivision certificate for the <del>Stage 1 Works</del> stage in which the works are located.</li> </ul>
18. Community and Stakeholder Engagement	<ul style="list-style-type: none"> <li>○ The proponent undertakes to implement a complaints registration procedure to record and to address any and all issues in relation to the construction phase of development.</li> <li>○ The proponent commits to establishing community consultation mechanisms during the assessment and sales stages of the development.</li> </ul>	<ul style="list-style-type: none"> <li>○ The community and the local authorities are fully informed and consulted throughout every stage of the development of the project.</li> </ul>	<ul style="list-style-type: none"> <li>○ Community consultations have already been established. They will be maintained.</li> <li>○ Ongoing throughout every stage of the project.</li> </ul>

## 7.00 STATEMENT OF COMMITMENTS – PROJECT APPLICATION FOR STAGE 1 WORKS

The following Statement of Commitments are referable to the Casuarina Beach Town Centre Project Application for Stage 1 Works as originally lodged, reviewed and revised in this **Preferred Project Report**.

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
19. Development Contributions	<ul style="list-style-type: none"> <li>The proponent will pay the lawful contributions in accordance with any condition(s) of consent granted under Part 4 of the Act and calculated in accordance with any relevant Section 94 Contribution Plan(s), taking into account any referable or other applicable credits for prior contributions to the public benefit.</li> <li>Such contributions will be paid at each Stage of the development relevant to such payment.</li> </ul>	<ul style="list-style-type: none"> <li>The Proponent and the Local Government Authority agreeing to a range of lawful contributions to ensure the timely delivery of local infrastructure and community services.</li> <li>Provide certainty for the delivery and quality of the public domain elements of the project.</li> <li>Ensure the project's compatibility with local strategies and the Development Control Plan for Casuarina Beach.</li> </ul>	<ul style="list-style-type: none"> <li>Payment will be effected prior to the issue of a construction certificate for any contributions relating to the shopping centre and prior to the issue of a subdivision certificate in respect of the other Stage 1A &amp; Stage 1B works or Stage 1 works as the case may be.</li> </ul>
20. Urban Design	<ul style="list-style-type: none"> <li>Urban Design Guidelines will be developed to ensure design excellence is achieved in the architecture of private buildings and the public domain (streets, parks and squares). This will include building designs and standards.</li> <li>The Guidelines will also take into account the Tweed DCP requirements and the Urban Design Report of Malcolm Middleton and the Landscape Concept Report (EDAW) see <b>Attachment 2</b>.</li> <li>The detailed Urban Design Guidelines will be</li> </ul>	<ul style="list-style-type: none"> <li>Ensuring that over the various stages of the development there is consistency of standards for the built environment.</li> <li>That the built form meets the best modern Australian coastal design standards.</li> <li>Ensuring that the Sustainability Objectives of the development are implemented.</li> </ul>	Guidelines issued prior to the issue of a construction certificate for any building works in any of the subdivision lots.

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>provided as part of project or development applications for subdivision and infrastructure works or building works for each of the neighbourhood stages of the Town Centre.</p> <ul style="list-style-type: none"> <li>○ To ensure that the built forms meet the floor space ratios, heights and other criteria as contained <del>in the table found at Section 5 “Project Amendments” of the Preferred Project Report.</del> within Tweed Shire Planning Controls.</li> <li>○ These guidelines will be submitted with future project or development applications for subdivision and infrastructure works.</li> <li>○ To ensure that any further development applications comply generally with the Concept Application Plans of approval.</li> </ul>		
21. Environmentally Sustainable Development	<ul style="list-style-type: none"> <li>○ The Proponent is committed to an adherence to the principles of sustainability as defined in the Environmental Planning and Assessment Act 1979. The proposed development will incorporate a range of relevant ESD initiatives to minimize the impact of the projected development on the environment including reduction in energy, water and waste generation by adherence to an implementation of, a suite of on-site management plans detailed in and/or attached to the Environmental Assessment, and upon</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure that all development on the site is managed and designed in an environmentally sustainable manner</li> </ul>	From Stage 1A but will be implemented in all Stages of the Project.

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	which management protocols the proponent relies.		
22. Open Space and Public Walkway/ Cycleway Connections	<ul style="list-style-type: none"> <li>○ The proponent will dedicate 4164m<sup>2</sup> of privately held 7(f) zoned lands and 7351m<sup>2</sup> of privately held 2(e) zoned lands, aggregating 11515m<sup>2</sup>, (4.4% of the subject lands) as public open space to encourage a larger, more legible public realm which promotes permeability along the foreshore. The dedication will be in accordance with <b>ML Design Plan No. MP30-(Q)</b> and <b>Cardno Drawing No. DA40(J)</b>.</li> <li>○ The public open space will facilitate the realignment and upgrading of the existing foreshore cycleway.</li> <li>○ This land has or will be dedicated to Tweed Council.</li> <li>○ The proponent will design and build all the landscape elements of the public space including the walkway/cycleway areas and in accordance with <b>Attachment 2 (EDAW)</b></li> <li>○ Landscaping is to rely heavily on the use of native species.</li> <li>○ Provision will be made in the public domain for Surf Lifesaving Facilities as an adjunct to the Salt Surf Lifesaving Club.</li> </ul>	<ul style="list-style-type: none"> <li>○ The Town Centre Park will create a large open recreational area for the whole of the Casuarina Beach village. It will cater for a wide variety of public uses from passive recreation to organized public events.</li> <li>○ Public access to the foreshore will be maintained and improved.</li> <li>○ Full north-south pedestrian and cycle permeability throughout the length of the site.</li> <li>○ Cycleway/walkways provide easy east-west pedestrian and cycle links through the site at various locations.</li> <li>○ The coastal walkway/cycleway will be realigned, upgraded and appropriately landscaped to link into the cycleway/walkway to the south and north.</li> <li>○ The choice of local native plants will improve the habitat of the local fauna.</li> </ul>	<ul style="list-style-type: none"> <li>○ Lands to be dedicated in accordance with the <b>ML Design Plan No. MP30-(Q)</b> and <b>Cardno Drawing No. DA40(J)</b>.ML will be embellished in accordance with <b>Attachment 2 (EDAW)</b> and dedicated to Council prior to the issue of a subdivision certificate for the Stage 1A Project Application Works or Stage 1 Project Application works, as the case may be.</li> <li>○ All landscape works including walkway/ cycleway and open space works and embellishments will be completed prior to the issue of a subdivision certificate for the Stage 1A Works or the Stage 1 works, as the case may be.</li> <li>○ To be dedicated in Stage 1A or Stage 1, as the case may be.</li> <li>○</li> </ul>
23. Foreshore Access and Public Beachside Car Parking	<ul style="list-style-type: none"> <li>○ The proponent will establish approximately 175 metres of publicly accessible beach access consisting of parkland and esplanade roadway,</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure full 24 hour a day access to the foreshore and walkway/cycleway for the public.</li> </ul>	<ul style="list-style-type: none"> <li>○ All works to be completed prior to the issue of a subdivision certificate for the lots created by this</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>directly east of the centre east west axis boulevard as shown on <b>ML Design Plans MP-31(J) and MP-30(Q) and Cardno Eppell Olsen Plans Nos. 8491-901(F), 8491-902(F) and 8491-903(F)</b></p> <ul style="list-style-type: none"> <li>○ The proponent will provide a minimum of 170 car spaces at a rate of 300 public spaces per kilometre length of beach within 200m of the beach in accordance with the <b>Cardno Eppell Olsen Plan 8491-909(C)</b></li> <li>○ The proponent will undertake these works and dedicate them to Council.</li> </ul>	<ul style="list-style-type: none"> <li>○ Visitors to Casuarina Beach will have easy access to the parkland, the beach and the village facilities</li> </ul>	<p>application. Any land dedication required for this commitment will be made as part of the subdivision certificate application.</p> <p><b>Notwithstanding the above, interim works can be carried out consistent with the approved staging plan, and in particular, the scope of works in Stage 1A.</b></p> <ul style="list-style-type: none"> <li>○ To be dedicated in Stage 1A.</li> </ul>
24. Traffic Management	<ul style="list-style-type: none"> <li>○ The proponent will design and construct all roads within the Town Centre in accordance with Australian Standards and in accordance with <b>Cardno Drawing No. DA23(H)</b></li> <li>○ The roadworks include connecting Casuarina Way's missing north-south link and creating a new and safer access point to the Coast Road.</li> <li>○ The proponent will design and construct all the pedestrian and cycle pathways in accordance with <b>Cardno Plans Nos. DA40(J) and DA42</b> and plans contained in <b>Attachment 2 – Landscape Concept Report, Casuarina Town Centre (EDAW) – Pedestrian Links, Cycle Circulation</b></li> <li>○ The road network will be capable of servicing the local bus needs. Provision for bus stops will be made.</li> </ul>	<ul style="list-style-type: none"> <li>○ There will be a high coordinated approach to the traffic management on the site.</li> <li>○ The mix will ensure that a proper hierarchy of roads and walkway/cycleways will be set up and the traffic movements are compatible with the pedestrian cycle movements particularly given the tourist village style of development.</li> <li>○ Separation of the retail traffic around the supermarket from the quieter recreational traffic uses near the foreshore.</li> <li>○ Creates the opportunity for improved and faster bus services.</li> <li>○ A safer exit/entry point to the Coast Road for the residents of</li> </ul>	<ul style="list-style-type: none"> <li>○ All roadworks/ walkway/cycleway works will be constructed prior to the issue of a subdivision certificate for the lots created pursuant to the Application.</li> </ul> <p><b>Notwithstanding the above, interim works can be carried out consistent with the approved staging plan and in particular, the scope of works in Stage 1A &amp; Stage 1B.</b></p>



PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<ul style="list-style-type: none"> <li>○ The proponent will design and install all the traffic management measures, like traffic lights, in accordance with Australian Standards as may be required by the Cardno Eppell Olsen Report forming part of this Application and the conditions of approval of this Application.</li> <li>○ The proponent will undertake the works required for Dianella Drive and as depicted in the Cardno Eppell Olsen report forming part of this Application or as may be required by the conditions of approval.</li> <li>○ The proponent will dedicate the roads to Tweed Council at the time of applying for a subdivision certificate</li> </ul>	Casuarina Beach.	
25. Infrastructure	<ul style="list-style-type: none"> <li>○ The proponent has identified in the Cardno Report the infrastructure required to support all of the proposed development in the Concept Plan. The areas of infrastructure include: <ul style="list-style-type: none"> <li>• sewerage</li> <li>• water supply</li> <li>• telecommunications</li> <li>• electricity supply</li> <li>• waste disposal</li> </ul> </li> <li>○ Specific commitments include: <ul style="list-style-type: none"> <li>• Upgrading of the pumps in Pump Station 2 and the installation of additional main capacity of the sewer mains.</li> <li>• A connecting 150 mm diameter main to the main water supply.</li> <li>• All infrastructure</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ Casuarina Beach Town Centre will be well serviced with all its basic infrastructure needs from the beginning of the project. The Town Centre site is infill development and its infrastructure has been designed to accord with the overall infrastructure designed for Casuarina Beach.</li> </ul>	<ul style="list-style-type: none"> <li>○ Infrastructure works will be undertaken and will be completed prior to the issue of a subdivision certificate for the lots created by the application.  Notwithstanding the above, interim works can be carried out consistent with the approved staging plan and in particular, the scope of works in Stage 1A &amp; Stage 1B.</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>works will be carried out in accordance with <b>Cardno Drawings Nos DA23(H) to DA46</b>, inclusive, or as may be required by conditions of approval</p> <ul style="list-style-type: none"> <li>The proponent undertakes to ensure that the quality of any runoff into Cudgen Creek and to the ocean, both during and after construction of the development, will be equal to or better than current levels</li> </ul>		
26. Water Sensitive Urban Design	<ul style="list-style-type: none"> <li>The proponent commits to implementing a Water Sensitive Urban Design Strategy (WSUD) in accordance with the WSUD outlined in the <b>Cardno Report on Engineering and Environmental Matters dated June 2008</b> submitted as Attachment 2 to the Environmental Assessment Report.</li> <li>Specific actions are: <ul style="list-style-type: none"> <li>The on-site stormwater management system will capture and retain virtually all the run-off from the site.</li> <li>The east west swale will be moved.</li> <li>Modifications to the frontal swale.</li> <li>Re-contouring of the site will improve the drainage patterns.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The system will substantially reduce the contaminant loads in Cudgen Creek and the Pacific Ocean.</li> <li>It meets environmentally sustainable principles.</li> <li>The use of infiltration basins to allow stormwater to replenish the aquifer.</li> </ul>	<ul style="list-style-type: none"> <li>The WSUD will be delivered at the same time as infrastructure works and prior to the issue of a subdivision certificate for the lots created. <b>Notwithstanding the above, interim works can be carried out consistent with the approved staging plan and in particular, the scope of works in Stage 1A &amp; Stage 1B.</b></li> </ul>
27. Soil Contamination	<ul style="list-style-type: none"> <li>Consequent upon the site being cleared, the proponent will undertake at-grade and subsoil tests in accordance with the <b>Cardno Report on Engineering and Environmental Matters</b></li> </ul>	<ul style="list-style-type: none"> <li>A safer site fit for habitation</li> </ul>	<ul style="list-style-type: none"> <li>Works will be undertaken in Stage -1A and completed prior to the issue of a subdivision certificate for the lots created.</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<b>dated June 2008.</b> The tests will be similar to those undertaken elsewhere in Casuarina Beach and in the neighbouring Salt and Seaside City developments. Should it be deemed necessary, the proponent will undertake such works as may be required to ensure any levels of contamination are remediated to acceptable levels as previously accepted by Tweed Shire Council.		
28. Management of Construction Noise, Vibration, Dust, Soils and Erosion	<ul style="list-style-type: none"> <li>Management of construction noise, vibration, dust, soil and erosion during the construction phase of the development will be undertaken strictly in accordance with the relevant management plans and in accordance with aforementioned and approved Environmental Management Plan for the development.</li> </ul>	<ul style="list-style-type: none"> <li>Minimise the impacts of the construction activity on the environment and on the neighbouring communities.</li> <li>Cleaner site during construction.</li> </ul>	<ul style="list-style-type: none"> <li>Implement prior to the issue of a construction certificate.</li> <li>During construction works</li> </ul>
29. Management of Construction Waste	<ul style="list-style-type: none"> <li>The proponent undertakes to adopt approved targets as performance requirements for the management of construction waste as may be set by the conditions of approval.</li> </ul>	<ul style="list-style-type: none"> <li>Minimise the impacts of the construction activity on the environment and on the neighbouring communities</li> </ul>	<ul style="list-style-type: none"> <li>During construction works</li> </ul>
30. Management of Construction Traffic	<ul style="list-style-type: none"> <li>A Construction Management Plan will be prepared prior to the issue of a construction certificate. The Plan will include the principles to minimize construction traffic impacts at all times of the construction process.</li> </ul>	<ul style="list-style-type: none"> <li>Minimise the impacts of the construction activity on the environment and on the neighbouring communities.</li> </ul>	<ul style="list-style-type: none"> <li>Implemented prior to the issue of a construction certificate and managed during construction.</li> </ul>
31. Community and Stakeholder Engagement	<ul style="list-style-type: none"> <li>The proponent undertakes to implement a complaints registration</li> </ul>	<ul style="list-style-type: none"> <li>The community and the local authorities are fully informed and</li> </ul>	<ul style="list-style-type: none"> <li>Community consultations have already been</li> </ul>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>procedure to record and to address any and all issues in relation to the construction phase of development.</p> <ul style="list-style-type: none"> <li>○ The proponent commits to establishing community consultation mechanisms during the assessment and sales stages of the development in accordance with report of Pro Media forming part of this application.</li> </ul>	<p>consulted throughout every stage of the projects' development.</p>	<p>established. They will be maintained.</p> <ul style="list-style-type: none"> <li>○ Ongoing throughout every stage of the project.</li> </ul>
32. Project Application for Stage 1 Works - General	<ul style="list-style-type: none"> <li>○ The proponent will subdivide the land into 56 lots, construct roads and infrastructure, create open space and construct the supermarket in accordance with the plans and drawings contained in the <b>Preferred Project Report - Exhibit Book 2</b></li> </ul>	<ul style="list-style-type: none"> <li>○ A quality subdivision designed and built in accordance with the approved Plans and an architecturally significant supermarket to service residents and the visitor community</li> </ul>	<p>To be constructed in Stages 1A &amp; 1B and the balance of Stage 1.</p>
33. Essential urban services and infrastructure	<ul style="list-style-type: none"> <li>○ The proponent will clear vegetation on the Town Centre site, then the land will be reshaped to achieve the desired development outcome.</li> <li>○ The proponent will undertake all the bulk earthworks for all subject lands zoned Residential 2e – Tourist Residential and the privately owned 7(f) Environment Protection – Coastal lands.</li> <li>○ The proponent will provide all reticulated services (water, sewerage, stormwater drainage) to the each created lot to the approved standards. External infrastructure, with the exception of sewerage, will meet Australian standards.</li> <li>○ The proponent will construct a 250mm diameter main to connect</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure that all the infrastructure needs of the subdivision are fully met and no burden is left with the service providers or the wider community.</li> <li>○ Ensure that ESD principles are employed in the provision of the infrastructure.</li> <li>○ To try and achieve a harmonious relationship between the natural environment and built environment.</li> </ul>	<p>To be constructed in Stage 1 and to be completed prior to the issue of a subdivision certificate for the lots created.</p> <p><b>Notwithstanding the above, interim works can be carried out consistent with the approved staging plan and in particular, the scope of works in Stage 1A.</b></p>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>to the existing 150mm diameter main to the north, the new main to be constructed along the proposed road alignment of Casuarina Way from the northern connection to the road entrance to Lot 1. From that point, a new 150mm diameter main will connect to the existing 150mm diameter main to the south.</p> <ul style="list-style-type: none"> <li>○ The existing sewer main runs from the south-eastern corner of the Northern Precinct along the drainage swale to Pump Station No 2 on the Coast Road.</li> <li>○ The proponent will relocate the existing sewer main along the new Casuarina Way road alignment.</li> <li>○ The proponent will upgrade the pumps in Pump Station No 2, and the installation of additional rising main capacity in the Tweed Coast Road.</li> <li>○ The proponent will undertake all landscaping on site to meet the expectations of the residential and visitor community and other statutory requirements.</li> <li>○ All of the above works shall be constructed and completed in accordance with drawings and plans contained in <b>Exhibit Book 2</b></li> </ul>		
34. Drainage Swale	<ul style="list-style-type: none"> <li>○ The proponent will fill in the drainage swale.</li> <li>○ The swale will be replaced by underground stormwater pipe drainage before discharging back</li> </ul>	<ul style="list-style-type: none"> <li>○ An efficient drainage system which does not create any adverse environmental impacts.</li> <li>○ A more useable</li> </ul>	<p>To be constructed in Stage 1.</p> <p><b>Notwithstanding the above, interim works can be carried out consistent with the approved staging plan</b></p>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>to the existing drainage system at the northern end of the playing field area.</p> <ul style="list-style-type: none"> <li>An area of 3180m<sup>2</sup> of the land comprising the swale will be dedicated as open space once it has been recontoured, grassed and a cycleway/walkway constructed thereon. The dedication shall be in accordance with <b>ML Design Plan MP-30(Q)</b> and <b>Cardno Drawing No. DA40J</b></li> </ul>	<p>landscaped public area at grade with lands to the north and south of the current swale.</p> <ul style="list-style-type: none"> <li>A better edge treatment between lands to the north and south of the swale.</li> </ul>	<p>and in particular, the scope of works in Stage 1A &amp; 1B.</p>
35. Road System	<ul style="list-style-type: none"> <li>The proponent will construct all roads in accordance with Australian Standards.</li> <li>The proponent will construct all roads proposed within the subject land, including kerbside, basement and other public car parking areas.</li> <li>The proponent will construct the “missing link” north-south road link (Casuarina Way) extending from Steelwood Lane at the southern end to the Dianella Drive roundabout in the north.</li> <li>The road reserve width (20m) and cross sections proposed will match all the existing sections of Casuarina Way.</li> <li>The proponent will construct an esplanade which will be integrated into the road network along part of the eastern boundary of part of the land.</li> <li>The proponent will create an additional pedestrian beach access point which</li> </ul>	<ul style="list-style-type: none"> <li>Provision of an efficient, safe road network that adheres to Australian Standards.</li> <li>Provision of an esplanade and walkway/cycleway enabling public access to the beach.</li> <li>An urban design which will create a sense of community.</li> </ul>	<p>To be constructed in Stage 1 and will be completed prior to the issue of a subdivision certificate.</p> <p>Notwithstanding the above, interim works can be carried out consistent with the approved staging plan and in particular, the scope of works in Stage 1A &amp; 1B.</p>

