

Appendix O

Council Correspondence and Meeting Minutes

Your Ref No:

For Enquiries
Please Contact: Rowena Michel

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DAFurtherl

17 April 2008

NSW Department of Planning
Coastal Assessments
Att: Sally Laing
GPO Box 39
Sydney NSW 2001

Dear Sir/Madam,

Preferred Project Application - MP06-0243 (DA07/0589) for 152 freehold residential subdivision (providing for attached and detached dwellings) and future development lot at Lot 9 DP 1039569, Fraser Drive Tweed Heads South

I refer to the Preferred Project Application received in response to the abovementioned subdivision at Fraser Drive, Tweed Heads South.

Please be advised that Council Officers have reviewed the documentation and consider that the Preferred Project Proposal does not adequately address issues raised by Council. Particular issues of concern are summarised below and relevant Officers comments attached.

Geotechnical Issues

- No geotechnical investigations or recommendations have been carried out on the flat, low land which contains compressible clay material as requested.

Roads, Public Transport and Connections

- Issues associated with the right of carriageways have not been adequately addressed, particularly in relation to on-street car parking, access to public roads or parks and manoeuvrability for garbage trucks.
- Sight distance issues associated with the intersection of Ocean Avenue and Road no. 3 have not been adequately addressed.

Stormwater Issues

- Detail required to address stormwater issues have not been provided and the response is inadequate.

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Flooding

- Flooding issues have not been adequately addressed, particularly in relation to provision of failsafe surcharge flowpath from Fraser Drive to the SEPP 14 wetland.

Open Space

- Provision of functional open space is insufficient. Further concerns are raised in relation to landscaped areas. Discussions have not occurred with Council staff regarding the design and function of the open spaces.

Bushfire

- The Preferred Project does not justify why Asset Protection Zones should be in public land other than to say for environmental reasons. This is inadequate. Further justification is required.
- Concerns in relation to bushfire and general management of the interface area between the steep slopes proposed to be dedicated to Council and dwellings on Hillcrest Ave and Ridgeway Crescent have not been addressed.
- Regeneration and weed control management plans have not been provided.

Environmental Health Considerations

- The applicant has not confirmed that the reported soil test lab results (soil contamination) have been adjusted for the use of the composite sampling method. This is required under the provision of SEPP 55 and the response in relation to this issue is inadequate.

SEPP 14 and Buffer Issues

- The Preferred Project has altered little with regard to ecological aspects and many of the previous key issues have been poorly addressed and remain significant concerns.

Planning and Urban Design

- Insufficient justification has been provided in support of the reduced lot sizes. Justification for dwelling lots less than 450m² and dual occupancy sites less than 900m² is inadequate. The applicant argues that the small lots will provide for affordable housing and are acceptable given on-site environmental constraints.

Whilst a variety of lot sizes is proposed, it is not considered that small lots necessarily equate to affordable housing. Further, it is not considered that the

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occurrence of on-site constraints provide sufficient justification for the small lots, especially when the plan proposes lots over constrained land.

It is noted that the applicant indicates that Council Officers have not raised concerns with lot sizes in meetings held between October and November 2007. These meetings were organised to discuss engineering concerns. The applicant was aware of Council's concerns with lot sizes as they were included in the Department's 'Summary of Submissions'. The applicant has not requested further discussions with regard to lot sizes.

- Insufficient response is provided in relation to the corner shop referenced in Section B3 of Council's DCP - Banora Point West. The 10 metre wide buffer for future road expansion and slope of land does not limit the ability for identification of a possible future shop site.
- Dwelling design criteria were not submitted (nor were dwelling concepts) for future dwellings proposed on small lots, demonstrating quality streetscape and variation.
- The Preferred Project Proposal is inadequate as it does not appear to provide owners consent nor include Lot 2 on DP1000385 on the application form.
- The Preferred Project does not provide an adequate response in relation to the request for cross sections through Fraser Drive to depict level differences between the site and the road. This detail should be available at a conceptual level at this stage.

Please refer to full comments on each point above (attached).

In summary, in considering the following, the proposal is an over-development of the site and does not represent a preferred outcome:

- The above-mentioned deficiencies,
- Non-compliant lot sizes,
- Site constraints; and
- Design of roads / right of carriageway only achieves minimum compliance with Section A5 of Council's DCP (Subdivision Manual),

Council is generally unsupportive of the proposal in its current form.

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If you have any queries in respect to this matter please contact Rowena Michel of Council's Development Assessment Unit who will be processing the application.

Yours faithfully

Lindsay McGavin
Acting Manager Development Assessment

Attachment – Council Officers Comments

Open Space / Parks (Graham Burton)

The developer has not satisfactorily addressed the key issues raised by Council in our previous assessment (July 2007), and the latest landscape plans do not appear to have changed. Accordingly, the same concerns are raised again. There has been no discussion with Council staff regarding the design and function of the open space beyond the formal submission, and I would welcome this discussion.

General comments

Most comments below relate to broad issues such as size and slope of the land. In most landscaped areas, two additional specific concerns are noted:

- Distance to residences and roads: Park shelters and playground/activity areas are commonly shown well within the 20 meter buffer to private residences, and in one case adjacent to a road.
- Trees consistently overhang private land. This is not desirable.

Open Space Contributions

The developer's response indicates the park at the end of Road 4 (adjacent to Fraser Drive) is not to be considered as part of their open space contribution. My previous advice that their contributions were sufficient included this park's 3,755m². If this is not to be considered, the actual amount of functional, compliant open space proposed (meeting Council's criteria) is insufficient – see table below.

Additionally, if the park at the end of Road 4 is not considered, the development will not comply with subdivision guidelines specifying the distance local parks are to be from 95% of residents.

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Location	Area	Meets criteria
Park at the end of Road 4	3,755m ²	No
Park adjacent to Road 3 & private road	3,540m ²	No
Park adjacent to Road 2	2,500m ²	Yes
Wide roadside verge – Road 2	385m ²	No
Water quality/open space	17,120m ²	No
SEPP 14 Wetland & Buffer	?	No

Park at the end of Road 4 (adjacent to Fraser Drive)

The developer's response indicates this park is not to be considered as part of their open space contribution. This raises the issue of the amount and location of functional open space contributed, as previously this park was included in our considerations. The developer states this park need not meet our guidelines as it is primarily a drainage area. However, the site is presented as a park in the landscape plan, and community expectations would be to use the area as a park. The basic guidelines in Councils Subdivision Manual are intended to ensure functionality of parkland and should be met.

Slope: Slopes significantly exceed the requirements of Councils Subdivision Manual. Table A5-8.2.1 specifies 80% of the park to have slopes less than 8%.

Access: The park does not meet the requirements for public road frontage (50%). The private road extending from the end of Road no. 4 does not provide this. Frontage to Fraser Drive does not provide this as it does not provide access from within the subdivision. There is also an apparent lack of parking opportunities adjacent to the park.

Inconsistent drawings: Landscape Plans (Drawing No. 71887-D-CP-01-02 and 04-03) depicts the roundabout in road 4, and commencement of private road in a different location to other layouts, particularly the plan titled 'Proposed layout, Fraser Drive, Tweed Heads' drawing name 20934-PRO dated 8 March 2003. Clarification and corrected drawings are required.

Park adjacent to Road 3 and private road

The developer's response acknowledges the area doesn't meet open space guidelines. It also suggests maintenance costs can be addressed in a levy. I'm not aware of any potential for a levy to permanently cover maintenance of this area. The slope at this site means the minimum slope normally required for a park cannot be achieved. The area presents significant management problems, particularly maintenance of sloping land and interaction with residents west of the area. This site cannot be considered part of the developer's formal open space contribution. The area can only be accepted into Council ownership if the developer demonstrates how these issues, particularly ongoing maintenance, can be dealt with.

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Shape: Does not meet park configuration requirements (length to width ratio to be no more than 4:1)

Slope: Significantly exceeds the minimum slope requirements for a local park. Functional recreation value is minimal other than informal walking or as a lookout. The steep slope also implies significant maintenance requirements.

Access: The bulk of this park fronts private houses or a private road, while general access is restricted to one point. The bulk of the public street frontage is no more than a widened roadside verge.

Statement of landscape intent: Reference is made to plantings that will not impede views of houses behind. No such commitment can be made as Council does not prune or manage trees to provide views. Also, as this seems a very steep slope, a mix of trees, shrubs and understorey plants would be required to ensure slope stability and minimise maintenance requirements.

Park adjacent to Road 2

The general dimensions and slope of the park are acceptable, although note the park's size is the absolute minimum acceptable.

Entry Statements:

The landscape plans indicate Norfolk Pines apparently adjacent to private residences. Advice is required about actual distances to private land.

SEPP 14 wetland and buffer:

I have not commented on the open space implications of the wetland itself as this will come from Sandy Pimm. Two points regarding the buffer that must be addressed are:

- Significant concerns were previously raised about bushfire and general management of the interface between the steeply sloping land proposed to be handed to Council, and houses along Hillcrest Av and Ridgeway Crescent. This has not been addressed.
- The area appears heavily infested with weeds. Regeneration and weed control management plans must be an essential part of any approval.

Bushfire management

See above comments on the interface between the SEPP 14 buffer and residences along Hillcrest and Ridgeway Crescent.

The developer's submission states they believe part of the APZ must be on public land for environmental reasons. These reasons need to be more clearly demonstrated.

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I would be pleased to discuss any of these issues further with the developer.

Subdivision Engineer (Angie Cousens)

1) Cut & Fill / Geotechnical Assessment

The geotechnical assessment prepared by Morrison Geotechnic, dated 31 October 2007 for the proposed 157 lot residential subdivision site, gives the following overview;

“This layout developed by PMM follows advice by Coffey and Shaw Urquhart and in the view of Morrison Geotechic is satisfactory in the provision of long term stable allotments. Slopes generally less than 25% have an operating factor of safety greater than 2.0 for the majority of engineered slopes (eg Cardno Sections A-A & F-F) but still satisfactory at FOS = 1.8 for the steeper slopes in the northern part.”

Recommendations are provided within the geotechnical report for remediation works to the site to support the above overview.

The following further information request has not been addressed in the geotechnical assessment;

No geotechnical investigations or recommendations have been carried out on the flat, low land which contains compressible clay material. The further information request specified that the geotechnical assessment address the expected settlement of compressible clays on the site and provide recommendations.

