

Please Quote
Council Ref: GT1/51 Pt5 (Kings Forest Concept Plan)

Your Ref No: MP06_0318

For Enquiries
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[dltr]

6 February 2009

NSW Department of Planning
Major Project Assessment
GPO Box 39
SYDNEY NSW 2001

Attention Paula Tomkins

Dear Madam

**Environmental Assessment Exhibition - Major Project – Kings Forest
(MP06_0308) Residential Community Development - Council Submission**

I refer to your letter dated 10 December 2009 in which you seek Council's comments in relation to the Kings Forest Concept Plan (Environmental Assessment Report "EAR").

The application has been reviewed by various Council Officer's and based on this review the following comments are made.

Recommended additional information requests (prior to any approval of the concept plan) are numbered throughout this report under their relevant land use issue.

Recommended amendments/inclusions into the Draft Statement of Commitments are listed at the end of this letter.

Proposed Re-Zonings

Apart from Area 1, all of the requested rezonings from environmental protection to urban expansion apply to bushland areas of the site with Koala and other threatened species habitat values. In comparison, all of the proposals to rezone land from urban expansion to environmental protection contain mainly cleared and degraded land which is already included within either environmental or agricultural buffers and thus afforded a fair degree of protection anyway. The overall application shows no instances where developable land is proposed for protection based on its habitat significance. Table 1 below details the major issues associated with each of the rezoning proposals.

Table 1A: Consideration of areas proposed for rezoning to urban expansion

Area/ Location Values	Applicant's Reasoning	Council Response	Supported Yes/No
Unnumbered/ central portion of the site/ Koala habitat	Small isolated area included in the trade undertaken to arrive at current zoning but retained in error in SEPP.	Incorrectly identified – the areas so traded were all Swamp Sclerophyll Forest where this area relates to Swamp Mahogany mapped separately.	No – Council would support if better Koala outcomes were shown elsewhere
1 /	Line in zoning plan differs from on-ground	Agreed, however, substantial restoration is required in this area	No – retention and connection of all

Area/ Location Values	Applicant's Reasoning	Council Response	Supported Yes/No
north of Depot Road in north-east of site/ buffer to koala habitat	situation	to maintain Koalas and western half is within agricultural buffer. Increasing potential development footprint not supported here.	Koala habitat in this area is vital
2 / south of Depot Road in north-east of site/ mainly cleared land, Koala and Wallum Froglet habitat	To allow for siting of the proposed access road and 25m buffer.	Alteration sufficient to enable road construction is understood, however, this area was part of the trade to arrive at the current zonings and thus benefit has already been realised and this area represents compensation intended for restoration.	No - This area would be supported if the area north of depot road were all rehabilitated and protected and a safe connection provided over the main access road.
3/ Central eastern portion/ Koala and Flying Fox habitat	Rationalise zone boundary	This area is a 'finger' extending out from more contiguous habitat areas.	No – as above or negotiable on a 5:1 basis in accordance with Saintry formula where replacement habitat has to be created.
4/ Sliver along east toward south/ Koala and Bush Stone Curlew habitat	Unknown - state that retention of Scribbly Gums would be conditioned as part of any DA.	This area and Area 5 were part of the trade to arrive at the current zonings and thus benefit has already been realised and this area represents compensation intended for restoration. They provide valuable habitat resources for a variety of threatened species and are immediately adjacent to future nature reserve.	No - unless substantial benefit elsewhere can be shown.
5/ Two portions in southern most extent/ Regrowth heath, Wallum Froglet habitat	To accommodate the golf course tees for two holes	As above	No – the golf course should not occur on the 30m inner buffer which was agreed to be densely planted, further incursion is not supported.

Table 1B: Consideration of areas proposed for rezoning to environmental protection

Area/ Location Values	Applicant's Reasoning	Council Response	Supported Yes/No
1 to 4 / Central north and north-west / exotic grassland	Fill gaps and consolidate zone boundaries	Merit in smoothing the boundaries and including connection between vegetation patches, however, little environmental gain as all areas included within buffers and thus to	Yes - but insufficient as compensation for above

Area/ Location Values	Applicant's Reasoning	Council Response	Supported Yes/No
between Swamp Sclerophyll		be rehabilitated anyway.	
5 / West / Pine plantation and Swamp sclerophyll	Pine to be restored, could be rehabilitated to provide Koala movement linkage	Pine is an exotic weed with wildlings infesting certain portions of the site. Its inclusion in an environmental protection zone is not warranted. Most of the area is within the agricultural buffer. Swamp sclerophyll forest is well represented in other more contiguous portions of the site. The notion of creating a Koala corridor linkage in this location (i.e. not in a presently used portion of the site) may have merit but would require further detailed consideration. Creation of habitat areas has no guarantee of success and thus should not be used to offset losses of habitat presently being used elsewhere.	No – the swamp sclerophyll portion is acceptable but not Pine and not as compensation for loss of Koala habitat. Would represent a created Koala linkage with unknown success rather than conserving an existing corridor area.
Areas 6 to 8 / Exotic grassland	Infill, consolidate wetland areas, compensate.	All are degraded areas, area 6 potential Swamp Mahogany replacement site	Yes – but insufficient as compensation
Area 9 / Central portion/ Exotic grassland	Proposed as compensation for SEPP 14 impacts from future access road	Connection would reduce edge effect, contained within buffer already.	Possible – but area would be expected to represent ten times any loss (SEPP 14 requirement) as would be created habitat rather than existing.
Area 10 / Bottom of golf course area/ cleared land	Create a protected area across boundary.	Constrained by buffers anyway, requires active rehabilitation	Yes – but insufficient as compensation.

Rezoning summary

a. To urban expansion

- 3.41 hectares of existing established habitat comprising heath and Koala and Wallum Froglet habitat is proposed to be rezoned to facilitate development;
- “like for like” compensation is not proposed, although some largely cleared areas are proposed for restoration of similar vegetation.
- All proposed ‘losses’ are located in the eastern portion of the site whilst all but one of the proposed ‘gains’ are located in the central and western portions of the site
- For losses of these habitat types to be acceptable, Council would expect that compensation would be provided within or adjacent to known habitat use areas. Examples of such areas are shown on the aerial photograph below.

b. To environmental protection

- All proposed rezonings to environmental protection, totalling 16.23 hectares, comprise areas substantially cleared of native vegetation which would require substantial development time to become high conservation value lands.
- The largest proposed parcel presently consists mainly of exotic pine, a known environmental weed.
- All proposed environmental protection zoning areas fall within environmental protection or agricultural buffer zones, thus have a fair degree of protection in any case.
- All proposed environmental rezonings are for protection of Swamp Sclerophyll Forest which is well represented on the site. Protection of heathland and Swamp Mahogany is encouraged but absent from the rezoning proposal.

On this basis, rezonings should not be accepted. Further negotiations should be undertaken to consider other potential offset areas. An amendment to the Statement of Commitments has been drafted as per the end of this letter.



Figure 1: Example areas where habitat replacement is sought.

Aboriginal/Cultural Heritage

The Department of Planning and the Department of Environment and Climate Change should provide detailed comments in relation to Aboriginal and cultural heritage assessment.

Koala Issues

The documentation provided within the Concept Plan gives insufficient detail to be confident that there will not be a significant impact on the local Koala population.

The Kings Forest site is known to contain core Koala habitat, i.e. a resident population of Koalas, evidenced by numerous studies on the site (e.g. Sainty 2006) and recorded sightings (NPWS Wildlife Atlas records; community survey 1996) within the area.

This is to be expected in the location and having regard to previous studies (Phillips 2002; Phillips and Callaghan 1996).

Phillips (2002) found the largest area of remaining koala habitat along the Tweed Coast to be centred on the Round Mountain area between Pottsville and Old Bogangar, an area supporting two significant koala populations. The Cudgen Lake – Forest Hill - King’s Forest - Old Bogangar area supports one of these two significant populations, with the second occurring in the Pottsville – Searanch (now Koala Beach) – Round Mountain area. The former area (relevant to the Kings Forest Concept Plan) was estimated in 2002 to support a likely population of less than 100 individuals.

The two populations are separated by Clothier’s Creek Road and the township of Cabarita/Bogangar. There is a measure of connectivity between these two populations through Tanglewood and west of Cudgen Lake, however, this connectivity and the stability of the two populations is under threat because:

- Clothiers Creek Road is a black spot for Koalas on the Tweed Coast (accounting for almost half of koala road fatalities);
- Development and/or agriculture has resulted in loss of Koala habitat in the Tanglewood area in recent years;
- The number of Koala deaths resulting from a wildfire at Round Mountain in 2005 is unknown, and
- Contraction of the Koala’s range appears to be occurring to the north of the Kings Forest area with few if any records of Koala sightings in Kingscliff since 2000, and a number of Koala deaths occurring from road strike associated with the Pacific Highway relocation through Chinderah.

Small and isolated populations of any species have been shown to be at greater risk of population decline or extinction resulting from stochastic events such as wildfire or genetic problems such as inbreeding, when compared to larger populations able to breed with adjacent populations and thus introduce new genetic material. In addition, Koalas have a complex social structure and an affinity to a stable “home range”, and population decline is known to have resulted in other locations from the removal of key individuals, or key trees.

The Kings Forest site is thus integral in supporting a sustainable population of Koalas in the area and any known core koala habitat in this important area is critical to the survival of stable breeding Koala populations on the Tweed Coast.

Major threats to Koalas associated with development include loss of habitat, road strike, dog attack and to a lesser degree drowning in swimming pools. In order to assess whether the Concept Plan proposal is likely to cause a significant impact on the local Koala population, a Koala Plan of Management is required. Such a plan must be sufficiently robust to manage the site in a way that will avoid the local extinction of Koalas and avoid or ameliorate impacts from the main threats to Koalas

resulting from development, being loss of habitat, road strike and attack by dogs, as well as measures to prevent drowning in swimming pools.

