

Items for Consideration of Council

Reports from Director Development Services 5

1. ORIGIN: Subdivision Unit 7

**Proposed 529 Lot Urban Subdivision at Lot 4 DP 803030 Mooball/Pottsville Road,
Pottsville**

Items for Consideration of Council

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MATTERS FOR CONSIDERATION UNDER SECTION 79(C)(1) OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The following are the matters Council is required to take into consideration under Section 79(C)(1) of the Environmental Planning and Assessment Act 1979 in assessing a development application.

MATTERS FOR CONSIDERATION

1. In determining a development application, a consent authority shall take into consideration such of the following matters as are of relevance to the development the subject of that development application:
 - (a) the provisions of
 - (i) any environmental planning instrument; and
 - (ii) any draft environmental planning instrument that is or has been placed on public exhibition and details of which have been notified to the consent authority, and
 - (iii) any development control plan, and
 - (iv) any matters prescribed by the regulations,that apply to the land to which the development application relates,
 - (b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts of the locality,
 - (c) the suitability of the site for the development,
 - (d) any submissions made in accordance with this Act or the regulations,
 - (e) the public interest.

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1. ORIGIN: Subdivision Unit

FILE REF: DA4420/276 Pt3

REPORT TITLE:

Proposed 529 Lot Urban Subdivision at Lot 4 DP 803030 Mooball/Pottsville Road, Pottsville

SUMMARY OF REPORT:

This application proposes the subdivision of the land known as the "Seabreeze Estate" west of Pottsville village into 529 lots, to be developed in 15 stages. The proposal comprises 424 single dwelling lots, with the minimum size of 620m², 81 duplex lots, a town centre lot, recreation and environmental reserves, a future school site lot and residue lot. The proposal anticipates an eventual yield of 705 dwellings. The proposal incorporates a proposed sewer rising main to be constructed external to the site across the adjacent Pottsville Environment Park. The value of the works is estimated at \$9.18M.

Key issues involved in the assessment and determination of this application are adequacy and proposed treatment of riparian buffer to Cudgera Creek, impact on threatened species, extent of modification to site terrain, landscape and visual impact of proposal, urban design, flood impact, adequacy of measures to mitigate future traffic noise to the Mooball/Pottsville Road, the adequacy of soil and water management measures and adequacy of buffer between proposed housing and adjacent sugar cane production.

The application is accompanied by a Species Impact Statement and therefore Council may only consent to the application with the concurrence of the Director-General of the National Parks and Wildlife Service.

The application is "integrated development" in terms of the Environmental Planning & Assessment Act, 1979 having regard for the permit required in respect of works within 40m of the bank of Cudgen Creek under the Rivers and Foreshores Improvement Act, 1948. In this regard, the Department of Land and Water Conservation is to advise whether it is prepared to concur in the granting of consent subject to conditions required by that Department.

The approach taken by the applicant in respect of this proposed development has been to engage with Council in a master planning process which involved the preparation of a Development Control Plan during 1999. This has enabled the progressive resolution of various issues to ultimately facilitate a recommendation for approval for the development of this major urban release area having a significant economic and employment benefit to the Shire.

Larger plans of the proposal will be available in the Council Chambers.

RECOMMENDATION:

That the development application submitted by Metricon (QLD) Pty Ltd for the subdivision of Lot 4 DP 803030 Mooball/Pottsville Road, Pottsville into 529 lots, be approved subject to

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the concurrence of the Director-General of the National Parks and Wildlife Service, and the following conditions.

Conditions imposed by Department of Land and Water Conservation

1. Pursuant to the provisions of Section 91 of the Environmental Planning & Assessment Act, 1979, having regard for the “integrated development” status of this proposal and the requirements that a permit under Section 3A of the Rivers and Foreshores Improvement Act 1948 will be issued for works within 40m of Cudgera Creek, the following conditions required by the Department of Land and Water Conservation are to be met:-
 - i. The permit holder must abide by Tweed Shire Council’s Conditions of Consent: Seabreeze Estate, in relation to:
 - the location of the proposed treatment areas;
 - the inundation of these areas during flooding;
 - minimising the impacts on Cudgera Creek in respect to it’s bank stability, aquatic environment and the effectiveness and integrity of it’s riparian zone (or it’s potential).
 - ii. Detailed plans for all works within the watercourse and within 40m of the high bank of the watercourse must be submitted for approval by the Department prior to commencement of the works. These plans may require modification to comply with DLWC requirements before final approval is granted.
 - iii. All disturbed soils/materials shall be stabilised with vegetation immediately after works have been completed.
 - iv. Only local native riparian vegetation species may be used to revegetate works sites.
 - v. Any fill shall be protected to prevent it from being eroded.
 - vi. Any structure works shall be secure to withstand flow velocities at the bankfull discharge of the stream.
 - vii. No materials shall be used that may pollute the stream.
 - viii. No materials may be used that may create a risk to public safety.
 - ix. All scrub, undergrowth and timber removed from the area of operation shall be disposed of so that the debris cannot be swept back into the stream during a flood event.
 - x. If in the opinion of any reasonable officer of the Department of Land and Water Conservation any work is being carried out in such a manner as it may damage or detrimentally affect the stream or damage or interfere in any way with any work,

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the operation and that section of the said stream shall cease forthwith upon written or oral direction of such officer.

- xi. A copy of this letter of permission shall be made available to officers of the Department upon request.
- xii. This permit does not give you the right to occupancy any land without the owner's consent not does it relieve you of any obligation which may exist to also obtain permission from Local Government and other Authorities who may have some form of control over the site of the work and/or the activities you proposed to undertake.
- xiii. If applicable, the site shall be restored and revegetated to the satisfaction of the Department of Land and Water Conservation.
- xiv. The permit holder and the owner or occupier of the land are responsible for any excavation, removal or placement of material or construction of works undertaken by any other person or company at the site.
- xv. This permit is not transferable to any other person or Company and does not allow operations at any other site.
- xvi. This permit does not allow an extractive industry at the site.
- xvii. This permit is issued with the proviso that operations shall be carried out on freehold land. Should operations be on Crown land, this permit is rendered null and void.
- xviii. Operations shall be conducted in such a manner as not to cause damage or interfere in any way with vegetation on adjacent banks.
- xix. Operations shall be conducted in such a manner as not to cause damage or increase the erosion of adjacent bed and banks.
- xx. Sediment control measures shall be provided for the duration of works and until the site is stabilised.
- xxi. Operations are to be conducted in such a way that there is no reduction in waterway or diversion of the stream from the existing alignment of the high banks.
- xxii. If the permit conditions have been breached the permit holder shall restore the site to the satisfaction of the Department. If the works as directed are not completed then the permit holder shall pay a fee prescribed by the Department for the initial breach inspection and all subsequent inspections.

PRE-REQUISITES - conditions that must be complied with prior to release of a construction certificate

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General

2. A traffic control plan that complies with the provisions of the RTA document "Traffic Control at Work Sites" Version 2 shall be prepared by a person who is qualified, authorised and has passed an RTA approved training course, and submitted for approval by Council, prior to issue of the Construction Certificate. All works are to comply with the Occupational Health and Safety Act and the RTA document and the approval particularly in respect to works on public roads. Safe public access shall be provided at all times.
3. **Prior** to the commencement of work the applicant shall submit to Council evidence that a Site-Specific Safety Management Plan and Safe Work Methods for the subject site have been prepared in accordance with either:-
 - a. Occupation Health and Safety and Rehabilitation Management Systems Guidelines, 3rd Edition, NSW Government, or
 - b. AS4804 Occupation Health and Safety Management Systems - General Guidelines on Principles Systems and Supporting Techniques.

GENERAL

4. The development shall be completed in general accordance with the Plan entitled Figure 5 - Master Plan and Staging by Cardno MBK for the Pottsville Beach, Seabreeze Estate, Job No. 2970/1/2 dated August 1999, and by the relevant plans for drainage, landscaping, water quality and control, etc indicated in the Statement and Environmental Effects and accompanying technical reports dated December 1999 by Jim Glazebrook and Associates Pty Ltd, except where varied by these conditions.
5. In accordance with Section 109F(i) of the Environmental Planning & Assessment Act, 1979 (as amended), a construction certificate for **SUBDIVISION WORKS OR BUILDING WORKS** shall **NOT** be issued until any long service levy payable under Section 34 of the Building and Construction Industry Long Service Payments Act, 1986 (or where such levy is payable by instalments, the first instalment of the levy) has been paid. Council is authorised to accept payment.
6. Approval is given subject to the location of, protection of, and/or any necessary modifications to any existing public utilities situated within the subject property.
7. No soil, sand, gravel, clay or other material shall be disposed of off the site.
8. Any damage caused to public infrastructure (roads, footpaths, water and sewer mains, power and telephone services etc) during construction of the development shall be repaired to the satisfaction of the Director of Engineering Services prior to the issue of a Subdivision Certificate and/or prior to any use or occupation of the buildings.
9. The subdivision is to be carried out in accordance with Development Control Plan No 16 - Subdivisions Manual and Development Control Plan No. 38 - Seabreeze Estate, unless varied by these conditions.

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10. Open space reserves to be dedicated as public reserves for those areas indicated as “park”, public reserve and revegetation area, or public open space in conjunction with the release of the linen plan for that stage, and each public reserve area thus dedicated in accordance with Section 94 Plan No. 20 needs to be embellished generally in accordance with the Performance Criteria for Design and Hand-over of Local Passive Open Space in Appendix B of the Section 94 Plan No. 20 and the Landscape Master Plan by EDAW which is in Attachment B to the Statement of Environmental Effects (excluding entry statement areas); plans for the landscaping of these public reserve areas are to be submitted and approved by Council’s Recreation Services Manager prior to release of the construction certificate.
11. Design details of all entry statement areas are to be submitted and approved by the Director Development Services prior to the release of the Construction Certificate. All entry statements are to be designed and constructed to provide for low maintenance liability for Council.
12. All areas constructed as wetland or other types of stormwater/water quality/sediment control and treatment facilities are to be dedicated as drainage reserves, following construction in accordance with.
13. All areas to be dedicated as public open space, including the entry feature parks, and the acoustic buffer to Mooball/Pottsville Road, are to be subject of a 5 year maintenance agreement between Tweed Shire Council and the owner of the land/developer.
14. Location of the identified Aboriginal site known as West Pottsville 1 located within Stage 9 is to be retained in its present state with the inclusion that the trench through the site is to be filled with earth. Fencing preferably in the form of a log fence is to be placed around the site in an area to the satisfaction of the Tweed Byron Local Aboriginal Land Council. Signage to be erected indicating that the location is an Aboriginal site under the Custodianship of the Tweed Byron Local Aboriginal Council. If earthworks were proposed that would destructively impact upon the site, the developer is obliged to immediately notify the Director-General of NPWS for a consent to destroy. The developer may not proceed without the written consent of the Director-General and the Tweed Byron Local Aboriginal Land Council in respect of a care and control permit over the materials of the site.
15. Any filling or removal of fill from designated areas of potential archaeological sensitivity shown in Figure 7:36 of the Archaeological Assessment of the site dated August 1999 by Adrian Piper to be monitored by a representative or representatives of the Local Aboriginal Land Council, at the expense of the developer.
16. The applicant to maintain an ongoing liaison with the Tweed Byron Local Aboriginal Land Council in relation to the protection of the Aboriginal site, and monitoring etc, and to advise the Land Council of a timetable for works in those areas designated for monitoring and protection.
17. The proposed road reserve for the future link roads to Koala Beach to be dedicated and included in the linen plan for the release of Stage 7.

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18. The creation of easements for services, rights of carriageway and restrictions as to user as may be applicable under Section 88B of the Conveyancing Act including the following:

1. Easements for sewer, water supply and drainage over **ALL** services on private property.

Pursuant to Section 88BA of the Conveyancing Act (as amended) the Instrument creating the right of carriageway/easement to drain water shall make provision for maintenance of the right of carriageway/easement by the owners from time to time of the land benefited and burdened and are to share costs equally or proportionally on an equitable basis.

Any Section 88B Instrument creating restrictions as to user, rights of carriageway or easements which benefit Council shall contain a provision enabling such restrictions, easements or rights of way to be revoked, varied or modified only with the consent of Council.

19. Where the construction work is on or adjacent to public roads, parks or drainage reserves the development shall provide and maintain all warning signs, lights, barriers and fences in accordance with AS 1742-1991 (Manual for Uniform Traffic Control Devices). The contractor or property owner shall be adequately insured against Public Risk Liability and shall be responsible for any claims arising from these works.
20. Prior to the issue of a Subdivision Certificate, Council's standard "Asset Creation Form" shall be completed (including all quantities and unit rates) and submitted to Council.
21. Prior to commencement of work, a sign detailing the project and containing the names and contact numbers of the Developer, Contractor and Consulting Engineer shall be erected and maintained in a prominent position at the site to the satisfaction of the Director, Development Services. The sign is to remain in place until the Subdivision Certificate is issued.
22. The application to provide an assessment of the environmental impact of the proposed sewer main to be constructed external to the site through the adjacent Pottsville Environmental Park, in accordance with Part 5 of the Environmental Planning & Assessment Act, 1979, prior to submission of the Construction Certificate application for Stage 1.
23. Where new state survey marks and/or permanent marks are placed, a copy of the locality sketch relating to the marks shall be submitted with the final subdivision certificate application.
24. Any damage to property (including pavement damage) is to be rectified to the satisfaction of the Director, Development Services **PRIOR** to the issue of a Subdivision Certificate. The surrounding road carriageways are to be kept clean of any material carried onto the roadway by construction vehicles. Any work carried out by Council to remove material from the roadway will be at the Developers expense and any such costs are payable prior to the issue of a Subdivision Certificate.

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25. All retaining walls in excess of 1.2 metres in height must be certified by a Qualified Structural Engineer verifying the structural integrity of the retaining wall after construction.
26. All demolition works are to observe the guidelines set down under the Environment Protection Authority publication "A Renovators Guide to the Dangers of Lead".
27. Demolition of building existing on site is to be carried out in accordance with the provisions of Australian Standard AS 2601-1991 "The Demolition of Structures".
28. All cut or fill on the property is to be battered at an angle not greater than 45° within the property boundary, stabilised to the satisfaction of the Principal Certifying Authority and provided with a dish drain or similar at the base or otherwise retained to the satisfaction of Council. All retaining works shall be completed to the satisfaction of the Principal Certifying Authority prior to start of work.
29. In accordance with Section 109F(i) of the Environmental Planning & Assessment Act, 1979 (as amended), a construction certificate for **SUBDIVISION WORKS OR BUILDING WORKS** shall **NOT** be issued until any long service levy payable under Section 34 of the Building and Construction Industry Long Service Payments Act, 1986 (or where such levy is payable by instalments, the first instalment of the levy) has been paid. Council is authorised to accept payment.

CONTRIBUTIONS

30. (i) Payment of the following contributions pursuant to Section 94 of the Act and the relevant Section 94 Plan.

Pursuant to Section 109J of the Environmental Planning and Assessment Act, 1979 a Subdivision Certificate shall **NOT** be issued by a Certifying Authority unless all Section 94 Contributions have been paid and the Certifying Authority has sighted Council's "Contribution Sheet" signed by an authorised officer of Council.

These charges will remain fixed for a period of 12 months from the date of this consent and thereafter in accordance with the rates applicable in the current version/edition of the relevant Section 94 Plan current at the time of the payment.

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

(ii) GST

1.1 In this Clause 1:

"GST means any tax, impost or duty, including any goods and services, consumption, value added or similar tax applying on goods, services or other things introduced by the *A New Tax System (Goods and Services Tax) Act 1999 (Cth)* and associated legislation (as amended), or under legislation

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passed by a State or Territory Parliament which is charged or levied on goods, services or other things.

- 1.2 Any monetary contributions and levies payable or imposed as a condition of this contributions plan pursuant to Section 94 of the *Environmental Planning and Assessment Act, 1979* (NSW) (as amended), and all other moneys payable by and on behalf of the applicant are exclusive of GST.
- 1.3 Any non-monetary contribution or levy payable or imposed as a condition of this contributions plan pursuant to Section 94 of the *Environmental Planning and Assessment Act, 1979* (NSW) (as amended), including, but not limited to, the dedication or transfer of land to the Council or the transfer of some other asset to the Council, whether in tangible or intangible form, and all other non-monetary contributions payable by and on behalf of the applicant are also exclusive of GST.
- 1.4 Liability for GST (payable in respect of any taxable supply under this contributions plan whether monetary or non-monetary) is additional. It is payable by the applicant to the Council at the same time as all and any contributions, levies and other moneys are payable under this contributions plan and development consent.
- 1.5 In respect of any non-monetary contribution or levy referred to in clause 1.3 above, the GST payable shall be calculated as follows:

GST payable = The GST inclusive market price of the asset x $\frac{1}{11}$.
- 1.6 The Council will issue to the applicant, within twenty one (21) days of a request from the applicant, a tax invoice for the monies paid or the assets transferred by the applicant adjusted by the rate of the GST in accordance with the requirements of the relevant legislation.

Stage 1

- a. Tweed Road Contribution Plan: 34 lots @ \$3950 \$134,300.00
S94 Plan No. 4 (Version 4.0)
(Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens)
- b. Street Trees: 34 lots @ \$42.90 \$1,458.60
S94 Plan No. 6
- c. Shirewide Library Facilities:
34 lots @ \$300 \$10,200.00
S94 Plan No. 11
- d. Eviron Cemetery/Crematorium Facilities:

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| | 34 lots @ \$126 | \$4,284.00 |
| | S94 Plan No. 13 | |
| e. | Bus Shelters: 34 lots @ \$23 | \$782.00 |
| | S94 Plan No. 12 | |
| f. | Emergency Facilities (Surf Lifesaving): 34 lots @ \$80 | \$2,720.00 |
| | S94 Plan No. 16 | |
| g. | Community Facilities (Tweed South Coast) | |
| | 34 lots @ \$645 | \$21,930.00 |
| | S94 Plan No. 15 | |
| h. | Extensions to Council Administration Offices & Technical Support Facilities | |
| | 34 lots @ \$344.81 | \$11,723.54 |
| | S94 Plan No. 18 | |
| i. | Shirewide Cycleways: 34 lots @ \$160 | \$5,440.00 |
| | S94 Plan No. 22 | |
| Stage 2 | | |
| a. | Tweed Road Contribution Plan: 44 lots @ \$3950 | \$173,800.00 |
| | S94 Plan No. 4 (Version 4.0) | |
| | (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens) | |
| b. | Street Trees: 44 lots @ \$42.90 | \$1,887.60 |
| | S94 Plan No. 6 | |
| c. | Shirewide Library Facilities: | |
| | 44 lots @ \$300 | \$13,200.00 |
| | S94 Plan No. 11 | |
| d. | Eviron Cemetery/Crematorium Facilities: | |
| | 44 lots @ \$126 | \$5,544.00 |
| | S94 Plan No. 13 | |
| e. | Bus Shelters: 44 lots @ \$23 | \$1,012.00 |

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| | S94 Plan No. 12 | |
| f. | Emergency Facilities (Surf Lifesaving): 44 lots @ \$80 | \$3,520.00 |
| | S94 Plan No. 16 | |
| g. | Community Facilities (Tweed South Coast) | |
| | 44 lots @ \$645 | \$28,380.00 |
| | S94 Plan No. 15 | |
| h. | Extensions to Council Administration Offices & Technical Support Facilities | |
| | 44 lots @ \$344.81 | \$15,171.64 |
| | S94 Plan No. 18 | |
| i. | Shirewide Cycleways: 44 lots @ \$160 | \$7,040.00 |
| | S94 Plan No. 22 | |
| Stage 3 | | |
| a. | Tweed Road Contribution Plan: 40 lots @ \$3950 | \$158,000.00 |
| | S94 Plan No. 4 (Version 4.0) (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens) | |
| b. | Street Trees: 40 lots @ \$42.90 | \$1,716.00 |
| | S94 Plan No. 6 | |
| c. | Shirewide Library Facilities: | |
| | 40 lots @ \$300 | \$12,000.00 |
| | S94 Plan No. 11 | |
| d. | Eviron Cemetery/Crematorium Facilities: | |
| | 40 lots @ \$126 | \$5,040.00 |
| | S94 Plan No. 13 | |
| e. | Bus Shelters: 40 lots @ \$23 | \$920.00 |
| | S94 Plan No. 12 | |
| f. | Emergency Facilities (Surf Lifesaving): 40 lots @ \$80 | \$3,200.00 |
| | S94 Plan No. 16 | |

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| g. | Community Facilities (Tweed South Coast) 40 lots @ \$645 S94 Plan No. 15 | \$25,800.00 |
| h. | Extensions to Council Administration Offices & Technical Support Facilities 40 lots @ \$344.81 S94 Plan No. 18 | \$13,792.40 |
| i. | Shirewide Cycleways: 40 lots @ \$160 S94 Plan No. 22 | \$6,400.00 |
| Stage 4 | | |
| a. | Tweed Road Contribution Plan: 40 lots @ \$3950 S94 Plan No. 4 (Version 4.0) (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens) | \$158,000.00 |
| b. | Street Trees: 40 lots @ \$42.90 S94 Plan No. 6 | \$1,716.00 |
| c. | Shirewide Library Facilities: 40 lots @ \$300 S94 Plan No. 11 | \$12,000.00 |
| d. | Eviron Cemetery/Crematorium Facilities: 40 lots @ \$126 S94 Plan No. 13 | \$5,040.00 |
| e. | Bus Shelters: 40 lots @ \$23 S94 Plan No. 12 | \$920.00 |
| f. | Emergency Facilities (Surf Lifesaving): 40 lots @ \$80 S94 Plan No. 16 | \$3,200.00 |
| g. | Community Facilities (Tweed South Coast) 40 lots @ \$645 S94 Plan No. 15 | \$25,800.00 |

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- h. Extensions to Council Administration Offices
& Technical Support Facilities
40 lots @ \$344.81 \$13,792.40
S94 Plan No. 18
- i. Shirewide Cycleways: 40 lots @ \$160 \$6,400.00
S94 Plan No. 22

Stage 5

- a. Tweed Road Contribution Plan: 35 lots @ \$3950 \$138,225.00
S94 Plan No. 4 (Version 4.0)
(Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens)
- b. Street Trees: 35 lots @ \$42.90 \$1,501.50
S94 Plan No. 6
- c. Shirewide Library Facilities:
35 lots @ \$300 \$10,500.00
S94 Plan No. 11
- d. Eviron Cemetery/Crematorium Facilities:
35 lots @ \$126 \$4,410.00
S94 Plan No. 13
- e. Bus Shelters: 35 lots @ \$23 \$805.00
S94 Plan No. 12
- f. Emergency Facilities (Surf Lifesaving): 35 lots @ \$80 \$2,800.00
S94 Plan No. 16
- g. Community Facilities (Tweed South Coast)
35 lots @ \$645 \$22,575.00
S94 Plan No. 15
- h. Extensions to Council Administration Offices
& Technical Support Facilities
35 lots @ \$344.81 \$12,068.35

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| | S94 Plan No. 18 | |
| i. | Shirewide Cycleways: 35 lots @ \$160 | \$5,600.00 |
| | S94 Plan No. 22 | |
| Stage 6 | | |
| a. | Tweed Road Contribution Plan: 34 lots @ \$3950 | \$134,300.00 |
| | S94 Plan No. 4 (Version 4.0) | |
| | (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens) | |
| b. | Street Trees: 34 lots @ \$42.90 | \$1,458.60 |
| | S94 Plan No. 6 | |
| c. | Shirewide Library Facilities: | |
| | 34 lots @ \$300 | \$10,200.00 |
| | S94 Plan No. 11 | |
| d. | Eviron Cemetery/Crematorium Facilities: | |
| | 34 lots @ \$126 | \$4,284.00 |
| | S94 Plan No. 13 | |
| e. | Bus Shelters: 34 lots @ \$23 | \$782.00 |
| | S94 Plan No. 12 | |
| f. | Emergency Facilities (Surf Lifesaving): 34 lots @ \$80 | \$2,720.00 |
| | S94 Plan No. 16 | |
| g. | Community Facilities (Tweed South Coast) | |
| | 34 lots @ \$645 | \$21,930.00 |
| | S94 Plan No. 15 | |
| h. | Extensions to Council Administration Offices & Technical Support Facilities | |
| | 34 lots @ \$344.81 | \$11,723.54 |
| | S94 Plan No. 18 | |
| i. | Shirewide Cycleways: 34 lots @ \$160 | \$5,440.00 |
| | S94 Plan No. 22 | |

