Schedule 6 Planning scheme policies

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SC6.1.1 Application of planning scheme policies

(1) Planning scheme policies provide guidance and information to meet aspects and outcomes of the planning scheme.

(2) Although the information Council may request within each planning scheme policy is outlined, nothing within or not stated in the planning scheme policies limits Council's discretion to request other information in accordance with the Act for assessing development applications.

SC6.2 - PSP1 Preparing a well-made application

SC6.2.1 Purpose

(1) The purpose of this planning scheme policy is to provide guidance to applicants:

(a) on how to make a well-made application;

(b) on information Council may request or require to inform the proper assessment of a development application; and

(c) on the content of technical plans and reports that support a planning application.

(2) Typically, a well-made application will have identified the need for technical plans and reports through a thorough planning investigating;

(3) Where an applicant is unsure of any particular plans or reports required for a planning application, a pre-lodgement meeting with Council officers is encouraged to identify any technical plans or reports as pertinent to the application.

(4) In instances where suitable plans or technical reports are not provided with the submitted application, Council may require such plans or reports to be supplied as part of an information request.

Note— nothing in this planning scheme policy limits Council's discretion to request other relevant information under the Development Assessment Rules made under section 51(1) the Planning Act 2016.

SC6.2.2 Standard well-made application content

(1) A well-made application as a minimum need to contain:

(a) Mandatory information under the Act, such as correct application forms, prescribed fee and land owners consent (where required);

Note—For further guidance refer to the DA forms guide: Forms 1 and 2 https://dilgpprd.blob.core.windows.net/general/guide-da-forms.pdf

(b) A planning report should be provided for either a Referral Agency Building (RAB) or a Referral Agency Planning (RAP) application and the report is only required to address the area(s) of non-compliance.

(c) A planning report should be provided for a code or impact assessable development and include a detailed assessment of

the assessable benchmarks. An impact assessable application should provide an assessment against all applicable parts of the planning scheme. A planning report should:

(i) address the Acceptable outcomes of the applicable codes. If the proposal complies, explain why and move onto the next Acceptable outcome;

(ii) if the proposal does not comply with an Acceptable outcome, then explain why it does not and address the corresponding Performance outcome and explain how it complies;

(iii) if the proposal does not comply with either the Acceptable outcome or its corresponding Performance outcome, then address the Purpose and overall outcomes of the relevant code and explain how the proposal satisfies these elements;

(iv) if the proposal does not comply with the Purpose and overall outcomes of a code, then a comprehensive assessment against the Strategic intent of the Planning scheme is required and explain how the proposal satisfies these elements;

(v) if the proposal is contrary to the outcomes of the Strategic intent, then consideration needs to be given as to whether the proposal is in conflict with the planning scheme and if so, how the conflict can be justified.

(d) Professionally prepared plans to scale that satisfy the mandatory information under the Act and clearly demonstrate what the proposal is trying to achieve. Plans should include:

(i) Elevations to scale of building(s) or structure(s) showing natural ground level (and finished ground level) including RLs, height, external building materials, colours and external lighting;

(ii) A streetscape elevation or photomontage to scale showing the proposed development with the built form and character of adjacent and nearby development, including key character and design elements such as roof form, building height, fencing, trees and any difference in levels between the subject land and adjacent properties. For examples of a Streetscape Elevation see Figure 1;

(iii) Site plan to scale showing proposed buildings and structures with floor plans, setbacks to all boundaries, driveways, car parking areas, pedestrian paths and landscaping including trees; and

(iv) A site analysis plan including the following:

(A) contours and pertinent spot levels;

(B) type, size and location of existing vegetation;

(C) current land uses, activities and buildings;

(D) proposed building(s) or structure(s);

(E) views to and from the site;

(F) access and connection points;

(G) drainage, services and infrastructure;

(H) orientation, microclimate and noise nuisance sources;

(I) any contaminated soils and filled areas;

(J) natural hazards (e.g. areas subject to flooding, bushfire, landslide, steep land etc);

(K) fences, boundaries, lot sizes, easements and any road realignment lines;

(L) features of environmental, cultural or heritage significance; and

(M) any other notable features; and

(v) A locality plan in respect to the site surrounds including:

(A) the use of adjacent and opposite properties and the location of buildings;

(B) pedestrian and traffic circulation patterns;

(C) where residential use adjoins the site, abutting secluded private open spaces and habitable room windows, which have outlooks towards the site;

(D) views and solar access enjoyed by adjacent residents;

(E) major trees on adjacent properties;

(F) extractive resource areas or infrastructure corridors;

(G) characteristics of any adjacent public open space;

(H) street frontage features such as poles, street trees, kerb crossovers, bus stops and services; and

(I) direction and distances to local shops, schools, public transport, parks and community facilities.

Note—For further information and guidance please refer to DA forms guide link : Relevant plans

(e) supporting technical studies as identified through a thorough planning assessment or pre-lodgement advice from Council;

(f) more complex applications and their content should be determined on a case by case basis. It is recommended ongoing contact with Council should be undertaken during the preparation of any planning report relating to a complex application to determine the detail of its content.

Figure 1 - Example of streetscape elevation

SC6.2.3 Technical plans and reports content

(1) In certain circumstances technical plans and reports may be required to satisfy outcomes nominated within a planning scheme code. The details contained within this policy provide advice and guidance about the typical content that is to be included in such plans and reports.

(2) In instances where such plans or reports are not provided as part of the submitted application, Council may request them to be provided as part of an information request.

(3) Details of the requirements for the following assessments/reports are located in Appendix 1

(a) traffic assessment report;

(b) acoustic assessment;

(c) stormwater report;

(d) economic impact assessment report;

(e) social impact assessment report;

(f) heritage and character analysis report;

(g) building design assessment;

(h) infrastructure activities (including Gas Pipeline Buffer) assessment;

(i) extractive industry assessment; and

(j) a safety and security management plan.

Note— Additional requirements for bushfire, acid sulfate soils, flood hazard, water catchment and landslip areas are located in PSP9/10; Hazards; requirements for flora and fauna assessment are in PSP4 – Ecological Assessment Guidelines.

SC6.2.4 Appendix 1 - Requirements for technical assessments and reports

Traffic Impact Assessment Report

(1) Compliance with the Transport and parking code may be demonstrated (in part) by the submission of a traffic impact assessment report prepared by a competent suitably qualified and experienced traffic engineer in accordance with the following guidelines.

(2) As a minimum, the traffic impact assessment report should provide:

(a) an assessment of the traffic generation and movements and/or on-site manoeuvring associated with the proposed development;

(b) an assessment of the proposal and its impacts in the context of the surrounding road network; and

(c) recommendations and/or design solutions to mitigate any traffic impacts associated with the development.

(3) Depending on the nature and scale of the proposed development and the location and characteristics of the development site, the traffic impact assessment report may also need to consider:

(a) specific measures to ensure the proposal will contribute towards encouraging walking, cycling and greater use of public transport in preference to using private cars;

(b) the need to improve public transport services and infrastructure as a result of the development;

(c) measures to ensure maximum accessibility to public transport, including future expanded services;

(d) a review of the existing and proposed traffic network and traffic operating conditions based on an appropriate planning horizon (with a minimum of 10 years);

(e) the amount of other traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect of traffic on the movement of other traffic on the road system. This includes the impact of generated traffic on:

(i) key nearby intersections;

(ii) local streets in the neighbourhood of the development;

(iii) the environment;

(iv) existing nearby major traffic generating development; and

(v) the major road network;

(f) existing parking supply and demand in the vicinity of the proposed development;

(g) level of provision for parking in the development based on land use and public transport provision;

(h) whether the proposed means of ingress to or egress from the site of the development are adequate and located appropriately according to Council's road hierarchy;

(i) adequate provision to be made for the loading, unloading, manoeuvring and parking of vehicles within that development or on that land;

(j) movements of freight carrying vehicles associated with the proposal and how these are to be minimised;

(k) the possibility of integration with adjacent development;

(l) the effects on public transport, traffic operations and parking, of any temporary works required during construction;

(m) any comments made by the Department of Transport and Main Roads that are in accordance with the rights and powers of this agency;

(n) the existing and likely future amenity of the surrounding area; and

(o) a statement of all of the assumptions made in the preparation of the report and the design parameters adopted in the technical analysis.

Acoustic assessment report

(1) An acoustic assessment report may be required where a proposed development is likely to cause noise impacts or where a proposed development site is located in close proximity to a land use or infrastructure which may cause noise impacts on the proposed development (often referred to as reverse amenity impacts).

(2) An acoustic assessment report should provide an assessment of:

(a) the potential noise impacts associated with the proposed development; and

(b) the measures proposed to avoid or minimise adverse noise impacts.

(3) The acoustic assessment report should have regard to:

(a) Australian Standards AS 1055.2 Acoustics – Description and measurement of environmental noise – Application to specific situations and AS 2107 Acoustics – Recommended design sound levels and reverberation times for building interiors;

(b) Environmental Protection Act 1994 and Environmental Protection (Noise) Policy 2008 (EPP Noise);

(c) Noise Measurement Manual Department of Environment and Heritage Protection 2013

(d) Road Traffic Noise Management Code of Practice, Department of Transport and Main Roads, 2008.

(4) The acoustic assessment report should include identification of:

(a) noise standards;

(b) nature of the noise;

(c) times of operation of the noise source and use/development on site;

(d) the type of occupancy/activity categories from AS 2107 that may apply;

(e) type of occupancy/activity and proximity of adjacent land uses;

(f) details of any prescribed planning levels in the EPP (Noise) that may apply to the adjacent land uses; and

(g) whether any noise data exists for those adjacent land uses

(5) The report should include justification of the appropriate noise planning assessment methodology to determine the noise impacts on and from the land uses and structures both on the subject site and adjacent sites. The report should also provide an assessment of whether the noise emission complies with the calculated limiting criteria. If noise is likely to be unacceptable, the report should describe the control measures that will be used to ensure compliance.

Economic impact assessment report

(1) Council is likely to require the submission of an economic impact assessment report for major retail and commercial development and other types of development with the potential to have adverse economic impacts.

(2) In particular, Council may require an economic impact assessment report for development which involves one or more the following:

(a) the establishment of a business use exceeding a gross leasable floor area of 2,500m², where located in a centre zone;

(b) the establishment of a business use exceeding a gross leasable floor area of 100m², where located in a zone other than a centre zone; or

(c) the establishment of a business use which is identified as an inconsistent use in the applicable zone code or local plan.

(3) An economic impact assessment report is a report prepared by an appropriately qualified and experienced economist or economic analyst, which assesses and demonstrates the public need for, and the acceptable economic impact of a proposed development.

(4) Typically, an economic impact assessment report should include the following:

(a) a description of the size, function and tenancy mix of the proposed development, together with details of any pre-commitments;

(b) an examination of the population growth prospects and socio-economic characteristics of a defined trade area;

(c) a description of the location, size, nature, function and tenancy mix of competitive centres likely to be affected by the proposed development;

(d) an assessment of the extent of inadequacy, if any, within the competitive network of activity centres;

(e) an assessment of the quantitative economic impact upon competitive centres likely to be affected by the proposed development describing the consequent effects upon those activity centres; and

(f) an assessment of the effect of the proposed development upon the Noosa Shire Centres Hierarchy as defined by the planning scheme.

Social impact assessment report

(1) Identification and assessment of the social impacts of a development including the direct and indirect impacts that affect people and their communities at all stages of the development;

(2) Means of dealing with social impacts such as changes to a development proposal, compensation to affected communities or requirements for ongoing management of impacts in accordance with an agreed management regime.

Heritage and character impact assessment

(1) A heritage and character impact assessment will be required for land identified as a Heritage Site or Character Area on the Heritage Overlay Maps OM-HC-1 to OM-HC-14.

(2) A Heritage and Character impact assessment is a report prepared by an appropriately qualified and experienced heritage consultant which demonstrates how the development mitigates and minimises detrimental impacts on cultural heritage significance and supports ongoing conservation management of the heritage place or character area.

(3) The Heritage and character impact assessment includes the following:

(a) For heritage sites, the extent to which the proposal would affect the cultural heritage significance of the heritage site, as well as measures proposed to conserve and protect the cultural heritage significance of the site having regard to development criteria in the Department of Environment and Heritage Protection's Guideline – Developing heritage places – Using the development criteria

(b) For Character areas:

(i) the extent to which the proposal would affect the valued character and amenity of the character area;

(ii) whether or not any building affected by the proposal is assessed to be a character building; and

(iii) the measures proposed to complement the valued streetscape character and amenity of any character building.

(4) Should the proposal include partial or complete demolition of a building or structure, an assessment by a suitably qualified structural engineer will be required which demonstrated that the building or structure is structurally unsound and not capable of economic repair.

SC6.3 - PSP2 Landscaping

SC6.3.1 Purpose

(1) The purpose of the landscaping planning scheme policy is to provide for the distinctive landscape character between different localities throughout the Shire and to ensure high quality landscaping is provided and maintained as an important visual element which contributes to the landscape integrity of the shire.

(2) The Landscaping planning scheme policy:

(a) specifies the technical requirements and specifications for preparing landscaping plans;

(b) provides supporting information in relation to the natural landscape character areas of Noosa Shire to help inform landscaping plans;

(c) provides a plant species schedule for developments which have landscaping requirements; and

(d) provides landscaping design guidelines and requirements for development and Council works on public land.

(3) This policy should be read in conjunction with the Landscaping code and other relevant parts of the planning scheme.

SC6.3.2 Information Council may request

(1) A Landscape Plan is to be provided and prepared by a suitably qualified landscape architect or landscape designer, drawn to scale and setting out the following details:

(a) an assessment of whether or not the premises contains any undesirable plant species identified in Table 6.1 and if the assessment identifies any undesirable plant species on the premises, an environmental management plan or property pest management plan that identifies measures to prevent, control and contain their spread.

(b) the location, size and species of existing trees;

(c) trees proposed to be retained and necessary protective measures;

(d) trees proposed to be removed;

(e) the existing contours;

(f) the natural (and finished) ground levels;

(g) existing soil type and moisture conditions;

(h) details of existing underground and overhead services including water, electricity, gas, telephone, sewer, stormwater, manhole covers, sewer vents, grease traps, drainage pits and overhead power lines;

(i) details of temporary protective drainage and slope stabilisation measures;

(j) details of protective fencing to be installed around the dripline of any vegetation that will to be retained on the site;

(k) planting schedule of vegetation proposed to be planted and maintained, including botanical and common name of plant species, number of plants of each species to be used, details of the minimum size at planting, spacing of plants, and estimated tree canopy spread;

(l) proposed method of preparation and mulching of planting beds;

(m) proposed surface and edging treatments;

(n) proposed methods of drainage; and

(o) any proposed structures, including retaining walls, fences, pools, water features, furniture, recreation facilities and irrigation systems.

SC6.3.3 Natural Landscape Character

(1) The Noosa Shire is an attractive place due to its landform diversity and natural vegetation. The Shire encompasses beaches, sand dunes, river systems, wetlands, heath plains, woodlands, rainforests and ranges. The landform and natural vegetation are

major reasons for the Shire's attraction to visitors and residents alike.

(2) Three broad natural landscape character areas are evident in Noosa Shire these are the Coastal/Beachfront, Woodland/Open Forest and the Closed Forest/Rainforest areas. There is no precise delineation between these areas and an individual assessment of each site and its natural landscape character should be made. A description of each area is provided below.

(a) **Coastal/Beachfront Areas** - These areas are in close proximity to the coast, and are characterised by sandy soil. The coastal beachfront areas extend from Peregian Beach to Sunshine Beach and westward to incorporate parts of Cooloola Estate, Noosa Sound and Noosa Heads. Most of the Noosa North Shore is also within this area. The natural landscape character for this area is coastal heath or wallum with a specialised and distinctive character. Those areas closer to the beach suffer coastal exposure from wind and salt spray. This exposure, combined with low fertility of the sand and its inability to hold moisture, present difficult conditions for plants and considerable care is needed in plant selection. Table SC6.4.4.1 of this Policy provides a list of species which characterise coastal/beachfront areas.

(b) **Woodland/Open Forest Areas** - This landscape character area is found across most of the Shire and is highly variable ranging from banksia/allocasuarina woodlands near the coast, to paperbark woodlands in wetter areas near the Noosa River, to brush box forest with rainforest elements in more sheltered areas. It is most prevalent in Noosaville, Tewantin and the rural areas of the Shire. The main canopy usually includes eucalypts and associated genera, though in wet areas such as south of Noosaville and northwest of Tewantin, paperbarks form the main canopy. Table SC6.4.4.2 of this Policy provides a list of species that characterise open forest and woodland landscape character areas.

(c) **Closed Forest/Rainforest Areas**- The closed forest and rainforest areas are now scarce in the Shire and have particular environmental significance. Remaining areas are often remnants from previous clearing. Closed forest/rainforest is located in the protected areas of Noosa Heads and the hinterland, and in gullies and adjacent to watercourses in the rural areas. There is potential for considerable revegetation of these communities in rural areas. Closed forest/rainforest species are remarkably adaptable to a wide range of conditions but generally require moist well-drained soils. Table SC6.4.4.3 of this Policy provides a list of species that characterise closed forest/rainforest landscape character areas.

SC6.3.4 Preferred Plant Species

(1) The list of species included in this planning scheme policy are generally available from wholesale suppliers. It is recognised that there are other species, not contained herein, of local origin that are readily available from retail nurseries. Essentially, other species may be utilised in landscape plans however evidence that they are of local origin should be provided.

(2) To create the desired natural landscape character, a mix of species from each category for the specific character area is required, with an emphasis on primary character species.

(3) Hybrids/variegates shall not be used in ecologically important areas or for the purposes of environmental rehabilitation. However, hybrids/variegates may be accepted in other areas where the preferred plant species are not available.

(4) Abbreviations used in this planning scheme policy are described below:

Form - Growth Form

TT Tall Tree with a growth height greater than 20 metres
MT Medium Tree with a growth height between 10 metres and 20 metres
ST Small Tree with a growth height less than 10 metres
LS Large Shrub with a growth height greater than 3 metres
MS Medium Shrub with a growth height of between 1 metre and 3 metres
SS Small Shrub with a growth height less than 1 metre
G Grass
GC Groundcover
TF Tufting - a type of plant that spreads out
P Palm
V Vine

Soil - Soil Types

1 Sandy well drained soil
2 Average topsoil, reasonable drainage, and some moisture retention
3 Boggy soil, heavy clay, wet for part of the year
4 Grey Water area

Aspect:

S Able to tolerate full sun
PS Prefers part shade
SH Requires shade

Salt - Salt Tolerance
PE Able to withstand Part Exposure
FE Able to withstand Full Exposure
NT No tolerance to salt

Root Guard
RG Root Guard required if planted near road or carpark or within close proximity to buildings or services.

Street Trees/Carparks
NS Not suitable for planting in the street or carpark.

Availability
T Only available as tube stock from wholesalers

Table SC6.3.4.1 Coastal Beachfront Area Species

Coastal Beachfront Areas Species

Following in Table SC6.3.4.1 is a list of species that characterise coastal/beachfront landscape areas classified into 3 groups being primary, secondary and tertiary.

PRIMARY CHARACTER SPECIES						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Acacia flavescens	Primrose Ball Wattle	ST	PE	1 2	S	
Acacia sophorae	Coastal Wattle	MS	FE	1	S	
Acronychia imperforata	Fraser Island Apple	ST	FE	1	S\PS	
Alectryon coriaceus	Beach Birds Eye	ST	FE	1	S	
Allocasuarina equisetifolia	Horsetail She-oak	ST	FE	1	S	
Allocasuarina littoralis	Black She-Oak	ST	PE	1234	S	
Alphitonia excelsa	Red Ash	MT	PE	1234	S\PS	
Banksia aemula	Wallum Banksia	ST	PE	1	S\PS	
Banksia integrifolia	Coastal Banksia	MT	FE	1 2	S	
Callitris columellaris	Cooloola Cypress Pine	TT	FE	1 2	S	
Corymbia intermedia	Pink Bloodwood	TT	PE	1 2	S	
Corymbia tessellaris	Moreton Bay Ash	TT	FE	1 2	S	
Cupaniopsis anacardioides	Large Leaf Tuckeroo	MT	FE	1 2	S\PS	
Elaeocarpus reticulatus	Blueberry Ash	MT	PE	1 2	S\PS	
Eucalyptus robusta	Swamp Mahogany	TT	PE	1 2 3	S	
Eucalyptus tereticornis	Qld Blue Gum or Forest Red Gum	TT	PE	1234	S	NS/RG
Hibiscus tiliaceus	Cottonwood	MT	FE	1234	S	NS/RG
Lomandra longifolia/histrix	Mat-rush	G	FE	1234	S\PS	
Lophostemon confertus	Brush Box	TT	FE	1234	S\PS	
Lophostemon suaveolens	Swamp Box	MT	PE	1234	S	RG
Macaranga tanarius	Macaranga	MT	FE	1234	S\PS	NS
Melaleuca quinquenervia	Paperbark Tea Tree	TT	FE	1234	S\PS	RG
Melastoma affine	Blue Tongue	MS	PE	1234	S\PS	
Pandanus tectorius var.	Pandanus/ Screw Pine	MT	FE	1	S	
pedunculatus	Phebalium	MS	FE	1	S\PS	
Phebalium woombye	Wedding Bush	MS	FE	1 2 3	S	
Ricinocarpos pinifolius	Heath Grasstree	TF	PE	1234	S\PS	
Xanthorrhoea johnsonii						
SECONDARY CHARACTER SPECIES - TREES & SHRUBS						

SECONDARY CHARACTER SPECIES - TREES & SHRUBS						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Acacia aulacocarpa	Hickory Wattle	ST	PE	1 2 3	S	NS
Acacia complanata	Flat Stem Wattle	ST	PE	1 2	S\PS	
Acacia concurrens	Dog Wattle	LS	FE	1 2	S	NS/T
Acacia leiocalyx	Lambs Tail Wattle	ST	PE	1 2	S	NS/T
Acacia maidenii	Maiden's Wattle	MT	NT	1 2	S	NS
Acacia oshanesii	Irish Wattle	ST	PE	1 2	S\PS\SH	NS
Acmena hemilampra	Broad Leaved Lilly Pilly	ST	NT	1 2	S\PS	
Acmena smittii	Lilly Pilly	ST	NT	1234	S\PS\SH	
Allocasuarina littoralis	Black She-Oak	ST	PE	1234	S	RG
Alyxia illicifolia subspecies	Large Leaved Chain fruit	LS	NT	1 2	PS\SH	NS
magnifolia	Smooth Barked Apple	MT	NT	1234	S	NS/T
Angophora leiocarpa	Red Honeysuckle	MT	NT	1	S	
Banksia serrata	Weeping White Bottle Brush	ST	NT	1234	S\PS	
Callistemon salignus	All Cultivars	LS	NT	1234	S\PS	
Callistemon sp	Beach Canthium	LS	FE	1 2	S\PS	
Canthium coprosmoides	Swamp She-oak	MT	FE	2 3 4	S	NS/RG
Casuarina glauca		LS	FE	1	S\PS	
Clerodendron inerme	Brown Kurrajong	MT	PE	1234	S\PS	
Commersonia bartramii	Red Bloodwood	TT	NT	1 2	S	
Corymbia gummifera	Small-leaved Tuckeroo	MT	NT	1 2	S\PS	
Cupaniopsis parviflora	Hard Quandong	TT	PE	1 2	S\PS	
Elaeocarpus obovatus	Tumbledown Gum	ST	PE	1234	S	RG
Eucalyptus bancroftii	Swamp Stringybark	MT	FE	1234	S	
Eucalyptus conglomerata	Tallowwood	TT	PE	2	S	NS/RG
Eucalyptus microcorys	Scribbly Gum	TT	NT	1	S	
Eucalyptus racemosa	Creek Sandpaper Fig	ST	FE	1 2	S\PS	RG/T
Ficus coronata	Moreton Bay Fig	TT	FE	1234	S	NS/RG
Ficus macrophylla	Small-leaved Fig	TT	FE	1234	S	NS/RG
Ficus obliqua	Rock Fig	LT	FE	1 2		RG
Ficus platypoda	Cheese Tree	MT	NT	1234		RG
Glochidion ferdinandi	Umbrella Cheese Tree	MT	PE	1234		RG
Glochidion sumatranum	White Beech	MT	NT	1 2		
Gmelina leichhardtii	Red Flowered Silky Oak	ST	PE	1 2		
Grevillea banksii	Southern Ghittoe	MT	NT	1 2		
Halfordia kendack	Native Rosella	LS	NT	1234		T
Hibiscus heterophyllus	Splendid Hibiscus	LS	NT	1234		T
Hibiscus splendens	Dogwood/Native Broom	LS	PE	1 2		
Jacksonia scoparia	Lemon Scented Tea Tree	LS	PE	1 2		
Leptospermum petersonii	Wild May	LS	PE	1234		
Leptospermum polygalifolium	Wallum Tea Tree	LS	PE	1234		
Leptospermum speciosum	Revolution Green and Revolution Gold	TT	NT	1234		
Melaleuca bracteata		MT	PE	1234		
Melaleuca sieberi	Pink Euodia	MT	NT	1234		
Melicope elleryana	Native Bleeding Heart	ST	NT	1234		
Omalanthus nutans	Quinine Berry	ST	FE	1		
Petalostigma pubescens	Quinine Berry	MT	FE	1 2		
Petalostigma triloculare	Plum Myrtle	LS	PE	1 2		
Pilidiostigma rhytisperma	Celery Wood	MT	PE	1234		
Polyscias elegans	Scentless Rosewood	ST	NT	1234		
Synoum glandulosum	Coastal Vitex	ST	FE	1 2		T
Vitex trifolia var bicolor						
SECONDARY CHARACTER SPECIES - SMALL/MEDIUM SHRUBS, VINES AND GROUNDCOVERS						

SECONDARY CHARACTER SPECIES - SMALL/MEDIUM SHRUBS, VINES AND GROUNDCOVERS						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Acacia suaveolens	Sweet wattle	MS	NT	1234	S/SP	
Alpinia caerulea	Native Ginger	TF	NT	1234	PS\SH	
Alyxia ruscifolia	Chain Berry	MS	NT	1 2	PS\SH	
Aotus ericoides	Eggs and Bacon	MS	NT	1 2	S	
Aotus lanigera	Golden Candlesticks	MS	PE	1	S	
Austromyrtus dulcis	Midyim	GC	FE	1 2	S\PS	
Baeckea stenophylla	Weeping Baeckea	MS	NT	1 2	S\PS	
Banksia oblongifolia	Dwarf Banksia	SS	PE	1	S	
Banksia robur	Swamp Banksia	MS	PE	1234	S\PS	
Banksia spinulosa	Golden Candlesticks	MS	NT	1 2	S\PS	
Bauera Capitata		SS	PE	1 2	S\PS	
Bauera rubioides	Wiry Dog Rose	SS	NT	1 2	S\PS	
Baumea rubiginosa	Soft Twigrush	G	NT	3 4	S	
Blechnum spp.	Water Ferns	TF	NT	1234	S\PS\SH	
Boronia falcifolia	Wallum Boronia	MS	PE	3	S	
Boronia rivularis	Wide Bay Boronia	MS	PE	1 2 3	S\PS	
Bracteantha sp.	Federation Daisy	GC	NT	1 2	S\PS	
Callistemon pachyphyllus	Swamp Callistemon	MS	PE	1234	S\PS	
Carpobrotus glaucescens	Pigface	GC	FE	1	S	
Crinum pedunculatum	River Lily	TF	PE	1234	S	
Dianella caerulea	Flax Lily	TF	FE	1 2	S\PS	
Dianella congesta	Beach Flax Lily	TF	FE	1	S\PS	
Dillwynia retorta	Heathy Parrot Pea	MS	FE	1	S\PS	
Dodonea triquetra	Native Hop	MS	PE	1 2	S\PS	T
Eleocharis genticulata	Spikerush	TF	FE	1234	S	NS/T
Eleocharis minuta	Spikerush	TF	FE	1234	S	NS/T
Eleocharis ochrostachys	Spikerush	TF	NT	1234	S	NS/T
Eleocharis spiralis	Spikerush	TF	FE	1234	S\PS	NS/T
Eleocharis tetraquetra	Spikerush	TF	NT	2 3 4	S	NS/T
Eriostemon spp.	Qld. Wax flower	SS	NT		S\PS	
Grevillea sp	All Cultivars	MS	NT	1 2	S	
Hakea actites	Prickly Hakea	MS	NT	1234	S\PS	
Hardenbergia violacea	Native Sarsparilla	GC	PE	1 2	S\PS	
Helichrysum spp.	Golden Buttons\	GC	PE	1 2	S	
Hibbertia obtusifolia	Paper Daisy	SS	PE	1 2	S\PS	
Hibbertia scandens	Guinea Flower	V	FE	1 2	S\PS	NS
Hibiscus diversifiolius	Twining Guinea Flower	MS	NT	1234	S\PS	
Ipomoea pes-caprae	Swamp Hibiscus	GC	FE	1	S	T
Juncus usitatus	Goasts Foot Convolvulus	TF	NT	1234	S	NS/T
Kennedia rubicunda	Common Rush	V		1 2 3	S\PS	NS
Leptospermum liversidgei	Running Postman	MS	PE	1234	S	
Lomandra confertifolia	Lemon Scented Leptos-permum	G	NT	1 2	S\PS	
Melaleuca nodosa	Mat-rush	MS	PE	1234	S	T
Myoporum acuminatum	Prickly Leaved Paperbark	GC	FE	1 2	S	T
Petrophila shirleyae	Drumsticks, Conesticks	MS		1 2 3	S\PS	
Phebalium woombye prostate		GC	FE	1	S	
form	cv, Wallum Gold	SS	PE	1 2	S\PS	
Pultenea spp.	Bush Pea/Bacon and Eggs	MS	PE	1 2	S\PS	
Pultenea spp.	Wedding Bush prostrate forms	GC	FE	1	S\PS	
Ricinocarpus pinifolius prostate	Dune Fan Flower	GC	FE	1	S	T
form	Vanilla Lily	TF	PE	1 2	S\PS	T
Scaevola calendulacea	Strangea	MS	PE	1 2 3	S	
Sowerbaea juncea	Kangaroo Grass	TF	FE	1234	S\PS	T
Strangea linearis	Betony Leaved Violet	GC	NT	1234	S\PS	
Themeda triandra	Native Violet	GC	NT	1234	PS\SH	

SECONDARY CHARACTER SPECIES - SMALL/MEDIUM SHRUBS, VINES AND GROUNDCOVERS						
Viola betonicifolia *Viola hederacea* *Wahlebergia stricta*	Bluebells	TF	PE	1	S\PS	NS

Table SC6.3.4.2 Woodland/Open Forest Area Species

Woodland/Open Forest Areas Species

Following in Table SC6.3.4.2 is a list of species that characterise open forest and woodland landscape character areas.