The submitted Koala Plan addresses these major issues in a general way and measures proposed for avoiding road strike and dog attack are not supported. Dogs (and cats) must be at least excluded from residences in the eastern zone including Cudgen Paddock and abutting existing or proposed Nature Reserve. A vegetated land bridge across the proposed four-lane Kings Forest Parkway may be the best solution for avoiding road strike.

The *Tweed Coast Koala Atlas* indicates that the forested areas within and adjacent Kings Forest contain both Primary and Secondary koala habitat (Class A). As a minimum The Tweed Coast Koala Atlas recommends consent conditions for any new developments in areas of known Koala habitat to include:

- Identification of individual trees or clusters of trees known to be important to koalas in the area;
- Ensure that subdivision design provides for the effective retention of all trees identified by the above;
- Ensure that trees identified for retention or planting are protected by site specific Tree Preservation Orders and by Covenant; and
- Prohibition of the keeping of domestic dogs by Covenant.
- Limitation of road design speeds to 40km/hr or less.

Other relevant advice is contained within the *Planning Guidelines for Koala Conservation and recovery – a guide to best planning practice* compiled by UQ, AKF and DECC in March 2007.

In order to adequately address the DGRs and Council requirements, the applicant is required to provide the following detail in support of the Part 3A Concept Plan Application:

- A Koala Plan of Management which provides solutions acceptable to Department Planning and Council to avoid or mitigate the major threats to Koalas as recognised by the *Koala Recovery Plan* for NSW Koalas adopted under the Threatened Species Conservation Act 1995, the *Tweed Coast Koala Atlas* (Phillips and Callaghan, 1996) and the *Planning Guidelines for Koala Conservation and recovery – a guide to best planning practice* (UQ, AKF and DECC, 2007). Specific controls, placement and timing of avoidance, mitigation or amelioration measures to avoid impacts from road strike, dog attack, habitat loss and drowning in swimming pools are to be included.

The above request for a revised Koala Plan of Management prior to approval of the Concept Plan is tabled. Failing this, a draft statement committing Project 28 to revising the current plan in negotiation with Department Planning and Council has been included at the end of this letter.

Other management plans

- The Vegetation Management Plan requires measurable performance criteria, an adaptive management statement detailing how alterations to the plan will be dealt with if not meeting criteria and a timeline for works to be undertaken, or at least a link to the various development stages and works required to be undertaken or completed by stage. This plan is too general without anything to

really commit to within the Statement of Commitments. One of the key features of the VMP is buffer treatment which is not well-defined.

- Threatened Species Management Plan –the plan has broad mitigation measures with little specifics to enable assurance when committed to. Performance criteria and monitoring methodology is required. Habitat creation as proposed for various threatened species should be commenced immediately upon project approval and destruction of known habitat is not to occur until created habitat can be shown to be suitable for the intended species.
- The Weed Management Plan needs to be linked to measurable performance criteria, timeframe in terms of the development and contain adaptive management measures.

A draft statement has been included within the Statement of Commitments to address these issues.

Land Forming

No land forming plans have been provided as part of the EAR. The Preliminary Flood Assessment (Appendix Q) refers generally to filling of flood fringe areas, and the depth and location of cut areas (if any) has not been specified. While earthworks may prove to be minimal for the site, this needs to be addressed as part of the Concept Plan, as the finished landform is fundamental to other factors, including:

- Compatibility of the works with the surrounding topography, boundary constraints, slope stability and future urban amenity of the development site;
- Boundary treatments, including retaining walls / batters;
- Provision of drainage infrastructure to cater for the extensive and steep external stormwater catchments affecting the site;
- Provision of minor and major drainage systems, and their compatibility with future road alignments, open space, urban allotments, runoff treatment areas and lawful discharge points;
- Provision of road infrastructure at acceptable gradients, including individual property accesses and fire trails;
- Provision of useable open space at acceptable grades;
- Erosion and sediment control during the construction phase, and permanent stormwater quality control for the operational phase of the subdivision;
- Available flood storage, for impact assessment;
- Design of the proposed lakes, and their related impacts on ground water and potential acid sulphate soils;
- Compatibility of the Concept Plan with the other applications.
- Suitability of the site to provide relief in the built landscape.

These factors influence the potential environmental impacts of the development, and the future sustainability, safety and amenity of the urban residential area. Without proper consideration of land forming, future allotments may be exposed to stormwater flooding, impacts of high retaining structures, limited accessibility and mobility, and

limited housing choice. As such, concept earthworks plans should be included in the EAR.

1. Contour plans (at 1m interval) showing existing and proposed levels for all precincts of the Concept Plan, overlaying a site plan including trunk road network and precincts. Plans shall address treatment and levels at precinct / stage interfaces as each precinct / stage is progressively developed;
2. Cross sections of land formed areas, showing pre-development and finished ground levels, and any supporting structures, at critical locations. Sections shall extend at least 50m beyond stage or site boundaries to demonstrate continuity.

Stormwater Management

The Integrated Water Cycle Management Strategy provided with the EAR details various options for stormwater quality control and water sensitive urban design. The report proposes a treatment train approach to stormwater quality control, incorporating water sensitive urban design (WSUD) and integrated water cycle management (IWCM) principles. While such concepts are supported, the report fails to specify works for stormwater conveyance.

The provision of trunk drainage needs to be part of the Concept Plan, particularly to demonstrate continuity of drainage for external catchments to the west, given the intended filling of low lying land in this area and existing obstructions associated with the adjoining sand quarry (bunds etc).

The preliminary Stormwater Management Plan (SWMP) within the Concept Plan (Appendix R) needs to be expanded to address the trunk drainage system, lawful points of discharge from the subdivision, indicative locations of treatment devices for both the construction and operational phases of the development (sediment basins, constructed wetlands, detention basins etc. as per Development Design Specification D7 - Stormwater Quality), the role of the proposed lake for stormwater management, provision of drainage services for external catchments, and proposed staging of the subdivision.

The SWMP must include indicative long sections of trunk drainage paths (pipes and channels) to demonstrate adequate grade is achievable through the urban areas to a lawful point of discharge, taking into account treatment areas and tailwater levels in downstream tidal waterways.

Figure 26 - Stormwater Management Concept has been provided by the applicant's consultant engineers, however this figure is of insufficient detail to demonstrate that a practical stormwater management system with continuity and adequate grade to lawful points of discharge is achievable from the Concept Plan.

The WSUD measures recommended by the stormwater concept plan are not reflected elsewhere in the EAR. For example, the report recommends the use of roadside swale drainage, instead of hard kerb and gutter/piped infrastructure, which is not reflected in discussions on road design. While the use of swales may permit a reduction in wetland sizing for urban catchments under Council's Development Design Specification D7 - Stormwater Quality (which appears to be the emphasis of much of the stormwater report), they require a wider road reserve width, which will impact on the subdivision cadastre and potential lot yield. The long term impost of WSUD measures on Council road and drainage maintenance has also not been explored in the report.

While it is accepted that additional detail will be provided in future applications, the applicant needs to demonstrate as part of the Concept Plan that a stormwater management system, compatible with the earthworks plan discussed above, can be achieved for both the construction and operational phases of the subdivision.

3. Stormwater drainage catchment plans for all precincts / stages;
4. Indicative drainage systems for all precincts / stages, including:
 - trunk drainage (drains conveying runoff through the development site from upstream catchments, drains conveying runoff from the development site boundary to legal points of discharge off the site, and any internal drainage servicing a catchment greater than 1ha), including indicative long sections to demonstrate adequate grade is achievable through the urban areas to a lawful point of discharge, taking into account treatment areas and tailwater levels in downstream tidal waterways.
 - controlling minor drainage (systems that drain areas of critical surface level, particularly in low, flat or filled areas, that will control the level of downstream trunk drainage)
 - the location and sizing of retention and treatment devices, bypass and surcharge flow paths, and water courses
 - the identification of downstream and cross boundary legal stormwater discharge paths for each precinct / stage and for the total development, including proposed easements where necessary.
 - Detail of all public drainage infrastructure intended to be provided in the golf course precinct, including consideration of ongoing maintenance and access.
 - the staging sequence for drainage & associated landforming must demonstrate that adequate stormwater drainage capacity, treatment and continuity can be provided from both internal and external catchments through to lawful points of discharge through all development stages.
5. Proposed implementation strategies for erosion and sediment control and stormwater management for each precinct / stage, cumulative stages and for the total development

Proposed Lake

The Concept Plan provides a 9 hectare recreational lake within Land Release Area B. Figure 26 shows significant urban areas discharging stormwater runoff to this lake.

Nowhere in the Concept Plan or appendices is the ongoing management of the lake addressed. It is assumed that the lake would be dedicated to Tweed Shire Council, who would be the authority responsible for the ongoing maintenance and operation of the lakes. The potential cost and resource imposition of the lake on Council is unable to be properly assessed. Experience with other large lake-based drainage systems in Tweed Shire (e.g. Vintage Lakes, Banora Point) has shown that this potential liability can be extremely significant in the long term. Issues such as management of water quality, acid sulphates, weeds and threatened species can significantly hamper Council's ability to maintain the lake, and provide the level of amenity expected by

adjoining residents and open space users. As such, the public ownership of the lake is not supported at this time.

As an alternative, the developer could consider management of the lake under a private body corporate, provided the lake was offline to the stormwater management system for the subdivision, which would continue to be managed by Council.