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<p>will be integrated into the road network.</p> <ul style="list-style-type: none"> <li>○ The proponent will realign the foreshore cycleway/walkway along the coastal frontage of the site as well as vegetation clearing and associated earthworks, minor road construction and drainage swale works within the 7(f) zone both publicly and privately owned.</li> <li>○ The proponent will physically close Dianella Drive at its intersection with Coast Road, and construct a cul-de-sac for reasons of safety.</li> <li>○ The works will be undertaken in accordance with the plans listed as referable to the Project Application for Stage 1 Works contained in <b>Exhibit Book 2</b></li> </ul>		
36. Retail/ Commercial	<ul style="list-style-type: none"> <li>○ The proponent will construct a shopping centre in accordance with submitted Plans (<b>Donovan Hill Architecture Plans</b> for Project Application for Stage 1 Works contained in <b>Exhibit Book 2</b>)</li> <li>○ The shopping centre design will have <ul style="list-style-type: none"> <li>• A high degree of pedestrian accessibility.</li> <li>• Interactive street frontages serviced by limited on-street parking.</li> <li>• Fully covered, highly visual public realm which accentuates the character and identity of the Town Centre.</li> <li>• Basement and at-grade parking.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ A vibrant retail / commercial precinct catering to the needs of the local community and the tourists visiting the area.</li> <li>○ The local shopping centre will reduce traffic on the Coast Road. This also provides environmental benefits.</li> </ul>	To be constructed in Stage 1.

PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	<ul style="list-style-type: none"> <li>○ The shopping centre will comprise: <ul style="list-style-type: none"> <li>• supermarket (2500m<sup>2</sup>)</li> <li>• specialty shops (850m<sup>2</sup>)</li> <li>• restaurants (310m<sup>2</sup>)</li> <li>• amenities (75m<sup>2</sup>)</li> <li>• office (first floor) (400m<sup>2</sup>)</li> <li>• 264 car spaces</li> <li>• attached signage</li> </ul> </li> <li>○ The shopping centre will be constructed in accordance with <b>Donovan Hill Architects drawings DA01H, DA02H, DA03H, DA04H, DA05I, DA06H, DA07H, DA08H, DA09H, DA10H, DA11H, DA12H, DA13H, and DA14H</b> (see <b>Exhibit Book 2</b>)</li> </ul>		
37. Asset Protection	<ul style="list-style-type: none"> <li>○ The proponent undertakes that at the commencement of building works and in perpetuity, the proposed Stage 1 Works shall be managed entirely as an “Inner Protection Area” as outlined within <i>Planning for Bushfire Protection 2006</i> and the Rural Fire Service’s document <i>Standards for Asset Protection Zone</i></li> <li>○ The provision of water, electricity and gas services will comply with Section 4.1.3 of <i>Planning for Bushfire Protection 2006</i></li> <li>○ Public road access will comply with Section 4.1.3(1) of <i>Planning for Bushfire Protection 2006</i></li> <li>○ New construction will comply with Appendix</li> </ul>	<ul style="list-style-type: none"> <li>○ To provide sufficient space and to maintain reduced fuel loads so as to ensure that radiant heat levels of buildings are below critical limits and to prevent direct flame content with the building</li> <li>○ To provide adequate services of water for the protection of buildings during and after the passage of a bushfire, and to locate gas and electricity so as not to contribute to the risk of a fire to a building</li> <li>○ To provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area</li> </ul>	<ul style="list-style-type: none"> <li>○ All Asset Protections works and services will be completed prior to the issue of construction certificates for the implementation of Stage 1 Works. <b>Notwithstanding the above, interim works can be carried out consistent with the approved staging plan and in particular, the scope of works in Stage 1A &amp; 1B.</b></li> </ul>



PROJECT COMPONENT	COMMITMENT	ENVIRONMENTAL OUTCOME	TIMING FOR COMPLETION
	3 – Site Bushfire Attack Assessment of <i>Planning for Bushfire Protection 2006</i>		
38. Community Stakeholder Management	<ul style="list-style-type: none"> <li>○ The proponent undertakes to consult with community and local authorities throughout the construction phase of Stage 1 when necessary.</li> </ul>	<ul style="list-style-type: none"> <li>○ The community and the local authorities are fully informed and consulted throughout the construction of Stage 1.</li> </ul>	Ongoing Community consultation throughout the Project.

## **ATTACHMENT 5**

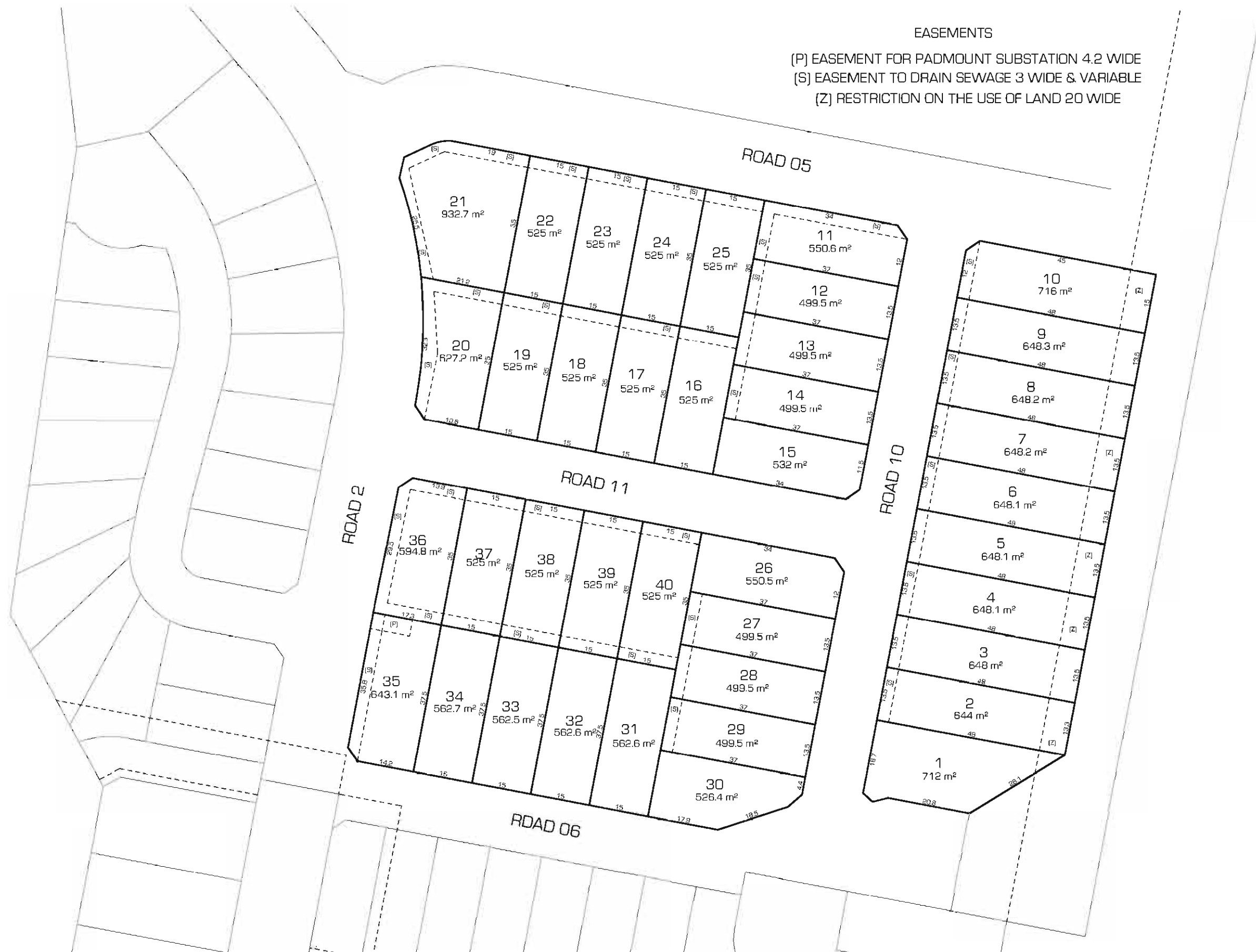
**Proposed Stage Amended Subdivision  
& Staging Plans  
Newton Denny Chapelle**

# EASEMENTS

(P) EASEMENT FOR PADMOUNT SUBSTATION 4.2 WIDE

(S) EASEMENT TO DRAIN SEWAGE 3 WIDE & VARIABLE

(Z) RESTRICTION ON THE USE OF LAND 20 WIDE



Client : CONSOLIDATED PROPERTIES

Location :

CASUARINA TOWN CENTRE  
CASUARINA BEACH

Amendments :

Date	Changes
B	
C	
D	
E	
F	

**NDC**  
**Newton Denny Chapelle**  
Surveyors Planners Engineers  
Email: office@newtondennychapelle.com.au  
Lismore Casino  
31 Carrington St. Lismore 2480 100 Barker St. Casino 2470  
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LOT LAYOUT

Drawn: CD

Date: 26.08.13

Scale 1:1000 @ A3

Ref No. 13/169

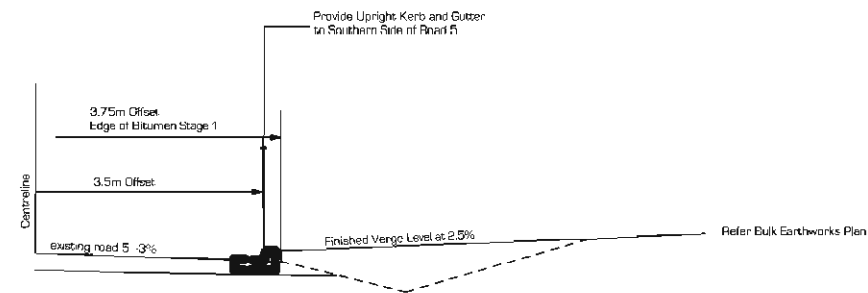
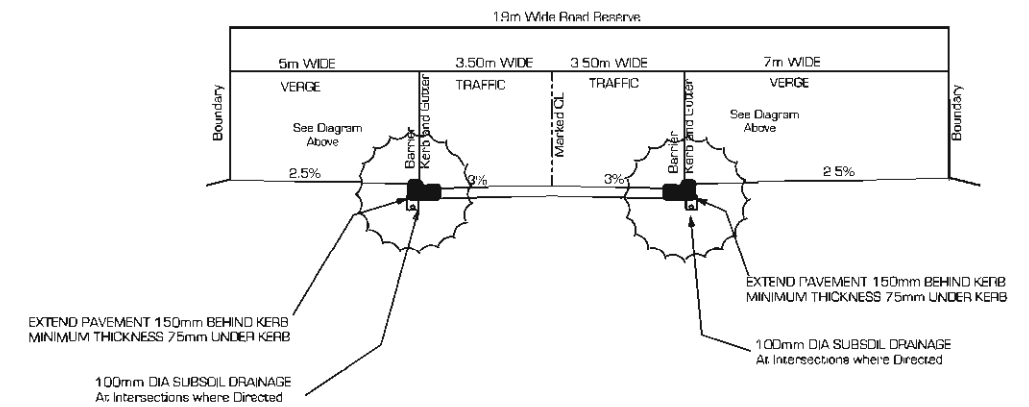