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Stage 7

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| a. | Tweed Road Contribution Plan: 41 lots @ \$3950 S94 Plan No. 4 (Version 4.0) (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens) | \$161,950.00 |
| b. | Street Trees: 41 lots @ \$42.90 S94 Plan No. 6 | \$1,758.90 |
| c. | Shirewide Library Facilities: 41 lots @ \$300 S94 Plan No. 11 | \$12,300.00 |
| d. | Eviron Cemetery/Crematorium Facilities: 41 lots @ \$126 S94 Plan No. 13 | \$5,166.00 |
| e. | Bus Shelters: 41 lots @ \$23 S94 Plan No. 12 | \$943.00 |
| f. | Emergency Facilities (Surf Lifesaving): 41 lots @ \$80 S94 Plan No. 16 | \$3,280.00 |
| g. | Community Facilities (Tweed South Coast) 41 lots @ \$645 S94 Plan No. 15 | \$26,445.00 |
| h. | Extensions to Council Administration Offices & Technical Support Facilities 41 lots @ \$344.81 S94 Plan No. 18 | \$14,137.20 |
| i. | Shirewide Cycleways: 41 lots @ \$160 S94 Plan No. 22 | \$6,560.00 |

Stage 8

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|----|--|--------------|
| a. | Tweed Road Contribution Plan: 35 lots @ \$3950 S94 Plan No. 4 (Version 4.0) | \$138,250.00 |
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- (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens)
- b. Street Trees: 35 lots @ \$42.90 \$1,501.50
S94 Plan No. 6
 - c. Shirewide Library Facilities:
35 lots @ \$300 \$10,500.00
S94 Plan No. 11
 - d. Eviron Cemetery/Crematorium Facilities:
35 lots @ \$126 \$4,410.00
S94 Plan No. 13
 - e. Bus Shelters: 35 lots @ \$23 \$805.00
S94 Plan No. 12
 - f. Emergency Facilities (Surf Lifesaving): 35 lots @ \$80 \$2,800.00
S94 Plan No. 16
 - g. Community Facilities (Tweed South Coast)
35 lots @ \$645 \$22,575.00
S94 Plan No. 15
 - h. Extensions to Council Administration Offices
& Technical Support Facilities
35 lots @ \$344.81 \$12,068.00
S94 Plan No. 18
 - i. Shirewide Cycleways: 35 lots @ \$160 \$5,600.00
S94 Plan No. 22
- Stage 9**
- a. Tweed Road Contribution Plan: 24 lots @ \$3950 \$94,800.00
S94 Plan No. 4 (Version 4.0)
- (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens)
- b. Street Trees: 24 lots @ \$42.90 \$1,029.60
S94 Plan No. 6

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- c. Shirewide Library Facilities:
 24 lots @ \$300 \$7,200.00
 S94 Plan No. 11
- d. Eviron Cemetery/Crematorium Facilities:
 24 lots @ \$126 \$3,024.00
 S94 Plan No. 13
- e. Bus Shelters: 24 lots @ \$23 \$552.00
 S94 Plan No. 12
- f. Emergency Facilities (Surf Lifesaving): 24 lots @ \$80 \$1,920.00
 S94 Plan No. 16
- g. Community Facilities (Tweed South Coast)
 24 lots @ \$645 \$15,480.00
 S94 Plan No. 15
- h. Extensions to Council Administration Offices
 & Technical Support Facilities
 24 lots @ \$344.81 \$8,275.44
 S94 Plan No. 18
- i. Shirewide Cycleways: 24 @ \$160 \$3,840.00
- Stage 10**
- a. Tweed Road Contribution Plan: 30 lots @ \$3950 \$118,500.00
 S94 Plan No. 4 (Version 4.0)
 (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens)
- b. Street Trees: 30 lots @ \$42.90 \$1,287.00
 S94 Plan No. 6
- c. Shirewide Library Facilities:
 30 lots @ \$300 \$9,000.00
 S94 Plan No. 11
- d. Eviron Cemetery/Crematorium Facilities:

Reports from Director Development Services

| | | |
|-----------------|--|--------------|
| | 30 lots @ \$126 | \$3,780.00 |
| | S94 Plan No. 13 | |
| e. | Bus Shelters: 30 lots @ \$23 | \$690.00 |
| | S94 Plan No. 12 | |
| f. | Emergency Facilities (Surf Lifesaving): 30 lots @ \$80 | \$2,400.00 |
| | S94 Plan No. 16 | |
| g. | Community Facilities (Tweed South Coast) | |
| | 30 lots @ \$645 | \$19,350.00 |
| | S94 Plan No. 15 | |
| h. | Extensions to Council Administration Offices & Technical Support Facilities | |
| | 30 lots @ \$344.81 | \$10,344.30 |
| | S94 Plan No. 18 | |
| i. | Shirewide Cycleways: 30 lots @ \$160 | \$4,800.00 |
| | S94 Plan No. 22 | |
| Stage 11 | | |
| a. | Tweed Road Contribution Plan: 41 lots @ \$3950 | \$161,950.00 |
| | S94 Plan No. 4 (Version 4.0) | |
| | (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens) | |
| b. | Street Trees: 41 lots @ \$42.90 | \$1,789.90 |
| | S94 Plan No. 6 | |
| c. | Shirewide Library Facilities: | |
| | 41 lots @ \$300 | \$12,300.00 |
| | S94 Plan No. 11 | |
| d. | Eviron Cemetery/Crematorium Facilities: | |
| | 41 lots @ \$126 | \$5,166.00 |
| | S94 Plan No. 13 | |
| e. | Bus Shelters: 41 lots @ \$23 | \$943.00 |

Reports from Director Development Services

| | | |
|-----------------|--|--------------|
| | S94 Plan No. 12 | |
| f. | Emergency Facilities (Surf Lifesaving): 41 lots @ \$80 | \$3,280.00 |
| | S94 Plan No. 16 | |
| g. | Community Facilities (Tweed South Coast) | |
| | 41 lots @ \$645 | \$26,445.00 |
| | S94 Plan No. 15 | |
| h. | Extensions to Council Administration Offices & Technical Support Facilities | |
| | 41 lots @ \$344.81 | \$14,137.21 |
| | S94 Plan No. 18 | |
| i. | Shirewide Cycleways: 41 lots @ \$160 | \$6,560.00 |
| | S94 Plan No. 22 | |
| Stage 12 | | |
| a. | Tweed Road Contribution Plan: 31 lots @ \$3950 | \$122,450.00 |
| | S94 Plan No. 4 (Version 4.0) (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens) | |
| b. | Street Trees: 31 lots @ \$42.90 | \$1,329.90 |
| | S94 Plan No. 6 | |
| c. | Shirewide Library Facilities: | |
| | 31 lots @ \$300 | \$9,300.00 |
| | S94 Plan No. 11 | |
| d. | Eviron Cemetery/Crematorium Facilities: | |
| | 31 lots @ \$126 | \$3,906.00 |
| | S94 Plan No. 13 | |
| e. | Bus Shelters: 31 lots @ \$23 | \$713.00 |
| | S94 Plan No. 12 | |
| f. | Emergency Facilities (Surf Lifesaving): 31 lots @ \$80 | \$2,480.00 |
| | S94 Plan No. 16 | |

Reports from Director Development Services

- g. Community Facilities (Tweed South Coast)
 31 lots @ \$645 \$19,995.00
 S94 Plan No. 15
- h. Extensions to Council Administration Offices
 & Technical Support Facilities
 31 lots @ \$344.81 \$10,689.11
 S94 Plan No. 18
- i. Shirewide Cycleways: 31 lots @ \$160 \$4,960.00
 S94 Plan No. 22
- Stage 13**
- a. Tweed Road Contribution Plan: 38 lots @ \$3950 \$150,100.00
 S94 Plan No. 4 (Version 4.0)
 (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens)
- b. Street Trees: 38 lots @ \$42.90 \$1,630.20
 S94 Plan No. 6
- c. Shirewide Library Facilities:
 38 lots @ \$300 \$11,400.00
 S94 Plan No. 11
- d. Eviron Cemetery/Crematorium Facilities:
 38 lots @ \$126 \$4,788.00
 S94 Plan No. 13
- e. Bus Shelters: 38 lots @ \$23 \$874.00
 S94 Plan No. 12
- f. Emergency Facilities (Surf Lifesaving): 38 lots @ \$80 \$3,040.00
 S94 Plan No. 16
- g. Community Facilities (Tweed South Coast)
 38 lots @ \$645 \$24,510.00
 S94 Plan No. 15

Reports from Director Development Services

- h. Extensions to Council Administration Offices
& Technical Support Facilities
38 lots @ \$344.81 \$13,102.78
S94 Plan No. 18
- i. Shirewide Cycleways: 38 lots @ \$160 \$6,080.00
S94 Plan No. 22

Stage 14

- a. Tweed Road Contribution Plan: 43 lots @ \$3950 \$169,850.00
S94 Plan No. 4 (Version 4.0)
(Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens)
- b. Street Trees: 43 lots @ \$42.90 \$1,844.70
S94 Plan No. 6
- c. Shirewide Library Facilities:
43 lots @ \$300 \$12,900.00
S94 Plan No. 11
- d. Eviron Cemetery/Crematorium Facilities:
43 lots @ \$126 \$5,418.00
S94 Plan No. 13
- e. Bus Shelters: 43 lots @ \$23 \$989.00
S94 Plan No. 12
- f. Emergency Facilities (Surf Lifesaving): 43 lots @ \$80 \$3,440.00
S94 Plan No. 16
- g. Community Facilities (Tweed South Coast)
43 lots @ \$645 \$27,735.00
S94 Plan No. 15
- h. Extensions to Council Administration Offices
& Technical Support Facilities
43 lots @ \$344.81 \$14,826.83

Reports from Director Development Services

| | | |
|-----------------|--|------------|
| | S94 Plan No. 18 | |
| i. | Shirewide Cycleways: 43 lots @ \$160 | \$6,880.00 |
| | S94 Plan No. 22 | |
| Stage 15 | | |
| a. | Tweed Road Contribution Plan: 1 lot @ \$3950 | \$3,950.00 |
| | S94 Plan No. 4 (Version 4.0) | |
| | (Pottsville - Residential and LCA 3 Koala Beach/Leisure Gardens) | |
| b. | Street Trees: 1 lot @ \$42.90 | \$42.90 |
| | S94 Plan No. 6 | |
| c. | Shirewide Library Facilities: | |
| | 1 lot @ \$300 | \$300.00 |
| | S94 Plan No. 11 | |
| d. | Eviron Cemetery/Crematorium Facilities: | |
| | 1 lot @ \$126 | \$126.00 |
| | S94 Plan No. 13 | |
| e. | Bus Shelters: 1 lot @ \$23 | \$23.00 |
| | S94 Plan No. 12 | |
| f. | Emergency Facilities (Surf Lifesaving): 1 lot @ \$80 | \$80.00 |
| | S94 Plan No. 16 | |
| g. | Community Facilities (Tweed South Coast) | |
| | 1 lot @ \$645 | \$645.00 |
| | S94 Plan No. 15 | |
| h. | Extensions to Council Administration Offices & Technical Support Facilities | |
| | 1 lot @ \$344.81 | \$344.81 |
| | S94 Plan No. 18 | |
| i. | Shirewide Cycleways: 1 lot @ \$160 | \$160.00 |
| | S94 Plan No. 22 | |

Reports from Director Development Services

31. Pursuant to the provisions of Section 94 Plan No. 20, proposed Lot 137 (3.8ha) shall be dedicated as active open space at the time of the registration of the linen plan of subdivision for the 100th lot (at Stage 3) or by 30 December, 2000 or such other later date as may be agreed by Council. This active open space area is to be initially embellished prior to the dedication of the land in accordance with Table 1 in Section 94 Plan No. 20 - Public Open Space at Seabreeze Estate including irrigation. Final embellishment in accordance with Table 1 to take place by the 300th lot (at Stage 8) in accordance with Section 94 Plan No. 20.

(Note: Council will reimburse the developer \$40,000 cost of the toilet block at the completion of the amenities block, as indicated in Section 94 Plan No. 20)

32. A **certificate of compliance** (CC) under Part 3 Division 2 of the Water Supply Authorities Act 1987 is to be obtained from Council to verify that the necessary requirements for the supply of water and sewerage to the development have been made with the Tweed Shire Council.

Pursuant to Section 109J of the Environmental Planning and Assessment Act, 1979 a Subdivision Certificate shall **NOT** be issued by a Certifying Authority unless all Section 64 Contributions have been paid and the Certifying Authority has sighted Council's "Contribution Sheet" and a "Certificate of Compliance" signed by an authorised officer of Council.

Annexed hereto is an information sheet indicating the procedure to follow to obtain a Certificate of Compliance:

GST

- 1.1 In this Clause 1:

"GST means any tax, impost or duty, including any goods and services, consumption, value added or similar tax applying on goods, services or other things introduced by the *A New Tax System (Goods and Services Tax) Act 1999 (Cth)* and associated legislation (as amended), or under legislation passed by a State or Territory Parliament which is charged or levied on goods, services or other things.

- 1.2 Any monetary contributions and levies payable or imposed as a condition of this contributions plan pursuant to Section 94 of the *Environmental Planning and Assessment Act, 1979 (NSW)* (as amended), and all other moneys payable by and on behalf of the applicant are exclusive of GST.
- 1.3 Any non-monetary contribution or levy payable or imposed as a condition of this contributions plan pursuant to Section 94 of the *Environmental Planning and Assessment Act, 1979 (NSW)* (as amended), including, but not limited to, the dedication or transfer of land to the Council or the transfer of some other asset to the Council, whether in tangible or intangible form, and all other non-monetary contributions payable by and on behalf of the applicant are also exclusive of GST.

Reports from Director Development Services

- 1.4 Liability for GST (payable in respect of any taxable supply under this contributions plan whether monetary or non-monetary) is additional. It is payable by the applicant to the Council at the same time as all and any contributions, levies and other moneys are payable under this contributions plan and development consent.
- 1.5 In respect of any non-monetary contribution or levy referred to in clause 1.3 above, the GST payable shall be calculated as follows:
- GST payable = The GST inclusive market price of the asset x $\frac{1}{11}$.
- 1.6 The Council will issue to the applicant, within twenty one (21) days of a request from the applicant, a tax invoice for the monies paid or the assets transferred by the applicant adjusted by the rate of the GST in accordance with the requirements of the relevant legislation.

Stage 1

| | | |
|-----------------------------------|------------------|--------------|
| Water: | 34 lots @ \$3420 | \$116,280.00 |
| Sewer: | 34 lots @ \$2820 | \$95,880.00 |
| Pottsville/Burringbar Water Levy: | 34 lots @ \$1800 | \$61,200.00 |

Stage 2

| | | |
|-----------------------------------|------------------|--------------|
| Water: | 44 lots @ \$3420 | \$150,480.00 |
| Sewer: | 44 lots @ \$2820 | \$124,080.00 |
| Pottsville/Burringbar Water Levy: | 44 lots @ \$1800 | \$79,200.00 |

Stage 3

| | | |
|-----------------------------------|------------------|--------------|
| Water: | 40 lots @ \$3420 | \$136,800.00 |
| Sewer: | 40 lots @ \$2820 | \$112,800.00 |
| Pottsville/Burringbar Water Levy: | 40 lots @ \$1800 | \$72,000.00 |

Stage 4

| | | |
|-----------------------------------|------------------|--------------|
| Water: | 40 lots @ \$3420 | \$136,800.00 |
| Sewer: | 40 lots @ \$2820 | \$112,800.00 |
| Pottsville/Burringbar Water Levy: | 40 lots @ \$1800 | \$72,000.00 |

Stage 5

| | | |
|--------|------------------|--------------|
| Water: | 35 lots @ \$3420 | \$119,700.00 |
| Sewer: | 35 lots @ \$2820 | \$98,700.00 |

Reports from Director Development Services

Pottsville/Burringbar Water Levy: 35 lots @ \$1800 \$63,000.00

Stage 6

Water: 34 lots @ \$3420 \$116,280.00

Sewer: 34 lots @ \$2820 \$95,880.00

Pottsville/Burringbar Water Levy: 34 lots @ \$1800 \$61,200.00

Stage 7

Water: 41 lots @ \$3420 \$140,220.00

Sewer: 41 lots @ \$2820 \$115,620.00

Pottsville/Burringbar Water Levy: 41 lots @ \$1800 \$73,800.00

Stage 8

Water: 35 lots @ \$3420 \$119,700.00

Sewer: 35 lots @ \$2820 \$98,700.00

Pottsville/Burringbar Water Levy: 35 lots @ \$1800 \$63,000.00

Stage 9

Water: 24 lots @ \$3420 \$82,080.00

Sewer: 24 lots @ \$2820 \$67,680.00

Pottsville/Burringbar Water Levy: 24 lots @ \$1800 \$43,200.00

Stage 10

Water: 30 lots @ \$3420 \$102,600.00

Sewer: 30 lots @ \$2820 \$84,600.00

Pottsville/Burringbar Water Levy: 30 lots @ \$1800 \$54,000.00

Stage 11

Water: 41 lots @ \$3420 \$140,220.00

Sewer: 41 lots @ \$2820 \$115,620.00

Pottsville/Burringbar Water Levy: 41 lots @ \$1800 \$73,800.00

Stage 12

Water: 31 lots @ \$3420 \$106,020.00

Sewer: 31 lots @ \$2820 \$87,420.00

Reports from Director Development Services

Pottsville/Burringbar Water Levy: 31 lots @ \$1800 \$55,800.00

Stage 13

Water: 38 lots @ \$3420 \$129,960.00

Sewer: 38 lots @ \$2820 \$107,160.00

Pottsville/Burringbar Water Levy: 38 lots @ \$1800 \$68,400.00

Stage 14

Water: 43 lots @ \$3420 \$147,060.00

Sewer: 43 lots @ \$2820 \$121,260.00

Pottsville/Burringbar Water Levy: 43 lots @ \$1800 \$77,400.00

Stage 15

Water: 1 lot @ \$3420 \$3,420.00

Sewer: 1 lot @ \$2820 \$2,820.00

Pottsville/Burringbar Water Levy: 1 lot @ \$1800 \$1,800.00

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

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

FURTHER APPROVALS

33. Prior to commencement of work pursuant to this consent a **Construction Certificate** shall be obtained for the works proposed and required by this consent.

The following information must accompany applications for a construction certificate for building & subdivision work.

(i) Subdivision Work

In the case of an application for a construction certificate for **subdivision work** required by this consent:

- a) copies of compliance certificates relied upon
- b) four (4) copies of detailed engineering plans and specifications. The detailed plans shall include but are not limited to the following:
 - earthworks

Reports from Director Development Services

- roadworks
- road pavement
- road furnishings
- stormwater drainage
- water supply works
- sewerage works
- landscaping works
- sedimentation and erosion management plans
- location of all service conduits (water, sewer, Northpower and Telstra)
- the approved Traffic Control Plan
- the relevant maintenance manuals (eg. G.P.T's, water pump station)

Where the proposed subdivision work involves a modification to previously approved plans the plans must be coloured or otherwise marked to the satisfaction of the certifying authority to adequately distinguish the modification.

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

34. Subdivision work in accordance with a development consent must not be commenced until:-
- (a) a construction certificate for the subdivision work has been issued by:
 - (i) the consent authority, or
 - (ii) an accredited certifier, and
 - (b) the person having the benefit of the development consent:
 - (i) has appointed a principal certifying authority, and
 - (ii) has notified the consent authority and the council (if the council is not the consent authority) of the appointment, and
 - (c) the person having the benefit of the development consent has given at least 2 days' notice to the council of the person's intention to commence the subdivision work.
35. **Prior** to the issue of a Construction Certificate, a cash bond or bank guarantee (unlimited in time) shall be lodged with Council for an amount based on 1% of the value of the works (minimum \$1,000).

Reports from Director Development Services

The bond may be called up at any time and the funds used to rectify any non-compliance with the conditions of this consent which are not being addressed to the satisfaction of the Director, Development Services.

The bond will be refunded, if not expended, when the final Subdivision Certificate is issued.

36. Prior to registration of the plan of subdivision, a **Subdivision Certificate** shall be obtained.

(i) The following information must accompany an application:

- original plan of subdivision prepared by a registered surveyor and 7 copies of the original plan together with any applicable 88B Instrument and application fees of \$110 per lot.
- relevant development consent or complying development certificate
- detailed subdivision engineering plans endorsed with a construction certificate (where applicable)
- for a deferred commencement consent evidence that the applicant has satisfied the consent authority on all matters which must be satisfied before the consent can operate
- evidence that the applicant has complied with all conditions of consent, that it is required to comply with before a subdivision certificate can be issued (where applicable)
- a certificate of compliance from the relevant water supply authority (where applicable)
- if a subdivision is the subject of an order of the Land and Environment Court under section 40 of the Land and Environment Court Act 1979 evidence that required drainage easements have been acquired by the relevant council
- for subdivision involving subdivision works evidence that:
 - the work has been completed, or
 - agreement reached with the relevant consent authority regarding payment of the cost of work or as to the time for carrying out the work, or
 - security given to the consent authority with respect to the completion of the work
- Work as Executed Plans for **ALL** works

(ii) Documentary evidence that **all** matters contained in Section 109J of the Act have been complied with.

Reports from Director Development Services

- (iii) Written evidence from Council that the proposed road/street names have been approved.

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

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

- (i) Compliance Certificate - Roads
- (ii) Compliance Certificate - Water Reticulation
- (iii) Compliance Certificate - Sewerage Reticulation
- (iv) Compliance Certificate - Sewerage Pump Station
- (v) Compliance Certificate - Drainage

Note: 1. Where Council is requested to issue compliance certificates, applications for such certificates must be accompanied by documentary evidence from the Developers Supervising Consulting Engineer certifying that the specific work for which a certificate is sought has been completed in accordance with the terms of the development consent, the construction certificate, DCP16 - Subdivision Manual and good Engineering Practice.

2. Where Council is requested to issue the construction certificate all compliance certificates and a Subdivision Certificate, Council will carry out the following inspections as deemed necessary by Council based on the rates contained in Council's current Fees and Charges:-

Roadworks

- a. Pre-construction commencement erosion and sedimentation control measures
- b. Completion of earthworks
- c. Excavation of subgrade
- d. Pavement - sub-base
- e. Pavement - pre kerb
- f. Pavement - pre seal
- g. Pathways, footways, bikeways - formwork/reinforcement
- h. Final inspections - on maintenance

Reports from Director Development Services

- i. Off Maintenance inspection

Water Reticulation, Sewer Reticulation, Drainage

- a. Excavation
- b. Bedding
- c. Laying/jointing
- d. Manholes/pits
- e. Backfilling
- f. Permanent erosion and sedimentation control measures
- g. Drainage channels
- h. Final inspection - on maintenance
- i. Off maintenance

Sewer Pump Station

- a. Excavation
- b. Formwork/reinforcement
- c. Hydraulics
- d. Mechanical/electrical
- e. Commissioning - on maintenance
- f. Off maintenance

Council's role is limited to the above mandatory inspections and does **NOT** include supervision of the works, which is the responsibility of the Developers Supervising Consulting Engineer.

3. The EP&A Act, 1979 (as amended) makes no provision for works under the Water Supply Authorities Act, 1987 to be certified by an "accredited certifier".

DRAINAGE/FLOODING

38. All development lots are to be filled to a minimum of RL 2.67m AHD. The filling is to be retained by perimeter structural walls with concrete lined perimeter drainage, or other approved treatment, to a design submitted to and approved by the Director of Engineering Services prior to the release of the Construction Certificate. The filling plan of the site is to address the drainage on the site as well as any existing stormwater flows onto or through the site and the likely impact on stormwater drainage in the

Reports from Director Development Services

locality from the proposed filling. The proposed active open space lot 137 to be filled to a minimum of 1.9m AHD.

39. (a) The point of discharge for each drainage subcatchment shall be Cudgera Creek. Outlets to Cudgera Creek shall be designed to minimise impacts on Cudgera Creek and the aquatic and riparian environments. Discharge flow velocities shall be designed to avoid erosion of the creek, banks and riparian area. Design that minimises velocity is preferred to design that relies on bank structural protection.
- (b) Approval is required from DLAWC for works in or within 40m of Cudgera Creek (Rivers and Foreshores Improvement Act 1948).
- (c) A permit is required from NSW Fisheries (Fisheries Management Act 1994) for outlet works which would be involve “dredging” or “reclamation” .
- (d) Drains between the proposed subdivision and Cudgera Creek shall be designed as drainage swales to convey Q_{100} stormwater discharge. An all weather, two wheel drive standard, maintenance access road shall be provided adjacent to these drains. A drainage reserve shall be created and dedicated to Council over the drains and adjacent access roads. Where the drain is over residual land that may be the subject of future development, Council may permit an easement in lieu of a drainage reserve.
- (e) Where consistent with other land use requirements, grassed swale drainage is to be used in preference to pipes or hard lined channels.
- Note: Swales are not preferred as a substitute for kerb and gutter*
- *where on street parking is required, unless cars can be excluded from swale area*
 - *on roads serving small lots with numerous driveways*
 - *where gradients are <1% or >5%)*
- (f) In designated public open space areas, open drains will only be permitted if the resultant landform is satisfactory to the Director of Environment and Community Services.
- (g) Apart from necessary outlet works, no other drainage facilities are to be located in the riparian buffer area.
- (h) Proposed drainage linked landscaping elements adjacent to entry roads No. 1 and No. 4 including “dry” creeks and water features are to be designed to minimise maintenance/ownership costs and ensure appropriate water quality is maintained under all operating conditions.
- (i) For each subdivision stage downstream (to the ultimate point of discharge at Cudgera Creek) drains, waterways, water quality devices and any ancillary works are to be constructed for ultimate capacity and title dedicated.