With regard to planning issues for the lake concept, SEPP No.50 - Canal Estate Development should also be considered, which prohibits development that:

- "(a) incorporates wholly or in part a constructed canal, or other waterway or waterbody, that is inundated by or drains to a natural waterway or natural waterbody by surface water or groundwater movement (not being works of drainage, or for the supply or treatment of water, that are constructed by or with the authority of a person or body responsible for those functions and that are limited to the minimal reasonable size and capacity to meet a demonstrated need for the works), and*
- (b) includes the construction of dwellings (which may include tourist accommodation) of a kind other than, or in addition to:*
 - (i) dwellings that are permitted on rural land, and*
 - (ii) dwellings that are used for caretaker or staff purposes, and*
- (c) requires or includes:*
 - (i) the use of a sufficient depth of fill material to raise the level of all or part of that land on which the dwellings are (or are proposed to be) located in order to comply with requirements relating to residential development on flood prone land, or*
 - (ii) excavation to create waterways primarily for the purposes of providing water access to dwellings,*

or both."

6. The Concept Plan should include a concept design for the lake, including indicative levels (standing water and excavation depth), provision of open space and public access around the lake foreshore (as public land), and a realistically costed Management and Ownership Plan for ongoing water quality control and maintenance.

The above comments apply to any additional water bodies within the golf course areas or any other part of the site.

Proposed Golf Course

The Concept Plan provides a 57 hectare golf course in Land Release Area C. Figure 26 shows significant urban areas discharging stormwater runoff to the golf course, which also acts as a buffer to environmentally sensitive wetland areas. To provide both of these functions, significant stormwater detention, conveyance and disposal/infiltration areas are proposed.

Under the Concept Plan, long term ownership and responsibility for these stormwater facilities falls back on Council, despite these facilities being located within a private golf course. Many of the management issues detailed above for the proposed lake, can potentially affect the golf course waterways, particularly weed management issues, given the likely nutrient loading from the golf course activities.

Any public drainage infrastructure in the golf course would need to be contained in easements provided by the developer, and be of a standard and design that is compatible with Council's maintenance regime and water quality and quantity objectives, given the proximity to the environmental protection zone. Additional detail is therefore necessary in the Concept Stormwater Plan, and with future DAs.

7. The concept plan needs to include a stormwater drainage catchment plan for the golf course area that demonstrates public drainage contained within easements provided by the developer and be of a standard and design that is compatible with Council's maintenance regime and water quality and quantity objectives, given the proximity to the environmental protection zone. Estimated costing of ongoing maintenance of these stormwater facilities is required, together with ownership options to exclude these facilities from Council ownership.

In regards to habitat, the Golf Course Management Plan appears to address many potentially conflicting issues with regard to habitat enhancement and replacement for various species (including two species of frog, one of which likes acid conditions and one not, Koala, Bush Stone-Curlew and others), the golf course itself, bushfire asset protection, stormwater treatment etc. Whilst the wording and performance criteria are relatively comprehensive, it is difficult to envision how all these potentially conflicting uses will fit within the zone.

The application has not shown an illustration or plan of how it can all work together. Such a plan is needed to understand the proposal and assess its potential to achieve its aims. It is still considered that the first 30m as a minimum of the golf course buffer should be densely vegetated where it abuts natural areas. Of all the release areas this area (Cudgen paddock) is the most sensitive in terms of potential adverse impacts. Baseline groundwater monitoring should be done prior to any works so that performance criteria can be specific and tied in.

An amendment has been drafted for the Statement of Commitments in this regard.

Engineering Infrastructure & Open Space Development Controls

Section 5.9.3 of the EAR proposes that the applicant's consultants will create their own development guidelines and codes for the subdivision and housing development, as part of a future amendment to the Concept Plan. This is despite acknowledging Council's DCP in Section 3.4.2 of the EAR as being part of the prevailing Local Planning Framework.

At least as far as the provision of engineering infrastructure and open space is concerned, the controls in place in DCP A5 - Subdivision Manual should be adopted by the Concept Plan. DCP A5 is also supported by a suite of Development Design Specifications (13 in total) and Development Construction Specifications (32 in total), many of which are based on Aus-Spec standards. As Council ultimately inherits the subdivision assets, it is imperative that these assets meet the standards necessary to ensure their effective and efficient operation and maintenance for their full life cycle, to avoid unduly burdening ratepayers. Council's existing subdivision manual and associated design and construction specifications have been compiled and updated in consultation with the development industry over many years, and are considered to provide developers with appropriate minimum standards and performance criteria for public assets.

Flood related controls are specified in DCP A3 - Development of Flood Liable Land, and it is expected that DCP A1 - Residential and Tourist Development Code would cover the majority of issues relating to future urban residential development. Again, these documents have undergone public consultation and exhibition and have been subsequently adopted by Tweed Shire Council in order to best meet the objectives of the Council.

Amendments to the Concept Plan and Draft Statement of Commitments are required to adopt the subdivision, floodplain development and housing codes within Council's DCP, to ensure the required standard of infrastructure and character of the subdivision is achieved. Council is not opposed to future enhancements to these codes however, should the developer identify and justify areas where improvements could benefit the community and/or environment.

8. The concept plan needs to include amendments to the Concept Plan and Draft Statement to adopt Council's DCP as the basis for all subdivision engineering design.

Road Design & Footpaths & Cycleway

As detailed above, Council's Development Design Specifications and Standard Drawings (as referenced by DCP A5 - Subdivision Manual) must be adopted as the basis for road infrastructure design. This includes design of road cross sections, vertical and horizontal alignments, intersections treatments, footpaths, cycleways and road drainage. Note that the stormwater concept plan proposes roadside swale drainage, and this must be identified in the relevant road cross-sections.

The cross sections do not show footpaths, cycleways, kerb & gutter or specify if water sensitive urban design is used.

The road cross sections are required to contain a footpath or cycleway, dependant on the classification of road. If Tweed Shire Council's water sensitive urban design road cross sections are used, the road cross sections are to reflect Council's standards, these being a much larger road reserve width to compensate for wide grass swales.

Diagrammatic cross sections for the "Distributor Road (Kings Forest Parkway)" and the "Neighbourhood Connector Road less than 7000 vehicles per day" do not comply with the minimum requirements listed in Council's DCP - design and construction specifications and contradict the EAR Statement about complying with the DCP. As previously advised a reduced pavement width is not acceptable to Council and the roads are to be designed in accordance with Council's road standards.

9. The road cross sections should be amended to demonstrate compliance with Tweed Shire Council's DCP (with identified swale drains, and footpaths as required).

Developer Contributions

Section 5.10 of the EAR states the following:

"The proponent acknowledges (Council's) Contribution Plans and Developer Charges and accepts their application to any future development consents in respect of Kings Forest, subject to negotiation of the specific terms as to rates, works-in-kind credits, the timing of the provision of certain facilities and the like."

Prior to Concept Plan approval, Council requires the developer to accept (without negotiation) all applicable Developer Contributions Plans, including rates and works schedules. These plans provide scope for planning agreements for works-in-kind,

which can be addressed with future Project Applications and/or Development Applications.

Should the applicant see a significant problem with any applicable contributions a request for a formal variation to the relevant plan will be considered by Tweed Shire Council.

Flooding

The Preliminary Flood Assessment (Appendix Q) adopts the principles of creating no significant adverse impacts offsite due to the development, and to avoid future flood risk for the development itself. The majority of the developable land is located above the design flood levels (3.6m AHD - 4.2m AHD) that have been determined in previous flood modelling of the area (Phillip Bell & Partners, 2001). The report acknowledges that some filling of fringe floodplain areas is proposed, however as discussed in Section 1 of these comments, the extent of filling has not been adequately detailed. The developer is, however, committed to providing more detailed flood impact assessments with future project applications / development applications for Kings Forest.

Subject to the proper assessment of the impacts of filling on local catchment flow paths, as discussed above, it is considered that the preliminary flood assessment is adequate for the Concept Plan, based on current data. Council is in the process of undertaking a new flood study for the coastal floodplain, including the subject land. This may result in updated design flood levels and/or minimum floor levels for Kings Forest, which will need to be adopted by the developer in subsequent applications. As part of the flood study, climate change scenarios will also be run, in accordance with the 2007 DECC Guideline "Practical Consideration of Climate Change". This too may result in future changes to floodplain management and potentially the subdivision design. Provided the developer accepts these issues as part of the Statement of Commitments, this can be addressed at a later date.

Open Space & Landscape Provision

The concept plan states that 23.8 ha of open space will be provided, with 17 ha being for structured open space (sportsfields) and 11.3 ha as unstructured open space (parks). This is acceptable based on a population of 10,000 people.

The concept plan and the 'Open Space Network map' (figure 16) states the 17 ha of structured open space is to be located centrally in the development, approximately between Release Areas A and B. This is acceptable.

The concept plan states the 11.3 ha of unstructured open space will be provided in the form of parks within the residential areas, however this is not shown on the 'Open Space Network map'.

It is recommended that the applicant undertake a Statement of Commitment to ensure open space provisions within Kings Forest comply with Tweed DCP Section A5 (this has been incorporated at the end of this letter)

The Landscape Concept Plan (Appendix N) still indicates the Council owned 'Depot Road Waste Management Site' will form part of the open space network for the development. This is not correct as this site is being developed as sportsfields by Council independent of the Kings Forest Development.

The terminology used for 'Active Open Space' is misleading. The heading 'Active Open Space' is used in Tweed Shire to indicate sporting fields (also known as Structured Open Space). Unstructured Open Space (also known as Casual Open Space) is normally considered to be managed parks.

There are walking tracks, boardwalks etc proposed for the environmental protection areas. Access to, and public use of environmental protection areas requires informed decision making as there can be negative outcomes. Maintenance of such additional embellishments can also be a considerable ongoing cost to Council.

The extensive boardwalks and other embellishments surrounding the lake can also represent a significant maintenance burden to council.

10. The Concept Plan should be amended to delete the "Depot Road Waste Management Site" from the landscape concept plan.

A statement of commitment will be required to ensure ongoing future negotiations occur at detailed design stages to manage embellishments that may have long term maintenance problems for Council.