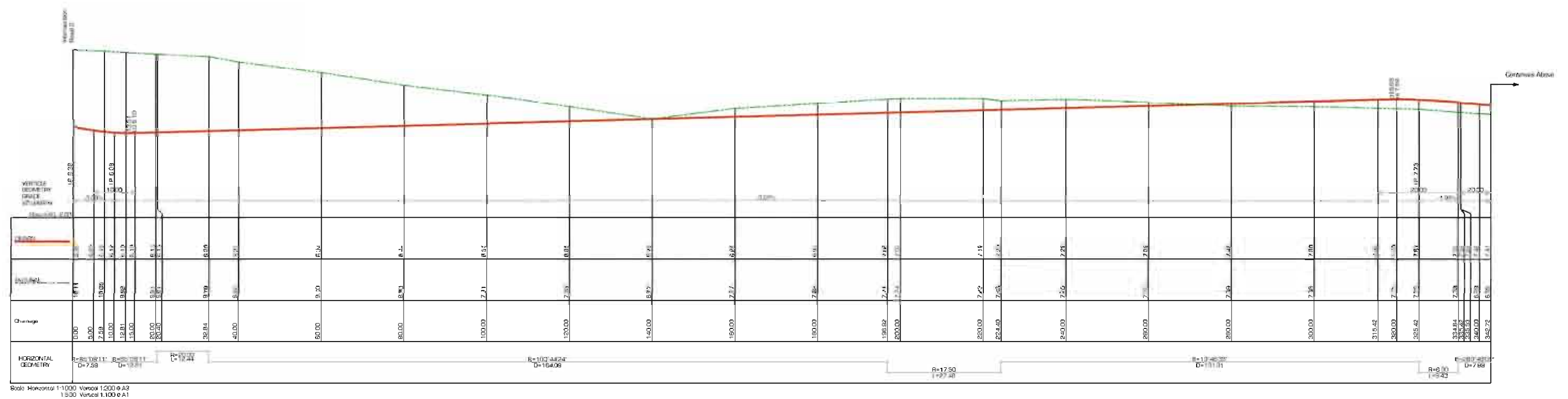
DIAGRAM FOR WORKS ON SOUTHERN SIDE OF ROAD 5

#### NOTES

CONTRACTOR IS TO ENSURE THAT ALL KERB AND GUTTER GRADES SHALL NOT FALL BELOW 0.3% AT ANY POINT RESPECTIVE OF ROAD CENTRELINE GRADING SHOWN ON LONGITUDINAL SECTIONS



TYPICAL CROSS SECTION ROAD 5



LONG SECTION OF ROAD 5 CONSTRUCTED AS PART OF STAGE 1

Client : CONSOLIDATED PROPERTIES

Location :

CASUARINA TOWN CENTRE  
CASUARINA BEACH

Amendments :

Date	Changes
B	
C	
D	
E	
F	

**NDC**  
**Newton Denny Chapelle**  
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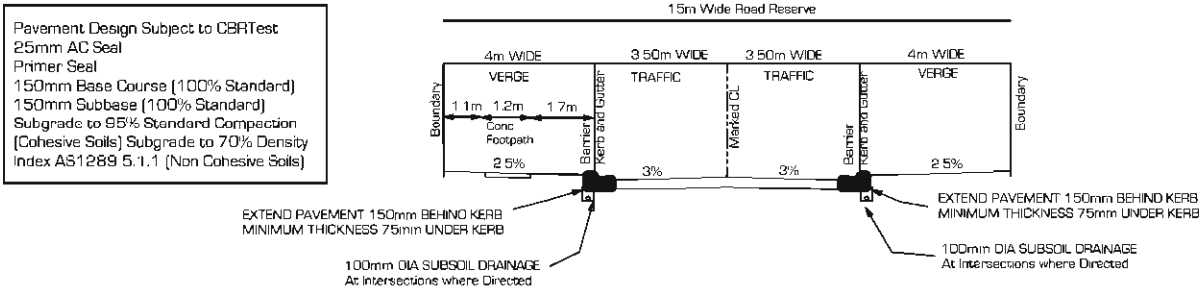
ROAD 5 DETAILS

Drawn: CD

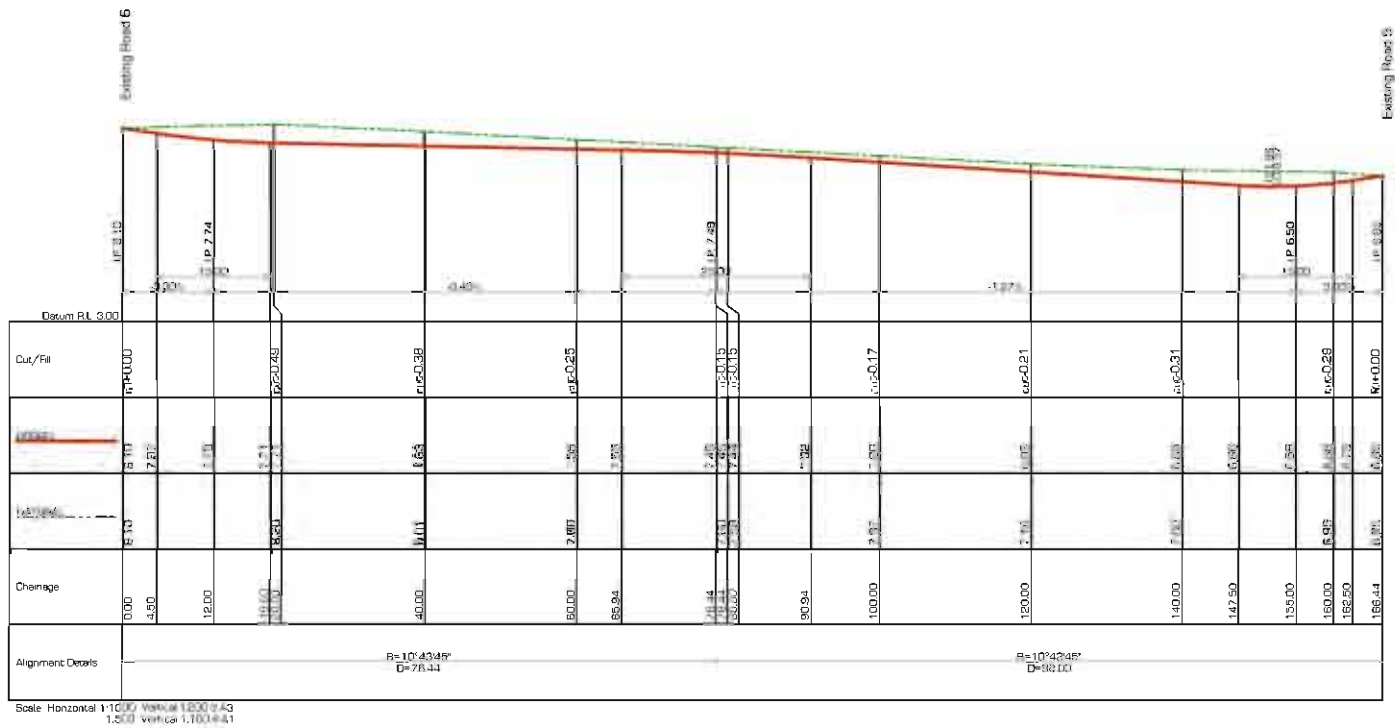
Date: 10.09.13

Scale as Shown

Ref No. 13/169



TYPICAL CROSS SECTION ROAD 10  
 (LOCAL STREET)



LONG SECTION ROAD 10

Client : CONSOLIDATED PROPERTIES

Location :

CASUARINA TOWN CENTRE  
 CASUARINA BEACH

Amendments :

Date	Changes
B	
C	
D	
E	
F	

**NDC**  
**Newton Denny Chapelle**  
 Surveyors Planners Engineers  
 Email: office@newtondennychapelle.com.au  
 Lismore Casino  
 31 Carrington St. Lismore 2480 100 Barker St. Casino 2470  
 T: 6622 1011 F: 6622 4088 T & F: 6662 5000

ROAD 10 DETAILS

Drawn: CD

Date: 26.08.13

Scale as Shown

Ref No. 13/169



Client : CONSOLIDATED PROPERTIES	Amendments :		 <b>Newton Denny Chapelle</b> Surveyors Planners Engineers Email: office@newtondennychapelle.com.au Lismore Casino 91 Carrington St. Lismore 2480 100 Berker St. Casino 2470 T: 6622 1011 F: 6622 4088 T & F: 6662 5000	ROAD 11 DETAILS		
Location :  CASUARINA TOWN CENTRE CASUARINA BEACH		Date		Changes	Drawn: CD  Date: 26.08.13      Scale as Shown      Ref No. 13/169	
	B					
	C					
	D					
	E					
	F					





LEGEND

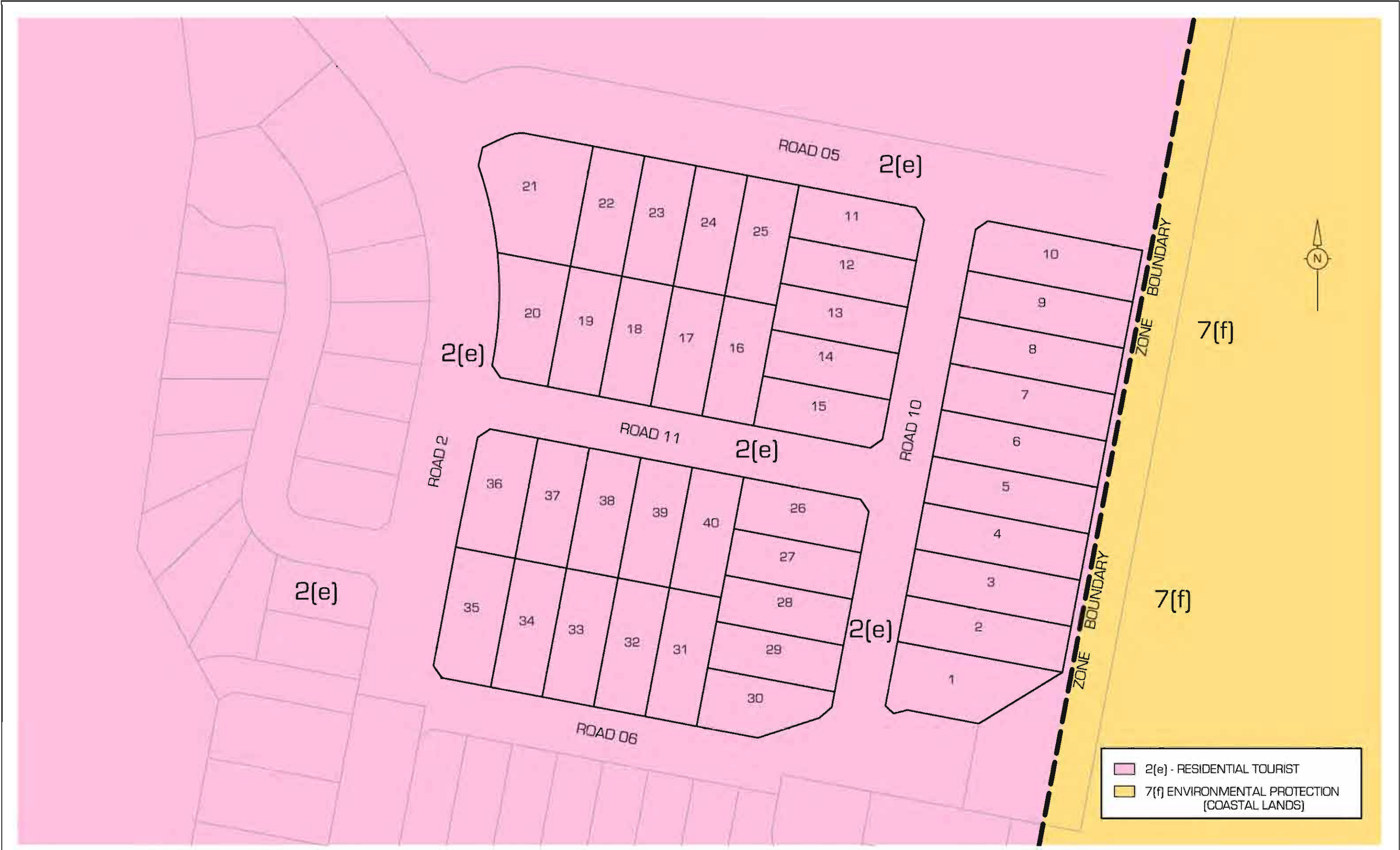
- PROPOSED LOT BOUNDARY
- PROPOSED PATHWAY
- PROPOSED ROAD
- ▨ PROPOSED THRESHOLD
- ▨ PROPOSED CARPARK

Client : CONSOLIDATED PROPERTIES	Amendments :		 <p><b>Newton Denny Chapelle</b>          Surveyors Planners Engineers          Email: office@newtondennychapelle.com.au          Lismore Casino          31 Carrington St. Lismore 2480 100 Barker St. Casino 2470          T: 6622 1011 F: 6622 4088 T &amp; F: 6662 5000</p>	<p>ROAD, PATHS &amp; PARKING LAYOUT</p> <p>Drawn: CD</p>		
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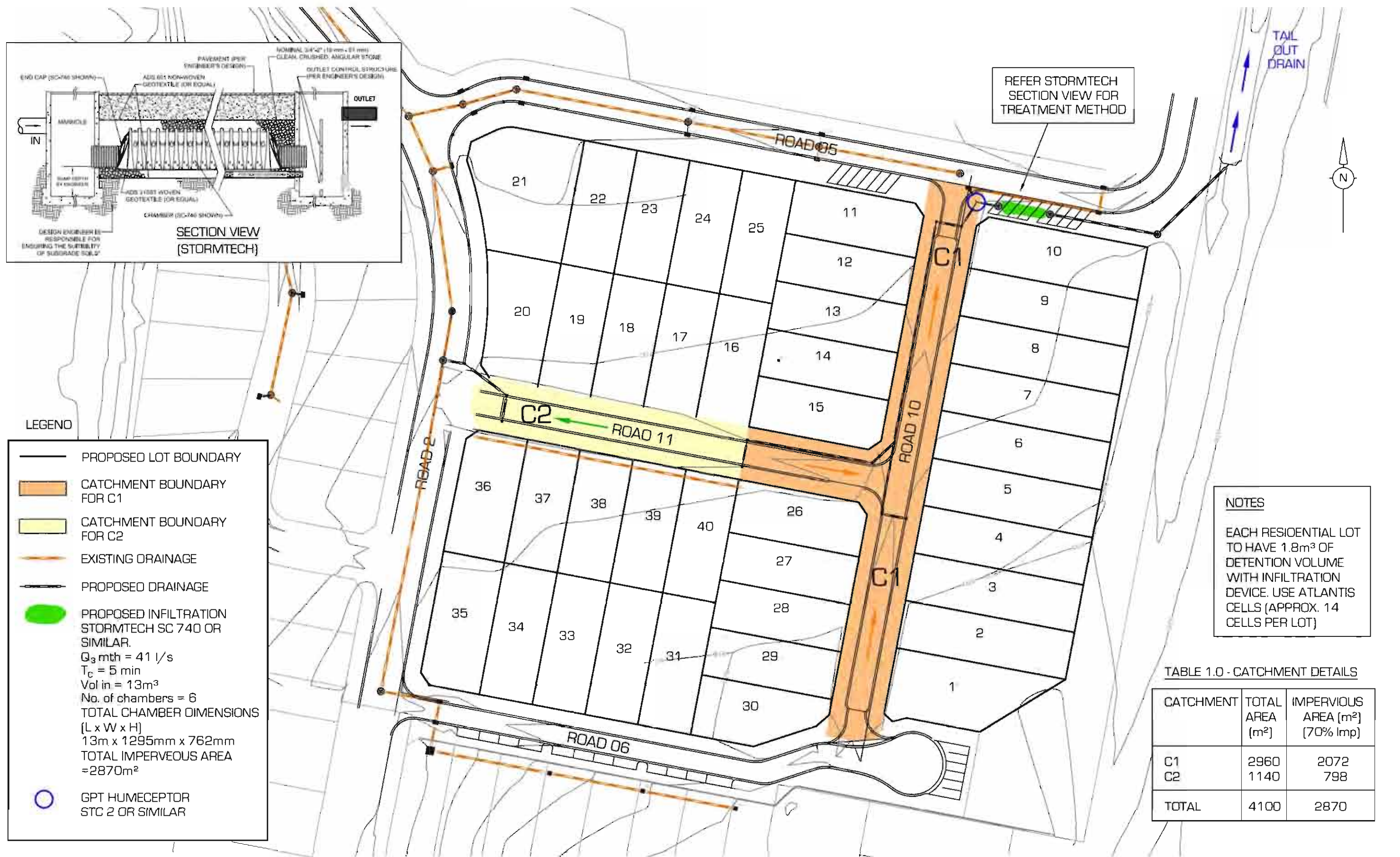