2) Roads, Public Transport and Connections

a) *Right of carriageways*

It is noted that 5 right of carriageways remain on the layout plan. A number of issues associated with the proposed right of carriageways have not been addressed (which are usually accounted for within an urban subdivision when providing a local access street). These issues are;

- Two of the proposed parks are located on two of the proposed right of carriageways, with no on street car parking provided. A local access road generally allows on street car parking for visitors, residents using the park etc. The right of carriageways are a private road, therefore not allowing the general public to utilise the road or park.

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- The plan of subdivision is to extend lot boundaries to facilitate a right of carriageway traversing through the lots.
- The proposed right of carriageways or proposed garbage collection points located at the start of the right of way does not address the manoeuvrability for a garbage truck.

b) Sight Distance

The ameliorative measures to be under taken at the intersection of Ocean Avenue and Road No. 3 to achieve adequate sight distance has not been addressed.

c) Parks

The parks have not been amended and do not comply with Council's subdivision manual as advised in Council's previous further information request. (Council's open space officer Grahame Burton to provide further comment on the parks)

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Stormwater and Flooding Engineer (Danny Rose)

In my previous memo, dated 12/7/07, engineering issues relating to stormwater management, cut and fill earthworks and flooding were discussed. The applicant was requested to submit additional information in order to address these issues. This information request was contained in a letter to the Department of Planning, dated 27/7/07.

The applicant's consultants met with Council officers on 17/10/07 to discuss these issues. Minutes were subsequently issued by the applicant's planning consultant (via email 3/11/07).

The applicant has now provided a Preferred Project Report to the Department of Planning, which has been forwarded to Council for comment. This report attempts to address all matters raised in agency and public submissions for the project, including those from Council.

These issues are tabulated below:

Issue (numbering per RFI 27/7/07)	Applicant's Response (per PPR Section 3.0)	TSC Response
CUT AND FILL		
1. Amend Cardno Figure No.DA04 "Proposed Finished Surface Contours Plan" (Drawing No. 7214/29/01-DA04), with the removal of the 1.2m high retaining wall in Part A of the subdivision, between future lots 28-47 removed, as it does not comply with Council's Development Design Specification D6 - Site Re-grading.	Council's concern with the 1.2m high retaining wall reflected a view that site was being unnecessarily flattened to provide flat building envelopes, which is not permitted. We expressed the view that it has been our intention to provide a development outcome consistent with Council's D6- Site Regrading Standard. To this end compliance was subjective due to a typing error in the Standard. Council's officer Danny Rose was to provide clarification in this regard, however, none has been forthcoming. The issue relates to Note 1 which accompanies Table D6.1 which makes a reference to a Note 1 of D6.04.4. Section D6.04.04 does not exist. It is likely that the reference relates to Note 1 of D6.05.4 which states: "A retaining wall or batter of maximum "combined height" (as defined in clause D6.05.6) of 1.2m at or adjacent to inter lot boundaries may be permitted to ease lot gradients, where lot longitudinal or cross gradient would exceed 10% in the absence of such retaining walls". In this regard the aforementioned 1.2m retaining wall complies with the D6 guideline. Appendix I also includes the relevant excerpts from the engineering plans submitted with the Environmental Assessment Report. This shows that	Typographical error acknowledged, and applicant's assumptions in this regard are correct. However, the Applicant's response seems to be referring to the proposed wall at the Stage boundary, which is not the wall in dispute. Based on Figures DA04 and DA06 the wall between lots 28-47 should be deleted, as the affected lots would have longitudinal gradients of less than 10% in the absence of the wall. CONSENT CONDITIONS TO BE PROVIDED.

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	site would exceed 10% slope in the absence of the wall.	
STORMWATER ISSUES		
27. Provide design confirmation that the 3 cell 1500mm diameter piped system is adequate to cater for ARI 100 year stormwater runoff from a future urbanised catchment east of Fraser Drive, without resulting in flooding in Fraser Drive. Preliminary design details of Q100 inlet structures shall also be provided.	This piped system has been modelled in PC Drain. Any head loss that may occur through the bends has been accounted for in this modelling. Our developer can not impose construction requirements onto another landowner. If Council want the culverts to cross Fraser Drive, then the existing landowners future access and current drive way entrance would have to be moved and the existing drainage path 900 dia culvert would have to be re-routed. It is not reasonable to impose conditions which we can not lawfully impose on another landowner. It is also unreasonable to impose the requirement for the allowance of flows from a developed upstream catchment. Given the requirement for our site to have on site detention to maintain existing peak flows, it should be the responsibility of the upstream property owners to also maintain existing peak flows from their site. Should this condition remain it would be necessary for the applicant to request stormwater headworks credits for any additional infrastructure and loss of land due to allowing for flows greater than the property currently accepts.	The open channel within a Council easement that traverses the development site currently provides the capability to discharge all flows (under current and future conditions) from the eastern catchment through the site to the SEPP 14 wetland. As the applicant is requesting that Council relinquish this service, equivalent drainage must be provided, and must be capable of catering for the potential increase in runoff from a fully urbanised eastern catchment (as the zoning currently permits). FURTHER INFORMATION REQUIRED.
28. Amend the design of the 3 cell 1500mm diameter piped system to provide a straighter alignment (eliminating 90 degree bends) between the catchment east of Fraser Drive and the bypass channel for the treatment/detention ponds in Part A of the subdivision, to maximise inlet capacity and minimise the chance of blockage. Further investigation of solutions to the potential conflict between stormwater services and the existing water main in Fraser Drive shall also be provided, to allow for the relocation of the stormwater inlet to the eastern side of Fraser Drive to eliminate the existing 900mm culvert.	This issue has been addressed in Appendix B. In summary, Council have previously requested that this site and the site across the road share a common intersection for access to Fraser Drive. The entrance to this site was placed in accordance with Council's recommendation. As the stormwater pipes are located under the roadway due to their size, it makes it impossible to align the stormwater line perpendicular to Fraser Drive without affecting opposite properties driveway access, or possible future development. Even placing pipes under Fraser Drive at a 45 degree angle to the road would require earthworks in the opposite property to change the existing overland flowpath, and re-grade it to the new culvert crossing.	Limitations on works on adjoining land are acknowledged. The proposed arrangement of the 3 cell 1500mm diameter pipes is satisfactory to Council, provided the applicant can demonstrate that there is an alternative failsafe surcharge flow path from Fraser Drive to the SEPP14 wetland. This is currently available in the form of an open channel within an easement benefitting Council, and this will not be relinquished unless a satisfactory alternative system is in place. This flow path is necessary to prevent flooding impacts in Fraser Drive and adjoining low lying properties. FURTHER INFORMATION REQUIRED.
29. Identify the location of and provide preliminary design for drainage services, including interallotment drainage and ARI 100 year overland flow paths, to collect and convey runoff from external stormwater catchments to the west	Inter allotment drainage is better considered in the detailed design phase. We request that Council address this issue as a condition of consent.	Agree to address via conditions, but applicant must acknowledge that these services will need to be adequately sized (to incorporate a factor of safety and freeboard requirements to the satisfaction of Council) and must

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of the site (Hillcrest Avenue, Ridgeway St, Ocean Avenue and Seaview Street) through the subdivision to a lawful point of discharge.		be contained within easements burdening the new allotments. This may constrain the future development capability of some of these sites. CONSENT CONDITIONS TO BE PROVIDED.
30. Provide an assessment of impacts on downstream properties and public infrastructure south of the subdivision site (Shiraz Place, Merlot Court) due to increased urban stormwater runoff.	No increased runoff is attributed to the external downstream properties as the catchment is modified to ensure nil increase in runoff. Refer to Cardno Stormwater Management Plan dated 8 December 2006 (page 3 first paragraph) provided in Appendix B. The portion of impervious area of the catchment has increased, but the overall area has decreased, creating no net increase in runoff. Further to the meeting of 17 October 2008, Council were to provide further clarification on this matter. To date we have not received a response from Council.	Require supporting calculations to demonstrate the no net increase argument. Also need to consider spatial changes in the discharge points from the urbanised catchment and the related impacts on receiving infrastructure. ADDITIONAL INFORMATION REQUIRED.
31. Provide justification that the existing culverts under Fraser Drive and receiving downstream private land represent a lawful point of stormwater discharge for the eastern catchment of Part B of the subdivision, as defined by Council's Subdivision Manual (Section A5 of the Tweed Shire DCP).	The existing culverts are the existing discharge point for the site. No increased runoff occurs as the detention pond on our site controls outflow. We are currently awaiting response from Council officers on this point as per the meeting of 17 October 2007.	The detention pond only mitigates the peak runoff for the design event. Downstream impacts from urbanisation of the site are still expected, to the possible detriment of the landholder. The applicant is required to demonstrate that a legal point of discharge exists as per DCP-A5. If this cannot be demonstrated, the applicant will need to obtain an easement to provide drainage connectivity from the Fraser Dr culverts to the Western Drainage Scheme to the south east. Discharge to the Western Drainage Scheme also requires the payment of drainage contributions (refer Contributions Plan No.2 Banora Point). FURTHER INFORMATION REQUIRED.
32. Provide preliminary design for outlet control measures for the on site detention pond proposed on the eastern boundary of Part B of the subdivision, including any works required at the inlets to the receiving culverts under Fraser Drive.	As per the outcomes of 17 October 2007, Council can address this issue as a condition of consent. A preliminary design sketch can be provided in accordance with normal development application documentation. Council still have final approval during construction & s68 approvals.	Agreed CONSENT CONDITIONS TO BE PROVIDED.
33. Provide an assessment of the existing cross sectional capacity of the open channel through the SEPP14 wetland, downstream of the subdivision. This assessment shall include a design and plan of works to upgrade this channel as necessary to cater for post	The existing drain, by survey, has no capacity. It grades up hill and in some places is over 0.5m lower than the outlet at James Road. Figure DA 20 which was provided as part of the supporting engineering diagrams to the Environmental Assessment Report, is included in Appendix B as	Council requires the provision of a formal drainage channel through to James Rd, with a cross section that can be maintained in perpetuity, in order to protect the subdivision and adjoining properties from flooding.

