

Landscape Look & Feel



Prepared by



Preferred Project Report: Part 3A Concept Plan 73



Prepared by

terras

Entry Forecourt Landscape Section



Pool Terrace and Foreshore Landscape Section



LANDSCAPE

Prepared by

Plant Palette 1



9

9.34. The landscape theme consists of two plant palettes. The first planting palette is essentially native plants, typically endemic that would be used for the areas where the site interfaces with the adjoining protected foreshore areas. This will allow the development to blend into the existing landscape and minimise any visual disparity.



.EGEND

- Howea forsteriana [Kentia Palm]
 Isolepsis nodosa [Knobby Club Rush]
 Banksia integrifolia [Coast Banksia]
 Livistona australis [Cabbage Tree Palm]

- Asplenium australasicum [Birds Nest Fern]
 Banksia serrata [Old Mans Banksia]
 Pandanus spiralis [Screw Pine]
 Allocasia brisbanensis [Elaphants Ears]







Prepared by

Plant Palette 2

9.35. The second planting palette is a more stylised theme to create using distinctive 'architectural' plant forms that include natives but have a wider range of plant types. All the plants need to be suited to windy exposed conditions with some salt tolerance.



EGEND

- Viburnum odoratissimum [Emerald Lustre]
 Hibiscus tiliaceus 'Rubra' [Bronze Cottonwood]
 Arthopodium cirratum [Renga Lily]
 Senecio serpens [Blue Chalk Sticks]

- Furcraea foetida [Mauritius Hemp]
 Philodendron [Congo Philodendron]
 Dioon spinulosum [Gum Palm]
 Phoenix roebelenii [Pygmy Date Palm]
 Alpinia zerumbet [Shell Ginger]



ROADS, VEHICULAR ACCESS & PARKING

Provide for adequate, safe and efficient vehicular access to and around the site, ensuring adequate provision of parking.

Objective

Guidelines

A number of external intersections have been identified as requiring upgrading as a result of cumulative traffic associated with other traffic growth or anticipated growth in the locality (and other approvals), in some cases including a component of traffic from the Trinity Point Marina and Mixed Use Development. These are now addressed through Council's adopted Section 94 Contributions Plan and also separately by arrangements from other developments. It is expected that development applications will be subject to contributions levied under adopted plans.

Key access and parking principles for the site include:

10.1. Vehicular access to all areas is to be from Trinity Point Drive.

10.2. Main access to the tourist hospitality precinct to be from the proposed roundabout at the northeast nodal point of Trinity Point Drive. No general vehicular access is proposed to the east of this nodal point. Within the tourist hospitality precinct, a two-way driveway connection along the western boundary connects the public Trinity Point Drive to the car park below the landscaped podium and the atgrade marina car park at the northern tip of the precinct.

10.3. Main access to the tourist residential accommodation precinct is to be from three access points along the north-south length of Trinity Point Drive parallel to the western boundary of the site. 1 entry from the roundabout and 2 two way entries off Trinity Point Drive connect to the internal road/accessway. Vehicular entry to the basement car parking (located beneath the accommodation buildings) is via three separate ramps.

10.4. Bus stop to be provided and constructed as part of adjacent residential subdivision for dual purpose of general public transport and tourist bus stopping (time limited).

10.5. Development applications are to integrate other functions such as pedestrian pathways, parking and landscaping.

10.6. This access maintains the primacy of the pedestrian links across the site and conforms to the proposed planning philosophy of buildings sited in a landscape setting.

10.7. Parking numbers to be provided on site to address relevant Development Control Plans and comply with AS 3962-2001 (Guidelines for the Design of Marinas). Specifically for the marina (berths, marina operations, management and administration areas and marina lounge / amenities), parking is to be provided at a rate of 0.3 spaces per berth, plus 0.5 per FTE staff member. Additionally, where it is provisions may be reduced.

10.8. A Parking Management Strategy should be prepared to manage parking on site, including during peak events within the marina and tourist hospitality precinct.