Client : CONSOLIDATED PROPERTIES	Amendments :		<div> <b>Newton Denny Chapelle</b> Surveyors Planners Engineers Email: office@newtondennychapelle.com.au Lismore Casino 31 Carrington St. Lismore 2480 100 Barker St. Casino 2470 T: 6622 1011 F: 6622 4088 T &amp; F: 6662 5000</div>	ZONE BOUNDARIES			
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Client: CONSOLIDATED PROPERTIES

Location:

CASUARINA TOWN CENTRE  
CASUARINA BEACH

Amendments:

	Date	Changes
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F

**Newton Denny Chapelle**  
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Lismore Casino  
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SM1 - STORMWATER MANAGEMENT PLAN

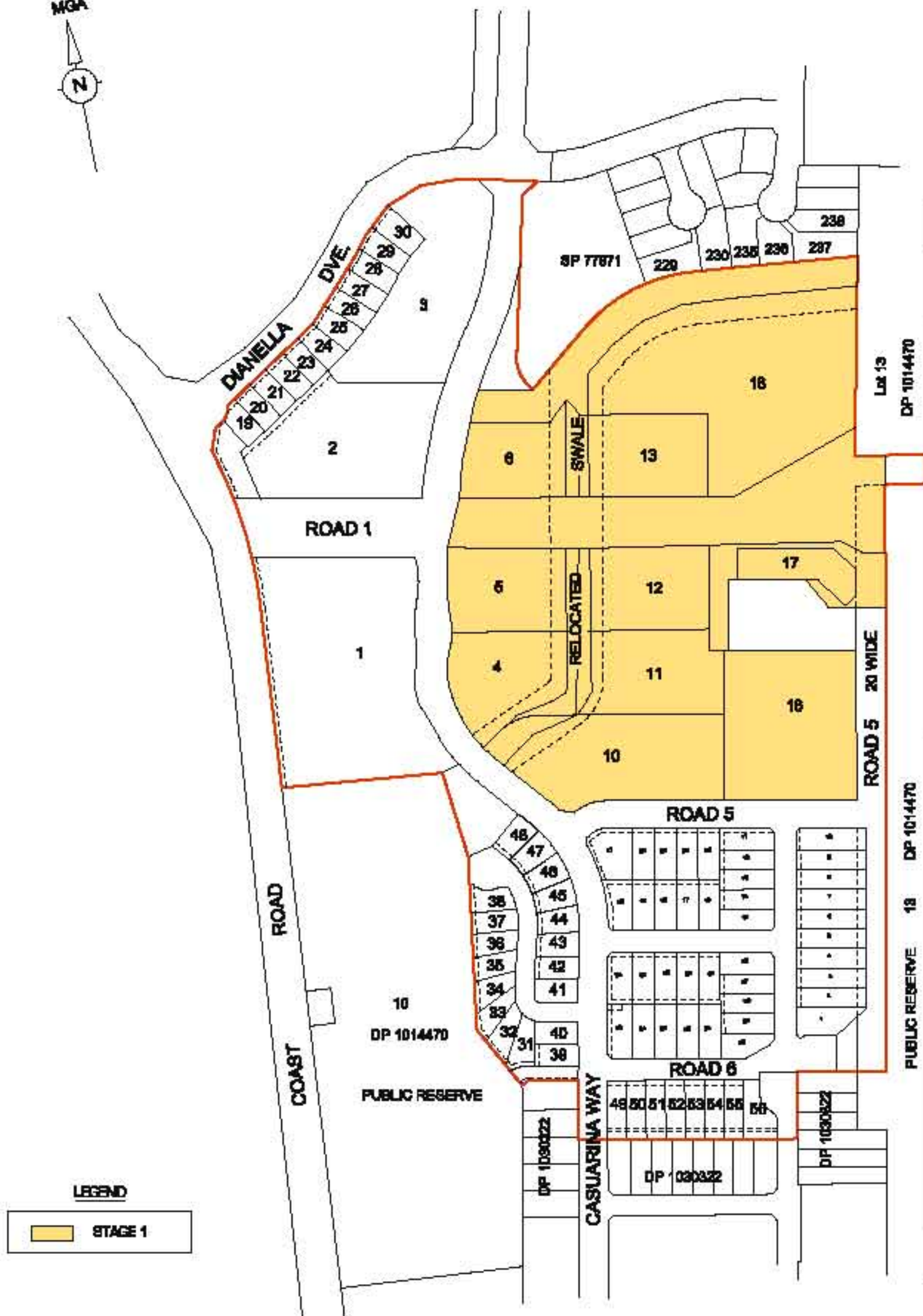
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Client: KINGS BEACH No. 2 PTY LTD

Location :  
CASUARINA TOWN CENTRE  
CASUARINA BEACH

**NDS**  
**Newton Denny Chapelle**  
Surveyors Planners Engineers

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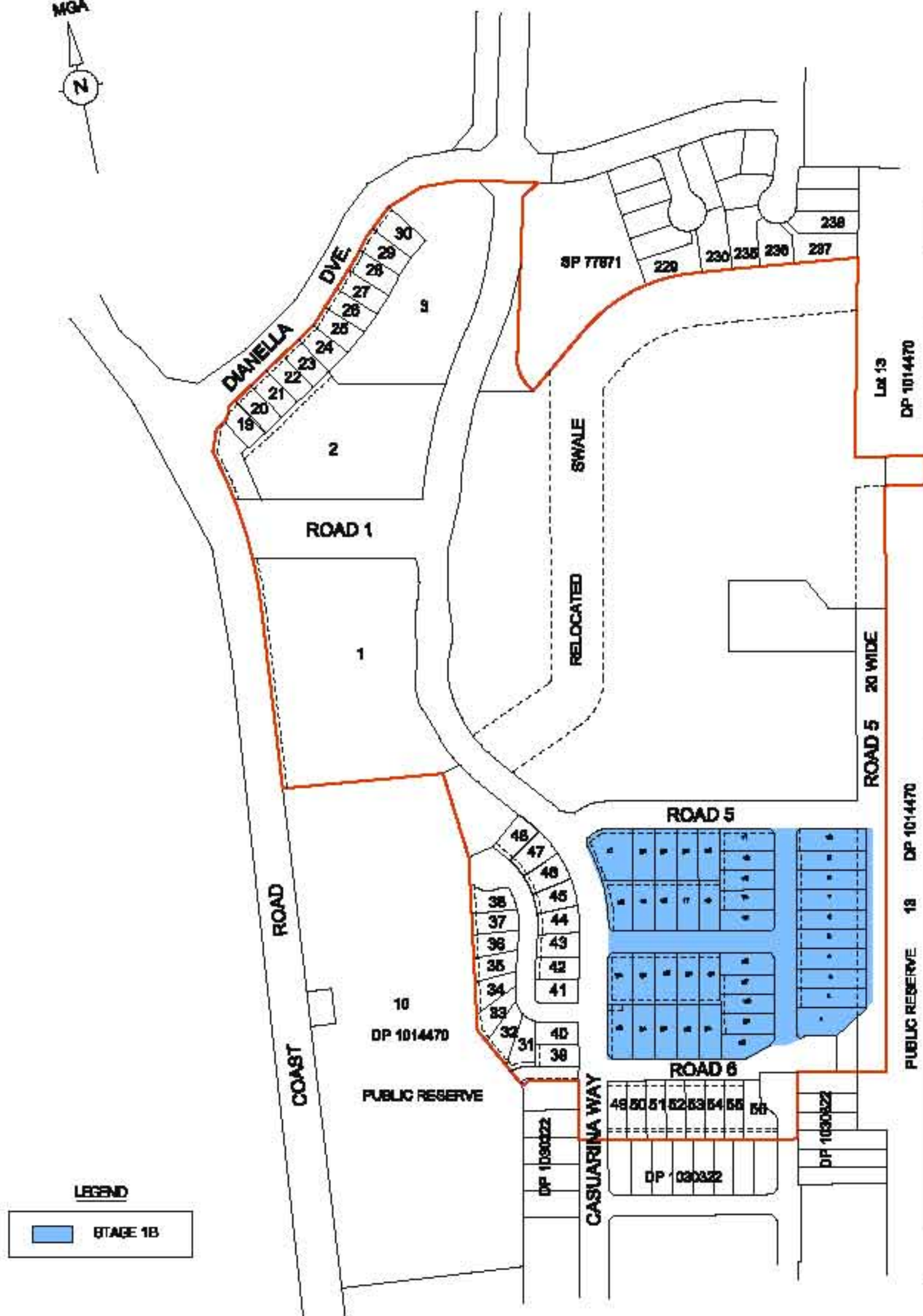
Liamore Casino  
31 Durrigton St. Lismore 2480 100 Brier St. Casino 2470  
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**STAGE 1**  
**SUBDIVISION LAYOUT PLAN**

Date: 17.10.13 Scale 1:3000 @ A3 Ref No. 12/111 B







#### Notes

This preliminary layout has been completed in accordance with the instructions provided by Kings Beach No. 2 Pty Ltd. In this respect, preliminary desktop data has been used to form this layout. The final layout is subject to the completion of a detailed survey & engineering plans. Accordingly, the conclusions reached within this report may be modified by the author upon the completion of the final design plans & site inspection. Newton Denny Chapelle accepts no responsibility for any loss or damage suffered, however arising, to any person or corporation who may use or rely on this report.

Client: KINGS BEACH No. 2 PTY LTD

Location:

CASUARINA TOWN CENTRE  
CASUARINA BEACH

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**STAGE 1B**  
**SUBDIVISION LAYOUT PLAN**

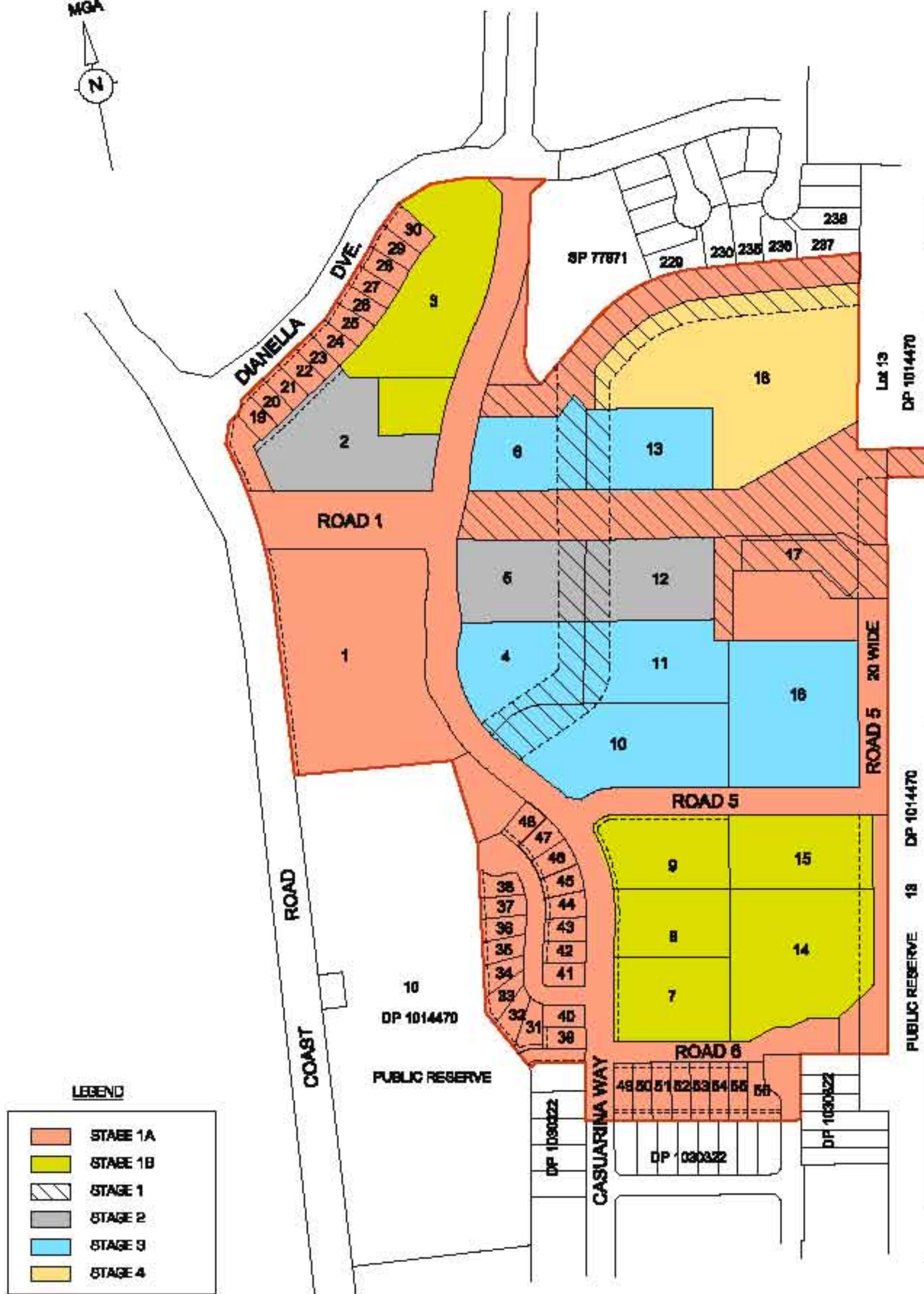
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MGA



Client: KINGS BEACH No. 2 PTY LTD

Location:

CASUARINA TOWN CENTRE  
CASUARINA BEACH

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DEVELOPMENT STAGING PLAN

Date: 17.10.13

Scale 1:3000 @ A3

Plan No. 12/111 B

## **ATTACHMENT 6**

**Engineering Services Report  
Newton Denny Chapelle**

## Engineering Services Report

Casuarina Town Centre  
Proposed Creation of  
40 Torrens Title Residential Lots  
on Lot 57 of Stage 1A  
Casuarina Way, Casuarina

ON BEHALF OF  
CTC MULTIPLE LOTS PTY LTD



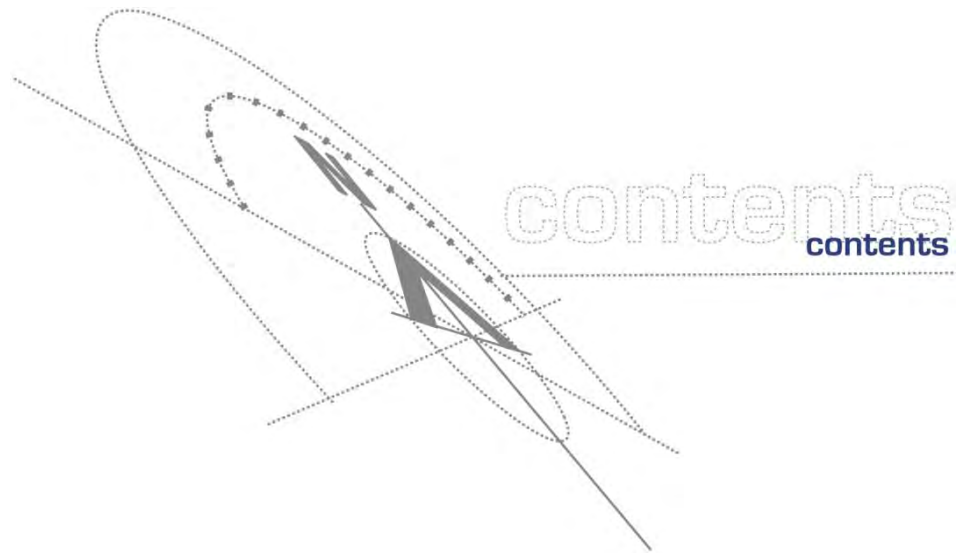
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Date: October 2013

  
**Newton Denny Chapelle**  
SURVEYORS PLANNERS ENGINEERS







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## Appendices

Appendix 1 – Engineering Design Plans

Appendix 2 – Approved Subdivision Staging Plan – Stage 1A

Appendix 3 – Stormwater Management Plans

## Executive Summary

This Engineering Services Report is to accompany an application seeking approval for the creation of 40 Lot residential subdivision upon previously approved Lot 57 within Master Plan Project Approval No. 06-0258 (Mod 4).