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development flows from the subdivision.	supplementary information. This drawing shows levels. The regime is to maintain existing flows into the channel and wetland by detention control. The channel should remain unchanged to maintain ecological balance. Section 2.2 of the Ecological Buffer Analysis discusses the nature of the open channel and its use. From this assessment it would appear that the conclusions drawn in response to the stormwater management issues are valid.	ADDITIONAL INFORMATION REQUIRED.
34. Provide a plan of management for the SEPP14 wetland and buffer zone for the concurrence of Council, the Department of Planning and other relevant government agencies. The plan of management must identify the required channel design to adequately cater for the post development flows from the subdivision, and protocols for Council to carry out maintenance works to maintain an adequate cross section in the open channel, without compromising the ecology of the wetland. These maintenance works must be able to be carried out by Council using conventional equipment, and the plan of management must address maintenance access into the wetland.	Please refer to the comments provided above. In addition the SEPP14 Wetland and buffer are not currently managed. The Wetland does not appear to be suffering from a lack of management regime. In accordance with the recommendations of the Ecological Buffer Analysis the use of the buffer is to be limited to rehabilitation and planting. Rehabilitation/Planting Plans can be detailed as a condition of consent. Appendix B also includes the details of the s88B instrument that applies to the existing drainage easement through the site. An excerpt from the <i>Conveyancing Act 1919</i> is provided which demonstrate that Council have the right of access to maintain the drain. Council do not currently maintain the drainage way and further to the conclusions drawn by the stormwater assessment in the Ecological Buffer Assessment we consider that leaving the drain as is would provide for the better ecological outcome.	Maintenance of the drainage path from the subdivision outlet to the James Rd culvert is required in order to protect the subdivision and adjoining properties from future flooding. While this channel will be contained within an easement benefitting Council, which provides access rights under the Conveyancing Act, the Act does not provide the certainty that works can be undertaken within the easement due to SEPP14 and flora and fauna restrictions that are likely to be involved on the subject site, and that require Council to obtain further permits and approvals. The Plan of management is therefore still required. ADDITIONAL INFORMATION REQUIRED.
35. Provide preliminary design for outlet control measures for the on site detention pond proposed for Part A of the subdivision, to maintain a hydraulic regime compatible with the receiving SEPP14 wetland.	The outlets will be designed at detailed design phase. Council still have final approval during construction & s68 approvals. Refer to Appendix B, attached Sketch SK-016 for typical details.	Generally agreed CONSENT CONDITIONS TO BE PROVIDED
36. Provide an engineering assessment as to the compatibility of the pond in Part A of the subdivision as a combined water treatment and on site detention device. Required volumes for on site detention must account for standing water levels necessary for water quality control in constructed wetlands. The assessment must consider how the combined device can cater for ARI 100 year storm detention, and water quality measures up to the ARI 3 month storm, without the remobilisation of pollutants under larger flows.	This is a query relating to detailed design. Council still have final approval during construction and S68 approvals. Similar wetlands that incorporate water quality treatment and detention have been approved and constructed in the Terranora Azure development, located approximately 5 km from the Fraser Drive site. The wetland is designed so the water level remains constant during dry periods, but rises during rainfall events to attenuate the flows leaving the site. Additional storage volume is allowed for in the design of the wetland. See attached pictures of similar wetland located in Terranora.	Generally agreed CONSENT CONDITIONS TO BE PROVIDED
37. Amend stormwater drawings to	All flows from the northern portion of	Generally agreed

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include proprietary treatment devices on all minor road drainage systems that do not discharge to the water quality wetland in Part A of the subdivision. Flows from external catchments do not require treatment.	the site go into the wetland except for the medium density site which has a GPT. The medium density site catchment has been included in the sizing of the wetland as requested by Danny Rose via email (28th August 2006). It is proposed to install Ecosol RSF100 or similar stormwater treatment devices into the Gully pits connecting into the 3x1500dia line before discharging into SEPP14 wetland as opposed to an additional dedicated drainage line for these pits.	CONSENT CONDITIONS TO BE PROVIDED
38. Provide an assessment of all stormwater management facilities in public open space in accordance with the criteria set out in Table A5-8.6 of Section A5 of the Tweed Shire DCP, in order for these areas to be credited towards open space obligations for the subdivision.	This comment refers to the two open space areas that also accommodate drainage features such as the artificial wetland and the park adjacent to Fraser Drive which provides for intermittent detention. Table A5-8.6 states that drainage open space will be considered for a credit towards provision of open space category b1 Local Parks if the drainage open space under consideration complies with standards and criteria set out in Table A5-8 b2 for that category. Table A5-8 b2 refers to Standard A5.8.2.2: Neighbourhood Parks... The assessment concludes that the parks used for drainage purposes only partially conform to the performance criteria specified in Council's DCP. We have not considered these parks to form part of the credit in the provision of open space, but it should be noted that the provision of these areas greatly enhance visual amenity and provide a significant benefit in addressing existing stormwater management drainage issues. We request that Council view the contribution in light of the merits of the proposal.	Clarification that drainage areas have not been considered as part of the open space provisions should be checked against other open space issues to be addressed by Grahame Burton.
FLOODING		
39. Amend Cardno Figure No.DA04 "Proposed Finished Surface Contours Plan" (Drawing No. 7214/29/01-DA04) to extend the flood evacuation route along "Road No.1" to the medium density allotment at the northern extent of the subdivision. This evacuation route should be constructed at no less than the adopted design flood level of RL 2.6m AHD. Stormwater management in this area should be amended as necessary to cater for any increase in road levels to comply with the evacuation route requirements.	Noted	While the applicant has apparently accepted the need to extend the high road access to the medium density site, the potential conflicts with stormwater management in this area have not been addressed. This is particularly relevant to the provision of a failsafe surcharge flow path from Fraser Drive to the SEPP14 wetland as per Item 28 above. ADDITIONAL INFORMATION REQUIRED.

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Environmental Health Officer

Acid Sulfate Soils (ASS):

A revised ASS Management Plan has been provided by Gilbert and Sutherland, and consideration of the revised Management Plan together with discussions with Mr Nathan Zurig of Gilbert and Sutherland on 11.4.08 has largely resolved the previous concerns to the extent that the issue can be conditioned as follows;

Suggested condition:

Acid Sulfate Soils shall be investigated and managed in accordance with the provisions of the Revised Acid Sulfate Soils Management Plan Fraser Drive Tweed Heads South prepared by Gilbert and Sutherland dated September 2007 Document GJ0596-1.ASSMP.REH2, with the exception that all waters discharged from the site shall if discharged to marine waters have a pH range of not greater than 0.2 unit change of the receiving waters.

Construction Environmental Management Plan:

The applicant's response to this issue is that when the Construction Environmental Management Plan, it will reflect Council's operating hour requirement of 7.00am to 7.00pm Monday to Saturday and no works occurring on Sundays or Public Holidays.

Suggested Condition:

Construction site work including the entering and leaving of vehicles is limited to the following hours, unless otherwise permitted by Council:-

Monday to Saturday from 7.00am to 7.00pm.

No work to be carried out on Sundays or Public Holidays

The proponent is responsible to instruct and control subcontractors regarding hours of work.

Acoustic Assessment:

Previous comments identified that the site was not affected by the 2020 ANEF for Coolangatta Airport, therefore traffic noise impacts are likely to be the main consideration.

No detailed Acoustic Assessment has been provided with the information from the applicant. It is considered that the impact of traffic noise on the proposed development should be investigated in accordance with the provisions of the EPA(DECC) Guideline "Environmental Criteria for Road Traffic Noise"

Suggested Condition:

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An Acoustic Assessment carried out by an appropriately qualified acoustic engineer shall be undertaken to establish the impact of traffic noise on the proposed development. The assessment shall be carried out in accordance with the provisions of the NSW EPA (DECC) Environmental Criteria for Road Traffic Noise. Such investigation shall be carried out prior to the issue of the Construction Certificate and a report submitted for consideration and approval. All Recommendations of the Acoustic Assessment report shall be carried out in respect to the development.

Groundwater Assessment:

Previous comments with respect to groundwater management reflected the need to incorporate the recommendations as contained within Section 3.8 of the Groundwater Management Plan into conditions of consent.

Suggested Condition:

All recommendations as contained within section 3.8 of the Groundwater Management Plan shall be implemented in respect to the development.

Soil Contamination:

Our previous comments suggested that any imported fill material should be tested to ensure that the material was not contaminated so as to provide a degree of certainty with respect to the information submitted from various third parties.

The applicant has advised that they have assured themselves that the fill material is not contaminated via an investigation.

Previous comments also requested confirmation that the reported soil test lab results have been adjusted for the use of the composite sampling methodology employed.

This information has not been supplied and remains outstanding; confirmation is required under the provisions of SEPP55.

Cattle Tick Dip Site:

The consent authority should assess the impact of the operations of the dip site on the development.

The following condition is also suggested.

Suggested Condition:

The development shall be carried out so that no adverse impact to the adjacent cattle dip site located on Fraser Drive (Dry Dock Dip) occur that result in any contaminated soils from the dip being transported for the dip site.

Power Lines:

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Fraser Drive – MP06_0243**

Previous comments noted that above ground power lines transverse the site and Council would normally require investigation into any Electromagnetic Radiation and associated risk to human health.

The applicant has responded that the power lines would not pose any more of a health hazard to residents than those posed by the exiting low voltage power lines in the area, however if Council is of the opinion that a serious risk is likely then an appropriate condition to require such an assessment to be carried out prior to the issue of the Construction Certificate can be placed on the consent.

Whether or not a serious risk is likely will depend on the results of an appropriate assessment, in the past Country Energy has assessed this risk as it is their infrastructure. It is considered that this issue still be assessed and therefore the following condition is suggested.

Suggested Condition:

Prior to the issue of the Construction Certificate an assessment of any likely health risk associated with Electromagnetic Radiation Effects resulting from the above ground powerlines on the site to any future residents shall be carried out by an appropriately qualified consultant or authority and a report submitted for consideration and approval. Any recommendations contained in the report shall be carried out in respect to the development.

RECOMMENDATION

Confirmation that the lab test results in respect to soil contamination sampling have been adjusted for the use of composite sampling shall be supplied.

Note comment in respect to Dry Dock Cattle Dip.