PRIMARY CHARACTER SPECIES						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Acacia aulacocarpa	Hickory Wattle	ST	PE	1 2 3	S	NS
Acacia concurrens	Dog Wattle	LS	FE	1 2	S	NS/T
Acacia leiocalyx	Lambs Tail Wattle	ST	PE	1 2	S	NS/T
Acacia melanoxylon	Blackwood	TT	NT	1 2 3	S	NS
Allocasuarina littoralis	Black She-oak	ST	PE	1234	S	RG
Allocasuarina torulosa	Forest Oak	ST	NT	2	S\PS	
Alphitonia excelsa	Red Ash	MT	PE	1234	S\PS	
Angophora leiocarpa	Smooth Barked Apple	MT	NT	1234	S	NS/T
Callistemon salignus	Weeping White Bottle Brush	ST	NT	1234	S\PS	
Callitris columellaris	Cooloola Cypress Pine	TT	FE	1 2	S	
Corymbia citriodora	Spotted Gum	MT	NT	2	S	NS
Corymbia intermedia	Pink Bloodwood	TT	PE	1 2	S	
Corymbia tessellaris	Moreton Bay Ash	TT	FE	1 2	S	
Dodonea triquetra	Native Hop	MS	PE	1 2	S\PS	T
Eucalyptus crebra	Narrow-leaved Ironbark	TT	NT	2	S	NS
Eucalyptus grandis	Flooded Gum	TT	NT	1 2 3	S\PS	NS/RG
Eucalyptus microcorys	Tallowwood	TT	PE	2	S	NS/RG
Eucalyptus pilularis	Blackbutt	TT	NT	1 2	S	NS/RG/T
Eucalyptus propinqua	Grey Gum	TT	NT	2	S	
Eucalyptus racemose	Scribbly Gum	TT	NT	1	S	
Eucalyptus resinifera	Red Mahogany	TT	NT	1	S	RG/T
Eucalyptus robusta	Swamp Mahogany	TT	PE	1 2 3	S	
Eucalyptus siderophloia	Grey Ironbark	TT	NT	2	S	
Eucalyptus tereticornis	Qld Blue Gum or Forest Red Gum	TT	PE	1234	S	NS/RG
Gahnia aspera	Saw Sedge	TF	NT	1234	S\PS	
Hovea acutifolia	Hovea	MS	NT	1234	S\PS	
Jacksonia scoparia	Dogwood/Native Broom	LS	PE	1 2	S\PS	
Livistona australis	Cabbage Palm	TT	NT	1234	S\PS	
Lomandra longifolia/histrix	Mat-rush	TF	FE	1234	S\PS	
Lophostemon confertus	Brush Box	TT	FE	1234	S\PS	RG
Lophostemon suaveolens	Swamp Box	MT	PE	1234	S	
Melaleuca quinquenervia	Paperbark Tea Tree	TT	FE	1234	S\PS	
Melastoma affine	Blue Tongue	MS	PE	1234	S\PS	RG
Syncarpia glomulifera	Turpentine	TT	NT	1 2	S	
Xanthorrhoea johnsonii	Heath Grasstree	TF	PE	1234	S\PS	
SECONDARY CHARACTER SPECIES - TREES & SHRUBS						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Acacia fimbriata	Brisbane Wattle	ST	NT	1 2	S	
Acacia flavescens	Primrose Ball Wattle	ST	PE	1 2	S	
Acmena smithii	Lilly Pilly	ST	NT	1234	S\PS\SH	
Agathis robusta	Queensland Kauri	MT	NT	1 2	S	RG
Allocasuarina cunninghamiana	River Oak	MT	NT	2 3 4	S	NS/RG

SECONDARY CHARACTER SPECIES - TREES & SHRUBS						
Alphitonia petriei	Pink Ash	TT	NT	2	S\PS	
Araucaria bidwillii	Bunya Pine	TT	NT	2	S	NS/RG
Backhousia myrtifolia	Grey Myrtle	ST	NT	1234	S\PS	
Banksia integrifolia	Coastal Banksia	MT	FE	1 2	S	
Brachychiton bidwillii	Rusty Kurrajong	LS	NT	2	S\PS	
Brachychiton discolor	Lace Bark Tree	MT	NT	2	S\PS	
Brachychiton populneus	Kurrajong	MT	NT	2	S\PS	
Callistemon pachyphyllus	Swamp Callistemon	LS	PE	1234	S\PS	
Callistemon viminalis	Weeping Red Bottle Brush	MT	NT	1234	S\PS	
Casuarina glauca	Swamp She-Oak	MT	FE	2 3 4	S	NS/RG
Commersonia bartramii	Brown Kurrajong	MT	PE	1234	S\PS	
Corymbia gummifera	Red Bloodwood	TT	NT	1 2	S	
Corymbia trachyphloia	Brown Bloodwood	TT	NT	2	S	
Cupaniopsis anacardioides	Large Leaf Tuckeroo	MT	FE	1 2	S\PS	
Cupaniopsis parviflora	Small-leaved Tuckeroo	MT	NT	1 2	S\PS	
Cyathea cooperi	Tree Fern	MT	NT	1234	SH	NS
Elaeocarpus reticulatus	Blueberry Ash	MT	PE	1 2	S\PS	
Eucalyptus cloeziana	Gympie Messmate	TT	NT	2	S	NS/RG/T
Eucalyptus seeana	Narrow Leaved Red Gum	TT	NT	2 3	S	
Eucalyptus umbra	Shade Mahogany	TT	NT	1234	S	NS/T
Euroschinus falcata var. falcata	Ribbonwood	TT	NT	1 2	S\PS	NS/T
Ficus obliqua	Small-leaved Fig	TT	NT	1234	S	NS/RG
Ficus platypoda	Rock Fig	LT	FE	1 2	S	RG
Glochidion ferdinandi	Cheese Tree	MT	NT	1234	S\PS	RG
Glochidion sumatranum	Umbrella Cheese Tree	MT	PE	1234	S\PS	RG
Gmelina leichhardtii	White Beech	MT	NT	1 2	S\PS	

SECONDARY CHARACTER SPECIES - TREES & SHRUBS						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Grevillea banksii	Red Flowered Silky Oak	ST	PE	1 2	S\PS	
Hibiscus heterophyllus	Native Rosella	LS	NT	1234	S\PS	T
Hibiscus splendens	Splendid Hibiscus	LS	NT	1234	S\PS	T
Hibiscus tiliaceus	Cottonwood	MT	FE	1234	S	NS/RG
Leptospermum petersonii	Lemon Scented Tea Tree	LS	PE	1 2	S	
Leptospermum polygalifolium	Wild May	LS	PE	1234	S\PS	
Leptospermum speciosum	Wallum Tea Tree	LS	PE	1234	S\PS	
Livistona decipiens	Weeping Cabbage Palm	TT	NT	1234	S\PS	
Melaleuca bracteata	Revolution Green and Revolution	ST	NT	1234	S	
Melia azedarach	Gold	MT	PE	1 2	S\PS	
Melicope elleryana	White Cedar	MT	NT	1234	S\PS	
Homalanthus nutans	Pink Euodia	ST	NT	1234	S\PS	
Petalostigma pubescens	Native Bleeding Heart	ST	FE	1	S	
Petalostigma triloculare	Quinine Berry	MT	FE	1 2	S\PS	
Pittosporum revolutum	Quinine Berry	LS	NT	1 2	S\PS	
Pittosporum undulatum	Yellow Pittosporum	MT	NT	1 2	S\PS	
Polyscias elegans	Mock Orange	MT	PE	1234	S\PS	
Rapanea variabilis	Celery Wood	ST		1 2	S\PS	T
Synoum glandulosum	Muttonwood	ST	NT	1234	PS\SH	T
Syzigium oleosum	Scentless Rosewood	MT	NT	1234	S\PS	
Tristaniopsis laurina	Blue Lilly-Pilly	TT	NT	1234	S\PS	
Waterhousia floribunda	Giant Water Gum Weeping Lilly Pilly	TT	NT	1234	S\PS	

SECONDARY CHARACTER SPECIES - SMALL/MEDIUM SHRUBS, VINES & GROUNDCOVERS						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT /**

SECONDARY CHARACTER SPECIES - SMALL/MEDIUM SHRUBS, VINES & GROUNDCOVERS						
						TUBE
Acacia complanata	Flat Stem Wattle	MS	PE	1 2	S\PS	
Acacia suaveolens	Sweet Wattle	MS	NT	1234	S\PS	
Adiantum spp.	Maindenhair Ferns	GC	NT	1234	SH	
Alpinia caerulea	Native Ginger	TF	NT	1234	PS\SH	
Austromyrtus dulcis	Midyim	GC	FE	1 2	S\PS	
Baeckea virgata	Twiggy Myrtle	MS	NT	1234	S\PS	
Banksia robur	Swamp Banksia	MS	PE	1234	S\PS	
Banksia spinulosa	Golden Candlesticks	MS	NT	1 2	S\PS	
Bauera rubioides	Wiry Dog Rose	SS	NT	1 2	S\PS	
Baumea rubiginosa	Soft Twigrush	G	NT	3 4	S	T
Blechnum spp.	Water Ferns	TF	NT	1234	S\PS\SH	
Bracteantha sp.	Federation Daisy	GC	NT	1 2	S\PS	
Cissus antarctica	Water Vine	V	NT	1 2	S\PS	NS
Cissus hypoglauca	Five Leaf Water Vine	V	NT	1 2	S\PS	NS

SECONDARY CHARACTER SPECIES - SMALL/MEDIUM SHRUBS, VINES & GROUNDCOVERS						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Cordyline petiolaris	Broad-leaved Palm Lily	MS	NT	1234	PS\SH	
Cordyline rubra	Red-fruited Palm lily	MS	NT	1234	PS\SH	
Crinum pedunculatum	River Lily	TF	PE	1234	S	
Cymbopogon refractus	Barbed Wire Grass	G	NT	1 2	S\PS	T
Dianella caerulea	Flax Lily	TF	FE	1 2	S\PS	
Eleocharis equisetina	Spikerush	TF	NT	2 3 4	S	NS/T
Eleocharis genticulata	Spikerush	TF	FE	1234	S	NS/T
Eleocharis minuta	Spikerush	TF	FE	1234	S	NS/T
Eleocharis ochrostachys	Spikerush	TF	NT	1234	S	NS/T
Eleocharis spiralis	Spikerush	TF	FE	1234	S\PS	NS/T
Eleocharis tetraquetra	Spikerush	TF	NT	2 3 4	S	NS/T
Eriostemon spp.	Qld. Wax flower	SS	NT		S\PS	
Hardenbergia violacea	Native Sarsparilla	GC	PE	1 2	S\PS	
Helichrysum spp.	Golden Buttons\Paper Daisy	GC	PE	1 2	S	
Hibbertia scandens	Twining Guinea Flower	V	FE	1 2	S\PS	NS
Juncus usitatus	Common Rush	TF	NT	1234	S	NS/T
Kennedia rubicunda	Running Postman	V		1 2 3	S\PS	NS
Lobelia membranacea	Lawn Lobelia	GC	NT	1234	S\PS\SH	
Lomandra confertifolia	Mat-rush	G	NT	1 2	S\PS	
Lomatia silacifolia	Parsley Bush	MS	NT	1 2	S\PS	T
Microlaena stipoides	Weeping Grass	G	NT	1234	PS\SH	T
Myoporum acuminatum		GC	FE	1 2	S	T
Omalanthus stillingifolius	Dwarf Bleeding Heart	SS	NT	1 2	PS\SH	
Phebalium woombye	Phebalium	MS	FE	1	S\PS	
Phebalium woombye prostate		GC	FE	1	S	
form	Frogmouth	TF	NT	1234	S	T
Phylidrum lanuginosum		SS	FE	1 2	S\PS	
Platysace lancolatus	Native Coleus	SS	NT	1 2	S\PS	T
Plectranthus spp.	Tussock Grass	G	NT	1 2	S\PS	
Poa labillardierii	cv, Wallum Gold	SS	PE	1 2	S\PS	
Pultenea spp.	Bush Pea/Bacon and Eggs	MS	PE	1 2	S\PS	
Pultenea spp.	Foxtails	TF	NT	1 3 4	S\PS	NS/T
Restio tetraphyllus	Wedding Bush prostrate forms	GC	FE	1	S\PS	
Ricinocarpus pinifolius prostate	Vanilla Lily	TF	PE	1 2	S\PS	
form	Banana Bush	MS	NT	1234	S\PS	
Sowerbaea juncea	Kangaroo Grass	TF	FE	1234	S\PS	
Tabernaemontana pandacaqui	Betony Leaved Violet	GC	NT	1234	S\PS	

SECONDARY CHARACTER SPECIES - SMALL/MEDIUM SHRUBS, VINES & GROUNDCOVERS						
Themeda triandra	Native Violet	GC	NT	1234	PS\SH	
Viola betonicifolia	Forest Grasstree	TF	NT	1 2	S\PS	
Viola hederacea						
Xanthorrhoea latifolia						

Table SC6.3.4.3 Closed Forest/Rainforest Areas Species

Following in Table SC6.3.4.3 is a list of species that characterise closed forest/rainforest landscape character areas.

PRIMARY CHARACTER SPECIES						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Acmena smithii	Lilly Pilly	ST	NT	1234	S\PS\SH	
Agathis robusta	Queensland Kauri	MT	NT	1 2	S	RG
Alphitonia petriei	Pink Ash	TT	NT	2	S\PS	
Aphananthe philippinensis	Rough leaved elm	MT	NT	1 2	S\PS	
Araucaria cunninghamii	Hoop Pine	TT	PE	1 2	S	RG
Archontophoenix	Picabeen/Bangalow Palm	P	NT	1234	PS\SH	NS
cunninghamiana	Booyong	MT	NT	1 2	S\PS	T
Argyrodendron trifoliatum	Black Bean	TT	NT	1234	S\PS	RG
Castanospermum australe	Brown Kurrajong	MT	PE	1234	S\PS	
Commersonia bartramii	Jackwood	MT	NT	1 2	S\PS	
Cryptocarya glaucescens	Native Tamarind	TT	NT	1 2	S\PS	
Diploglottis australis	Eumundi Quandong	TT	NT	1 2	S\PS	
Elaeocarpus eumundi	Blue Quandong	TT	NT	1 2	S\PS	RG
Elaeocarpus grandis	Hard Quandong	TT	PE	1 2	S\PS	RG
Elaeocarpus obovatus	Flooded Gum	TT	NT	1 2 3	S\PS	NS/RG
Eucalyptus grandis	Ribbonwood	TT	NT	1 2	S\PS	NS/T
Euroschinus falcata var.	Creek Sandpaper Fig	ST	FE	1 2	S\PS	RG/T
Ficus coronata	Sandpaper Fig	MT	NT	1 2	S	RG/T
Ficus fraseri	Moreton Bay Fig	TT	FE	1234	S	NS/RG
Ficus macrophylla	Small-leaved Fig	TT	FE	1234	S	
Ficus obliqua	Crows Ash	MT	NT	2	S	
Flindersia australis	Bennett's Ash	MT	NT	1 2	S	
Flindersia bennettiana	Bumpy Ash, Cudgerie	TT	NT	1 2	S\PS	
Flindersia schottiana	Cheese Tree	ST	NT	1234	S\PS	RG
Glochidion ferdinandi	Silky Oak	TT		1 2	S\PS	NS/RG
Grevillea robusta	Tulipwood	MT	NT	1 2	S\PS	
Harpullia pendula	Native Bleeding Heart	ST	NT	1234	S\PS	
Homalanthus nutans	Foambark Tree	MT	NT	1 2	S\PS	
Jagera pseudorhus	Cabbage Palm	TT	NT	1234	S\PS	
Livistona australis	Macaranga	MT	FE	1234	S\PS	NS
Macaranga tanarius	Red Kamala	MT	NT	1 2	S\PS	
Mallotus philippensis	White Cedar	MT	PE	1 2	S\PS	
Melia azedarach	Pink Euodia	MT	NT	1234	S\PS	
Melicope elleryana	Plum Pine/Brown Pine	MT	NT	1 2	S\PS	
Podocarpus elatus	Celery Wood	MT	PE	1234	S\PS	
Polyscias elegans	Yellow Carabeen	TT	NT	1 2	S\PS	
Sloanea woollsii	Brush Cherry	ST	NT	1234	S\PS	
Syzigium australe	Red Cedar	MT	NT	1 2	S\PS	
Toona ciliata	Weeping Lilly Pilly	TT	NT	1234	S\PS	
Waterhousia floribunda						
SECONDARY CHARACTER SPECIES - TREES AND LARGE SHRUBS						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**

SECONDARY CHARACTER SPECIES - TREES AND LARGE SHRUBS						
Acacia disparima	Hickory Wattle	ST	PE	1 2 3	S	NS
Acacia melanoxylon	Blackwood	TT	NT	1 2 3	S	NS
Acmena hemilampra	Broad leaved Lilly Pilly	ST	NT	1 2	S\PS	
Acmena ingens (brachyandra)	Red Apple	MT	NT	2	SH	
Acronychia imperforata	Fraser Island Apple	ST	FE	1	S\PS	
Allocasuarina torulosa	Forest Oak	ST	NT	2	S\PS	
Alphitonia excelsa	Red Ash	MT	PE	1234	S\PS	
Araucaria bidwillii	Bunya Pine	TT	NT	2	S	NS/RG
Atractocarpas chartacea	Narrow-Leaved Native Gardenia	LS	NT	1 2	PS\SH	
Auranticarpa rhombifolia	Hollywood	ST	NT	1 2	S\PS	
Austromyrtus acmenioides	Scrub Ironwood	ST	NT	1 2	S\PS	
Austromyrtus hillii	Scaly Myrtle	ST	NT	1 2	S\PS	
Backhousia citriodora	Lemon Scented Mrytle	ST	NT	1 2	S\PS	
Backhousia myrtifolia	Grey Myrtle	ST	NT	1234	S\PS	
Barklya syringifolia	Crown of Gold Tree	MT	NT	2	S\PS	
Brachychiton acerifolius	Flame Tree	MT	NT	2	S\PS	
Brachychiton discolor	Lace Bark Tree	MT	NT	2	S\PS	
Caldcluvia paniculosa	Soft Corkwood	TT	NT	2	S\PS	
Callicoma serratifolia	Black Wattle	TT	NT	2	S\PS	
Castanospora alphandii	Brown Tamarind	MT	NT	2	S\PS	
Cryptocarya erythroxylon	Pigeonberry Ash	TT	NT	2	S\PS	
Cryptocarya laevigata	Glossy Laurel	LS	NT	1 2	SH	
Cryptocarya macdonaldii	Cooloola Laurel	MT	NT	1 2	S\PS	
Cupaniopsis anacardioides	Large Leaf Tuckeroo	MT	FE	1 2	S\PS	
Cupaniopsis parviflora	Small-leaved Tuckeroo	MT	NT	1 2	S\PS	
Cyathea cooperi	Tree Fern	MT	NT	1234	SH	NS
Decaspermum humile	Silky Myrtle	ST	NT	1 2	S\PS	
Dysoxylum fraserianum	Rosewood	TT	NT	2	S\PS	

SECONDARY CHARACTER SPECIES - TREES AND LARGE SHRUBS						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Dysoxylum muelleri	Red Bean	MT	NT	1 2	S\PS	RG
Elaeocarpus reticulatus	Blueberry Ash	MT	PE	1 2	S\PS	
Emmenosperma alphitonioides	Yellow Ash	TT	NT	2	S\PS	
Endiandra pubens	Hairy Walnut	TT	NT	2	SH	
Ficus platypoda	Rock Fig	ST	FE	1 2	S	RG
Flindersia xanthoxyla	Long Jack\ Yellowwood	TT	NT	2	S	
Glochidion sumatranum	Umbrella Cheese Tree	MT	PE	1234	S\PS	RG
Gmelina leichhardtii	White Beech	MT	NT	1 2	S\PS	
Grevillea hilliana	White Yiel Yiel	MT	NT	1 2	S\PS	
Harpullia hillii	Blunt-leaved Tulipwood	MT	NT	1 2	S\PS	
Hibiscus heterophyllus	Native Rosella	LS	NT	1234	S\PS	T
Hibiscus splendens	Splendid Hibiscus	LS	NT	1234	S\PS	T
Hodgkinsonia ovatiflora	Hodgkinsonia	MT	NT	1 2	S\PS	T
Hymenosporum flavum	Native Frangipani	MT	NT	1234	S\PS	
Linospadix monostachya	Walking Stick Palm	P	NT	1 2	SH	NS
Livistona decipiens	Weeping Cabbage Palm	TT	NT	1234	S\PS	
Lophostemon confertus	Brush Box	TT	FE	1234	S\PS	RG
Macadamia integrifolia	Queensland Nut Tree	MT	NT	1 2	S\PS	
Neolitsea dealbata	White Bolly Gum	MT	NT	1234	PS\SH	T
Pararchidendron pruinosum	Snowwood	ST	NT	1 2	S\PS	
Petalostigma triloculare	Quinine Berry	MT	FE	1 2	S\PS	
Pittosporum revolutum	Yellow Pittosporum	LS	NT	1 2	S\PS	
Pittosporum undulatum	Mock Orange	MT	NT	1 2	S\PS	
Polyscias murrayi	Pencil Cedar	MT	NT	2	S\PS	
Rapanea variabilis	Muttonwood	ST		1 2	S\PS	T

SECONDARY CHARACTER SPECIES - TREES AND LARGE SHRUBS						
Rhodamnia argentea	Silver Myrtle	ST	NT	1 2	S\PS	T
Rhodamnia rubescens	Scrub Turpentine	MT	NT	1 2	S\PS	
Rhodomyrtus psidioides	Native Guava	MT	NT	1234	S\PS	
Rhodosphaera rhodanthema	Deep Yellow Wood	MT	PE	1 2	S\PS	
Stenocarpus sinuatus	Firewheel Tree\Wheel of Fire	MT	NT	1 2	S\PS	
Synoum glandulosum	Scentless Rosewood	ST	NT	1234	PS\SH	T
Syzigium francisii	Francis' Water Gum	MT	NT	1234	S\PS	
Syzigium hodgkinsoniae	Red Lilly Pilly	ST	NT	1 2	PS\SH	
Syzigium luehmannii	Riberry	MT	NT	1234	S\PS	
Syzigium oleosum	Blue Lilly-Pilly	MT	NT	1234	S\PS	
Tristaniopsis laurina	Giant Water Gum	TT	NT	1234	S\PS	
Xanthostemon Oppositifolia	Southern Panda	MT	NT	12	S\PS	

SECONDARY CHARACTER SPECIES -SMALL/MEDIUM SHRUBS, VINES & GROUNDCOVERS						
Numerous ferns, cycads and orchids are suitable for shaded areas under rainforest canopy						
BOTANICAL NAME	**COMMON NAME**	**FORM**	**SALT**	**SOIL**	**ASPECT**	**STREET / ROOT / TUBE**
Adiantum spp.	Maidenhair Ferns	GC	NT	1234	SH	
Alpinia caerulea	Native Ginger	TF	NT	1234	PS\SH	
Aphanopetalum resinosum	Gum Vine	V	NT	1and2	S\PS	NS
Aristolochia praevenosa	Richmond Birdwing Vine	V	NT	1and2	S\PS	NS
Austromyrtus dulcis	Midyim	GC	FE	1and2	S\PS	
Austromyrtus inophloia	cv Blushing Beauty	SS	NT	1and2	S\PS	
Baeckea virgata	Twiggy Myrtle	MS	NT	1234	S\PS	
Blechnum spp.	Water Ferns	TF	NT	1234	S\PS\SH	
Callicarpa pedunculata	Velvet Leaf	MS	NT	2	S\PS	T
Cissus antarctica	Water Vine	V	NT	1and2	S\PS	NS
Cissus hypoglauca	Five Leaf Water Vine	V	NT	1and2	S\PS	NS
Cordyline petiolaris	Broad-leaved Palm Lily	MS	NT	1234	PS\SH	
Cordyline rubra	Red-fruited Palm lily	MS	NT	1234	PS\SH	
Davallia pyxidata	Haresfoot Fern	GC			PS\SH	
Dianella caerulea	Flax Lily	TF	FE	1and2	S\PS	
Dodonea triquetra	Native Hop	MS	PE	1 2	S\PS	T
Gahnia aspera	Saw Sedge	TF	NT	1234	S\PS	
Hovea acutifolia	Hovea	MS	NT	1234	S\PS	
Lomandra longifolia/histrix	Mat-rush	TF	FE	1234	S\PS	
Milletia megasperma	Native Wisteria	V	NT	1234	S\PS	NS
Omalanthus stillingifolius	Dwarf Bleeding Heart	SS	NT	1and2	PS\SH	
Pandorea jasminoides	Bower of Beauty	V	NT	1,2and3	S\PS	NS
Pandorea pandorana	Wonga Vine	V		1,2and3	S\PS	NS
Pilidiostigma glabrum	Plum Myrtle	MS	NT	1 2	PS\SH	
Tabernaemontana pandacaqui	Banana Bush	MS	NT	1234	S\PS	NS/T
Viola betonicifolia	Betony Leaved Violet	GC	NT	1234	S\PS	
Viola hederacea	Native Violet	GC	NT	1234	PS\SH	

SC6.3.5 Undesirable Plant Species

(1) There are a number of plants that should not be planted due to their undesirable characteristics. Such characteristics include:

(a) invasive habits

(b) potential to become bushland weeds

(c) uncontrollable growth characteristics

(d) environmental impact on other native species

(e) maintenance difficulty

(f) displacement of natural landscape character

(2) Listed below in Table SC6.3.5.1 are species that are not acceptable for inclusion in landscape plans that require Council approval, and their use elsewhere is discouraged. Those species marked with an asterisk (*) are highly invasive through vegetative reproduction and rampant growth habit. They should be removed where possible and should NEVER be disposed of as garden waste in bushland.

Table SC6.3.5.1 Undesirable Plant Species

Botanical Name	Common Name
Agave spp	
Anredera cordifolia*	Madeira Vine
Arecastrum romanzoffianum	Cocos Palm
Aristolochia durior*	Dutchman's Pipe
Aristolochia elegans*	
Aristolochia macrophylla* Exotic species of Aristolochia is poisonous to the Richmond Birdwing butterflies	
Bambusa spp	Bamboo all varieties
Bougainvillea spp	Bougainvillea
Buddleja madagascariensis	Buddleja
Bryophyllum spp*	Mother of Millions
Callisia fragrans	Purple succulent
Canna indica	
Cardiospermum grandiflorum*	Balloon Vine
Cassia obtusifolia	Sicklepod
Celtis sinesis	Chinese Elm
Cinnamomum camphora	Camphor Laurel
Cortaderia silloana	Pampas Grass
Corymbia torelliana	Cadaghi Gum
Diospyros kaki	Persimmon Tree
Duranta repens	Butterfly Bush
Euphorbia cyathophora	Dwarf Poinsettia
Ficus elastica	Rubber Tree
Fraxinus griffithi	Himalayan Ash
Gloriosa superba*	Glory Lily
Impatiens walleriana	Balsam
Ipomoea acuminata*	
Ipomoea cairica*	Mile a Minute
Ipomoea indica*	Morning Glory
Koelreuteria elegans	Golden Rain Tree
Lantana camara	Lantana
Lantana montevidensis	Creeping Lantana
Leucaena spp	Leucaena
Ligustrum lucidum	Broad Leaf Privet
Ligustrum sinense	Small Leaf Privet
Lonicera japonica*	Honeysuckle
Macfadyena unguis-cati*	Cats Claw Creeper
Murraya exotica	Mock Orange
Nephrolepis cordifolia	Fishbone Fern
Ochna serrulata	Ochna
Passiflora suberosa*	Corky Passion Vine
Pinus spp	Exotic pine trees
Protoasparagus afticanus*	Asparagus Fern
Protaspargus densiflorus*	Asparagus Fern
Protasparagus plumosus*	Climbing Asparagus Fern
Radermachera sinica	Asian Bell Tree
Rhapiolepis indica	Indian Hawthorn
Sansevieria trifasciata	Mother in Laws Tongue
Schefflera actinophylla	Umbrella Tree
Schinus molle	Pepper Tree
Schinus terebinthifolia	Broad Leaf Pepper Tree
	Easter Cassia

Botanical Name	Common Name
Senna coluteoides	Winter Cassia
Senna floribunda	African Tulip Tree
Spathodea campanulata (fallen flowers are a hazard to pedestrians in paved areas)	Yellow Bells
Tecoma stans	Japanese Sunflower
Tithonia diversifolia	Black-eyed Susan
Thunbergia alata*	Wandering Jew
Tradescantia albiflora*	Singapore Daisy
Wedelia trilobata*	Wandering Jew
Zebrina pendula	
And all declared noxious weeds	

SC6.3.6 Koala Food Trees

(1) Several areas of Noosa Shire are important habitat and corridors for koalas. Additional planting of koala food and habitat trees is sought in these areas.

(2) Table SC6.4.6.1 below shows a list of suitable koala food trees which are native to the Noosa area where:

(a) P denotes primary food source;

(b) S denotes secondary food source.

(3) The Australian Koala Foundation has listed other species suitable as “Preferred Koala Shelter Trees”.

(4) Observation has shown the species below marked by an asterisk (*) are particularly well used by the local koala population.

(5) The taller species of the eucalypts should only be used in large open areas.

Table SC6.3.6.1 Koala Food Trees

Botanical Name	Common Name
Acacia aulacocarpa	Hickory Wattle
Acacia melanoxylon	Blackwood
Callitris columellaris	Cooloola Cypress Pine
Corymbia maculata	Spotted Gum (S)
Corymbia gummifera	Red Bloodwood (S)
Corymbia intermdia	Pink Bloodwood
Corymbia tessellaris	Morton Bay Ash
Eucalyptus acmenioides	White Mahogany (S)
Eucalyptus cloeziana	Gympie Messmate
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus grandis	Flooded Gum (S)
Eucalyptus microcorys	Tallowwood P*
Eucalyptus pilularis	Blackbutt
Eucalyptus propinqua	Grey Gum (S)
Eucalyptus racemosa	Scribbly Gum (S)
Eucalyptus resinifera	Red Mahogany (Red Stringybark) (S)
Eucalyptus robusta	Swamp Mahogany P*
Eucalyptus seeana	Narrow Leaved Red Gum
Eucalyptus siderophloia	Grey Ironbark S
Eucalyptus tereticornis	Queensland Blue Gum (Red Forest Gum) P*
Eucalyptus umbra	Shade Mahogany
Lophostemon confertus	Bruch Box
Lophostemon suaveolens	Swamp Box
Melaleuca quinquenervia	Swamp Paperbark

SC6.3.7 Landscaping Design Guidelines for Development

(1) Successful landscape design can achieve a favourable setting for buildings and enhance the environment and ambience for both residents and neighbourhoods.