The creation of the 40 Lot residential estate is able to be discretely serviced by the infrastructure provided within Stage 1A construction works and can therefore be logically known as Stage 1B works, given it can proceed prior to the undertaking of Stage 2 works.

This report considers the creation of:

- Two new 7m wide paved public roads for access to and within the development, being Road No. 10 and Road No. 11;
- provision of new concrete footpath connections within the development to connect to external pathway network;
- provision of a stormwater network inclusive of infiltration area and GPT device;
- installation and extension of water and sewer mains;
- installation and extension of telecommunications and electrical services;

The new 40 residential lots will access local road networks and require a new connection to the higher order Casuarina Way (collector road). The new intersection to Casuarina Way has compliant Austroads sight lines for urban roads, with greater than 90m available in both directions.

A 1.2m wide concrete footpath shall be provided along all new roads and connect to the external pathway network which run on the permitter frontages of the development site.

Stormwater management for the proposed subdivision consists of using at source treatment of infiltration pits for residences and a ground Stormtech infiltration area in conjunction with a Humeceptor GPT. The stormwater treatment strategy results in achieving compliant water quality outcomes in keeping with the Casuarina Master Plan requirements and fulfils Tweed Shire Council stormwater requirements.

Conventional sewer mains and water mains shall service the site by extension of existing infrastructure.

Electrical and telecommunications supply would be from the existing underground services, with the location of (or requirement for) transformer substations to be determined during the detail design phase of the project.

By providing the aforementioned engineering civil infrastructure, the proposed 40 lot residential subdivision is able to demonstrate that it meets or exceeds the engineering servicing requirements required by Tweed Shire Council.

## 1 Introduction

Newton Denny Chapelle has been engaged by CTC Multiple Lots Pty Ltd to advance the residential development of lands upon Lot 57 of Master Plan Project Approval No. 06-0248 (Mod 4) within Stage 1A of the Casuarina Town Centre. Refer to **Appendix 2 – Approved Subdivision Staging Plan – Stage 1A.**

The proposal provides for the creation of a single stage re-subdivision of Lot 57 into 40 residential lots. The civil works required shall be inclusive of roads and drainage, water/sewer and bulk earthworks.

It is clarified that the proposed 40 residential lots are proposed to be introduced as an additional stage into the Casuarina Town Centre Development given they can be discretely serviced by infrastructure constructed within Stage 1A. These 40 residential lots are referred to as land releases within proposed Stage 1B.

General lot layout details as well as engineering details for the design assessment can be readily referenced within this report via **Appendix 1: Engineering Design Plans.**

Refer to the following *Figure 1.1 – Site Locality* and *Figure 1.2 – Site Context [With Aerial]* for details of the site location and context of the subdivision development area.



**Figure 1.1 – Site Locality**



**Figure 1.2 - Site Context (With Aerial)**

This report focuses upon the providing of sufficient engineering design concepts/details to ensure a thorough understanding of the proposed civil works which are required to service the development. It is recognised that a subsequent submission of detailed engineering design plans and specifications are required to be made pending approval of the development, to which any minor 'adjustments' of design elements are then able to be addressed in a specific manner to meet technical requirements identified during the assessment process.

## **2 Existing Site Conditions**

The development site is located within land boundaries as approved for Lot 57 of Master Plan Project Approval 06-0258 (Mod 4). Construction certificate approvals have been issued for Stage 1A and construction works have begun on site which incorporates:

- New roads and drainage along the south, west and northern frontages of the site,
- Undertaking bulk earthworks to create flat finished surface levels ranging from RL 6.5 to RL 8.5 AHD,
- New water and sewer mains on southern and western boundaries,
- New footpath on southern boundary frontage,

The site is of a sand dune material and has previously undergone a radiation assessment process [refer past report *Detailed Site Radiation Investigation and Remediation Action Plan* (6 Dec 2012 by Cardno)] which did not identify any subsurface radiation areas that required remediation.

Given the extent of construction works currently undertaken, there are no vegetation communities upon Lot 57.

### 3 Traffic Generation and Site Access

#### 3.1 Existing Site Access

Road access to the development is proposed via the existing new roads which are being built as follows:

Southern Boundary – Road No. 6 – 6m wide carriageway within indented parking bays on southern kerb line and footpaths on both sides of road reserve. Refer to *Figure 3.1 Typical Cross Section Road 6 With Parking Bays* below.

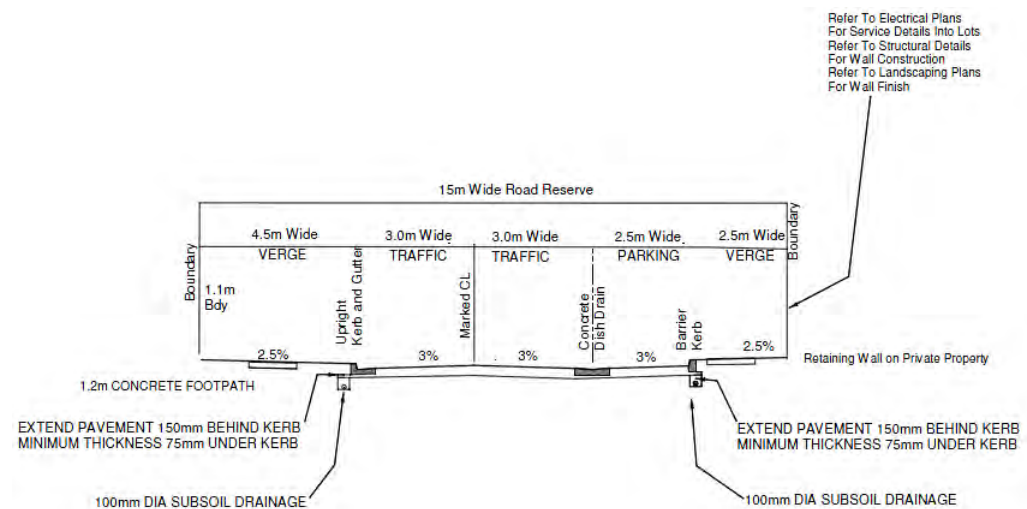


Figure 3.1 TYPICAL CROSS SECTION ROAD 6 WITH PARKING BAYS

Western Boundary – Road No. 2 Casuarina Way – 11m wide carriageway with footpaths on both sides of a typical 20m wide road reserve. Refer to *Figure 3.2 Typical Cross Section Road 2* below.



Figure 3.2 Typical Cross Section Road 2

Northern Boundary – Road No. 5 – 7.5m wide carriageway with footpaths on both sides of a typical 19m wide road reserve. Refer to *Figure 3.3 Typical Cross Section Road 5* below



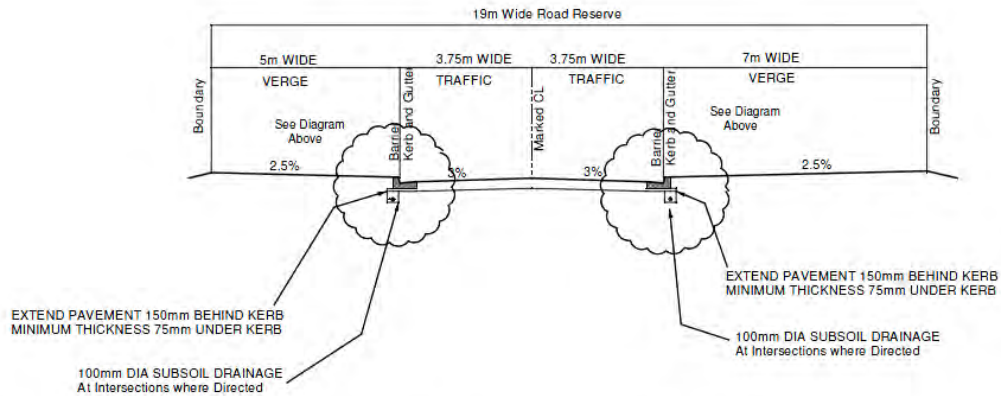


Figure 3.3 TYPICAL CROSS SECTION ROAD 5

### 3.2 Proposed New Accesses

The 40 lot subdivision shall require the construction of two new roads that connect into the existing network. These new roads shall be kerb and guttered, consist of a 7m pavement width and a 1.2m wide concrete within a 15m wide road reserve. Refer to road design details as shown in **Appendix 1 – Engineering Design Plans**.

The new intersection connections have in excess of 90m of sight distance to the major collector road (Road 2 – Casuarina Way) and thereby meet with Austroads Part 4 – *Signalised and Unsignalised Intersections* for a 50kph urban environment. The intersection separation distance is 48m.

### 3.3 Traffic Generation

Peak traffic demands are as per the RTA *Guide to Traffic Generating Developments* which nominates peak hour rates of 0.85 trips per dwelling. Using these rates, the development has a traffic demand as per the following *Table 3.3 – Trip Generation*.

Table 3.3 – Trip Generation

Location	No. of Dwellings (Assumed)	Peak Hour Trips (0.85/dwelling)	Daily Average Trips (7/dwelling)
Road 10	20	17 Trips	140 Trips
Road 11	10	9 Trips	70 Trips
Exist Road 5	5	4 Trips	35 Trips
Exist Road 6	5	4 Trips	35 Trips
<b>Total</b>	<b>40</b>	Say <b>34 Trips/Hr</b>	Say <b>280 Trips/Day</b>

The previous Master Plan land use approvals anticipated a demand for this precinct of 1 unit/130m<sup>2</sup> (2 bedroom unit) to which some 108 units were likely. This equates to a daily trip total of 108 units x 4.6 trips/unit = 496 trips. With the land use conversion from unit development to that of residential Torrens title, there is an inherent reduction in traffic demand in the order of 40%. Given the existing road network was designed to cater for a higher traffic loading, no further modelling/investigation assessment is deemed necessary.



## 4 Pedestrian and Public Transport Accessibility

The proposed subdivision will provide 1.2m wide pathway connections down each new to which will connect to the existing network.

Formal bus stops are located on both sides of Casuarina Way (Road 2) approximately a 160m north of Road 5 which will service the site. These will be operational at the completion of Stage 1A.

## 5 Stormwater Management

### 5.1 Stormwater Requirements and Concept

The stormwater compliance requirements for Casuarina Town Centre was given as part of the original Master Planning Approval No. 06-258 to which the stormwater system required to address:

- Stormwater to discharge westward to Cudgen Creek, for stormwater events up to and including the Q100yr ARI.
- Stormwater to maximise filtration into existing sandy soils.
- Stormwater pipe outlets to have end of line GPT stormwater treatment devices.

It is proposed to treat all stormwater runoff from the new Road No. 10 and 11 and residential areas in accordance with the following strategy to fulfil the master planning:

- (a) The infiltration rate for sizing infiltration devices shall be 6m per day.
- (b) As a minimum requirement, infiltration devices are to be sized to accommodate the ARI 3 month storm (deemed to be 40% of the ARI one year event) over a range of storm durations from 5 minutes to 24 hours and infiltrate this storm within a 24 hour period.
- (c) All roof water shall be discharged to infiltration pits located wholly within the subject allotment.
- (d) Surcharge overflow from the infiltration area to the inter-allotment stub.
- (e) Road stormwater will be captured in conventional gully pits before being directed to a Gross Pollutant Trap for filtering and then to a dedicated subterranean infiltration device (StormTech or similar) sized for the Q3mth event. Surcharge from the infiltration device will then be to the conventional street stormwater infrastructure.
- (f) All infiltration devices will be designed to allow for cleaning and maintenance overhauls.

The design of the stormwater management system will have regard to the requirements of Tweed Shire Council development controls, namely:

- (a) The detailed stormwater management plan (SWMP) be prepared in accordance with Section D7.07 of Councils Development Design Specification D7 – *Stormwater Quality*.
- (b) Permanent stormwater quality treatment shall comply with Section 5.5.3 of the Tweed Urban Stormwater Quality Management Plan and Councils Development Design Specification D7 – *Stormwater Quality*.

- (c) The stormwater and site works shall incorporate water sensitive design principles and where practical, integrated water cycle management. Typical water sensitive features include infiltration, maximising stormwater retention/detention, use of a Gross Pollutant trap, and infiltration devices.

## 5.2 Site Hydrology

Post-development hydrology for the site has been prepared using the Rational Method in order to assess the impact of the final development area.

A standard inlet time of 5 minutes has been used for the Q3mth event (deemed as 40% of the Q1) for all catchments.

As discussed above all stormwater originating from impermeable surfaces on residential lots will be infiltrated for the Q3mth event. An average impermeable area of 400m<sup>2</sup> was adopted for each lot, resulting in a detention volume of 1.8m<sup>3</sup>/lot required to capture the Q3mth event. Total detention volume is 72m<sup>3</sup> (40 lots x 1.8m<sup>3</sup>/lot = 72m<sup>3</sup>). It is proposed to infiltrate residential based stormwater using the Atlantis cell system (or similar) as per **Figure 5.1**.

Flo-Tank®/Matrix®		
Part Number: 70003		
		
Height	450mm	17.71"
Width	408mm	15.94"
Length	685mm	24.4"
Units per m³	8 modules	
Colour	Black	

**Figure 5.1 – Atlantis Cell.**

Detention required the capture the Q3mth event for Roads 10 & 11 has been calculated to be 13m<sup>3</sup> and is proposed to be treated within the StormTech infiltration system (or similar), as per **Figure 5.2**.



**Figure 5.2 – StormTech Infiltration System.**

The post-developed Rational Method is listed below in **Table 5.1**.

**Table 5.1 – Site Catchment Summary**

Catchment	Impervious Area	tc	I <sub>1</sub>	C	Q3month	Q3mth Detention Volume
ID	(m <sup>2</sup> )	(min)	(mm/hr)		(l/s)	(m <sup>3</sup> )
C1*	2870	5.00	130	1	41	13 total
House Lot	400	5.00	130	1	6	1.8/lot

\* 70% impervious of total contributing area (0.7 x 4100m<sup>2</sup>=2870m<sup>2</sup>). C1=C1+C2.

### 5.3 Stormwater Quality Modelling

The water quality treatment for the development has been modelled using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC), in accordance with the Water By Design, *2009 MUSIC Modelling Guidelines for South East Queensland*.

Rainfall characteristics have been sourced from Bureau of Meteorology rainfall historical data taken at the Collangatta Station 40717, with rainfall data period 2003 to 2010, using time intervals of 6 minute time steps. Mean annual rainfall is 1370mm/year and the potential Evapo-transpiration (PET) is 1,336mm/year.

The post development modelling has been undertaken using the urban residential node with both rainfall run-off and pollutant export parameters selected as Urban Residential – Road.

The parameters selected have been taken from Water By Design, *2009, MUSIC Modelling Guidelines for South East Queensland*. The Humeceptor node has been sourced directly from the suppliers with their treatment rates adopted.

The following stormwater quality and treatment objectives (Figure 5.3) have been sourced from the WSUD *Technical Design Guidelines for South East Queensland* – Version 1 June 2006.

- ≥ 80% reduction in total suspended solids load
- ≥ 60% reduction in total phosphorus load
- ≥ 45% reduction on total nitrogen load
- ≥ 90% reduction in gross pollutant load.