Reports from Director Development Services

40. Inter allotment drainage shall be provided to **ALL** lots where roof water from dwellings, driveways and paved accesses cannot be conveyed to the street gutter by gravitational means. Where inter-allotment drainage has not been provided, Certification by a duly qualified Engineer is to be provided stating that roof water from the building envelope can be conveyed to the street gutter by gravitational means.
41.
 - i. Dedication of the proposed drainage reserve at no cost to Council.
 - ii. An accurate plan of the proposed drainage reserve shall be submitted to Council 60 days prior to lodgement of Application for Subdivision Certificate (form 13) to allow the land to be classified.

Failure to comply with this condition may result in delays in the issue of the Subdivision Certificate.

42. All proposed building pads are to be above the Q100 design flood level, being RL 2.67m AHD for all stages including provision for any localised overland flow, such that at least 300mm freeboard is provided to the satisfaction of the Director Development Services.

Bulk Earthworks and Landform, Interfaces with Other Land

43. The site is to be shaped in general accordance with Cardno MBK Figure 7:
 - Provision shall be made to ensure surface runoff does not discharge onto adjoining land
 - Provision shall be made to accept up to Q100 surface runoff from adjacent land that discharges onto the subject land
 - Where the proposed levels are inconsistent with existing levels on adjacent land, retaining walls and any necessary ancillary or drainage works shall be provided on the lot boundaries to ensure the land shaping has no adverse affect on adjacent land. Plans and specifications of the retaining walls and ancillary works and the written consent of the adjacent landowner shall be submitted with the construction certificate application.
44. A bond or bank guarantee of \$10,000 is to be lodged with Council prior to placement of any fill on the site. This bond will be drawn on by Council to undertake any rectification work directed but not completed or progressing to the satisfaction of the Director, Engineering Services within seventy two (72) hours from the date of serving any notice. The bond to be released upon completion of all work to the satisfaction of the Director, Engineering Services.
45. No filling to is be placed hydraulically within twenty metres (20m) of any boundary that abutts private land that is separately owned. Fill adjacent to these boundaries is to be placed mechanically.
46. No filling of any description is to be deposited, or remain deposited, within adjacent properties.

Reports from Director Development Services

47. On completion of the filling work, all topsoil to be respread and the site to be grassed and landscaped.
48. The earthworks shall be carried out in accordance with AS 3798-1996, "Guidelines on Earthworks for Commercial and Residential Developments". In general, material shall be placed in layers not exceeding 300mm in depth, watered and compacted to achieve the specified density ratio as monitored in Table 5.1 - Guidelines for Minimum Relative Compaction.
49. The earthworks program shall be monitored by a Registered Geotechnical Testing Consultant to a level 1 standard in accordance with Appendix 6, AS 3798-1996. In addition, the frequency of field density testing shall be to a Type 1 standard in accordance with Table 8.1 of AS 3798-1996. The geotechnical report shall be accompanied by a certificate from a registered Geotechnical Engineer certifying that the filling operations comply with AS3798-1996.

Future Development Lots

50. This condition refers to proposed residential B precinct lots 740, 835, 924 and 1141, school site and town centre lot 741 and future school lot 1501.

Prior to release of any subdivision certificate that creates these lots:

- Bulk earthworks to shape the lots shall be completed
- Sufficient permanent infrastructure is to be constructed in the subdivision that creates these lots so that they may be capable of being developed to their ultimate capacity by subsequent applicants without any requirements for provision or augmentation of external infrastructure. All proposed infrastructure that crosses the boundaries of these lots or runs adjacent to their boundaries must be constructed in the subdivision that creates the lots.
- These lots shall be provided with interim and ultimate drainage inlets on the lots or at lot boundaries. The interim period is defined as that time between the creation of the lot and the development of the lots. The lots shall be shaped to ensure all interim Q5 concentrated drainage and surface runoff from slopes longer than 40m is discharged to these inlets. Provision shall be made outside the lots for acceptance and transport of ultimate and interim Q100 flows from the lots.

Permanent Stormwater Quality Treatment

51. Unless stated otherwise, **references in brackets** refer to sections on devices in NSW EPA publication "Managing Urban Stormwater - Treatment Techniques, November 1997".

(a) General Criteria for Stormwater Treatment Devices

Stormwater treatment devices to be installed in the public realm shall conform with the following general criteria:

Reports from Director Development Services

- The type, number and location of devices shall be selected to ensure minimum long term asset ownership costs.
- Trunk drainage and stormwater treatment devices are to be located in reserves.
- Devices shall be located for easy cleaning and maintenance access by vehicles and personnel.
- Devices located off street are to be provided with sealed access and manoeuvring areas (located on easements) for cleaning/maintenance vehicles and equipment.
- Best quality materials and construction methods shall be used to ensure maximum life expectancy of device components.
- Litter racks, baskets and metal components in contaminated or corrosive areas shall be fabricated from stainless steel or marine grade aluminium. Use of other non corrosive materials will be subject to Council approval.
- Litter racks and non proprietary GPTs shall be designed for self cleansing and automatic movement of litter to storage bins. Litter/gross pollutant storage bins shall be constructed of reinforced concrete and designed for convenient access and cleaning by mechanised means (eg. excavator, backhoe, suction truck).
- Where access for cleaning is required by means of hatches, doors or lids they shall be constructed in high strength/lightweight materials with lockable/easy opening fastening devices
- All devices shall be designed to minimise risk to operators and the public and shall be in accordance with the requirements of the Occupational, Health and Safety Act. Devices where there is risk to the public or the operation of the device is at risk from interference from the public shall be enclosed by a person proof fence.
- The sizing of devices shall be increased (where necessary in excess of the size obtained using the EPA publication “Managing Urban Stormwater - Treatment Techniques, November 1977”) to ensure cleaning out is required on average no more than 6 times per year

*Note: Research by Gold Coast City Council has established that the rainfall intensity in this region for a design ARI of 3 months is 0.50 of the 1 year ARI intensity. The reduction of intensity (from 11 year to 1 3 months) will also reduce the runoff coefficient by around 20% resulting in Q3 months being approximately 40% of Q1 year. For the purpose of these conditions Q3 months shall be deemed to be 40% of Q1 year. For the Tweed Shire area, this **amends** the proposition in Dept of Housing and EPA manuals which seem to be based on low rainfall areas and suggest that Q3 months is 25% of Q 1 year.*

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(b) Water Sensitive Design

Water sensitive design practices shall be adopted. Where it is practical, water quality features are to be designed into the land development site rather than rely on special end of pipe devices to strip pollutants and nutrients from stormwater prior to discharge. Typical water quality features that can be designed into the site development include use of porous pavements, directing runoff over filter strips or grass swales in landscaped areas, utilising landscaping as an integral part of stormwater quality management, maximising use of infiltration and stormwater reuse (eg. Rainwater tanks). These features can be complemented by site management practices which minimise creation of stormwater pollutants and nutrients and provide for appropriate operation, cleaning and maintenance of water quality control devices.

(c) Infiltration

- Infiltration areas are to be sized with a safety factor of 2 (this is to allow for long term deterioration in infiltration rate).
- Runoff entering infiltration trenches/basins shall be pretreated to remove sediment and gross pollutants.
- The infiltration rate for infiltration devices shall be determined as follows
 - * Conduct percolation tests on the site in accordance with Appendix B of A.S. 1547-1994, Disposal Systems for Effluent from Domestic Premises,
 - * if the above yields a result <6m/day, this rate may be used for design
 - * if the result is >6m/day, the rate for design may not exceed 6m/day unless this rate is confirmed by independently determining the coefficient of permeability of the soil in accordance with AS 1289.6.7.3. Notwithstanding these tests, the maximum infiltration rate that may be used for design and sizing purposes is 12m/day.

(d) Constructed Wetlands

Constructed wetlands are to be designed in accordance with *The Constructed Wetlands Manual* (Department of Land and Water Conservation NSW, 1998) except for the design criteria detailed below.

General configuration is to be in accordance with section 16.2 and figure 16-2 of the manual and contain the following basic components in series from upstream to downstream:

- Inlet zone (as well as inlet structures, to contain litter rack for final removal of litter and gross pollutants)
- Deep water zone (to remove sediments -gravel, sand, silt)

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- Macrophyte zone (to remove fine pollutants and nutrients)
- Outlet zone
- and around the edges:
- Littoral zone (edge water plants, bank protection, maintenance access)

Constructed wetlands for treatment of urban stormwater in Tweed Shire are to conform to the following criteria:

- Length: width ratio >3
- Wetlands are primarily to be designed to capture the ARI 3 month storm (deemed to be 40% of the ARI one year event), however overflow structures and flow paths are to be provided to pass ARI 100 year storms ensuring no damage to the wetland or associated drainage or other ancillary works and no re-mobilisation of captured sediments.
- Constructed wetlands, where possible, are to be located off stream with flows above the ARI 3 month storm (deemed to be 40% of the ARI one year event) being bypassed.
- Depths
 - Deep water zone, average depth 1.5m
 - Macrophyte zone. average depth 0.7m
- Surface area sizing - Deep water zone and Macrophyte zone are to have surface areas in accordance with Table 7.11-WS
- Littoral zone - to contain perimeter all weather maintenance access road
- Wetland to be enclosed in security fence

(e) Specific Requirements

(i) Road and street drainage, gross pollutants

Where consistent with other land use requirements, grassed swale drainage (Ref 5.2) is to be used in preference to pipes or hard lined channels.

Note: Swales are not preferred as a substitute for kerb and gutter

- *where on street parking is required, unless cars can be excluded from swale area*
- *on roads serving small lots with numerous driveways*
- *where gradients are $<1\%$ or $>5\%$)*

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Litter and gross pollutants greater than 50mm are to be retained for flows up to the ARI 3 month storm (deemed to be 40% of the ARI one year event) by means of litter baskets or pits (ref 4.1) or litter racks (ref 4.2). These devices are to be sized to require cleaning on average not more than six times per year, based on a yield of 1cu.m /ha/year.

Whilst a sufficient number of litter/gross pollutant collection devices shall be provided to ensure all road stormwater is screened for litter and gross pollutants, the number of devices shall be minimised. Where practical, devices will be located downstream of entry pits at locations servicing a minimum 50 lots.

(ii) Sediment, pollutant and nutrient removal

The proposed dry detention basins in Treatment Areas 1, 2 & 4 are to be replaced with constructed wetlands to remove sediments, pollutants and nutrients.

The size of wetlands shall be in accordance with Table 7.11-WS.

Subcatchment 3 may be treated by either of the following alternatives:

Alternative 1:

The subcatchments may be reconfigured so that stormwater discharge is directed to Treatment Area No.2 or Treatment Area No.4.

Alternative 2:

An Oil/Grit Separator (ref 4.7) is required to remove sediment and oil/grease from all stormwater. Design storm shall be the ARI 3 month storm (deemed to be 40% of the ARI one year event).

- The first chamber is to be designed as a Sediment Trap in accordance with (ref 4.3) for particle size 0.02mm and settling velocity 0.00029m/s) to remove sediment from stormwater.
- The volume of the second (oil trapping) chamber shall be 10m³ per impervious hectare
- The litter screen shall not be required if stormwater has already been screened. If litter screens are required they shall be sized to require cleaning on average not more than six times per year, based on a yield of 1cu.m /ha/year.
- Oil/Grit separators shall be designed with easy access for maintenance and cleaning out by mechanical plant.
- Inlet devices are required to ensure flows in excess of the design storm are bypassed around the oil/grit separator (to eliminate risk or remobilisation of captured sediments)

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Proprietary devices (such as off the shelf GPTs) that have similar pollutant removal performance to the above may, subject to the approval of Council, be accepted as an alternative, provided the applicant submits rigorous scientific evidence, satisfactory to Council, to establish that the proprietary devices are designed and sized to have equivalent performance to the EPA oil/grit separator (ref 4.7) with specification as amended in this section.

Note: Sizing concessions for constructed wetlands in items 3 & 4 of Table 7.11-WS are also permitted for sizing of oil/grit separators.

| TABLE 7.11-WS | | | |
|---|---|--|------------------------------|
| Constructed Wetland Sizing (per hectare of urban catchment development) | | | |
| Pre-treatment in the catchment | | Deep Water Zone Surface Area (m2/ha) | Macrophyte Zone Area (m2/ha) |
| 1 | No formal sedimentation or pre-treatment processes installed | 250 | 250 |
| 2. | Sedimentation basins installed elsewhere in catchment | reduce by surface area of other sedimentation basins | |
| 3. | For each 1% of sites (by area) in catchment with roofwater disposed of by infiltration | reduce by 0.5% | reduce by 0.5% |
| 4. | For each 1% of sites (by area) where there is no more than 10m2 of impervious paving (for footpaths per site) and porous paving is exclusively used for driveways, other paths and hardstand areas | reduce by 0.5% | reduce by 0.5% |
| 4. alter-nate | For each 1% of sites (by area) where paths and hardstand areas are sloped so that runoff is directed onto grass filter strips (providing 9 minutes average detention in the ARI 3 month storm (deemed to be 40% of the ARI one year event) and driveways are sloped so that runoff does no flow onto the street | reduce by 0.5% | reduce by 0.5% |
| Notes: | | | |
| a) Sizing concessions in items 3 &- 4 above will only be accepted where the subject lots are controlled by section 88b instruments requiring the designated runoff pretreatment | | | |
| b) If reductions in items 2 - 4 reduce requirements to 10% or less than | | | |

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that required in item 1, then wetland requirement may be substituted with an oil/grit separator (ref 4.7)

(iii) Location of Constructed Wetlands/Treatment Areas

Proposed Treatment Areas No. 1, No. 2 and No. 4 are to be relocated in accordance with the following criteria.

- Treatment areas are to be located as close as practical to the drainage source
- Treatment areas are to be located in drainage reserves outside the Cudgera Creek Riparian Buffer
- Wetlands and any other pond type treatment devices (including associated structures and security fences) are to be designed to prevent inundation in the Q₁₀₀ flood event and be located in the areas above the Q₁₀₀ flood event or in the areas modelled as fill in Appendix C to the application "Flood Impact Statement, Flannery Development on Cudgera Creek, Pottsville" WBM Oceanics Australia.

Erosion and sediment control

52. General

- 1.1 Stormwater quality works in the construction phase are focused on erosion and sediment control.

The aims of erosion and sediment control are:

- Minimise soil erosion and exposure
- Minimise transportation of eroded soil by air and water
- limit suspended solids concentration in stormwater to not more than 50mg/l
- Limit/minimise the amount of site disturbance
- isolate the site by diverting clean upstream "run on" water around the development
- Control runoff and sediment at its point source rather than at one final point
- Stage ground disturbance/earthworks and progressively revegetate the site where possible to reduce the area contributing sediment
- Retain topsoil for revegetation works
- Locate sediment control structures where they are most effective and efficient

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- 1.2 The owner of land being developed is responsible for erosion and sediment control on the site and the actions of all persons (including employees, plant operators, contractors, subcontractors, delivery drivers etc) who may cause erosion and sediment generation. This also includes responsibility for erosion and sediment generation on adjacent land where construction activities or materials have encroached on the adjacent land.
- 1.3 The **primary** reference manual for erosion and sediment control works in this code of practice shall be “Managing Urban Stormwater, Soils and Construction” NSW Dept of Housing 1998.

The **secondary** reference manual shall be “Soil and Sediment Control - Engineering Guidelines for Queensland Construction Sites 1996” The Institute of Engineers, Australia, Queensland Division. Construction works must also comply with the requirements of Tweed LEP 2000 clause 35 which regulates works (including drainage) on areas identified as having acid sulphate soils and the provisions of the “Acid Sulphate Soil Manual, 1998 - Assmac”.

Reference numbers in brackets [Ref1..] refer to sections of the **primary** reference manual, reference numbers in brackets [Ref2..] refer to sections of the **secondary** reference manual .

- 1.4 The objectives for erosion and sediment control and acid sulphate soil management provided on construction sites are:
 - Minimise soil erosion and exposure
 - Minimise transportation of eroded soil by air and water
 - limit suspended solids concentration in stormwater to not more than 50mg/l

- 1.5 Design Average Recurrence Interval (ARI): Unless advised elsewhere in this consent, works to capture sediment laden water will be designed to accommodate a design storm of the ARI 3 month storm (deemed to be 40% of the ARI one year event), however overflow/bypass arrangements are to be designed to accommodate an ARI 100 year storm without erosion, scouring or structural damage to erosion or sediment control devices, or re-mobilisation of previously captured sediment.

*Note: Research by Gold Coast City Council has established that the rainfall intensity in this region for a design ARI of 3 months is 0.50 of the 1 year ARI intensity. The reduction of intensity (from 11 year to 1 3 months) will also reduce the runoff coefficient by around 20% resulting in Q3 months being approximately 40% of Q1 year. For the purpose of these conditions Q3 months shall be deemed to be 40% of Q1 year. For the Tweed Shire area, this **amends** the proposition in Dept of Housing and EPA manuals which seem to be based on low rainfall areas and suggest that Q3months is 25% of Q 1 year.*

Preparation of Erosion and Sediment Control Plan (ESCP)

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- 2.1 An Erosion and Sediment Control Plan (ESCP) is to be submitted with the construction certificate applications and shall include:
- a. Plans of external and internal catchments
 - b. Site layout to include
 - plans showing existing site topography and final contours with cut and fill locations identified, property boundaries and lot lines
 - staging of works, including staging of site clearing and topsoil stripping
 - location of all site access points, parking areas, site facilities and on site roadways/tracks
 - location of site storage and stockpile areas (sand, gravel, topsoil, building materials, fuel etc)
 - Utility plans
 - erosion risk mapping - identification of low, medium, high and extreme erosion risk areas
 - topographic site limitations which may include:- excessive slope gradients; unstable or hazardous terrain; flood inundation areas; rock outcrops; active coastal dune systems; land subject to wave attack; existing erosion; water bodies; drainage problem areas; areas of potential mass movement.
 - c. Vegetation layout
 - general location, nature and condition of existing vegetation
 - location plan of protected trees and bushland, non disturbance areas, buffer zones, disturbance control fencing and limits of clearing
 - Revegetation landscape plan (including staging)
 - d. Soil properties
 - location and limitations of major soil types on site
 - identification of all known areas of dispersive soils (more than 10% being dispersive)
 - the R and K factors for the RUSLE and Soil Loss Classes (delineated where more than one class occurs)
 - soil hydrologic group ["Managing Urban Stormwater, Soils and Construction" NSW Dept of Housing 1998 - Appendix F]
 - soil texture group (Type C, F or D)

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- e. Drainage
 - plans of both temporary and permanent drainage, including design/capacities, identification of all proposed temporary and final overland flow paths, and any proposed diversions of overland flow paths or watercourses from the site
- f. Erosion and sediment control proposal including
 - site specific text overview and design philosophy of erosion and sediment control proposal
 - location (on plans), type, function, and timing (instigation and decommissioning) of all drainage, erosion and sediment control measures (the location plans must include areas external to the site where these areas impact or are impacted upon by the drainage or ESCP of the subject site). Preliminary calculations of sedimentation pond sizing.
 - timetable, integration/sequencing of ESCP with staging of works,
 - detailed RUSLE calculations to evaluate current annual soil loss and likely annual soil losses from the proposed development incorporating the proposed ESCP
 - water quality monitoring program with water quality criteria goals, parameters to be monitored, monitoring locations, monitoring frequency
 - proposed response to failure of system and non compliance with discharge quality standards and reporting procedures

2.2 Steps in preparation of ESCP

To prepare an ESCP the following steps are to be considered:-

- a) Location of disturbance and non-disturbance zones, minimising extent and duration of disturbed areas
- b) Location of fencing and signage for non-disturbance and buffer zones
- c) Location and controls on construction entry/exit points
- d) Location of site office, parking, stockpile and material storage areas
- e) Determine and locate drainage and sediment controls for d)
- f) Location temporary construction roads
- g) Division of site into manageable drainage sectors
- h) Staging, and programming (soil loss class constraints) of construction works for compatibility with ESCP in each drainage sector

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- i) Clean water management strategies for each drainage sector (diversion around disturbed, stockpile and risk areas)
- j) Controls for channelised flow velocities
- k) Erosion controls on each disturbed area
- l) Control of sediment laden runoff
- m) Control of sediment in surface runoff at site boundaries
- n) Trapping of sediment within the development
- o) Location and operation of sediment basins
- p) Dust control measures
- q) Revegetation program
- r) Installation and decommissioning schedule
- s) Maintenance and monitoring program
- t) Assessment of effectiveness of ESCP in terms of soil loss (RUSLE) and impact on receiving waters

2.3 Application of Soil Loss Class

The soils on the development site shall be classified as follows

| Soil Loss Class | Calculated soil loss (tonnes/ha/year as calculated by RUSLE) |
|-----------------|---|
| 1 | 0 to 250 |
| 2 | 251 to 300 |
| 3 | 301 to 375 |
| 4 | 376 to 500 |
| 5 | 501 to 750 |
| 6 | 751 to 1,500 |
| 7 | 1,501 to 3,750 |

The ESCP shall use soil loss class data ensure that works are seasonally programmed to keep soil loss below the rate of 37.5 tonnes/hectare/year in any 2 week period. The times when a regular suite of BMPs are normally adequate to keep soil loss within this range are:

| Period | Soil Classes That May Be Developed |
|--------|------------------------------------|
| | |

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| | |
|---|-------|
| January and first half February | 1 - 4 |
| Second half February and March | 1 - 3 |
| April and first half May | 1 - 4 |
| Second half May and first half June | 1 - 5 |
| Second half June and July, August, September and first half October | 1 - 6 |
| Second half October, November and December | 1 - 5 |

at other times the ESCP must ensure soils in these classes are revegetated or otherwise protected

2.4 ESCP plans shall use standard drawing symbols in [Ref 2, A8]

Clearing Vegetation, Soil Disturbance

3.1 The removal or disturbance of trees, shrubs and ground covers shall be minimised.

3.2 Buffer zones consisting of corridors of undisturbed vegetation adjacent to waterways or disturbed area are to be retained to reduce nutrient levels in runoff, unless these areas are protected by other means. Buffer zones are to have the following minimum widths:-

| Slope % | Buffer Width in Metres |
|---------|------------------------|
| 2 | 15 |
| 4 | 20 |
| 6 | 30 |
| 8 | 40 |
| 10 | 50 |
| 12 | 60 |
| 14 | 70 |

3.3 On construction/building sites:

- (i) the footpath or nature strip must not be disturbed by construction activities other than shown on the plan for:
 - access to the site
 - installation of services

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- other works specifically approved by Council; and
- (ii) removal and disturbance of vegetation must be confined to:
 - the approved envelope area and/or permanent access ways
 - areas within 3 metres of the outermost projection of approved works and storage areas (or as required by other authorities).

Retained vegetation and buffers must be protected by a suitable fence barrier. Fenced areas shall be clearly signposted “No Access Area”.

3.4 For subdivision work:

- (i) clearing for works must be limited to 2 metres from the edge of any essential construction activity as shown on the engineering plans
- (ii) where practical, development must be phased, with clearing undertaken only with the development of each stage; and
- (iii) understorey ground cover vegetation may be slashed, except in areas shown on the plan, providing ground surface disturbance is minimised and a rubber tyred vehicle is used.

3.5 All reasonable care must be taken to protect other vegetation from damage during construction. This will involve:

- clearly marking trees to remain
- avoiding compaction of ground or filling within the dripline of trees to be retained
- clearly delineating the area of disturbance and keeping all vehicles, building materials and refuse within that area
- limiting the number of access points to the site
- clearly restricting access to “no go” areas.

3.6 No vegetation is to be removed prior to approval of Council to start work on any stage, and not before the approved sediment control measures are in place.

3.7 Where practicable vegetative debris must be salvaged either as logs or woodchip for later reuse to control erosion or to rehabilitate the site. Non salvageable material, such as stumps and roots, can be removed.

3.8 Soil disturbance activities are to be in accordance with [Ref 1] Chapter 4.2 of the manual, slope lengths on batters are not to exceed those in [Ref 1] fig 4.4 and fig 4.5.

Access and Roads

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- 4.1 Vehicular access must be confined to a maximum of two locations. Such locations will be shown on the ESCP and subject to the approval of Council.
- 4.2 Accesses to construction sites of 1 hectare or more shall be fitted with a shakedown device

A shakedown device shall be either:-

- a shaker grid (metal bar cattle grid minimum length 7m), placed to ensure vehicles crossing the grid have sufficient speed to shake off mud and contaminants from vehicles or
- a 10m long shake down area constructed with 50mm diameter crushed rock

The shakedown device shall be located along the haul route, immediately before the intersection with the public road.

Regular maintenance of shake down devices is required to ensure no material is deposited on public roads. Metal shall be cleaned/replaced when the exposed height of aggregate is less than 30mm.

Shaker grids are required on sites where more than 1,000m³ of material per month is hauled off site.

If material is deposited on a public street, it shall be swept up and removed before the end of that working day.