Biting Midge & Mosquitoes

Council has carried out mosquito surveys at Kings Forest following the last major rain events. This period also coincided with very high spring tides that should have hatched salt marsh mosquitoes. Despite the favourable mosquito breeding conditions, both larval and adult mosquito activity was surprisingly low at the site.

The Concept Plan appears to provide reasonable buffers between the potential mosquito breeding wetland areas and proposed urban development and mentions adherence to Council's mosquito guidelines for future site development.

Therefore there are no mosquito related objections regarding the Kings Forest Concept Plan.

Traffic Management

It is noted that the applicant has provided a traffic planning assessment (Appendix W). This provides, amongst other things, comment on the requirements and timings for various intersection treatments at the proposed Tweed Coast Road / Kings Forest Parkway intersection. Comments regarding the concept plan are as follows:

- A traffic impact analysis is to include an assessment of the major internal intersections. This analysis can be submitted with the Project Applications/Development Applications for appropriate stages and before any Construction Certificates are issued.
- The alignment of the major collector/distributor road within the estate (Kings Forest Parkway) as shown on the concept plan is not supported. This major road should be shown as being on a continuous or 'through' alignment throughout the estate to enforce its priority route status (i.e. without 90 degree changes in alignment at internal intersections with other streets and major driveways.)
- Depending on the anticipated uses of the business park (which may include a fast food shop and service station), the proposed business park location is not supported based on the single lane or double lane

roundabout proposals for the Tweed Coast Road / Kings Forest Parkway intersection. Cyclists and pedestrians will travel between the Kings Forest Estate (and other existing dwellings) and the proposed business park across a busy arterial road - Tweed Coast Road. The application should clearly identify cyclist and pedestrian movements between the Kings Forest Estate (and other existing dwellings) and the proposed business park and identify how cyclist/pedestrian safety will be managed (e.g. immediate signalisation of the Tweed Coast Road / Kings Forest Parkway intersection and pedestrian/cyclist channelisation).

- The cycleway network is to show cycleway extensions along the Tweed Coast Road frontage of the site to connect to the existing cycleway at Dianella Drive and also to the west to connect to Duranbah Road.
 - Further detail needs to be provided regarding public transport impacts which includes necessary bus stops and bus shelters both within the development and on Tweed Coast Road. The application must identify potential bus routes.
 - Road cross sections for the proposed road network are to comply with Council's Development Control Plan - Section A5.
11. The Concept Plan should be amended to reflect the identified traffic issues above. This could include a change to a signalised intersection at Tweed Coast Road as opposed to a round-a-bout.

Infrastructure

Integrated Water Cycle Management (IWCM)

The Environmental Assessment Report (EA) considers IWCM in relation to water supply and sewerage issues. It identifies a number of options for reduction of potable water demand and reuse of treated water but leaving detail to a further stage. (Sect 7.6 Water Cycle Management, Appendix R Integrated Water Cycle Management Strategy.)

The recommended preferred strategy that will be mandated for Greenfield sites within Tweed Shire as a minimum is for:

Single Dwellings	Minimum 5000L rainwater tank with a minimum 160 m ² roof area connected to it.
Multi Dwellings & other buildings	Rainwater tanks to be provided on a similar basis connecting 80% – 90% of the roof area

These tanks shall be plumbed to provide water for external uses, toilet flushing and laundry cold water for washing machines. This is expected to produce a water saving of approximately 36%.

If the connected roof area for a single dwelling is less than 160 m² the proponent of the building should be required to demonstrate the tank size needed to give the same level of yield as the mandated sizes.

Appendix R, Section 2.2 of the EA includes a variety of further options for IWCM including “dual reticulation, such as use of purple pipe (secondary supply)” to be investigated. Use of dual reticulation was considered in Council's Demand Management Strategy but has been found to be uneconomical and an impost on property owners and rate payers that is un-necessary where there is a readily

available source of water. The capital cost of additional infrastructure would impact on the cost of land and the ongoing operation, maintenance and renewal of the advanced treatment plant, and recycled water infrastructure would have to be borne by the consumers.

Council however is not adverse to the concept of sewer mining to provide water for irrigation of public open space and encourages the proponent to investigate this option further.

Section 2.2 also indicates that greywater recycling and on-site sewerage management in rural living areas may be considered. On-site sewerage management is only permitted on lots of greater than 10,000 square meters. A pressure sewer system may be considered for rural living areas if the 10,000 square meter minimum lot size is not met.

Hence, Council requires that the proponent include in the Statement of Commitments that the minimum requirement for properties in Kings Forest will be as outlined above.

Water Supply

Within Section 7.13.1 Infrastructure and Utilities – Water Supply, the EA identifies that Tweed Shire Council has provided for the development of Kings Forest within its Development Servicing Plan which is the basis of s64 Developer Charges for Water Supply. Tweed Shire Council has been carrying out works over a considerable period of time to ensure an adequate water supply and water conveyancing system is available to support projected development within the Shire, including Kings Forest.

Council presently does not have capacity within its current bulk water supply system to cater for the proposed overall development, however the adopted 30 year capital works plan allows for its augmentation. Approvals to permit such augmentations can not be guaranteed and if not gained or are delayed, will impact on the granting of future approvals for this development.

The connection point for water supply to Kings Forest is notionally the Duranbah Reservoir Complex which, it is anticipated, will be expanded to provide service storage for the Kings Forest development. It is also anticipated that a duplication of a portion of the trunk conveyancing main from the reservoir to a point from which Kings Forest will obtain its water supply will be necessary. The value of these works has been included in the Development Servicing Plan. In addition, a Peak Instantaneous Demand (PID) Levy to cover the additional cost of larger mains to enable the conveyancing system to meet the PID design criteria as required by the Design Specification D12 within the Subdivision Manual (DCP Section A5) has been introduced for affected lots created since 2002/2003. Hence the actual connection points for the Kings Forest development will be at one or two locations along the conveyancing main between Duranbah Reservoir and Tweed Coast Road at Casuarina Beach. As the initial development is proposed in the vicinity of Depot Road, the initial connection can be to the 450mm diameter main at the intersection of Tweed Coast Road and Dianella Drive.

One option is for the duplicate conveyancing main to be constructed through the Kings Forest Development serving also as an internal distribution main with potential cost savings and access benefits for construction and maintenance. The timing of completion of this main would be critical to ensure service standards are met at other external areas that are also served by this system.

The EA provides Figure 28 “Final Water Network” showing some very basic details of the trunk and distribution mains within the development site as well as existing trunk conveyancing mains in the area. It incorrectly identifies a 450mm diameter DICL main in Tweed Coast Road north of Dianella Drive as existing. There is no existing water main in this location.

The EA contains Appendix X “Utilities Infrastructure Report for Kings Forest” that simply states that Council’s Development Servicing Plans includes works to ensure that water supply will be available for this proposed development. In general terms, this is correct and echoes advice to the proponent on 15 March, 2007.

Before any development can proceed, a detailed water supply strategy document needs to be submitted to Council for approval. This strategy should detail anticipated demands including the influence of IWCM measures adopted, distribution network pipe locations and sizes, staging of infrastructure, and other matters that may be relevant. It is noted that the proponent has approached Council seeking a fee proposal for hydraulic modelling of aspects of the conveyancing and distribution mains using Council’s Water Conveyancing Network Model as the basis as a precursor to developing this strategy document.

Council requires that the Statement of Commitments include a commitment to provide before the next stage of applications, such a detailed water supply infrastructure report including consultation with Council to determine demands and the interaction with Council’s existing and proposed water conveyancing system.

Section 64 Developer Charges for Water Supply will apply to this development as will Council’s PID Levy.

Sewerage Infrastructure

Within Section 7.13.2 Infrastructure and Utilities – Sewerage, the EA identifies that Tweed Shire Council has provided for the development of Kings Forest within its Development Servicing Plan which is the basis of s64 Developer Charges for Sewerage. Tweed Shire Council has been carrying out works over a considerable period of time to ensure adequate sewage conveyancing and treatment systems are available to support projected development within the Shire, including Kings Forest.

Council presently does not have capacity within its treatment plants and trunk conveyancing systems to cater for the overall proposed development, however the adopted 30 year capital works plan allows for these augmentations. Approvals to permit such augmentations can not be guaranteed and if not gained or are delayed, will impact on the granting of future approvals for this development.

The EA identifies the recently completed waste water treatment plant at West Kingscliff as having capacity to treat sewage from the initial stages of Kings Forest, and an existing sewer rising main in Tweed Coast Road. The need for augmentation of the treatment plant and duplication of the sewer rising main in Tweed Coast Road is also identified, along with the provision of a major sewerage pump station adjacent to Tweed Coast Road.

The strategy for sewerage Kings Forest was developed in conjunction with the strategy for Casuarina Beach and Salt developments. The initial stage of servicing Kings Forest involves the construction of a regional sewerage pump station with adequate physical size for the ultimate development in the vicinity of Tweed Coast Road and Depot Road. The existing main from Casuarina Beach will be intercepted and will discharge to this pump station along with flows from the first stages of the

Kings Forest development. It will initially pump through the existing 225 diameter main. The portion of the main from Kings Forest to Cudgen Road will be duplicated, probably as a 375 diameter main joining to the existing 375 diameter main from there to the manifold pit prior to the treatment plant, as the next stage to provide capacity increases. The ultimate development would involve a third sewer rising main along the Tweed Coast Road to the manifold pit. Various pump upgrades may be required for the various staged of development.

Accordingly, the existing sewer rising main in Tweed Coast Road is the initial point of connection. The developer would be required to provide the initial regional sewerage pump station. Other upgrade and duplication works are included in the Council's Development Servicing Plan on which the s64 Sewerage Developer Charges are based.

Figure 29 "Sewerage Infrastructure Plan" shows the sewage rising main system proposed and a circle representing the regional sewerage pump station. The existing sewer rising main in Tweed Coast Road is incorrectly identified as being 250 diameter. No internal pump stations or major trunk sewers are shown and no estimates of loading and peak flow rates have been documented.