(2) Landscape design should take into account existing site conditions including:

- (a) Existing vegetation,
- (b) Aspect,
- (c) Soil type and conditions,
- (d) Pedestrian and vehicular circulation / access,
- (e) Communal and private open spaces,
- (f) Shade and sunlight, and
- (g) Utility areas.

(3) Developers and their design teams should also look beyond the boundaries of the site and consider external influences such as:

- (a) Character of the surrounding neighbourhood,
- (b) Existing vegetation,
- (c) Desirable and undesirable views,
- (d) Outlooks from neighbouring locations,
- (e) Noise sources such as busy roads, and
- (f) Connectivity within the locality.

(4) Obviously different types of landscape treatments are required for different types of development that occur throughout the Shire (e.g. housing, commercial, industrial, roads and recreation). The Landscaping Code within the Noosa Plan 2019 includes various specific outcomes and probable solutions in relation to landscape treatments for the various types of development. Other aspects to consider in landscape design are outlined below.

(5) **Gateways and Entrances to Town/Communities**

- (a) As the first impression of a town is gained from its approaches, landscape treatment of these areas is vital.
- (b) Mounding and mass plantings of large-growing trees within the road reserve signals entry to a new community, as well as screening unsightly land uses which often occur in the outskirts of town.
- (c) Vegetation types should be based on the species occurring naturally in the particular area in order to differentiate communities. However, some non-local species have historical significance to particular towns and consideration may be given to the inclusion of these species in plant selections.

(6) **Palms**

- (a) Within Noosa Shire palms generally occur in natural settings in gullies and along creek lines. Where palms do occur naturally, they are generally in groups or clumps with other native species. Consequently, the use of palms as major elements in landscaping schemes is not encouraged.
- (b) Canopy trees with narrow trunks and vines supported on fences or screens are more appropriate than palms in narrow gardens.
- (c) Where palms are used, for example around pool areas or a water feature within a development, they should be planted in clumps or groups with other native species, listed in this policy. Sentinel planting of palms is inappropriate (i.e. individual palms standing guard to either side of a building/structure.
- (d) The use of palms in side or rear setback areas is also inappropriate, as they do not provide sufficient foliage to screen and soften buildings.

(7) **Understorey**

- (a) Creative use of ground covers and understorey plants is important to achieve an overall landscaped effect. The use of native grasses for both gardens and open space areas is encouraged particularly for developments in or adjoining remnant bushland.
- (b) Mulched planted areas are often a better landscape solution than turfed open areas.
- (c) Where areas are to be grassed, native grasses are desirable due to their resistance to drought, pests and disease, their low maintenance, their significantly lower nutrient and water requirements, and their distinctive Australian attributes of texture, colour and form, compared with the artificial “high nutrient” greenness of turf grasses.

(8) **Wet Areas**

(a) These areas include irrigation areas for domestic sewerage treatment plants, areas downstream of septic trenches, overland flow paths, creek banks and damp spots in general.

(b) The use of species whose root systems can tolerate damp conditions is essential. Use of these species will also aid in uptake of excess water and nutrients.

(c) Planting in wet areas assists with the prevention of erosion.

(9) **Planting to Restore Habitat**

(a) In the past, large areas of formal habitat have been destroyed to make way for farming and development in Noosa. In order to protect biodiversity, it is important that revegetation and landscaping incorporate native species that are important either as food or habitat for local faunal species.

(b) Planting and weed removal may be required to restore habitat where development has encroached upon remnant native bushland, commonly located along watercourses. Often escaped garden plants, some of which can dominate the native vegetation, invade the bushland, particularly its edges. Dumping of garden waste in adjacent bushland also causes degradation of the natural vegetation and all such waste should be disposed of thoughtfully.

(10) **Planting Size**

(a) The selected planting size will vary depending upon the nature of the development, availability of plant species, the type of plant and any specific conditions contained within a development approval. It is recognised that some plant species grow better from smaller containers for example Eucalypts and Brush box grow best from a 200 millimetre pot. In each case, root systems are to be sturdily established in a container to ensure expected plant size is congruous with size of pot. As a general guide the following minimum pot sizes apply:

(b) Regardless of pot size, it is essential that plants have not become root bound.

Type of Plant	Minimum Pot Size
Street and feature trees	45 Litre (75 litre for prominent areas)
Trees generally	25 Litre
Tall, slow growing or feature shrubs	200 millimetre
Shrubs generally	150 millimetre
Ground covers, climbers and tufted plants	140 millimetre

(11) **Layout – Plant Density and Grouping**

(a) The plant density will vary depending on the type of landscape character being created for example rainforest areas have a much higher density of trees and understorey than an open woodland setting.

(b) Obviously a denser rate of planting is required when attempting to create visual buffers or windbreaks. This can be more successfully achieved by layering of planting from low at the edges towards taller planting at the centre. A similar method can be employed in softening of fence lines or walls.

(c) Planting designs should be based on informal layouts of tree groupings or clusters with understorey layers of shrubs and ground covers at an appropriate density with the entire planting area covered with a layer of mulch.

(d) Apart from the aesthetics of these groupings, plants thrive in groups and in mulched areas, rather than in lawn. The grouping and mulching provides protection for plants, avoids damage (from builders and whipper-snipers), conserves water and is easier to maintain.

(e) As a general guide the following separation between plants would be appropriate:

(i) Trees - 5 metres apart

(ii) Larger shrubs - 2 metres apart

(iii) Groundcovers – 500 millimetre to 1 metre apart

(f) To create a visual buffer, the following separations between plants may be more appropriate:

(i) Trees – 2 metres apart

(ii) Larger shrubs – 1 metre apart

(iii) Groundcovers – 500 millimetre to 1 metre apart

(12) **Structures/Materials**

(a) Creative landscape works can effectively combine structures with planting. The use of timber slatted screens, pergolas, planters, sleeper walls, pervious paving, rockwork etc, in combination with planting is encouraged.

(b) Concrete retaining structures such as crib block walls are generally not desirable, as the materials do not integrate as well with natural vegetation as timber and local stone. Further, it can take considerable time to soften the look of concrete walls.

(c) Utilisation of 'bio-engineering' techniques in preference to more traditional engineering forms is also encouraged (e.g. vegetated swales to drainage lines rather than concrete-lined drains).

(d) Tree grates provide for water and natural air movement however are not to be used as a drain.

(13) **Design for Low Maintenance**

(a) Landscaping schemes should be designed with consideration to maintenance requirements. Landscaping with simple maintenance requirements will achieve a better long-term result. Careful preparation of garden areas prior to planting is also essential for successful growth of plants.

(b) Local species are better suited to the local environment and therefore have lower maintenance requirements. In addition, extensive use of mulched areas provides a better growing environment for plants, suppresses weeds and retains water. Re-mulching at regular intervals, particularly in high use areas, will be a necessary component of any ongoing maintenance programs.

(c) In some instances, landscaping may become Co uncil's responsibility to maintain (e.g. parks). Landscaping works with high maintenance requirements in such areas will not be accepted. For example, hedges are not desirable as they require high maintenance and do not form part of Noosa Shires natural landscape.

(14) **Service areas**

(a) Waste bin storage areas and bin wash down areas are to be effectively screened from public view using creative landscaping techniques - refer to section (12).

(b) On-site landscaping is not to interfere with pedestrian and vehicular access to waste bins.

(15) **Planting in the Vicinity of Sewers and Manholes**

(a) Tree roots can infiltrate household drains and sewer mains causing blockages and damage to pipes. Nothing should be planted within 2 metres of a sewer manhole so that access to the manhole is not impeded. The following species are best kept well away from underground pipes, sewer manholes, and water meters:

(i) Gum trees (particularly those species that grow into large trees)

(ii) Fig trees

(iii) Rubber trees

(iv) Lilly Pilly trees

(v) Umbrella trees (an environmental weed in this area)

(b) The following list provides some examples of suitable native species for planting near sewers.

Species Name	Varieties	Growth Habitat
Callistemon	Wilderness White	weeping shrub 3m x 2m
	Wildfire	bushy, weeping shrub 4.5m x 3m
	Taree Pink	3m x 2m
	Little John	dwarf, compact shrub 1.5m x 1.5m
	Candy Pink	2.5m x 2m
	Captain Cook	2m x 1.5m
	Eureka	4m x 1.5m
	Firebrand	compact shrub with arching branches 2m x 1.5m
Grevillea	Coastal Glow, Elegance, Firesprite, Kay Williams, Misty Pink and Strawberry Blonde	3m x 2m
Grevillea	Coconut Ice, Bon Accord, Golden Lyre, Ned Kelly, Orange Marmalade, Robyn Gordon, Splendor and Superb	2m x 1.5m
Grevillea	LIttle Miss Muffet, Scarlet Spirte	1.5m x 1m
Grevillea	Honey Gem, Majestic, Moonlight, Pink Surprise, Sandra Gordon and Sylvia	4m x 2m
Leptospermum	Brachyandrum	dense weeping medium shrub 3m x 1.5m
	Cardwell	bushy weeping shrub 2m x 1.5m

	Pacific Beauty Lemon Scented Tea Tree Pink Cascade	1m x 1.5m 4m x 3m compact shrub 80cm x 1.5m
Lomandra hystrix		tufted, weeping grass plant 1m x 50cm
Melaleuca	Claret Tops Nodosa Sea Foam Snowflake Thymifolia	compact shrub 1.5m x 1m compact shrub 3m x 1.5m bushy shrub 2m x 1m compact shrub 1.5m x 1m spreading shrub 75cm x 1.5m
Pultenea villosa		weeping shrub 1.5m x 2m
Westringia	Fruticosa Wynyabbie Gem	bushy shrub 2m x 1.5m bushy shrub 2m x 1.5m
Xanthostemon	Fairhill Gold	compact shrub 3m x 2.5m
Acronychia imperforata	Fraser Island Apple	bushy shrub 3m x 1.5m
Alectryon coriaceus	Beach Bird's Eye	bushy shrub 3m x 2m
Banksia ericifolia	Heath Banksia	large bushy shrub 4m x 2m
Banksia spinulosa	Hairpin Banksia	medium upright shrub 2m x 1.5m
Baeckea virgata	Twiggy Baeckea	hardy, compact shrub 3m x 2m

(16) **Planting Techniques –Preparation of Garden Beds for Public Land, Road Reserves and Parks.**

(a) Careful preparation of garden areas prior to planting is essential to successful growth of plants, particularly where planting areas are adjacent to road or building construction works.

(b) The following points should be observed:

(i) Soil used is to comply with the Australian Standard (AS 4410) - Soil for Landscaping and Gardens;

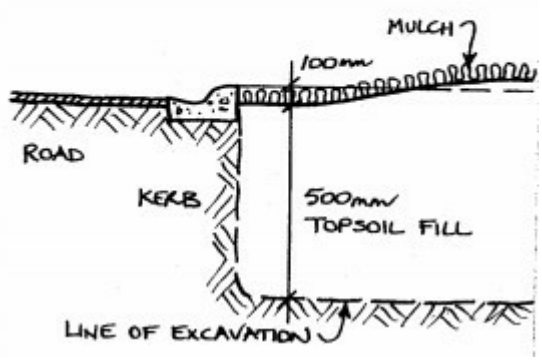
(ii) Soil imported to garden beds should have similar soil structure to that existing in the area;

(iii) Remove all weeds, debris, rubbish, grass, etc. from areas to be planted;

(iv) In conjunction with roadwork, remove all bitumen and road base from areas to be planted to a depth of 600 millimetres from top of kerb. Refer to Figure SC6.3.1 below.

Figure 6.3.1

Excavate to a depth of 600mm where garden beds are to be formed beside roadways and fill with topsoil to 100mm below top of kerb to allow for depth of mulch



(c) Add topsoil (preferably local soil) as required, form garden beds and spread any stockpiled topsoil to finished levels;

(d) Any imported topsoil to be free of large stones, weeds, sticks, rubbish, material toxic to plant growth, Nut Grass and Oxalis, and declared pests such as fire ants;

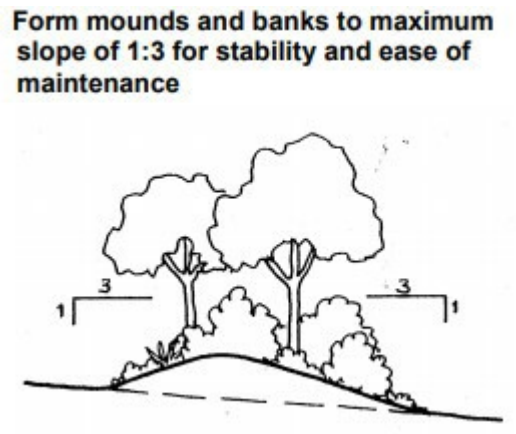
(e) Beds adjacent to hard areas to finish 100 millimetres below paved level or top of kerb to allow for depth of mulch;

(f) Garden beds should be left for one month prior to planting to allow the treatment of weeds contained in the soil and to allow for regeneration of natural seeds;

(g) When constructing mounding or banks, highly compacted fill material in the top 600 millimetres should be avoided as this can impede root penetration and the successful growth of plants; and

(h) Maintain maximum fall of 1:3 to ensure stability of mulch on slopes and allow for access for maintenance. Refer to Figure SC6.3.2.

Figure SC6.3.2



(17) **Planting Procedures**

(a) Correct planting procedures ensure greater success in establishment of landscapes. The following points should be complied with:

(i) Do not plant in extreme hot, cold or atmospheric disturbances;

(ii) Dig separate holes for each plant, 100 millimetres wider and deeper than container. Loosen soil at base of holes a further 150 millimetres in depth. Fill holes with water and allow water to drain away. Refer to Figure SC6.4.3 and Figure SC6.4.4;

(iii) Position plant in centre of hole, set and backfill, retaining original soil level of container. Only tease out roots if root ball is compacted or pot-bound;

(iv) Incorporate suitable fertiliser and/or water crystals, if required, at time of backfilling - refer to section (20);

(v) Gently and firmly tap down around root ball, leaving a shallow watering depression. Water immediately and thoroughly using a minimum of 5 litres per plant;

(vi) Mulch after planting (and installation of irrigation if applicable) - refer to section (18) Mulch types;

(vii) Where mulch is already in place, it should be raked well back from around the area and the hole dug. Excess soil should be removed or spread prior to replacing mulch to prevent mixing of the two mediums; and

(viii) Plants that are severely root bound are not to be used.

Figures SC6.3.3 Planting in Level Areas

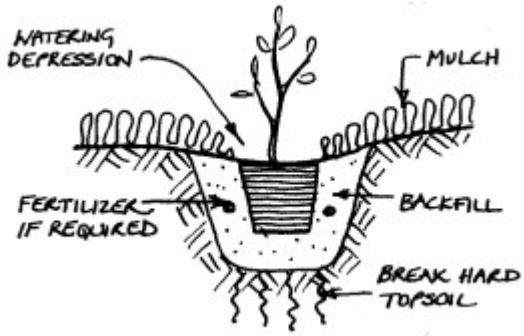
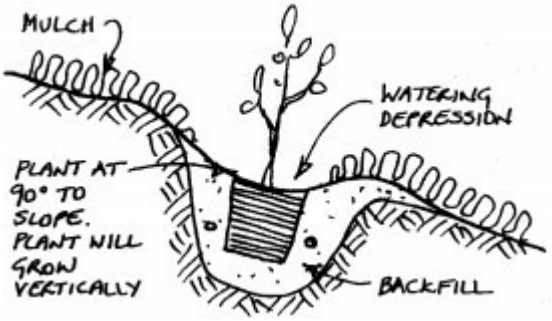


Figure SC6.3.4 Planting on slopes



(18) **Mulch Types**

(a) Mulching of planted areas conserves water by retaining soil moisture, maintains even soil temperature, reduces erosion, compaction and root disturbance, and suppresses weed growth.

(b) Mulch should be spread over entire planted area at a depth of 75 to 100 millimetres and be kept 50 millimetres from stems of plants to avoid collar rot.

(c) The use of polythene film under mulch is not recommended as it prevents air and moisture from penetrating the soil and kills soil organisms. Use thick layers of wetted newspaper or cardboard under mulch in weed infested areas.

(d) Ground covers provide living mulch once established.

(e) Suggested mulch types are below:

Steep Areas or Embankments: **Hoop Pine mulch**
High profile areas: **Forest Blend or Bush mulch**
Road Islands and Gardens **Forest Blend or Bush mulch**

(19) **Soil Nutrients and Fertilsing**

(a) Soils in the Noosa Shire are generally acid, low in nutrients and well suited to the growth of native plants. Care is needed when using any fertilisers. Adverse effects on water quality can occur as unused nutrients penetrate waterways via runoff and by leaching into the water table. Phosphorous is especially damaging to water quality.

(b) Fertilisers can be damaging to some plants. For instance, fertilisers with phosphorus content should be avoided for species in the Proteaceae family, which includes, Banksia, Grevillea and Hakea.

(c) Acacia species produce nitrogen-fixing nodules and nitrogenous fertilisers can be harmful for these plants. These affects can be aggravated by sandy soils.

(d) Avoid “Complete Fertilisers” on native plantings. Incorrectly applied fast-acting, usually inorganic, fertilisers can “burn” roots. Increased soil nitrogen can stimulate growth of pathogenic (destructive) soil fungi. High levels of potassium can interfere with a plant’s capacity to absorb magnesium.

(e) Use of fertilisers on gardens in or adjoining bushlands needs care. Native plant communities are adapted to low soil nutrient levels and increasing these can lead to heavy weed infestation.

(f) The most beneficial way to improve nutrient status is to de-compact and aerate soils. Plants cannot absorb fertiliser if the soil is compacted. If fertilisers are deemed necessary, use specially prepared mixes for native plants.

(g) Fertiliser tablets should only be added to the base of the tree or shrub.

(20) **Water Crystals**

(a) Water Crystals should be placed in soil that is already wet.

(b) Sandy Soils - Mix 10 grams or one teaspoon of water crystals to 10 litres of water or 1 bucket of soil mixed well and added as back fill around the plant. This is for a 200 millimetre pot. Note: Sandy Soils can also be improved by mixing peat through the soil and watering well prior to planting.

(c) Clay Soils - Heavy clay soils would not require water crystals.

(21) **Watering Systems**

(a) In general Council does not encourage the use of water systems, but rather prefers native plants that grow naturally in the area and therefore do not require the use of a water system. However, where the design requires a water system the intent of design for the watering system shall be to provide a functioning sprinkler and/or drip irrigation system that will deliver water for optimum plant growth. Advice on irrigation design can be sought from a specialist supplier/installer.

(b) In areas connected to reticulated water supply watering systems should only be added to gardens where meters are installed. (Note: Plumbing approval is required for a system that connects to any reticulated water service including non-

potable water supplies).

(22) **Watering Plants**

(a) Thoroughly water immediately after planting with minimum 5 litres per plant to remove air, settle soil around roots and to activate water crystals. Deep watering encourages strong deep root growth and is preferred to more regular shallow watering.

(b) Watering should be carried out on a daily basis for three days after planting followed by twice weekly for two weeks and then as required according to rainfall, weather conditions and nature of the soil.

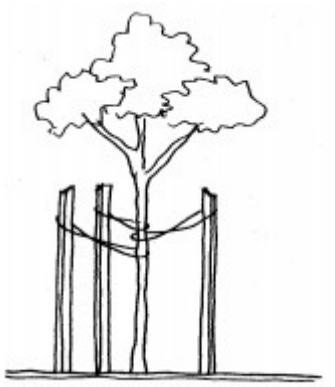
(23) **Staking of Trees**

(a) Staking is necessary only if plants are exposed to strong winds or subject to damage from adjacent works. Staking can cause plants to rely on support other than their own stems, resulting in a weaker plant.

(b) The preferred method is to place three stakes around the plant beyond the root ball and secure loosely with plastic ring-lock or hessian ties so that the plants move freely within the enclosure.

(c) Large transplanted trees require guying and staking until the roots are well established in the natural ground. It is suggested that a specialist carry out the staking in these instances

Figure SC6.3.5 Preferred method of staking trees



(24) **Establishment**

(a) Following completion of landscape works, on-going maintenance is required to ensure successful establishment of planting. The following points should be complied with:

(i) Any inferior or damaged plant material should be replaced;

(ii) All necessary weeding, watering and pruning should be undertaken to ensure healthy growth. Continue pruning as necessary for maintenance of sight lines and shaping of plants;

(iii) Mulch should be kept in place and be replenished as necessary;

(iv) Irrigation systems should be maintained in operational order; and

(v) All debris should be disposed of in a thoughtful manner.

SC6.3.8 Landscaping Guidelines for Council works and works on public land

(1) The development and maintenance of public spaces in accordance with this policy is important due to their extensive areas, high visibility and contribution to local character values.

(2) This policy is to provide consistent direction and guidance when undertaking landscaping works within parks, road reserves and other public places to offer some direction to private development and to ensure integration of such works with the natural environment and private development sites.

(3) Should a development approval require the removal of any landscaping on public land, replacement landscaping must be provided to the satisfaction and standard of council.

(4) Council will utilise these guidelines in designing planting schemes for such areas. It will also ensure advanced and semi-advanced trees are established in street planting programs.

(5) Plant Species Selection

(a) Species for Council works or works on public land are to be consistent with the plant species lists in this policy including for:

(i) footpaths adjacent to commercial or residential development; and

(ii) parks used for active pursuits.

(b) There may be some variation to the plant species referred to in this policy however such variations shall be minor to the overall scheme and should have a relationship to the existing or preferred character of the area.

(6) Plant Ordering

(a) Ordering plant species for Council landscaping projects or projects on public land must ensure that:

(i) Plants are ordered well in advance to ensure availability of required numbers and sizes;

(ii) Plants are well-formed, hardened-off stock, well-branched and foliated, true to type;

(iii) The root system is sturdily established in a container with no large roots extending and not root bound;

(iv) Form and habit are normal for species scheduled and pruning scars to be clean cut;

(v) Leaves are of normal shape colour and texture with minimal physical damage;

(vi) Plants are free of living insect pests and free from any disease or physical injury;

(vii) Containers are free of weeds; and

(viii) All plants are delivered to site clearly and accurately labelled. Containers to be maintained on site until planted.

(7) Priorities

(a) Works in publicly controlled areas that require remedial landscaping and the planting of road reserve areas will receive priority. Remedial works will take the form of upgrading existing works in accordance with these guidelines. The reinforcement of existing plantings with species that reflect the natural character will also be carried out.

(b) The road reserve areas of the highest priority comprise the arterial, distributor and collector roads, especially those which form major tourist routes and approaches to townships and the entrances to the Shire.

(c) Road reserve areas which directly adjoin private residences are generally not maintained as part of public works. Landscaping works on road reserves adjoining private residences may be undertaken by property owners if in accordance with the Landscaping on Council Road Reserve Policy.

(d) Undertaking work on road reserves will include the following:

(i) Retain and build upon existing significant road reserve vegetation on approaches to townships and entrances to the Shire;

(ii) Limit road widening / clearing of vegetation on main entrance roads;

(iii) Limit new access roads from properties;

(iv) Use species that present appropriate character; and

(v) Retain and reinforce existing vegetation along road reserves to ensure that rural roads present a tree canopy cover.

SC6.4 - PSP3 Ecological assessment guidelines

SC6.4.1 Purpose

(1) The purpose of the Ecological Assessment planning scheme policy is to:

(a) identify some of the circumstances under which an ecological assessment will be required;

(b) ensure that the ecological attributes of areas are identified, protected and managed before, during and after development, thereby contributing to the Shire-wide protection of environmental values;

(c) assist applicants to adequately address the environmental and ecological aspects of the development site by ensuring a consistent approach for ecological assessments; and

(d) ensure flora, fauna and ecosystem information collected is provided in a format that allows input to identified databases for use in improving knowledge of the Shire's ecological values.

SC6.4.2 Information Council may request

(1) Without limiting its discretion under section 51(1) of the Planning Act 2016, Council may request information about an application

in the form of an ecological assessment including where an application proposes development on premises that may have one or more of the following attributes:

(a) supports native vegetation (remnant and/or regrowth);

(b) the potential to support Endangered, Vulnerable, Near-threatened, migratory or other significant species ;

(c) located in or adjacent to a protected estate (a national park, conservation park, state forest, nature reserve or voluntary conservation agreements etc.);

(d) located within a water supply catchment area or in close proximity to a stream, river wetland, waterway or ground water; or

(e) the site is considered part of a critical habitat area or a linkage in a vegetation/wildlife corridor ; or

(f) identified in Council planning documents as containing ecological values.

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1 Refer to the report "Fauna and its Associated Biodiversity Values in Noosa Shire"

2 Refer to "Networks based on Landform, Landscape, Aesthetic and Environmental Values in Noosa Shire (1996)"

SC6.4.3 Permits and Qualifications of the Consultant

(1) The Ecological Assessment must be undertaken by a suitably qualified consultant(s) with appropriate qualifications in Environmental Science, Botany, Zoology, Ecology or another related discipline. The consultant(s) must also have demonstrated experience in undertaking flora and fauna surveys, assessing regional ecosystems, and conservation, ecology and biodiversity assessments and preferably within the South-East Queensland Bioregion.

(2) For a Protected Plants Flora Survey, the survey must be coordinated and led by a suitably qualified person who has met the self-assessment criteria contained in s4.2.1 of the Protected Plants – Flora Survey Guidelines v2 2016 (as amended from time to time) and has been endorsed by Department of Environment and Science (DES).

(3) Persons undertaking ecological assessment must have the appropriate permits prior to undertaking field surveys with permit copies supplied to Council with the submission of the ecological assessment.

(4) A 'Permit to take, use, keep or interfere with cultural or natural resources' is required when working within protected areas. In non-protected areas, a 'Protected animal scientific or educational purposes permit' (Scientific Purposes Permit) is required, pursuant to the Nature Conservation Act 1992.

(5) For activities on tenure listed under the Forestry Act 1959, such as state forests, forest reserves and timber reserves, both a Scientific Purposes Permit and a Permit to Collect may be required for some activities.

(6) If working in areas covered under the Marine Parks Act 2004 (i.e. area of water or land subject to tidal influence), then permits may be required from the Department of National Parks, Recreation, Sport and Racing.

(7) Persons undertaking fauna assessments must also have received the approval of the Department of Agriculture and Fisheries Animal Ethics Committee (AEC) and must be registered with the Biosecurity Queensland before undertaking ecological surveys.

(8) All reports submitted from studies undertaken in accordance with these acts must demonstrate compliance with these requirements. Under permit requirements, persons undertaking research/survey must:
(a) record detailed information of any Endangered, Vulnerable or Near-threatened (EVNT) species, which are found on the site on the WildNET data 0.4 excel form. Completed forms should be supplied electronically to DSITIA's WildNet Team (WildNet@science.dsitia.qld.gov.au).

(a) Prior to commencement of any survey, the consultant is required to advise the AEC by email of the dates and locations of any survey.

(b) The consultant must ensure that all personnel involved are included in the original AEC approval or have been added to the approval via an amendment.

SC6.4.4 Relevant Reference Documents

(1) The following reference documents should be consulted in conjunction with Ecological Assessments within Noosa Shire:

(a) The Noosa Plan: The relevant Local Plan Code and associated overlay codes and maps including the Biodiversity, Waterways and Wetlands Overlay Maps and Codes.

(b) Biodiversity Assessment Report (Feb 2017).

(c) Vegetation of Noosa Shire -Edition 2 (June 2003).

(d) Fauna and Its Associated Biodiversity Values in Noosa Shire (Nov 2003).

(e) Networks based on Landform, Landscape, Aesthetic and Environmental Values in Noosa Shire (1996).

(f) Queensland Flora Survey Guidelines – Protected Plants (2016)

(g) Terrestrial Vertebrate Fauna Survey Guidelines for Queensland v3 (2018)

(h) Information sheet Page - Species Management Program - Requirements for tampering with a protected animal breeding place in Queensland (DES 2016).

(i) Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland, Version 3.2, Queensland Herbarium. (2012).

SC6.4.5 Requirements for Assessment

(1) Survey Period:

(a) All ecological assessments are to be conducted over 4-5 days and nights unless otherwise specified by Council. For larger sites and developments, a greater ecological assessment and timeframe may be required.

(b) Requests to undertake a lesser level of assessment than that specified in this document will be a matter for negotiation between the applicant and Council's delegate, based on the potential environmental impact of the particular development proposed and the environmental characteristics of the site.

(c) The survey dates and weather conditions during the survey period must be recorded.

(2) Survey Area:

(a) The survey area is to include the maximum area likely to be affected by the construction and ongoing operation of the proposed development. The area outside the development area on the site is also to be incorporated into the field survey, and in some instances it may be necessary to also include areas surrounding or adjoining the property.

(b) For a Protected Plants Flora Survey, the extent of an area to be surveyed is the clearing impact area, which includes both the 'area to be cleared' (to the extent it is within a high risk area) and a 'buffer zone'. Under certain conditions, an application to DES for a reduced buffer can be made using the Request Form – Variation from the Flora Survey Guidelines. The requirements for a Protected Plants Flora Survey are listed in s6.2 and s7.2 of Queensland Government, Department of Environment and Heritage Protection (2016) Flora Survey Guidelines – Protected Plants.

(c) Community Consultation:
It is recommended that local naturalists and other sources of local knowledge who are likely to be able to provide further detailed information about the ecological values of the study area (e.g. members of local environmental or catchment groups) are consulted during the preparation of the Ecological Site Assessment.

(3) Past records and Database searches:

(a) Past records, particularly of Endangered, Vulnerable, Near-threatened or Special Least Concern / migratory species, that have been recorded in the general vicinity should be referenced and documented in the report. This information will provide the basis for specific targeted searches for particular species. Records that may be consulted include research reports and databases such as WildNET and Herbrecs, Atlas of Living Australia (www.ala.org.au); Regulated Vegetation Management mapping including High-value Regrowth Vegetation mapping and Essential Habitat mapping, WildNET, Queensland Museum, Queensland Herbarium, Biomaps etc.