- 4.3 If after using shakedown device, material is still adhering to truck wheels and being deposited on public roads, a wheel washing device must be installed and used at site exit locations to ensure no further material is carted off site and deposited on public roads.
- 4.4 Runoff from access surfaces must be drained into an adjacent sediment trapping device before leaving the site. Where appropriate, devices to remove soil particles from vehicles must be placed at site exit locations.
- 4.5 On subdivision work, priority must be given to road and shoulder stabilisation based on erosion hazards. Where circumstances preclude the sealing of road shoulders and/or the construction of kerb and gutter, and:
 - (i) where grades permit grass shoulder (less than 5%), the shoulders and associated table drains must be topsoiled and turfed, having dimensions that simplify maintenance mowing; and
 - (ii) where grades do not permit grass shoulders (more than 5%), the shoulders and associated table drains must be stabilised with appropriate erosion control measures (e.g. jute mesh and bitumen, cross drains, erosion matting etc.) and revegetated.

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- 4.6 On subdivision work newly sealed hard stand areas must be swept thoroughly after sealing/surfacing to prevent excess aggregate or gravel entering street drains.

Site Works, Erosion Control

- 5.1 Site disturbance must not be undertaken before the issue of appropriate approvals
- 5.2 Construction sequence shall be generally in accordance with [Ref 2] A4.8.
- 5.3 Schedule the construction program to minimise the potential for soil loss so that at the time from the beginning of land disturbance activities to rehabilitation is minimised.

Further on lands with a high erosion hazard:

- (i) confine land disturbance to those times of the year designated in 2.2 for each soil loss class
- (ii) or show special measures on the *Plan* to address the high erosion hazard
- 5.4. Site excavation must be designed and located to minimise cut and fill.
- 5.5. Runoff and erosion controls must be installed before clearing and shall include:
- (i) Diversion [Ref 1] manual 5.2.3, 5.2.4) of upslope runoff around cleared and/or disturbed areas or areas to be cleared and/or disturbed, providing that:
- such diverted water will not cause erosion
 - the upslope catchment area is more than 2,000 square metres
 - waters are diverted to a legal point of discharge

Diversion works are to be designed to carry peak flows at non erosive velocities in bare soil, vegetated or lined drains/banks. Generally, the channel should be lined with turf. However, where velocities are designed in excess of 2m per second, non erosive linings such as concrete, geotextiles, grouted rock etc or velocity reducers (check dams etc) are required.

- (ii) Sediment control fences or other measures at the downslope perimeter of cleared and/or disturbed areas to prevent unwanted sediment and other debris escaping from the land; and
- (iii) maintenance of all erosion control measures at operational capacity until land is effectively rehabilitated.
- 5.6. On sites where more than 1,000 square metres are to be disturbed, runoff and erosion controls must also include:
- (i) protection of areas to remain undisturbed through the erection of barrier fencing; and

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- (ii) The maximum length of exposed (disturbed) slope shall be

$$\text{Max Slope length} = 90 - 48[\log(\% \text{slope})] \text{ metres}$$

| % Slope | Max Slope Length (m) | % Slope | Max Slope Length (m) | % Slope | Max Slope Length (m) |
|---------|----------------------|---------|----------------------|---------|----------------------|
| 1 | 90 | 10 | 42 | 19 | 29 |
| 2 | 75 | 11 | 40 | 20 | 28 |
| 3 | 67 | 12 | 38 | 25 | 23 |
| 4 | 61 | 13 | 37 | 30 | 19 |
| 5 | 56 | 14 | 35 | 35 | 16 |
| 6 | 52 | 15 | 34 | 40 | 13 |
| 7 | 49 | 16 | 32 | 45 | 11 |
| 8 | 47 | 17 | 31 | 50 | 8 |
| 9 | 44 | 18 | 30 | 60 | 5 |

- 5.7. Where possible, topsoil must be stripped only from those areas designated on the approved *Plan*, and must be stockpiled for later use in rehabilitation and landscaping. Site topsoil shall be isolated from subsoil material in separate stockpiles.
- 5.8. Stockpiles (topsoil, spoil, subsoil, bricklayers loam, sand or other) must :
- (i) **not** be located on public footpaths, nature strips, roads, road shoulders or any other public land;
 - (ii) be located at least 2 metres from any hazard areas, including surfaces with grades greater than 15%, zones of concentrated flow, gutters, drains, driveways, tree drip zones, swales or standing vegetation;
 - (iii) be protected from upslope surface flows;
 - (iv) be provided with sediment filters downslope; and
 - (v) be provided with a protective cover that reduces the C-factor (see [Ref 1]) on bare surface areas to 0.15 or less where they are unlikely to be worked for more than 20 working days.
- 5.9. Fill batters should be located to avoid established trees, where this is not possible a tree surgeons advice is to be followed to minimise damage. Where retention is not possible affected trees are to be removed to reduce risk to slope stability.
- 5.10. Unless directed otherwise by approved plans and specifications, trenches must be backfilled and compacted to 95% standard compaction and capped with topsoil up

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to adjoining ground level and must be turfed or sown with an approved seed and fertiliser mix.

- 5.11. Excess spoil may be retained on site provided the stockpile area is prepared by stripping topsoil from beneath the fill site and respreading it later over affected areas.
- 5.12 All sedimentation control measures must be maintained at, or above their design capacity.
- 5.13 High efficiency dust control techniques must be employed on site on an as needs basis to prevent the emission of dust from the site see [Ref 1]6.3.6. Such techniques must be applied to the movement of soil, sand, all excavated areas, stockpiles, haul roads and ramps, and to any other areas or applications where the potential for dust generation exists. These control techniques may include the use of water sprays, application of dust suppressants, surface stabilisation or covering exposed surfaces. Dust control techniques must be employed on site at all times including outside normal working hours. All permanent roads and trafficable areas must be sealed or hard surfaced to minimise dust generation. Unless an exemption from Council is obtained, all sites where over 1,500 sq m are to be disturbed must be provided with a barrier fence wind break [Ref 1] 6.3.6(b)(iii).

Stormwater Control

- 6.1 When roof structures and piped or artificial stormwater systems are in place, discharge water is to be managed in a manner that reduces the likelihood of erosion. Roof water systems must be functional and discharge to the infiltration system before roof runoff begins. The infiltration and drainage system must prevent sediment from being eroded from the site and deposited downstream.

Sediment Control

- 7.1 All sediment control measures and facilities must be installed and stabilised before other site earthworks or measures are commenced, including stormwater diversion facilities.
- 7.2 Sediment basin(s) must be constructed where the area to be developed exceeds 1 hectare. Where it is less than 1 hectare, other sediment control devices may be accepted.
- 7.3 Silt fences, hay bales and other sediment traps. Design shall generally be in accordance with [Ref 1] Chapter 6.3.4 of the manual and manual standard drawings SD6.6 - 6.9 except as varied by the following criteria:-
 - maximum flow in the ARI 3 month storm (deemed to be 40% of the ARI one year event), is not to exceed 1.6l/sec/metre (or the maximum catchment per metre of fence etc is not to exceed 45 m²), and

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- the fence or structure must be structurally viable and able to support hydraulic pressures during the ARI 100 year storm.
 - maximum post spacing 2m or 3m with wire mesh backing
 - In fences or structures longer than 30m, spill through weirs shall be installed at 20-30m spacing
 - Spill through weirs shall consist of a rock filled wall contained between an enclosed steel mesh fence retaining wall. Weir length 1.2m, thickness 0.6m, height 0.5m. Rock shall be 25-50mm aggregate.
 - Sediment is to be removed after each rainfall event and weirs are to be regularly maintained and cleaned to ensure effective operational condition.
 - Straw bales and silt fence geotextiles are to be replaced when damaged or permanently blocked and fully replaced at not more than six monthly intervals.
- 7.4 Where sediment ponds are required these are to be constructed upstream of any wetponds/wetlands or receiving waters and preferably off line.
- 7.5 A marker must be placed within each sediment retention basin to show the level above which the design capacity occurs. Plans shall indicate whether basins are to be temporary or permanent.
- 7.6 Where sediment retention basins are required, they must be designed to treat the design rainfall event sediment-laden stormwater emanating from the site during land development works. They must remain in place and fully operational until removal is authorised or required by Council (usually at the end of the maintenance period). Where required as part of a permanent, public stormwater management system, basins located on public land (or land to be dedicated to the public), may be accepted for Council ownership. Where required as part of a permanent, site stormwater management system, basins located on the site must be retained, operated and maintained in perpetuity by the landowner.
- 7.7 Sedimentation Basins - Design shall generally be in accordance with [Ref 1] Chapter 6.3.3 of the manual and manual standard drawings SD6.1 - 6.4 except as varied by the following criteria
- Overflow/bypasses are to be designed for 100 year ARI storm. Basins are to be designed so that flows greater than the ARI 3 month storm (deemed to be 40% of the ARI one year event) are transmitted in a manner that does not remobilise and remove existing settled sediment.
 - Type C basins settling zone capacity design storm, the ARI 3 month storm (deemed to be 40% of the ARI one year event).
 - Type F/D basins settling zone capacity, that necessary to contain the 75th percentile, 5 day rain event (41.5mm)

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- Type C basin sediment storage zone capacity, the greater of 100% of the settling zone capacity or the average 2 month soil loss as calculated by the RUSLE.
- Type F/D basins sediment storage zone capacity, the greater of 50% of the settling zone capacity or the average 2 months soil loss as calculated by the RUSLE.
- Basins shall be surrounded by a manproof fence with lockable gates.
- Proprietary devices (Humceptors etc) will only be accepted in lieu of conventional sedimentation basins where they are sized in accordance with the above criteria.

7.8 Where eroding soils contain more than 10% of dispersible fines:

- (i) all waters captured in sediment basins must be treated with an approved flocculating agent. This treatment is to ensure that discharges from such basins contain no more than 50 milligrams per litre of non filtrable residues (or as specified in Council's Stormwater Management Plan). Following settlement of soil materials, the structure must be pumped out using a floating skimmer collection device.
- (ii) sediment retention basins must be maintained at a low water level in readiness for treatment and discharge of further runoff. All sediment captured in basins must be treated and discharged within 5 days of the cessation of a rainfall event; and
- (iii) a minimum stockpile of flocculating agents must be retained onsite to provide for at least three complete treatments. It must be stored in a secure undercover location.

7.9 All sediment control structures must be operated and maintained in an effective operational condition following good engineering practice. These structures must not be allowed to accumulate sediment volumes in excess of 70% sediment storage design capacity. Materials removed from sediment retention basins must be disposed of in a manner approved by Council that does not cause pollution.

7.10 All weather compacted gravel vehicular access must be provided to all wetlands, sediment basins, detention basins, trash racks and gross pollutant traps etc.

7.11 Where practical surface waters from undisturbed lands must be diverted away from pollution control equipment to prevent contamination of clean runoff.

7.12 Appropriate measures must be provided to ensure that erosion and sediment control works themselves do not cause flooding, erosion or scour.

Pollution Control

Reports from Director Development Services

- 8.1 Petroleum and other chemical products and must be prevented from entering the stormwater system or contaminating the soil. Impervious bunds must be constructed around all fuel, oil or chemical storage areas with an enclosed volume large enough to contain 110% of the volume held in the largest tank.
- 8.2 Adequate trade waste and litter bins must be provided onsite and serviced regularly.
- 8.3 Concrete wastes or washings from concrete mixers must not be deposited in any location where those wastes or washings can flow, or can be washed into any areas of retained vegetation or receiving waters.

External Site Requirements

- 9.1 In some circumstances it may be necessary to locate sediment control devices or stabilising works outside the construction site .
- 9.2 Where increased stormwater run-off is likely to accelerate erosion of any downstream watercourse, the necessary remedial work shall be provided concurrently with other sediment and erosion requirements.
- 9.3 Where sediment is likely to be transported from the site, all immediate downstream drainage inlets shall have appropriate controls installed.
- 9.4 If such works require entry onto private property, written permission shall be obtained prior to the entry and commencement of such works. Documentary evidence to be submitted with the development application.
- 9.5 All disturbed areas on other property to be reinstated to original condition and to the satisfaction of the owner. All works to be complete prior to the release of the linen plan of subdivision or building certificate.

Rehabilitation and Landscaping

- 10.1 All ground disturbed must be progressively stabilised and rehabilitated so it no longer acts as a source of sediment.
- 10.2 The C-factor [Ref 1] is to be reduced to less than 0.15 (e.g. greater than 50% grass cover) on all lands, stockpiles and other exposed materials scheduled to remain unattended for a duration of more than 20 working days.
- 10.3 The final rehabilitation or landscaping program is to be scheduled so that a duration of less than 20 working days will elapse from final land shaping to permanent rehabilitation.
- 10.4 All landscaping and rehabilitation must be completed before occupation or use of buildings or premises.
- 10.5 Topsoil shall be used in accordance with [Ref 1] Chapter 4.3 of the manual.
- 10.5 Revegetation shall be in accordance with [Ref 1] Chapter 7 of the manual.

Reports from Director Development Services

- 10.6 All temporary erosion and sedimentation control works are to be removed when works are completed and revegetation is successfully established on formerly disturbed areas. All redundant materials used for temporary erosion and sedimentation control works are to be removed from the site and all affected areas reinstated.

Operation, Maintenance

- 11.1 All erosion and sediment controls must be operated in accordance with the ESCP and maintained to be fully operational at all times. Worn, damaged or otherwise defective materials and components are to be repaired, refurbished or replaced as they become ineffective for their design purpose.
- 11.2 Where more than 2,500 square metres of land are disturbed, a self auditing program must be developed for the site. A site inspection self audit and monitoring program must be undertaken by the land developer:
- at least each week
 - immediately before site closure
 - immediately following rainfall events that cause runoff.
- 11.3 The self audit must be undertaken systematically on site (e.g. walking anticlockwise from main entrance) and recording:
- installation/removal of any erosion and sediment control device
 - the condition of each device employed (particularly outlet devices), noting whether it is likely to continue in an effective condition until the next self audit
 - circumstances contributing to damage to any devices, accidental or otherwise
 - storage capacity available in pollution control structures, including:
 - waste receptacles and portable toilets
 - trash racks
 - sediment barriers and traps
 - gross pollutant traps
 - wetlands/water quality control ponds
 - time, date, volume and type of any additional flocculants
 - the volumes of sediment removed from sediment retention systems, where applicable, and the site where sediment is disposed
 - maintenance or repair requirements (if any) for each device

Reports from Director Development Services

- circumstances contributing to the damage to device
- repairs affected on erosion and pollution control devices

11.4 Signed, completed self audits, original test results, weekly and other result sheets shall be kept on site and are to be available on request to Council officers and other relevant statutory authorities.

Monitoring

12.1 Stormwater monitoring shall take place at all locations where drainage or surface water leaves the site or enters any natural or artificial receiving waters and at other locations as directed by Council or other statutory authority. Samples shall be taken and tested as follows:

| Parameter | Frequency | Reporting |
|--|---|--|
| Suspended Solids, Non Filterable Residue (NFR) | monthly or during discharge event(defined as >25mm in any 24 hour period) | as per 11.4. Non complying test results are to be notified within 24 hours to Council officers |
| Total P, Total N | 3 monthly | as per 11.4 |

Response to Monitoring, Non Compliance with ESCP, Amelioration Measures

13.1 Non compliance with approved *plans* and conditions of consent must be dealt with immediately. If there is a breach or infringement of conditions, action will be taken consistent with the nature and seriousness of the breach or infringement. Action may include:

- issue of “stop work notice”
- a fine under the provisions of the Protection of the Environment Operations Act 1997
- notice to comply pending reinspection of the site.

13.2 Standard responses to Non Compliance

The following responses are required by the developer to non complying monitoring test results:

| Indicator | Response | Comments |
|------------------------------------|---|--|
| Suspended Solids (NFR) >50mg/litre | Identify if non compliance is due to storm event greater than design storm of control devices. If so accept non compliance. If not then:- If possible stop discharge and store runoff on site Use flocculation agents to lower NFR or Pump contaminated water over grassed filter strips or buffer | Non compliance may occur, by design, in > 3month ARI event |

Reports from Director Development Services

| | | |
|--|--|--|
| | <p>areas to lower NFR</p> <p>Identify (by inspection and/or analysis) if non compliance is due to damage or ineffectiveness of erosion and sediment control devices. Repair or redesign/replace if necessary (or required by Council) to ensure future compliance.</p> | |
|--|--|--|

ACCESS AND ROADS

53. All proposed road/streets, drainage and associated works within the subdivision shall be designed, dedicated and constructed in accordance with the development consent plans referred to in Condition 4 **AND** the relevant provision of DCP No. 16 - Subdivisions Manual, except where varied by the conditions of this consent.
54. The Engineering Plans and specifications to accompany the Construction Certificate application shall provide for:-
 - i. The roads in the subdivision shall be generally in accordance with the plans and sections numbered Figures 8 to 29, 36 and 37 by Cardno MBK (Job No. 2970/1/2) contained in the Statement of Environmental Effects submitted with the application.
 - ii. Construction of a stormwater drainage system that will convey all waters through the site to a legal point of discharge. The sub-surface and over-land drainage systems shall convey the respective flows from minor and major storm events. Clearly defined upstream catchment areas and supporting stormwater calculations shall accompany the engineering design plans.
 - iii. The construction of two roundabouts at the intersection of the proposed roads 1 and 4 with the Mooball/Pottsville Road in accordance with Austroads Part 6, 'Roundabouts'.
55. Prior to the issue of a Subdivision Certificate, a properly dimensioned plan shall be lodged with Council showing the relative position of existing fences, road formation and boundaries. Any encroaching road boundary fence is to be relocated to the correct alignment prior to issuing a Subdivision Certificate. Any road widening deemed necessary following submission of the plan shall be dedicated at no cost to Council.
56.
 - i. Provision of 1.2m wide footpaths and 2.4m wide cycleway/walkways in concrete paving blocks within those roads shown in Figure 39 by Cardno MBK "Cycleway and Footpaths", but including also 1.2m wide footpath to Road 13, Road 16, Road 17 and western end of Road 8 to connect to Road 18, and 2.4m wide cycleway/walkway along Road 18 between Road 1 and Road 20 (Roads referred to in Figure 8 - Road Number and Drainage Plan by Cardno MBK).
 - ii. Alternatively, the developer may pay a cash contribution to the value of the works plus 25% in lieu of construction and Council will construct the footpath or cycleway when the subdivision is substantially built out. The cost of these works shall be validated by a schedule of rates.

Reports from Director Development Services

- iii. If the developer elects to construct the footpath prior to the issue of a Subdivision Certificate, a cash maintenance bond equal to 25% of the contract value of the footpath shall be lodged for a period of 3 years or until 80% of the lots fronting paved footpaths are built on. The maintenance bond shall be lodged prior to release of the subdivision certificate.
57. Provision of temporary turning areas for refuse vehicles at the end of roads which will be extended in subsequent stages until such time as the road is extended or a dedicated turning area is provided at the end of the road. These temporary turning areas shall be constructed with a minimum 150mm pavement (CBR 45) and shall have a right of carriageway registered over the turning area until such time as the road is extended.

SERVICES

Sewer

58. Prior to issuing a Subdivision Certificate, outfall sewerage reticulation shall be provided to all lots within the subdivision including a minimum 150mm diameter sewer junction terminated at least 1.0m inside the property boundary of each lot in accordance with engineering plans to accompany the Construction Certificate application. The reticulation shall be designed and constructed in accordance with DCP16 - Subdivisions Manual.

Council does not permit the building over Council's sewers. When buildings are located in close proximity to the sewer, detailed plans of footing types, location and depth relative to the sewer are required to be included with the Construction Certificate Application.

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

59. i. The site of any sewage pumping station shall be transferred to Council in fee simple, at no cost to Council within 28 days of the date of registration of the plan of subdivision.
- ii. An accurate plan of the sewage pumping station site shall be submitted to Council 60 days prior to lodgement of the Application for Subdivision Certificate (form 13) to allow the land to be classified.

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

60. Prior to the issue of the Subdivision Certificate for Stage 1 a 100mm diameter and 155mm diameter sewer rising main shall be constructed in parallel to service the development.

Reports from Director Development Services

61.
 - i. Stages 1 to 5 will utilise the 100mm diameter sewer main only and no make up water will be required. Stage 6 to 15 will utilise both the 100mm diameter and 155mm diameter mains.
 - ii. The Electrical Control Cabin and Switch Board constructed with Stage 1 shall provide adequate space to allow for the future installation of Variable Frequency Drives (VFD) for the augment of the pump which area to be installed prior to the issue of the subdivision certificate for Stage 6.
 - iii. Stage 6 will also require the installation of VFD's for each of the two upgraded pumps.
 - iv. The applicant may submit alternative designs which achieve equivalent levels of Septicity control and minimise operational costs for consideration by the Director of Engineering Services.

Water

62. Prior to issuing a Subdivision Certificate, Town Water shall be provided to each lot including a minimum size 25mm outside diameter water service terminated 1.0m inside the property boundary of each lot in accordance engineering with plans to accompany the Construction Certificate application. The reticulation shall be designed and constructed in accordance with DCP16 - Subdivisions Manual.

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

Telephone

63. The production of written evidence from Telstra Australia certifying that satisfactory arrangements have been made for the provision of underground telephone supply.

Electricity

64.
 - i. The production of written evidence from Northpower certifying that reticulation of underground electricity has been completed; and
 - ii. The reticulation to include the provision of fully installed electric street lights to the relevant Australian standard. Such lights to be capable of being energised following a formal request by Council.

ENVIRONMENT PROTECTION

65. Waste material (soil, concrete, timber, masonry, steel and the like) generated by the development shall be disposed of in accordance with a Waste Management Plan which shall be submitted to and approved by the Director of Environment and Community Services **PRIOR** to the issue of a construction certificate.

The Plan shall specify how the waste is to be treated and/or where the waste is to be disposed of.

Reports from Director Development Services

66. Detailed design of the fencing, mounding and landscaping for the proposed acoustic barrier to the Mooball/Pottsville Road to be submitted for the approval of the Director Development Services in conjunction with the Construction Certificate application for Stage 1.
67. The dedication of the acoustic buffer to the Pottsville/Mooball Road as public reserve to take place at the time of registration of the linen plan for Stage 1, and prior to the release of the linen plan, the mounding and landscaping to be carried out in accordance with the approved plan, developer to enter into a maintenance agreement with Tweed Shire Council.
68. The boundary noise mitigation measures for Stages 1, 3, 5, 6, 8, 9, 10 and 14 of the Subdivision shall be constructed as per the recommendations of the Acoustic Report - Seabreeze Estate, Pottsville, NSW by Savery and Associates (Dated 16 February 2000) and the buffer landscape treatment plans (Sheets 1-7) by EDAW Australia Pty Ltd prior to the release of the subdivision plan for the relevant stages.
69. A Section 88B restriction under the Conveyancing Act is to be placed on all allotments which face the Mooball/Pottsville Road which require the STC ratings to be achieved by envelopes of habitable spaces, including minimum STC ratings for windows, walls, roof/ceilings, etc, first and ground floors as per the recommendations of the Acoustic Report, Seabreeze Estate, Pottsville, NSW (dated 16 February 2000).
70. Council's Entomologist is to be advised prior to the establishment of stormwater/sediment control ponds/wetlands at the estate, in order that monitoring for mosquito breeding can be carried out.
71. Surface water and groundwater monitoring programs - pre-construction, construction and post construction phases, including details of standards (base line conditions), locations and frequency, shall be submitted and approved by the Director of Environment and Community Services prior to approval of each stage of the development.
72. A report by a suitably qualified person detailing all water quality sampling results from the surface water and groundwater monitoring programs in respect of any stage of the development shall be submitted to Council on a routine 3 monthly basis from their commencement, including specific notation of any failure to meet water quality discharge objectives and standards. Where sampling results indicate a substantial failure to meet water quality objectives or standards, the results are to be reported immediately to Council for consideration.
73. A report detailing water sampling results from surface and groundwater monitoring programs shall be submitted to Council prior to the approval of any new stage of the development, including details of any relevant previous failures to meet water quality discharge objectives of standards. The report shall include a recommendation as to any amelioration works required to be implemented to rectify the said failures and shall further include an indication as to whether the development may satisfactorily proceed.

Reports from Director Development Services

74. An acid sulfate soils management plan shall be prepared for each stage of the development in accordance with the Acid Sulfate Soils Assessment and Management Guidelines, EPA, DUAP, ASMAC, 1997 as amended, and submitted and approved by the Director of Environment and Community Services prior to approval of any stage of the development.
75. All works shall be completed in accordance with the approved ASS Management Plan. The following details are to be included in the approved plan:
- * proposed soil and water monitoring including parameters, analysis methods, location, frequency and action levels;
 - * neutralising strategies, including dosage rates and application methods;
 - * general measures including containment and stockpiling;
 - * contingency measures including remediation and restoration action;
 - * further analysis and sampling of the site to determine the extent of ASS on the site
 - * a detailed remediation and management plan for the vegetative buffer along the bank of Cudgera Creek and in the south east of the development area shall be submitted to Council for approval prior to the relevant stage of the development. The buffer to Cudgera Creek shall generally be a minimum of 50m, with an absolute minimum of 40m where particular topographic or related features justify a narrowing;
 - * a detailed sediment and erosion control plan shall be submitted for each stage of the development for approval of the Director of Environment and Community Services. All subsequent works shall comply with the approved plan.
76. Suitable covering and protection is to be provided to ensure that no material is removed from the site by wind, causing nuisance to neighbouring properties.
77. All battered areas are to be topsoiled and grassed, or other suitable protection provided as soon as filling is placed adjacent to neighbouring properties.
78. All work associated with this approval is to be carried out so as not to cause a nuisance to residents in the locality from noise, water or air pollution.
79. The use to be conducted so as not to cause disruption to the amenity of the locality, particularly by way of the emission of noise, dust, fumes or the like.
80. Where earthworks result in the creation of embankments and/or cuttings greater than 1m high and/or slopes within allotments 17^o or steeper, such slopes shall be densely planted in accordance with a detailed landscaping plan. Such plan to accompany the Construction Certificate application.