10.9. The proposed development is to make appropriate provisions for service vehicles including the delivery of goods and collection of garbage, taking into account swept path requirements of those vehicles.

vehicle crossing points.

demonstrated that vehicle parking will be used to access a variety of activities within the development, or that relevant DCP rates are inappropriate, the total parking

10.10. The approved Trinity Point Drive road carriageway along the western site boundary is to be investigated for parking given the length available due to limited

10 ROADS, VEHICULAR ACCESS & PARKING





Indicative Primary Purpose of Parking

 Dual Use (residential and short stay)
 Short Stay
 Tourism & Hospitality
 Marina / Retail and other uses
 Above ground parking. Indicative allocations are subject to dual-use, similar across development uses, phasing, and separate development applications.

Figure 61

Parking spaces.

Ensure stormwater runoff is managed to limit impacts on the receiving environment.

Objective

Guidelines

Stormwater Management Plans are to be provided with Development Applications, incorporating the following measures:

11.1. Adopt a best practice water sensitive design approach, focusing on preventative and source controls where possible.

11.2. Provide rainwater harvesting and bio-filtration swales as part of overall stormwater strategy (where deemed appropriate). Residential accommodation to achieve water efficiency targets as required by BASIX.

11.3. Fuel storage tanks are to be designed according to authority requirements including double skinned tanks.

11.4. All potential contaminants and their collection systems must be located so they are adequately protected from entering the lake during a 1 in 100 year flood event, plus sea level rise. This includes, but is not limited to, things such as fuel, oil separators and the like.

11.5. Implement a water quality monitoring program during construction and for three years of marina operation (for marina only).

11.6. Design and install sediment and erosion control structures during construction according to an erosion and sediment control plan.

11.7. Incorporate overland flow paths as necessary.

11.8. In addition to the above, the following broad stormwater management strategies should also be considered:

11.9. Reduce the extent of paved surfaces to maximise landscape opportunities. The reduced impervious services minimises the impact upon the catchment hydrology and reduces potential sources of waterway pollutants. Additionally, source controls including rainwater harvesting, gross pollutant traps and bio-filtration swales are to be proposed as part of an overall water quality strategy.

11.10. Consider acid sulphate soils management, in line with a management plan, in design and construction methodologies.

11.11. Consider groundwater implications in design and construction methodologies.

Preferred Project Report: Part 3A Concept Plan 79

FLOODING

Ensure that the proposed buildings consider and design for the effects of flooding.

Ø

12

Objective

Locate buildings above flood level, with flood level to be determined with regard to sea level rise through climate change.

Guidelines

12.1. Flood planning levels have been devised taking into account frequency, still water level, wave action, potential climate change impact and design life of various components of the site.

12.2. In complying with Lake Macquarie City Council's (LMCC) Waterway Flood Risk Management Study and Plan (June 2012), the proposed minimum flood planning levels, which include a 500mm freeboard, are:

- On-grade marina car park: 1.23m AHD
- Marina office, shops and commercial: 2.36m AHD.
- Hotel foyer and hotel/marina/other uses car park: 2.36m AHD
- Tourist hospitality basement car park entry: 2.82m AHD
- Restaurant: 2.82m AHD
- Accommodation habitable floor levels: 2.82m AHD.

12.3. Where necessary, Development Applications relating to the tourist hospitality precinct (including the parking underneath the podium) and marina components of the project are to document broad sea level rise adaption measures and strategies available and how they have been, or can be, incorporated for the undercroft car parking, this includes a flood gate in one location to provide adequate protection whilst facilitating a desirable pedestrian connection between the car park and land uses.

12.4. Appropriate evacuation strategies and draft evacuation plans across the marina and tourist hospitality precinct are to be prepared and submitted with relevant development applications. Flooding in Lake Macquarie is governed by long duration rainfall events, hence a 2 to 4 day time to peak would be expected. Allowing sufficient time for flood preparation and excavation measures to be undertaken.

Adaptive Management in Response to Climate Change

12.5. Evacuation routes to be defined above the anticipated PMF level in 100 years.

12.6. Adoption of shorter design life for structures with adaptive capability and higher acceptable flood risk such as marina piles and marina access walkways. Piles can be extended to accommodate rising sea levels and therefore flood levels over time.