**Attachment – Council Officers Comments
Fraser Drive – MP06_0243**

Specialist Planner - Ecologist

I have read various sections of the Preferred Project Report including the Ecological Assessment; Ecological Buffer Analysis; Stormwater Issues response; Preliminary Notes for Groundwater Assessment and the Response to Submissions. I make the following comments:

General

I was not available to make detailed comment on the Environmental Assessment component of this project and thus some issues below may not have been specifically raised in earlier correspondence; however, most of the issues have been included in previous correspondence from other government departments. In general, it appears that the Preferred Project Report has altered little with regard to ecological aspects from the previously submitted Environmental Assessment and many of the previous issues raised by others have been poorly (or not) addressed, thus they remain as significant issues.

1. The significance of the wetland has been underestimated

In addition to being mapped as SEPP 14 wetland, the publication *Wetlands of High Conservation Value and their Threats in the Tweed Catchment* (funded and coordinated by the NSW Department of Planning as part of the NSW Comprehensive Coastal Assessment (CCA) in 2006), ranks the wetland on the site (combined with the adjoining area immediately to the north) **as 5th out of 463** wetlands (comprising 12,890 ha) in the Tweed Catchment.

This is shown in their Table 3: "Top-ranked wetlands for conservation value in the Tweed Catchment ordered by overall ranking". Rank was gained from a combined score encompassing values for representativeness, threatened species, species richness, wetland-dependent birds, key habitat and corridors, wetland-dependent frogs, species richness and abundance of flora, and data quality. Thus the site is recognised at a state level as being a wetland of a very high conservation value, ranked 5th in the Tweed. It has been established that the wetland contains three Endangered Ecological Communities as well as significant aquatic habitat and is located adjacent to, and connected to, the Terranora Broadwater, an important area for oyster-growing, fish habitat and wader-bird habitat.

The Ecological Buffer Analysis discusses the value of the wetland as being degraded by environmental weeds and past clearing practices. In this regard significant recruitment within the saltmarsh area is noted since cattle have been removed from the site and such degradation is almost certainly due to surrounding development and associated inappropriate landscape plant selections which have escaped, or been dumped, into the wetland area, as well as inappropriate access into the wetland. These type of impacts are likely to be exacerbated by this proposed development and any Management Plan must detail restoration efforts as well as restriction of access.

Attachment – Council Officers Comments
Fraser Drive – MP06_0243

2. The mapped SEPP 14 wetland does not describe the extent of wetland communities and should not dictate the inner edge from which the buffer is measured.

The SEPP 14 boundary does not describe the full extent of wetland existing at the site. Draft guidelines written by Dept Planning (forwarded by Craig Bellamy) show the clear intent that interpretation of the true SEPP 14 boundary should be based upon field recognition criteria including vegetation type, position on slope, micro-relief, inundation history and soil type. The guidelines further state that SEPP 14 boundaries can be interpreted as moving either inwards or outwards. In this case, the boundary using these criteria is clearly further out, as evidenced by all the above field recognition criteria.

Using the ecological buffer from the mapped SEPP 14 boundary (as proposed by Cardno) does not even encompass all the significant vegetation (Endangered Ecological Communities) on the site.

3. The suggested ecological buffer is insufficient and ill-defined

The originally mapped SEPP 14 boundary does not encompass the full extent of wetland EEC's, thus the wetland EEC boundary at the minimum should be used as the line from which to measure any buffer. As most government department submissions appear to accept a minimum 50m buffer, this should commence at the edge of the mapped wetland vegetation communities.

As a compromise position, it is my opinion that a reasonable buffer may be measured from the 1m AHD contour level for a distance of 50m. Contours have been accurately mapped by Council in 2007 and thus reflect the currently filled levels. Using the 1m contour would appear to encompass most of the wetland vegetation and would be a method which employs the field recognition criteria recognised by the Department of Planning using vegetation type, position on slope and micro-relief. An aerial photograph with suggested buffer is shown in Figure 1 below. The red hatching indicates the extent of the proposed buffer from the 1m contour, whilst the black line indicates a rectification in the northern and southern extents to reflect vegetation extent. It is considered that a reduction in width may occur where constructed wetland treatment areas are proposed. A comparison with the 50m buffer from the SEPP 14 area is shown in Figure 2. Average additional buffer width (if straightened) is 15-20m.

**Attachment – Council Officers Comments
Fraser Drive – MP06_0243**



Figure 1: Proposed buffer based upon a 50m distance from the existing 1m contour level.



Figure 2: Extent of buffer based on the 1m contour (red hatching) compared with buffer based upon the mapped SEPP 14 wetland (yellow hatching).

**Attachment – Council Officers Comments
Fraser Drive – MP06_0243**

Treatment of the buffer has not been defined with various “motherhood” statements about a plan of management, weed control, transfer to public ownership and replanting yet no definitive response to all these issues has been provided. The buffer must include planting with locally occurring suitable species (recognising that the ground level sharply changes at the edge of fill) to take the brunt of development impacts and avoid damage to significant vegetation. The treatment proposed by the CMA of dense and tall species adjacent the existing edge grading into spaced and shorter species closer to the proposed development is considered acceptable to Council. Any road or asset protection zones must be entirely outside of the ecological buffer.

4. The protection, treatment and management of the wetland area is uncertain

A Management Plan for the SEPP14 wetland, EECs and buffer areas is required and should be contained within the Statement of Commitments. Such a plan must consider all external potential development impacts and address them within the plan so that a holistic approach to management of the wetland during and post construction is ensured. The management plan must be submitted and approved by Council prior to consent and must include:

- a. An environmental restoration plan component prepared by person(s) qualified in Bushland Regeneration or Ecological Restoration and with knowledge and experience in local wetlands detailing:
 - an appraisal of the present condition of remnant vegetation;
 - a plan overlaying an aerial photograph of the site which divides the area into zones for regeneration and zones for planting, including connections between existing vegetation where appropriate;
 - a management strategy for each of the zones, including the approach, methods and techniques to be used for vegetation restoration;
 - a schedule of local native plant species to be used for planting;
 - a program of works to be undertaken to remove invasive weed species;
 - a schedule of timing of proposed works (given that such works can commence immediately for the majority of the site) and
 - a maintenance, monitoring and reporting schedule for a period not less than 5 years.
 - A clear indication of personnel responsible for each component of the plan.
- b. An erosion and sediment control component detailing measures to avoid sedimentation within the wetland area during construction.
- c. A stormwater and groundwater management component detailing measures to prevent impacts from scouring, sedimentation, contamination or alteration to the water table level or quality.
- d. An Acid Sulfate Soil and Dewatering management component detailing measures to avoid impacts from surface or groundwater interactions and alterations. This is relevant because the constructed wetland system will

Attachment – Council Officers Comments
Fraser Drive – MP06_0243

involve excavating into fill and then into Class 2 ASS and dewatering to lower the groundwater table, with the bottom of the deep water zone permanently intercepting groundwater.

- e. A Fire Management/ Asset Protection Zone management component to ensure that measures undertaken for fire protection purposes do not conflict with ecological intent, require clearing of significant vegetation or compromise the integrity of the buffer.
- f. A tidal flushing regime component which considers the various ecological requirements of the flora and fauna components of the wetland system, as well as reducing as far as possible mosquito and midge breeding.

The installation of an acceptable tidal floodgate is integral to the management of tidal regime and tidal flushing within the wetland area, and affects the development directly in relation to mosquito and biting midge control. As the existing floodgate is outside of the development area it is possible for the developer to pay for the cost of floodgate replacement as part of the management while experienced Council officers carry out the actual installation in consultation with DPI Fisheries. This should be included within the management plan.

Council has established precedents at major coastal developments that specify developer responsibility for a minimum of 5 years for restoration, monitoring, maintenance and reporting prior to dedication to Council. This period will be expected in this case to ensure the area is restored to a sufficient standard for Council to maintain without a significant ongoing injection of funds.

In the longer term, the wetland and EEC vegetation should be rezoned to environmental protection and this should be included as an action within the management plan to ensure long-term protection of the area.

The Ecological Buffer Analysis states that transfer of ownership to Council is a critical step to achieving an appropriate long-term management regime with regard to invasion and establishment of exotic flora within the wetland. Whilst it is important that long-term management rest with Council, a management plan must be developed which clearly details weed control methods, scheduling, monitoring and reporting and places responsibility for restoration and weed control works for the first five years on the developer. Council will not accept dedication of weed-infested lands. Fencing, signage and potentially limited and controlled access is supported.

The wetland has already suffered impacts from other sides due to existing development and further significant impact could mean its loss. The buffer report discusses the value of the wetland as being degraded by environmental weeds. Such degradation is almost certainly due to surrounding development and associated inappropriate landscape plant selections which have escaped, or been dumped, into the wetland area. These types of impacts are likely to be exacerbated by this

Attachment – Council Officers Comments
Fraser Drive – MP06_0243

proposed development without a strong and definitive management plan committed to by the developer.

5. The Champagne Drive road reserve and vegetation to the south has not been fully assessed

The development relies upon closure of this road reserve and clearing of this area and a fragmented portion of the lot to the south, yet the existing vegetation (which links to vegetation to the west) does not appear to have been separately assessed. The Ecological Assessment report refers to 'Figure 3 Vegetation Communities' yet no figures have been included. Even if it is assumed the area is primarily Camphor Laurel Forest, such areas can contain significant and threatened species, and part of this area in the east is mapped in the Tweed Vegetation Management Strategy as "sedgeland and rushland". Whether this small area may be considered as the Freshwater Wetland EEC has not been addressed.

6. Various components of the report conflict or are uncertain in their approach

The Ecological Buffer Analysis shows that part of the EEC vegetation occurs outside of the proposed 50m buffer to the currently mapped SEPP 14 wetland, yet the Ecological Assessment states otherwise.

The Ecological Buffer Analysis states in the Introduction that after an on-site meeting "it was agreed that the buffer(s) required between development and the adjacent SEPP Wetlands and associated ECC need not be a minimum of 50 metres in width provided that any proposed alternative arrangements would appropriately protect the values of the environmentally significant areas". This is not the case. At that on-site meeting it was clearly stated that 50m is the generally accepted minimum buffer width and that significant justification would be required for any deviation from this accepted minimum. Such justification has not been provided to an acceptable level. It should also be made clear that at that meeting we were discussing a buffer to the wetland in total, not specifically to the mapped SEPP 14 area (i.e. including wetland EEC areas).