Such plans shall generally incorporate the following and preferably be prepared by a landscape architect:

Reports from Director Development Services

- i) Contours and terraces where the height exceeds 1m.
 - ii) Cover with topsoil and large rocks/dry stone walls in terraces as necessary.
 - iii) Densely plant with sub-tropical (rainforest) native and exotic species to suit the aspect/micro climate. Emphasis to be on trees and ground covers which require minimal maintenance. Undergrowth should be weed suppressant.
 - iv) Mulch heavily (minimum 300mm thick) preferably with unwanted growth cleared from the estate and chipped. All unwanted vegetation is to be chipped and retained on the subdivision.
 - v) The landscaping shall be completed to the satisfaction of the Director Development Services **PRIOR** to the issue of a Subdivision Certificate.
 - vi) A bond shall be lodged prior to the issue of the subdivision certificate to ensure that the landscaping is maintained by the developer for a period of 6 months from the date of issue of a Subdivision Certificate. The amount of the bond shall be 20% of the estimated cost of the landscaping or \$3000 whichever is the greater.
81. All necessary precautions shall be taken to minimise impact from dust during filling operations from the site and also from construction vehicles.
82. The burning off of trees and associated vegetation felled by clearing operations is not permitted unless such burning is carried out in a specially constructed pit provided with an air curtain over the top. Separate approval is required prior to any burning.
83. Construction site work including the entering and leaving of vehicles is to be restricted to between 7.00 am and 7.00 pm Monday to Saturday and no work on Sundays.
84. All reasonable steps shall be taken to muffle and acoustically baffle all plant and equipment. In the event of complaints from the neighbours, which Council deem to be reasonable, the noise from the construction site is not to exceed the following:
- A. Short Term Period - 4 weeks.
L10 noise level measured over a period of not less than 15 minutes when the construction site is in operation, must not exceed the background level by more than 20dB(A) at the boundary of the nearest likely affected residence.
 - B. Long term period - the duration.
L10 noise level measured over a period of not less than 15 minutes when the construction site is in operation, must not exceed the background level by more than 15dB(A) at the boundary of the nearest affected residence.
85. The following restrictions apply to dog and cat ownership and control on **all** residential lots:-
- i. Owners of dogs within the development shall have their yards fenced so as to securely contain a maximum of one (1) dog per allotment and the ownership of

Reports from Director Development Services

cats within the development shall be restricted to one de-sexed cat per allotment and such cats shall be restrained within the house or a secure night cage between the hours of 6.00pm and 6.00am.

- ii. No dog shall be registered without the construction of a dog-proof compound which must be approved by Council and the relevant fee paid by the applicant.
- iii. No owner can retrieve a dog that has been impounded unless they can demonstrate to Council they have a secure compound.

These ownership and control requirements shall be reinforced by a Restrictions as to User under Section 88B of the Conveyancing Act, 1919-1964.

A Section 88B Instrument creating the restriction as to user shall contain a provision enabling the restriction to be revoked, varied or modified only with the consent of Council.

86. All stormwater gully lintels shall have the following notice **cast** into the top of the lintel: **'DUMP NO RUBBISH, FLOWS INTO CREEK'** or similar wording to the satisfaction of the Director of Development Services.
87. The use of vibratory compaction equipment (other than hand held devices) within 100m of any dwelling house is strictly prohibited.
88. Vegetation Management Plan for riparian buffer regeneration and stormwater management are to be revised in conjunction with the amended design for stormwater and sediment management, and submitted for the approval of Council's Manager Recreation Services, with the submission of the Construction Certificate application.
89. The Vegetation Management Plan to be implemented for the Cudgera Creek Riparian Buffer zone generally in accordance with Appendix 14 to the SIS and Annexures 1 and 5 of that appendix (Option 2 - Assisted Regeneration) to develop a 5 metre high dense screen within 5 years; pioneer species and planting strategies identified in Table 1 to the letter dated 2 May 2000 from James Warren and Associates Pty Ltd to be used; minimum width of planting buffer to be 50m at the western boundary of the site on Cudgera Creek, and riparian buffer to be protected by fencing; riparian buffer planting to be maintained for three years by the applicant/developer.
90. Vegetation and Habitat Management and Rehabilitation Plans for the Brushbox/Hoop Pine buffer, Koala Protection, Spiny Gardenia, Fig Trees Landscaping, Wallum Froglet, Translocation of Spiny Gardenia and Specific Management of Additional Threatened Flora and Fauna in the SIS and supplementary SIS documentation, to be implemented to the satisfaction of the Director Development Services and in accordance with the requirements of the National Parks and Wildlife Service.
91. Linen plan of subdivision for residential lots in Stages 11, 12 or 13 not to be released until the riparian regeneration planting buffer to Cudgera Creek on the north west boundary of the sit is generally a minimum of 5m high and at a density of 25 trees per 100m².

Reports from Director Development Services

REPORT:

| | |
|--------------------|---|
| Applicant: | Metricon (QLD) Pty Ltd, c/ Jim Glazebrook and Associates Pty Ltd |
| Owner: | P A & S J Flannery & Collygra Pty Ltd |
| Location: | Lot 4 DP 803030 Mooball/Pottsville Road, Pottsville |
| Zoning: | 2(c) Urban Expansion Zone, 1(a) Rural Zone and 7(l) Environmental Protection (Habitat) Zone |
| Est. Value: | \$9.18M |

BACKGROUND

Council has received a development application (K99/1837) for the subdivision of the subject land into 529 lots consisting of 424 single dwelling lots, 81 dual occupancy or duplex lots, 4 medium density lots, and a number of public recreation/landscape and drainage reserves, town centre lot, future school lot, residue lot, roads and associated infrastructure. It is proposed to construct the subdivision in 15 stages. The site, known as the "Seabreeze Estate" has a total area of 94.8ha, of which approximately 58ha is zoned 2(c) Urban Expansion and proposed to be developed for urban subdivision. The site is located between 300m and 1.5km west of Pottsville Village, on the north side of the Pottsville/Mooball Road. The land is currently utilised as a rural cattle grazing holding.

A sewer rising main is proposed to be constructed within the adjacent Pottsville Environment Park to connect this subdivision to the sewerage reticulation system.

A Species Impact Statement (SIS) accompanies the application, and the concurrence of the Director-General of the National Parks and Wildlife Service is therefore required to enable the application to be approved.

The following is a recent history of the planning and development of the site.

- * Land identified for future urban release in the Tweed Residential Development Strategy (March 1992)
- * Environmental study and draft Local Environmental Plan to rezone the site prepared and exhibited late 1994
- * Site rezoned by gazettal of Amendment No. 57 to Tweed Local Environmental Plan 1987, gazetted May 1995, to rezone 57.9ha to Urban Expansion 2(c) and approximately 1.5ha to 7(l) Environmental Protection (Habitat)
- * Tweed Shire 2000+ Strategic Plan (December 1996) recognises the site as future urban release area
- * Pottsville Village Strategy recognises site as urban release area (October 1998)
- * Draft Development Control Plan No. 38 for the management of development on this site prepared, exhibited and adopted by Council in November 1999
- * Section 94 Contribution Plan No. 20 for public open space at Seabreeze Estate prepared, exhibited and adopted by Council in November 1999

Reports from Director Development Services

The subdivision application was advertised, and two written submissions were received in respect of the proposal.

DESCRIPTION OF THE PROPOSAL

This subdivision application seeks development consent for the subdivision of this undeveloped 94.8ha site west of Pottsville Village into a total of 529 lots to be developed in 15 stages, as summarised in the following table.

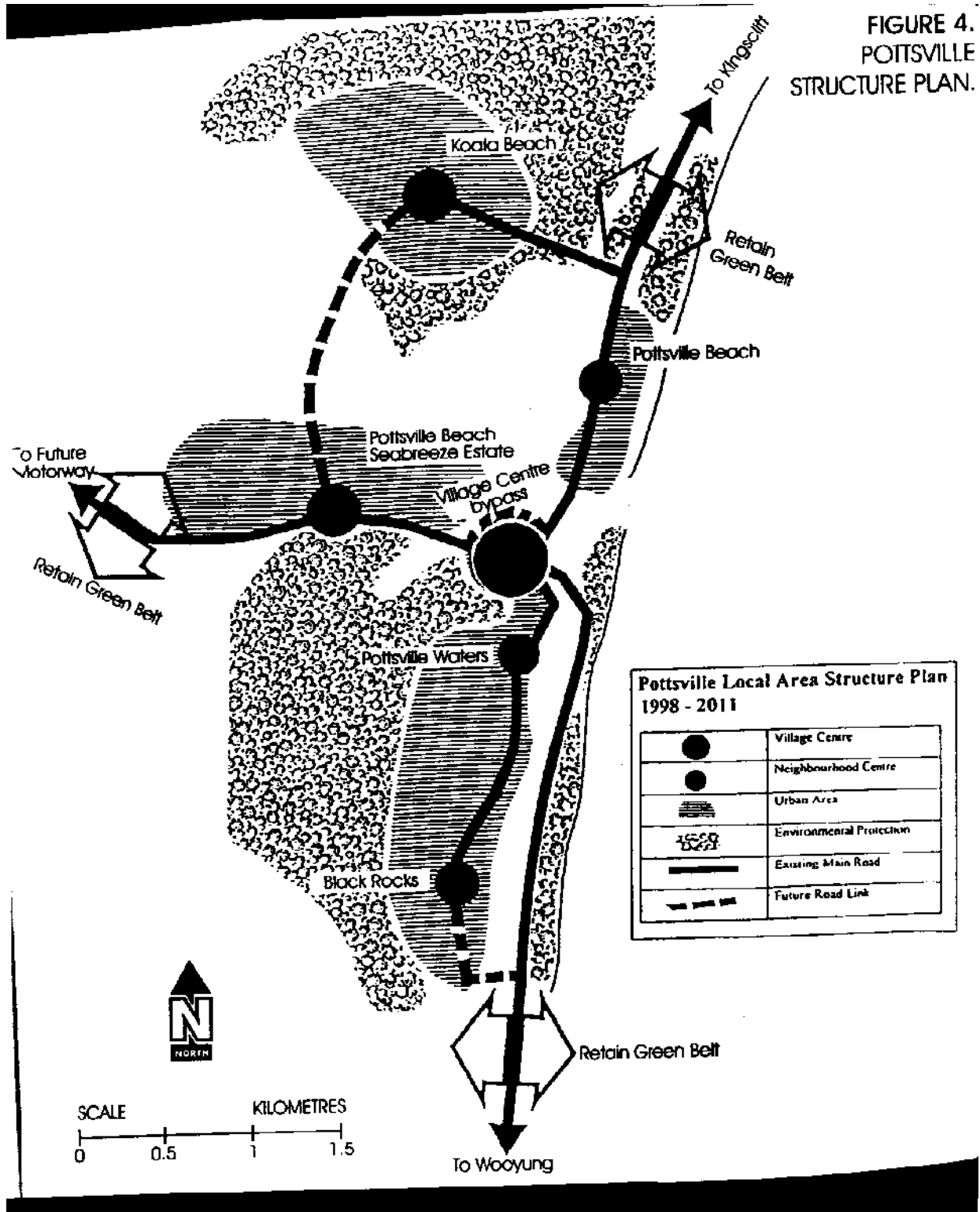
TABLE 1 - SUMMARY OF DEVELOPMENT

| Stage | Dwelling house lots (620m ² -700m ²) | Duplex lots (800m ²) | Medium density lots (6000m ² -15,800m ²) | Public reserves (2,400m ² -3.8ha) | Other | Total lots | Total future dwellings | Equivalent population |
|--------------|---|----------------------------------|---|--|--------------------------------|------------|------------------------|-----------------------|
| 1 | 33 | 1 | - | 3 | - | 37 | 35 | 93 |
| 2 | 32 | 12 | - | - | - | 44 | 56 | 134 |
| 3 | 36 | 4 | - | 2 | - | 42 | 44 | 113 |
| 4 | 37 | 3 | - | 1 | - | 41 | 43 | 112 |
| 5 | 31 | 4 | - | 2 | - | 37 | 39 | 98 |
| 6 | 25 | 9 | - | 1 | - | 35 | 43 | 104 |
| 7 | 33 | 6 | 1 (46 units) | - | 1 town centre lot | 41 | 91 | 205 |
| 8 | 34 | - | 1 (17 units) | 1 | - | 36 | 51 | 126 |
| 9 | 20 | 3 | 1 (22 units) | 2 | - | 26 | 48 | 110 |
| 10 | 18 | 12 | - | 1 | - | 31 | 42 | 97 |
| 11 | 32 | 8 | 1 (34 units) | - | - | 41 | 82 | 186 |
| 12 | 26 | 5 | - | 1 | - | 32 | 36 | 90 |
| 13 | 33 | 5 | - | 1 | - | 39 | 43 | 109 |
| 14 | 34 | 9 | - | 2 | - | 45 | 52 | 128 |
| 15 | - | - | - | - | 1 school site + 1 residue lot) | 2 | - | - |
| Total | 424 | 81 | 4 (119 units) | 17 | 3 | 529 | 705 | 1705 |

Reports from Director Development Services

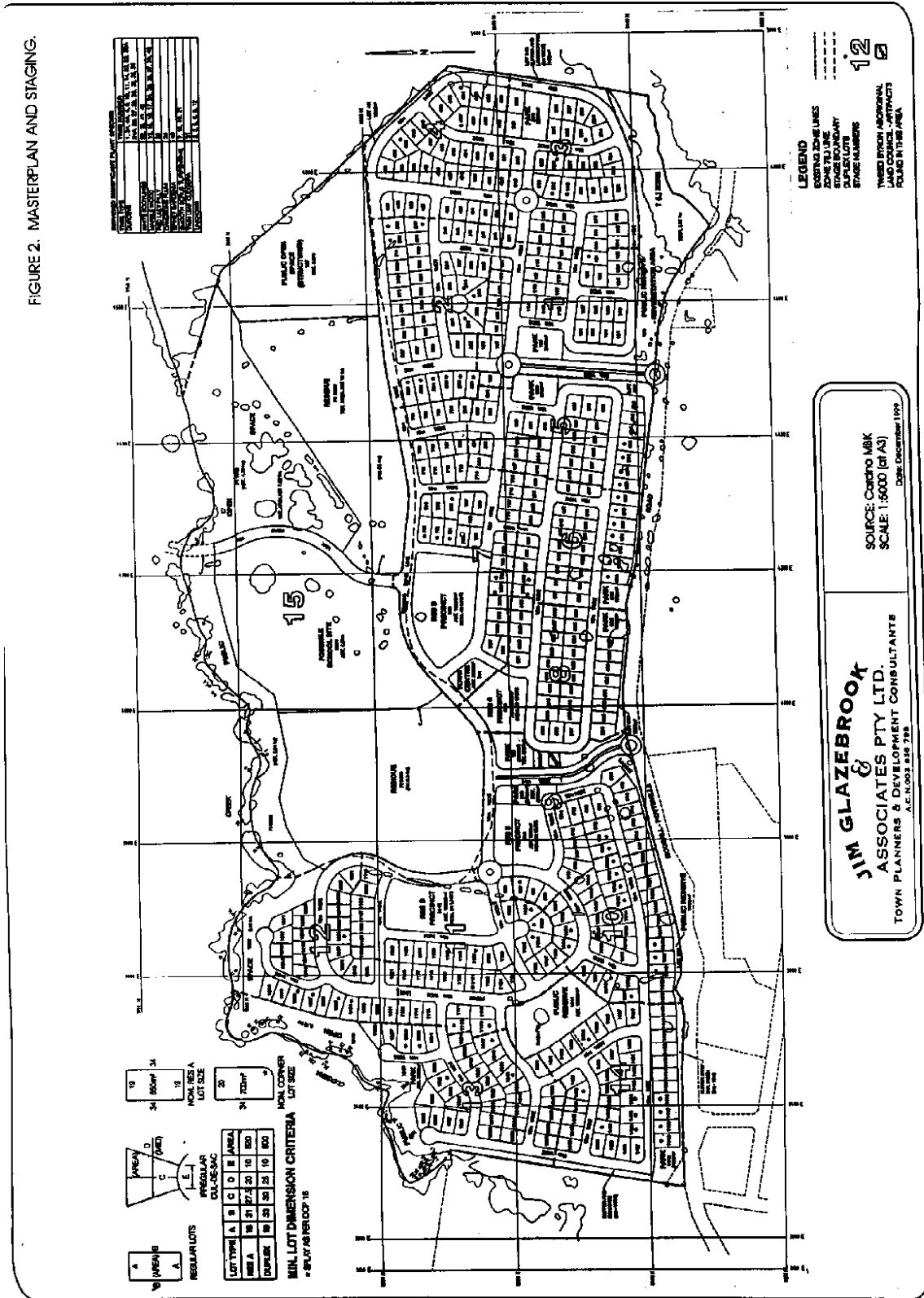
Figure 1 below shows the location of the subject land in relation to Pottsville Village and the Koala Beach Estate, and Figure 2 shows the proposed subdivision layout.

Figure 1



Reports from Director Development Services

Figure 2



Reports from Director Development Services

A large copy of the proposed subdivision layout will be available at the Council meeting.

CONSULTATION

This application was referred to the following Government Authorities.

1. National Parks and Wildlife Service
2. Department of Urban Affairs and Planning
3. Environment Protection Authority
4. Department of Land and Water Conservation
5. Roads and Traffic Authority (Regional Advisory Committee)
6. NSW Agriculture

The application was publicly exhibited for a period of 14 days from 24 January 2000 to 8 February 2000, although advertising of this application was not a statutory obligation. Adjoining owners were also notified, and the NSW Sugar Milling Cooperative Ltd was advised of the application, having regard for the proximity of the proposed subdivision to productive cane farms. One written submission was received, and in addition the NSW Sugar Milling Cooperative Ltd also made a written submission concerning the proposal.

A summary of the Government Authority submissions is provided below with comments where appropriate.

1. National Parks and Wildlife Service (NPWS)

The Service in its letter of 11 February 2000 advises in respect of the request for concurrence, that additional information should be requested of the applicant to enable further consideration of the concurrence request. In this regard NPWS notes:

- * Correspondence from Council to the applicant requesting additional information and clarification concerning riparian regeneration plans and stormwater and sedimentation treatment ponds within riparian areas
- * Inconsistency in the SIS concerning the number of spiny gardenia individual species to be destroyed by the proposal
- * Survey effort in the SIS did not comply with the Director-General's requirements (DGR's), identified as a threatened flora with regard to flowering times, types of bates used in hair tubes, number of trap nights substantially less than required, Elliot trap surveys for Brush Tailed Phascogale and Squirrel Glider were not conducted, number of caged trap nights targeted Tiger Quoll and Long-Nosed Potoroo less than required (15 nights, required 20) and minimal survey of Glossy Black Cockatoo
- * Timing of survey for Wallum Froglet undertaken in accordance with the Director General's requirements but is not considered to be appropriate timing

Reports from Director Development Services

- * The DGR's state that no Endangered Ecological Communities need to be considered in preparing the SIS, however, subsequent to this, Lowland Rainforest on Floodplain in the NSW North Coast Bioregion was listed as an endangered ecological community and is known to occur on subject site
- * The SIS, vegetation and Koala Management Plans do not identify all the necessary actions to be undertaken to ameliorate the impacts to the threatened species nor do they provide sufficient detail of the proposed actions and how their successful implementation will be determined.

Therefore, NPWS advised it required the following information prior to finalising the concurrence decision:-

- * The additional information on the riparian regeneration areas in relation to stormwater management facilities as requested by Council
- * Clarification of the number of Spiny Gardenia (*Randia moorei*) plants to be destroyed and their locations exactly in relation to development
- * Clarification of survey effort in relation to DGR's, with no profile or detail for brush tailed phascogale and further information required to assess the decision not to consider it in the SIS
- * An assessment and 8 part test to be undertaken for Lowland Rainforest on Floodplain on the North Coast Bioregion for the subject site, with ameliorative measures to be identified
- * An assessment and 8 part test to be undertaken for the large land snail on the subject site. Should snail be detected then ameliorated measures should be developed
- * The Koala and Vegetation Management Plan should be revisited and restructured to address amelioration for threatened species and their habitats on the site; such plan to have four major components - rehabilitation plan, landscaping plan, specific management for threatened flora, specific management for threatened fauna including koala, wallum froglet and bats.
- * All sections of the plan are to address all the relevant stages of the development (pre-construction, construction and post-construction) identify and provide measurable detail of the actions required, and specify in detail the performance criteria for measuring the success of the action implementation
- * Training for workers on the site, detail of documentation to be recorded and a process for evaluating success and developing mitigation actions where necessary must be included in plan.

Further, the NPWS advises that the request for concurrence will not be considered until:-

- * Council confirms that it has formed the view that the proposal is likely to have a significant effect on threatened species in accordance with Section 79B(3)(b) of the Environmental Planning & Assessment Act, 1979

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- * Council to provide an assessment report indicating a determination to grant consent together with the conditions Council wishes the impose

In relation to these matters, the applicant provided additional information in the form of a written response to the Service's submission prepared by the applicants Environmental Consultants James Warren and Associates Pty Ltd, on 5 April 2000.

This additional information was forwarded to the NPWS on 10 April, 2000, and as yet, the further comments from the NPWS are still awaited. However, as discussed later in the section of this report dealing with "Flora, Fauna and Habitat Impact", it is considered that the additional information and proposed mitigation and rehabilitation measures enable a recommendation for consent, subject to conditions to ensure that any adverse impact on the environment including threatened species, populations, or ecological communities or their habitats is minimised, with appropriate mitigation measures, and subject to the concurrence of the NPWS in relation to the SIS.

2. Department of Urban Affairs and Planning (DUAP)

The Department has advised that concurrence has been granted for the variation of the 40ha minimum lot size standards contained in Clause 32(2) of the Tweed Local Environmental Plan 1987 for the residue lot (Lot 1503) under State Environmental Planning Policy No. 1, for the following reasons:-

- * No alterations to the existing use of the land is proposed;
- * Subdivision is necessary to permit urban development to proceed on the adjoining land zoned 2(c) Urban Expansion

The Department further advises its understanding that Council is able to approve the subdivision of other lots smaller than 40ha in the 1(d) and 7(1) zones on the basis of Clause 24(3) of the Tweed Local Environmental Plan 1987. It is noted that this provision has been replaced by a similar provision in Clause 20(3) of the Tweed Local Environmental Plan 2000.

3. Environment Protection Authority (EPA)

In a letter dated 11 February 2000 the EPA advises concerns in relation to the following matters:-

Stormwater management (post construction)

- * Proposed stormwater management plan does not meet the short term objectives identified in the EPA Draft Managing Urban Stormwater Council Handbook. These objectives has been chosen by the EPA as representing a cost effective, technologically achievable level of stormwater treatment and in most cases should be considered as the minimum level for new development sites.
- * Notes predicted increased levels in pollutant load of Total Phosphorus and Total Nitrogen from the site.
- * Indicates the applicants stormwater management plan appears to rely heavily on end of pipes loosens rather than source control.

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- * Notes that the acid scald area is partly within the boundary of proposed treatment area 1, with no details given in regard to specific management/rehabilitation of the scald area.
- * Considers that the proposed level of treatment would appear unlikely to be adequate for the protection of the sensitive receiving environment of Cudgera Creek and suggests modification of the plans to achieve no net increase in annual pollutant load resulting from development, to demonstrate site specific appropriateness of any proposed mix of stormwater treatment measures.
- * In relation to stormwater management (construction) the EPA notes that the degree of earthworks proposed in cutting and filling operations and the dispersability of site soils, will mean construction phase stormwater management will need to be of the highest order. The Authority notes that the construction phase sedimentation basins should be designed in accordance with the Department of Housing Managing Urban Stormwater: Soils and Construction Guideline and reflect the dispersability of site soils.
- * In relation to acid sulfate soils, the Authority notes that no specific details have been provided in relation to the management/rehabilitation of the acid scald area.
- * In relation to the adjoining land uses, the Authority notes the applicants proposal for a 60m buffer to nearby cane fields, and the applicants statement that potential impact from cane farming activities are likely to be minimal and would be limited to a few days per year, with the proposed imposition of a covenant on landowners to prevent them from complaining about surrounding agricultural activities. In this regard, the Authority notes that Council is the appropriate regulatory authority for conflicts arising out of potentially incompatible land uses, and Council should satisfy itself that any proposed measures will be adequate to address potential noise, smoke and pesticide issues.
- * The Authority notes that a covenant is unlikely to change requirements of adjoining land holders to comply with the relevant legislation such as the Protection of the Environment Operations Act and the Pesticides Act, and request that Council consider the value of the proposed covenant. The Authority suggests that Council should carefully consider the full range of options to ensure ongoing viability of adjoining agricultural areas, including increased buffer zones, and refers to the QLD Department of Natural Resources publication entitled "Planning Guidelines Separating Agricultural and Residential Land Uses".
- * In relation to traffic noise, the Authority suggests that council satisfy itself that measures proposed to mitigate traffic noise are adequate to achieve the levels specified in the Authority's Environmental Noise Management Environmental Criteria for Road Traffic Noise (June 1999).