SERVICES & WASTE MANAGEMENT

To provide adequate utility infrastructure including provision for handling waste to cater for the demands of the development.

Objective

Guidelines

Development applications are to incorporate the following measures:

13.1. Utility infrastructure including water, sewer, electricity, telecommunications and gas is to be extended to the site.

13.2. Services and waste collection points to be supplied throughout the development.

13.3. Waste for the tourist hospitality precinct is to be collected from the loading bay at the northern end of the site, as well as internally within the basement car park.

13.4. Waste from the tourist residential accommodation precinct will be collected from the internal accessway within the accommodation zone.

13.5. Provide adequate on-site storage opportunity for waste and recycling streams commensurate with the land use types and provide adequate arrangements for regular collection (including marina).

13.6. All chemical and fuel storages are to be designed and operated in accordance with Information Sheets 5 and 6 DECC's Environmental Action for Marinas, Boat sheds and Slipways (June 2007).

13.7. A waste management plan to be prepared to address the building construction and operational phases of development.

13.8. Full details will be provided in any future waste management plans for specific areas.

Preferred Project Report: Part 3A Concept Plan 81

MARINA

To provide a Marina

Objective

Guidelines

14.1. Stage 1 of the marina (divided into substages 1a and 1b) will consist of a maximum of 94 berths with part of the floating breakwater as required. Subsequent stages of up to 94 additional berths may proceed subject to a range of strict assessment triggers to be outlined in any Concept Plan or subsequent approval (see also Principle 19). Other land based marina functions will also occur without being limited to specific staging of the water-based marina.

14.2. The proposed 188 berth marina being constructed in stages (up to 5 stages across the full marina with a 94 berth 'hold point' as defined in the Concept Approval) as conceptually identified in Figure 62 and being designed to meet AS 3962-2001 "Guidelines for Design of Marinas".

14.3. The proposed Marina will provide for boats predominantly up to a maximum length of 20m, with the option to provide up to two berths for boats between 20-30m length with a maximum draught of 1.9m generally in locations as shown in Figure 63. No dredging is permitted to facilitate the berthing of any vessels

14.4. NOTE: The berthing of boats with a draught in excess of 1.9m in the locations identified in Figure 63 in Principle 14 may be permitted if it can be demonstrated that these vessels can safely pass through the Swansea Channel.

14.5. The proposed Marina will be connected to the shore based components in a manner than does not unreasonably restrict public access along the foreshore. Structures crossing the narrow fringing seagrass, to be constructed with open grating to limit shading impacts.

14.6. The proposed Marina to be protected by an outer floating Breakwater

14.7. The proposed Marina is to include a landward floating boardwalk parallel to the foreshore. That boardwalk and its connections to the foreshore, are to be publicly accessible.

14.8. Marina arms to consist of floating pontoons.

14.9. Provision being for casual public berthing (as part of each stage including temporary provision in Stage 1a) and provision made for occasional berthing of tourist boats on outside eastern edge of the breakwater. This berthing is in addition to the maximum 188 berths of the marina and can be under the care and control of the marina but to be made available for casual public berthing

14.10. Vessel exclusion zone to south of southern breakwater to protect extensive sea grass areas, if required by authorities.

14.11. Berths to be provided with water, power and lighting services.

information and signposted on the wharf.

maintenance facilities.

phase of the water and land based marina development.

include operational management of the facility.

principles, this Principle 14 prevails).

- 14.12. Marina to include required fire fighting equipment plus public fuel and sewage pump out within Stage 1a. Double skinned fuel storage tanks to be provided on land.
- 14.13. Maximum draughts for the fuel facility are to be communicated with marina
- 14.14. No dredging required with marina designed to existing water depths, with tubular steel piles used throughout construction to reduce seabed impact.
- 14.15. Associated land based facilities including marina facilities and services and service infrastructure, as well as mixed use development and parking (refer other components of Concept Plan, including flood planning). At grade marina carpark forms part of concept approval, replacing the deleted vessel hardstand and repair/
- 14.16. A water quality monitoring program is to be developed for the construction
- 14.17. Construction Environmental Management Plans are to be prepared (water guality, erosion and sediment, noise, acid sulphate soil management and the like).
- 14.18. Operational Environmental Management Plans are to be prepared, to also
- 14.19. (Note: In the event of an inconsistency between this Principle and other site



MARINA

14





MARINA

14









ACOUSTICS

Ensure that the proposed development does not have an unreasonable acoustic impact on the surrounding locality and on future occupants of the site.