(4) Site Characteristics:

(a) An accurate, clear description of the site's location is important to enable it to be identified by other recorders. Data recorded for the location of the site include:

(i) plain English description using local points to locate the site (e.g. street corners, shopping centres etc). This acts as a cross-reference for the other methods of recording the site's location; and

(ii) spatial reference data including geographic or projected coordinates and datum for use in geographic information systems (GIS); and

(iii) Lot on plan description of the site.

(b) Data recorded for the physical nature of the site include:

(i) slope;

(ii) aspect;

(iii) waterways and wetlands;

(iv) position in the terrain; and

(v) soils and geology

(vi) disturbance regimes.

SC6.4.6 Flora Assessment Guidelines

(1) The purpose of a flora assessment is to:

(a) assess and document the flora species occurring within the site;

(b) interpret and classify the regional Ecosystems occurring within the site; and

(c) assess broader biodiversity values (Local, regional, state) of the site

(2) The methodology for undertaking a flora assessment is as follows:

(a) **Desktop Assessment**

(i) A comprehensive desktop assessment of the area must be undertaken prior to conducting the flora survey. The desktop assessment must provide a list of all habitat types in the area, and a list of all EVNT flora species that may occur in these habitat types.

(ii) The suitably qualified person must design a field assessment based on the record of habitat types and list of EVNT plants that may occur there.

(iii) The suitably qualified person must determine the most appropriate time of the year to undertake the flora field survey, i.e., when there is the highest possible chance of detecting possible EVNT plants. The report is to include a statement to justify the timing of the survey.

(b) **Species survey including targeted search for EVNT listed flora**

(i) Following an initial assessment of the study area, plot or transect based survey methods should be used which cover all vegetation communities and, within these, all microhabitats (e.g. gullies, ridges etc). Target species (Endangered, Vulnerable, near-threatened or locally significant species) and their associated habitat should be thoroughly searched for the presence, extent and condition of these potential species. Species listed under the Nature Conservation Act 1992 and/or the Environmental Protection and Biodiversity Conservation Act 1999 should be clearly stated within the report.

(ii) Where an EVNT plant, or a possible EVNT plant, is recorded during a field survey, the population extent and density must be determined. With regards to the population extent, mapping of the population within the clearing impact area must be undertaken by traversing the periphery of the population whilst capturing GPS points of the population extent. With regards to population density, the total number of individuals comprising the population must be recorded.

(iii) Due to the variability of structure, species composition and abundance in vegetation communities, it is usually necessary to sample a community several times. Sampling to include seasonal variations may be necessary to collect a full list of annuals, such as herbs and grasses or other cryptic species, which may be more distinctive during fruiting/flowering periods.

(iv) Plant identification should be undertaken for each vegetation community, recording any target species and including introduced species. Where possible, flora should be identified and recorded in the field down to a species level. Any plant species that have not previously been recorded in Noosa Shire (reference Vegetation of Noosa Shire Edition 2 and Biodiversity Assessment Report) should be noted as such. Any unconfirmed flora species should be sent, using the appropriate methods, to the Queensland Herbarium for positive identification.

(c) **Plot survey- ENVT listed flora**

(i) Where a population of EVNT plants is too dense for the periphery method to be practical, the density of the population must be estimated by conducting a plot survey. Plot surveys must follow the Queensland Herbarium's methodology (Neldner et al., 2012), using a plot measuring 50m by 10m; or an alternative plot size provided it can be demonstrated that an alternative plot size is appropriate for the EVNT plant, or a possible EVNT plant. Within the plot, the following information must be recorded and described:

(A) the GPS location of each plot;

(B) the number of individuals of the EVNT plant, as well as any other observations such as the age structure (if possible), reproductive state and health;

(C) a description of the vegetation structure, including noting the Regional Ecosystem (where relevant);

(D) the identities and locational data for all other the EVNT plants, and descriptions and locational data for all possible EVNT plants found in the plot;

(E) the landscape attributes including the landform type, soil type, geology, slope, aspect and altitude; and

(F) any specific habitat or micro-habitat features associated with EVNT plants, or a possible EVNT plants.

(d) **Regional Ecosystems**

(i) The Regional Ecosystems of the site should be identified and classified according to vegetation and land zone, the current Regulated Vegetation Management mapping (DNRM). and extensive fieldwork undertaken. The survey should seek to verify the current Regional Ecosystem mapping.

(ii) Where the field assessment identifies anomalies in regional ecosystem mapping, or provides detailed assessment of the site with a corresponding increase in the level of detail relating to vegetation communities on the site, a revised map showing the proposed classification of vegetation communities and the rationale for the changes must be provided. The Regional Ecosystem Description Database provides comprehensive descriptions of Regional Ecosystems and their associated conservation status and can be downloaded here

(iii) Regrowth vegetation should also be assessed and mapped for the site. The assessment of the regrowth is to include—

(A) A detailed floristic assessment;

(B) The estimated age of the vegetation; and

(C) A predicted timeframe for the regrowth to be considered remnant vegetation according to the Queensland Herbarium guidelines.

(e) **Biodiversity Assessment/Values**

(i) When assessing the broader biodiversity values, the SEQ Biodiversity Planning Assessment should be consulted. The Biodiversity Planning Assessment incorporates the Biodiversity Assessment Mapping Methodology (BAMM). The final rating system from the Biodiversity Planning Assessment gives a significance rating of State, regional or local/other value. A report summarising selected terrestrial and aquatic conservation values as identified by current biodiversity planning assessments and aquatic conservation assessments for a specific location, can be generated through the Environmental reports online page .The BPA results in GIS format as well as the methodology and expert panel reports are available via the Queensland Spatial Catalogue (QSpatial).

(ii) The Biodiversity Planning Assessment incorporates biodiversity values such as—

(A) habitat for Endangered, Vulnerable or Near-threatened (EVNT) species;

(B) ecosystem value;

(C) tract size;

(D) relative ecosystem size;

(E) condition;

(F) ecosystem diversity;

(G) context and connection;

(H) core habitat for priority species;

(I) special biodiversity values;

(J) corridors; and

(K) threatening process.

(f) **The Noosa Plan – Biodiversity Overlay Category**

(i) The subject property should be located on the relevant Locality Plan maps contained within The Noosa Plan to determine if the subject property is captured by any attribute associated with the Biodiversity, Waterways and Wetlands Overlay Map. Further information regarding the Biodiversity, Waterways and Wetlands Overlay and the Specific Outcomes and Probable Solutions can be found in 'Part 8–Overlays' of The Noosa Plan.

(g) **Outputs—**

(i) For a Protected Plants Flora Survey Report must include:

(ii) Certification by the suitably qualified person whom led and coordinated the flora survey, as follows "I certify that (a) I have adhered to all statutory requirements and flora survey guideline requirements, and (b) the flora survey report is an accurate and full account of the flora survey".

(iii) Full name, signature of the suitably qualified person, and date of signing.

(iv) Documentation to support that they are a suitably qualified person.

(v) A detailed map or plan of the area, showing the area to be cleared, the buffer zone, the properties included and excluded from the survey area.

(vi) Justification/s for removing any area/s from the buffer zone under section 249(2) of Flora Survey Guidelines - Protected Plants (Nature Conservation Act 1992), or section (2) of this guideline.

(vii) A GIS shapefile of the area to be cleared.

(viii) A GIS shapefile (map) of the different habitat types identified for the clearing impact area and the GPS data showing the on-ground surveys undertaken.

(ix) The lists compiled during desktop assessment of habitat types and EVNT plants that may occur in these habitat types.

(x) The flora survey method selected and justification that the method was appropriately comprehensive considering the lists compiled during desktop assessment.

(xi) A detailed map or plan of the area, showing the habitat types, the location of EVNT plants and possible EVNT plants found.

(xii) Details from EVNT population/plot surveys for each EVNT plant and possible EVNT plant found.

(xiii) A description of all possible EVNT plants found, including their supporting habitat.

(xiv) Justification of the timing of the flora survey and detail of any limitations associated with the timing of the survey

(xv) Justification for any alternative plot size used.

(xvi) Dates any clearing is proposed to occur.

(h) Flora Survey that is not Protected Plants must include:

(i) A detailed list of all flora species (terrestrial and aquatic) and abundances of flora species for each regional ecosystem, encompassing structure and species composition, nature and extent of non-native plants, health and ecological condition, extrinsic values, etc;

(ii) List of target species (EVNT, Threatened and Significant) which have a potential to utilise the site;

(iii) Identification description and mapping of vegetation associations / Regional Ecosystems currently occurring on the site. The conservation status of regional ecosystems acknowledged by the current Queensland Herbarium should be noted. The map should also indicate the locations of waterways and wetlands, including artificial wetlands or wetlands that may have been modified;

(iv) Description of the structural and spatial floral diversity;

(v) A description of the level and extent of weed infestation and/or disturbances; and

(vi) An assessment of the extrinsic values. This may include proximity of site to any bio-regional or statewide corridors.

(vii) An assessment of the biodiversity significance (State, Regional, Local) in accordance with the SEQ Biodiversity Planning Assessment and detail the information that derived the conclusion; and

(viii) Assessment against the Noosa Plan Biodiversity Overlay Code.

SC6.4.8 Fauna Assessment

(1) The purpose of a fauna assessment is to document the fauna species and assemblages of the site.

(2) The methodology for undertaking a vegetation community assessment is as follows:

(3) **Desktop Assessment**

(a) Prior to undertaking fauna survey work, a comprehensive desktop assessment should be undertaken. This will comprise a review of the following:

(i) Commonwealth Department of Sustainability, Environment, Water, Population and Communities (SEWPAC) Online Protected Matters Search Tool;

(ii) (ii) Queensland Government WildNET database and/or Biomaps;

(iii) (iii) Queensland Herbarium Herbrecs database;

(iv) (iv) Atlas of Living Australia;

(v) Regulated Vegetation and High-value Regrowth Vegetation mapping and associated Essential Habitat and Essential Regrowth Habitat mapping

(vi) All other relevant information relating to the subject site and the survey will also be reviewed, where available, including the results of previous ecological surveys of the subject site or surrounds, aerial photography and relevant legislation and planning documentation.

(b) Species listed under the Nature Conservation Act 1992 and/or the Environmental Protection and Biodiversity Conservation Act 1999 should be clearly stated within the report. Further, any fauna species listed as Regionally or Locally Significant in the “Fauna and its Associated Biodiversity Value in Noosa Shire” should be referenced.

(4) **Fauna Surveys**

(a) For fauna surveys, a minimum of four days and nights survey time is recommended to minimise any sampling duration influences within any given sampling period. At least one sampling site should be established in each regional ecosystem/vegetation or habitat type.

(b) Vertebrate fauna surveys should be timed to occur at optimal times of the year which in South East Queensland is Spring (mid Sept - mid Dec) as temperatures begin to warm up and particularly after the first storms when animal activity peaks and Autumn (late Feb - April) when temperatures begin to drop and before the onset of cooler nights.

(i) The consultant must also consider the breeding season of target and non-target animals and minimise the impacts on dependent young when trapping and releasing animals.

(ii) When planning a fauna survey, the applicant must consider the particular climatic conditions likely to be encountered. Some conditions can impact adversely upon a captured animal's welfare (e.g. high temperatures/low humidity leading to desiccation and death of frogs and skinks; sudden inundation of trap lines causing drowning; extreme cold resulting in torpor and death). The consultant must take reasonable steps to minimise the impact of local, climatic conditions.

(c) All procedures comply with the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes and the provisions of the Animal Care and Protection Act 2001.

(d) All surveys must be conducted in accordance with the Recommended Survey Guidelines for Australia's Threatened Bats 2010, Threatened Reptiles 2011 and Threatened Mammals 2011 (Department of Sustainability, Environment, Water, Population and Communities) and Terrestrial Vertebrate Fauna Survey Guidelines for Queensland 2018 (Department of Science), as amended from time to time.

(e) Under the Biosecurity Act 2014 the consultant has a general biosecurity obligation. This means they must take all reasonable steps to ensure they do not spread a pest, disease or contaminant. The consultant also has an obligation to report unusual events that might be related to biosecurity issues.

(f) Additional seasonal survey sampling may need to be undertaken for cryptic, migratory and/or seasonal species, which may occur on the site;

(i) Table SC6.4.1, outlines the survey techniques, methods and the minimum duration that is needed to undertake a fauna survey.[3]

(g) Voucher specimens should be properly collected, preserved and stored, or - if no other alternative - maintained live in a humane manner so that they can be delivered in good and useful condition to the Queensland Museum where they are appropriately housed and curated. Documentation to accompany the specimens must include; date of collection, location of collection and names of the collectors

(5) Reporting requirements

(a) A detailed account of the methods used in the fauna survey and locations defined on a site map;

(b) List all fauna species (terrestrial and aquatic) and abundances that are currently on the site;

(c) An interpretation of EVNT, Special Least Concern, Migratory and significant species presence and absence from the target species for the site; and

(d) Assessment of the extrinsic values.

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3 In addition to the methods identified in Table SC6.4.1, specific methods may be required to target particular fauna species identified as potentially occurring within the study area, particularly EVNT-listed and significant species. Some vertebrates e.g. amphibians, nomadic mammals and birds which have population cycles and movements that are more closely linked to stochastic events e.g. heavy rainfall, than to seasonal changes, will require targeted surveys after such events to enhance detectability.

Table SC6.4.1 Minimum Requirements for Fauna Surveys

Survey Technique	Methods	Minimum Duration
Diumal Search	Two x 30 minute searches within two different 50 x 50 metre quadrants of the survey area. This involves intensive investigation of streams, ground layer (under logs, rocks and leaf litter), low vegetation (under bark and in tree stumps) and caves for target invertebrates and all amphibians, reptiles, bats and other	1-2hr/day during the middle of the day for each vegetation community

Survey Technique	Methods	Minimum Duration
	evidence of habitation, eg. Scats, owl pellets, remains and tracks. AE consideration - Where rocks or logs are lifted to check for fauna, they are replaced as found with minimal disturbance of fauna.	
Pitfall Traps	A pitfall trap line should contain a minimum of 2 buckets (20L containers) at 7.5m intervals and appropriate drift fencing (30-40 cm high). At least one pitfall trap line for each habitat type/ vegetation community. AE considerations - Pitfall traps should be cleared early morning and late afternoon. Adequate moisture and litter and a float must be provided in pitfall traps. Pitfall traps should be decommissioned if forecast to flood.	Four nights
Opportunistic Records	Covers all fauna outside the systematic survey times.	None
Funnel Traps	A minimum of 6 funnels should be placed along alternate sides of drift fence usually between a pitfall array. AE consideration – Funnel traps should be covered with leaf litter or other insulating material to minimise exposure to heat / cold.	Four nights
Spotlighting	Two 30 minute surveys using a combination of high-powered spotlights and head torches to be carried out on foot only. This method surveys nocturnal fauna within a 100x100m survey area. AE consideration - During nocturnal surveys, care will be taken to ensure that spotlighting does not disorientate or frighten fauna. Appropriate red filters or infrared beams should be used for prolonged observation periods.	Two nights
Elliot Traps	The Elliot transects should comprise of approximately 20 Elliots at 5-10 metre intervals) positioned in a T configuration. At least one Elliot transect for each habitat type/vegetation community AE considerations - Elliott traps should be checked every six hours to minimise stress caused to individuals and well covered with leaf litter or other insulating material to minimise exposure to heat / cold. Specimens should be released into appropriate habitat features to prevent predation from other fauna. Time spent handling animals will be minimised to reduce stress/ mortality/ potential for myopathy. Particular care should be taken when	Four nights

Survey Technique	Methods	Minimum Duration
	handling marsupials with advanced pouch young which are prone to ejecting young when under stress. Lactating females may also need to return to feed young.	
Wire Cage (possum) and Arboreal Traps	One wire cage trap per site open for four nights and up to 5 platform mounted arboreal traps which are secured to selected trees. AE consideration - Cage traps should be covered to reduce stress to captured animals.	Four nights
Bird Surveys	Six 5-10 minute area searches within 100 x 100 metre survey site or a transect search where 100m transect is walked with 5-10 minutes spent at each transect. Birds are recorded indicating method of identification (ie call or visual observation). Surveys are conducted for 1 hour from dawn to early morning, 1 hour at dusk to early evening and 1 hour during night for nocturnal species.	1hr/day and night
Call Playback	This technique uses call playback to determine the presence of species that may be difficult to detect visually (eg owls and frogs). For amphibians – Two sessions of call playback to simulate calling activity of breeding males. Usually crepuscular survey carried out for 15-30 minutes over 1-2 nights. AE consideration - Overuse of mimicry calls should be avoided	1-2 nights
Ultrasonic bat Call Detectors	Echolocation call detectors that record the ultrasonic calls of microchiropteran bats should be deployed over 3-4 nights and programmed to record continuously from sunset to sunrise. Detectors should be placed on the edge of fly-ways through vegetation, approximately 1-1.5m above ground level. Data can be recorded in full spectrum or memory efficient zero crossing formats depending on level of analysis required. The call sonograms are compared with those of reference calls from southern Queensland and/or with published call descriptions (Reinhold et al. 2001; Pennay et al. 2004) using a range of acoustic analysis software. Reporting should follow the Australasian Bat Society standards for the interpretation and reporting of bat call data (Reardon 2003). Species nomenclature should follow van Dyck et al. (2013) unless otherwise specified.	3-4 nights

Survey Technique	Methods	Minimum Duration
Harp Traps and Mist Nets	For the capture of micro chiropteran bats. One harp trap or mist net per site open for two to four nights. Mist nets are ideal for catching bats over isolated and/or shallow water bodies such as water tanks and watercourses and other open habitats. Mist nets are set for 3-4 hours after sunset and must be monitored constantly. Only contractors and their employees that have obtained an ABLV vaccination and/or have maintained adequate titre levels against Australian Bat Lyssavirus will be responsible for handling bats. In the case of a scratch or bite, contractors or employees will follow the C3 bat protocol that involves wound washing; application of antiseptic solution; and follow up medical attention (Qld Health 2010). AE considerations - Harp traps should be checked every two hours to minimise stress caused to individuals. Harp traps will be cleared and closed at least 2 hours before daylight so that microbats are not housed during the day. All bats will be released at the capture site. Extreme caution should be exercised at times of the year when females are likely to be heavily pregnant or carrying young as they may become dislodged. The mist nets must not be used to capture bats at the entrance of caves or mines unless there is some prior knowledge of the number of bats within, and the number is not large	2-4 nights
Hair Tubes	Different sizes of hair tubes should be left on site for a minimum of four nights and up to two weeks as an additional method of mammal detection. Recommended for targeted surveys of cryptic small to medium sized mammals (e.g. quolls).	4-14 days
Scats, Tracks and Feed marks	Evidence of fauna can be determined from scats, tracks, scratches, bones or feed marks. Scat and sign search can coincide with the systematic diurnal active searches.	Coincidental
Camera Traps	This method involves the setting of baited camera traps for the purposes of recording species as they move into a specific area. Remote camera traps are deployed and GPS marked with two or three cameras per sampling location Camera traps are set for a minimum of 4 days per survey event with one visit per week of deployment to refresh baits. Camera traps are baited with either a chicken frame or a combination of peanut butter and oats or a few drops of truffle oil which act as a fauna attractant.	Over 4-14 days

Survey Technique	Methods	Minimum Duration
	In areas of dense vegetation, the vegetation between the camera and bait should be cleared by hand to increase the field of view and minimise the chance of wind-blown vegetation triggering the sensor. AE consideration - Wire used to tie chicken carcasses will be tied tightly and coiled at the ends to avoid eye injuries to approaching fauna.	
Automated Acoustic Recording	Automatic recording devices allow acoustic surveys for extended periods of time and are useful to detect specific acoustically conspicuous species, particularly in combination with species recognition algorithms and expert listeners. Any automatic recording design needs to be specifically adapted to optimise detection of the target species (or group) in its particular habitat.	Unspecified
Thermal Infrared Imaging of Nocturnal Fauna	Thermal imaging provides an effective, non-invasive method for the survey of nocturnal fauna for which there is sufficient contrast in temperatures, such as bats and birds against a cooler night sky. Because of their high cost and the level of technical expertise required, thermal imaging cameras are best employed for surveys of targeted species or for specialised investigations (e.g. behaviour of nocturnal fauna around an impact).	As required to achieve purpose of survey
Aquatic Bait Trap/netting	Various methods of aquatic surveying should be undertaken where there is a water body on the subject site. Fish /tadpole/aquatic invertebrate sampling with hand dip net should be carried out over 30 minutes to 2 hours depending on size of waterbody. Involves sampling using 5-10mm dip net for fish/tadpoles or 0.5um net for invertebrates, and multiple sweeps across various micro-habitats (e.g. pool/riffle) present. AE consideration - All fauna should be released unharmed.	To be undertaken when water body is present on site
Bird Surveys	Six 5-10 minute area searches within 100 x 100 metre survey site or a transect search where 100m transect is walked with 5-10 minutes spent at each transect. Birds are recorded indicating method of identification (ie call or visual observation). Surveys are conducted for 1 hour from dawn to early morning, 1 hour at dusk to early evening and 1 hour during night for nocturnal species.	1hr/day and night
Other contemporary sampling methods	e.g fauna detection dogs, drones	To be determined in consultation with

Survey Technique	Methods	Minimum Duration
		Council

SC6.4.9 Habitat Condition and Breeding Places Assessment

(1) The purpose of a fauna assessment is to assess and document the habitat values, including the presence of animal breeding places, on site.

(2) The methodology for undertaking a vegetation community assessment is as follows:

(a) Desktop Assessment

(i) Prior to undertaking habitat assessments, the consultant must undertake a desktop assessment to research and evaluate the potential for an animal breeding place to be present on a works site using a variety of resources including but not limited to:

(A) WildNet records

(B) Museum records

(C) Atlas of Living Australia

(D) Essential habitat mapping

(E) Legislative requirements and listings (State and Federal Governments)

(F) Species Management Programs previously approved by the department

(b) Habitat Assessment and Breeding Places Assessment

(i) A field survey must be conducted to assess the habitats present, the listed threatened species known to occur or potentially occurring within the locality, and the occurrence of specific breeding places or breeding habitat for these species. For the purposes of this assessment, the definition of “breeding places” follows that provided in s332 of the Nature Conservation (Wildlife Management) Regulation 2006. For species such as Koala and native frogs, who do not use a habitual breeding place, the term ‘breeding habitat’ is used in lieu of ‘breeding place’.

(ii) Habitat features that are considered significant for assessing the presence of breeding places and/or habitation value for native fauna, include but are not limited to:

(A) Presence of hollow-bearing trees: These may be used by birds, reptiles or arboreal mammals for the purpose or incubating or rearing offspring;

(B) Presence of bowers, nests, dreys: These structures are commonly used by birds or mammals to incubate or rear offspring;

(C) Presence of caves, mounds, burrows, ground hollows and/or coarse woody debris: These structures are commonly used by birds, mammals, reptiles or amphibians to incubate or rear offspring;

(D) Presence of permanent water, ephemeral ponding, depressions and/or, seasonally inundated areas: Waterbodies may be used for breeding by aquatic species or amphibians, or that may provide intermittent breeding habitat for opportunistic species;

(E) Presence of large trees: Large trees can be a dominant feature of native vegetation and are difficult to replace once lost. Their influence for wide-ranging species can extend over a considerable distance from their location.

(iii) Breeding places assessments are to be coordinated and led by a person experienced in conducting fauna surveys, wildlife ecology and/or environmental management, including the identification of animal breeding places for EVNT, special least concern or colonial breeding species.

(iv) A reasonable attempt must be made as part of any survey for animal breeding places to identify those that belong to birds and mammals as a priority.

(v) Reptile breeding places are considered by DES to be impractical to identify in most circumstances. As a consequence, surveying for them specifically is not necessary. Should the surveyors become aware of a specific reptile breeding site on a property, prior to the survey, then the surveyor must make a reasonable attempt to find it and identify the site on the survey.

(3) Outputs shall include:

(a) A Breeding Places Report must include:

(i) A list of all animal breeding places identified within the impact area, including conservation status.

(ii) A statement to justify the suitability and qualifications of the person undertaking the animal breeding place survey.

(iii) Justification of the timing of the survey and detail of any limitations and assumptions associated with the timing of the survey.

(iv) A map or plan of the proposed impact area indicating the locations of identified animal breeding places.

(v) A description of the location.

(b) An Impact Management Plan must outline:

(i) The nature of the impact

(A) Area (Ha) and number of particular animal breeding places to be tampered with, and the conservation status of the species.

(B) The population dynamics of the species.

(C) The ecology of the species.

(ii) An account of all direct and indirect, on an animal breeding place, where tampering is required.

(A) The proposed management of impacts (if any)

(B) A list of appropriate impact management solutions to account for all EVNT, special least concern or colonial breeding places identified in the animal breeding place survey report.

(C) A list of rehabilitation methods to be used in impact management for animal breeding places.

(iii) Evidence that alternative options were thoroughly considered.

(iv) Contingency planning and process to be followed in the event of unexpected impacts on animal breeding places and other protected animals (e.g. will a Damage Mitigation Permit (culling and dispersal of wildlife) be required?).

(v) How the proposed impact management measures are appropriate for the animal breeding places identified and will ensure the animals survival in the wild.

(A) Reference to scientific papers, other Species Management Programs, previously approved reports or written advice from a suitably qualified person or expert regarding the impact management strategies

(B) The expected success rate of the proposed impact management and any serious limitations or potential threats associated with the impact management have been identified.

(C) How limitations or threats to the success of the impact management will be overcome.

SC6.4.10 Impacts and Recommendations for Ecological Assessments

(1) The Noosa Plan makes reference to riparian buffer areas, for the major waterways in the Shire, and native vegetation areas, referred to as either ecologically important areas, ecological linkages and wetlands. These are depicted on the Biodiversity, Waterways and Wetlands overlay maps (OMBWW1 – OMBWW14) in The Noosa Plan.

(2) Ecological Assessment reports should address the Overall and Specific Outcomes of the Biodiversity, Waterways and Wetlands Overlay Code in relation to the proposed development. Development that is consistent with the specific outcomes in section 8.2.2 complies with the Biodiversity, Waterways and Wetlands Code.

(3) The potential impacts of the proposed development should be outlined, especially with regard to vegetation clearing and impacts on near Threatened, Threatened and Significant species. The potential impacts should consider the design, construction and operational phase of the development.

(4) The assessment of impacts shall provide a discussion of the biological requirements of the flora and fauna species that have been recorded from the site or are considered likely to occur on the site, and the implications of the development on the viability of the species and the ecosystem. Impacts on fauna breeding places must be clearly identified.

(5) Recommendations should address any measures or changes to the development design that may be required to avoid or mitigate any impacts of the proposed development during the design, construction and operation phases.

(6) The report should discuss the expected impacts of the proposal on site. As a minimum, the report should also:

(a) Include recommendations to reduce impacts on surrounding lands;

(b) Include recommendations on how to avoid or minimise adverse impacts on remnant native vegetation and other areas of habitat significance through sympathetically designed development layout plans;

(c) Highlight areas for the retention and protection of remnant native vegetation and native fauna habitat;

(d) Highlight areas that should be buffered;

(e) Highlight areas that should be fenced;

(f) Highlight areas requiring weed control; and

(g) Highlight areas that should be monitored.

(7) Recommendations for threat abatement of associated biodiversity values should address any measures or changes to the development design that may be required to avoid or mitigate any impacts of the proposed development during the design, construction and operation phases. These measures can include, but are not limited to, the following:

(a) Threat Abatement Plans;

(b) Species Recovery Plans;

(c) Conservation Management Plans;

(d) Environmental Management Plans;

(e) Fire Management Plans;

(f) Revegetation and Rehabilitation Management Plans;

(g) Sediment and Erosion Control Plans; and

(h) Water Quality Management Plan.

(8) Where a proposed development has the potential to impact on the Shire's biodiversity, Council may request measures, which may include one or more of the above Plans, to abate any potential impacts.

(9) Species Management Program Requirements - for any activity that will impact on an animal breeding place, an entity must apply in writing to DES for the approval of an SMP to tamper with an animal breeding place. Depending on the species, proponents may use one of the following SMP documents:

(a) Species management program for tampering with animal breeding places - low risk of impacts - least concern animals (excluding special least concern or colonial breeders). Generally, the only additional information required to be supplied is a map or plan of the proposed impact area.

(b) Species Management Program for tampering with animal breeding places - high risk of impacts - all other protected animals including special least concern animals and colonial breeders. Additional information tailored for the identified species will be required.

SC6.5 - PSP4 Performance bonds

SC6.5.1 Purpose

(1) The purpose of the Performance bonds policy is to:

(a) provide a means of complying with conditions of approval which seek to have a developer carry out works, make payments to Council or to conduct construction and development in accordance with approved plans through providing security in the form of a cash bond or bank guarantee (referred to as a bond); and

(b) detail the circumstances when Council may require the payment of bonds; and

(c) detail the type of bond required.

SC6.5.2 When Council may require the lodgement of bonds

(1) Without limiting its powers under section 65 of the Planning Act 2017, Council may impose conditions on a development approval requiring the lodgement of bonds.

(2) Bonds may be required for:

(a) the undertaking of certain works;

(b) ensuring compliance with conditions; or

(c) a combination of the above.

SC6.5.3 Types of bonds

(1) There are three types of bonds being remedial/works bonds; performance bonds; or a combination of the two, with the latter being the most common. Each are described in more detail below.

(a) **Remedial/works bonds:**

(i) This type of bond secures work that must be carried out or payments required to be made by the developer. Typical circumstances may be the requirement to construct roadworks/infrastructure works. Where the developer defaults on such works or payments, Council will call upon the bond or part thereof to carry out such work itself or to effect the

payment. Any balance will be returned to the developer on full compliance with conditions.

(ii) The required level of bond is based upon 150% of the estimated cost of construction or the required payment. The additional 50% is attributable to any approval not being acted upon until some considerable time after it is granted and price rises or cost overruns which may occur.

(b) **Performance bonds:**

(i) This type of bond is used as an incentive to a developer to construct properly or develop in accordance with the conditions of approval. Some common examples may include compliance with a load limit on certain roads, retention of trees or vegetation or construction of the development in accordance with the approved plans. Very often, in the view of the community, these circumstances are critical to satisfactory development being achieved.

(ii) Because of the nature of these conditions, the calculation of the appropriate level of bonding is not easily reduced to an exercise in mathematics, eg. the removal of a significant tree is a situation which usually cannot be remedied for 100-200 years. Accordingly, the performance bond must act as an incentive to complying with conditions and must therefore be of a sufficient scale to ensure that the developer is unlikely to contemplate non- compliance. The bond must also be of sufficient scale to ensure that the developer undertakes adequate monitoring to be certain any contractors, employees, etc., do not unknowingly cause a breach.