In regard to these matters, the applicants consultants have responded with additional information concerning sediment and water management, agricultural activity impact and traffic noise.

This additional information was forwarded to the EPA which has responded as follows:-

" The Authority is disappointed that the applicant's consultants considers it appropriate to base stormwater management plan primarily on end of pipe*

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management solutions which are only recommended as a last resort where it is not possible to cost effectively manage stormwater at its source.

- * *Strongly disagrees with the contention that the proposed treatment system adequately achieves the necessary balance between critical stormwater management issues and cannot support its use as a base case scenario, having regard for the sensitive receiving environment of Cudgera Creek.*
- * *Cudgera Creek has been identified as being under high environmental stress in the DLWC "Stressed Rivers Assessment Report" and it is appropriate that a goal of "no net increase in annual pollutant load" leaving the site as a result of development should be applied as a minimum, with a mix of specifically appropriate treatment measures and appropriate lot layout on adjoining land use*
- * *the EPA still raises concerns in relation to the 60m buffer and notes that the scope of covenants on title are limited to restricting uses, and activities on land, and are not able to restrict occupiers rights to air grievances, and questions the long term practicality of utilising such a comment, noting that sugar cane may be replaced by a more chemically dependant crop.*
- * *The EPA considers the provision of clear advice to potential land owners regarding activities on adjoining agricultural lands in conjunction with an adequate buffer distance would provide a sound, simple and readily enforceable approach. The EPA reiterates its previous advice that Council has a one off opportunity to minimise potential future interface conflicts and to ensure the ongoing viability of the adjoining agricultural areas."*

Comment

Concerns about the efficacy and design of the stormwater and water quality management system have been the subject of extensive discussions with the applicants and Government authorities, and Council's Engineering Design and Planning Unit have recommended conditions which will require the redesign of the stormwater and water quality management system, with more appropriate level and method of treatment, involving replacement of the proposed dry detention ponds with constructed wetlands, and removal of the ponds from the 40 metre riparian buffer area. It is considered that the resulting redesigned stormwater and water quality management system to be implemented in stages and catchments will substantially meet Council's objectives for stormwater management and protection of the riparian area.

4. Roads and Traffic Authority (Regional Advisory Committee) (RTA)

The RTA advises that the Regional Traffic Committee considered the proposal at its meeting of 11 January 2000, and noted that the proposal included roundabout junction treatments to access the site and that lots would not be provided with direct access to the Mooball/Pottsville Road. The Committee had no specific requirements in relation to the proposal. It is noted that the Local Traffic Committee also considered the proposal at its meeting held on 3 February 2000 and recommended as follows:-

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“The bikeway and pedestrian path network should be modified as shown in the attached plan to improve connectivity. The Committees supported the internal road network including the connection to Koala Beach”.

The bikeway and pedestrian path network suggested by the Committee is referenced in a consent condition requirement.

5. NSW Agriculture

NSW Agriculture urges Council to consider the development proposal in the context of sustainability, the needs and value of agricultural industries in the area and the objects of the Environmental Planning & Assessment Act, 1979, and supports the undertaking of development which is consistent with this strategic approach to planning. NSW Agriculture notes as follows:-

- that the subject lands had been mapped as Class 4 agricultural lands which although no prime crop and pasture lands can be of particular value when used in combination with better quality lands;
- that NSW Sugar Milling Cooperative had indicated to Council in 1993 at the time of the proposed rezoning of the land that part of the subject land was suitable for cane growing;
- that a relatively large area of adjoining lands currently used for cane production have been mapped as Class 3 agricultural lands, being a limited resource with only 12% of the Tweed Shire being prime crop and pasture land, and notes that in policy terms the subject lands appear to provide a strategic buffer between the agricultural lands currently used for cane production in the Village of Pottsville;
- that the proposed development is an encroachment on the adjoining agricultural lands and has the potential of limiting agricultural sustainability of the adjoining lands, particularly the lands used for sugar cane production;
- considers that a 60m buffer is the very minimum for separating agricultural and residential uses and is inappropriate in this instance given that the proposal involves a substantial urban village in the order of 1700 people and the proposed school;
- that it is preferable to avoid land use conflict in the first instance rather than by attempting to resolve land use planning problems once development has taken place;
- that some future residents may find some agricultural activities on adjoining and offensive or adversely effect their amenity, with the reported southerly dominant wind pattern to regularly coincide when agricultural activities are taking place which have the potential to affect the amenity of residents;
- considers the suggested covenant by the applicant to be unrealistic and is unlikely to prevent residents from contacting Council, a relevant Government Authority or farmers if they have a concern nor will over-ride relevant environmental legislation;

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- that the impact of expected increased flood levels and changes to duration of flood events on agricultural impact needs to be assessed and discussed with landholder who may have valuable local knowledge;
- the urban development of the site is considered generally incompatible with agricultural activities on adjoining lands and the assessment of compatibility, conflict and buffers in the applicants consultants report does not adequately address the issue of land use conflict;
- recommends a re-consideration be given to the design of the development and the location of buildings given the rural context and suggest that current cane industry and future agricultural activities could be compromised by the current development proposal;
- suggests that the staging of development commencing with areas most distant from adjoining agriculture may be an option and provide a short term and more significant buffer and a period over which the opinion of residents to adjoining agricultural activities can be gauged and future stages planned accordingly;
- suggests that informing new residents of agricultural enterprises in the area of via Section 149 certificates may be a possible mechanism for increasing community awareness.

Comment

The applicant has responded to a number of the issues raised by NSW Agriculture, and notes:-

- issues relating to agricultural buffers were addressed at the time of the rezoning and in the preparation of the Development Control Plan;
- it is noted that the development of residential lots closer than 400m of adjoining cane farms and other agricultural activities will not take place until the final stages 12, 13 and 14, which are likely to be at least 5 years away, giving opportunity for establishment of an effective planting buffer.

These further comments and information submitted by the applicant was referred to NSW Agriculture, which has responded further as follows:-

- “* *NSW Agriculture has not overlooked the zoning of the land and notes that the current zoning of a particular parcel of land is only one consideration in the impact assessment procedure and it is incumbent upon NSW Agriculture to provide a sustainable agriculture perspective;*
- * *NSW Agriculture urges Council to obtain independent legal advice concerning the effectiveness of the proposed restrictive covenant, and notes that the proposed flood impacts do not appear to be significant.*
- * *Further, the buffers need to be examined in the context that the proposed development is not an isolated farm dwelling but a substantial urban residential development.*
- * *NSW Agriculture also notes that the proposed staging of the development will go some way towards managing potential land use conflict as will the other opposed*

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mitigation measures, and recognises that the dynamic nature of agriculture is one of the most difficult issues for planning”.

The further concerns of NSW Agriculture have been the subject of legal advice received by Council from its Solicitors (which is a confidential attachment to the Business Paper) in relation to the proposed restrictive covenant, and on site discussions concerning agricultural buffer issues and flooding with local sugar cane farmers and the President of the Tweed Cane Growers Association. Reference should be made to the section of this report dealing with the North Coast Regional Environmental Plan (Clause 12) in respect of this matter.

6. Department of Land and Water Conservation (DLWC)

The Department advises that more information is required concerning the proposed sedimentation basin treatment areas 1 to 4, concerning:

- * Location of the treatment areas in relation to distance from Cudgera Creek
- * Height of treatment areas above high flow events levels Q2, Q5, Q10
- * Bank stability in relation to the erosion of creek banks adjacent to treatment areas
- * Design of outfalls into the natural creek system
- * Design of all works including creek realignment, proposed weir and treatment of existing bank of Cudgera Creek for treatment area 1
- * Detail of inflow into treatment area 1 at Zone A ie. works and levels involved
- * Detail of treatment of Cudgera Creek downstream of proposed road connection Koala Beach Estate to junction of relocated water course from the treatment area
- * Detail of vegetative buffers between the treatment areas and Cudgera Creek

The Department points out that persons carrying out any works on or in the bed of river or banks or within 40m of the high banks of any waterway (protected river land) must obtain permission of the DLWC (Part 3A permit Rivers and Foreshores Improvement Act 1948). The Department indicates that a detailed response and further information concerning conditions will be supplied when the details requested above are supplied.

Also, the Department indicates that a permit under the Water Act 1912 may be required to realign the existing water course located in the area of treatment area 1 and any other water course realignments which may not be obvious in the proposal.

The applicant has responded with additional information which was referred to the Department. The proposed sediment and water quality and stormwater treatment system was the subject of on site discussions between the applicant, the applicant's consultants, Council staff and a representative of the Department of Land and Water Conservation on 2 May, 2000. As a result, a number of issues were clarified and DLWC now advises in a letter dated 2 May, 2000 that the Department has re-assessment the development application after these discussions with Council and the proponent in relation to the proposed modifications to the design and location of stormwater treatment areas 1-4 and their outlets into Cudgera Creek. DLWC will issue a 3A permit under the Rivers and

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Foreshores Improvement Act, 1948 with conditions for works within 40m of the Cudgera Creek associated with this subdivision proposal. DLWC advises that the conditions will include:-

- i. *The permit holder must abide by Tweed Shire Council's Proposed Conditions of Consent: Seabreeze Estate (2nd May 2000), in relation to:*
 - *the location of the proposed treatment areas;*
 - *the inundation of these areas during flooding;*
 - *minimising the impacts on Cudgera Creek in respect to it's bank stability, aquatic environment and the effectiveness and integrity of it's riparian zone (or it's potential).*
- ii. *Detailed plans for all works within the watercourse and within 40m of the high bank of the watercourse must be submitted for approval by the Department prior to commencement of the works. These plans may require modification to comply with DLWC requirements before final approval is granted.*
- iii. *All disturbed soils/materials shall be stabilised with vegetation immediately after works have been completed.*
- iv. *Only local native riparian vegetation species may be used to revegetate works sites.*
- v. *Any fill shall be protected to prevent it from being eroded.*
- vi. *Any structure works shall be secure to withstand flow velocities at the bankfull discharge of the stream.*
- vii. *No materials shall be used that may pollute the stream.*
- viii. *No materials may be used that may create a risk to public safety.*
- ix. *All scrub, undergrowth and timber removed from the area of operation shall be disposed of so that the debris cannot be swept back into the stream during a flood event.*
- x. *If in the opinion of any reasonable officer of the Department of Land and Water Conservation any work is being carried out in such a manner as it may damage or detrimentally affect the stream or damage or interfere in any way with any work, the operation and that section of the said stream shall cease forthwith upon written or oral direction of such officer.*
- xi. *A copy of this letter of permission shall be made available to officers of the Department upon request.*
- xii. *This permit does not give you the right to occupancy any land without the owner's consent nor does it relieve you of any obligation which may exist to also obtain permission from Local Government and other Authorities who may have some form of control over the site of the work and/or the activities you proposed to undertake.*

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- xiii. *If applicable, the site shall be restored and revegetated to the satisfaction of the Department of Land and Water Conservation.*
- xiv. *The permit holder and the owner or occupier of the land are responsible for any excavation, removal or placement of material or construction of works undertaken by any other person or company at the site.*
- xv. *This permit is not transferable to any other person or Company and does not allow operations at any other site.*
- xvi. *This permit does not allow an extractive industry at the site.*
- xvii. *This permit is issued with the proviso that operations shall be carried out on freehold land. Should operations be on Crown land, this permit is rendered null and void.*
- xviii. *Operations shall be conducted in such a manner as not to cause damage or interfere in any way with vegetation on adjacent banks.*
- xix. *Operations shall be conducted in such a manner as not to cause damage or increase the erosion of adjacent bed and banks.*
- xx. *Sediment control measures shall be provided for the duration of works and until the site is stabilised.*
- xxi. *Operations are to be conducted in such a way that there is no reduction in waterway or diversion of the stream from the existing alignment of the high banks.*
- xxii. *If the permit conditions have been breached the permit holder shall restore the site to the satisfaction of the Department. If the works as directed are not completed then the permit holder shall pay a fee prescribed by the Department for the initial breach inspection and all subsequent inspections.”*

These conditions have been included in the recommended conditions of consent in this report. DLWC notes that since the existing agricultural drain within proposed treatment area No. 1 was not a natural water course artificially improved, a licence to realign this drain is not required.

Public Submissions

One written submission was received concerning the proposal, indicating concerns not about the subdivision but potential threat on a transport business operating in future because of hours of operation and also vehicle movements, and other impacts. The submission suggests a nature screening program be provided along the Mooball/Pottsville Road opposite the haulage contractor business.

Comment

An existing road haulage and trucking business is located on land opposite and to the south of the final stage of the proposed subdivision development. It is inevitable that there may be some future concerns from urban dwellings in regard to future noise and activities of this operation which has continuing use rights, and may require the operation to conform with the requirements of the Protection of the Environment Operations Act. Since the future dwellings most likely to be affected

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by such amenity concerns will not be built until the final stage of the subdivision, there is ample opportunity for establishment of a significant landscape buffer. It is noted that the proposed acoustic treatment to mitigate traffic noise involves the provision of mounds, acoustic fencing and landscaping which will also assist in buffering and mitigating potential conflict between future urban dwellings and the existing transport contracting business located some 50m from the nearest proposed dwelling.

The NSW Sugar Milling Cooperative Ltd were advised of the proposal by Council, and have submitted comments concerning the proposal as follows:-

- * There will be farm activities associated with the cultivation, spraying, harvesting and transport operations during the year in close proximity to the proposed subdivision.
- * Some of these practices will result in noise, smoke, dust and smell, the effects associated with these essential agricultural activities.
- * Whilst acknowledging that prevailing winds are in a southerly direction, there may be occasions when ash from cane fires, smoke from post harvest burning, dust and noise associated with legitimate agricultural activities will be carried off the site to impact on residents in the proposed estate, with potential adverse reaction from residents.
- * Potential buyers should be made fully aware of the impact of agricultural activity.
- * Supports the imposition of a covenant which forewarns potential buyers early in their deliberation to effectively prevent residents from lodging complaints regarding legitimate agricultural activities and request that Council forward a copy of the proposed covenant for comment from the Sugar Industries point of view.
- * The NSW Sugar Milling Cooperative Ltd also advises comments made as a result of a meeting involving affected cane farmers and the President of the Tweed and NSW Cane Growers Association as follows:-
 - * Questions the allowance in the study for the impact of additional stormwater running from the development on flows in Cudgera Creek
 - * Concern about additional water from the development raising existing flood levels and duration of inundation across farms, noting that the potential rise by 80/90mm would have a major impact if a flood impact occurs when cane is small
 - * The retention and buffering capacity of land to the south of Cudgera Creek will be reduced by the proposed filling and will ultimately lead to higher and longer periods of flooding
 - * Questions whether allowance was made for improving the outlet of Cudgen Creek where it runs into the Union drain on the north eastern edge of the proposed development
 - * Notes the enormous pressure that the Sugar Industry is under to protect current cane farming land and prevent undermining the viability of the Sugar Industry.

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Comment

The applicants consultants Gilbert and Sutherland have responded to these issues in their response concerning the NSW Agriculture and NSW Sugar Milling Co-operative concerns, which include an observation that the overall increase in afflux of 80-90mm would be confined by the steep rise to the land (to the north) that is currently flooded or a very small increase in the area and noting that once the flood has receded, the surface drainage system and microrelief of the land itself would then form the limiting factor to the rate of soil drying, not the depth of water during the flood.

The above concerns were the subject of on site discussions between the proponent and Council staff and representatives of local sugar cane farmers, including the adjacent property owners and the President of Tweed Cane Growers Association on 2 May, 2000. Reference should be made to the discussion in this report concerning Clause 34 - Flooding of the TLEP 2000 and Clause 12 - Impact of Development on Agricultural Activities of the NCREP, for further comment concerning the results of these on site discussions.

EVALUATION

A complete assessment of the application against the matters for consideration under Section 79C(1) of the Environmental Planning & Assessment Act, 1979 is provided below.

(a) (i) Planning Instruments

Tweed Local Environmental Plan 2000 (TLEP 2000)

The land, the subject of the proposed subdivision, is zoned Part 2(c) Urban Expansion (approximately 57.9ha), Part 1(a) Rural (approximately 35.4ha) and Part 7(1) Environmental Protection (Habitat) (approximately 1.5ha) in accordance with the provisions of the TLEP 2000, published in the Government Gazette on 7 April, 2000.

The applicant's masterplan and staging plan (see Figure 2) indicates that all residential lots, and the proposed "town centre" lot are to be located entirely within the area zoned 2(c) Urban Expansion. That part of the site zoned 1(a) Rural is proposed to be residue lot, a possible future school site, public open space, public reserve revegetation areas, and proposed link road to Koala Beach Estate. That part of the site at its south eastern corner zoned 7(1) is proposed to be dedicated as public reserve/revegetation area.

The proposed urban development lots appear generally consistent with the objectives for the 2(c) zone in the TLEP 2000 which are as follows:-

Primary objectives

- *to identify land for urban expansion (which will comprise mainly residential development focused on multi-use neighbourhood centres) and to ensure its optimum utilisation consistent with environmental constraints and the need to minimise residential landtake.*

Secondary objectives

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- *to allow associated non-residential development which meets the recreation, shopping, commercial, employment and social needs of future residents.*
- *to ensure that sensitive environmental areas within and outside the zone are protected from any adverse impacts of development.*
- *to enable planning flexibility to achieve the other objectives of the zone by providing detailed guidelines through development control plans.”*

It is noted that in respect of the 2(c) zone that all of the proposed residential allotments exceed 450m² in area for future dwelling houses. Future retail or commercial development, for instance on the town centre lot, is permissible with the consent of council.

The proposed subdivision development to be located within the zone 1(a) Rural is generally consistent with the 1(a) zone objectives as follows:-

“Primary objectives

- *to enable the ecologically sustainable development of land that is suitable primarily for agricultural or natural resource utilisation purposes and associated development.*
- *to protect rural character and amenity.*

Secondary objectives

- *to enable other types of development that rely on the rural or natural values of the land such as agri- and eco-tourism.*
- *to provide for development that is not suitable in or near urban areas.*
- *to prevent the unnecessary fragmentation or development of land which may be needed for long-term urban expansion.*
- *to provide non-urban breaks between settlements to give a physical and community identity to each settlement.”*

In this regard, the proposed use of part of the 1(a) zone for possible future school development and for open space and drainage and water quality control purposes is clearly consistent with the objectives.

In relation to that part of the land which is zoned 7(1), the proposed public reserve for revegetation is considered consistent with the zone objectives which are as follows:-

“Primary objectives

- *to protect areas or features which have been identified as being of particular habitat significance.*
- *to preserve the diversity of habitats for flora and fauna.*

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- *to protect and enhance land that acts as a wildlife corridor.*

Secondary objectives

- *to protect areas of scenic value.*
- *to allow for other development that is compatible with the primary function of the zone.”*

In respect of that part of the proposed development within a 1(a) zone, it is noted that a future school (educational establishment) on proposed Lot 1501 would be allowed only with consent and must satisfy the provisions of Clause 8(2) of the TLEP 2000. In principle, the proposed site is considered appropriate for a future school use.

The proposed development is considered consistent with or complies with the other relevant provisions of the TLEP 2000 as follows:-

Clause 8 - Consent Considerations

This clause (subclause 1) provides that council may grant consent to the development which is allowable only if it is satisfied that the development is consistent with the primary objective of the zone, it has considered the other aims and objectives of the plan relevant to the development and it is satisfied the development would not have an unacceptable cumulative impact on the community, locality or catchment that will be affected by its being carried out or on the area of Tweed as a whole.

In this regard, the proposed development is consistent with the primary objective of the relevant zones, and the other aims and objectives of the plan relating to ecologically sustainable development and secondary zone objectives. Having regard for the zoning and the consideration of issues of cumulative impact in the rezoning process, etc, it is considered that the proposal, subject to appropriate conditions, is unlikely to have an unacceptable cumulative impact in terms of environment, traffic, services, water quality, etc. The issue of cumulative flood impact is dealt with in the discussion concerning Clause 34 - Flooding - of the TLEP 2000.

Clause 14 - Development near Zone Boundaries

This clause aims to provide flexibility where detailed site investigations reveal the use allowed on the other side of the zone boundary would enable a more logical and appropriate development of the site, and applies within 50m of a boundary within a 1(a) and 2(c) zone.

Whilst the proposed development does not rely on this particular clause, having regard for the actual location of the zone line, a slight adjustment in the proposed development layout could result in residential lot(s) slightly impinging on a 1(a) zone, relating to the final design and layout of the staged subdivision, and no objection is raised to such minor overlapping of the zone boundary.

Clause 15 - Availability of Essential Services

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This clause provides that Council must not grant consent to the carrying out of development on land unless a water supply and facilities for the removal of disposal of sewage and drainage are available or satisfactory arrangements have been made for the provision of that supply and those facilities.

In this regard, having regard to the advice and comments of Council's Engineering Planning and Design and Water Unit, adequate facilities for water supply, sewage, and drainage are available subject to satisfactory arrangements by way of conditions.

Clause 17 - Social Impact Assessment

This clause provides that where the consent authority considers that a proposed development is likely to have a significant social or economic impact in the locality or in the area of the Tweed, the consent authority (Council) may only grant consent to the proposed development if it has considered a social impact statement.

In this regard, this application pre-dated the coming into effect of the TLEP 2000. Nevertheless the Strategic Planning processes which resulted in the rezoning and the preparation of the Development Control Plan for the urban development of this land took into account the social and economic impact issues in general.

Clause 19 - Subdivision General

The consent is not required for a subdivision effected for the purposes of creating a lot to be used for a public utility undertaking or as a public reserve or the like, notwithstanding non-compliance with the minimum lot size applicable to the zone. This clause applies to the proposed public reserve lot(s) wholly or partly within the 1(a) and 7(l) zones.

Clause 20 - Subdivision in Zones 1(a) and 7(l)

This clause provides for a minimum lot size of 40ha in the zones, except where the authority is satisfied that the lot will be used for a purpose other than for agricultural or residential purposes for which consent could be granted.

In this regard, proposed Lot 1501 is the residue lot, having an area under 40ha within a 1(a) zone. In this regard, the concurrence of the Department of Urban Affairs and Planning pursuant to the provisions of SEPP1 - Development Standards has been granted to enable the granting of the consent to this residue lot below the 40ha standard.

Clause 22 - Development near Designated Roads

The subject land has frontage to a designated road, the Pottsville/Mooball Road, and the consent authority must be satisfied that development is unlikely to constitute a traffic hazard or materially reduce the capacity of efficiency of the designated road, and the location, standard and design of access points and onsite traffic movement and parking arrangements would ensure that through traffic movement on the designated road is not impeded. Furthermore, Council is required to be satisfied that the development or access to it will not prejudice any future improvements to or realignment of the

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designated road, the development is of a type that is not sensitive to traffic noise or adequate measures are included to ameliorate potential noise impact, development would not detract from the scenic values of the locality, particularly from the point of view of users, and where practical access to the land should be provided from a road other than a designated road.

In respect of these provisions, the proposal was referred to the Regional Traffic Committee of the RTA, and the Committee has noted that the proposal includes roundabout junction treatments to access the site and with no lots provided with direct access to the Mooball/Pottsville Road. The Committee had no specific requirements for the proposal. In relation to noise impact, the applicant has provided additional information and proposals for the provision of acoustic mounds, fencing and landscaping with appropriate treatments to some future buildings, in order to satisfactorily ameliorate potential noise impact and increase visual amenity of the proposed development to the designated road. Appropriate conditions of consent are suggested in regard to acoustic treatment of the buffer to the road and to be incorporated in future dwelling design.

Clause 23 - Control of Access

This requires development consent for the provision of any road or means of access forming a junction or section with a designated road. In this case, the proposed two access roads by way of roundabouts to the Mooball/Pottsville Road are part of the proposed development, and are acceptable to Council's Engineering Planning and Design Unit and to the Regional Traffic Committee.

Clause 24 - Setbacks to Designated Roads

This clause does not apply to land zoned 2(c) and it is noted that there are no buildings proposed in respect of that part of the site zoned 7(l).