**Figure 5.3 – Stormwater Quality and Treatment Objectives.**

### MUSIC Results

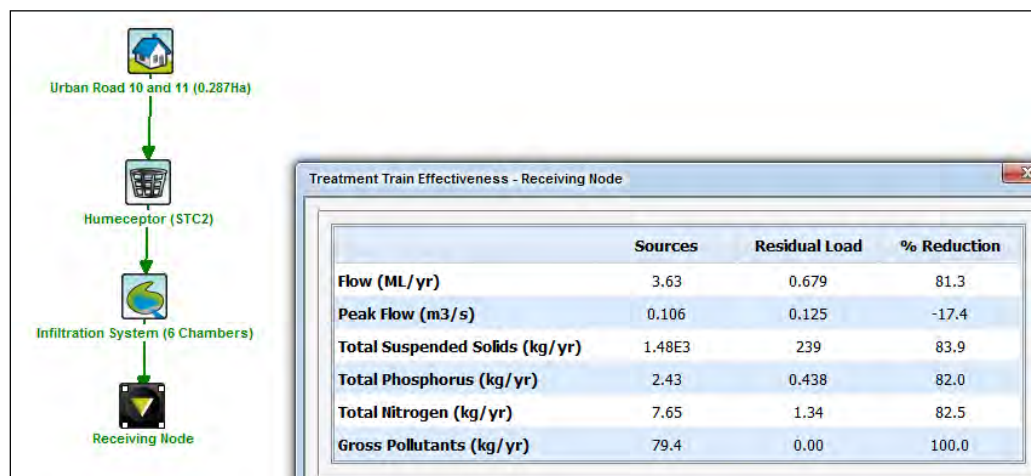
Results of the MUSIC modelling for the subject site are summarised in Table 5.2 for flow based sub-samples and treatment train effectiveness respectively.

**Table 5.2 – MUSIC Treatment Train Effectiveness**

Pollutant	Source (kg/yr)	Residual (kg/yr)	Reduction	Target	Target Met?
TSS	1.48E3	239	83.9	80%	Yes
TP	2.43	0.438	82	60%	Yes
TN	7.65	1.34	82.5	45%	Yes
Gross Pollutants	79.4	0	100	90%	Yes

**NOTE:** All simulations have been run with pollutant export estimation set to “stochastic generation”.

The layout and results used for the developed catchment with proposed treatment system is presented in *Figure 5.4 – MUSIC Model for Treated Developed Case* below.



**Figure 5.3 – MUSIC Model for Treated Developed Case.**

Please note the following:

- Drawing SM1 (**Appendix 3 – Stormwater Management Plan**) shows that given road gradings/fall, a portion of Road 11 stormwater will need to be directed to the existing drainage system within Stage 1A for treatment and ultimate discharge to the west. To overcome any concerns as to nett impact effects on the overall system, the entire area of Road 11 impervious area has been included in the infiltration sizing calculation of the new treatment areas being installed within this application (ie been oversized) so as to offset any impacts upon Stage 1A.
- The Stage 1A (Lot 57 which was previous super Lots 7, 8, 9, 14 & 15) did not identify site specific infiltration areas but rather relied upon external infiltration basins. This proposed development now proposes each individual dwelling to implement infiltration devices. Thereby the quantum of external infiltration basins shown in Cardno Drg DA116 – **Appendix 3 – Stormwater Management Plan** is able to be offset by the additional capacity being created by this proposal.

## 5.4 Stormwater Summary

The site and proposed subdivision are able to achieve compliance with the Tweed Shire Councils Development Design Specification D7 – *Stormwater Quality*, and more generally with the previous stormwater conditions set in the Master Plan Project Approval No. 06-258.

The site achieves the water quality objectives using the following solutions:

- Infiltration of the Q3mth event for each residential lot by providing 1.8m<sup>3</sup> of infiltration (Atlantis Cells or similar) for each residential lot and resulting in 72m<sup>3</sup> of detention volume in total (40 Lots x 1.8m<sup>3</sup> = 72m<sup>3</sup>)
- Roads 10 & 11 infiltration of the Q3mth event will be provided through 13m<sup>3</sup> of subterranean infiltration (StormTech or similar).
- Gross Pollutant Trap (Humeceptor SCT2 or similar).

Refer to **Appendix 3 –SM1: Stormwater Management Plan** for indicative location details of the proposed devices.

## **6 Bulk Earthworks and Geotechnical Matters**

Significant earthworks have previously been undertaken of Lot 57 within Stage 1A Construction Certificate works, to which matters of potential acid sulphate soils and site sub-surface radiation have been addressed.

No retaining wall structures are proposed within the site works, nor are materials required to be imported to attain finish surface proposals.

## **7 Sewer Services**

Sewer services are readily available by connection to existing sewer lines that will be provided during Stage 1A works along Casuarina Way (Road 2) and along the northern boundary of the development lands (Road 5).

Conventional sewer main infrastructure will service the site as shown on *Services Plan* as contained within **Appendix 1 – Engineering Design Plans**.

It is clarified that the previous precincts were anticipated to service some 108 units (say 108 units x 0.6ET = 65 ET) and will now service 40 ET, thereby not exceeding initially proposed capacity requirements for the precinct area.

## **8 Potable Water Reticulation**

A conventional potable water reticulation network is proposed for the development to which a 100mm diameter new water main would be interconnected within the new 40 lot residential development. Refer to *Services Plan* within **Appendix 1 – Engineering Design Plans** for water reticulation details. Similar to the quantum of sewer demand calculation, the 40 ET residential demand does not exceed the initially proposed capacity requirements for the broader water servicing requirements for the precinct.

## **9 Electricity and Telecommunications**

Liaison with Telstra representatives has been on the basis that telecommunications are required to be provided by Telstra in accordance with the Universal Servicing Obligation and Digital Data Servicing Obligation requirements of the telecommunications regulations. That is, once a demand is approved, Telstra has an obligation to ensure the network makes due provision for servicing of the full development to the development sites boundary. The development is required to extend trenching/conduits within site verge to each lot, with design of conduits/pits sized to suit NBN Co specifications.

Underground electrical service will be extended within the verge to service the site. No detailed design has yet been undertaken to ascertain if additional sub-station is required for the development, however final location for such service infrastructure (if required) would be located within an easement in accordance Essential Energy specifications.

## **10 Waste Management Vehicles**

The subdivision would be serviced by conventional 'wheelie' bin arrangements as per current Tweed Shire Council practice. Accordingly, the internal road network configuration permits safe access for a service vehicle to undertake waste collection without the need for any reversing manoeuvres.

## **11 Conclusion**

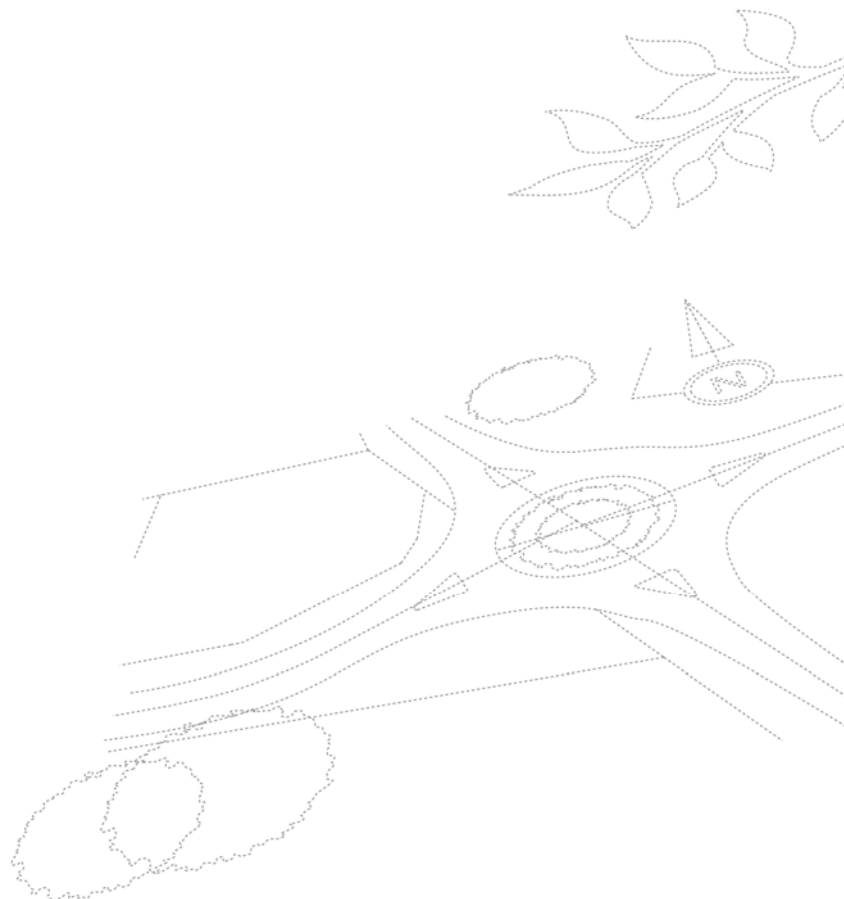
From the analysis of the engineering development requirements, it is considered that the proposed residential subdivision comprising 40 lots and the associated civil works is able to meet Tweed Shire Councils development standards such that:

- a safe and appropriate level of road and driveway access is able to be provided for a residential use;
- pedestrian connections to existing networks are considered;
- Stormwater quality and quantity requirements of Councils Development Design Specification D7 – *Stormwater Quality* are achieved or exceeded;
- the land forms geotechnical characteristic are demonstrated as being able to support residential buildings;
- the site can adequately be serviced by conventional sewer and water infrastructure;
- extension of electrical and telecommunication services are available to service the site.

## APPENDIX 1

### ❖ Engineering Design Plans

- (i) Road, Paths & Parking Layout
- (ii) Services Plan
- (iii) Road 5 Details
- (iv) Road 10 Details
- (v) Road 11 Details







LEGEND

- PROPOSED LOT BOUNDARY
- PROPOSED PATHWAY
- PROPOSED ROAD
- ▨ PROPOSED THRESHOLD
- ▨ PROPOSED CARPARK

Client : CONSOLIDATED PROPERTIES	Amendments :		<div></div> <div>Newton Denny Chapelle</div> <div>Surveyors Planners Engineers</div> <div>Email: office@newtondennychapelle.com.au</div> <div>Lismore Casino</div> <div>31 Carrington St. Lismore 2480      100 Barker St. Casino 2470</div> <div>T: 6622 1011 F: 6622 4088      T &amp; F: 6662 5000</div>	ROAD, PATHS & PARKING LAYOUT		Drawn: CD	
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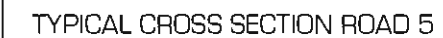




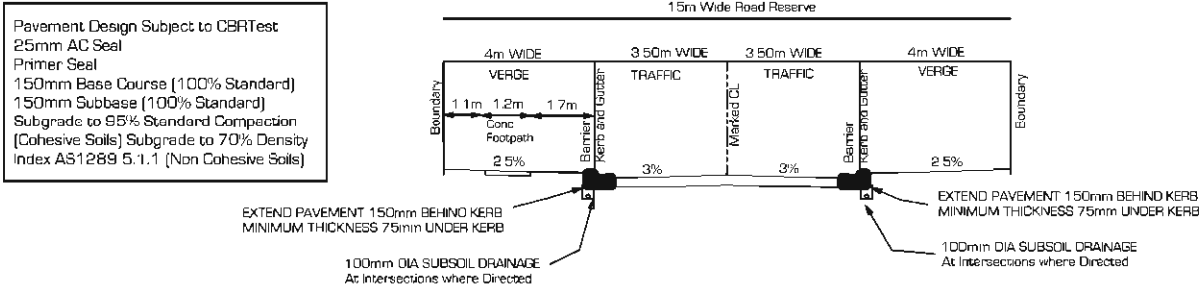
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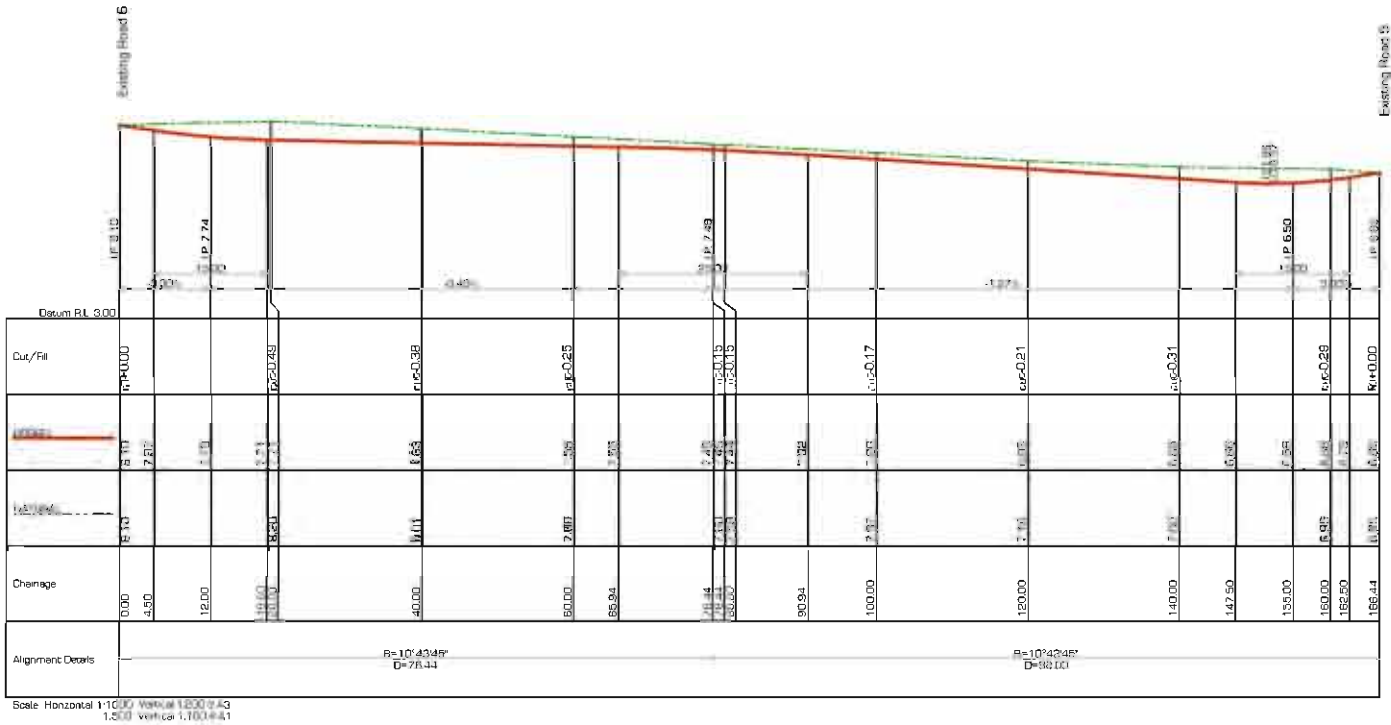
CONTRACTOR IS TO ENSURE THAT ALL KERB  
AND GUTTER GRADES SHALL  
NOT FALL BELOW 0.3% AT ANY POINT  
RESPECTIVE OF ROAD  
CENTRELINE GRADING SHOWN ON  
LONGITUDINAL SECTIONS



Client : CONSOLIDATED PROPERTIES	Amendments :		<div></div> <div>Newton Denny Chapelle</div> <div>Surveyors Planners Engineers</div> <div>Email: office@newtondennychapelle.com.au</div> <div>Lismore Casino</div> <div>31 Carrington St. Lismore 2480      100 Berker St. Casino 2470</div> <div>T: 6622 1011 F: 6622 4088      T &amp; F: 6662 5000</div>	ROAD 5 DETAILS		Drawn: CD
Location :	Date	Changes				
	B					
	C					
	D					
	E					
	F					
CASUARINA TOWN CENTRE				Date: 10.09.13	Scale as Shown	Ref No. 13/169
CASUARINA BEACH						