(iii) In determining the level of such a bond, Council and its officers will have regard to the following:

(A) Critical site attributes;

(B) The importance in planning, environmental and engineering terms of the Council's requirements; Scale of the specific matters against which security is required;

(C) The likely degree of community concern should a breach occur; and

(D) Remedial action, if any can be taken, which may be required should a breach occur.

(iv) As with remedial/works bonds, performance bonds will be returned following completion of development and fulfillment of all the conditions.

(v) In particularly critical circumstances, Council may also require bonds from the specific contractors or builders, as well as those from the developer, as a means of ensuring compliance with conditions of approval.

(c) **Combination bonds:**

(i) Under most circumstances, components of both remedial/works and performance bonding will be required. Calculation of such combination bonds will be based upon consideration of both Section (b) and (c) above, with the bond being returned following fulfillment of all conditions.

SC6.6 - PSP5 Sustainable Building Design

SC6.6.1 Purpose

(1) (1) The purpose of the Sustainable Building Design planning policy is to:

(a) Encourage high quality traditional or contemporary Queensland vernacular architecture that responds to the local subtropical climate;

(b) Provide context and guidance for the distinctive ‘Noosa style’ design requirements which are based on subtropical building design principles to satisfy acceptable outcomes in the Noosa Plan;

(c) Specify the architectural elements and building design features considered appropriate for residential, commercial and tourist developments in Noosa Shire; and

(d) Encourage sustainable buildings that are designed to be climate responsive, to conserve energy and water as well as the reuse of stormwater for non-potable purposes; and

(e) Encourage sustainable adaptable buildings to provide comfort and liveability for people throughout the various stages of their life.

(2) This planning scheme policy provides guidance on achieving consistency with the requirements and the outcomes of the following parts of the planning scheme:

(a) Strategic Framework;

(b) Zone codes;

(c) Local Plan codes; and

(d) Landscaping Code

SC6.6.2 Subtropical Design Principles

(1) The following subtropical design principles apply to subtropical coastal areas such as Noosa Shire:

(a) Respect topography - protect the integrity and character of the hill-slopes, ridge-lines and dunes that are important in framing and defining the environment. Integrate development with the natural land form rather than modifying the land form to suit development.

(b) Consider local character and design - recognise the contribution of contemporary design and appropriate use of building materials to the character and diversity of the subtropical environment.

(c) Orientation - design for appropriate climate-based orientation, provide shade and allow for the capture of winter sunlight and penetration of breezes.

(d) Use vegetation - integrate development with the natural landscape and make use of native vegetation such as large shade trees in private and public spaces. Avoid the introduction of landscaping that conflicts with or threatens the viability of the natural landscape fabric.

(e) Use nature in transport - incorporate significant local vegetation in transport corridors.

(f) Ensure diversity of open space - ensure open space is diverse, integrated and designed to form networks.

(g) Incorporate access to open space - reflect the proximity of nature in subtropical environments and Noosa's outdoor-based lifestyle in the access to open space.

(h) Design for water - reflect the importance and presence of water and provide for public access to natural or artificial waterways.

(i) Develop outdoor centres - outdoor dining, entertainment, recreation, sheltered access to public transport and shaded pedestrian pathways are the attributes of informality and village-like character.

(j) Develop outdoor meeting places - incorporate outdoor meeting places into building and design.

SC7.6.3 Noosa Design Principles

(1) The Noosa Design Principles were developed in 2015 and represent the unique local character of Noosa with buildings that respond strongly to the subtropical climate of the region. These principles are based on the foundation that the built environment responds to and does not dominate the natural environment and the need to respect the character of existing towns and villages, and protect vistas to landscapes and natural assets.

(2) The Noosa architectural style has developed in response to the subtropical climate of the Shire and how built form responds to and integrates with the natural environment. Many architectural elements and features have their foundations in the older style Queenslander buildings, particularly in Tewantin, the hinterland villages and rural areas. However, modern interpretations have resulted in a distinctive architectural "Noosa" style which is both aesthetically appealing and also responds to the climate and its natural landscape setting.

(3) Buildings should sit comfortably within and not dominate the landscape (i.e. buildings are seen via filtered views through landscaping, with thin or fine edges and appear light weight). Key architectural elements and features which are representative of the subtropical Noosa style are:

(a) Working with natural features –

(i) Value existing significant tress and incorporate them into designs;

(ii) Ensure adequate space for vegetation and landscaping;

(iii) Provide appropriate trees in appropriate locations;

(iv) Choose endemic species to suit soil climate and the situation;

(v) Replace lost vegetation;

(vi) Work with the established hydrological systems; and

(vii) Work with the contours of the land with minimal cut and fill.

(viii) Use Natural materials -

(A) Use rock facing or rock walls rather than rendered block or other urban style walls;

(B) Use natural timber features to soften hard structures and blend with the landscape backdrop;

(C) Use finishes that bring out the colour and texture of timber elements;

(D) Choose timbers that can fade to grey without requiring high maintenance; and

(E) Use muted colours and tones that fit within the natural landscape.

(ix) Provide light and shadow to break up building facades through –

(A) Large open balconies and verandahs with open balustrades;

(B) Awnings eaves and overhangs;

(C) Pitched or varied roof profiles with no parapets to the street;

(D) Articulated walls and walls with varied lightweight materials;

(E) Gables, columns and posts and screens and shutters;

(F) Expansive windows and doors;

(G) Use of landscaping and tree canopies; and

(H) Use of lights at night to form 'lantern' effects.

(x) Buildings to sit lightly within the landscape –

(A) Buildings are to be pavilion style to allow significant landscaping between buildings and reduce bulk and scale;

(B) Buildings to be of a human scale at the street and have a fine grained urban form;

(C) Buildings to respect the local neighbourhood context and neighbouring properties;

(D) Use lightweight materials which are simple, affordable and easy to use such as timber frames and corrugated iron roofs; and

(E) High set buildings elevated above ground level on structures systems responding to variable terrain.

(xi) Working with the climate-

(A) Reduce or eliminate the need for mechanical heating and cooling through the use of passive design using sunlight and breeze to heat and cool;

(B) Maximise natural light in habitable spaces, reducing the need for lighting and reducing energy demand;

(C) Use of hoods, louvers, screens and awnings and hard and soft landscape elements to reduce the extremes of temperature and urban heat island effects; and

(D) Use moveable elements such as adjustable openings and sliding screens to control temperature, shading and comfort.

SC6.6.4 Architectural Elements and Building Design Features

(1) Key architectural elements which are representative of subtropical Queensland vernacular architecture are:

(a) Large open balconies and verandahs with balustrading;

(b) Awnings, eaves and overhangs;

(c) Pitched roof forms;

(d) Shutters and screens; and

(e) Expansive windows and doors.

(2) Large Open Balconies and Verandahs with Balustrading:

(a) Balconies have evolved in response to the climate and change in lifestyle patterns, providing large shaded indoor/outdoor living spaces which can be used year round in the subtropics.

(b) When designed and positioned appropriately, balconies and verandahs will provide residents with privacy, access to cooling breezes and refuge form intense heat, while affording protection from intense rains.

(c) Balconies should be of a size and configuration which facilitate functionality and comfort year round.

(d) Balconies and verandahs can contribute to building articulation and visual interest creating recessed and projecting elements

(e) Balconies are designed to be open and light weight in appearance with transparent or open balustrading including timber, steel, wire or glass. Shutters or louvers might provide for privacy but they should not be fully enclosed nor be used for an additional room.

(3) Awnings, Eaves and Overhangs:

(a) These shade responses are also a response to climate and provide for filtered light to enter the building while affording

weather protection.

(b) Awnings may be adjustable and/or retractable to maximise sun and weather response.

(c) These features also add to character and serve to articulate a building facade and add visual interest.

(d) Eaves should be a minimum of 600mm to at least 75% of the building.

(4) Roof Forms:

(a) Roof forms contribute significantly to the character of the Shire's housing. A variety of roof forms can be found in the Shire with more traditional pitched roof forms prevalent in the hinterland villages and older riverside communities such as Tewantin and Noosaville.

(b) Roof profiles tend to be pitched or angled varying between 5 and 27 degrees to provide good air circulation to help cool the building and follow the contours of steeply sloping land. Parapet and box roof forms are not desirable in residential areas.

(c) Permanent roof ventilation systems such as ridge vents are desirable in residential dwellings to improve air circulation within the roof cavity.

(5) Shutters and Screens:

(a) Shutters and screens protect windows, doors and other openings in a building primarily from the sun, but also wind and rain.

(b) Shutters and screens can be both functional and an aesthetic feature of a building and can provide for privacy.

(c) Shutters, like louvers can be timber, metal or glass and are often adjustable and moveable.

(d) Screens might have perforated surfaces such as battens, lattice and mesh to provide privacy while facilitating ventilation and air circulation.

(e) Shutters and screens are ideal for concealing utility areas and under-crofts.

(6) Expansive Windows and Doors:

(a) Windows and doors often occupy large spaces and can be opened or adjusted to allow flow through ventilation and air circulation.

(b) They also provide for good circulation for people between indoor and outdoor living spaces.

(c) Styles popular in the subtropics include casements windows, louvers, bi-fold doors, French doors and sliding wall panels as well as extra wide hinged or pivot doors, although screening against flying insects is also beneficial.

SC6.6.5 Sustainable Building Design

(1) Subtropical building design by its very nature is considered a sustainable building design approach given its principles as per section SC6.6.2. This policy provides further guidance to ensure that development within Noosa Shire:

(a) incorporates water sensitive urban design principles to manage stormwater;

(b) minimises the reliance on non-renewable resources;

(c) is designed and constructed to be energy and water efficient;

(d) includes operational initiatives for energy efficiency;

(e) collects and uses stormwater on site for non-potable purposes of gardening, toilet flushing, laundry and hot water supply uses; and

(f) provides healthy indoor environments by incorporating the use of low toxic materials, natural light and cross ventilation.

(2) Energy Efficiency:

(a) To minimise energy consumption and the production of greenhouse gas emissions buildings incorporate:

(i) passive design measures to maximise the use of natural ventilation, cooling and natural light;

(ii) thermal mass, insulation and glazing for heating and cooling;

(iii) solar power or other non-polluting renewable energy sources to supply part or all of the development's energy needs (see Table SC6.6.1 for recommended size of Photo-voltaic system);

(iv) an energy efficient water heating system such as a solar hot water system or electric heat pump; and

(v) colours that reduce direct solar heat gain and achieve a maximum solar absorbance value or 0.5.

(3) Water Efficiency and Stormwater:

(a) To maximise water efficiency on site development can incorporate rainwater collection and reuse measures for non-potable purposes such as irrigation (refer to Table SC6.6.2 for recommended requirements for land use activities).

(b) Development reduces stormwater run-off by minimising impervious areas and maximising site vegetation to absorb water on site through the application of water sensitive urban design measures to manage stormwater.

(c) Development limits changes and disturbances to the site topography to preserve existing drainage channels as much as possible.

(4) Landscaping:

(a) Hard surface areas are minimised to reduce the reflection or storage of heat and maximise vegetation and soft landscaping.

(b) Vegetation is incorporated into the building design to create shade and cooling around buildings.

(5) Design:

(a) Development and building siting is responsive to Noosa Shire's sub-tropical climate and the site's characteristics including topography, orientation, existing vegetation and prevailing winds.

(b) Buildings are designed to:

(i) make the most of prevailing winds, natural ventilation and cross breezes;

(ii) maximise shade to east and west facing walls;

(iii) incorporate wide eaves and awnings for shading;

(iv) contain an open and permeable built form that connects indoor and outdoor spaces in an integrated design;

(v) retain existing vegetation and natural shading where possible;

(vi) incorporate passive building design to reduce the need for auxiliary heating and cooling;

(vii) use low toxic internal and external building materials;

(viii) use natural light rather than artificial light, and may include skylights, atrium's and light wells;

(ix) contain a minimum of two openings per habitable room;

(x) provide a minimum floor to ceiling height of 2.7 metres; and

(xi) enable efficient operation and use of the building.

Editor's Note —*The solar absorbance value is included in colour selection brochures provided by companies that supply roof materials. The National Construction Code also provides some guidance on colours and their absorbance value.*

Table SC6.6.1 Recommended Photo-voltaic System Size for Land Use Activity

Land Use Activity	Photovoltaic Size
Accommodation Activities	(a) if for a small dwelling—2kW per dwelling; or (b) otherwise 3kW per dwelling.
All other Activities	(a) 10kW up to 500m² of gross floor area and 2kW per 500m² of gross floor area thereafter; or (b) 60% of the expected energy consumption of the development, whichever is the greater.

Table SC6.6.2 Requirements for Rain Water Storage and Reuse

Land Use Activity	Rain Water Storage
Accommodation Activities	A minimum 3,000 litres of rain water storage is provided per dwelling and reused for non-potable purposes and incorporated into a stormwater management plan for the development.
All other Activities	Rain water storage sufficient for the intended use is captured and used on-site for non-potable purposes and incorporated into a stormwater management plan for the development.

SC6.6.6 Universal Building Design Principles

(1) Universal design allows for occupants to easily adapt and convert their home to meet their changing needs over time. It is an approach to building homes using a range of design and construction refinements to create a building that:

(a) meets the needs of people across a range of abilities and ages;

(b) is adaptable for the changing needs of people over time;

(c) increases safety;

(d) ensures that design works for the person, rather than the person working to fit with the design;

(e) is not stigmatising and is well integrated into the community; and

(f) can be economically adapted in the future if necessary.

(2) There are seven principles of universal design which are a useful guide for consideration when designing a universal home or building. They are described in Table 6.6.3 below.

Table SC6.6.3 Principles for Universal design

Design Principle	Design Guidelines
Equitable Use – Design for everyone and every ability	The design should be useful and marketable to people with diverse abilities and should avoid stigmatising users. The design should: • provide the same means of use for everyone; • provide privacy, security and safety equally for • everyone; • avoid segregating or stigmatising people who use it; and • make the design appealing to people who use it.
Flexibility in Use- Flexible design and choices	The design should accommodate a wide range of abilities and individual preferences. The design should: • provide choice in methods of use; • accommodate right or left handed access and use; • facilitate people's accuracy and precision; and • be adaptable to people's pace.
Simple and Intuitive – Design that's simple and easy to use	The design should be easy to understand, regardless of the person's experience, knowledge, language skills or current concentration level. The design should: • be simple (eliminate unnecessary complexity); • be consistent with people's expectations and intuition; • accommodate a wide range of literacy and language skills; • arrange information consistent with its importance; and • provide effective prompting and feedback during and after task completion.
Perceptible Information- Design that naturally makes sense.	The design should communicate necessary information effectively to the user, regardless of ambient conditions or the person's sensory abilities. The design should: • use different modes eg. pictorial, verbal and tactile for essential information; • contrast essential information against its surroundings; • maximise 'legibility' of essential information; • differentiate elements in ways that can be described (so it is easy to give instructions or directions); and • provide compatibility with a variety of techniques or devices used by people with sensory limitations.
Tolerance for Error – Design that protects users	The design should minimise hazards and the adverse consequences of accidental or unintended actions. The design should: • provide warnings of hazards and errors; • provide fail safe features; • minimise hazards and errors (eg. eliminate, isolate or shield); and • discourage unconscious action in tasks that require vigilance
Low Physical Effort – Design that requires minimal exertion	Dwellings can be used efficiently and comfortably with a minimum of fatigue. The design should: • allow the person to remain in a neutral body position; • use reasonable operating forces; • minimise repetitive actions; and • minimise sustained physical effort.
Size and space for approach and use –	Appropriate size and spacing should be provided for approach, manipulation and use regardless of the person's body size, posture or mobility. The design should:

Design that works for all shapes and sizes.	• provide a clear line of sight to important elements for any seated or standing person; • make reach to all components comfortable for any seated or standing person; • accommodate variations in hand and grip size; and • provide adequate space for personal assistance or assistive devices.

Source: Smart Housing 1 – Universal Design, Department of Housing (2003)

SC6.6.7 Liveable Housing Design Elements

(1) *For accommodation uses offering either housing for permanent residents or accommodation for guests the Liveable Housing Design Guidelines offer key design elements as listed in Table SC6.6.4, which, if incorporated with the original design of development are inexpensive to incorporate.*

Table SC6.6.4 Liveable Housing Design Elements

Element	Performance Statement
Dwelling access	There is a safe, continuous, step-free pathway from the street entrance and/or parking area to a dwelling entrance that is level.
Dwelling entrance	There is at least one level (step-free) entrance into the dwelling to enable home occupants to easily enter and exit the dwelling.
Car parking (Where part of the dwelling access)	Where the parking space is part of the dwelling access it should allow a person to open their car doors fully and easily move around the vehicle.
Internal doors & corridors	Internal doors and corridors facilitate comfortable and unimpeded movement between spaces.
Toilet	The ground (or entry) level has a toilet to support easy access for home occupants and visitors.
Shower	The bathroom and shower is designed for easy and independent access for all home occupants
Reinforcement of bathroom & toilet walls	The bathroom and toilet walls are built to enable grab rails to be safely and economically installed.
Internal stairways	Where installed, stairways are designed to reduce the likelihood of injury and also enable future adaptation.
Kitchen space	The kitchen space is designed to support ease of movement between fixed benches and to support easy adaptation.
Laundry space	The laundry space is designed to support ease of movement between fixed benches and to support easy adaptation.
Ground (or entry level) bedroom space	There is a space on the ground (or entry) level that can be used as a bedroom.
Switches and powerpoints	Light switches and powerpoints are located at heights that are easy to reach for all home occupants.
Door and tap hardware	Home occupants are able to easily and independently open and close doors and safely use tap hardware.
Family/living room space	The family/living room features clear space to enable the home occupant to move in and around the room with ease.
Window sill	Window sills are installed at a height tht enables home occupants to view the outdoor space from either a seated or standing position.
Flooring	Floor covering are slip resistant to reduce the likelihood of slips, trips and falls in the home.

Source: Livable Housing Australia (2012), Livable Housing Design Guidelines 2nd Edition.

SC6.7 - PSP6 Engineering Design Standards

SC6.7.1 Purpose

(1) The purpose of this planning scheme policy is to:

(a) Provide information that Council may request in the process of assessing the development application;

(b) Direct engineers, designers and developers to the technical documents and Australian Standards that will ensure new

development infrastructure is appropriately designed and constructed and meets the look and feel styling of Noosa; and

(c) Provide acceptable outcomes for development within the road reserve.

(2) All civil works within the road reserve and associated with the development requires a Council Operational Works permit.

(3) Deviations from or modifications to the design standards outlined in this policy may be acceptable, however it is the responsibility of the applicant to demonstrate that the proposal meets the performance outcomes of the applicable code.

(4) The key to maintaining the unique character of Noosa is adapting to future needs in a way that recognises the values that have made Noosa unique. The publication 'Noosa Design Principles – How Noosa has been Shaped' aims to inform and inspire designers to innovate and test ideas against simple principles.

SC6.7.2 Application of the Policy

(1) The design standards referred to in this policy apply to development that requires but is not limited to the following:

(a) Earthworks – cut and fill – filling of land

(b) New roads or widening of existing roads including associated earthworks

(c) Stormwater Drainage – underground or open drainage

(d) Upgrades to existing roads, stormwater and associated infrastructure that are reasonable and relevant to the expected impact of the proposed development

(e) Street lighting and the installation of utility services

(f) Footpaths and infrastructure for pedestrian and cyclists

(g) Access to accommodate the largest service vehicle to the site

(h) Parking – on street and off street

(i) Signage and line marking

(j) Landscaping and/or streetscape works and associated infrastructure

(k) Bus stop infrastructure

(2) The design standards identified in the 'desired level of service' for each road classification may need modification or augmentation to suit the design requirements of streetscape centres and will also need to include freight, public transport and bicycle networks.

(3) All civil works must be planned, designed and constructed in accordance with the current edition of the standards and technical documents outlined in 'Document Precedence'. When conflict occurs between the standards outlined in the documents, the hierarchy in 'Document Precedence' applies. The document listed first prevails over the others in descending order.

(a) Document Precedence:

(i) Council Policies, Planning Scheme, Guidelines and Standard Drawings

(ii) Austroads - Guide to Road Design – examples of often used parts

(A) Part 3 - Geometric Design

(B) Part 4 – Intersections and Crossings General

(C) Part 4A – Un-signalised and Signalised Intersections

(D) Part 4B – Roundabouts

(E) Part 6A – Paths for Walking and Cycling

(F) Design Vehicles and Turning Path Templates

(iii) Institute of Public Works Engineering Australasia – Queensland

(A) Standard Drawings (Addendums refer for Noosa)

(B) QUEENSLAND URBAN DRAINAGE MANUAL

(iv) (iv) Australian Standards as appropriate – examples of often used

(A) AS/NZS 1158 Lighting for Roads and Public Spaces

(B) AS/NZS 2890.1 to 6 - Parking facilities

(C) Department of Transport and Main Roads

(D) Manual of Uniform Traffic Control Devices (QDTMR)

(E) Specifications – Category 3 – Roadworks, Drainage, Culverts and Geotechnical

(F) Drafting & Design Presentation Standards – Vol. 1 to 3

(v) Translink Public Transport Infrastructure Design Manual

(vi) International Erosion Control Association - Best Practice Documents

SC6.7.3 Road Hierarchy

(1) The definitions outlined below are general classifications. The 'desired level of service' outlines the sub levels for each of these classifications.

(a) Arterial Roads - Roads that serve mainly through traffic and link towns and major traffic foci. Access is generally prohibited with no parking.

(b) Distributor Roads - Roads that connect neighbourhoods, villages and key destinations and link to higher order roads. Distributor roads are the highest order road to have direct property access.

(c) Collector Roads - Roads that funnel traffic from local streets into higher order roads. Collector roads also provide access to the lots fronting them

(d) Local Roads - Roads with a traffic demand resulting only from vehicular access to the lots fronting them (includes cul-de-sacs and laneways)

(2) Desired standards of service for Arterial and Distributor Classifications are shown in Table SC6.7.1 and for Collector and Local Classifications are shown in Table SC6.7.2

Table SC6.7.1 Arterial and Distributor Classifications

Arterial and Distributor Classifications							
Classification	**Arterial**		**Distributor**				
	4 lane	**2 Lane**	**Urban Street**				**Rural**
Criterion	**With Median**	**Urban or Rural**	**Major**		**Minor**	**Main Street**	
Traffic (VPD)	>20K	<20K	10K to 20K		5K to 15K	5K to 15K	5K to 15K
Posted Speed (km/h)	80/100		60 or 70		60	40 or 50	80
Lane width (m)	4 x 3.5	2 x 3.5	2 x 3.5		2 x 3.5	2 or 4 x 3.3^	2 x 3.0
Bike Lanes (Y/N) (m)	Y 2.0		Y 2.0		Y 1.5	Share or Y*	N
On Street Parking (Y/N)	No		Y - sometimes offset				No
Shoulder width (m)	Dual Bike		Dual use Park and Bike				1.5
Carriageway width (m)	Varies (K to K) 11 min		11 min (K to K)		10 min (K to K)	Varies	9 Form
Pathway (m)	3 in urban		3 desirable, 2 min		2 desirable	Full width *	NA
Pathway sides	One		Both		One	Where Developed	NA
Median landscaped (m)	3	N/A	Sometimes for aesthetics			2 min.^	NA
Reservation width (m)	Reserve width = lanes + median + paths + verges						20 Min
Lighting Standard	V4	V3	V3	V3	V3, P4		Int'sect V4
Traffic Loading (EsA's)	5 x 10^6		1 x 10^6				1 x 10^6
Limited Access (Y/N)	Y		N				At times
Noise Attenuation	Subject to noise levels		Subject to noise levels	N			
Bus Stops	N	N/A	Y, kerbside, offset in Minor distributors				Conditional

^ Lane configuration and median type depend on the streetscape
* refer to Noosa Plan

Arterial and Distributor Classifications
K to K = Kerb to Kerb

Table SC6.7.2 Collector and Local Classifications

Collector and Local Classifications							
Classification	**Collector**				**Local**		
	Urban		**Rural**		**Urban**	**Lane**	**Rural**
Criterion	**Residential**	**Industrial**	**Sealed**	**Gravel**			
Traffic (VPD)	1K to 5K	1K to 5K	1K to 5K	<500	<1K	<500	<1K
Posted Speed (km/h)	60	60	80	WARNING	50	40	50
Lane width (m)	2 x 3.0	2 x 3.5	2 x 3.0	5.5	6-8** (K to K)	5.5 (K to K)	6
Bike Lanes (Y/N) (m)	N	N	N	N/A	N	N	N
On Street Parking (Y/N)	Y	Y	N	N	Y	N	N
Shoulder width (m)	Dual Use Park and Bike Lane		1	N/A	N/A	N/A	1**
Carriageway width (m)	11 (K to K)	13 (K to K)	8	5.5	6-8** (K to K)	5.5	6-8**
Pathway (m)	2 Desired 1.2m (Min) %		N/A		1.5 (Min)		NA
Pathway sides	Two		N/A	N/A	1	1	NA
Median landscaped (m)	Sometimes for aesthetics		N/A	N/A	N/A	NA	NA
Reservation width (m)	20 (Min)				15-20**	8	20
Lighting Standard	V4	Intersection V3	Intersection V3	N/A	NA	NA	NA
Traffic Loading (EsA's)	5 x 10^5		1 x 10^5	1 x 10^6	2 x 10^5	2 x 10^5	1 x 10^5
Limited Access (Y/N)	N	N	N	N	N	N	N
Noise Attenuation	Subject to noise levels						
Bus Stops	Yes - Kerbside		Conditional				

^ Lane configuration and median type depend on the streetscape
* refer to Noosa Plan
K to K = Kerb to Kerb
**At Council's discretion depending on traffic demands

SC6.7.4 Road Classifications – Cross Section Elements

(1) Road cross sections for each classification of road shall be an aggregate of the element widths outlined in the 'desired standard of service'. The final required road reservation width shall include width for the following as appropriate.

(a) Traffic lanes
(b) On-street parking
(c) Auxiliary lanes
(d) Bicycle lanes
(e) Pavement tapers
(f) Medians
(g) Bus provision

(h) Bus stops

(i) Footpaths

(j) Service Utilities allocations

(k) Landscaping

(l) Roadside drainage

(m) Verges

(n) Maintenance requirements at the top and toe of earthworks cut and fill batters.

(2) No generic standard cross section can convey the individual needs of each road classification for all circumstances.

SC6.7.5 Specific Design and Construction Requirements

(1) Road infrastructure is to be in accordance with manuals nominated in the document precedence order.

(a) **Traffic Lanes**

(i) Lateral clearance requirements specified in the Manual of Uniform Traffic Control Devices or Austroads may increase the minimum traffic lane widths in the 'desired level of service'.

(b) **Superelevation and Curve Widening**

(i) Provide superelevation on all Arterial roads. Superelevation is not desirable in urban areas on Local, Collector and Distributor roads.

(ii) Curve widening is required on rural roadway classifications. For urban turning roadway widths are to comply with Austroads.

(c) **Pavement crossfall**

(i) The desirable minimum crossfall for roads and streets is 3.0%. At intersections, the maximum is 6% and the minimum is 1%.

(d) **Horizontal and vertical curves**

(i) Horizontal and vertical curves shall meet Austroads – Guide to Road Design standards.

(e) **Maximum and Minimum gradients**

(i) Maximum and minimum gradients shall comply with Austroads. Austroads relates gradient to topography and speed rather than road classification.

(f) **Design speed for roadways**

(i) The design speed for all roadway classification equals the posted speed plus 10km/hr, unless the 85TH percentile information can be obtained by traffic survey.

(g) **Offset crown in roadways**

(i) An Offset crown is permitted on two-way roads subject to thorough investigation into the drainage flow widths and the potential effects on driver behaviour.

(h) **Intersections**

(i) All intersections including roundabouts shall be designed in accordance with Austroads standards and recognise projected traffic volumes to determine the configuration of lanes and channelisation.

(ii) Cross intersections are not encouraged.

(iii) 'T' intersection angles should be 90 degrees where possible with 80 degrees being the absolute minimum.

(iv) The spacing between two intersections measured along the centreline of the through road between the centrelines of the side roads, should be not less than the following—

(A) Side roads on opposite sides of the through road:

Local Roads 40-45 metres (at Council's discretion depending on the service load)
Collector Roads 75 metres
Distributor Roads 200 metres (Unless median is broken)
Arterial Roads 200 metres (Unless median is broken)

(B) Side roads on the same side of the through road:

Local Roads 75 metres

Collector Roads 75 metres
Distributor Roads 200 metres
Arterial Roads 200 metres

(i) **Kerbs and Channels**

(i) All kerbs and channels shall comply with the relevant standard drawing.

(ii) The minimum grade on any channel shall be 0.5%.

(iii) Roadside swale drains are now discouraged in urban environments.

(iv) Analysis of the drainage needs shall determine the requirement for vertical faced kerb and channel over lay back kerb and channel.

(v) Brass plaque buttons shall be placed in new kerbing to indicate the location and type of the service crossing beneath.

(j) **Parking – on street and off street**

(i) The dimensions of parking bays and manoeuvring areas shall be in accordance with the relevant Australian standard.

(ii) Wheel stops are not encouraged. Moving the kerb out to the alignment of the vehicle wheels is preferred along with provision of clearances to pedestrians and cyclists.

(k) **Pavement design**

(i) The pavement strength for each classification of road is to be designed in accordance with Austroads for minimum traffic volumes outlined in the 'standards of service'.

(ii) Testing shall be carried out in accordance with Department of Transport and Main Roads specifications.

(iii) Minimum testing shall be 7 day soaked CBR tests of the subgrade carried out at a minimum of 100 metres intervals and at obvious changes in the nature of the subgrade.

(iv) Minimum pavement thicknesses (250mm Urban, 200mm Rural and 150mm Rural access)

(l) **Asphalt and Bituminous surfacing**

(i) Asphalt surfacing is required in urban areas and acceptable in rural areas where required.

(ii) The minimum compacted thickness of asphalt shall be 30 millimetres except for collector and higher order roads it shall be increased to 45 millimetres.

(iii) The specifications for testing, supply and laying shall be carried out in accordance with Department of Transport and Main Roads specifications.

(m) **Sealed shoulders**

(i) All rural road classifications shall have sealed shoulders and full width of formation. Where a rural type cross section is permitted in an urban area sealed shoulders shall also be required

(n) **Cul-de-sac**

(i) The maximum length of a cul-de-sac is 200 metres. The minimum radius at the head of the cul-de-sac is 9.0 metres to cater for garbage collection vehicles.