Accordingly, a detailed sewerage infrastructure report is necessary to determine loadings to be adopted, justification of those loadings, infrastructure sizes, staging, pump duties, staging and treatment for septicity and odour control (e.g. oxygen injection, dosing, make up water, etc) for more of the sewage transport system than that shown in the EA.

Council requires that the Statement of Commitments include a commitment to provide before the next stage of applications, such a detailed sewerage infrastructure report including consultation with Council to determine loadings and the interaction with Council's existing and proposed sewage transport system.

Section 64 Developer Charges for Sewerage will apply to this development.

Contamination & Environmental Health

Land Contamination

The Environmental Assessment Report (Section 7.0 Pg 62) advises that a Stage 2 detailed contamination investigation of known potentially contaminated land will be submitted as part of future project/development applications. These areas have been identified for future investigation in the Stage 1 Preliminary Contamination Assessment by Gilbert and Sutherland dated December 2008 submitted with the EA (*Soil Survey, Acid Sulfate Soils Assessment and Management Plan, Geotechnical Review and Contamination Assessment, March 2008*).

Duranbah Dip Site

The report *Soil Survey, Acid Sulfate Soils Assessment and Management Plan, Geotechnical Review and Contamination Assessment, March 2008* prepared by Gilbert and Sutherland and attached as Appendix H states that an appended report *Preliminary Site Contamination Assessment, 12 October 1999 (Draft)* prepared by Philip Bell and Partners contained a detailed soil sampling investigation. The report referred to does not consider the dip site as stated in Section 3.3 of that report.

A *Remedial Action Plan (Stage 3) Cattle tick Dip Kings Forest Estate Issue 1* dated 8 December 2000 has been submitted as Appendix 10 of the above report.

Council has set a precedence whereby it has required Remedial Action Plans be reviewed by and be the subject of a NSW DECC (EPA) Accredited Auditors Site Audit Statement issued under the provisions of the NSW Contaminated Land Management Act to the effect that the Auditor has “signed off” that subject Cattle Tick Dip Site has been remediated in accordance with the Remediation Action Plan and that the site is now suitable for the proposed use. This use will need to be consistent with that as proposed in the Concept Plan for Kings Forest. The Audit Statement is required to be submitted to Council at the completion of the Remediation of Duranbah Tick Dip Site.

It is considered that the applicant will need to further liaise with TSC prior to submission of any development application for remediation of the site to seek approval for the design detail should any contaminated material be proposed to be encapsulated within any future public lands.

Acid Sulfate Soils Management

The applicant states that previous geotechnical conditions of the site have been previously studied. These studies have been presented in a report prepared by Gilbert and Sutherland, *Soil Survey, Acid Sulfate Soils Assessment and Management Plan, Geotechnical Review and Contamination Assessment, March 2008* and attached as Appendix H to this application. Section 7.3 Land Capability of the *Environmental Assessment Report* addresses ASS issues.

Whilst it is acknowledged that the NSW Department of Planning is responsible for the detailed assessment of the applicant’s ASS investigation methodology, review of results and treatment & management proposals the following concerns are highlighted:

- (i) Site investigations have been confined to the subject land parcels only and do not take into consideration off-site impacts which are required to be considered particularly in areas of the proposed water bodies and draw down effects.

Of particular concern is the current status of the disused Cudgen Sands Quarry and the applicant’s proposal to extend the lake system as part of the Kings Forest proposal. Whilst the quarry is no longer in operation Council continues to hold a financial bond over the site as the quarry lake system has yet to achieve rehabilitation requirements of the conditions of the development consent predominantly due to the low pH levels of the water body. Early in 2007 a request to Council by the owner to release the bond was denied. No further request has been made. As the site was the subject of a NSW Environment Protection Licence Council will be ensuring that the rehabilitation requirements are “signed off” by DECC. In addition the lake at times has previously overtopped discharging acidic waters into the adjoining wetland area with resultant fish kills.

Further to this, an area of land to the south of the quarry which is drained to the north by Blacks Creek has been identified as having an impact on the rehabilitation process. Development Approval has been granted for the area to be remediated by implementing management techniques to minimise acid run-off however no further information can be provided therefore the success of the remediation proposal can not be determined, if implemented.

- (ii) The proposed lake system is extensive involving significant excavation of soils and the management and treatment of ASSs. The ASSMAC Planning Guidelines require Councils to take a strategic approach when considering land

use proposals where ASSs have the potential to be disturbed. The Guidelines state a preference that only land uses that will minimise the likelihood of disturbance of the soil or groundwater be undertaken as there is a potential for ecologically unsustainable cumulative impacts on water systems and biodiversity. Due to the sensitive nature of the surrounding ecosystems it is considered that there is a high risk of significant environmental damage should management of the on-site works fail. The successful management of such works may also be compounded by the significant rainfall events that are experienced within the area.

In addition it should be considered that the export of acid water and nutrients from within and outside the site to Cudgen Creek may be an issue. Cudgen Creek apparently receives plugs of acid water from naturally acidic run-off and artificial drains that run through the site.

- (iii) Excavation of the proposed lake system and water body will result in large quantities of spoil material, though the exact amount has not been provided and while the area has been discussed depths of these bodies have not. It is proposed to treat this material, where required, and utilise all spoil as fill however no discussion has been made to the cut/fill balance requirements on-site.
- (iv) Long term operation of a constructed lake will be a significant maintenance issue for Council. Freshwater bodies receiving storm water runoff are prone to problems associated with nutrient accumulation, both in the water column, and in lake sediments. This can lead to blue green algal blooms and blooms of nuisance plants which Council currently spends ten's of thousands of dollars each year removing from a number of waterways.

Landfill

A copy of the *Report on Bogangar Landfill Analysis of Monitoring Results*, prepared by GHD March 2008 (The Report), was provided to DECC for comment on 14 March 2008.

The applicant was advised on 4 November 2008 that;

"The findings suggest marginal leachate contamination may be impacting on two downstream monitoring bores (to the north west of the site), as well as boundary monitoring bores on the eastern boundary and southern boundary. The report recommended a modified monitoring program, and routine capping inspection and maintenance. The issue of adjoining land use & buffers etc was not discussed.

As far as public health is concerned the buffers will be dependent on the off-site impacts/potential for impacts and will therefore require investigation. Assessment of impacts will need to include all environs – air, soil, surface waters and ground-waters."

DECC has now responded to The Report (ECM Doc. No. 1946830) following an inspection of the landfill site conducted on 14th November 2008. Their comments require Council to commit to a monitoring and inspection regime for a minimum period of 5 years with a report to be prepared at the end of that period to determine if further changes to the program are required. Regular inspection of the landfill cap and maintenance are to be undertaken. Note: Some erosion of landfill batters have resulted in the exposure of minor amounts of waste however Council's Acting Waste

Co-ordinator has advised that this has now been rectified also advising that the land parcel is to remain in ownership of TSC with, in time, all groundwater monitoring bores to be located within the property boundary.

DECC have concluded that current impacts on the surrounding environment is minimal with existing remediation strategies being adequate to manage risk. However due to the proposed future development of the surrounding area groundwater impacts will be required to be considered both for quality of any discharged waters and draw down effects due to an ongoing impact on groundwater quality.

Adjoining Land Uses

Agricultural Buffer Zones - The applicant has stated (Sec. 7.12 of the Concept Plan EAR) that the proposal has the potential to impact on land uses adjoining the Kings Forest site and has highlighted the provisions within the Major Projects SEPP and submission of a Buffer Management Plan to mitigate such potential impacts. *An Assessment of Off-site Impacts Associated with development in Accordance with the Kings Forest Concept Plan* dated September 2008 and prepared by Gilbert & Sutherland has been submitted with recommendations supporting the conditional reduction of buffer zones from that stipulated within the Major Projects SEPP.

Within the Draft Statement of Commitments, Statement 8.11, Project 28 has only committed to the preparation of such a Plan for buffers adjacent to land zoned Environmental Protection.

The Major Projects SEPP Schedule 3 Part 6 Cl. 8 Agricultural buffers **states that:**

Consent must not be granted to development on land within an agricultural buffer unless the consent authority:

- (a) has considered the potential impact of the proposed development on agricultural activities on land adjoining the buffer and of those agricultural activities on future occupiers of land within the buffer, and*
- (b) has consulted the Department of Primary Industries.*

Impacts from land uses adjoining the site can generally be associated with the application of chemical by land or air, including smoke and dust, and noise impacts caused by the operation of plant and equipment within rural zones. Surface water run-off can also impact on occupiers of adjoining sites.

The application of agricultural chemicals is regulated under the Pesticides Act 1999 and is administered by the DECC and noise impacts from agricultural pursuits would be considered in light of any existing use rights and the provisions of the POEO Act.

Smoke nuisance caused by burning off has potential to impact upon future residential areas. There is a direct conflict between Council's existing and proposed policies in respect to this issue so therefore there is a definite potential for this to become a source of contention and complaints for council in the future.

It is considered that adequate agricultural buffers need to be provided between agricultural areas and residential areas proposed under the concept plan. As it is not possible to predict future types of rural pursuits it is considered that the buffer separation distances nominated within the Major Projects SEPP (variable 50m -150m) be maintained. The composition of the buffer zones may be addressed at any future

development application stage to assess the most adequate methods of mitigation of potential impacts so as to ensure the ongoing protection of land user rights from encroachment of urban communities and the public health and amenity of urban occupiers. It is recommended that a further commitment to this effect is provided within the Draft Statement of Commitments.

In regards to ecology, the ecological buffer treatment generally is inadequately defined. There is reference in the *Impact of the Development Footprint on Native flora and fauna* to a minimum of 30m planted native vegetation and in other sections to the provision of koala habitat, recreational facilities, roads and asset protection zones but no consistent or specific approach is clear.