16

Objective

Guidelines

Proposed development is to incorporate the following measures:

16.1. Comply with relevant noise criteria outlined in the acoustic report Acoustical Criteria Trinity Point Marina & Mixed Use Development, dated August 2014 prepared by The Acoustic Group for all aspects of the proposed development. It considers relevant components of Condition B5 Acoustic Principle amendments with updates to match current guiding documents.

16.2. The relevant EPA project specific noise criteria for the entire development (other than liscenced premises) are set as per Table 7

Table 7: Project Specific Noise Criteria

| Assessment Area | Noise Descriptor | Time of Day | | | |
|-----------------------------|--|-----------------------|----------------------------|---|--|
| | | Day (7am - 6pm) | Evening (6pm - 10pm) | Night (10pm – 7am) | |
| Brightwater (Logger 3) | Intrusive Noise Objective dB(A)L _{eq(15 min)} | 37 | 37 | 35 | |
| | Amenity Noise Objective dB(A)L _{eq(Period} | 55 | 45 | 39 | |
| | Sleep Disturbance Criteria | N/A | N/A | 49 (10.00- midnight) 45 (midnight to 7am) | |
| | Construction Noise | 42/75 | 42 | NA | |
| Morisset Park (Logger 4) | Intrusive Noise Objective dB(A)L _{eq(15 min)} | 40 | 39 | 38 | |
| | Amenity Noise Objective dB(A)L _{eq(Period} | 50 | 45 | 40 | |
| | Sleep Disturbance Criteria | NA | NA | 48 (10.00- midnight) 43 (midnight to 7am) | |
| | Construction Noise | 45/75 | 39 | NA | |

3.26. Office of Liqour, Gaming and Racing (OLGR) criteria will apply to individual licensed premises and not the entire development, and those components require different assessment to be addressed in development applications that contain licensed premises (noting that accommodation areas within the development may not be subject to OLGR criteria for licensed activities and not 'affected residential boundary'. On the basis of maintaining the overall noise targets, intrusive noise targets for individual components of the development have been determined as per Table 8.

Table 8: Intrusive Noise Targets for Project Stages

| Assessment Area | Component | Time of Day | | | | |
|---------------------------|--|-----------------------|----------------------------|-------------------------------|------------------------------|--|
| | | Day (7am - 6pm) | Evening (6pm – 10pm) | Night (10pm - midnight) | Night (midnight - 7am) | |
| Brightwater (Logger 3) | Overall Intrusive Noise Objective dB(A) L _{eq(15 min)} | 37 | 37 | 37 | 35 | |
| | Commercial (including function centre, restaurants and cafe) | 32 | 32 | 32 | 30 | |
| | Hotel and Serviced Apartments | 31 | 31 | 31 | 29 | |
| | Marina and associated retail | 31 | 31 | 31 | 29 | |

16.3. Further detailed acoustic reports demonstrating ability to achieve compliance with the established noise criteria and ameliorative measures to be included with future development applications. This is to include assessment of impacts on the adjoining developing residential estate.

16.4. A Construction Noise and Vibration Management Plan is to be prepared prior to construction activity commencing.

16.5. An Operational Noise Management Plan is to be prepared for relevant components of projects as a condition to subsequent development consents.

Noise assessments which accompany the marina project component (those which are covered by the need for an Environmental Protection Licence) are to specifically provide data analysis on the assertions relating to ambient noise, explain differential between day and evening / night periods, justify vessel sound power levels used, include a sleep disturbance assessment and consider noise from refuelling and sewage / sullage pump out operations.



SUSTAINABLE DEVELOPMENT

To ensure that the proposed development adopts appropriate sustainability measures.