(ii) The verge width shall be a minimum of 4.0 metres at any point in the cul-de-sac.

(o) Driveway Easements and "battleaxe" reserves - widths

(i) (i) For long easements in rural areas a passing lane is required every 100 metres.

	Urban	Rural
Reserve width	4.5 metres	10.0 metres
Driveway width	3.0 metres	4.5 metres
Pavement	Concrete Minimum 150mm	Bitumen sealed gravel 200mm

(2) **Property Access**

(a) A driver seated in a standard vehicle at the entrance to the road carriageway with the vehicle 30 millimetres in distance back from the edge of the shoulder, must have clear visibility not less than the minimum sight distance for the through road design speed.

(b) The gradient of the access must not exceed 15% within the road reserve.

(c) Pathways

(i) Pathways shall be provided in accordance with the 'desired level of service' for each road classification and along key pathway routes as required. The construction standard of concrete pathways shall comply in alignment and slab thickness with the IPWEA standard drawings.

(ii) Trunk pathways shall be coloured CCS Black or approved Noosa Council equivalent when not in a specific streetscape palette.

(d) Signage and Line Marking

(i) Signage and line marking shall generally comply with the Manual of Uniform Traffic Control Devices except where overridden by the 'Noosa Signage Guidelines'.

(ii) The 'Noosa Signage Guidelines' control the design of signs generally below the level of Directional Signage.

(e) Public utilities

(i) The standard service utility allocations are shown on Council's relevant Standard Drawing. In some cases, in difficult terrain, common trenching may be permitted.

(ii) The developer shall bear the full cost of all new and altered service necessitated by the development and arrange all necessary dealings and permits.

(f) Trees, Landscaping and Streetscape

(i) The protection of trees and the enhancement of the environment is a key objective in Noosa so appropriate landscaping is required for all developments.

(g) Street and Pathway Lighting

(i) Street and Pathway Lighting shall be designed and installed in accordance with Australian Standards (ASNZS 1158.1-4).

(ii) The standard of lighting for each classification of road is outlined in the 'desired standard of service'. Pathways lighting standards shall be determined on a case by case basis having regard to environmental issues, river safety and public intrusion.

(iii) Rate 2 lighting is preferred over Rate 3 lighting.

(iv) Downward lighting is preferred to bollard lighting on pathways.

(v) Council has a range of rate 3 lighting fittings in streetscape centres that must be matched by developers as necessitated.

(h) Electricity Supply

(i) It is the responsibility of the developer to obtain a certificate of Electricity Supply for the development.

(ii) Underground supply of electricity is to be provided to each new allotment.

(i) Stormwater Drainage

(i) Drainage design and construction shall comply with Queensland Urban Drainage Manual QUDM, excluding the "Lawful Point of Discharge test" - whereby a written discharge approval will NOT be accepted.

(ii) The minimum pipe size permitted in the road reserve is 375 millimetres, and the minimum box culvert is 300 millimetres.

(iii) Stormwater infrastructure shall comply with the relevant IPWEA and TMR standard drawings.

(iv) Kerb entry catchpit without grates are the desired style of pit for cycling safety and to display Council's environmental messages in the lids.

(v) Stormwater drainage easements shall be dedicated in favour of Council, excluding inter allotment drainage, over all drain lines in private property. The width of the easement shall be a minimum of 4.0 metres wide and increased when the depth of the pipe warrants or for multiple pipes the easement shall be pipe width plus 600 millimetres each side.

(vi) Dissipaters, silt traps, oil arrestors and wetland basins shall be required as appropriate to reduce the impact of development on the natural environment.

(vii) Catchpit to catchpit connections are permitted in the head of catchments to avoid manhole lids in the driving lane.

(viii) Deflections in pipelines to be desirably less than 45 degrees.

(ix) Saltwater cover class pipes are to be used in all tidal areas.

(x) Pipe classes shall comply with Australian Standards in terms of cover.

(xi) All pipes are to be rubber ring jointed.

(xii) Bolt down lids are required when the clearance from design water level to pit lid is less than 300 millimetres.

(xiii) Headwalls and childproof grates are required on all pipe culvert inlets and outlets over 600 millimetres. Velocity dissipaters and rock gabions are required on all pipe outlets to reduce erosion.

(j) Downstream Drainage

(i) The developer's consultant is required to investigate the effect that the development may have on capacity of the downstream drainage. If the downstream system or any property downstream will be adversely affected, the consultant is to analyse the required mitigation works.

(ii) If the existing drainage system will be undersized according to current standards as a result of the development, the developer shall be responsible for augmenting or replacing the drainage system. The drainage system must be capable of handling the designated design frequency up to and including the 1 in 100 year Average Recurrence Interval (ARI) storm event including the overland flow situation

(k) Roof downpipe drainage outlets

(i) For each residential allotment, two approved kerb and channel adaptors are to be installed in the kerb 1.0 metre away from the side boundaries.

(ii) For commercial development unless a direct connection to the underground system can be achieved, a special conduit capable of providing the required capacity shall be fabricated from stainless steel so that it grades to the invert of the kerb and channel and yet is shallow enough to accommodate the footpath surface treatment without becoming a trip hazard.

(l) Earthworks

(i) Where a development site requires cut/fill operations to enable the site to properly drain or keep the site above flood levels, this work is to be completed prior to the construction of roads and other services.

(ii) Filling works must be undertaken so that there is an acceptable development area above the 1 in 100 year ARI flood level or where modelling is not available, the highest recorded flood level plus 300 millimetres.

(iii) Excavation or filling works require an Operational Works development permit. The following information is required as part of the application:

(A) A drainage plan for the site indicating proposed drainage patterns, extent and depth of filling works and finished site levels;

(B) A detailed engineering study of the implication of the filling works in relation to the drainage pattern of adjoining allotments and road reserves and an assessment of the increase, if any, of the flood heights upstream of the subject site.

(C) The study should include sufficient survey information external to the site to determine existing drainage flows, in addition to recommended drainage works on the perimeter of the site, to prevent possible drainage problems on adjoining land;

(D) An Erosion and Sediment Control Plan prepared by an appropriately qualified consultant in accordance with the Institution of Engineers Australia (Queensland Division) Soil Erosion and Sediment Control - Guidelines for Queensland Construction Sites.

(E) The erosion Plan should address all relevant matters including the methods proposed to avoid the creation of a dust nuisance around the site or on the lead-in roads; and the methods proposed to avoid the transmission of soil onto the surrounding roads which is picked up on the tyres of vehicles and plant working on the site, and carting material to and from the site.

(iv) If trees and existing vegetation are to be removed from the site, the application should include plans showing all existing vegetation and the areas where it is to be removed. Reasons for the removal of the vegetation should be documented and submitted in support of the proposed removal. The plans should also show the extent of fill to be placed, any retaining structures, existing level, proposed level, proposed drainage, materials to be used and structural engineering details.

(v) Approval to proceed with filling of the land is on the basis that it is the Developer's responsibility to notify all adjoining landowners of the work being undertaken, and that all work must not adversely affect the drainage of any adjoining allotments. A detailed survey of drainage patterns on adjoining lots may be required.

(vi) All filling works are to be supervised by a recognised Geotechnical Engineer and shall be compacted to a 95% relative dry density in accordance with the Department of Transport standard compaction test.

(vii) The Geotechnical Engineer shall certify that all lots have been compacted to the required minimum Level 1 or level 2 as required (supervision) standard. "As Constructed" details showing the extent and finished levels of

the filling works are to be submitted for Council's records.

(viii) Any uncompacted fill, vegetation, acid sulphate soils or other unsuitable materials on the site must be addressed prior to additional fill being placed. This includes topsoil, tree roots, peat, decomposing material, saturated material, etc. In this regard, the Geotechnical Engineer must test the existing ground conditions prior to additional fill being placed.

(ix) In the case of filling over flood plain, sand dune and creek areas, the site must have settlement plates installed prior to the placement of the fill and these must be monitored at regular intervals once the fill has been placed.

(x) For staged development, a sealed temporary vehicle turning area suitable for large vehicles, including refuse trucks is to be provided at the end of each road that may be extended into future stages. The pavement on the temporary turning area must be constructed to the same standard as the other permanent roads.

(m) Allotment drainage

(i) All allotments shall have a minimum grade of 1% to ensure adequate runoff of stormwater. Desirably allotments are to drain towards the street frontage.

(ii) Where allotments cannot drain to the street frontage, an allotment interlot drainage system shall be provided that outlets to the existing or proposed underground stormwater network. Each property serviced by an interlot drain shall be provided with a grated inlet structure at the lowest point on the rear boundary and an easement minimum 1.5 metres width connection for the future house roof runoff.

(iii) Development shall be designed to ensure that stormwater does not flow out to the road via the driveway. The internal drainage layout shall have inlet pits and strip drains to drain the site, carpark and driveway and convey the water underground to Council's or a proposed drainage system.

(iv) Overland flow paths are not permitted to flow through private property in urban areas however on large lots in rural areas, easements may be approved in some case subject to a thorough investigation into the 1 in 100 year ARI flows and allowing a 500 millimetres freeboard to any structure floor.

(v) Inter-allotment drainage categories in accordance with QDUM. 7.13

(n) Sediment and erosion

(i) All development sites must have sediment and erosion control measures in place prior to commencement of site works.

(ii) All sediment and erosion controls shall be in accordance with the International Erosion Committee Australia Best Practice documents.

(iii) An erosion and sediment control site checklist is to be completed and to form part of the documents submitted to Council as part of the first stage of any operational works.

(iv) All erosion and sediment control plans are to be certified by a suitable qualified RPEQ or CPESC certified person.

(o) Universal Design

(i) All design shall cater for the needs of the aged, and disabled persons particularly in terms of pathways, ramps, access and the use of public infrastructure.

(ii) Kerb ramps are to be provided at all intersections and be aligned and graded in accordance with the relevant IPWEA standard drawing.

(iii) All handrails shall conform to the relevant Australian Standard.

(p) Specifications General

(i) Department of Transport and Main Roads (DTMR) specifications apply to all civil works. Where specifications are not covered by the DTMR specifications, NATSPEC specifications are to be used.

SC6.7.6 Standard Drawings

(1) In general, the standard drawings prepared by the Institute of Public Works and Engineering Australasia are the drawings to be used for most construction works in Noosa unless noted otherwise on the Noosa Standard Drawing Register.

(2) Addendums outline certain changes to some of the drawings having regard to variations in the way Noosa applies these standard drawings.

(3) In addition to the IPWEAQ standard drawings, there are specific Noosa standard drawings. These drawings aim to maintain the uniqueness of Noosa in a look and feel sense.

SC6.7.7 Engineering Plans and Certification

(1) Plans for development are to be prepared by a Licensed Surveyor and a Registered Professional Engineer Queensland as required by the nature of the proposed identification and design works.

(2) The level and type of information to be submitted to Council shall be sufficient in extent to enable a full understanding of the proposed works. The design details and plan presentation shall meet appropriate engineering standards.

(3) Construction works are to be certified by a Registered Professional Engineer Queensland and other professionals as true to design and structurally adequate. The Council's Inspectors shall inspect and approve the works at hold points in accordance with Council's Land Development Construction Compliance Record and the developer's Consultant Engineer shall liaise with the Council Inspector on these matters. Inspection requirements will be supplied at the time of receiving approval of engineering documents. Extra inspections may be carried out at any time throughout the construction period.

SC6.7.8 On Maintenance / Off Maintenance

(1) After development works have been completed to the satisfaction of Council and prior to any works being placed 'on maintenance', as constructed information is to be provided to Council for asset records.

(2) As constructed details shall be in accordance with "Guidelines for Preparation of As Constructed Drawings".

SC6.8 - PSP7 Framework and Character Plans

SC6.8.1 Purpose

(1) The purpose of this planning scheme policy is to:

- (a) provide guidance and context in interpreting the Framework and Character Plans in the following Local Plan Codes of the Noosa Plan:
  - (i) Cooroy
  - (ii) Hinterland Villages - Pomona
  - (iii) Coastal Communities - Peregian Beach
  - (iv) Noosaville – In the vicinity of Mary Street and Gibson Road
  - (v) Noosa Heads – Hastings Street
  - (vi) Noosa Heads – Noosa Junction
  - (vii) Noosaville – Noosa Business Centre; and
- (b) enhance public realm, character and identity of localities and places which are accessible, connected, enjoyable, memorable and safe.

(2) This planning scheme policy provides guidance on achieving consistency with the requirements and the outcomes of the following parts of the planning scheme:

- (a) Strategic Framework;
- (b) Code provisions for various centre zones; and
- (c) Local Plan codes.

SC6.8.2 Cooroy

(1) Key urban design and character outcomes for Cooroy are listed below:

- (a) Retain retail, café and customer-focused office uses on land with frontage to Maple Street, Emerald Street, Garnet Street, Elm Street and Diamond Street while ensuring attractive streetscape treatment;
- (b) Reinforce Maple Street and Emerald Street as main streets with buildings addressing the street, complementing the traditional built form and incorporating continuous, intimate, weather protected footpaths. Promote a low speed, people focussed environment in these spaces centred around the intersection of the two roads;
- (c) Promote buildings that complement and are reflective of the traditional building forms in Cooroy. Outside of the town centre this relies on a relatively low site cover so buildings are separated by space and mature vegetation, while in the main streets buildings typically extend to side and front boundaries;

(d) Promote retail development in the form of small tenancies rather than large floor plates and no drive-through facilities;

(e) Prioritise the safety and comfort of pedestrians in the public realm, particularly in Maple Street and Emerald Street.

(f) Improve safe and convenient pedestrian and cyclist connections throughout town including connections to the town centre, community facilities, schools, train station, and sports fields.

(g) Protect and enhance the streetscape of Myall Street, Elm Street, Diamond Street and Tewantin Road befitting their role as a primary entrance to Noosa Shire and the scenic route between the hinterland and the coast.

(2) The Cooroy Framework and Character Plan is located in the Cooroy Local Plan code in the Noosa Plan. It identifies a number of key urban design and character elements which support the overall outcomes and performance outcomes for Cooroy. These elements are described in more detail below to provide some context and guidance in achieving the outcomes of the Noosa Plan.

(3) **Key Views** –Views identified as important to the character, legibility and experience of Cooroy are broken down into two types:

(a) Contextual – typically distant views to landscape elements, often layered with more localised features. Key contextual views for Cooroy are:

(i) views to Mt Cooroy on east-west streets with open ends at the railway line; and

(ii) views at the end of Garnet Street and Wimmers Lane where views are layered with heritage buildings in the foreground.

(b) Localised- typically views within the centre to key character elements, such as heritage and civic buildings or key landscape forms. Localised views to note include:

(i) Bend on Mary River Road and Maple Street that focuses views to the Library and heritage character buildings along Maple Street;

(ii) Views to the environment of Cooroy Creek from the major road, coupled with vistas to Mount Cooroy and to the Library and Butter factory precinct;

(iii) Views to and from Apex Park / Cooroy Creek to the main streets / centre;

(iv) Views between Apex Park / Cooroy Creek and the Library and Butter Factory; and

(v) Views to RSL Park and the war memorial from Tewantin Road / Diamond Street.

(c) Appendix 1 SC6.8 includes photos of key contextual and localised views for Cooroy.

(4) **Open Space and Landscape Treatments** – Cooroy has a number of open space assets within and adjoining the centre that play a key role in defining the character of the centre. Key landscape treatments include:

(a) The high quality landscape / streetscape of Maple Street is a key part of Cooroy's local character and identity, particularly the treatment of the key intersections, pedestrian crossings and the land adjoining the railway line (around community, civic and arts uses). This is the benchmark/ standard to meet for all primary streetscape areas (including parts of Diamond and Elm Streets);

(b) The intersection of Emerald Street and Maple Street is identified as a 'special place'; it is the most attractive and activated streetscape area and identifies as the 'centre'. The combination of the high quality landscape, outdoor dining areas/activity, places to stop, rest and meet and the level of way finding signage contribute to its role and function as the highest order/ quality streetscape area in Cooroy. The quality and function of this space is to be maintained and enhanced, with further activation considered. It may also inform improvements in other centres;

(c) Maple Street and Emerald Street are the 'main streets' of Cooroy, however the streetscape quality of Emerald Street has room for improvement through the addition of street trees and low level planting. With enhancement of landscaping and wider footpaths the quality of streetscaping could be more befitting its role, similar to Maple Street.

(d) Diamond Street is a major road and the 'Main Street' for Cooroy East, although its pedestrian environment and landscape quality has scope for improvement through the addition of much needed shade trees. Diamond Street merges with Tewantin Road, a major entrance/arrive route. These streets are quite wide and carry a great deal of through traffic travelling at speeds that are less conducive to pedestrian environments. Taking cues off the western side of town the landscape character could be significantly improved creating a more unified and connected town centre. For instance avenue planting could be introduced with a high level of shade coverage and low level landscaping should be enhanced to a standard befitting its role as a centre. The intersection of Diamond Street and Elm Street should be enhanced similarly to the intersection of Emerald and Maple Streets, creating a safe environment for pedestrians to cross both roads.

(5) **Landmark/Character Buildings** – The Library and Butter Factory are considered key landmark buildings with surrounding development not diminishing or detracting from the presence of these buildings in the streetscape.

(6) **Key Corners** – have been identified on corner sites with some or all of the following characteristics; primary active frontages; highly visible; and those that interface with key public realm, park or gateway intersections. Built form should positively address the corners, be active and inviting. Roof forms windows and door openings should reflect this character outcome and orientation. Landscaping and streetscape treatment should be of a high quality.

(7) **Primary Active Frontages** – The mapped primary active frontages reflect where this type of built form interface currently exists or is proposed as it is appropriate, desirable and achievable. It is assumed that all other District Centre Zone streets provide some form of active frontages, however they may be secondary in nature with variances such as greater setbacks, or with the interruption of driveways.

(8) **Key Development Sites –** These sites have been identified as those with a high likelihood for development/redevelopment in the next 5 to 10 year timeframe and have the potential to significantly impact on the character of the centre. It is recommended that additional guidance on the urban design and built form outcomes of these sites be sought through a preliminary meeting with Council Planning Officers.

(9) **Streetscape Treatment Areas** reinforce the character experience of Cooroy. They establish street hierarchy and character that is appropriate for the use and role of the street primarily through the extent, quality and application of materials, placement of streetscape elements/furniture and interfaces. Treatments should be consistent with any existing or proposed streetscape improvement works in the area. Primary streetscape treatment areas include:

(a) High quality materials and finishes that reinforce Maple Street and Emerald Street as main streets and exhibit local character;

(b) A well connected pedestrian friendly zone with a high level of amenity for pedestrians – low vehicle speeds, attractive vegetated streetscaping, continuous, wide, level, weather protected footpaths, safe crossings, etc;

(c) Reinforce street activation principles, provide a focus for active interfaces such as well integrated outdoor dining areas;

(d) High quality landscaping including enhanced greening at key intersections, street trees with canopy shade cover and extensive low level planting;

(e) Focus quality public realm around, and connecting to, public transport stops (bus stops on Emerald and Maple Streets and the Train Station); and

(f) Provide clear, visible, unique and consistent signage at entries into the town to help people understand where they are.

(10) **Special Place** – This is the highest quality space with the highest levels of embellishment in the centre and forms a meeting or focal point for the community. The intersection of Emerald Street and Maple Streets marks an important arrival point and meeting place in the 'centre' of Cooroy, particularly for pedestrians. The intersection of Diamond and Elm street is also identified as a special place as any future intersection upgrade is a key opportunity to unify the Cooroy town centre and elevate the public realm quality as well as enhance the station (this being the entrance to Noosa Shire for train passengers from the south). This intersection has the potential to act as a gateway site between the east and west and an important link for pedestrians and cyclists via improved elevated pathway across the rail line. Key attributes of special places include:

(a) Maximised public realm and pedestrian priority - expanded footpaths, reduced road pavement and low vehicle speeds;

(b) High quality materials and finishes (exhibiting local character);

(c) Character landscape (intense landscape at the corners and centre);

(d) Outdoor dining areas integrated with the streetscape;

(e) Multiple opportunities to comfortably rest or sit and talk in an attractive setting;

(f) Directional signage; and

(g) Corners sites positively addressing the intersection.

(11) **Key Pedestrian/Cycle Connections** – Key links in Cooroy include:

(a) Existing Cooroy Railway Crossing at Elm St:

(i) Important arrival point for passengers alighting the train;

(ii) Critical link for pedestrians and cyclists joining the two sides of the town;

(iii) Includes views to Mount Cooroy from elevated walkway;

(iv) Includes important connection to the civic and arts uses along Maple Street, and through to Apex Park/ Cooroy Creek;

(v) As a connection between Diamond Street and Maple Street it is in need of improvement to make it safe, functional and attractive – this includes improvements to the public realm environment and pedestrian crossings around the Diamond Street/Elm Street intersection.

(b) **Apex Park to Garnet St 1:**

(i) Important interface and connection to the town's key natural assets at Apex Park/ Cooroy Creek and links beyond;

(ii) Future development and streetscape improvements should activate the edges of the lanes and where appropriate include mid-block linkages.

(c) **Apex Park to Garnet St 2:**

(i) Important mid-block links between Apex Park / Cooroy Creek and key town centre streets and lanes.

(ii) Visual connection to the park from Emerald Street is important.

(iii) Formalise any informal links in partnership with the owner/ tenant and create new ones where appropriate.

(d) **Wimmers Lane (and other lanes):**

(i) Important mid-block link between Wattle Street and Maple Street.

(ii) Widen laneways to facilitate service traffic and resident/employee parking away from the main streets while ensuring safe movement of pedestrians.

(e) **Railway Crossings:**

(i) Improve connection for pedestrians and cyclists between the two sides of the town by providing safe alternate or additional railway crossings.

(12) **Gateways** - Gateways typically mark the arrival at the edges of the town centre and give a 'first impression' of Cooroy as a place. For that reason they are worthy of special treatment. Recommendation for gateway treatments in Cooroy are:

(a) Cooroy Creek Crossing - reinforce and enhance the gateway experience by:

(i) Extending the streetscape language of Maple Street to the creek crossing, signifying the arrival in the centre;

(ii) Redevelopment of any corners sites to positively address corners and contribute to the arrival experience; and Any landscaping or building works to ensure key view line to the Library are maintained.

(b) Intersection of Garnet, Myall and Maple Streets - to reinforce and enhance the gateway experiences including:

(i) Improvement to pedestrian safety, access and movement;

(ii) Redevelopment of any corners sites to positively address corners and reinforce the intersection; and

(iii) Extend the streetscape qualities of 'the centre' to this intersection.

(c) Intersection of Myall and Elm Streets - to reinforce and enhance the gateway experiences including:

(i) Improvements to pedestrian safety, access and movement – any upgrade to the rail crossing should incorporate a pedestrian and cyclist pathway connection and accordingly safe pedestrian crossing of Myall Street will be required;

(ii) New intersection design to include ample room for character landscape planting - intensification of landscaping at the gateway; and

(iii) Redevelopment of any corners sites to positively address corners and reinforce the intersection.

(d) RSL Memorial Park/Diamond Street - to reinforce and enhance the gateway experience including:

(i) Enhancement of the park's landscape as a feature - intensification of landscaping at the gateway;

(ii) Any redevelopment of edges/ corners sites to positively address the gateway setting and contribute to the arrival experience; and

(iii) Improve pedestrian connections by providing a safe pedestrian crossing of Tewantin Road/Diamond Street.

SC6.8.3 Pomona

(1) Key urban design and character outcomes for Pomona are listed below:

(a) Retain retail and commercial focus of land with frontage to Memorial Avenue, Station Street and Reserve Street and industrial and commercial focus of land on Factory Street;

(b) Reinforce Memorial Avenue, Station Street and Reserve Street as the main streets with buildings that address the street, provide active street fronts, complement the traditional building form and style (Art Deco and Federation styles) and incorporate weather protected footpaths;

(c) Continue a low speed, pedestrian focussed street environment, with attractive vegetated streetscaping;

(d) Retain the Character Area within the village centre and continue to protect individual heritage sites;

(e) Encourage buildings that reflect the traditional heritage styles and character of Pomona, particularly within the character area west of the railway line. Allow for the relocation and reuse of older buildings destined for redevelopment in other parts of Noosa Shire;

(f) Allow further retail development in the form of small tenancies only; and

(g) Where topography allows, retain the traditional grid layout of Pomona when extending existing streets.

(2) The Pomona Framework and Character Plan is located in the Hinterland Villages Local Plan code in the Noosa Plan. It identifies a number of key urban design and character elements which support the overall outcomes and performance outcomes for Pomona. Each of these elements are described in more detail below to provide some context and guidance in achieving the outcomes of

the Noosa Plan.

(3) **Key Views** – Views identified as important to the character, legibility and experience of Pomona are broken down into two types:

(a) Contextual – typically distant views to landscape elements, often layered with more localised features. Key contextual views for Pomona are:

(i) The views from the eastern side of the railway are of especially high quality, layered with views to key buildings in the foreground; and

(ii) Views to Mt Pinbarren framed by Reserve Road, are an important contribution to gateway sites.

(b) Localised- typically views within the centre to key character elements, such as heritage and civic buildings or key landscape forms. Localised views to note include:

(i) The view down Memorial Avenue - low scale buildings follow the natural topography down the hill, marked by the double storey Pomona Hotel at the low point;

(ii) Views from the bridge (crossing Cooroora Creek) with vegetation framing the view to Mt Cooroora; and

(iii) Views to the Majestic Theatre and heritage buildings from the train station.

(c) Appendix 1 SC6.8 includes photos of key contextual and localised views for Pomona.

(4) **Open Space and Landscape Treatments** - The Pomona Town Centre has an abundance of open space assets within and adjoining the centre, these play a key role in the character of the centre. Key landscape treatments include:

(a) The landscape of Memorial Avenue between Reserve Street and the start of Station Street, and the railway side of Station Street is a high quality and a key part of Pomona's character and identity, setting the benchmark/ standard to meet for all primary streetscape areas;

(b) The intersection of Reserve Street and Memorial Avenue is identified as a 'special place'. It is the most attractive and activated streetscape area and identifies as the 'centre' of Pomona. The combination of the high quality landscape, outdoor dining areas/activity, places to stop, rest and meet and the level of way finding signage contribute to its role and function as the highest order/ quality streetscape area in Pomona. The quality and function of this space must be maintained and enhanced, with further activation considered;

(c) Reserve Street is a major road and arrival corridor. It could benefit from more consistency in landscape treatment and shade tree coverage. Avenue planting should be introduced with a high level of shade coverage, to increase its prominence, provide shade across the roadway, and provide a sense of enclosure and informal traffic calming;

(d) Factory Street is also major road and arrival corridor and would likewise benefit from consistency in landscape treatment and shade tree coverage. Improvements to landscaping, particularly shade trees on both sides of the street would enhance this area; and

(e) The new fine grain retail frontages in Station Street will benefit from additional landscape treatment, including shading street trees and low level planting in line with the character across the road or in Memorial Avenue.

(5) **Landmark/Character Buildings** – The Pomona Hotel and Majestic Theatre are considered key 'landmark 'buildings. Other buildings that contribute to the character of Pomona include individual state and local heritage buildings such as the Masonic Hall and the Museum, as well as heritage character areas. Surrounding development must not detract from these buildings nor diminish their heritage or character values within the streetscape/ townscape setting.

(6) **Key Corners** - These sites make (or have the potential to make) a significant contribution to the built form character and experience of Pomona. Built form should positively address the corners; be active and inviting (be 'friendly'). Roof forms, windows and door openings should reflect this character outcome and orientation.

(7) **Primary Active Frontages** - The mapped 'primary active frontages' reflect where this type of built form interface currently exists or is proposed; appropriate, desired and achievable. These built form interfaces must adhere to the planning scheme requirements, particularly the local centre zone. The extension of active frontage (of small tenancies) along Station Street, including any future development to the north east of the Bowls Club, is to be respectful of Pomona Hotel, the Old Railway Station Gallery and the Masonic Hall as key character elements and as per the Heritage Character Area overlay.

(8) **Key Development Site**s - These sites have been identified as those with a high likelihood of development/redevelopment in the next 5 to 10 year timeframe and have the potential to significantly impact on the character of the centre. It is recommended that additional guidance on the urban design and built form outcomes of these sites be sought through a preliminary meeting with Council Planning Officers. A key development site in Pomona is the extension of the local centre zone on the portion of the Bowls Club site which fronts Station Street. This is a logical extension of the centre to extend the primary active frontages further along Station Street. As this site adjoins a key state heritage listed building, being the old Masonic Hall, the following recommendations are made for development on the site:

(a) development provides a clear and defined edge to the core retail of the town centre – suggest a pedestrian crossing to the Railway Station Gallery is provided where the primary active frontage ends to allow the 'loop to be closed';

(b) The built form response should be consistent with the heritage/ character buildings without mimicking or replicating;

(c) Built form response must be respectful of the former Masonic Hall next door in terms of its siting, built form character and landscape character; and

(d) Key views, mid-block links and improvement to landscape character should be a consideration. See Figure 1 – Key Development Site Pomona.

(9) **Streetscape Treatment Areas** reinforce the character experience of Pomona. They establish street hierarchy and character that is appropriate for the use and role of the street primarily through the extent, quality and application of materials, placement of streetscape elements/furniture and interfaces. Treatments should be consistent with any existing or proposed streetscape improvement works in the area. Primary streetscape treatment areas for Pomona Include:

(a) High quality materials and finishes, exhibiting local character, that reinforce Memorial Avenue, Station Street and Reserve Street as the main streets;

(b) A well connected pedestrian friendly zone with a high level of amenity for pedestrians – low vehicle speeds, attractive vegetated streetscaping, continuous, wide, level, weather protected footpaths, safe crossings, etc;

(c) Reinforce street activation principles, provide a focus for active interfaces such as well integrated outdoor dining areas;

(d) High quality landscaping including enhanced greening at key intersections, street trees with canopy shade cover and extensive low level planting;

(e) Focus quality public realm around, and connecting to public transport stops (bus stops on Memorial Avenue and the Railway Station); and

(f) Provide clear, visible, unique and consistent signage at entries into the town to help people understand where they are.