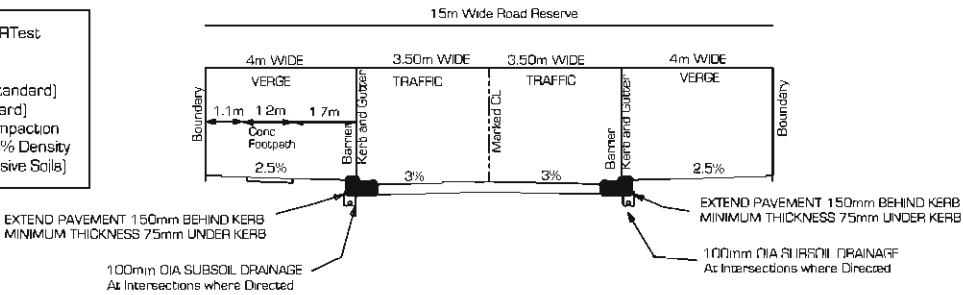


TYPICAL CROSS SECTION ROAD 10  
(LOCAL STREET)

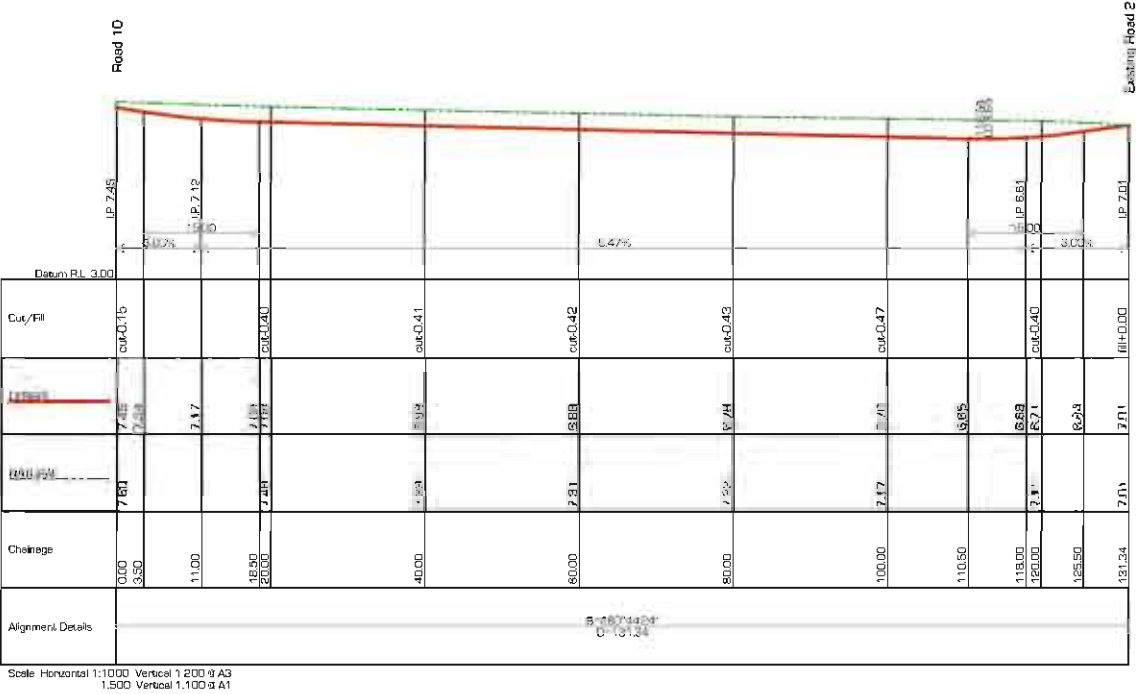




Pavement Design Subject to CBRTes  
25mm AC Seal  
Primer Seal  
150mm Base Course (100% Standard)  
150mm Subbase (100% Standard)  
Subgrade to 95% Standard Compaction  
(Cohesive Soils) Subgrade to 70% Density  
Index AS1289 5.1.1 (Non Cohesive Soils)



TYPICAL CROSS SECTION ROAD 11  
(LOCAL STREET)



LONG SECTION ROAD 11

Client : CONSOLIDATED PROPERTIES	Amendments :		 Surveyors Planners Engineers Email: office@newtondennychapelle.com.au Lismore Casino 31 Carrington St. Lismore 2480 100 Barker St. Casino 2470 T: 6622 1011 F: 6622 4088 T & F: 6662 5000	ROAD 11 DETAILS	
	Date	Changes		Drawn: CD	
Location :  CASUARINA TOWN CENTRE CASUARINA BEACH	B			Date: 26.08.13 Scale as Shown Ref No. 13/169	
	C				
	D				
	E				
	F				



## **APPENDIX 2**

### **Approved Subdivision Staging Plan – Stage 1A**

Master Plan 06 – 0258 (Mod 4)





Issued under the Environmental Planning and Assessment Act 1979

Approved Section 75W Modification Application

No. 4 granted on the 24/04/2013

in respect to MP 06-0258

Signed [Signature]

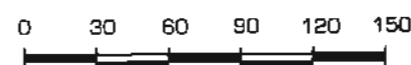
Sheet No. 2 of 3

LEGEND

STAGE 1A

Note:

This preliminary layout has been completed in accordance with the instructions provided by Clarence Property Works. In this respect, preliminary desktop data has been used to form this layout. The final layout is subject to the completion of a detailed survey & engineering plans. Accordingly, the conclusions reached within this report may be modified by the author upon the completion of the final design plans & site inspection. Newton Denny Chapelle accepts no responsibility for any loss or damage suffered, however so arising, to any person or corporation who may use or rely on this report.



1cm = 30m  
1:3000

Client: CLARENCE PROPERTY WORKS

Location:  
CASUARINA TOWN CENTRE  
CASUARINA BEACH

**Newton Denny Chapelle**  
Surveyors Planners Engineers

Email: [office@newtondennychapelle.com.au](mailto:office@newtondennychapelle.com.au)

Lismore

31 Carrington St. Lismore 2480  
T: 6622 1011 F: 6622 4088

Casino

100 Barker St. Casino 2470  
T & F: 6662 5000

**PROPOSED SUBDIVISION STAGING PLAN  
STAGE 1A**

Date: 13.03.13

Scale 1:3000 @ A3

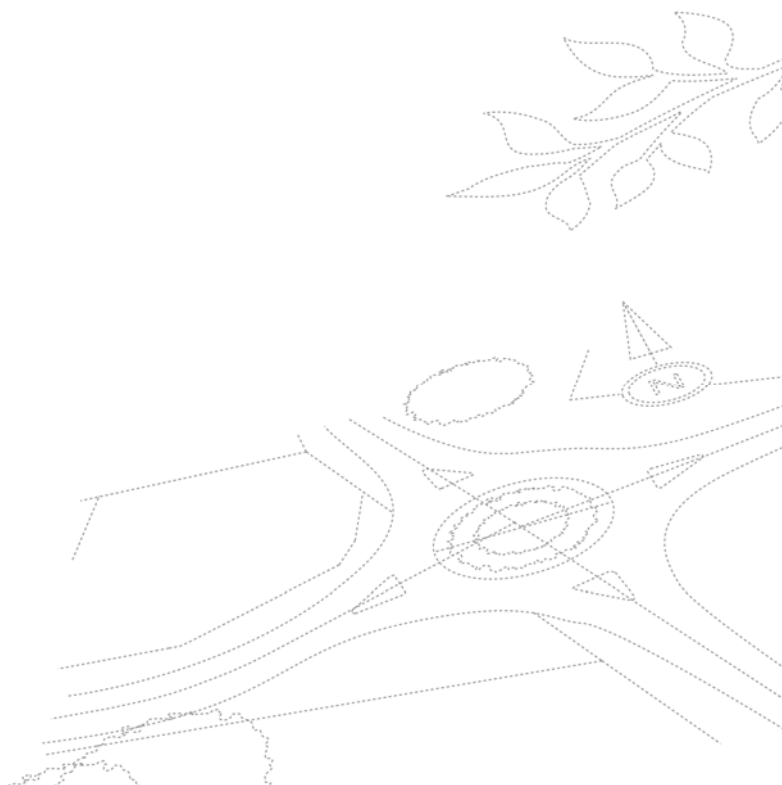
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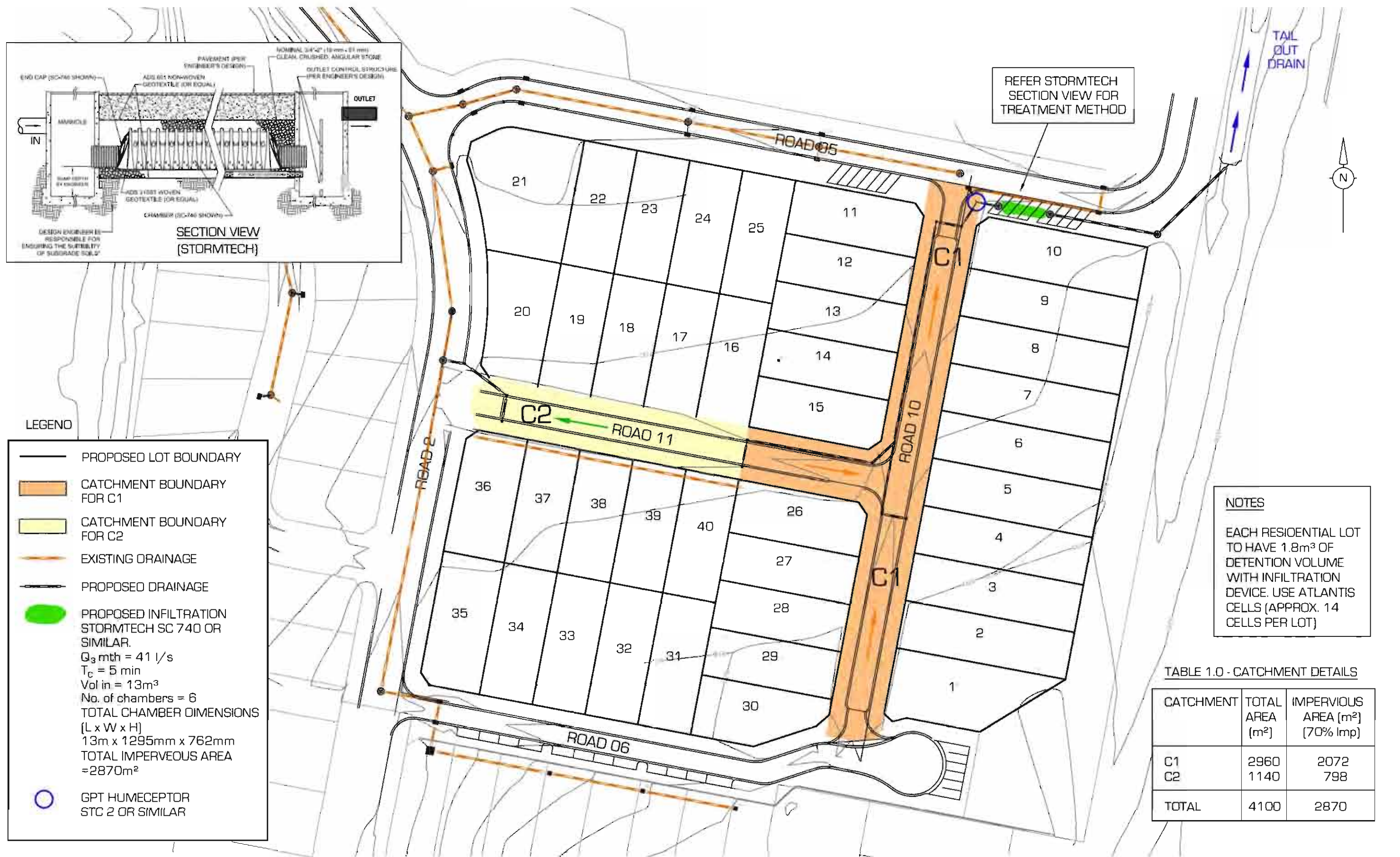
## **APPENDIX 3**

### **❖ Stormwater Management Plans**

- (i) Stormwater Management Plan (SM1)
- (ii) Cardno Drg DA116
- (iii) StormTech SC\_740







Client: CONSOLIDATED PROPERTIES

Location:

CASUARINA TOWN CENTRE  
CASUARINA BEACH

Amendments:

	Date	Changes
B		
C		
D		
E		
F		

**Newton Denny Chapelle**  
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Lismore Casino  
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100 Barker St. Casino 2470 T & F: 6662 5000

SM1 - STORMWATER MANAGEMENT PLAN

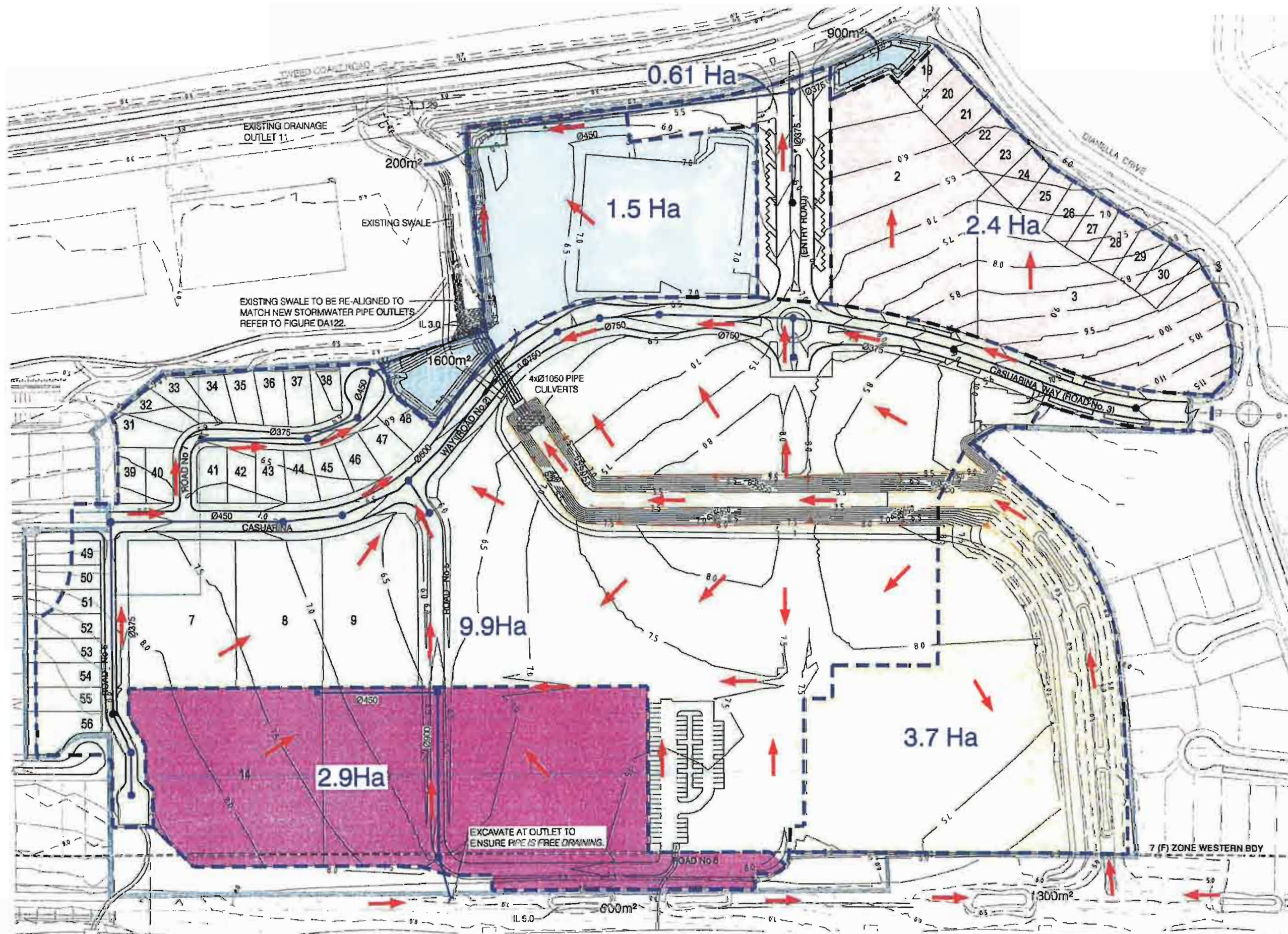
Drawn: CD

Date: 15.10.13

Scale 1:1000 @ A3

Ref No. 13/169





Major Project Number: 06\_0258 Mod 2 approved on 1 July 2011  
by the Director General, as delegate for the Minister for Planning  
& Infrastructure, in accordance with the *Environmental Planning  
& Assessment Act 1979*, subject to conditions of approval.  
Signed: [Signature]