A draft statement has been included in this regard within the Statement of Commitments.

Acoustic Impacts

A detailed traffic noise impact assessment has not been undertaken. The applicant has stated that a traffic noise analysis is best undertaken once final design of the roads and precincts have been established and will submit assessment with future project and development applications. This position is acceptable.

Bushfire Hazard

The application was accompanied by a Bush Fire Assessment prepared by Land Partners.

The document is a draft or interim document that provides no detail of how the requirements of *Planning for Bushfire Protection* (PBP) will be achieved; however it does list those areas of PBP which will apply site-wide. With no detailed road layout available or a clear indication of Asset Protection Zone (APZ) locations discussion is of necessity limited. No specific measures are listed for adoption at any particular site. It is assumed that once a design layout has been developed the appropriate measures outlined in PBP will be undertaken.

The internal road network proposed will potentially form a component of the setback requirement for some APZs but compliance with PBP cannot be assessed until a complete site plan showing all proposed roads and APZs becomes available.

An issue arises with regard to APZs in regard to tenure. If land set aside for an APZ remains in private hands, i.e. is located on private lots in the development, restrictions will be need to be attached to the titles of these lots that define building envelopes and proximities to the APZ, require fuel reduction maintenance regimes and restrict vegetation type and density. Further such areas will need to be maintained in a fuel reduced state, with restrictions on fencing across the APZ, etc. This would involve compliance monitoring that neither Council nor the RFS has staff or time to undertake.

Alternatively APZs could be established between bushland areas and adjoining properties, possibly requiring a redesign of the development or by being located partially on private and Council managed lands provided adequate access is provided for maintenance and access by RFS vehicles. In such a case the development (gating, fencing, road works or surface hardening) and maintenance of the APZ would be the responsibility of the landowner; initially this would be the developer. It would be preferable that this land be vested in Council as public land and that its maintenance is funded in perpetuity by the developer, this may prove unworkable.

Council is not free to use s94 funds for maintenance works so a source of funding would be required.

No mapped APZ locations are provided however on flat sites within the site it is unlikely that APZs would exceed 20m in width. Any elevated sites may require wider APZs. Figure 5 displays a slope analysis for the site which shows three categories, 0-5°, 5-10° and >10° while the categories in PBP are, Upslope and flat land (0°), Downslope > 0-5°, 5-10°, 10-15° and 15-18°. As the slope increases so do the setback requirements for assets situated upslope from the hazards, so the analysis may have underestimated the required APZ width at some locations.

Increased setback restrictions may also be required on adjacent blocks depending upon the design of the development especially where roads are not constructed on the perimeter of these developments. It should be noted that the last stage released at Koala Beach has a perimeter road and there are still several lots that have APZ setback restrictions on their title.

As suggested in the assessment (p. 14), APZs should be located adjacent to existing bushland boundaries rather than created through clearing of bushland and that any adjoining bushland should not be disturbed for fuel reduction works, e.g. thinning or shrub layer removal.

Two statements on page 17 are misleading;

Dot point 1 should read '*All vegetation is to be maintained in a fuel reduced condition*'. Not a fuel '*free*' condition which is not recommended (bare earth).

Dot point 2 re: Controlled burning - Burning will not be allowed in the development due to constraints imposed by the *Protection of the Environment (Clean Air) Regulation 2002* which restricts burning in residential, urban and arguably peri-urban areas. It appears that recent pile burns have been undertaken at the site without permits from the RFS and these may be in breach of the *Regulation*.

A Bush Fire Risk Management Plan will be required for each stage of the development and will need to be assessed by the RFS as part of the DA process.

Energy Efficient Lighting

Council and Country Energy are working together to improve the energy efficiency of the shires existing streetlight network.

It is considered that public lighting should be designed to minimise maintenance requirements while maximising energy efficiency. In particular,

- Public lighting to be designed in accordance with:
 - Australian Standard AS/NZS 1158 "Lighting for Roads and Public Spaces";
 - The NSW Public Lighting Code; and
 - Any relevant street lighting service agreements between council and the service provider.
- The efficiency of public lighting lamps must be no less than 60 lumens/watt
- Public lighting lamps should be shielded such that no light is emitted above the horizontal thus minimising wasted light.

Telecommunications

The provision for an appropriate range of communications infrastructure is an emerging priority for Tweed Shire Council, particularly in the context of rapidly changing technology, large scale redevelopment, and the demands of a transforming economy and community. One of the key issues identified in recent years by both Tweed Council and the Tweed Economic Development Corporation is the importance of ensuring that all new large land releases and subdivisions are accompanied by the provision for fibre cabling, or at least the appropriate conduit for future installation, as an alternative to the recent reliance on out-dated calling forms, such as the copper used for ASDL systems, for the servicing of communications transmissions, thereby providing the capacity for more superior and efficient information exchange, such as high speed, broadband internet.

It is clearly evident that our society is seeking more efficient and sophisticated forms of information technology for a wide range of business, health, education and entertainment. Despite incurring a relatively greater, start-up, capital cost, there are greater medium to long term efficiencies of establishing fibre cabling for communications purposes in the initial subdivisions and redevelopment of major land parcels, as opposed to the more costly and disruptive practice of retro-fitting once the construction of the development is completed.

The importance of providing for more advanced forms of communications infrastructure was also evident in the recent statements of the Federal Minister for Broadband Communications and the Digital Economy, Senator the Hon Stephen Conroy:

"High-speed broadband is a vital service and the Rudd Government is acting now to ensure it is available for all Australians, no matter where they live."

"That is why the Government is investing up to \$4.7 billion in a National Broadband Network, providing a minimum 12Mbps to 98% of the country, and implementing measures for the other most remote 2%."

"Broadband is a vital digital economy enabler and we need to be acting now to develop our capabilities to utilise our investments."

The Federal Government has also recently announced the release of a *"Framework for the collaborative development and use of broadband in Australia"*.

The framework identifies key principles for developing broadband and sets strategies for three priority objectives:

- All Australians have access to high-speed broadband at equitable service levels and prices.
- Australians are fully aware of the benefits of high-speed broadband, and are able to choose a broadband service that meets their needs.
- Australians use high-speed broadband to improve economic, environmental and social wellbeing.

"This framework is a first for Australia as it outlines a national commitment to broadband collaboration and cooperation between all tiers of government," Senator Conroy said.

"The framework enables us to collectively focus on practical and achievable strategies to further develop and facilitate the use of broadband and ensure our success in the digital economy."

In the context of the emerging plans for a national roll-out of broadband internet coverage, Senator Conroy has also made comments in the media to the effect that there should be no excuse for major development proponents not to install fibre cabling as the primary information transmission conduit.

Whilst it is currently not a statutory control or policy of Council, it is considered an imperative for Council to seek the provision of fibre communications cabling for all new major subdivisions and redevelopments. In this regard the timing of this request is critical for the current and emerging approvals processes including Kings Forest.

Planning (Social, Strategic & Statutory)

The following comments summarise issues raised by Council's Social, Strategic and Statutory Planners.

Visual Implications/Character

Tweed Coast Road is currently adjoined by agricultural land and well vegetated corridors. The vegetation in this area creates a buffer to residential developments (for example Casuarina) and softens the impact of urban land release areas.

The proposed development would change the character of this area through its proposed introduction of a Service Station and Fast Food outlet on the eastern side of Tweed Coast Road.

Whilst the land in this location is zoned 2(c) Urban Expansion and would lawfully accommodate the proposed use it would be considered uncharacteristic and is therefore not supported.

These issues were raised with LEDA and further negotiations should occur to investigate possible options to retain the unbuilt form on the eastern side of Tweed Coast Road.

Employment Land & Commercial Areas

The Concept Plan identifies that the proposed vision for Kings Forest is to develop a self-contained community.

The Concept Plan includes 7ha of employment areas, 10.3ha for a town centre, and 2.7ha for a neighbourhood centre.

Employment Land is crucial to achieving the vision of a self contained community, however, the Concept Plan fails to assess the potential demand for employment from local residents and translate that to employment generating initiatives incorporated into the structure, design principals, or objectives of Kings Forest.

The concept plan fails to estimate the total number of residents who will be able to find employment within the development, nor has the distribution of age and job types been established. This information is essential for an assessment of the viability of the proposal and ability to meet local and regional employment objectives.

The Development Matrix demonstrates that the nominated employment land area could be used for;

- light industry;

- emergency services facilities;
- service station
- bulky goods premises
- office premises
- business premises
- industrial retail outlets
- neighbourhood shops
- vehicle sale premises,
- landscape and garden supplies
- retail supplies
- car park.

This potential list of permissible uses has not been specifically tailored to achieve viable employment for local residents. Nor are all of the proposed uses considered visually desirable for “the entry statement” to Kings Forest.

12. Prior to approval of the Concept Plan it is recommended that a Development Code be established for the employment land and commercial areas within Kings Forest that demonstrates the most suitable location for employment land, and commercial development. It should review the potential demand for employment from local residents and translate that to employment generating initiatives incorporated into the structure, design principals, and objectives of the Kings Forest project. Particular attention should be given to the urban form of such employment land and its impact on the community visually.

Development Matrix

- Each land use domain depicted on the Concept Plan should include greater detail. For example, the residential domain should include a broad breakdown of low, medium and high density areas. The town centre domain should identify which areas will be used predominately for shopping, mixed use or office areas. Any mixed use areas identified should include details on what land uses mixes are proposed. Location of higher density areas is needed to ensure it is clustered around town centres to support transport, community facilities and infrastructure.
- The land use matrix should only include land use terms which are consistent with the LEP Template, or provide clear definitions of land uses which are not defined. For example, what is an exhibition village and an information and education facility?
- Justification and rationalisation of proposed land uses in various domains is required. For example, why are the exhibition village, child care centre and indoor recreation facility appropriate in residential areas?

