YOUR REF: PDR 15510
OUR REF: OP 3546/2009 (767840)

22 February 2016

PDR Engineers
PO Box 2551
CAIRNS QLD 4870

Attention: Alan McPherson

Dear Sir

INFORMATION REQUEST FOR OPERATIONAL WORKS (CODE ASSESSMENT) - STAGES 4B & 4C OCEAN BREEZE ESTATE (25 LOTS) – LOT 905 COOYA BEACH ROAD - BONNIE DOON

After a preliminary examination of the above application, the following information is required in order to complete an assessment of the proposal:

Roads

1. In locations where the road is being retained and widened, please confirm the existing pavement on Cooya Beach Road is fit for purpose for the new use as a residential street. Advice on pavement thickness is required. Please confirm that a full AC overlay will be provided to the road to ensure it is of a residential street standard per FNQROC.

Stormwater drainage

2. Please provide an updated master plan for the development. The master plan must show how the infrastructure proposed for Stage 4B and 4C relates to the overall system. Particular emphasis is placed on the downstream system from A10 to the major drainage path in the north west corner. In addition, the capacity and tenure of flow paths from the Julaji Close cul-de-sac is to be confirmed.

3. Please provide stormwater infrastructure capable of safely containing and conveying the 1 in 100 year ARI (1% AEP) flows from the external catchment A1. Council does not accept the diversion of this catchment to the south due to implications on downstream catchments. Please also advise how the extent of Catchment A1 has been assessed given the footprint of the catchment is not consistent with previous master planning documents provided to Council.

4. The design includes a minimum road longitudinal gradient proposed for Julaji Close of 0.4%. Please provide advice on the reasoning behind reducing the grade below the minimum desirable grade of 0.5%. Please advise why the road should not be designed at 0.5% including what impacts are deemed undesirable.

5. Please also advise the approach flow capacity for the minor event for catchment A2 flows assessed for the proposed road grade to confirm compliance with QUDM flow width and depth requirements.

6. Pipe gradients of 0.3% are proposed in the submitted design. Please confirm (with longitudinal sections and calculations) that the minimum pipe velocities for self-cleansing are achieved; that is, the minimum velocities are greater than recommended by QUDM for the 1 year design ARI design storm. Alternatively please advise the design storm which minimum pipe velocities are achieved.

7. A levee is proposed to the rear of Lots 93-100 & 103,104. Please confirm (with an annotated cross section) that the proposed levee achieves the QUDM recommended immunity and freeboard for Lots 93-100 & 103,104.

   The advice must include the assessment of freeboard required by QUDM.

8. Please provide a severe impact statement (per QUDM) for the proposed works. With reference to proposed structure A1, please advise the impact of 100% blockage of structure A1 for the 100 year ARI design storm. Further advice is the QUDM recommended immunity and freeboard can be achieved to existing Lots 86-92 if proposed structure A1 is blocked.

9. The submitted drainage longitudinal section provided indicates Reach A7 – A11 is designed to convey the 100 year ARI design storm. Provide details (drainage longitudinal section) showing the 100 year ARI design storm Hydraulic Grade Line and Water Level in Structure elevation for Reach A7-A11.

10. Please confirm (with supporting calculations) that an overland flow path is proposed for the 100 year ARI design storm between proposed structures A7 and A10. Please provide advice on water levels in the event of bypass for overland flows. It is acknowledged that the documentation appears to show Cooya Beach Road being reprofiled to create a low point at Ch 104.776 and plan C14 shows transitions in each verge. Please confirm water depths at these locations and comment on compliance with QUDM.

11. If an overland flow path is not proposed as interpreted above, please include further details on the operation of this reach in the stormwater system within the severe impact statement. The severe impact statement is to advise the impact (potential inundation to lots) for 100% blockage of proposed structures A7, A8 and A9 and also advise on the ponding depth in the road system under normal operation (That is; Q5 – no blockage, Q100 – no blockage as well as Q1 – full blocked and Q100 - fully blocked).

12. The locality plan on drawing 15510-C01 shows a lot layout without any provision for the stormwater system downstream from lots 184/185. Please advise the proposed future infrastructure and land tenure arrangement.

13. In the event that the stormwater will connect into and potentially discharge onto the road in front of lots 198/199, please advise how this would occur. Council is concerned that any approval given for the current stage will commit the development to a solution with key elements not yet known.

14. Please provide additional detail on the drawings to show how roof water pipes will be connected to the kerb where the verge at the lot frontage contains a concrete footpath. The additional detail must include conduits located at either side of each allotment suitable for connecting the roof water pipes to the kerb without disturbing the new footpath. Suitable locating markers are to be installed per FNQROC development manual requirements. Please include a detail showing these on the drawings.

As an applicant, your responsibilities in regard to the information request are outlined in section 278 of the *Sustainable Planning Act* 2009, which is attached for your information.

Please note that the information response to Council should include two (2) complete copies of the response and if plans form part of the response then two (2) sets of such plans at scale and an electronic copy in pdf format should also be provided.

Council advises that attention to these items may create additional issues of concern which may require further clarification if necessary.

Should you require further information or assistance, please contact Neil Beck of Development and Environment on telephone number 07 4099 9451.

Yours faithfully

Paul Hoye
General Manager Operations