(10) **Special Place** - The Intersection of Memorial Avenue and Reserve Street (main streets) marks the arrival in the 'centre' of Pomona. It is an important arrival point and meeting place, for pedestrians in particular. This intersection and its surrounds should be the highest quality space with the highest levels of embellishment. Key existing attributes include:

(a) Maximised public realm and pedestrian priority - expanded curbs at corners, reduced road pavement and low vehicle speeds;

(b) High quality materials and finishes exhibiting local character;

(c) Character landscape (intense landscape at the corners and centre);

(d) Highly visible outdoor dining areas integrated with the streetscape on the corner;

(e) Public amenities, bike storage, resting and meeting places of a high number and quality;

(f) Close proximity and within sight of many key destinations (including community buildings, picnic tables, playground, amenities, mobile library etc);

(g) Nearby views to Mt Cooroora;

(h) Directional signage to key destinations; and

(i) Corners sites/ buildings that positively address intersection.

(11) **Key Pedestrian/Cycle Connections** - Key links include:

(a) Subway Avenue underpass which should remain although is worthy of improvement as an east-west link for pedestrians, cyclists and even horse riders.

(b) Pomona Railway Station

(i) This is an important arrival point for passengers from north or south. Pedestrian connection in either direction could be improved, as could wayfinding and the public realm environment in general. The existing pedestrian level crossing is planned to be upgraded as the need to maintain an attractive, safe and inclusive connection between both sides of the railway line is imperative.

(ii) The station offers views to the iconic Pomona Hotel with Mt Cooroora in the distance.

(c) 'Pomona Community Promenade' - reinforce the importance of this path network, linking key community, arts and recreation nodes in the core

(d) Primary Streetscape Areas - Investigate opportunities for additional crossings that prioritise pedestrian movement and safety in the core retail areas / between core destinations.

(e) Laneway Activation/ Mid-block

(i) Opportunity exists to create active frontages (small tenancies) along the rear laneway and create a mid-block connection through to Station Street and beyond - to Railway Station, Factory Street, Cooroora Creek Park, etc.

(ii) Requires improvements to the public realm and consolidation of access and parking arrangement between multiple lots.

(12) **Gateways** – The following primary gateways have been identified as important arrival experiences for all modes of transport. Consideration has been given to the experience of town character (landscape, built form, views, etc.), legibility of the town and the hierarchy and role of spaces and streets. Primary Gateways typically mark the arrival at the edge of the centre and include a key view - a 'first impression' of Pomona as a place and a community.

(a) Northern commencement of Reserve Street, after crossing the rail line - a key bend in the road marks arrival at the edge of the retail core with significant landscaping, obvious supermarket and sightlines to a majority of key destinations.

(b) Intersection of Reserve Street and School Street – arriving at the southern edge of the town centre where the attractions of Reserve Street lie ahead. School Street provides access to the Recreation Trail. Recommendations to reinforce and enhance the gateway experience include:

(i) Intensification of landscape including extension of boulevard planting from the centre down to this corner;

(ii) Directional and wayfinding signage;

(iii) Improvements to pedestrian pathways and connections to centre; and

(iv) Redevelopment of any corner sites to positively address corners and reinforce the intersection

(c) Pomona Railway Station and key east-west pedestrian link - important arrival and connection point, joining the destinations on both sides of town. Vista to iconic Pomona Hotel with Mt Cooroora in the distance. The gateway experience would be reinforced and enhanced by a general upgrade of public realm treatment including the pedestrian connection and station forecourt (including directional signage)

(d) At the northern end of Reserve Street, arrival at the edge of the town centre with views to Mt Cooroora, landscaping and obvious services. The gateway experience would be reinforced and enhanced by:

(i) Intensification of landscaping including the extension of street planting along both sides of Factory Street in vicinity of this corner; and

(ii) Improvements to pathway connections to centre; and

(e) Intersection of Hill Street, Factory Street and Subway Avenue - The eastern approach to the centre of town offering a view to Mt Cooroora is a key character experience for Pomona. This point also offers access to the Noosa Trail and Cooroora Creek Park, is framed by open space on both sides of the street and has a visitor rest stop including tables and toilets. Recommendations to reinforce and enhance the gateway experience include:

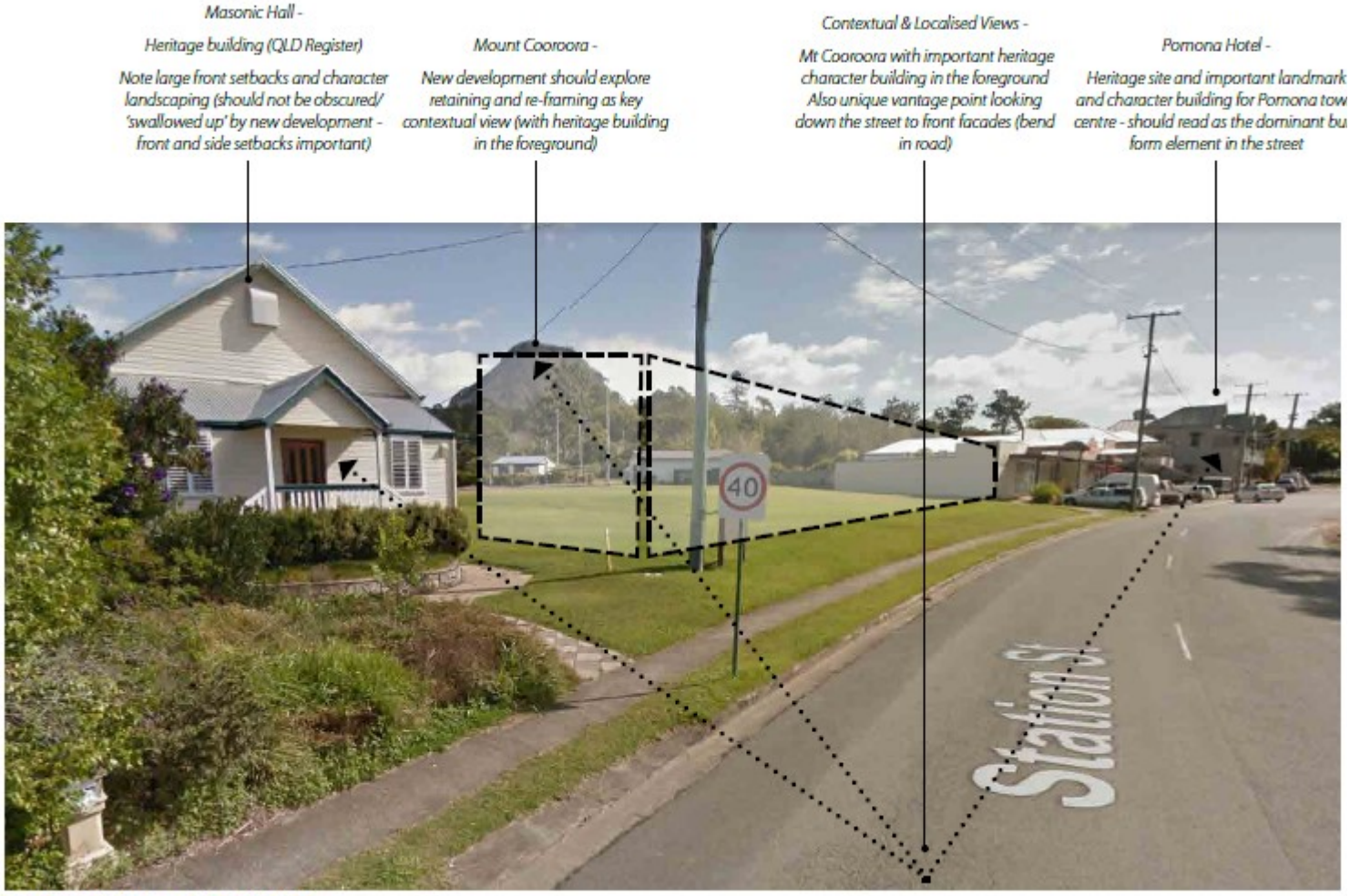
(i) Intensification of landscaping including the extension of street planting along both sides of Factory Street to this corner, consider public artwork near the corner;

(ii) Place, directional and wayfinding signage (to eastern Pomona, trail network, etc.)

(iii) Upgrades to intersection to improve and prioritise pedestrian connectivity in all directions including access to Cooroora Creek Park;

(iv) Redevelopment of corners sites, particularly the service station, to positively address corners and reinforce the intersection through built form and landscaping, ensuring views to Mt Cooroora from Hill Street are preserved;

Figure 1 Key Development Site Pomona



Station Street - Key Development Site (Bowls Club) study

SC6.8.4 Peregian Beach

(1) Key urban design and character outcomes for Peregian Beach are listed below:

(a) Limit development to the existing urban form in line with the capacity and physical constraints of the locality.

(b) Ensure the natural landform and landscape are protected and dictate the form of development.

(c) Ensure buildings step down slopes rather than modify their site.

(d) Preserve space for mature vegetation between buildings.

(e) Maintain the low key, casual, beachside character of village centre.

(f) Protect natural open spaces and the ability for the community to access these spaces for passive recreation.

(g) Ensure accessible and welcoming spaces for the community to meet in various capacities including space for indoor and outdoor social groups, creative arts, live music, markets, and informal gatherings.

(h) Enhance the pedestrian and cyclist connectivity between community and recreation destinations and residential neighbourhoods.

(i) Improve pathway connections throughout the locality to encourage active transport and recreation.

(2) The Peregian Beach Framework and Character Plan is located in the Coastal Communities Local Plan code in the Noosa Plan. It identifies a number of key urban design and character elements which support the overall outcomes and performance outcomes for Peregian Beach. Each of these elements are describe in more detail below to provide some context and guidance in achieving the outcomes of the Noosa Plan.

(3) **Key Views** – Views identified as important to the character, legibility and experience of Peregain Beach fall into two types:

(a) Contextual – typically distant views to landscape elements, often layered with more localised features. Key contextual views for Peregian Beach are:

(i) Views to Mt Coolum & Emu Mountain, while not obtained from within the town centre, may be impacted by changes in

the town centre area. For example the key development site to the south of the centre should not impact the retention of these views in the longer term.

(ii) Views to Mt Cooroy and the distant ranges can be viewed from various different locations along the north south corridor, the most prominent being within the Rufous Street Master Plan area (outside town centre) and from the roads adjacent to the supermarket development where the land drops away dramatically. The future key development site to the west may impact the retention of these views in the longer term, the recommendation is to retain as many of these views as possible as a core character experience.

(iii) Views to the ocean/ coastal environment from the main street - Retain this view corridor, ensuing park and street infrastructure placement does not compromise this view (part of the historic 'wetlands to sea link'.

(b) Localised- typically views within the centre to key character elements, such as significant landmark or character buildings or key landscape forms. Localised views include:

(i) Along David Low Way at northern Gateway (with community building on corner);

(ii) Between buildings/ along driveways to open space - the spaces in between buildings are important to local character;

(iii) Along David Low Way northern approach, bend in road reinforces importance of corner site and intersection treatment;

(iv) Along David Low Way southern approach, reinforces importance of corner site and intersection treatment; and

(v) Along key path from beach/ parkland, to key development site/ potential landmark corner site (the centre).

(c) Appendix 1 SC6.8 includes photos of key contextual and localised views for Peregian Beach.

(4) **Open Space and Landscape Treatments** - The landscape character of Peregian Beach is generally of a high quality and plays an important role and linking the open spaces (east-west). Peregian Beach has some of the highest quality examples of allowing mature landscape to thrive and connect between the built form; a defining characteristic of the 'Noosa Style'. Key landscape treatments include:

(a) Heron Street which includes views to the ocean framed by locally iconic trees (Coconut Palms and Norfolk Island Palms) and the dunes/ coastal landscape; and

(b) The Village Green and the connecting retail lanes, which are a uniquely Peregian Beach open space/ landscape character experience. The planting creates an almost complete canopy coverage and the experience of 'dappled light' to the majority of open space and outdoor dining within the area.

(5) **Landmark/Character Buildings** – The built form along Heron Street makes a significant contribution to the low key, coastal streetscape character of the Peregian Beach town centre. The northern side with its high set buildings and iconic roof form/ upper level awning are major factors in its influence contrasting with the village green shops to the south, with its unique low scale built form that create comfortable human scaled spaces with fine grained shop fronts surrounding the park. There is potential for additional landmark/ character built form to contribute to the northern and southern gateways; the development of the Digital Hub in the north and the potential for future redevelopment of the hardware site in the south.

(6) **Key Corners** - These sites make (or have the potential to make) a significant contribution to the built form character and experience of Peregian Beach. Built form should positively address the corners; be active and inviting (be 'friendly'). Roof forms, windows and door openings should reflect this character outcome and orientation.

(7) **Primary Active Frontages** - The mapped 'primary active frontages' reflect where this type of built form interface currently exists or is proposed; appropriate, desired and achievable. These built form interfaces must adhere to the planning scheme requirements, particularly the local centre zone. It is assumed that all other business zone street interfaces (within the centre) also provide some form of active frontage, however they may be secondary in nature with variances such as greater setbacks for landscaping.

(8) **Key Development Sites** - These sites have been identified as those with a high likelihood for development/redevelopment in the next 5 to 10 year timeframe and have the potential to significantly impact on the character of the centre. It is recommended that additional guidance on the urban design and built form outcomes of these sites be sought through a preliminary meeting with Council Planning Officers. Key development sites in Peregian beach include:

(a) Future Visitor Accommodation (2 Storey) – Development should be planned and designed in a way that addresses and activates the laneway as well as protecting the key contextual views from the Rufous Street Master Plan area and David Low Way to distant mountains.

(b) Hardware Site (southern gateway site) – Any redevelopment should contribute to the desired gateway qualities.

(c) Redevelopment of 6 Heron Street - The site terminates a key 'localised view' along the primary access path from beach/ parkland, to the town centre. Preferably:

(i) the built form will make the most of its aspect, potentially providing an opening to the corner;

(ii) built form will provide active frontages to Heron Street, Kingfisher Drive and the Village green, including wide and

continuous awning coverage; and

(iii) built form will reflect the low key village atmosphere, allowing the trees/ landscape to dominate the character.

(9) **Streetscape Treatment Areas** - Reinforce the character experience of Peregian Beach. They establish street hierarchy and character that is appropriate for the use and role of the street primarily through the extent, quality and application of materials, placement of streetscape elements/furniture and interfaces. Treatments should be consistent with any existing or proposed streetscape improvement works in the area. Primary streetscape treatment areas for Peregian Beach include:

(a) High quality materials and finishes exhibiting local character reinforce Heron Street and the Village Green as the main streets;

(b) A well connected pedestrian friendly zone with a high level of amenity – low vehicle speeds, attractive vegetated streetscaping, continuous, wide, level, weather protected footpaths, safe crossings, etc.

(c) Reinforce street activation principles, provide a focus for active interfaces such as well integrated outdoor dining areas;

(d) High quality landscaping including enhanced greening at key intersections, street trees with canopy shade cover and extensive low level planting;

(e) Focus on quality public realm around, and connecting to public transport stops (bus stops on David Low Way);

(f) Provide clear, visible, unique and consistent signage at entries into the town to help people understand where they are; and

(g) Improve pedestrian crossings and prioritising pedestrian crossing a the two 'special place' intersections.

(10) **Special Place** - Two 'special places' have been identified in the Peregian Beach Town Centre and are detailed below:

(a) The intersection of David Low Way and Heron Street, including the pathway connection to Rufous Street - it is a highly attractive town arrival and meeting place, that people identify as the 'centre' of Peregian Beach. The combination of the high quality landscape, built form that address the intersection, places to rest and meet, and the level of way finding and place signage contribute to its identity, role and function. The high quality and function of this space should be maintained and enhanced, with further refinement of pedestrian access - crossings should be maximised and as close to the intersection as possible.

(b) The intersection of Heron Street and King Fisher Drive is a highly attractive town arrival (particularly via the coastal trail), meeting place and activity place. The combination of the high quality landscape, built form that address the intersection, places to rest and meet and the level of way finding signage contribute to its role and function. The quality and function of this space will be maintained and enhanced, with adjacent development site contributing to the qualities of the 'special place'- particularly encouraging activation/activity.

(11) **Key Pedestrian/Cycle Connections** - Key links include:

(a) Heron Street - This is particularly an important east-west link for pedestrians and cyclists.

(b) IGA, the Village & Coastal Park – Another important east–west link for pedestrians and cyclists.

(c) David Low Way – Important north-south link for pedestrians and cyclists, particularly linking the Rufous Street Master Plan area with the core of the village centre.

(12) **Gateways** – The following primary gateways have been identified as important arrival and departure experiences for all modes of transport. Consideration has been given to the experience of town character (landscape, built form, views, etc.), legibility of the town and the hierarchy and role of spaces and streets. Primary Gateways typically mark the arrival at the edge of the centre and include a key view - a 'first impression' of Peregian Beach as a place and a community. Gateway treatments would be enhanced through the following:

(a) Intersection of Woodland Drive and David Low Way at a key bend in the street and arrival at the edge of the town centre. Other key characteristics include being adjacent to community precinct/ community building on corner site and providing regional pedestrian and cycling links/ arrival from the west. Recommendations include:

(i) Intensification of landscaping on corners and in the centre median;

(ii) Improvements to pedestrian pathways and connections (to centre); and

(iii) Any redevelopment of corner sites to positively address corners and reinforce the intersection.

(b) Southern gateway in the vicinity of the 211 David Low Way (hardware store) and the wider landscaped verge. Key characteristics include adjacent views to the western mountain ranges and dramatic change in land use. Recommendations to reinforce and enhance the gateway experience include:

(i) Intensification of landscaping;

(ii) Improvements to pedestrian pathways and connections (to centre); and

(iii) Any redevelopment of hardware site to positively address corners and reinforce the gateway (redeveloped hardware site has the potential to be a landmark building).

SC6.8.5 Tewantin

(1) Key urban design and character outcomes for Tewantin are listed below:

(a) Maintain traditional main street of Poinciana Avenue as the heart of a district level activity centre, providing a good range of commercial, retail, community and residential activities in a mixed use setting.

(b) Retain a compact business centre bound by properties facing Sidoni Street, Blakesley Street, Diyan Street, Memorial Avenue and Doonella Street.

(c) Promote human scale of built form acknowledging current buildings up to 3 storeys in town centre and small tenancies rather than big floor plates.

(d) In Poinciana Avenue, build to the front boundary with active frontages and continuous awnings creating interest and comfort for pedestrians.

(e) Create opportunities for outdoor dining and breakout space for workers.

(f) Provide car parking in the street and to the rear of buildings so as not to interfere with the pedestrian streetscape.

(g) Enhance physical and visual connection to the river near Diyan Street and the Noosa Marina.

(h) Ensure built form and public realm offer high standards of pedestrian accessibility and comfort with wide shaded footpaths and multiple areas to rest or converse.

(i) Improve pedestrian accessibility around town with a connected network of shared pathways linking residential neighbourhoods to the business centre and local shops, schools and recreational facilities.

(j) Where topography allows, ensure land development incorporates through-streets providing a legible road network.

(k) Redevelopment of sites near the Noosa River should respect view lines from public spaces.

(2) The Tewantin Framework and Character Plan is located in the Tewantin Local Plan code in the Noosa Plan. It identifies a number of key urban design and character elements which support the overall outcomes and performance outcomes for Tewantin. Each of these elements are describe in more detail below to provide some context and guidance in achieving the outcomes of the Noosa Plan.

(3) **Key Views** – Views identified as important to the character, legibility and experience of Tewantin fall into two types:

(a) Contextual – typically distant views to landscape elements, often layered with more localised features. Key contextual views for Tewantin are views to Noosa River and Lake Donella. These provide an important connection to the contextual landscape setting and a defining character element for Tewantin. Ridges crossing Blakesley Street, Memorial Avenue and Donella Street set up a reveal experiences at the top of the ridge. Recommendations include:

(i) View to Lake Donella, a key end of road vista - ensure the view is maintained free from obstruction by park infrastructure, road signage and tree planting;

(ii) Views to Noosa River, a key end of road vista from an elevated position – ensure the view is maintained free from obstruction by park infrastructure, road signage and tree planting (and any redevelopment of adjacent sites); and

(iii) Views to Noosa River from the centre/ core public realm would be improved through opening up of the intersection and relocation of the toilet block and picnic shelter.

(b) Localised- typically views within the centre to key character elements, such as heritage and civic buildings or key landscape forms. Localised views to note include:

(i) End of Blakesley Street views to Ward Park;

(ii) Views along Poinciana avenue to heritage buildings and civic monuments; and

(iii) Arrival views of the River-front parkland and Noosa River at Lake Street/Noosa Marina (suggest improvements in Gateways section).

(c) Appendix 1 SC6.8 includes photos of key contextual and localised views for Tewantin.

(4) **Open Space and Landscape Treatments** - The Tewantin Town Centre has a number of open space assets within and adjoining the centre that make a significant contribution to the place character. Key landscape treatments include:

(a) RSL Memorial Park is located at the central intersection of Diyan Street and Poinciana Avenue at its highest point and connects through the river edge at the lowest. The steep topography means most of the park assets are clustered along the street edge, at times blocking significant views to the Noosa River from the core streets. The park and streetscape would benefit from significant upgrades to Diyan Street that incorporate the park, Parkyn Hut Visitor Information Centre. This could be done in combination with redevelopment of the Royal Mail Hotel Site which has potential for outdoor dining with views to the Noosa River.

(b) Ward Park, a large Recreation Park that sits adjacent to the centre and defines part of the western edge. Ward Park sits at a low point, has quite intense tree coverage, and a small street frontage. These characteristics along with the limited connections from the town centre and lack of surrounding activity leave room for improvements to Ward Park's role as a town centre green space;

(c) Martin Park, the Splash Park, various car parks, access roads and the land around the Council Office and Gallery all contribute to a potentially significant green space along the Noosa River. Improvements could include:

(i) formalising the space as a park (Recreation Open Space), connecting Ward Park to Noosa Marina; and

(ii) review of the Lake Street arrival, Martin Park, the car park etc. to consolidate fragmented landscape and green space into a more usable space along the Noosa River – improve gateway/ arrival experience, legibility, increase usable park space on the water front and create fitting setting for the Noosa Marina and Noosa Art Gallery.

(d) Poinciana Avenue and parts of Memorial Avenue and Sidoni Street exhibit a distinct landscape character (and streetscape treatment), specific to Tewantin 'main streets'. Gaps in the street tree planting through the central areas of Poinciana Avenue should be addressed and this would form the benchmark/ standard to meet for all primary streetscape areas.

(5) **Landmark/Character Buildings** – Royal Mail Hotel and the Noosa Council/ Noosa Regional Gallery are considered key landmark/ character buildings.

(a) The Royal Mail Hotel is an identified 'heritage site' and holds an important place in the structure of the town centre, at the intersection of Poinciana Avenue and Diyan Street. The relatively large building is highly visible on arrival (from all directions). It's architecturally distinctive although due for renovation. It sits adjacent to an important public shared space and park and has excellent views to the Noosa River although does not make the most of these. It is recommended that the Royal Mail Hotel site should always maintain this high order role and relationships in the language of the town centre. On site or surrounding development must not detract or diminish from its level of importance in the streetscape/ townscape setting.

(b) The Noosa Council/ Noosa Regional Gallery are important regional civic and cultural destinations. Their location at the end of Poinciana Avenue and proximity to the Noosa River is a key part of the town centre structure and place character (locally and regionally). It is recommended that any redevelopment of these sites retain the 'landmark' position architecturally and the termination of the Main Street and embraces the riverside character, and draws it into the town.

(6) **Key Corners** - These sites make (or have the potential to make) a significant contribution to the built form character and experience of Tewantin. Built form should positively address the corners; be active and inviting (be 'friendly'). Roof forms, windows and door openings should reflect this character outcome and orientation. The following key corners have been identified as potentially suitable for a similar treatment (subject to more detailed investigation e.g. key view lines, topography):

(a) Corner of Diyan and Blakesley Streets;

(b) Intersection of Sidoni Street and Poinciana Avenue (north side in particular) Both sides use height and architectural features at the corners;

(c) Corner of Sidoni and Blakesley Streets where height could also be absorbed because of topography; and

(d) Corner of Memorial Avenue and Poinciana Avenue.

(7) **Primary Active Frontages -** The mapped 'primary active frontages' reflect where this type of built form interface currently exists or is proposed, appropriate, desired and achievable. These built form interfaces must adhere to the planning scheme requirements, particularly the district centre zone. It is assumed that all other business zone street interfaces (within the centre) also provide some form of active frontage, however they may be secondary in nature with variances such as greater setbacks for landscaping.

(8) **Key Development Sites** - These sites have been identified as those with a high likelihood for development/redevelopment in the next 5 to 10 year timeframe and have the potential to significantly impact on the character of the centre. It is recommended that additional guidance on the urban design and built form outcomes of these sites be sought through a preliminary meeting with Council Planning Officers. Key development sites in Tewantin include:

(a) Royal Mail Hotel, bottle shop and adjoining land to the corner of Blakesly and Diyan Streets. These sites present a significant opportunity (in conjunction with upgrades to Diyan Street and RSL Park) for development in the centre. Development should:

(i) Deliver a variety of small tenancies of fine grain with active frontage principles applied;

(ii) Include Activity such as outdoor dining focused to Diyan Street and Poinciana Avenue (not Blakesly Street);

(iii) Protect views to the Noosa River from Blakesley Street, Diyan Street and public areas;

(iv) Consider a higher element/ built form on the corner with Blakesley Street (modelling and analysis of views will need to be undertaken);

(v) Respect and enhance the heritage site and landmark status of the Royal Mail Hotel, maintaining a key character/ landmark role in the centre;

(vi) Create east-west and north-south mid-block pedestrian links that are accessible and safe at all hours; and

(vii) Locate car parking behind buildings and not visible from the street.

(b) Westpac Building:

(i) Opportunity for double story built form or corner element, to improve the scale/ proportion of the shared zone space; contribute to the 'special place' qualities of this intersection and deliver a landmark/ character built form at the high point of the centre with architectural style/ design very important; and

(ii) The site also needs to respect and enhance the heritage site and landmark status of the Royal Mail Hotel, allowing it to maintain a key character/ landmark role in the centre (not be dominated by new built forms).

(c) Vacant Land on the corner of Sidoni and Blakesley Streets: due to topography this site can accommodate high set development without interrupting or impacting on the hierarchy of the town centre. Development has the potential to activate Ward Park.

(9) **Streetscape Treatment Areas** reinforce the character experience of Tewantin. The established street hierarchy and character defines what is appropriate for the use and role of the street primarily through the extent, quality and application of materials, placement of streetscape elements/furniture and interfaces. Treatments should be consistent with any existing or proposed streetscape improvement works in the area. Primary streetscape treatment areas for Tewantin include:

(a) High quality materials and finishes, exhibiting local character, that reinforce Poinciana Avenue as the main street;

(b) A well connected pedestrian friendly zone with a high level of amenity – low vehicle speeds, attractive streetscaping, continuous, wide, level weather-protected footpaths with safe crossings and wide vegetated verges and medians, etc.

(c) Reinforce street activation principles, provide a focus for active interfaces such as well integrated outdoor dining areas;

(d) High quality landscaping including enhanced greening at key intersections, street trees with canopy shade cover and extensive low level planting;

(e) Focus on quality public realm around, and connecting to public transport stops;

(f) Provide clear, visible, unique and consistent signage at entries into the town to help people understand where they are; and

(g) Improved streetscaping in parts of Poinciana Avenue and Diyan Street to align with the above attributes of a Primary Streetscape Area.

(10) **Special Place** – The intersection of Memorial Avenue/ Diyan Street and Poinciana Avenue has been identified as a 'special place' in the Tewantin Town Centre for many reasons. Not only is it a gateway marking the arrival in the 'centre' of Tewantin but it is an important landmark and gathering point (particularly given the presence of the Cenotaph). Other key characteristics include:

(a) Maximised public realm and pedestrian priority - expanded curbs at corners, reduced road pavement and low vehicle speeds, shared space/ surface treatment;

(b) Close proximity (and sight lines) to majority of key destinations (including the Visitor Information Centre, park, hotel, RSL, Post Office, Council etc);

(c) High quality materials and finishes exhibiting local character;

(d) Public amenities and multiple resting and meeting places with nearby views to the Noosa River;

(e) Includes bike storage, access to public transport and directional signage to key destinations;

(f) Buildings on the corners generally address the intersection but with room for improvement;

(g) Recommendations to reinforce and enhance the special place character include:

(i) Improve views to the Noosa River as per recommendations in above sections (to relocate toilets and apply public open space on corner);

(ii) Improve the scale and sense of enclosure for pedestrians (to the south and west) with any redevelopments using high set buildings and incorporating landscape treatments;

(iii) Improve connections/ links/ wayfinding;

(iv) Improve character landscaping, especially on corners; and

(v) Promote outdoor dining areas integrated with the streetscape (highly visible on corners).

(11) **Key Pedestrian/Cycle Connections** -:

(a) **Mid-Block:** Important mid-block links utilise existing arcades, lanes and informal connections between buildings and through car parks. New links could be created leveraging off key development site. Mixed use development and further activation is encouraged around these links and laneways.

(b) Connecting Parks: There is potential to formalise a riverside park between the RSL Memorial Park, gallery forecourt and the Noosa Marina, beyond to Hilton Esplanade. The existing pedestrian/cyclist experience could be greatly improved with

additional character landscaping, shade trees, open grassland and furniture. This would also draw many water passengers who alight at the marina to explore their way into the town centre and generally heighten awareness of the gallery.

(12) **Gateways** – The following primary gateways have been identified as important arrival experiences for all modes of transport. Consideration has been given to the experience of town character (landscape, built form, views, etc.), legibility of the town and the hierarchy and role of spaces and streets. Primary Gateways typically mark the arrival at the edge of the centre and include a key view - a 'first impression' of Tewantin as a place and a community. Recommendation for gateway treatments are:

(a) Intersection of Poinciana Avenue and Sidoni Street – an important arrival point for pedestrians, cyclist and traffic, at the western edge with multi- directional access to all areas of the centre. The gateway experience could be reinforced and enhanced through:

(i) Improved wayfinding signage; and

(ii) Improved pedestrian and cyclist connection.

(b) Intersection of Memorial Avenue and Donella Street – an important arrival point for cyclists and traffic (less so pedestraians), at the south eastern edge with multi- directional access to all areas of the centre and to the Marina. The RSL successfully addresses the corner. The gateway experience would be enhanced through improved pedestrian connection.

(c) Intersection of Memorial Avenue and Lake Street – an important arrival point from the east to the majority of recreation, civic and arts destinations. It is particularly the main pedestrian corridor with interesting intersection geometry having wide and expansive spaces for landscaping, and potential view corridor to Noosa River and Lake Doonella. Recommendations to reinforce and enhance the gateway experience include:

(i) Take advantage of generous road verges / interesting wedge spaces to create a mostly 'green' arrival experience;

(ii) Swap Martin Park and the car park / boat trailer parking to improve the quality and experience of the river parkland; and

(iii) Improve pedestrian and cyclist connections.