The same report in the Stormwater Management Strategy section states "A key aspect of the SWMP is the proposed Constructed Wetland system that has been designed and would be constructed in such a manner that ensures there will be no increase in runoff for all storm events up to and including the local catchment 100 year ARI event, without compromising the water quality of the site." Presumably, the applicant means that water quality running into the wetland will not be compromised up and including the local 100 year ARI event, where the statement reads differently.

Although it is accepted that the Ecological Buffer Analysis was written by consultants for a client, Recommendations in general are not appropriate within a Preferred Project Report. Recommendations must be agreed upon and committed to actions within the report and where appropriate contained within the Statement of Commitments.

**Attachment – Council Officers Comments
Fraser Drive – MP06_0243**

The Notes for Groundwater Assessment states “Groundwater monitoring throughout construction and for a period of operation could be undertaken to confirm if contaminated groundwater leaves the treatment pond”. This is not acceptable as it would be too late and likely adverse impacts would arise. Certainty in regard to avoiding pollution of groundwater is required prior to commencement.

7. The Statement of Commitments in general consists of broad motherhood statements that commit the developer to little.

Vegetation Management, for example, commits only to a plan for areas outside of EEC's which is a small and insignificant component of what is required for restoration.

Conclusion

In my opinion, the potential for a significant impact to the SEPP 14 wetland and surrounding Endangered Ecological Communities is still too high to be acceptable unless the development is tightly regulated in terms of all the matters listed in point 4 above to be included within a SEPP 14 & EEC Management Plan. Previous advice appears to have been ignored or inadequately addressed. As the applicant appears unable or unwilling to shift their position and address significant issues to the satisfaction of Council and State Agencies, consideration should be given to refusing the application based on an unknown and potentially significant impact to EEC's or, at least, to requiring the detail requested in a Management Plan to be contained in the Statement of Commitments.

MEETING MINUTES



Reference:	06072
Property / Site:	Fraser Drive – South Tweed
Meeting Date:	29 April 2008
Meeting Location:	Tweed Shire Council, Murwillumbah – 2pm-4pm

Attendees:

Name	Title	Company	Business Type
Pradesh Ramiah		Conics	
Murray Simpson		GEO Property	
Peter Johnson		GEO Property	
Alaister Macrae		Cardno	
Rod Barry		Cardno	
Duncan Tijn/ Kieron Hendicott		Cardno Eppel Olsen	
Rowena Michel		Tweed Shire	
Angie Cousens		Tweed Shire	
Danny Rose		Tweed Shire	
Graeme Burton		Tweed Shire	
Patrick Knight		Tweed Shire Council	

Attached is a copy of the Agenda items presented to Council. Discussion however, was generally guided by the issues relevant to the final design of subdivision. The summary below only provides details regarding the outcomes agreed to for each of the items discussed.

Agenda No.	Summary of Issues	Action
1. Rights of Carriageways	Council raised concerns that carriageways impeded public access to identified open space areas. May not provide sufficient parking. In addition the location of the associated garbage pads did not demonstrate adequacy for service truck manoeuvrability.	88B Instruments attached to the right of carriageway lots will include provisions to provide for public access to parks. We will also consult with Solo Waste, to determine requirements for garbage truck

MEETING MINUTES



Agenda No.	Summary of Issues	Action
		manoeuvrability with the nominated garbage pads on the proposed layout. Further information to include written confirmation from Solo Waste.
2. Sight Distances	Council raised a concern with the site distance associated with the right of carriageway intersection with the proposed extension of Seaview Avenue being inadequate.	Conics/Cardno will re-examine and provide further information to Council for assessment. Further information to include blown up detail that shows future earthworks proposed for the area. Layout will be amended in this area if required to accommodate sight distance requirements.
3. Merlot Court cul de sac	The cul de sac at Merlot court did not demonstrate sufficient turning width. Further was longer than council's 300m DCP requirement.	Previous road layout plan to be adopted. Council supports connection to Merlot Court. Provide further information to Council demonstrating sufficient turning width of cul de sac head.
4. Noise Attenuation Wall	Council unclear as to the detail regarding the proposed noise attenuation wall. Matter was raised further to the comments of Department of Planning.	Noise wall to be reviewed in light of preliminary design of proposed upgrade to Fraser Drive using the Preliminary design drawing provided by Tweed Shire Council. Visual and Landscape issues associated with wall redesign will be provided.
5. Point 27 and Point 28	Council are concerned that the current existing easement (which is described as an asset) on the development site will be removed and the capacity to do works to address any issues associated with increased runoff from the eastern catchment will be lost once the development proceeds.	Cardno to look to reducing 3 x 1500dia STW and adding high level overflow swale. Road will have to be lowered to achieve this.

Agenda No.	Summary of Issues	Action
6. Point 30.	Issue is as described in Council's letter: Provide an assessment of impacts on downstream properties and public infrastructure south of the subdivision site (Shiraz Place, Merlot Court) due to increase urban stormwater runoff. Council require supporting calculations to demonstrate the no net increase argument. Also need to consider spatial changes in the discharge points from the urbanised catchment and the related impacts on receiving infrastructure.	Further information to be provided as requested by Council.
7. Point 31.	Council confirmed that drainage point is not the lawful point of discharge from the site. Council potentially at risk from any action brought about by adjoining landholder as a consequence of increased drainage. Council's liability will be minimised by creation of easement across adjoining lands or legal advice indicating otherwise. Council could not cite any court precedent or relevant cases that demonstrated increased risk. Council confirmed that it was a common law issue that needed further investigations.	Proponent to investigate matter further and provide detail to Council.
8. Point 33 and 34	Council were concerned that the water level shown in the engineering plans for the constructed wetland were below that off the level identified in the SEPP 14 wetland.	Cardno confirmed that the proposed water levels were consistent. Further detail will be provided to Council demonstrating so.
9. Point 38	Clarified that open space with drainage facilities are not credited for open space.	Action: see point on open space below.
10. Point 39.	Council confirmed that Flood Modelling had been completed is not available for public viewing. Shall be ready in 2 to 3 months. PMF confirmed as 4.3 metres. The model is being revised to address sea level rise and climate change. Further information has been provided to the Department of Planning	Council had previously provided advice to DoP confirming that design is based on 2.6 AHD and 4.3 AHD. Proponent to confirm Council's correspondence had been received by Department.
11. Open Space	Council's concerns regarding accessibility to proposed open space can be addressed through the aforementioned S88B instrument. Acceptance of the Seaview Avenue open space subject to the provision of a more detailed low maintenance landscape concept plan. Council's acceptance of APZ will be determined following the provision of more detailed landscaped concepts for Fraser Drive road reserve and further information on the bushfire management requirements for the area behind Ridgeway Crescent.	Further advice on landscape concepts demonstrating low maintenance will be provided to Council in addition to further information regarding Bushfire management. Further investigations will be undertaken by the

Agenda No.	Summary of Issues	Action
	We advised Council of the Department's condition regarding the SEPP 14 buffer. Council also indicated that we are short of the open space required under the DCP and have advised that the shortfall should be provided either as part of the open space/detention centre at Merlot Court or within the existing park area nominated in stage 2A. We reaffirmed our approach to the subdivision design by indicating the site needed to be viewed in two parts, the flat sections and the south west sections and while satisfactory open space was provided on the flat, the slope constraints inhibited the supply of open space. Concerns were raised by the proponent as to the ability to provide a local park that satisfied Council's slope requirements. Further the practicalities of providing excessive open space with limited accessibility for future residents outside of the flat section was questioned.	proponent to examine the opportunities to provide the shortfall in active open space.
12. Planning Variations	Proponent accepts, further to advice from the Department that blocks less than 450 sq m is a prohibition and will amend layout plan accordingly. Council officers indicated they would not likely support duplex lots. It is likely that current controls have been in place since 2003. Further advice may be sought from Gary Smith and Lindsay McGavin to determine if examples of smaller duplex lots had been approved in tweed post 2003 controls. Proponent identified the Banora Centre Shopping (approx 4000 sq metres of retail space) 800m south of the Fraser Drive Site. Council accepted that this complex could be used to argue for the variation to current DCP which nominated a neighbourhood centre on the Fraser Drive site.	Proponent to seek further advice from Council's managers with regard to Duplex lots. Proponent to amend PPR to provide further justification to vary requirement for neighbourhood centre.
Other matters	Council identified further comment provided by Jane Lofthouse regarding aboriginal midden. Council requests that an access point (vehicular) from Merlot Court be provided to the midden site. Proponent pointed that the site already occurred within Council land (Champagne Road reserve) which was subject to a decision of Council to be closed in exchanged for the dedication land adjacent to Fraser drive. The requirement for access from Merlot Court was subsequent to the on-site meeting attended by Council officers. Proponent requested Council review the advice in light of previous agreement. Note: Rowena Michel and Angie Cousens on leave from 10 May – mid june and 17 May –mid June respectively.	Council to provide further commentary on the requirement to provide vehicular access from Merlot Court.

Pradesh Ramiah

From: Pradesh Ramiah
Sent: Monday, 21 July 2008 11:16 AM
To: 'Grahame Burton'
Cc: Sally Munk; Sandy Pimm; Tessa Newbold
Subject: Fraser Drive - Seaview Park
Attachments: 71887-SD-L2.00-park concept.pdf; Addendum to Bush Fire Assessment - Fraser Drive.pdf

Hi Grahame,

further to your comments of the 27 June 2008, attached is a more detailed concept for the proposed seaview park (71887-SD-L2.00-park concept.pdf).

In addition I have attached an updated assessment prepared by our bushfire consultant prepared in response to your comments on the area behind Lot 168.

I apologise for the delay in getting this to you, however, we would like to resolve this issue with you ASAP. Could you please advise if Tweed Council are thus generally satisfied with the provision of open space within the Part B section of proposed subdivision and management of bushfire.

Our amended Preferred Project Report will include a detailed response, however, please note that we are still resolving some of the stormwater management issues with Council particularly the failsafe measure, however your confirmation regarding the open space and bushfire would be greatly appreciated.

regards

Pradesh

Pradesh Ramiah | Senior Planner

CONICS**Sydney Office**

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Conics, the new name for PMM.

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Refer to Civil Engineer's drawings for path and kerb crossover setting out.

Refer to Civil Engineer's drawings for service locations. All services are to be verified on site prior to any excavation / construction. Trees to be located minimum 1m from services. All services are indicative only. Final set-out for all landscape treatments to be confirmed on site by the Landscape Architect.