Clause 28 - Development in Zone 7(l) Environmental Protection (Habitat) and on adjacent land

This clause provides that a person must not clear vegetation from, drain, excavate or fill land within a 7(l) zone except with Council's consent (unless it is exempt development) and must not grant consent to development on or adjacent to land within a 7(l) zone unless it has taken into consideration the likely effects of the development on flora and fauna found in the locality, potential for disturbance of native flora and fauna as a result of intrusion by humans and domestic and feral animals, increased fire risk, rubbish dumping, weed invasion and vegetation clearing, and furthermore a plan of management showing how any adverse effects arising from the development are to be mitigated.

In this regard, the proponent has submitted a Species Impact Statement, which includes an assessment of the likely effects of development on flora and fauna and habitats, including threatened species, and has included plans of management related to revegetation, koala protection, etc to mitigate any potential adverse effects arising from the development.

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Clause 31 - Development adjoining waterbodies

This clause provides that Council must not grant consent to development on land adjoining a waterbody within such distance as is determined by the consent authority of the mean high water mark or where there is no mean high water mark, the top of the bank or shore of a stream, creek, lagoon or lake unless it is satisfied that (relevant to this application):-

- * the development will not have a significant adverse effect on scenic quality, water quality or bio-diversity of the riverine area or its function as a wildlife corridor or habitat;
- * adequate arrangements for public access to and use of foreshore areas have been made

Further, the consent authority may require as a condition of consent the rehabilitation of land adjoining the water bed to create a vegetated riparian zone or wetland, and works to stabilise the bank. In determining a distance from the high water mark or creek bank, the consent authority is to have regard for preservation of the scenic quality of the foreshores, minimising the risk of waterway pollution, protection of foreshore ecosystems, and intended or planned use for the foreshore.

In relation to this clause, the issue of the setback of development from the creek bank or the buffer width was dealt with in preparation of Development Control Plan No. 38, which states that the buffer is to be a general width of 50m to the banks of Cudgera Creek, and may be reduced to a minimum of 40m in places if justified in terms of water quality and drainage impact, amenity, fencing, topography and type and extent of riparian revegetation. In this regard, the proposed buffer or separation width to the creek bank is considered generally adequate, subject to conditions requiring the redesign and relocation of the proposed water quality control and sedimentation ponds and drainage system to avoid major drainage facilities within 40m of the Creek bank.

Clause 34 - Flooding

This clause provides that consent must not be granted to development on land subject of flooding unless it has considered the extent and nature of the flooding hazard, whether or not the development will increase the risk or severity of flooding on other in the vicinity, whether the risk or severity of flooding affecting the development could reasonably be mitigated, the impact of development on emergency services, and the provisions of the Tweed Development Control Plan No. 5 - Development of Flood Liable Land and any other relevant Development Control Plan. In this regard, the issue of flooding was considered during the rezoning and also during the preparation of the Development Control Plan No. 38 in respect of this site.

In this regard, the proposed development involves the filling of approximately 9ha of land subject to flooding in the 1% or 1 in 100 year flood. The applicant's flood assessment predicts increases in flood levels on adjoining property to the north (King) of 0.08m in the 1% flood event, with a similar impact in the 5% or 1 in 20 year ARI event,

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and a 0.02m impact in the 20% or 1 in 5 year ARI event. The applicant's consultants indicate that the subject land to the north of the proposed development site likely to be affected by flooding comprises a flood plain area currently under cane and bounded by relatively steep rise and running east to west. The overall increase in flood afflux of 80mm would be confined by the steep rise to the land that is currently flooded or a comparatively small increase in flooded area given the slope. Once flood waters had receded, the surface drainage system and microrelief of the land would form the major limiting factor to the rate of soil drying, not the depth of water during the flood. Council's Manager of Water has indicated that the likely flood impact is unacceptable and does not take account of the reasonable prediction of the Probable Maximum Flood and cumulative impact resulting from other development in the catchment. Council's Manager of Water recommends that the design flood level of RL 2.6m AHD be adopted with minimum residential floor levels of 2.9m AHD, with addition of the afflux of 0.08m to these levels if the development is approved. It is noted that the proposed filling assumes the filling of the proposed sports field site and much of the proposed school site.

Further, Council's Manager Water indicates that the flood study reports do not explore measures to mitigate nor contain the predicted flood impacts and notes that DCP38 relating to the Seabreeze Estate specifically provides that an applicant for development should provide a flood liable land development plan outlining the means for any potential impact on flood behaviour will be mitigated or contained.

The impact of flooding was the subject of a meeting on site held on 2 May, 2000 involving the proponent, Consultants for the developer, Council's staff, the President of the Tweed Cane Growers Association, Graham Martin and local cane growers Craig and Brett King and Ross Hardy. At this meeting, local observations on flood behaviour in frequent and major flooding were discussed, in relation to the likely impact of the development. Local cane growers were not overly concerned in relation to the additional impact of flood heights to a maximum of 80-90mm in major floods (1 in 20 year and 1 in 100 year) and generally concur with the observations of the proponent's consultants outlined above.

Local cane growers were more concerned with the potential impact of development on the more frequent lower level floods which have a potential to have adverse channelling effects and local erosion and ponding impacts. It was generally agreed that the stormwater detention and treatment proposals will largely contain potential adverse effects of flooding in low level floods due to the proposed development. The proponent indicated agreement to discuss the amended design recommended by Council's staff for stormwater drainage with local cane farmers prior to submission to Council (in the event of approval to the development application).

The local cane farmers and the president of the Tweed Cane Growers Association made their desire known to Council representatives that they would welcome assistance in preparing an application for, and carrying out the cleaning and desilting of Cudgera Creek north east of the subject property to assist in evacuation of flood waters. Cane

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growers through the Drainage Union would appreciate allocation of resources from Council to assist in this matter.

Having regard for the on site discussions the applicant's risk assessment, and the views of the local cane farmers, it is considered that the flood impact of the proposal is within acceptable limits, subject to the redesign of the stormwater treatment system for the site which should assist in mitigating any potential impacts in the more frequent flood events of concern to local cane farmers.

Clause 35 - Acid Sulfate Soils

This clause refers to an "acid sulfate soil planning map" which indicates that basically the low lying flood plain portion of this site is within Class 3 where works beyond 1m beyond the natural ground surface require the development consent of the Council. Council must not grant consent to such works unless it has considered a preliminary soil assessment to ascertain the presence of acid sulfate soils, where such soils are present the adequacy of an acid sulfate soils management plan, the likelihood of the proposed development resulting in oxidation of acid sulfate soils and discharge of acid water, and any comments received from any relevant public authority.

In this regard, as indicated in the comments by Council's Environment and Community Services Unit indicates that the acid sulfate soil management plan is inadequate in relation to some of the proposed development, but appropriate conditions can be attached to ensure an adequate management plan for each stage, including a plan of management for the mitigation of potential adverse impact through disturbance of acid sulfate soils in the construction of the proposed sewer line from the site through the adjacent Tweed Leisure Gardens site.

North Coast Regional Environmental Plan 1988 (NCREP 1988)

Clause 12 - Impact of Development on Agricultural Activities

The north western parts of the site are adjacent to existing productive sugar cane farms. A residential development close to such sugar cane production creates the potential for conflict between agricultural activities and future residents, with potential adverse affect on the amenity of future residents. Agricultural practices currently or are likely to include burning, ploughing, spraying, and creation of dust and noise. The nearest proposed residential lot is within 60m of the cane lands and this is considered by NSW Agriculture and the EPA to be an inadequate buffer distance, notwithstanding the proposed provision of riparian buffer plantings.

Both NSW Agriculture and the EPA are concerned that the use of a restrictive covenant is inappropriate and will not result in the reduction of potential conflict resulting from agricultural practices. Council's Solicitors have provided advice concerning the proposed use of the restrictive covenant and this advice is contained in the Confidential Attachment to this Business paper. As a result of the advice of Council's Solicitors, the imposition of such a restrictive covenant would appear to have limited weight as a

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means of mitigating impacts and is not recommended. However, the developer could still choose to voluntarily burden the title of dwelling lots with the proposed covenant.

At an on site meeting involving Graham Martin, President of the Tweed Cane Growers Association, local cane farmers Craig and Brett King and Ross Hardy, the proponents consultant's and Council staff on 2 May, 2000, the concerns of cane farmers in relation to the potential impact complaints from future householders concerning their legitimate agricultural operations might have on future farming activities, were discussed. As a result, it was generally agreed by all at the meeting, including local cane farmers, that the proposal for managing and provision of a buffer appeared generally acceptable, noting the following factors:

- the proposed removal of the stormwater treatment ponds from the riparian buffer, and therefore the opportunity for a dense vegetation buffer to reduce visual impact and the drift of dust and spray towards future houses;
- the timing of the subdivision development, such that it would be unlikely that any houses would be constructed at the western end of the site until the riparian planting buffer is well established, with a condition to ensure such buffer establishment before release of subdivision plans for adjoining dwelling lots;
- the use of a restrictive covenant as proposed by the applicant to forewarn future householders of the existence and nature of agricultural practices in the vicinity and restrict their ability to complain.

In conclusion, it is considered that the proposed buffer and management measures to minimise conflict to be incorporated in conditions and redesign of the western end of the subdivision will satisfactorily minimise potential for future conflict.

Clause 15 - Development Control - Wetlands or Fisheries Habitat

This clause provides that council shall not consent to an application to carry out development within, adjoining or upstream of a coastal or inland wetland or fisheries habitat area or within a drainage catchment of a wetland or fishery area unless it has considered the following matters:-

- a. the need to maintain or improve the quality or quantity of flows of water to the wetland or habitat;
- b. the need to conserve the existing amateur and commercial fisheries;
- c. any loss of habitat which will or is likely to be caused by the carrying out of the development;
- d. whether an adequate public foreshore reserve is available and whether there is adequate public access to that reserve;
- e. whether development would result in pollution of the wetland or estuary and any measure to eliminate pollution;

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- f. proximity of aquatic reserves dedicated under the Fisheries Management Act, 1994 and the effect the development will have on the reserves;
- g. whether the proposal is in an area of protected land as defined in Section 2(1)(a)(b) of the Soil Conservation Act, 1938 and any measures to prevent soil erosion;
- h. the need to ensure that native vegetation surrounding the wetland or fishery habitat is conserved;
- i. the recommendations of any environmental audit or water quality study prepared by the Department of Water Resources or the Environment Protection Authority in relation to the river, stream, wetland area or catchment.

In regard to the above matters, reference should be made to the comments of Council's Engineering Design and Planning Unit and the comments of the Environment Protection Authority and Department of Land and Water Conservation. In this regard, the proposed stormwater and water quality management system and sediment control systems partially in the western part of the site is not considered acceptable, and appropriate conditions of consent are required to address these deficiencies in the staged implementation of the subdivision, including the redesign to the layout and design and performance of the stormwater and water quality management system, in order to ensure that cost effective level of treatment aimed at achieving no net increase in pollutant load resulting from development. This is particularly relevant having regard for the sensitive receiving environment of Cudgera Creek forming the northern and north western boundary of the site, to which virtually the whole of the site drains.

In relation to the adequacy of the public foreshore reserve, the proposal involves the dedication of a riparian reserve for recreation and drainage purposes. Subject to the redesign of the proposed stormwater management system within the proposed foreshore reserve, referred to elsewhere in this report, the design is considered satisfactory in relation to the adequacy of future public access to the foreshore. The proposal involves the protection and enhancement of riparian vegetation adjacent to the Creek.

Clause 43 - Residential Development

This clause provides that council shall not grant development consent for residential purposes unless:-

- a. it is satisfied that the density of dwellings has been maximised without adversely affecting environmental features of the land;
- b. it is satisfied that the proposed widths of roads are not excessive for the function of the road;
- c. it is satisfied that where development involves the long term residential use of caravan parks, the normal criteria for the location of dwellings such as access to services and physical suitability of the land, have been met;

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- d. it is satisfied that the road network has been designed so as to encourage the use of public transport and minimise the use of private motor vehicles;
- e. it is satisfied that site erosion will be minimised in accordance with sedimentation and erosion plans.

In regard to the relevant matters above, the proposal is considered to optimise the density of dwellings having regard for the environmental constraints of the site and having regard for the proportion of proposed duplex and medium density lots and the anticipated dwelling yield. Proposed road hierarchy and traffic issues will be discussed later. No caravan parks are proposed and the soil erosion issues have been addressed elsewhere in this report.

Clause 66 - Adequacy of Community and Welfare Services

This issue was considered in the formulation of the relevant Section 94 contributions plans for the provision and upgrading of community facilities and open space in the Tweed Coastal area. Provision is made for a future school on proposed Lot 1501 and structured public open space on proposed Lot 137. Other local and sub-regional facilities are available within Pottsville, Kingscliff and Tweed Heads, including schools and hospital.

State Environmental Planning Policies (SEPPs)

SEPP1 - Development Standards

Concurrence has been granted to by the Department of Urban Affairs and Planning to the subdivision of land zoned 1(a) Rural in order to create the residue lot within Zone 1(a) Rural below the 40ha standard for this zone in Clause 20 of the TLEP 2000. This concurrence is granted for the reasons that no alterations to the existing use of the land is proposed, and the subdivision is necessary to permit urban development to proceed on the adjoining land zoned 2(c).

SEPP11 - Traffic Generating Developments

In accordance with the provisions of this SEPP, the application was considered by the Regional Traffic Committee. A summary of the Committee's comments is provided in the section of this report dealing with the RTA comments.

SEPP44 - Koala Habitat Protection

Notwithstanding the fact that the applicant has concluded that the site does not come within the ambit of potential or core koala habitat having regard for the number and proportion of koala food trees, nevertheless the applicant has undertaken the preparation of a Koala Management Plan as part of the Species Impact Statement for the proposed development. Relevant conditions of the consent refer to the implementation of the Koala Plan of Management.

(ii) Provisions of Any Draft Environmental Planning Instrument

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There are no draft Environmental Planning Instruments applying to the site.

(iii) Any Development Control Plans (DCPs)

DCP5 - Development of Flood Liable Land

Issues relating to the development of flood liable land have been discussed in the previous section of this report relating to Clause 34 of the TLEP 2000. The hill level and minimum floor levels required are indicated in relevant conditions in respect of the design flood level.

DCP16 - Subdivisions Manual

This proposal is generally consistent with the various standards, in terms of road widths, layout and open space, subject to conditions.

DCP25 - Biting Midge and Mosquito Control

Reference should be made to the comments of Council's Entomologist in this regard later in this report.

DCP38 - Seabreeze Estate, Pottsville

This DCP was prepared during 1999 as a vital part of the master planning process involving the current applicant. In this process, the main environmental, management, urban design and infrastructure issues were addressed and resolved, in general, and the current development application represents a refinement of and is based on the DCP as adopted by Council.

In this regard, the site layout generally takes account of the site characteristics, opportunities and constraints, and provides adequate connectivity between parts of the study area and Koala Beach to the north and Pottsville to the east, to create a design of acceptable quality and livability. However, the design of the estate is considered to be lacking in innovative design concepts in relation to the road design and lot variety.

The proposed development involves major earthworks and reshaping a great majority of the site, and the main ridges on the south side of the site have been significantly reduced in height to source the fill for the filling and reshaping of lower parts of the site. However, an important knoll dominated by a large fig tree will remain as a passive open space feature in the western part of the site, and the excavation of the other ridges is such that some of the elevation features will remain, albeit with a reduction in the elevation of ridges. The location and distribution of proposed open space is generally satisfactory, noting that the proposed entry statements are not referred to in the DCP and could impose a significant additional maintenance burden on Council.

The most important riverine corridor is to be retained and protected, subject to appropriate conditions, as well as the closed forest remnant in the south eastern part of the site which will become a revegetation reserve.

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The layout and traffic system is considered generally satisfactory, and will reflect the DCP, with predominantly east/west and north/south oriented local roads, and medium density sites focussed close to the proposed “town centre”. The “town centre” commercial management lot which is to be located centrally within the subdivision adjacent to the proposed link road from the Pottsville/Mooball Road through to Koala Beach. Some deficiencies in the soil and water management plans are the subject of proposed consent conditions, as noted elsewhere in this report.

In relation to flooding, there is still concern in relation to the impact of the predicted afflux from both the 1% and 5% annual exceedance probability floods having regard to the likely impact on adjacent rural lands.

The proposal broadly reflects the open space strategy in the DCP, and lot orientation and likely range of lot types between single dwelling lots, duplex lots and medium density lots is adequate in terms of proportion and location.

The application and additional supporting information provides the required plans of management or relevant details in respect of habitat management, traffic and movement plan, soil and water, open space, etc.

DCP39 - Energy Smart Homes Policy

This DCP came into effect on 7 April, 2000, some months after the submission of this development application. Nevertheless, the application conforms generally with the requirements and principles of this DCP in terms of subdivision layout, street and lot orientation, and design to facilitate energy efficiency, walking, cycling and public transport.

Section 94 Contribution Plans

A number of Section 94 Plans apply to the proposed development and to the site, in terms of required contributions towards the provision and upgrading of public facilities and services. In particular, the proposed development, subject to the imposition of conditions, is consistent with the provisions of Section 94 Plan No. 20 - Public Open Space at Seabreeze Estate, and Section 94 Plan No. 22 - Shirewide Cycleways. In this respect, contributions will be required towards the costs of implementing cycleway connections between this site and Koala Beach and Pottsville Town Centre. Section 94 Plan No. 4 - Tweed Road Contribution Plan will provide for construction of a future link road to Koala Beach.

(iv) Any Matter Prescribed by Regulation

The only relevant matter prescribed by Regulation is the NSW Coastal Policy 1997. In this regard, the proposed subdivision is located within the “coastal zone” pursuant to the policy. It is considered satisfactory, noting the following relevant Strategic Actions in the Policy.

1.4.7 Development Proposals adjacent to Estuaries

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This provides that developments in the Coastal Zone will only be approved where conditions can be imposed to impose potential impacts in terms of the Rivers and Foreshores Improvement Act and the Fisheries Management Act.

Comment

Subject to the imposition of conditions and some amendments to the proposed water quality and sediment control plans and riparian vegetation plans, the proposal is satisfactory.

2.1.4 Acid Sulfate Soils

The applicant has prepared acid sulfate soil management plans, which are to be refined and detailed and approved at each stage of the proposed subdivision by way of consent conditions to effectively manage impacts and ensure remediation of ASS.

3.2.1 North Coast Design Guidelines

The proposal is generally consistent with these guidelines in terms of layout, absence of tall buildings, etc.

3.2.4 Design and Locational Principles

None of the design and locational principles contained in the Coastal Policy are particularly relevant, since the site is not directly adjacent to the Coast itself nor a coastal estuary, although the site is within the Coastal Zone identified in the Policy.

(b) The Likely Impacts of that Development

Context

The assessment of this proposal is to be viewed in the context of an integrated whole of development approach to a major broad acre residential subdivision in Tweed Shire, having significant economic and employment potential and providing affordable housing opportunities in an attractive location to meet part of the demand for housing in Tweed Shire over the next decade or so. This context is recognised in the Tweed Shire Residential Development Strategy, the Tweed 2000+ Strategy and DCP38.

Landscape/Visual Impact/Density and Character

Urban development will convert this large grazing paddock to a significant housing estate. The design represents a traditional approach to housing subdivision and lacks innovative design concepts particularly in relation to road design, housing mix and lot variety. Significant reduction in the elevation of the main ridges on the south side of the site during cut and fill reshaping and excavations will reduce some of the landscape integrity of the site. . However, the ridge at the western part of the site containing a large fig tree is to be retained and landscape and acoustic treatment of developments at the Pottsville/Mooball Road as presented in the plans and sections by the applicant's landscape consultants EDAW indicate acceptable visual impact from this major southern entry from the proposed Pacific Highway deviation into the Tweed Coast. The

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integrity of the riparian zone and the proposed forest in the south eastern corner of the site is to be protected and enhanced, and the overall design provides adequate connectivity and permeability.

Land Use and Amenity Impacts, and Relationship to Adjoining Land

The site is adjacent to productive cane lands to the north west, and as such, the adequacy of the buffer between productive cane lands and the proposed urban lots (minimum 60m) is of some concern, particularly having regard for the location of the proposed sedimentation and water quality ponds and the nature of agricultural activities likely to lead to complaints from future householders.

On site discussions between representatives of the applicants, Council staff and adjacent cane farmers have resulted in agreed amendments to the proposal. The applicant proposes to impose a restrictive covenant on the title of all lots within 500m of cane farming areas to limit the ability of future landowners to initiate complaints concerning normal agricultural activities. Subject to conditions and some amendments to the design of the proposal in relation to sediment and water quality controls, and increased density, the riparian revegetation buffer along the Cudgera Creek is considered adequate. The overall setback of buildings on the north east part of the site to the Pottsville Environmental Park is considered adequate for bushfire protection, being in the vicinity of 25-30m, and including the use of the road reserve as part of the buffer.

Access, Transport and Traffic

As indicated in the discussion concerning the RTA response, the proposed design of the subdivision in terms of road links and traffic is considered adequate, and generally reflects current traffic planning practice for new estates. A link road is proposed to Koala Beach, with dedication of the road reserve proposed to be advanced to Stage 7 in lieu of the applicants proposal to dedicate this at Stage 15. The proposed bikeway/walkway routes are to be amended in accordance with the requirements of the Local Traffic Committee.

Public Domain

The proposal involves the provision, dedication and embellishment of adequate passive and active open space in accordance with the provisions of Section 94 Plan No. 20 - Public Open Space at Seabreeze Estate and also adequate riparian environmental reserve along Cudgera Creek and at the south eastern corner of the site, subject to design amendments in respect of the western end of the site. The size and location of proposed public open space is acceptable. Provision is made for bikeway and walkway linkages to the Pottsville Environment Centre and to Pottsville Village Centre, as well as provision of a link road reserve to Koala Beach Estate, with the construction of a future link road being part of the Tweed Road Contributions Section 94 Plan No. 4.

A condition is proposed to require the embellishment features in the proposed "entry statement" parks to be designed to be low maintenance to the satisfaction of Council's Manager Recreation Services.

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Utilities

The proposed development can be satisfactorily provided with water, sewerage, electricity and telecommunications services, subject to the payment of appropriate headworks contributions and provision of rising mains, etc.

Heritage

There are no known sites of European heritage in respect of the land. An archaeological survey by Adrian Piper, submitted as part of the development application, identified a number of areas of potential archaeological and cultural significance to Aboriginals, and identified a open camp site (archaeological site) in the central southern part of the site. As recommended by the applicant's archaeologist, and as accepted by the NPWS, a condition is to be imposed requiring the protection and fencing in of the identified open camp site to the satisfaction of the Tweed Byron Local Aboriginal Land Council as an Aboriginal site of the Bundjalung people, and that any filling or removal of fill or disturbance from designated areas of potential significance shown in Figure 7 of the Archaeologist report be monitored by a representative of the Land Council at the expense of the applicant.

This open Aboriginal camp site is located adjacent to the western most and main entry to the site from the Pottsville/Mooball Road.

Water Impact

The issue of flooding impact has been dealt with in dealing with Clause 34 of the TLEP 2000. Reference should be made to the comments of Council's Engineering Design and Planning Unit and Environmental Health Unit in respect of sediment, erosion and water quality impact. In particular, conditions are proposed to ensure adequate redesign, provision, maintenance and monitoring of water and sediment quality control measures, including acid sulfate soil management.

Flora/Fauna and Habitat Impact

The application is accompanied by a Species Impact Statement, which includes a detailed assessment of the likely effect of the proposal on threatened species, ecological communities or populations and their habitats, pursuant to the provisions of Section 5A of the Environmental Planning & Assessment Act, 1979. The applicant concludes, and this conclusion is supported, that the proposal is likely to have a significant impact involving the removal of at least one species of a threatened plants, the Spiny Gardenia and potential adverse impacts on other threatened species and plant mainly in the riparian area adjacent to Cudgera Creek. Proposed filling, drainage and earthworks are also likely to have a significant impact on part of the habitat of Wallum Froglet, and indirectly impact on the habitat of Koala known to occasionally use the site as a corridor. The SIS contains plans of management for riparian revegetation, koala protection, wallum froglet habitat protection and enhancement, and spiny gardenia protection and translocation and includes Section 5A assessment of significant impact on threatened species. The concurrence of the NPWS is required in respect of this

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proposal in the event of Council's decision to grant consent. It is concluded that the management and mitigation measures proposed by the proponent in the SIS and additional information should adequately reduce impact on threatened species and the natural environment to an acceptable level.

Energy

As indicated in the section of this report dealing with DCP39 - Energy Smart Homes Policy, the design of the subdivision is considered to be compatible with energy efficiency in terms of street and lot layout, walkway, cycleway and public transport route provision and location of central facilities, to reduce energy.

Natural and Technological Hazards

The site has been identified as having actual and potential acid sulfate soils, and a acid sulfate soil plan of management has been submitted with the application. This is required to be refined and submitted for approval in conjunction with the submission of the Construction Certificate application for each subdivision stage. There are no known technological hazards affecting this site, such as aircraft noise, contaminated land, former dip sites, etc.

Social and Economic Impact

The proposal will provide for a significant proportion of the housing required for the next decade to service the needs of Tweed Shire, and is likely to significant assist the economy by provision of construction and post construction employment. The proposal provides a new housing estate of appropriate design, close to an existing expanding coastal township with high amenity, recreation values and community facilities available.