- The urban design principles identify that each domain will have an urban form that is consistent with a development code. This can't be assessed without review of the proposed development codes.
 - Reduced setbacks are identified in the urban design principles for the neighbourhood centre. More detail should be provided here on what the reduced setbacks are supposed to achieve. These should be reflected in design codes.
 - An area of 2000m² is proposed for community use (1,000m² in each the town centre and the neighbourhood centre). S94 Plan No. 19 requires 1250m² within the town centre for the nominated community facilities. Further information is required on what this area is proposed to be comprised of (in relation to the S94 Plan), including any additional social or community facilities. .
 - The urban design principles for residential development should be more detailed and include objectives to ensure adequate private open space area, protection of privacy, sufficient design quality, sufficient dwelling diversity, acoustic treatment for traffic noise and so on.
13. Prior to approval of the Concept Plan it is recommended that the Development matrix be revised in accordance with the above comments.

Development Code

The applicant has committed to preparing a Development Code for the estate. The Code should be considered concurrently with the Concept Plan.

The Development Code should primarily be based on Tweed Shire Council's existing controls with a justification report submitted demonstrating the reason for any variations. Any additional controls should be justified and demonstrate a better planning outcome.

Particular attention needs to be given to additional controls for small lot developments (125m²) as Tweed Shire Council's current minimum allotment size is 450m².

14. Prior to approval of the Concept Plan it is recommended that the Residential Development Code be submitted to the Department of Planning and Tweed Shire Council for consideration. The Code/s should be placed on public exhibition for consultation.

Topography/Built Landform

Because of the large area of the site and the predominantly level terrain; unless some degree of land forming occurs, the level terrain will generate a built landform with similar character. An indication of how the surface of the residential land will be altered to prevent monotony in the built landscape is considered necessary.

Furthermore greater urban design detail should be provided on the Concept Plan, for example, feature building locations should be identified to provide for legibility and land marks. Planned vistas should be depicted, in conjunction with access roads and proposed building form (height / density).

15. Prior to approval of the Concept Plan it is recommended that the EAR be amended to incorporate consideration of the ultimate built landform and greater urban design consideration.

Concept Plan Functionality

The concept plan represents the applicants preferred option for the ultimate site layout. It has not demonstrated alternative layouts or provided detailed explanations as to why the proposed layout is the most appropriate. For example

- How were the locations of the town centre's decided?
 - How will the town centre's complement each other, and not compete for a limited catchment?
 - How the town centre's abutment with the proposed lake, environmental protection areas and medium density development will be transitioned?
 - Would a town centre located more central to the development not be a better allocation of resources, allow for better access, both pedestrian and vehicular, allow for a better distribution of medium density development around it, over a greater area, thereby increasing yields on the overall site?
 - How does the area accommodate affordable housing?
 - Why is there is so much low density housing? Is this sustainable?
16. Prior to approval of the Concept Plan it is recommended that the EAR be amended to incorporate justification for the proposed layout having regard to the questions above

Public Transport

The Concept Plan should include a Public Transport Plan, which provides commitments in terms of a high level of accessible public transport route within the estate to major employment, community services and retail facilities within the region. The public transport plan should demonstrate compliance with Public Transport requirements on page A5-42 of Tweed Shire Development Control Plan: Section A5 - Subdivision Manual, Clause A5.4.10.

17. Prior to approval of the Concept Plan it is recommended that the EAR be amended to incorporate a public transport plan that is compliant with Public Transport requirements on page A5-42 of Tweed Shire Development Control Plan: Section A5 - Subdivision Manual, Clause A5.4.10 .

Indicative Buildings

The Concept plan includes indicative building designs for traditional dwellings, zero lot housing, terrace, soho, plex dwellings, mews, town houses, apartments and shoptop. The following comments relate specifically to the indicative building types.

- It is noted that average lot areas, frontage lengths and maximum dwellings are provided for indicative building types. Further detailed controls should be provided including site cover, setback (zero) and minimum landscaped area.
- Indicative building types do not match with the Councils Development Control Plan, Section A1 – Residential and Tourist Development Code. Where possible, dwelling type definitions and controls should be consistent with A1, otherwise the EAR should clearly identify any proposed inconsistencies.
- Any development control inconsistencies with A1, such as minimum site area, maximum number of dwellings attached (in row house configuration for example), setbacks, deep soil zones, communal open space and floor space ratio controls (etc.) should be justified.

Existing Easements / 88B

The applicant is requested to identify if there are any existing easements or 88B restrictions over any of the lots.

Development Code/LEP/Major Project SEPP

The concept plan should detail the planning framework which will be applicable to Kings Forest. This should include lawful explanations as to how the Development Codes will interact with both Tweed LEP 2000 (containing the applicable zones) and the Major Project SEPP.

Walkability

- Walkable catchments are identified in the Concept Plan. However insufficient detail is provided to determine how these walkable catchments are achieved given the limited detail available on:
 - Slope
 - Access street network
 - Bus routes and provision of bus stop.

Compliance with Tweed Shire Development Control Plan: Section A5 - Subdivision Manual, Clause A5.4.10 Movement Network as regards pedestrian connectivity is required.

RECOMMENDED DRAFT STATEMENT OF COMMITMENTS

8.1 Land Capability

Project 28 commits to:

- Preparing and implementing an Acid Sulphate Soils Management Plan prior to granting of development consent. Council does not consider that the submitted ASS MP will necessarily suffice for any future specific proposal.
- Undertake detailed site specific geotechnical assessments to accompany future project/ development applications in accordance with the Tweed Shire Council's DCP A5 – Subdivision Manual.

8.2 Contamination

- Project 28 commits to undertaking Stage 2 contamination investigations to accompany future project or development applications for areas of known potential contamination, including lands previously used for sugar cane and banana plantations and as a Cattle Dip. Where required, these sites will be remediated.
- That Project 28 commits to:
 - a. The Remedial Action Plan be reviewed by and be the subject of a NSW DECC (EPA) Accredited Auditors Site Audit Statement issued under the provisions of the NSW Contaminated land Management Act to the effect that the Auditor has “signed off” that subject Cattle Tick Dip Site has been remediated in accordance with the Remedial Action Plan and that the site is now suitable for the proposed use. This use will need to be consistent with that as proposed in the Concept Plan for Kings Forest. The Audit Statement is required to be

submitted to Council at the completion of the Remediation of Duranbah Tick Dip Site.

- b. Consulting with TSC to adopt an acceptable design detail for the encapsulation of any contaminated materials, proposed on future public lands, resulting from the remediation process of Duranbah Dip Site prior to the submission of any development application for such remediation.

8.3 Biodiversity

Project 28 commits to:

- Reviewing the Koala Plan of Management to provide acceptable solutions to the major threats to Koalas as recognised by the *Koala Recovery Plan* adopted under the Threatened Species Conservation Act 1995, the *Tweed Coast Koala Atlas* (Phillips and Callaghan, 1996) and the *Planning Guidelines for Koala Conservation and recovery – a guide to best planning practice* (UQ, AKF and DECC, 2007) to ensure the continued survival of the local Koala population on the Kings Forest site. Such reviewed plan is to be approved by Department Planning and/or Council prior to commencement of any works on the site. The measures contained in the approved plan will be implemented at the time of the commencement of the first development of the site.
- Reviewing the following management plans that have been prepared for the site at the commencement of development of each precinct or land adjacent to the precinct where the plan is relevant. Such review is to include detailed analysis on a precinct specific basis, inclusion of site specific diagrammatical plans clearly indicating treatments proposed for each area and specific measurable performance criteria for each objective against which assessment may occur. Such reviewed management plans are to be approved by Department Planning and/or Council prior to commencement of the relevant stage and include:
 - a. Vegetation Management Plan prepared by LandPartners (see Appendix J);
 - b. Threatened Species Management Plan prepared by LandPartners (see Appendix R);
 - c. Feral Animal Management Plan prepared by LandPartners (see Appendix N);
 - d. Weed Management Plan prepared by LandPartners (see Appendix M); and
 - e. Golf Course Plan of Management prepared by Gilbert and Sutherland (see Appendix F).

In relation to threatened species habitat, project 28 commits to:

- Commencement of habitat restoration/creation as proposed for various threatened species immediately upon Concept plan approval and prior to destruction of known habitat for which compensation must be provided until restored/created habitat can be shown to be suitable for the intended species.

In relation to the proposed landscaping of the site, Project 28 commits to:

- Avoiding the use of any species listed as environmental weeds within the CRC for Australian Weed Management document *The introduced flora of Australia and its weed status*.

In relation to the proposed rezoning as set out in this EAR Project 28 commits to:

- Continuing discussions and negotiations with Department Planning and Tweed Shire Council in relation to acceptable offsets for proposed rezonings to urban expansion.
- Habitat restoration for the Bush Stone-curlew in accordance with recommendations in the Threatened Species Management Plan prepared by LandPartners (see Appendix K).
- Regeneration of heathland in the grassland community within the revised 7(l) zone south of Depot Road (Area 2) to compensate for the loss of regrowth heath for the new road alignment.
- Rehabilitation of all land proposed for rezoning as Environmental Protection in accordance with the Vegetation Management Plan prepared by LandPartners (see Appendix J).