Unless shown on the landscape drawings, refer to Structural Engineer's drawings for joining, reinforcement, structural fixings etc for all walls and pavements.

All trees marked within / adjacent to vehicle sightlines are to be set out on site prior to installation and approved by the Landscape Architect and Traffic Engineer.

For Lighting requirements refer Electrical Engineers drawings.

The contractor shall review the plant schedule to ensure that drawings and schedules concur. Where insufficient detail or discrepancies may exist on either the plans or the schedule, it is the contractors responsibility to resolve immediately with the Landscape Architect and prior to providing tender pricing, signing work contracts or commencement of works.






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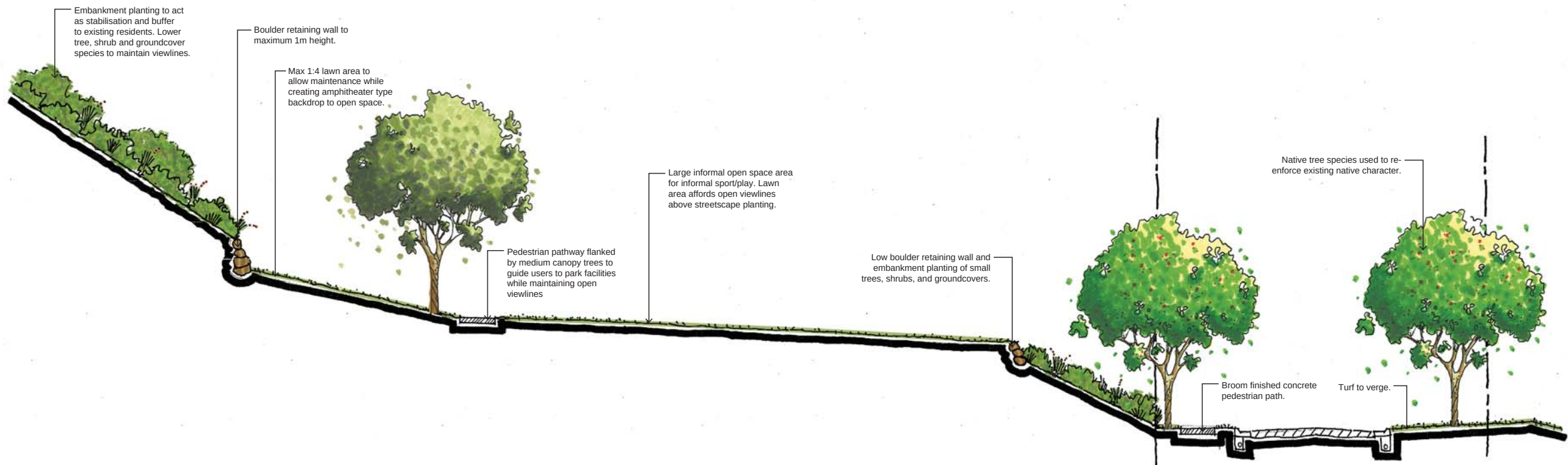
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For Lighting requirements refer Electrical Engineers drawings.

The contractor shall review the plant schedule to ensure that drawings and schedules concur. Where insufficient detail or discrepancies may exist on either the plans or the schedule, it is the contractors responsibility to resolve immediately with the Landscape Architect and prior to providing tender pricing, signing work contracts or commencement of works.



15 May 2008

Attn: Peter Johnson

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PO Box 7240

Lismore NSW 2480

ABN 23558219895

Dear Mr Johnson

Addendum to Bush Fire Assessment: Proposed residential subdivision, Fraser Drive, South Tweed, Lot 2 DP1000385 and Lot 9 DP 1039569

BOSKAE Environmental Planning has been engaged by MFS Diversified Developments Pty Ltd to provide additional information for the above development application. Tweed Shire Council and the NSW Department of Planning require further information to determine the bush fire risk of vegetation in the north-west of the site that is to be managed by council as open space.

Bridget Aulton of BOSKAE Environmental Planning inspected the site on 9 May 2008 to perform an assessment of the bush fire risk of the area south-west of the SEPP14 Wetland. The area is located adjacent to neighbouring lots on Hillcrest Avenue and Ridgeway Street, and recommendations are made to adequately manage the bush fire risk presented to the adjoining residential land.

The proposed open space is predominantly cleared land with some trees interspersed along the slope. See attached photos.

The area contains slopes ranging from 11° to 16° and lays upslope to the hazard presented by the SEPP14 Wetland to the north-east. Considering that the slopes are less than 18°, this area is considered capable of being accessed by council officers for maintenance.

The proposed open space should be managed as a low fuel zone or Outer Protection Area (OPA) for 20m from the rear boundaries of the residential properties. The OPA should provide a tree canopy cover of less than 30% and be managed in accordance with Planning for Bush Fire Protection 2006. The understory in this area should be managed (mowed where possible) to treat all shrubs and grasses on an annual basis in advance of bush fire season (usually September).

If there is a need to discuss any matter raised in this assessment, please do not hesitate to contact Bridget Aulton on (02) 6625 1704.

Yours sincerely

A handwritten signature in dark ink, appearing to read "Bridget Aulton", written in a cursive style.

Bridget Aulton

Enc: Photos of area south-west of SEPP14 Wetland

Public Open Space Area, South-west of SEPP14 Wetland

(Source: Google Earth 14 May 2008)



Selection of Photos of Public Open Space Area

(Photos taken 9 May 2008)





From: Angie Cousens [mailto:acousens@tweed.nsw.gov.au]
Sent: Tuesday, 5 August 2008 10:23 AM
To: Pradesh Ramiah
Cc: Rowena Michel; Danny Rose; Sally Munk
Subject: RE: Fraser Drive - Intersection with Ocean Avenue and Geotech Assessment of filled area

Hi Pradesh,

Please note the drawing for sight distance provided is adequate. In regards to geotechnical testing and recommendations for the compressible clay material in the flat low area of the site, it is considered that a condition of consent prior to the issue of the construction certificate can be addressed in the consent for this information.

regards
Angie

Tweed Shire Council

Angie Cousens B.Eng (civil)
Development Engineer

Civic & Cultural Centre,
P.O. Box 816, Murwillumbah NSW 2484
Telephone: (02) 6670 2416
Facsimile: (02) 6672 6250
Email: acousens@tweed.nsw.gov.au
Website: www.tweed.nsw.gov.au

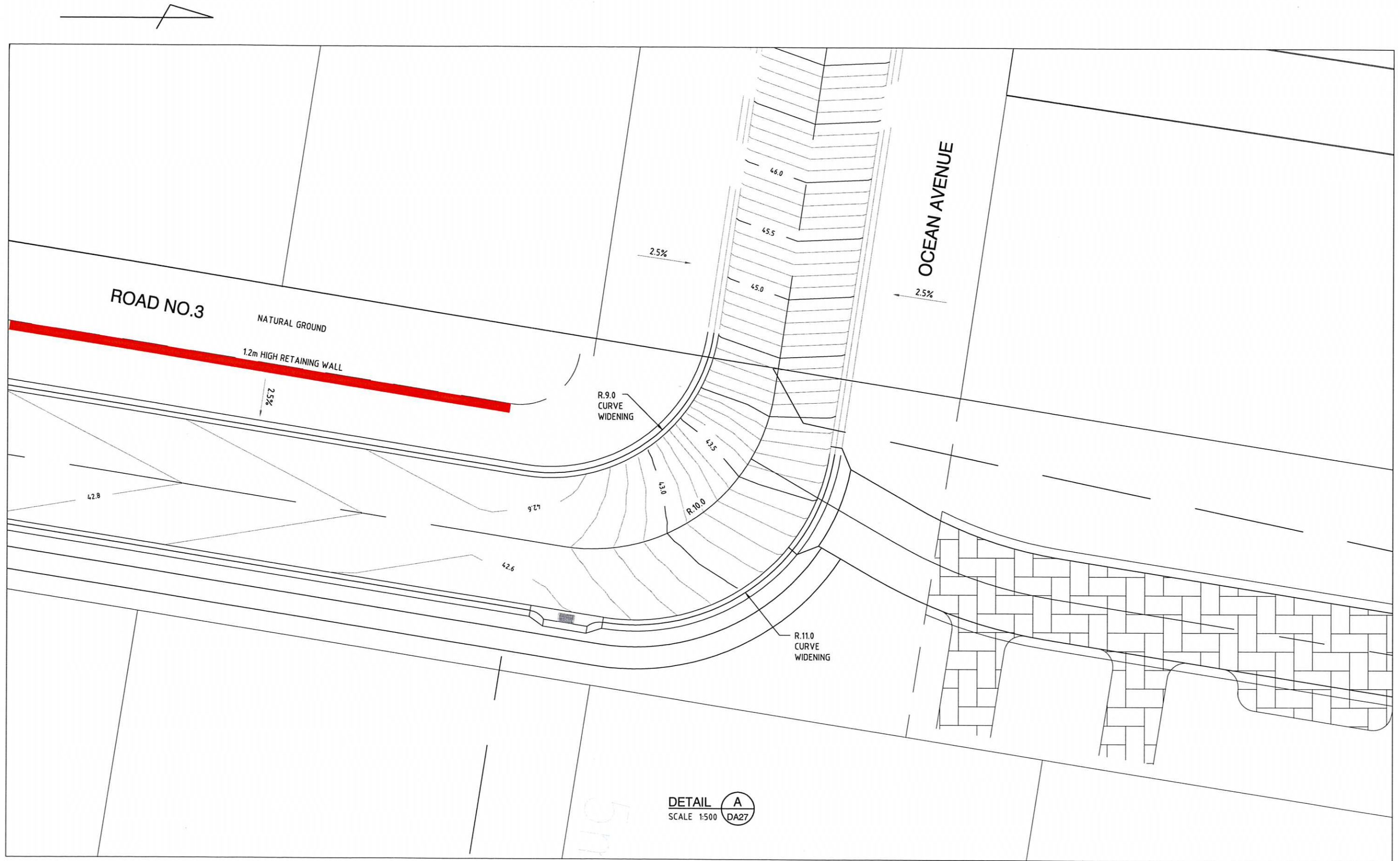
From: Pradesh Ramiah [mailto:pradesh.ramiah@conics.com.au]
Sent: Thursday, 31 July 2008 5:23 PM
To: Angie Cousens; Danny Rose
Cc: Rowena Michel; Sandy Pimm; Murray Simpson; Sally Munk; Alaister Macrae
Subject: Fraser Drive - Intersection with Ocean Avenue and Geotech Assessment of filled area

Hello Angie, Danny

I'm following up on a couple of issues. On the 14 May 2008 we provided Council with further information regarding the Sight Distance for Road 3. We're yet to get any feedback that our response satisfies Council. Could you please advise as we would like to finalise our report.