Objective

Guidelines

Proposed development should incorporate the following sustainable practices and measures:

17.1. Relevant components of the proposed development are to be designed to meet the orientation, solar access, sun protection and cross ventilation principles of SEPP 65.

17.2. Relevant components of the proposed development being designed to meet the requirements of Section J of the Building Code of Australia.

17.3. Relevant components of the proposed development meeting the requirements of BASIX and the relevant certificate being included with the development application for each stage.

17.4. The proposed development being designed and operated to minimise the emission of greenhouse gases.

17.5. The proposed development complying with the stormwater harvesting and reuse requirements of relevant requirements.

The proposal aims to minimise its impact on the environment by adopting the following sustainable design practices:

17.6. Optimising building orientation to maximise access to natural light and sunlight where desired

17.7. The design and incorporation of sun shading elements such as the considered placement of overhangs

- 17.8. Rainwater harvesting
- 17.9. Bio-swales
- 17.10. Maximising cross ventilation through the buildings
- 17.11. Section J compliance to be achieved at Construction Certificate stage
- 17.12. The use of low maintenance materials
- 17.13. Optimising thermal efficiency through the considered selection of materials and finishes
- 17.14. Extensive landscaping and deep soil throughout the site
- 17.15. Natural ventilation to the basement car park where possible
- 17.16. Sustainable disposal and waste management of construction materials



Figure 64 - Single Aspect

Reference: Steve King, Optimising ventilation and solar access, NEERG Seminars.

ventilation patterns. The illustration is of a typical south facing one-bedroom unit on an upper floor, subject to southerly summer winds relatively common in Sydney. through the use of recesses and protrusions in the facade.





Dual aspect apartment showing cross ventilation paths.

Decreased local pressure on leeward side of facade element

Increase local pressure

Variations in facade pressure distribution and the resultant Cross ventilation is achieved in single aspect apartments

SUSTAINABLE DEVELOPMENT



Figure 66

Potential arrangement of single and dual aspect apartments on a typical accommodation floor. All apartments achieve cross ventilation.

- Single aspect apartments achieving cross ventilation.
- Dual aspect apartments achieving cross ventilation.

Preferred Project Report: Part 3A Concept Plan 87

_

7 SUSTAINABLE DEVELOPMENT



Figure 67 Potential Arrangement of apartments satisfying 3 and 2 hour solar access requirements.

Dual apart requi



_

Dual use permanent and short stay residential apartments receiving 3 hour solar access requirements.

Dual use permanent and short stay residential apartments receiving 2 hour solar access requirements.



INDIGENOUS & EUROPEAN HERITAGE

To incorporate appropriate Indigenous and European heritage management.



Objective

Guidelines:

INDIGENOUS HERITAGE **Community Consultation**

The ongoing consultation and involvement with the development of the project shall be carried out with the Aboriginal community as represented by the Biraban and Bahtahbah Local Aboriginal Land Councils and the Awabakal Descendants Traditional Owner Aboriginal Corporation and the Awabakal Traditional Owner Aboriginal Corporation as primary stakeholders. Additional stakeholders may be availed of information as requested, and their opinions documented in the Aboriginal Heritage Management Plan.

Aboriginal Cultural Heritage Management Plan (ACHP) and Heritage Interpretation Policy

Development is carried out in accordance with an Aboriginal Cultural Heritage Management Plan and an Interpretation Policy prepared for the whole site. It shall be prepared by the proponent.

The Aboriginal Cultural Heritage Management Plan is to be a guiding document that outlines required policies and procedures. The Heritage Interpretation Policy is to be prepared and detailed to enhance the Cultural Heritage Management Plan. They are to be prepared to meet the following criteria:

18.1. Developed in conjunction with the Aboriginal community and be based on historical data, cultural knowledge and archaeological evidence specific to Trinity Point;

18.2. Provide procedures for ongoing Aboriginal consultation and involvement and management of any recorded sites within the Concept Plan area;

18.3. Provide the framework for further archaeological investigations and/or salvage projects prior to impact and provide the framework for identification and management of previously unrecorded sites (excluding human remains);

18.4. Provide a framework for the interpretation of the Aboriginal values and heritage of the site to the general public, for incorporation into overall site interpretation and into development details. This may be presented in different ways including interpretation/history devices and the display of artefacts in secure cases included within the development's interpretation/landscape strategies.

proposal on Aboriginal heritage;

the foreshore setback where possible;

2008;

visitation;

for various stages of the project.