- LEGEND**
- 6.5 — FINISHED CONTOURS
  - PROPOSED STORMWATER DRAINAGE (INDICATIVE LOCATION ONLY. SUBJECT TO DETAILED DESIGN)
  - OVERLAND FLOW DIRECTION
  - INFILTRATION BASINS
  - ATLANTIS CELL
  - 2.97 Ha CATCHMENT AREAS
  - SITE BOUNDARY

20 10 0 20 40 60 80m  
SCALE BEFORE REDUCTION 1:1000

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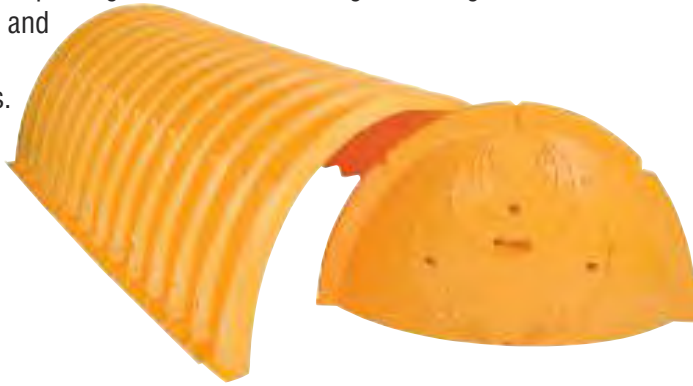
KINGS BEACH (No. 2) PTY LTD		SCALE ~ 1:1000		A1	
CASUARINA BEACH		DATE ~ 18 NOVEMBER, 2010		REV B	
TOWN CENTRE		DRAWING No.			
STAGE 1A SECTION 75W SUBMISSION		7079/4/1-FIG DA116			

**FIGURE No. DA116(18/11/10)**  
**STAGE 1A CATCHMENT AREAS AND DRAINAGE PATHS**



# StormTech SC-740 Chamber

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots thus maximizing land usage for commercial and municipal applications.



## StormTech SC-740 Chamber

(not to scale)

### Nominal Chamber Specifications

#### Size (L x W x H)

85.4" x 51.0" x 30.0"

(2170 x 1295 x 762 mm)

#### Chamber Storage

45.9 ft<sup>3</sup> (1.30 m<sup>3</sup>)

#### Minimum Installed Storage\*

74.9 ft<sup>3</sup> (2.12 m<sup>3</sup>)

#### Weight

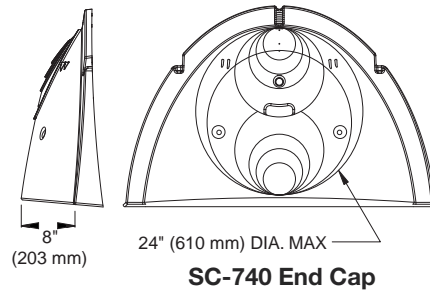
74.0 lbs (33.6 kg)

#### Shipping

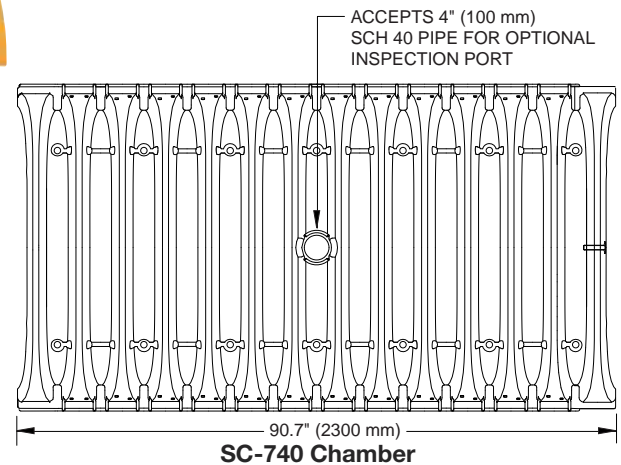
30 chambers/pallet

60 end caps/pallet

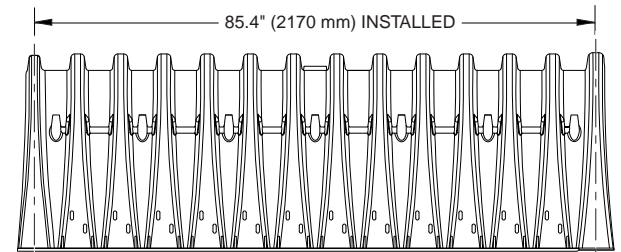
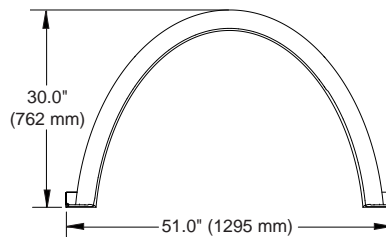
12 pallets/truck



SC-740 End Cap

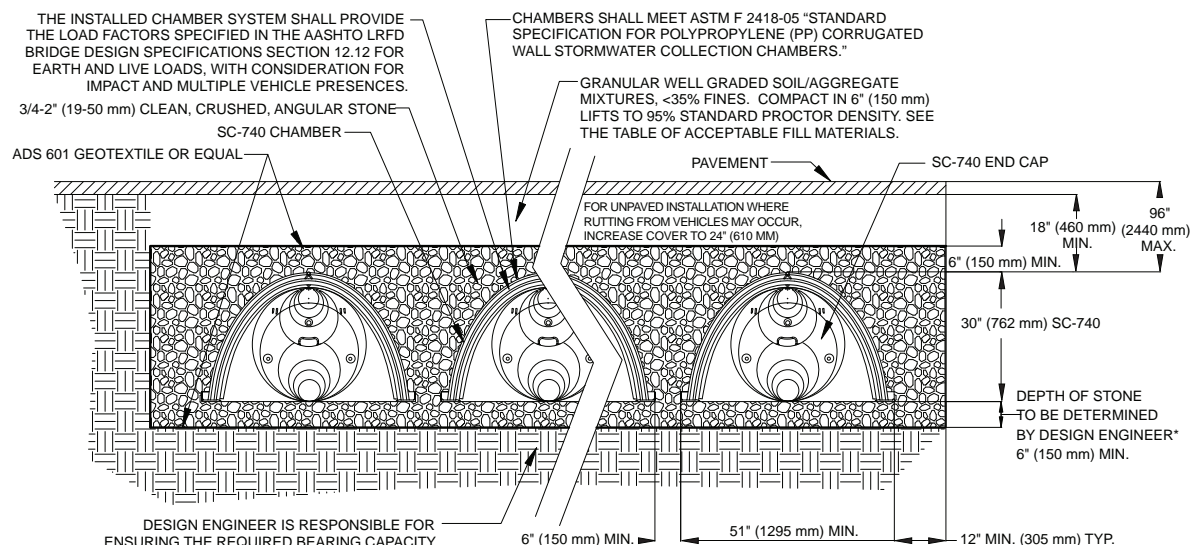


SC-740 Chamber



## Typical Cross Section Detail

(not to scale)



THIS CROSS SECTION DETAILS THE REQUIREMENTS NECESSARY TO SATISFY THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 12.12 FOR EARTH AND LIVE LOADS USING STORMTECH CHAMBERS



## SC-740 Cumulative Storage Volumes Per Chamber

Assumes 40% Stone Porosity. Calculations are Based Upon a 6" (152 mm) Stone Base Under the Chambers.

Depth of Water in System Inches (mm)	Cumulative Chamber Storage Ft <sup>3</sup> (m <sup>3</sup> )	Total System Cumulative Storage Ft <sup>3</sup> (m <sup>3</sup> )
42 (1067)	↑ 45.90 (1.300)	74.90 (2.121)
41 (1041)	↑ 45.90 (1.300)	73.77 (2.089)
40 (1016)	Stone 45.90 (1.300)	72.64 (2.057)
39 (991)	Cover 45.90 (1.300)	71.52 (2.025)
38 (965)	↓ 45.90 (1.300)	70.39 (1.993)
37 (948)	↓ 45.90 (1.300)	69.26 (1.961)
36 (914)	45.90 (1.300)	68.14 (1.929)
35 (889)	45.85 (1.298)	66.98 (1.897)
34 (864)	45.69 (1.294)	65.75 (1.862)
33 (838)	45.41 (1.286)	64.46 (1.825)
32 (813)	44.81 (1.269)	62.97 (1.783)
31 (787)	44.01 (1.246)	61.36 (1.737)
30 (762)	43.06 (1.219)	59.66 (1.689)
29 (737)	41.98 (1.189)	57.89 (1.639)
28 (711)	40.80 (1.155)	56.05 (1.587)
27 (686)	39.54 (1.120)	54.17 (1.534)
26 (660)	38.18 (1.081)	52.23 (1.479)
25 (635)	36.74 (1.040)	50.23 (1.422)
24 (610)	35.22 (0.977)	48.19 (1.365)
23 (584)	33.64 (0.953)	46.11 (1.306)
22 (559)	31.99 (0.906)	44.00 (1.246)
21 (533)	30.29 (0.858)	41.85 (1.185)
20 (508)	28.54 (0.808)	39.67 (1.123)
19 (483)	26.74 (0.757)	37.47 (1.061)
18 (457)	24.89 (0.705)	35.23 (0.997)
17 (432)	23.00 (0.651)	32.96 (0.939)
16 (406)	21.06 (0.596)	30.68 (0.869)
15 (381)	19.09 (0.541)	28.36 (0.803)
14 (356)	17.08 (0.484)	26.03 (0.737)
13 (330)	15.04 (0.426)	23.68 (0.670)
12 (305)	12.97 (0.367)	21.31 (0.608)
11 (279)	10.87 (0.309)	18.92 (0.535)
10 (254)	8.74 (0.247)	16.51 (0.468)
9 (229)	6.58 (0.186)	14.09 (0.399)
8 (203)	4.41 (0.125)	11.66 (0.330)
7 (178)	2.21 (0.063)	9.21 (0.264)
6 (152)	↑ 0	6.76 (0.191)
5 (127)	↑ 0	5.63 (0.160)
4 (102)	Stone Foundation 0	4.51 (0.125)
3 (76)	0	3.38 (0.095)
2 (51)	↓ 0	2.25 (0.064)
1 (25)	↓ 0	1.13 (0.032)

Note: Add 1.13 cu. ft. (0.032 m<sup>3</sup>) of storage for each additional inch (25 mm) of stone foundation.

## Storage Volume Per Chamber

	Bare Chamber Storage ft <sup>3</sup> (m <sup>3</sup> )	Chamber and Stone Foundation Depth in. (mm)		
		6 (150)	12 (305)	18 (460)
StormTech SC-740	45.9 (1.3)	74.9 (2.1)	81.7 (2.3)	88.4 (2.5)

Note: Storage volumes are in cubic feet per chamber. Assumes 40% porosity for the stone plus the chamber volume.

## Amount of Stone Per Chamber

	Stone Foundation Depth		
	6" (150 mm)	12" (305 mm)	18" (460 mm)
ENGLISH TONS (CUBIC YARDS)			
StormTech SC-740	3.8 (2.8 yd <sup>3</sup> )	4.6 (3.3 yd <sup>3</sup> )	5.5 (3.9 yd <sup>3</sup> )
METRIC KILOGRAMS (METER <sup>3</sup> )			
StormTech SC-740	3450 (2.1 m <sup>3</sup> )	4170 (2.5 m <sup>3</sup> )	4490 (3.0 m <sup>3</sup> )

Note: Assumes 6" (150 mm) of stone above, and between chambers.

## Volume of Excavation Per Chamber

	Stone Foundation Depth		
	6" (150 mm)	12" (305 mm)	18" (460 mm)
StormTech SC-740	5.5 (4.2)	6.2 (4.7)	6.8 (5.2)

Note: Volumes are in cubic yards (cubic meters) per chamber. Assumes 6" (150 mm) of separation between chamber rows and 18" (460 mm) of cover. The volume of excavation will vary as the depth of the cover increases.

## STANDARD LIMITED WARRANTY OF STORMTECH LLC ("STORMTECH"): PRODUCTS

- (A) This Limited Warranty applies solely to the StormTech chambers and endplates manufactured by StormTech and sold to the original purchaser (the "Purchaser"). The chambers and endplates are collectively referred to as the "Products."
- (B) The structural integrity of the Products, when installed strictly in accordance with StormTech's written installation instructions at the time of installation, are warranted to the Purchaser against defective materials and workmanship for one (1) year from the date of purchase. Should a defect appear in the Limited Warranty period, the Purchaser shall provide StormTech with written notice of the alleged defect at StormTech's corporate headquarters within ten (10) days of the discovery of the defect. The notice shall describe the alleged defect in reasonable detail. StormTech agrees to supply replacements for those Products determined by StormTech to be defective and covered by this Limited Warranty. The supply of replacement products is the sole remedy of the Purchaser for breaches of this Limited Warranty. StormTech's liability specifically excludes the cost of removal and/or installation of the Products.
- (C) **THIS LIMITED WARRANTY IS EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE PRODUCTS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.**
- (D) This Limited Warranty only applies to the Products when the Products are installed in a single layer. **UNDER NO CIRCUMSTANCES, SHALL THE PRODUCTS BE INSTALLED IN A MULTI-LAYER CONFIGURATION.**
- (E) No representative of StormTech has the authority to change this Limited Warranty in any manner or to extend this Limited Warranty. This Limited Warranty does not apply to any person other than to the Purchaser.
- (F) Under no circumstances shall StormTech be liable to the Purchaser or to any third party for product liability claims; claims arising from the design, shipment, or installation of the Products, or the cost of other goods or services related to the purchase and installation of the Products. For this Limited Warranty to apply, the Products must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and StormTech's written installation instructions.
- (G) **THE LIMITED WARRANTY DOES NOT EXTEND TO INCIDENTAL, CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES. STORMTECH SHALL NOT BE LIABLE FOR PENALTIES OR LIQUIDATED DAMAGES, INCLUDING LOSS OF PRODUCTION AND PROFITS; LABOR AND MATERIALS; OVERHEAD COSTS; OR OTHER LOSS OR EXPENSE INCURRED BY THE PURCHASER OR ANY THIRD PARTY. SPECIFICALLY EXCLUDED FROM LIMITED WARRANTY COVERAGE ARE DAMAGE TO THE PRODUCTS ARISING FROM ORDINARY WEAR AND TEAR; ALTERATION, ACCIDENT, MISUSE, ABUSE OR NEGLIGENCE; THE PRODUCTS BEING SUBJECTED TO VEHICLE TRAFFIC OR OTHER CONDITIONS WHICH ARE NOT PERMITTED BY STORMTECH'S WRITTEN SPECIFICATIONS OR INSTALLATION INSTRUCTIONS; FAILURE TO MAINTAIN THE MINIMUM GROUND COVERS SET FORTH IN THE INSTALLATION INSTRUCTIONS; THE PLACEMENT OF IMPROPER MATERIALS INTO THE PRODUCTS; FAILURE OF THE PRODUCTS DUE TO IMPROPER SITING OR IMPROPER SIZING; OR ANY OTHER EVENT NOT CAUSED BY STORMTECH. THIS LIMITED WARRANTY REPRESENTS STORMTECH'S SOLE LIABILITY TO THE PURCHASER FOR CLAIMS RELATED TO THE PRODUCTS, WHETHER THE CLAIM IS BASED UPON CONTRACT, TORT, OR OTHER LEGAL THEORY.**