Further with regard to Angie's comments re: Geotechnical Assessment of 17 April 2008, we note that Council had identified we had not responded to doing geotechnical investigations for the flat area nor had we proposed any recommendations. Notwithstanding, it was not indicated if this issue could be addressed as a condition of consent.

I've been liaising with Morrison Geotech who have advised that the lack of recommendations was not an oversight, but a reflection that such an issue would be addressed as part of the general



10 5 0 10 20 30 40m
SCALE BEFORE REDUCTION 1:500

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VILLA WORLD LIMITED

LOT 9 DP 1039569 & Part LOT 2 DP 1000385
FRASER DRIVE, SOUTH TWEED HEADS
FRASER DRIVE, SOUTH TWEED HEADS

ENGINEERING REPORT

SCALE :-	A1
DATE :- 8 DECEMBER 2006	Rev.
DRAWING No.	7214/29/01-DA026

FIGURE No.DA 031

ROAD 3 ELBOW DETAIL

approach to site preparation works. The site has been filled for a number of years, and it is likely some compression has occurred, however, in order for the development to proceed, some grading and minor filling will need to occur on site for the purposes of constructing the roads, lots, parks etc. As part of normal site preparation work and construction management, testing would occur then to determine settlement and stability issues.

Given that the site is flat and not identified as possessing any significant land slip hazard, would Council be satisfied if we included within our Statement of Commitments the following condition:

"Detailed engineering plans, including the results and recommendations of any subsequent geotechnical testing for works proposed on the pre-filled flat section of the site identified in drawing Ref No. T14246 'Site Plan Lot 9 in DP 1039569' dated 7.03.07 prepared by B & P Surveys Consulting Surveyors, but not including the ecological buffer area nominated in the vicinity of the Integrated Housing Lot, are to be provided to the Director of Engineering Tweed Shire Council for approval and signoff prior to the issue of a construction certificate."

Please feel free to suggest any amendments. Your comments are appreciated. Look forward to hearing from you.

Danny, please note, further to the attached we have received the plans for the Fraser Drive widening.

regards

Pradesh

Pradesh Ramiah | Senior Planner

CONICS

Sydney Office

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p: +61 2 8270 8300 | f: +61 2 8270 8399 | m: 0422 913 383

pradesh.ramiah@conics.com.au | www.conics.com.au

Conics, the new name for PMM.

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Pradesh Ramiah

From: Pradesh Ramiah
Sent: Tuesday, 8 July 2008 1:01 PM
To: Sandy Pimm; 'drose@tweed.nsw.gov.au'; 'patrickknight@tweed.nsw.gov.au'
Cc: 'Alaister Macrae'; Sally Munk; rod.barry@cardno.com.au; Murray Simpson
Subject: Fraser Drive - Stormwater Management
Attachments: 06072 080509_fl Minutes from Council meeting.pdf; x-sections.pdf; DSCN0287.pdf; DSCN0288.pdf

Hi Sandy, Danny and Patrick,

We've been working towards finalising our response with regard to Stormwater issues. Now that we're moving towards getting the open space and layout options resolved, the Stormwater and Drainage issues can now proceed with some certainty.

Further to the outcomes to our meeting of the 29 April we have been investigating drainage options particularly in regard to items 27,28 and 31 (see attached minutes).

The X - section.pdf attachment relates to our investigations regarding points 27,28. This option has the least impact to the proposed road corridor out of three and it can be described as:

- Road profile of 11m wide carriage way with kerb and channel on southern side and concrete edge restraint on northern side.
- 3.5m wide verge on southern side, 1m verge on northern side.
- Trapezoid overland flow channel along northern side of roadway with 3:1 batters and 2m wide base.
- 4:1 batter provided within lots along southern side of roadway. Batter to extend approximately 2m in lots.
- Retaining wall provided along northern edge of channel where adjacent to the proposed medium density site. Maximum height approximately 1.8m.
- Road reserve width approximately 28.6m.

Our issue with this situation is that it uses up approximately 800 sq metres of developable space in the Integrated Housing Lot. Our engineers advise us that:

One of the main constraints that affects all of the options is the invert level of the proposed channel. Existing survey information of Fraser Drive indicates that the existing edge of bitumen level at the proposed subdivision intersection with Fraser Drive is at approximately RL1.7m AHD. Therefore the upstream invert level of the proposed overland flow channel adjacent to the entry road would need to be at least RL0.7m AHD, taking into account the depth of flow within the channel plus 300mm freeboard to the level of the adjacent neighbouring lot. (Levels subject to confirmation during detailed design) Based on the current design levels of the lots, this is approximately 2.5m lower than the adjacent corner lot proposed at RL3.2m AHD. With the adoption of a minimum channel slope of 0.5%, this variation in ground levels between the channel invert and the adjacent lots can vary by up to approximately 3.2m.

We briefly reviewed the possibility of piping the Q10, Q20 and Q50 flows, with the remaining flow up to the Q100 being conveyed via the overland flow channel. We note that increasing the capacity of the pipe network will assist in reducing the channel flow width, based on the same channel profile indicated above. However, as noted above road reserve profile is limited by the channel invert level and batter slope. The channel width could possibly be reduced by using a rectangular channel section, however, there may be aesthetic and maintenance issues associated with this type of channel profile.

We are a little concerned with the implications of this outcome. Not only does it utilise developable land, but will result in significant infrastructure including some fencing, a fairly high revetment wall, a 3 metre ditch and a bridge structure to access the integrated lot. Further there will need to be some significant landscaping needed as this is the entrance to the development. All which will be dedicated to Council.

In light of the above, is Council able to review the comments made with regard to the requirement to provide a 'failsafe surcharge option' as requested in your comments dated 17 April 2008. The failsafe surge options seems raise some significant issues with little benefit. Our original option to provide the three cell 1500 mm

meter pipes does cater for an ARI 100 year storm event. Can Council please review and advise us ASAP.

With regard to point 31, we are still investigating the issue of legal discharge point. Notwithstanding, the request for the easement across the adjoining property raises an interesting issue. From our inspection of the 23 June, we notice a significant ponding of water on the adjacent property (see attached photograph). I'm not sure how long the ponding occurs for, but the fringing vegetation looks established. I'm conscious of treading on some sensitive environmental issues by pursuing the "easement solution" (ie. disrupting hydrological inputs). We would appreciate any comments from Council in this regard.

Look forward to hearing from you in the near future. If you have any questions please do not hesitate to call.

Regards

Pradesh

Pradesh Ramiah | Senior Planner

CONICS

Sydney Office

Suite 412, King Street Wharf 15 Lime Street (GPO Box 4401) Sydney New South Wales 2001

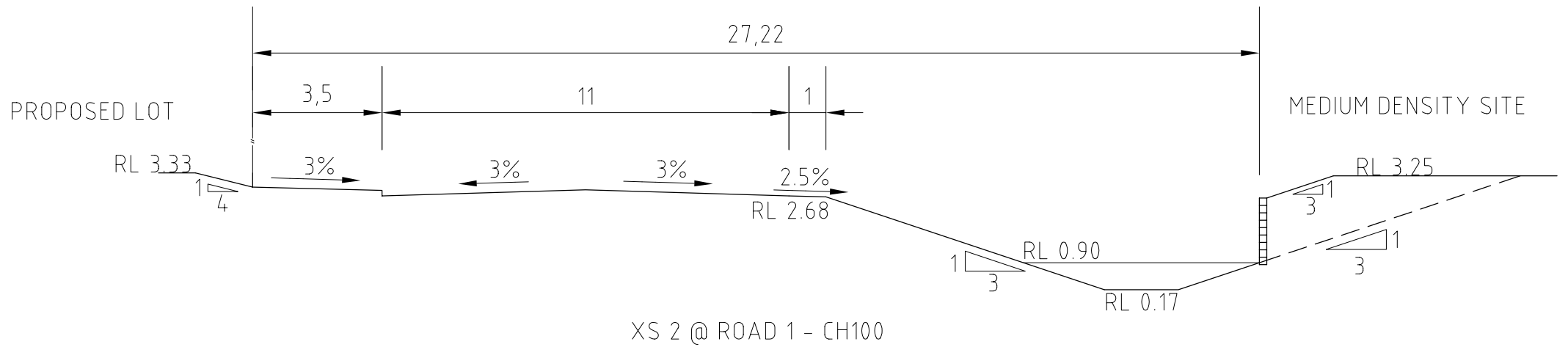
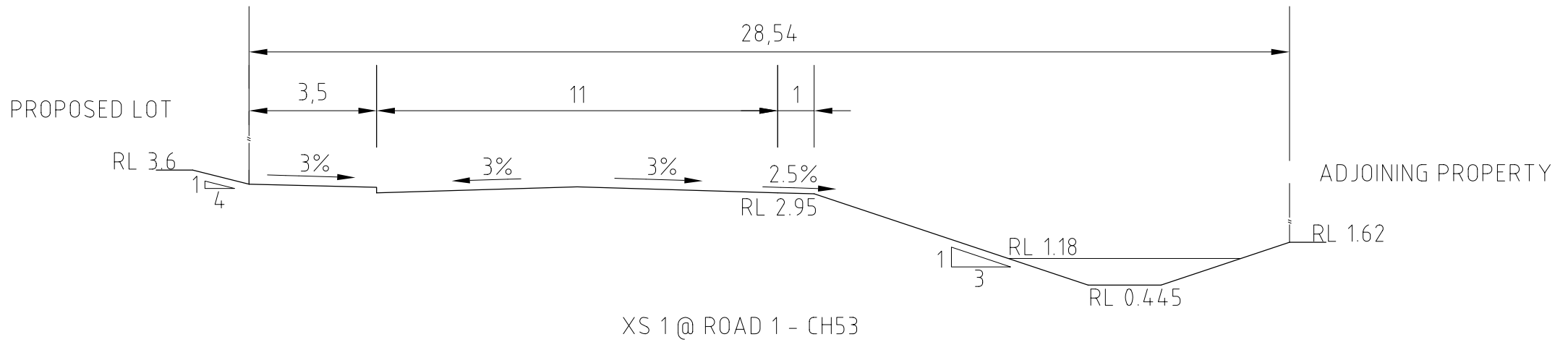
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Conics, the new name for PMM.