8.4 Water Cycle Management

Project 28 commits to:

- Undertaking detailed design of stormwater management measures for the site in accordance with a detailed stormwater management plan to be submitted for approval with the first Project Application, and any subsequent Development Applications. Stormwater Management Plans shall be prepared in accordance with Council's Development Design Specification D7 - Stormwater Quality. The measures contained in the approved plan will be implemented at the time of the commencement of the first development of the site.
- Development shall be in accordance with Council's DCP Section A3 Development of Flood Liable Land, and any subsequent amendments that are imposed due to the completion of the Coastal Creeks Flood Study and associated consideration of potential climate change impacts of flood levels.
- Undertaking detailed hydrodynamic flood modelling prior to submission of the detailed stormwater management plan to support future detailed development/project applications.
- Implementing the Stormwater Management Plan prepared by Gilbert and Sutherland (see Appendix R) on commencement of the first development of the site.
- Implementing water sensitive urban design measures in general accordance with the Stormwater Management Plan where geotechnical and slope parameters are compatible. Additional road reserve widths shall be provided, in accordance with Council's standard road cross-sections, to accommodate road-side drainage swales and similar WSUD measures, where they are to be provided.

- All public drainage infrastructure located within the golf course precinct must be readily accessible and maintainable by Council. All private drainage infrastructure must meet water quality and quantity requirements prior to discharge to a lawful point of discharge.
- Project 28 accepts a five (5) year maintenance period over all water sensitive urban design facilities. A defects liability period of six (6) months shall apply to the works in accordance with the EP&A Act.
- Undertaking baseline groundwater monitoring prior to any development on the site and Implementing the Groundwater Management Plan prepared by Gilbert and Sutherland (see Appendix P) on commencement of the first development of the site.

8.5 Heritage

Project 28 commits to implementing the Cultural Heritage Management Plan prepared by Everick Heritage Consultants (see Appendix T), subject to approval of the plan by representatives of the local Aboriginal community, and to ongoing consultation with representatives of the local Aboriginal community.

8.6 Bushfire

Development will comply with the guidelines Planning for Bushfire Protection 2006. Project 28 commits to implementing the following measures (or agreed suitable alternatives) in relation to each stage of development:

- APZs incorporating Inner and Outer Protection Areas.
- Maintaining APZs in fuel reduced condition, through manual fuel reduction, removal of regrowth, shrubs and bushes and preventing trees from forming a continuous canopy.
- Designing roads to conform to acceptable solutions under the PBP and providing a perimeter road network across the site where appropriate.
- Ensuring that property access roads comply with the PBP requirements.
- Preparing an Emergency Evacuation and Management Plan.
- APZs shall only be provided on public land where the land is readily accessible and maintainable by conventional means. Where this cannot be demonstrated to Council's satisfaction, APZs must encumber private land, with relevant title restrictions applied.

8.7 Traffic

Project 28 commits to the following measures in relation to traffic and access management:

- Implementing, in accordance with Tweed Shire Council requirements, the road network proposed in the Concept Plan beginning with the first stage of subdivision, including establishing, a new intersection at Tweed Coast Road and proposed Kings Forest Parkway before completion of works in relation to the first stage of subdivision.
- Ensuring that all roads and intersections meet Tweed Shire Council's DCP and referenced specifications.

- Ensuring all car parking and loading / servicing facilities are to be in accordance with TSC Development Control Plan and Development Design and Construction Specifications **current at the time** of each development application being lodged with Council. Variations to these current codes shall be by direct negotiation with TSC and specific to items in the current codes / standards.
- Proposed shared bicycle paths on arterial /collector roads are not be supported where road pavements are not widened to provide a dedicated cycleway.
- A Noise Impact Assessment report(s) prepared by a suitably qualified acoustic consultant will be submitted with each future development application for subdivisions adjacent to the major roads within the Kings Forest site. These reports will need to address the impacts of road traffic noise on the proposed development particularly in respect to residential developments by reference to NSW DECC road traffic noise criteria.

8.8 Design Guidelines and Codes

- Design and construction of development at Kings Forest will be in accordance with the standards set down by Tweed Shire Council's Development Control Plan and associated Development Design and Construction Specifications. Where Project 28 wishes to vary or improve on Council's standards, a request for variation, with supporting information, shall be submitted with future Part 3A Project Applications and Development Applications.
- Two Separate Development Codes (focussed on good urban design principals) will be prepared;
 - a. Residential Development Code specifically focussing on Development of small lots (as this is not currently provided within Tweed DCP Section A1);
 - b. Employment Land & Commercial Development Code.
- Design Guidelines for the detailed design and construction of development at Kings Forest will include provisions to manage visual impact relating to:
 - subdivision design,
 - road design;
 - building design,
 - visual landscape,
 - landscaping, and
 - roof material.
- It is recommended that all new allotments have a minimum street frontage of 6m where services by rear laneways and a minimum lot frontage of 9m where vehicular access from the street frontage is proposed. Lots located within cul-de-sacs shall have a minimum lot frontage of 12.5m to ensure a kerb distance of 9.0m is achieved. The standard will ensure sufficient resident and visitor parking is provided.

- The road hierarchy be established to ensure 90% of all allotments are within 400m **walking distance** to a bus route.

8.9 Community Consultation

Project 28 will implement a program of public engagement to coincide with the commencement of the exhibition of the Concept Plan and EAR. The elements of the consultation and its timing will be as described in Section 4.3.

8.10 Dedication of Lands

Project 28 will negotiate with NPWS, commencing upon this Concept Plan being placed on public exhibition, the timing, process and conditions of the dedication by Project 28 to NPWS of up to 150ha of the Kings Forest lands to be added to existing adjacent NPWS land.

Project 28 will negotiate with Tweed Shire Council, commencing upon this Concept Plan being placed on public exhibition, the timing, process and conditions of the dedication by Project 28 to Council of remaining Kings Forest lands zoned for environmental protection.

8.11 Buffer Management

- Project 28 will undertake detailed design of buffer treatment measures for the site in accordance with a detailed Buffer Management Plan to be submitted for approval with the first Project Application, and any subsequent Development Applications. Buffer Management Plans shall be prepared in accordance with clauses relating to environmental or agricultural buffers for the site within SEPP (Major Projects). The measures contained in the approved plan will be commenced at the time of the commencement of the first development of the site.
- That Project 28 commitments to the preservation of a 150m agricultural buffer and the preparation of a Buffer Management Plan to include composition, maintenance and management of the said buffer.

8.12 Developer Contributions

Project 28 will pay contributions to Council in accordance with Council's s94 Contribution Plans and s64 Sewer & Water Developer Charges, towards provision and improvement of infrastructure, amenities and services attributable to the development, with each Project Application / Development Application.

8.14 Lake Management

Project 28 will ensure that the proposed lakes are vested in private ownership, and that the maintenance of the lakes will be undertaken by the owners, and not Tweed Shire Council, in perpetuity. The lakes will be located offline to the public trunk drainage system and related treatment facilities, which will be maintained by Council.

8.15 Integrated Water Cycle Management Report

- Subject to Council endorsement Project 28 will provide for assessment and approval (prior to any Project Application or Development Application which may have an impact on water supply or sewerage demands or loadings) a commitment to provide an Integrated Water Cycle Management Report and plan which includes Council's preferred options of

- a. Single Dwellings – required to have a Minimum 5000L rainwater tank with a minimum 160 m² roof area connected to it.
 - b. Multi Dwellings & other buildings – required to have a Rainwater tanks to be provided on a similar basis connecting 80% – 90% of the roof area.
 - c. The use of Reduced Inflow Gravity Sewers (RIGS) to Councils Standards.
- Before any development can proceed, a detailed water supply strategy document needs to be submitted to Council for approval. This strategy should detail anticipated demands including the influence of IWCM measures adopted, distribution network pipe locations and sizes, staging of infrastructure, and other matters that may be relevant. It is noted that the proponent has approached Council seeking a fee proposal for hydraulic modelling of aspects of the conveyancing and distribution mains using Council's Water Conveyancing Network Model as the basis as a precursor to developing this strategy document.
 - Provide before the next stage of applications, such a detailed water supply infrastructure report including consultation with Council to determine demands and the interaction with Council's existing and proposed water conveyancing system.
 - Accordingly, a detailed sewerage infrastructure report is necessary to determine loadings to be adopted, justification of those loadings, infrastructure sizes, staging, pump duties, staging and treatment for septicity and odour control (e.g. oxygen injection, dosing, make up water, etc) for more of the sewerage transport system than that shown in the EA.
 - Provide before the next stage of applications, such a detailed sewerage infrastructure report including consultation with Council to determine loadings and the interaction with Council's existing and proposed sewerage transport system.
 - It is considered that adequate agricultural buffers need to be provided between agricultural areas and residential areas proposed under the concept plan. As it is not possible to predict future types of rural pursuits it is considered that the buffer separation distances nominated within the Major Projects SEPP (variable 50m -150m) be maintained. The composition of the buffer zones may be addressed at any future development application stage to assess the most adequate methods of mitigation of potential impacts so as to ensure the ongoing protection of land user rights from encroachment of urban communities and the public health and amenity of urban occupiers. It is recommended that a further commitment to this effect is provided within the Draft Statement of Commitments.

8.16 Fibre Cabling

- Project 28 will provide for the Statement of Commitments include the provision for fibre cabling, or at least the appropriate conduit for future installation, as an alternative to the recent reliance on out-dated calling

forms, such as the copper used for ASDL systems, for the servicing of communications transmissions, thereby providing the capacity for more superior and efficient information exchange, such as high speed, broadband internet.

8.17 Management

- The developer should be responsible for management of environmental areas under approved management plans supervised by Council until the development is effectively completed (this timing needs to be precisely defined e.g. tied to a milestone).

8.18 Contributions

- The developer contributions applicable to the development be in accordance with the various contribution plans currently adopted by TSC **applicable at the time of payment.**

8.19 Land Dedication For Infrastructure

- The location of any future regional Sewer Pump Station, Water Booster Pump Station or other public infrastructure is to be located on land to be dedicated to Council.

Note that Council would appreciate the opportunity to provide further comments on the Statement of Commitments upon receipt of the developer's response to submissions and any further information requested.

Should you wish to discuss any of the comments and recommendations herein, please do not hesitate to contact Denise Galle on (02) 6670 2459.

Yours faithfully

Vince Connell
Director Planning & Regulation