Onsite Heritage Interpretation and Management

The foreshore pathway:

access control.

edge.

Building Setback:

18.13. Provide setback of buildings from Bluff Point to allow for space to enable some preservation of in-situ deposits, and as space for interpretation.

18.5. Specify policies and actions required to mitigate and manage impacts of the

- 18.6. Provide policies and measures for active conservation of in-situ deposits in
- 18.7. Be based on the recommendations of the Insite 'Trinity Point Marina Mixed Use Development Morisset Peninsula NSW, Archaeological Assessment' 30 October
- 18.8. Provide measures for providing interpretation within the publicly accessible areas and protect parts of the lake foreshore land from additional increased
- 18.9. Clarify the proponent's and future owners' responsibilities, financial obligations and commitments to implementing the ACHP and Interpretation Policy;
- 18.10. Include timeframes for implementation of the developed policies of the ACHP
- 18.11. Provide controlled public access and Heritage Interpretation primarily on site away from the more sensitive south-eastern lake shore, where sensitive aboriginal features have been observed. This is to allow them to remain in-situ without development impact. Any proposals within the reserve in those locations will be subject to additional impact assessment including measures to provide additional
- 18.12. Retain the siting of the proposed foreshore pathway for public access within the Concept Plan / tourism zoned land on the south-eastern lake shore to address community concern about impacts of increased visitation to the sensitive foreshore



INDIGENOUS & EUROPEAN HERITAGE

Salvage Excavations

18.14. Salvage excavations are to occur where there is potential for intact deposits to remain and where development footprint is to occur. This is to be limited to an additional 50m² in two 25m² excavation areas. Whilst the deposits will not be stratified, the analysis of those excavations in combination with others in the adjoining residential subdivision can provide a landscape analysis of the site for use in the recommended Interpretation Policy. It will add valuable information to the archaeological record of the Lake Macquarie Area.

Grader Scraps

18.15. Grader scraps prior to topsoil stripping and earthworks, only in the northern part of the site, is to be undertaken by the Aboriginal community or as determined through AHIP process. Any artefacts found during this monitoring and in the salvage excavations are to be recovered for relocation by the Aboriginal community in accordance with DECC guidelines.

Site Protection

18.16. Measures of precaution shall be implemented by the proponent to include precautions within the development proposal to ensure the recorded sites in the lake shore area are not impacted, destroyed or damaged by construction works regardless of ownership or management of the land.

NON-INDIGENOUS HERITAGE

Development is carried out in accordance with an adopted Heritage Interpretation Policy and Implementation Plan and for the whole site the subject of this Concept Plan. It is to be prepared by the proponent and is to address the proponent's and future owners' responsibilities, financial obligations and commitments for implementation of these policies.

Heritage Interpretation Policy

18.17. An Interpretation Policy and Implementation Plan and Management Plan is to be prepared by the proponent and adopted, drawing from the information in past historic research and heritage / archaeological assessments and investigations. The interpretation policy is to provide a framework for interpretation of the European use of the site to the general public, for incorporation into overall site interpretation and into development details.

18.18. Interpretation of the grotto and the stone base sundial near Bluff Point is to be included in this policy and its management strategies.

Earthworks

18.19. Monitoring of particular earthworks is to occur in the southern part of the site in the general area of the Bailey residence to record any peripheral infrastructure.

18.20. A management plan is to specify measures for in-situ conservation and management of the grotto and the stone base sundial near Bluff Point and specify protective measures whilst development is occurring within their vicinity.

Landscaping

18.21. Existing cultural planting near Bluff Point are to be retained and managed. Interpretation of these cultural planting is to be incorporated. This is to be addressed in the Interpretation Policy.