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Pradesh Ramiah

From: Danny Rose [DRose@tweed.nsw.gov.au]
Sent: Thursday, 17 July 2008 1:30 PM
To: Pradesh Ramiah
Cc: Patrick Knight; Sandy Pimm
Subject: RE: Fraser Drive - Stormwater Management

Pradesh,

With regard to your preliminary stormwater channel design, TSC agrees that while this generally satisfies our engineering requirements, it is not a desirable solution from an urban design perspective. As it is the developer's responsibility to provide alternative solutions to the drainage issue, and Council will only accept a system that provides an equivalent level of service to the existing channel and drainage easement, we would ask that you explore further options. We are currently reviewing our performance requirements in this regard, and will provide further advice next week.

With regard to the legal point of discharge definition of a "natural watercourse" or "waterway", Council does not have a "legal" definition that might help you. There are some definitions in the Dept Planning LEP template that you could cite in your justification of the discharge arrangements. Another definition from a Canadian website that we found and thought appropriate was:

...A *natural watercourse* is defined generally as "a stream of water which flows along a defined channel, with a bed and banks, for a sufficient time to give it substantial existence"...

<http://www.omafra.gov.on.ca/english/engineer/facts/98-015.htm#Natural>

I hope this assists

Regards

Danny Rose
 Flooding & Stormwater Engineer
 TWEED SHIRE COUNCIL
 PO Box 816
 Murwillumbah 2484
 Ph: (02) 6670 2476
 Fax: (02) 6672 7513

From: Pradesh Ramiah [mailto:pradesh.ramiah@conics.com.au]
Sent: Tuesday, 8 July 2008 1:01 PM
To: Sandy Pimm; Danny Rose; Patrick Knight
Cc: Alaister Macrae; Sally Munk; rod.barry@cardno.com.au; Murray Simpson
Subject: Fraser Drive - Stormwater Management

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12/08/2008

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ook forward to hearing from you in the near future. If you have any questions please do not hesitate to call.

:gards

radesh

Pradesh Ramiah | Senior Planner

CONICS

Sydney Office

Suite 412, King Street Wharf 15 Lime Street (GPO Box 4401) Sydney New South Wales 2001

12/08/2008

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Conics, the new name for PMM.

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MINUTES OF MEETING

Project Title	Fraser Drive Development, Tweed Heads	Project No.	7214/29-1
Meeting Place	Tweed Shire @ 9am	Date	29.07.08
Recorded by	Alaister Macrae	Sheet	1 Of 1
Purpose of Meeting	To discuss Stormwater Channel Main Entry	Meeting No.	1
Attendees: Murray Simpson - GEO Property (MS) Rod Barry - Cardno (RB) Alaister Macrae - Cardno (AM) Danny Rose – TSC (DR) Patrick Knight – TSC (PK) Rowena Michel – TSC (RM) Angie Cousens – TSC (AC)			
Item	Description	Action By	Date Reqd
1.0	MS and RB discussed the issues associated with the entry channel and why the channel was so deep as it is governed by the adjacent lot and Fraser Drive at RL 1.60.		
2.0	PK indicated their existing easement had between 10m2 and 15m2 of flow area. Council as owners of the easement want to maintain a system of similar capacity.		
3.0	As the team realised the complex nature of constraints, Council agreed a possible solution could be to lift channel invert to RL 1.6 provided Q100 drainage maintained channel can be flat. RB will have to prove that the proposed system will not increase flooding on existing land adjacent to development. The new solution means the retaining wall in the medium density is only 600mm high and visual impact is a lot better. RM was happy with this approach. DR indicated we must provide fail safe egress for medium density site. A bridge type structure will be required over the channel.		
4.0	Team discussed other development issues. Generally these have been resolved or Pradesh (Conics) had enough information to present a case to Council ie the legal point of discharge across Sutherland's land.		
5.0	Meeting concluded at 10.00am		

Pradesh Ramiah

From: Pradesh Ramiah
Sent: Thursday, 7 August 2008 9:25 AM
To: Danny Rose; Sandy Pimm; Rowena Michel; 'patrickknight@tweed.nsw.gov.au'; 'Angie Cousens'
Cc: Sally Munk; 'Alaister Macrae'; rod.barry@cardno.com.au; 'Murray Simpson'
Subject: FW: Fraser Drive Entry Road Flood Relief Overland Flow Path
Attachments: Revised Typical Road X-S.pdf

Hello Danny, Sandy, Rowena, Angie and Patrick

Further to the meeting of 29 July 2008 we have revised the our original proposal to Council and provide the following, attached diagram and technical explanation below. We hope the following satisfies Council. Please note we are finalising our Report to the Department. Your confirmation regarding the satisfaction of Council's interest in this regard is appreciated as we will need to ensure consistency with all our plans.

If you have any further queries please do not hesitate to call.

regards

Pradesh

From: Carlo De Byl [mailto:carlo.debyl@cardno.com.au]
Sent: Wednesday, 6 August 2008 4:53 PM
To: 'Alaister Macrae'
Cc: 'Rod Barry'
Subject: Fraser Drive Entry Road Flood Relief Overland Flow Path

As discussed with Council we have reviewed the characteristics of the emergency flood relief overland flow path provided adjacent to the proposed subdivision entry road. The following information has been provided to address the issues discussed with Council.

As Council have an existing drainage easement over the subject site from Fraser Drive through to the SEPP 14 wetland area, Council have requested that the drainage system incorporated into the proposed subdivision provide equivalent drainage capacity for runoff generated from the eastern external catchment to be conveyed from Fraser Drive through to the SEPP 14 wetland area.

An assessment of the capacity of the existing drainage easement was undertaken by nominating an arbitrary level of RL 2.0m AHD and determining the cross-sectional area of the existing easement up to that level. This arbitrary level of RL 2.0m AHD was selected as the cross-sectional areas of the existing drainage easement and the proposed emergency flood relief overland flow path will be equivalent above this level as the existing and proposed channels will be at least 5m wide above RL 2.0m AHD. Survey plans of the subject site indicate that the existing drainage easement is 5m wide. From other survey information of the Fraser Drive site taken prior to much of the previously approved filling works occurring on site, the invert level of the drainage easement was approximately RL 0.5m AHD. Based on this information the cross-sectional area of the existing drainage channel up to RL 2.0m AHD was estimated to be approximately 7.5m^2 $((2.0-0.5) \times 5.0)$. It is noted that as the drainage easement is an open channel the ultimate capacity of the easement was considered to be unlimited.

Based on the preliminary design undertaken to date, it is proposed to convey the Q100 discharge contributing from the eastern external catchment through to the SEPP 14 wetland via three 1500mm diameter pipe culverts. In addition to the pipe culvert system, Council have requested that an overland

flow path be made available through to the SEPP 14 wetland, maintaining emergency flood relief. To investigate the capacity of the proposed drainage system through the development site we assessed the cross-sectional area of the proposed network up to the equivalent arbitrary level of RL 2.0m AHD. The cross-sectional area of the three 1500mm diameter pipe culverts was estimated to be approximately 5.3m^2 . Therefore in order to maintain an equivalent cross-sectional area of approximately 7.5m^2 up to RL 2.0m AHD, it was necessary to provide an overland flow path with a cross-sectional area of approximately 2.2m^2 up to RL 2.0m AHD. Based on available survey information existing ground levels along the proposed reconfigured property boundary ranged from approximately RL 1.60m AHD to RL 1.70m AHD. Therefore an channel invert level of approximately RL 1.59m AHD was adopted to maintain fall towards the proposed overland flow path. Based on a channel invert level of RL 1.59m AHD, in order to achieve an overland flow path cross-sectional area of 2.2m^2 up to RL 2.0m AHD the base width of the channel needed to be approximately 4.9m wide, with a batter slope of 1:3 (V:H) up to the proposed roadway. Refer to the attached PDF for a preliminary typical road cross section. We note that the levels indicated on the cross section are preliminary only and will be subject to confirmation during the detailed design phase of the development. Similar to the existing drainage easement, as the proposed emergency flood relief overland flow path will be an open channel the ultimate capacity is considered to be unlimited.

We note that a bridge or culvert crossing will be provided over the flood relief overland flow path in order to access the proposed medium density site located within the northern part of the development. The deck level of the access road to the medium density site will be sufficiently above the 100 year ARI regional flood inundation level in order to provide the required emergency egress. It will be necessary to ensure that the cross-sectional flow area of the proposed three 1500mm diameter pipe culverts and the proposed bridge / culvert crossing of the overland flow path is equivalent to the cross-sectional flow area of the existing drainage easement at the same arbitrary level.

It is noted that as the invert level of the emergency flood relief overland flow path is proposed to rise to approximately RL 1.59m AHD, in comparison to the previous channel profile proposed, the maximum height of the retaining wall structures proposed along the northern edge of the channel (adjacent to the proposed medium density site) are expected to decrease from approximately 1.8m to approximately 1.2m. Note that the retaining wall structures are subject to detailed design.

It was noted that the existing 900mm diameter pipe culvert under Fraser Drive has limited capacity, therefore during the local catchment 100 year ARI flood event runoff is expected to flow over Fraser Drive. Therefore as part of the detailed design of the Q100 pipe network it is proposed to design the inlet pits with sufficient capacity to capture the Q100 runoff flowing over Fraser Drive. In addition to this it will be necessary to design the pipe system with sufficient capacity such that the resulting headwater level does not surge above the existing level of Fraser Drive.

Should Council proceed with the upgrade of Fraser Drive, including the raising of the carriage way, it is recommended that the cross drainage under Fraser Drive be upgraded to convey the Q100 discharge and connect directly into the Q100 pipe network proposed as part of the subdivision works. The upgrading of the pipe network is recommended as the lifting the Fraser Drive carriage way would be expected to impede the existing Q100 discharge over the roadway. Regardless of whether the cross drainage under Fraser Drive is upgraded or not it is recommended to retain the emergency flood relief channel adjacent to the subdivision entry road.

Regards,

Carlo de Byl

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