Construction Impacts

These are likely to be mainly noise, erosion and sediment impact, potential impact on water quality and riparian areas and habitats, and construction vehicle impact on adjacent roads. These impacts are required to be appropriately managed by conditions of consent.

Cumulative Impacts

Again, potential cumulative impacts arise from urban development of rural land in terms of water quality, habitat impact, flooding etc. The cumulative impact of filling, in addition to the future filling envisaged by the development of the Koala Beach Estate is of concern however, the Koala Beach Estate and the subject Seabreeze Estate are the only two major areas of fill identified in Council's development program within the Cudgera Creek catchment.

(c) **Suitability of the Site**

A range of technical reports and studies over a number of years have identified constraints and opportunities of this site for urban development, and subject to the

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appropriate design and various plans of management to mitigate impact, this site is considered suitable for major urban development.

(d) Submissions

Submissions from public authorities and the two submissions received from members of the public or non Government organisations have been discussed in the section of this report dealing with consultation.

(e) Public Interest

A number of State Government Planning Policies and local planning guidelines apply to this development, and have been discussed previously in this report. The following additional policy or planning documents have some relevance.

Tweed Shire 2000+ Strategic Plan

The relevant provisions of the Tweed 2000+ Strategic Plan are as follows:

“INFRASTRUCTURE FINANCE

18. *The management of urban release areas upon the full cost recovery of public infrastructure already provided, and the provision of infrastructure needed to service growth at no cost to existing ratepayers.”*

Comment

The developer will be required to extend infrastructure to the site and pay the appropriate Section 94 Contributions.

“OPEN SPACE AND RECREATION

30. *Open Space Standards Council will ensure the identification of open space areas of high value within proposed and existing release areas through performance based standards. It will amend the Subdivision Guidelines so that these open space requirements are fully satisfied prior to approval. The Guidelines will include appropriate environmental requirements and provide for adequate buffers and/or open space between different uses.”*

Comment

Appropriate guidelines for open space relating to this site have been developed in the Section 94 Plan No. 20 and the DCP38 both applying to the site.

The proposal is consistent with these guidelines as discussed previously.

“INFRASTRUCTURE PLANNING AND FINANCE

79. *Tweed Development Program The release of new urban development will be managed by a Tweed Development Program which will:*

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- (a) *provide infrastructure to match anticipated growth in residential lots.*
- (b) *specify essential infrastructure in excess of \$100,000 which is required before a nominated area of land can be released for development.*
- (c) *provide for a developer to proceed "out of sequence" only if all the necessary infrastructure is provided at no cost to the community.*
- (d) *manage new urban development to minimise the public sector costs in providing related infrastructure.*
- (e) *be based upon and integrated with Council's three year management plan and 10 year long term financial planning."*

80. *In accordance with the Tweed Development Program, Council will facilitate development of urban release areas compatible with the following strategic infrastructure constraints detailed in that Program:*

- (a) *Piggabeen Road.*
- (b) *Kingscliff STW: effluent licence approval.*
- (c) *Coast Road.*
- (d) *Banora STW: receiving water capacity.*
- (e) *Kennedy Drive."*

Comment

The site takes into account the ultimate capacity of the Coast Road and the Pottsville/Mooball Road, in relation to the Pacific Highway deviation now under construction.

Pottsville Village Strategy

This Strategy nominates and acknowledges the development of the Seabreeze Estate for urban/residential uses as part of the village strategy, with linked road to Koala Beach. The proposal is compatible with the Pottsville Village Strategy.

ENGINEERING SERVICES DIVISION COMMENTS

Comments and recommended consent conditions have been advised by Council's Engineering Design and Planning Unit as follows:-

"1. General Land Form and Drainage

It is proposed to reform most of the site to be developed. Higher ground at the south of the site is to be cut and fill placed on the flood plain area to around RL 2.59m the Q100 flood

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level. In general the higher lands will be lowered and the low lands will be raised resulting in a blander less contrasting landscape.

The existing site drains generally north to the Cudgera Ck flood plain, is collected by a farm drainage system and discharges into Cudgera Creek at a number of locations. The proposed landform will drain in a the same general direction, but, gullies and farm drains will be replaced by an urban stormwater drainage system. It is proposed to pass stormwater runoff through dry detention ponds prior to discharge into Cudgera Creek.

The details submitted by the applicant regarding finished levels at the western property boundary are unclear. There appears to be some discontinuity of levels at this location which may require a retaining wall or bund and local drainage to eliminate adverse impacts on adjacent land.

2. Site Drainage and Points of Discharge

The site is divided into four subcatchments: (Subcatchment areas supplied by fax from Gilbert & Sutherland's, Drew McKenzie as it was not supplied with DA documentation, Flows supplied by Cardno MBK Figure 35)

| Subcatchment | Area (ha) | Q_5 (m^3/s) | Q_{100} (m^3/s) | Treatment Area m^2 |
|--------------|-----------|-------------------|-----------------------|----------------------|
| Catchment 1 | 39.1 | 8.7 | 17.8 | 40,000 |
| Catchment 2 | 14.5 | 4.3 | 8.1 | 1,600 |
| Catchment 3 | 3.9 | 0.4 | 0.4 | 400 |
| Catchment 4 | 7.2 | 2.6 | 5.1 | 1,269 |

Each catchment discharges to Cudgera Creek.

The application talks of "a graded engineering design for both piped and overland flow paths" It is assumed that this refers to a conventional major/minor drainage system. Cardno " Figure 35 - Stormwater Drainage Concept, Overland Flow Paths, Drainage Outlets and Treatment Areas" indicates the general drainage layout

2.1 Catchment No. 1

This catchment drains in a northerly direction to proposed Treatment Area 1 (40,000 m^2 dry sedimentation basin) located on the flood plain to the north east of the site. Overflow from the treatment area appears to be directed to an existing open drain that then discharges into "Cudgera Creek".

The exact location of Cudgera Creek at the north east of the site is unclear. Aerial photographs suggest that the easternmost (about 200m) section of the creek has been diverted into an artificial drain to the north in lot 954 DP864092 (owned by Tweed Shire Council) and the natural creek bed in this location (which is the property boundary) is bypassed and dry except for drainage runoff from the subject property. The aerial

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photographs further indicate that the natural and artificial “Cudgera Creeks” reunite and converge just east of the subject site north east boundary. It would appear that the natural (but bypassed) Cudgera Creek bed is the ultimate point of discharge for Catchment No. 1. The status of the artificial channel of Cudgera Creek is unknown to me. The application gives no information on these matters.

Stages 1 - 8 of the development are in Catchment No. 1. Cardno MBK Figure 35 indicates four outlets (outlets 6, 7, 8 & 9), from the subdivision’s underground system, discharge into open swale drains on the open space flood plain areas and then discharge into Treatment Area 1.

The drainage swales are indicated to traverse residue land. Dedication of drainage reserves to secure legal right of discharge will be required across residue land, over the treatment area and from the treatment area to the ultimate point of discharge into “Cudgera Creek”. The applicant may prefer easements to reserves over the drainage swales on residue land as this would be more flexible for future development proposals on this land.

The applicant’s “Landscape Masterplan” Sheets 1 -3 indicate “dry creek to carry overland flow and entry road runoff” along estate entry roads No 1 and No. 4 which discharge into water features or ponds in formal parks. These “dry” creeks and water features are proposed as significant landscape elements however no details are given on how they are to be integrated into the drainage and stormwater treatment systems.

2.2 Catchment No. 2

This catchment drains in a north and east direction to proposed Treatment Area 2 (1,600m² dry sedimentation basin) located on the flood plain to the north of the site. Overflow from the treatment area appears to be directed overland and into Cudgera Creek.

Stage 9 and most of Stages 10, 11 & 12 are in Catchment No. 2. Cardno MBK Figure 35 indicates three outlets (outlets 3, 4 & 5), from the subdivision’s underground system, discharge into open swale drains on the residue and riparian buffer flood plain areas and then discharge into Treatment Area 2.

Treatment area No. 2 is shown located in the riparian buffer area

2.3 Catchment No. 3

This is a very small catchment which drains in a northerly direction to proposed Treatment Area No 3 (400 m² dry sedimentation basin) located in the riparian buffer area. Overflow from the treatment area appears to be directed overland and into Cudgera Creek.

The north western edge of Stage 11, the south western edge of Stage 12 and eastern section of Stage 13 are in Catchment No. 3. Cardno MBK Figure 35 indicates one outlet (outlet 2), from the subdivision’s underground system, discharges into Treatment Area 2.

2.4 Catchment Area No. 4

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This catchment drains in a northerly direction to proposed Treatment Area No. 4 (1,269m² dry sedimentation basin) located at the north west of the site in the riparian buffer area. Overflow from the treatment area appears to be directed overland and into Cudgera Creek.

Most of Stages 13 and 14 and the western edge of Stage 10 are in Catchment No. 4

Cardno MBK Figure 35 indicates one outlet (outlet 1), from the subdivision's underground system, discharges into Treatment Area 4.

Treatment area 4 appears to be located on an elevated spur. It may be difficult for drainage to gravitate to this location.

2.5 Drainage System Capacity

The application does not size trunk drainage elements, however the location of trunk drainage swales in open space and residue areas does not impose size/cross section constraints.

2.6 Points of Discharge

All catchments proposed to have ultimate discharge into Cudgera Creek. Approval of DLAWC (Rivers and Foreshores Improvement Act 1948) will be required for works in or within 40m of Cudgera Creek. A permit will also be required from NSW Fisheries (Fisheries Management Act 1994) for outlet works which would involve "dredging" or "reclamation" . Legal continuity of easements/reserves would be required from the subdivision across any intervening private land to the ultimate point of discharge in Cudgera Creek.

2.7 Staging Issues

The staging boundaries in some locations do not coincide with drainage subcatchment boundaries. For construction of most stages this will require construction of downstream drainage work in future stage areas.

For each stage it will be required that downstream (to the ultimate point of discharge at Cudgera Creek) waterways and water quality devices are constructed.

3. Management Lots

This applies to proposed residential B precinct lots 740, 835, 924 and 1141 and town centre lot 741.

In the stage of subdivision that creates these lots:

- sufficient infrastructure should be constructed so that they may be capable of being developed to their ultimate capacity without any further requirement for provision or augmentation of external infrastructure.*
- Bulk earthworks should be completed and the drainage system established*

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- *all frontage road and infrastructure works should be completed*

4. Treatment Area Location and Catchment Issues

Treatment areas 2, 3 and 4 are shown located in the riparian buffer area. Treatment area 1 may be partially in the riparian buffer. Treatment areas 1 and 2 are located on the flood plain. These locations raise a number of issues:

4.1 Flooding

Treatment ponds located on flood plains present two difficulties. Firstly as bunded areas they can impede the flow of flood waters and cause flood level afflux. Secondly the ponds themselves may be subject to overtopping which may lead to remobilisation and discharge of sediments and pollutants.

It would be preferable for treatment functions such as sedimentation to be located upstream of the proposed locations, in a flood free area closer to the pollution source. If wetlands were to be constructed the same principle would ideally apply.

Flooding was modelled by WBM in Appendix C to the application. Figure 3.1 indicates the extent of fill modelled. It would appear that most of proposed Treatment Area 1, and parts of Treatment Areas 3 and 4 were not included in higher filled land in the modelling. It is assumed therefore that the blocking effect of the ponds has either been ignored or it has been assumed that the height of pond walls is too low to interfere with flow of flood waters. In the latter case these ponds would be inundated in floods with a high risk of remobilisation of previously settled pollutants.

4.2 Riparian Buffer

The objective of a riparian buffer is to restore riparian vegetation and riparian and aquatic habitats. The replacement of riparian vegetation with open sedimentation ponds and associated embankments and inlet/outlet structures does not seem to be compatible with this objective. In the north western section of this development the riparian vegetation is also proposed as a buffer and screen between cane farming activities and dwellings. The application indicates that cane farming activities including pesticide/weedicide spraying, fertiliser application, cultivation, burning and harvesting will occur within 60m of dwellings and the only barrier in the proposed riparian vegetation buffer. In these circumstances it would appear necessary to maximise the effectiveness of the riparian buffer by fully committing it to high and dense vegetation which would exclude other proposed uses such as water treatment ponds and neighbourhood parks.

4.3 Contributing Catchment Layouts

Catchment 4

Cardno MBK Figure 7 "Finished Surface Contours" indicates that catchment 4 will generally drain to the west and north. The proposed location of Treatment Area No. 4 on elevated land to the north of the subcatchment appears to be inappropriate. It is proposed within the riparian buffer area close to cane fields and is well to the north of the indicative

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location shown on the DCP. It would appear to be difficult for contributing drainage discharge to gravitate to this location.

A more appropriate location would be further south and outside the riparian buffer, in a lower location that can be gravitated to more easily and inside the fill area modelled by WBM in Appendix C to the application. This would require a significant change to the street and lot layout of stage 13.

Catchment 3

This catchment and treatment pond only service 16 lots. It is an uneconomic size to service in this manner, particularly for long term maintenance. Although in the general location shown on the DCP, the treatment pond is inappropriately located in the riparian buffer area close to cane fields. It may be possible to redesign the landform and layout to eliminate this subcatchment and redirect runoff to subcatchments 1 and 3.

Catchment 2

The proposed location of Treatment Area No. 2 within the riparian buffer is inappropriate. The treatment area should be located further to the south in “residue” land outside the riparian buffer and in the fill area modelled by WBM in Appendix C to the application.

Catchment 1

Part of Treatment Area No. 1 is inappropriately located within the riparian buffer area. It is also mostly outside the proposed fill area. The proposed size at 40,000 m² is many times larger than required for adequate stormwater quality treatment. It should be possible to reduce the treatment area size and relocate it outside the riparian buffer and within the fill area modelled by WBM in Appendix C to the application.

5. Stormwater Quality

5.1 Erosion and Sediment Control

The ESCP submitted with the DA is in general terms only. Council’s recently adopted Urban Stormwater Quality Management Plan (prepared in accordance with a Direction EPA under Section 12 of the Protection of the Environment Administration Act, 1991) requires stormwater objectives during the construction phase of new development to comply with “Tweed Shire Council, Aus-Spec D7 - Stormwater Quality, and Annexure A - Code of Practice for Soil and Water Management on Construction Works”. Proposed conditions of consent will incorporate these requirements.

5.2 Permanent Stormwater Quality Controls

The site is divided into four subcatchments each discharging into Cudgera Creek.

The applicant proposes a treatment train consisting of gross pollutant traps and dry sedimentation basin for each subcatchment and has modelled base, developed untreated and developed treated cases for each catchment. The applicants modelling is summarised in base, developed untreated and developed treated columns of Table 1, the table also

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shows Councils required standards for new development in the recently adopted Urban Stormwater Quality Management Plan and typical pollutant loads for an undeveloped site.

Table 1.

| Pollutant kg/ha/year | Base (Rural) | Developed Untreated | Developed Treated | Council's Standard for New Development | Typical Undeveloped Site |
|--------------------------------------|------------------|------------------------|----------------------|---|--------------------------------|
| <i>Median Rainfall year (1617mm)</i> | | | | <i>(1719 mm)</i> | |
| <i>SS</i> | <i>34 6</i> | <i>885</i> | <i>104</i> | <i>300</i> | <i>125</i> |
| <i>TN</i> | <i>9.4 2</i> | <i>15.6</i> | <i>13</i> | <i>4.5</i> | <i>1.5</i> |
| <i>TP</i> | <i>0.8 6</i> | <i>2.1</i> | <i>1.8</i> | <i>0.8</i> | <i>0.4</i> |

The EPA have commented on the applicant's proposal and advise:

- The proposed Stormwater Management Plan (SMP) does not meet the short term objectives identified by the EPA draft Managing Stormwater Council Handbook.
- The SMP is predicted to deliver a net annual increase in pollutant load of TP and TN from the site of 120% and 40% respectively.
- The SMP appears to rely heavily on "end of pipe" solutions rather than source control."

Section 5.5.3 of Council's Urban Stormwater Quality Management Plan (USWQMP) adopted 19 April 2000 requires the following stormwater quality objectives for new urban development:

| "Pollutant | | | |
|----------------------------------|---|------------------------------|-------------------------|
| <i>Nutrients</i> | <i>Maximum permissible load that may be discharged kg/ha/year</i> | | |
| | <i>Average year (1719mm)</i> | <i>Wet Year (2185mm)</i> | <i>Dry Year (929mm)</i> |
| <i>Suspended solids (SS)</i> | <i>300</i> | <i>400</i> | <i>120</i> |

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| | | | |
|--------------------------------------|--|------------|-------------|
| <i>Total Phosphorus (TP)</i> | <i>0.8</i> | <i>1.1</i> | <i>0.35</i> |
| <i>Total Nitrogen (TN)</i> | <i>4.5</i> | <i>6</i> | <i>1.5</i> |
| <i>Litter</i> | <i>Retention 70% of annual litter load greater than 5mm</i> | | |
| <i>Coarse sediment</i> | <i>Retention of 90% of annual load of sediment coarser than 0.125 mm</i> | | |
| <i>Oil and grease (hydrocarbons)</i> | <i><10 mg/litre in flows up to 40% of Q1 peak.</i> | | |

Section 5.5.5 of the USWQMP advises “Treatment that is in accordance with the “deemed to comply” provisions of Tweed Shire Council. Aus-Spec D7 - Stormwater Quality is deemed to comply with the objectives in 5.5.3”.

The applicants proposals are not satisfactory. If the proposed “dry” detention basins were changed to “constructed wetlands” of suitable sizing, it is likely that the treatment would then be satisfactory. Proposed consent conditions will require treatment that conforms with Councils USWQMP.

6. Conclusion

Issues regarding stormwater quality and erosion and sediment control can be addressed by consent conditions.

The proposed land reforming may presents difficulties with level inconsistencies at the western boundary with adjoining land. Conditions can address this issue.

The catchment layouts for subcatchments 3 and 4 appear to require amendment. Conditions may address this issue or affected stages could be withheld from this consent.

The location of treatment ponds within the riparian buffer area and outside the fill area modelled in the Appendix C flood modelling is inappropriate. The location of treatment areas 1 and 2 can be addressed by conditions. The relocation of Treatment Area 4 and possible elimination of Treatment Area No. 3 can be addressed by conditions, but, it will require significant amendments to proposed lot and street layout and finished landform.”

The conditions of consent recommended by the Engineering Design and Planning Unit relate to drainage, bulk earthworks and landform, interfaces with other land, future development lots, permanent stormwater quality treatment, water sensitive design, infiltration, constructed wetlands, road and street drainage, erosion and sediment control, clearing vegetation and soil disturbance,

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access, monitoring, etc. These have been included in the recommended consent conditions. In particular, the Unit recommends that the redesign of the water quality and sediment control and drainage system, and the riparian buffer and agricultural buffer areas, to better meet the requirements of Government authorities and Council's stormwater management objectives.

The Unit also advises that the Local Traffic Committee considered the subdivision proposal at a meeting on 3 February, 2000, endorsed by Council at its meeting of 16 February, 2000 as follows:-

“The bikeway and pedestrian path network should be modified (as shown on the attached plan) to improve connectivity. The internal road network including the connection to Koala Beach is supported by the Committee”.

In this regard, a condition of consent requires amendment to the bikeway and walkway system.

The Unit also advises that the septicity plan for the proposed staged sewerage system appears to be adequate.

Council's Water Unit advises that an afflux in the predicted 1% and 5% annual exceedence probability flood of 0.08m is not acceptable.

ENVIRONMENT AND COMMUNITY SERVICES DIVISION COMMENTS

Council's Environmental Health Unit initially commented on the proposal as follows (in summary):

- Koala Plan of Management appears to be required for each stage as a condition
- More information is required concerning the proposed restrictions on cats and dogs
- The 60m proposed buffer between residential lots and agricultural production areas is considered insufficient
- Doubts about the use of the proposed restrictive covenant to prevent landowners complaining about agricultural activities
- Noise buffer required to the existing truck depot to avert potential for complaints concerning the operation of the existing truck depot from new householders
- Applicant needs to investigate potential contamination by use of pesticides, etc, in former flower growing area on the site
- Impact of future bridge construction of the link road to the north has not been addressed
- The proposed sewer to the north east requires assessment and a management plan for acid sulfate soils
- Amelioration of acid sulfate soils in respect of the existing drain in stages 2 and 4 does not appear adequate
- Drainage to the Pottsville/Mooball Road has not been addressed.
- Proposals for the protection of the identified Aboriginal site appear acceptable

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- Inadequate water quality monitoring regime is proposed
- An acoustic study of the impact of additional traffic on housing and means to mitigate is required in respect of the Pottsville/Mooball Road
- Loss of figs and mangroves by construction of the artificial wetland and drainage area needs to be addressed
- Location of water quality basins in relation to acid sulfate soils needs to be addressed
- Site testing for acid sulfate soils appears inadequate and the applicant has understated the importance of a ASS
- Surface and groundwater sampling appears inadequate

The applicant was advised of these concerns, and submitted information to address a number of these issues. Subsequently, the Environmental Health Unit advised as follows:

- The acoustic report submitted with the application enables the imposition of an appropriate condition for boundary noise mitigation measures for Stages 1, 3, 5, 6, 8, 9, 10 and 14 and the imposition of an appropriate Section 88B Instrument on lots facing Mooball/Pottsville Road which require STC ratings to be achieved for habitable spaces in terms of the acoustic report. The Unit notes that the acoustic barriers proposed to the Mooball/Pottsville Road should be effective in minimising disturbance from the existing truck depot
- The Unit notes that additional information as to why restrictions should not be placed over cat and dog ownership is not yet forthcoming. It still considers the buffer of 60m between residential lots and adjacent agricultural activities is inadequate despite the proposed Section 88B Restriction to limit complaints from future householders.
- The Unit notes that the mixing process involved in the earthworks would reduce any possibility of contaminants above threshold levels from any former flower growing area, and the Unit notes that the ASS assessment and information on management is still considered insufficient, including environmental management of the sewer rising main to the north east. The Unit recommends a number of conditions of consent related to surface water and ground water monitoring, sampling, and acid sulfate soils management etc which are included in the recommended consent conditions.

COMMENTS BY COUNCIL'S ENTOMOLOGIST

Mosquitos breeding in brackish wetlands are a problem adjacent to the site, with increased mosquito control efforts required to reduce nuisance and disease risk at the proposed estate. Council's Entomologist should be advised when stormwater/sediment control ponds/wetlands are to be established at the estate so that monitoring for mosquito breeding can be carried out.

In relation to buffering from surrounding agriculture, Council's Entomologist notes that the applicant has incorrectly described farming practices on adjacent land and notes that northerly winds dominate during the chief agronomic period for cane growers being spring to mid summer; also notes that cane on the adjacent King property is at present planted to within 4m of the Creek giving

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a buffer of less than 60m width. See the section of this report dealing with the requirements of Clause 12 of the NCREP.

LEGAL/RESOURCE/FINANCIAL IMPLICATIONS

If the applicant is dissatisfied with Council's determination they may appeal to the Land and Environment Court. There will be an additional maintenance liability for Council due to the increase in areas of passive and active open space, drainage reserves and riparian revegetation areas.

OPTIONS

Council can either:

1. Subject to the Concurrence of the Director-General of the NPWS in relation to the SIS, approve the application subject to conditions as recommended or as modified.
2. Refuse the application.

CONCLUSION

All the significant issues relating to the development and ongoing management of the site have been resolved to the point where a conditional consent can be recommended. A significant concern relating to effect of design and means of stormwater treatment and sediment control has now been resolved by appropriate conditions, which have been discussed with the proponent and with the DLWC, which will result in the redesign of the system to relocate treatment ponds away from the riparian 40m buffer. Concerns relating to flooding and agricultural buffer width and management have been the subject of discussions with representatives of local cane growers and the buffer as now proposed is considered acceptable. The DLWC has advised its agreements to the issue of a conditional consent as "integrated development" having regard for the requirement for the issue of a 3A permit under the Rivers and Foreshores Protection Act, 1948 in respect of works within 40m of Cudgera Creek.

Local cane farmers indicated that they accept that the maximum afflux of 80-90mm in the estimated 1% design flood as a result of filling in this development is unlikely to have a significant additional affect on flooding and cane farming operations. Their concerns in regard to likely impact of the development on lower level more frequent floods can be addressed by conditions in the redesigned stormwater treatment system.

The concurrence of the NPWS will be required, having regard for the potential significant impact on threatened species, and it is considered that the rehabilitation, translocation and management measures contained within the SIS and supporting documentation will enable satisfactory amelioration of potential adverse environmental impact and opportunities for habitat and vegetation rehabilitation in conjunction with development.

The determination of this development application for a major urban release area represents the outcome of a master planning process involving the applicant, Government Authorities and Council, and is likely to result in significant local employment benefits and the creation of additional housing to meet the Shire's short and medium needs.

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It is concluded from the preceding assessment that the application in respect of all other matters is suitable for conditional consent. The extensive consultation process with Council officers and Government authorities and before that involving the preparation of a DCP, has resulted in a design which is generally acceptable and compatible with the opportunities and environmental constraints of the site. Hence, the application is recommended for conditional approval.

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