SC6.8.6 Noosaville

(1) Key urban design and character outcomes for Noosaville are listed below:

(a) Reinforce architectural design requirements in keeping with the Noosa style and general scale of newer development in Mary Street / Thomas Street.

(b) Ensure new development on Thomas Street is consistent with the streetscape character, addresses the street edge and contains active frontages.

(c) Where minimum floor heights are specified ensure buildings are accessible for people with a disability.

(d) Review car parking arrangements to ensure sufficient car parking but not at the expense of pedestrian safety or walkability of Noosaville. Parking within the road reserve may be preferable to parking between the building and the footpath.

(2) The Noosaville Framework and Character Plan is located in the Noosaville Local Plan code in the Noosa Plan. It identifies a number of key urban design and character elements which support the overall outcomes and performance outcomes for Noosaville. Each of these elements are describe in more detail below to provide some context and guidance in achieving the outcomes of the Noosa Plan.

(3) **Key Views –** Views identified as important to the character, legibility and experience of Noosaville:

(a) Contextual views – typically distant views to landscape elements, often layered with more localised features. Key contextual views for Noosaville are views to Noosa River. Future development in the private and public realm should retain and enhance:

(i) views to Noosa River and the River environment;

(ii) views to distant Noosa Heads and Keyser Island Conservation Park environment.

(b) Appendix 1 SC6.8 includes photos of key contextual views for Noosaville.

(4) **Open Space and Landscape Treatments** - Central Noosaville has a number of open space assets within and adjoining the centre that make a significant contribution to the place character. Key landscape treatments include:

(a) The typically high quality of landscaping in Thomas Street. It is characterised by the natural/ informal style of planting and the high level of shade created by the trees in the centre median and the verges. The high quality should be maintained and enhanced through additional shade tree planting in the verges (particularly on the eastern side where there are a couple of gaps). This would then set the benchmark for other local landscaping. It is recommended that the northern end of Thomas Street be distinct from the southern end as the recommended 'main street' for the centre.

(b) Mary Street complements Thomas Street providing a slightly different character and feel with a more formal/ boulevard style of planting. The quality and character of landscaping could be improved in some parts of the street with intersection treatments warranted and landscaping designed to slow traffic. If median parking is introduced shade coverage in the centre median will be required, as well as improved pedestrian crossing points.

(c) Gibson Road is a major road and carries much of the through traffic movements and service vehicles. The landscape quality is quite high along the length of the road; vegetation is dense, informal and reflective of the surrounding natural landscape. The wider verges with meandering paths are quite pleasant for pedestrians and cyclists to navigate. Additionally, the landscape does a good job of screening the servicing and back of house areas of the adjacent shopping centre, lifting the experience and impression on the place. This standard should be used as a benchmark for other streets.

(5) **Landmark/Character Buildings** – buildings along Thomas Street (north) make the most significant built form contribution to the character of the centre, however there are no single landmark/ character buildings identified within the centre. There is however potential for future landmark/ character built form to contribute to the identified 'special place' and 'gateway' intersections.

(6) **Key Corners** - These sites make (or have the potential to make) a significant contribution to the built form character and experience of central Noosaville. Built form should positively address the corners; be active and inviting (be 'friendly'). Roof forms, windows and door openings should reflect this character outcome and orientation. Ideally car parking is not located between the buildings and the road.

(7) **Primary Active Frontages** - The mapped 'primary active frontages' reflect where this type of built form interface currently exists or is proposed; appropriate, desired and achievable. These built form interfaces must adhere to the planning scheme requirements, particularly the district centre zone. It is recommended that a new private road be created through the centre, forming a new street based retail environment/ focus. Fine grain active frontages could be sleeved in front of existing bigger box uses.

(8) **Key Development Sites** - These sites have been identified as those with a high likelihood for development/redevelopment in the next 5 -10 year timeframe and have the potential to significantly impact on the character of the centre. It is recommended that additional guidance on the urban design and built form outcomes of these sites be sought through a preliminary meeting with Council Planning Officers. Key development sites in Noosaville include:

(a) The 'super block' containing the Noosa Homemaker Centre, Noosa Village Shopping Centre and Noosa Villa Hotel could be greatly improved to deliver a cohesive, permeable and attractive place with a strong local identity and sense of place. It is acknowledged that the plan for change is a long term vision, as such it has been considered as a staged approach, based on a high level understating of the likelihood and time frames for change for the current uses/ developments. The following stages may act as a guide for future decision making:

(i) Create a new internal private north- south Main Street, with streetscape improvements to the intersection with Mary Street that align with the designation of a 'Special Place';

(ii) Redevelop (part of) Noosa Village Shopping Centre by sleeving the large format retail with fine grain retail that addresses and activates the new Main Street;

(iii) Encourage the Noosa Villa Hotel to activate the other side of the Main Street with outdoor dining areas (short term);

(iv) Redevelop the Noosa Homemaker centre by creating a north-south lane/ service road, and the western part of the east-west service road. Deliver the built form/ retail in a way that activates the external streets (Mary Street, Thomas Street and Gibson Road), with car parking and servicing to the rear/ mid-block, away from the main public realm areas; and

(v) Redevelop the Noosa Villa Hotel or develop the adjacent car park, particularly addressing the key corner sites where the new main street meets the external streets.

(b) Mary Street key development site should be planned and designed in a way that contributes to the qualities and characteristics of Mary Street with activated frontages and high quality landscaping.

(9) **Streetscape Treatment Areas** reinforce the character experience of Noosaville. They establish street hierarchy and character that is appropriate for the use and role of the street primarily through the extent, quality and application of materials, placement of streetscape elements/furniture and interfaces. Treatments should be consistent with any existing or proposed streetscape improvement works in the area. Primary streetscape treatment areas for Noosaville include:

(a) High quality materials and finishes, exhibiting local character, that reinforce Thomas Street and the proposed new street as the main streets (2 centres identified)

(b) A well connected pedestrian friendly zone with a high level of amenity for pedestrians – low vehicle speeds, attractive vegetated streetscaping; continuous even, wide, weather-protected footpaths with safe crossings, wide verges and medians, etc.

(c) Reinforce street activation principles, provide a focus for active interfaces such as well integrated outdoor dining areas

(d) High quality landscaping including enhanced greening at key intersections, street trees with canopy shade cover and extensive low level planting

(e) Focus on quality public realm around, and connecting to public transport stops (bus stops on Thomas Street and Mary Street)

(f) Provide clear, visible, unique and consistent signage throughout to help people understand where they are;

(g) Key Recommendations include streetscape improvements in parts of Thomas Street and the proposed private access way to align with the above attributes of a Primary Streetscape Area.

(10) **Special Place** – Two 'special places' have been identified in central Noosaville and provide important arrival points and meeting places, for pedestrians in particular. The intersections at these locations and their surrounds should be the highest quality space with the highest levels of embellishment.

(a) **Key attributes** should include:

(i) Maximised public realm and pedestrian priority - expanded curbs at corners, reduced road pavement and low vehicle speeds

(ii) High quality materials and finishes

(iii) Character landscape (intense landscape at the corners and centre)

(iv) Outdoor dining areas integrated with the streetscape (highly visible on corners)

(v) Public amenities, bike storage, resting and meeting places of a high number and quality

(vi) Close proximity (sight lines) to majority of key destinations

(vii) Nearby views to the River (down Thomas Street)

(viii) Access to public transport

(ix) Directional signage to key destinations

(x) Corners sites/ buildings that positively address intersection

(b) The 'Special Places' for central Noosaville are detailed below:

(i) The intersection of Gympie Terrace and Thomas Street marks the arrival in the 'centre' from the Noosaville foreshore. This area has a high quality streetscape and is highly activated and a key meeting place.

(ii) The proposed internal access way intersection between the Villa Noosa and Noosa Village shopping centre has the potential to provide a key meeting place and mid-block linkage between two key destinations in the centre. This area should be developed with a high quality streetscape and activation to the street to create a quality meeting place.

(11) **Key Pedestrian/Cycle Connections** - Key links include:

(a) Noosa River to Gibson Road –It's recommended to retain/ improve this link/ circuit for pedestrians and cyclists - in particular connections through the large format retail development and car park.

(b) Mid-Block Links - Recommendation to improve these links for pedestrians and cyclists over time by making more direct and attractive public links, east-west and north-south through this large land parcel.

(12) **Gateways** – Thomas Street and Gibson Road Intersection and Mary Street and Gibson Road intersection are primary gateways that mark the transition from accommodation uses and arrival at the western and eastern edges of the centre. They have been identified as important arrival experiences. Consideration has been given to the experience of town character (landscape, built form, views, etc.), legibility of the centre and the hierarchy and role of spaces and streets. It is recommended that the gateway experience of these intersections is reinforced and enhanced by improvements to pedestrian pathways and connections to the centre and that any redevelopment of adjacent sites (particularly the Noosa Homemaker Centre) should ensure the built form positively addresses corners and reinforces the gateway.

SC6.8.7 Hastings Street (Noosa Heads)

(1) Key urban design and character outcomes for Hastings Street are listed below:

(a) Continue to reinforce clear maximum building heights, plot ratios and design requirements for Hastings Street.

(b) Ensure new development is of a high architectural design standard, addresses the street, provides publicly accessible spaces and opportunities for people to gather and sit.

(c) Develop strategies to encourage access to Hastings Street by means other than private cars by facilitating convenient pedestrian and cycle links, public transport and park and ride facilities away from this area.

(d) Ensure any new development or streetscape works maximises opportunities for pedestrian and cycle access.

(2) The Hastings Street Framework and Character Plan is located in the Noosa Heads Local Plan code in the Noosa Plan. It identifies a number of key urban design and character elements which support the overall outcomes and performance outcomes for Hastings Street. Each of these elements are describe in more detail below to provide some context and guidance in achieving the

outcomes of the Noosa Plan.

(3) **Key Views** – Views identified as important to the character, legibility and experience of Hastings Street are divided into two types:

(a) Contextual – typically distant views to landscape elements, often layered with more localised features. Key contextual views for Hastings Street are:

(i) The view from Hastings Street to the ocean and open coastal environment is important given the built density and topographic characteristics of the Hastings Street centre. This link connects the experience in Hastings Street with the environmental context, one of its strongest place characteristics. Any visual and physical links to the coastal areas from Hastings Street should be protected and maintained as public spaces (and neither the view nor the sense of openness be diminished);

(ii) View from Park Road to the ocean and coastal environment is important given the built density and topographic characteristics of the Hastings Street centre. There is no other place within the centre where a public road adjoins the coastal environment offering direct views to the water. This connects the experience in Hastings Street with the environmental context, one of its strongest characteristics. Any visual and physical links to the coastal areas from Park Road should be protected and maintained as public spaces (and neither the view nor the sense of openness be diminished); and

(iii) View from boardwalk/ ferry stop to distant mountain ranges/ Mt Cooroy, with Weyba Creek in foreground is an important contextual view. Public access to this view should be maintained, enhanced and celebrated (perhaps supported by educational signage).

(b) Localised - typically views within the centre to key character elements, such as significant landmark or character buildings or key landscape forms. Localised Views include:

(i) From Noosa Drive to the ocean/ coastal environment;

(ii) From Lions Park to Weyba Creek;

(iii) Along the Parade/ Boardwalk to Noosa Woods/ Noosa Spit Recreation Reserve;

(iv) Along Hastings Street to Noosa Woods/ Noosa Spit Recreation Reserve;

(v) Along the Boardwalk to Noosa Woods/ Noosa Spit Recreation Reserve; and

(vi) Along Noosa Drive to centre, framed by open space/ intermittent views across Lions Park to Weyba Creek.

(c) Appendix 1 SC6.8 includes photos of key contextual and localised views for Hastings Street.

(4) **Open Space and Landscape Treatments** - The landscape character within Hastings Street is generally of a high quality and plays an important role in linking the surrounding open spaces. Hastings Street and Noosa Drive have some of the highest quality examples of mature landscape between the built form, and dappled sunlight in the public realm; two defining characteristics of the 'Noosa Style'. Key landscape treatments include:

(a) Hastings Street is unique in the way shade is provided predominately by the street tree canopy cover, often completely connecting across the road. Landscaping is slightly more formal and very well maintained compared to that in other nearby streets (reflecting the type of retail and activity). Public and private landscaping works blend well in the streetscape to create a strong green character experience. It is recommended that this high quality is maintained and used as a benchmark. Development or redevelopment projects should ensure building works do not adversely impact the tree health and ability to provide extensive canopy coverage/ shade.

(b) Noosa Drive and the adjacent car park complements Hastings Street, providing a slightly different character and feel. The more natural style of planting reflects characteristics of the National Park, provides excellent shade coverage and includes many interesting feature trees (e.g. Figs). The high quality of landscaping in this area should be maintained.

(c) The Parade/ Boardwalk complements Hastings Street and Noosa Parade, providing a different character and feel. The plant species reflect the coastal character and provide a green edge to the beach. It's recommended this high quality and character is maintained

(d) The Noosa Heads Bus Stop on Noosa Parade is a significant arrival node/ gateway and part of the major road corridor. Currently it does not express the same high quality landscaping and character elements as the rest of the centre but could improve with additional shade trees and low level planting, allowing for casual surveillance and avoiding opportunities for concealment.

(5) **Landmark/Character Buildings** – The built form along Hastings Street is quite varied in architectural style, setbacks, height and interface with the streetscape. It is this variety that influences the streetscape character. Here and in surrounding streets, however trees and landscaping remain the dominant character element largely obscures the built form. The Visitor Information Centre is considered a key landmark/ character building in the Hastings Street centre, it exhibits the qualities of a 'Noosa Style' building.

(6) **Key Corners** - These sites make (or have the potential to make a significant contribution to the built form character and experience of Hastings Street. Built form should positively address the corners; be active and inviting (be 'friendly'). Roof forms, windows and

door openings should reflect this character outcome and orientation.

(7) **Primary Active Frontages** - The mapped 'primary active frontages' reflect where this type of built form interface currently exists or is proposed; appropriate, desired and achievable. These built form interfaces must adhere to the planning scheme requirements, particularly the visitor accommodation zone.

(8) **Key Development Sites** - There are no key development sites identified in the centre (sites with a high likelihood for development/significant change in the next 5-10 years that would significant impact character and function). However, it is noted that the Sofitel site is the largest single ownership site and therefore may have the most redevelopment potential. It holds a key position on a highly visible 'gateway' with frontages to both Noosa Parade and Hastings Street. It is recommended that if redevelopment were to occur particular guidance on the urban design and built form outcomes for this site be sought through a preliminary meeting with Council Planning Officers.

(9) **Streetscape Treatment Areas** reinforce the character and experience of Hastings Street. They establish street hierarchy and character that is appropriate for the use and role of the street primarily through the extent, quality and application of materials, placement of streetscape elements/furniture and interfaces. Treatments should be consistent with any existing or proposed streetscape improvement works in the area. Primary streetscape treatment areas for Hastings Street include:

(a) High quality materials and finishes exhibiting local character, that reinforce Hastings Street as the main street;

(b) A well connected pedestrian friendly zone with a high level of amenity for pedestrians – low vehicle speeds, attractive vegetated streetscaping, continuous, wide, even, footpaths with safe crossings, wide verges and medians, etc.

(c) Reinforced street activation principles; provide a focus for active interfaces such as well integrated outdoor dining areas;

(d) High quality landscaping including enhanced greening at key intersections, street trees with canopy shade cover and extensive low level planting;

(e) Focus on quality public realm around, and connecting to public transport stops (bus stops on David Low Way)

(f) Provide clear, visible, unique and consistent signage at entries into the town to help people understand where they are; and

(g) Key Recommendations include improvements to the public realm to elevate the importance, attractiveness and accessibility for the bus interchange and the Ferry Terminal.

(10) **Special Place** - The Intersection of Hastings Street and Noosa Drive (main streets) marks the arrival in the Hastings Street centre. It is an important arrival point and meeting place, for pedestrians in particular. This intersection and its surrounds (in particular the area adjacent to the Visitor Information Centre) should be the highest quality space with the highest levels of embellishment. Other key characteristics include:

(a) Maximised public realm and pedestrian priority - expanded curbs at corners, reduced road pavement and low vehicle speeds;

(b) High quality materials and finishes exhibiting local character;

(c) Character landscape (intense landscape at the corners and centre);

(d) Outdoor dining areas integrated with the streetscape and highly visible, especially on corners;

(e) Public amenities, bike storage, resting and meeting places of a high number and quality;

(f) In close proximity of and within sight of majority of key destinations (e.g. Surf Club, Police Beat, Bus interchange and Visitor Information Centre);

(g) Nearby views to the ocean;

(h) Directional signage to key destinations (such as Noosa National Park);

(i) Corners sites/ buildings that positively address intersection (note lower scale compared to balance of centre); and

(j) Recommendations include improved pedestrian connections on all legs of the intersection (putting people first)

(11) **Key Pedestrian/Cycle Connections** - Key links include:

(a) Noosa Main Beach to Weyba Creek/ Lions Park (north - south) – Retain and improve this link/ circuit for pedestrians and cyclists - in particular connections through the bus interchange and car parking areas. This is particularly important during peak holiday seasons and major events.

(b) The Parade (east- west) – Retain and improve this link for pedestrians and cyclists, connecting the two regionally significant areas of open spaces without going 'on road' – a key part of the regional network. Avoid encroachment on this path/ space by commercial business/ private enterprise.

(c) Mid-block links – Retain and improve these connections for pedestrians and cyclists, particularly linking the Ferry Terminal directly with Hastings Street/ Main Beach, and ideally connections would be made public (open 24hrs) to get as much north-south permeability through the centre as possible.

(d) Noosa Woods/ Noosa Spit Recreation Reserve - Formally and directly connect The Parade (boardwalk) with the Ferry Terminal boardwalk and Noosa Parade (including removal of obstacles and connection of pathways). This would create a

complete walking circuit around the centre.

(12) **Gateways** – The following primary gateways have been identified as important arrival and departure experiences for various modes of transport. Consideration has been given to the experience of town character (landscape, built form, views, etc.), legibility of the town and the hierarchy and role of spaces and streets. Primary Gateways typically mark the arrival at the edge of the centre and include a key view - a 'first impression' of Hastings Street as a place. Recommendation for gateway treatments are:

(a) Garth Proud Bridge on Noosa Parade forms a transition over water and arrival at the edge of the centre. Open space meets both sides of the gateway and multiple transport arrival points (including the ferry stop, bus stop and pathways conserve here. There are western views to Mount Cooroy. The gateway experience could be reinforced and enhanced through intensification of landscaping and improved pedestrian pathways and connections. Any redevelopment of the Sofitel site could have a considerable influence on this gateway.

(b) Noosa Parade and Noosa Drive Intersection, and the Bus Interchange is a significant arrival point. Key characteristics include its adjacent green spaces and character vegetation in the widened verges, and regional pedestrian and cycling links/ arrival from the west and south. The gateway experience could be reinforced and enhanced through intensification of landscaping (on corners, in the centre median and throughout the bus interchange) and ensuring that any development works on corners sites positively addressing the corners and reinforce the gateway. Accessible pathway connections to the centre could also be improved.

SC6.8.8 Noosa Junction (Noosa Heads)

(1) Key urban design and character outcomes for Noosa Junction are listed below:

(a) The centre forms is a hub for creative industries, start-up business development and other enterprises.

(b) Sunshine Beach Road continues to be the principal "main street" of Noosa Junction.

(c) New development addresses the street and presents interesting coastal styles, textures and materials.

(d) Commercial floor space can be used in flexible arrangements including co-working spaces, education, research and development, creative industry development, artisan residences and other enterprises.

(e) Small independent businesses are encouraged to locate in Noosa Junction.

(f) The quick start up of "pop up shops" and appropriate small independent tenancies are supported with a streamlined planning process.

(g) Vacant and underutilised land in and around Noosa Junction with good access to public transport contributes to attached housing opportunities for permanent residents;\

(2) The Noosa Junction Framework and Character Plan is located in the Noosa Heads Local Plan code in the Noosa Plan. It identifies a number of key urban design and character elements which support the overall outcomes and performance outcomes for Noosa Junction. Each of these elements are describe in more detail below to provide some context and guidance in achieving the outcomes of the Noosa Plan.

(3) **Key Views** – Views identified as important to the character, legibility and experience of Noosa Junction fall into two types:

(a) Contextual – typically distant views to landscape elements, often layered with more localised features. The most predominant contextual views for Noosa Junction are the views to Noosa National Park to the south east. These particularly contribute to gateway experiences.

(b) Localised- typically views within the centre to key character elements, such as significant landmark or character buildings or key landscape forms. Localised Views include:

(i) Views to Pinaroo Park from Noosa Drive and from the new link road and 'future square';

(ii) Views to the intersection of Noosa Dive and Sunshine Beach Road (combination of built form and character landscape);

(iii) Views to core public realm spaces (Arcadia Street and future square);

(iv) Views to surrounding residential areas on the steep hills (framed by town centre buildings, vantage points in the core public realm areas); and

(v) Views to the bus interchange from key gateway sites (elevate the importance of public transport in the town centre context)

(c) Appendix 1 SC6.8 includes photos of key contextual and localised views for Noosa Junction.

(4) **Open Space and Landscape Treatments** - The landscape character within the town centre streets is generally of a high quality. The intersection of Sunshine Beach Road and Noosa Drive, and the intersection of Sunshine Beach Road and Cooyar Street, are good examples of 'Noosa Style' intensification of informal planting, particularly at the corners and the middle. Key landscape

treatments include:

(a) The regionally significant Noosa National Park and Pinaroo Park provide a significant opportunity for a 'green' town centre character, however the proximity of these open space assets is not currently leveraged. There is a key opportunity through the redevelopment of the Bowls Club (and on a much longer time scale, Noosa Fair Shopping Centre) to activate and engage with the edge of Pinaroo Park (it is directly adjacent with no major barriers). This engagement will contribute to the quality of the town centre environment and local character experience, potentially opening up an opportunity for more nature based experiences as part of the centre.

(b) Arcadia Street plaza and shared space is of a high quality and plays an important role in linking the main retailing street (Sunshine Beach Road) with secondary retail streets and spaces. The landscape qualities are characteristic of the wider Noosa style whilst also being distinctively local. The space seems a little underutilised, however this may be rectified once the bowls club site is redeveloped and the connection feels complete (currently no destination / crossing at the extension of Arcadia Street across Lanyana Way). It is recommend the high quality is maintained/ used as a benchmark, and extended across Lanyana Way to the 'future square' - it all should read as one public place.

(c) The Main Street (Sunshine Beach Road) is characterised by a wide central median which allows some quite large copy trees to be a dominant character element and provide extensive shade coverage (at times all the way across the traffic lanes). The planting style is informal and irregular, adding to the charm and distinctiveness of the place. The north-western end (north side) has a green gateway as the secondary elevated footpath is separated from the lower footpath by a landscape zone. This unique condition adds to the special arrival character but creates challenges for wheelchairs and prams. It is important that any redevelopment of adjoining buildings does not adversely impact the tree health and ability to provide extensive canopy coverage/ shade. The landscaped quality of this area should be maintained and it may serve as a benchmark for other spaces.

(d) Future Road to Noosa Drive should complement Sunshine Beach Road as a smaller scale (secondary) centre street. The spaces adjacent the new square and across Lanyana Way should be treated as 'shared spaces/ an extension of the Arcadia Street Square.

(e) Lanyana Way should also complement Sunshine Beach Road as a smaller scale (secondary) centre street. The quality of the streetscape on the northern side is satisfactory for the adjoining uses. The southern side is characterised by a section of screening vegetation to the Noosa Fair car park and this character vegetation should be retained and enhanced.

(5) **Landmark/Character Buildings** – Although there are no standalone character or landmark buildings in Noosa Junction, the built form along Sunshine Beach Road is quite varied in architectural style, setbacks, height and interface with the streetscape. It is this variety that influences the streetscape character, however the large canopy trees (particularly in the central median) and landscaping remains the dominant character element.

(6) **Key Corners** - These sites make (or have the potential to make) a significant contribution to the built form character and experience of Noosa Junction. Built form should positively address the corners; be active and inviting (be 'friendly'). Roof forms, windows and door openings should reflect this character outcome and orientation.

(7) **Primary Active Frontages** - The mapped 'primary active frontages' reflect where this type of built form interface currently exists or is proposed; appropriate, desired and achievable. These built form interfaces must adhere to the planning scheme requirements, particularly the Major Centre Zone code. While all other business zone street interfaces (within the centre boundary) provide some form of active frontage, they may be secondary in nature with variances such as greater setbacks for landscaping.

(8) **Key Development Sites** - Key development sites have been identified as those with a high likelihood for development/significant change in the next 5-10 years. These sites have the potential to significantly impact the character and activity of the centre based on, likely/ known future use, parcel size and location. It is recommended that additional guidance on the urban design and built form outcomes of these sites be sought through a preliminary meeting with Council Planning Officers. Key development sites in Noosa Junction include:

(a) Council Car Park adjacent to Bottlebrush Avenue offers a long term residential redevelopment opportunity and any development should allow for publicly accessible mid-block linkages to increase permeability around the centre;

(b) Lanyana Way sites - In redevelopment of existing lowset older buildings, new built form should maintains the exiting fine grain appearance to Lanyana Way and provide glimpses to surrounding landscape including Noosa Hill. Buildings should address the corner with this new connection by wrapping openings and awnings around the corner. Mid-block, publicly accessible walkways need to link Lanyana Way with Sunshine Beach Road and link to the bus station.

(c) Redevelopment of the Bowls Club and adjoining Council car park. (Refer to Figure 2 – Redevelopment of Bowls Club Council Car Park) - Recommendations include:

(i) Residential uses are located and orientated to provide passive surveillance to the park node and the mid-block links and laneways. Built form should also positively contribute to the entry/ gateway experience of Noosa Drive;

(ii) New business or community uses address the new street and provide an active frontage to the future square, with parking and servicing to the rear;

(iii) Redevelopment allows for the adaptive reuse of the Bowls Club building as well as the logical expansion of built form over time;

(iv) The new street extends directly from the central future square to Pinaroo Park, creating a legible connection to this hidden asset. This approach acknowledges key design principle from past consultation and design investigations. Additionally, this alignment informs the balance development parcels and other networks, setting up a relatively flexible, adaptive and logical pattern for future redevelopment opportunities to occur;

(v) Future service vehicle access is located away from the central public realm areas. This alignment, adjacent to Pinaroo Park provides the opportunity to create an esplanade road to the park in the longer term, connecting the park and activity centre and thereby allowing more people to experience and value the green space.

(9) **Streetscape Treatment Areas** reinforce the character and experience of Noosa Junction. They establish street hierarchy and character that is appropriate for the use and role of the street, primarily through the extent, quality and application of materials, placement of streetscape elements/furniture and interfaces. Treatments should be consistent with any existing or proposed streetscape improvement works in the area. Primary streetscape treatment areas for Noosa Junction include:

(a) High quality materials and finishes exhibiting local character, that reinforce Sunshine Beach Road and Arcadia Street as the main streets;

(b) A well connected pedestrian friendly zone with a high level of amenity for pedestrians – low vehicle speeds, attractive vegetated streetscaping, weather protected, even continuous footpaths, safe crossings, wide verges and medians, etc.

(c) Reinforce street activation principles, provide a focus for active interfaces such as well integrated outdoor dining areas;

(d) High quality landscaping including enhanced greening at key intersections, street trees with canopy shade cover and extensive low level planting;

(e) Focus on quality public realm around, and connecting to public transport stops (bus stops and interchange on Sunshine Beach Road); and

(f) Provide clear, visible, unique and consistent signage at entries into the town to help people understand where they are.

(10) **Special Place** - There are three identified ‘special places’ in the Noosa Junction centre, with differing characteristics and roles. They are detailed below:

(a) Arcadia Street plaza / shared space and the Future Square created by the redevelopment of the bowls club, will form the highest order public meeting and arrival place in the centre. Importantly this space connects the Main Street (Sunshine Beach Road) with secondary town centre streets and key destinations (Noosa Fair, Lanyana way, Pinaroo Park, etc.). It is centrally located, with a high level of visibility from other spaces in the centre, and is an iconic meeting place for locals and visitors. Recommendations include:

(i) Future works protecting its role and function as the highest order space with the highest levels of embellishment;

(ii) The design of the future square ‘stitches in’ with the existing spaces, creating one unified place (the treatment of Lanyana Way will be crucial to achieving this)

(iii) The space continues to function as a connecting space for people first and vehicles second, it should be the most attractive choice for connection in the centre.

(iv) Continued use of the space for higher level community gatherings, activities and temporary installations.

(b) The Cinema Forecourt is an iconic and well used meeting and gathering place, located centrally on the Main Street. It primarily relates to the Cinemas, however also acts as a resting place on the Main Street. The landscape treatment is a high quality, including iconic artwork. Continued activation of this space and reinforcement of its connections to other special places and destinations within the centre is important.

(c) The Bus Interchange Forecourt is a key arrival and connecting place in Noosa Junction and for many people it forms the first impression of the place. It has an important linking role between the public transport node (including the bike storage area) and the centre. The landscape treatment is of a high quality, including iconic artwork and the treatment of access ways that prioritise people over cars. Continued activation of this space and reinforcement of its connections to other destinations within the centre is important.

(11) **Key Pedestrian/Cycle Connections** - Key links in Noosa Junction relate to the mid-block connections of Sunshine Beach Road to both Lanyana Way and Bottlebrush Avenue. These include:

(a) Mid-block connections that create multiple choices when moving around the centre and unlocking one of the unique characteristics of the centre being the lanes and spaces in between. Recommendations include:

(i) Public/private collaboration to make these connections publicly accessible;

(ii) Alignment of pedestrian crossings and signage with these connection points to make them more visible and increase use; and

(iii) Activation of the lanes and in between spaces.

(12) **Gateways** – The following primary gateways have been identified as important arrival and departure experiences for various modes of transport. Consideration has been given to the experience of centre character (landscape, built form, views, etc.), legibility of the centre and the hierarchy and role of spaces and streets. Primary Gateways typically mark the arrival at the edge of the centre and include a key view - a 'first impression' of Noosa Junction as a place. Recommendation for gateway treatments are:

(a) Roundabout of Noosa Drive, Coral Tree Avenue and new road at a key bend in the street, low point after crossing of a steep ridge, and arrival at the edge of the town centre. Other key characteristics include its adjacent Pinaroo Park activity node with views to Pinaroo Park as well as the location of the new town centre access road and existing character vegetation. Recommendations to reinforce and enhance the gateway experience include:

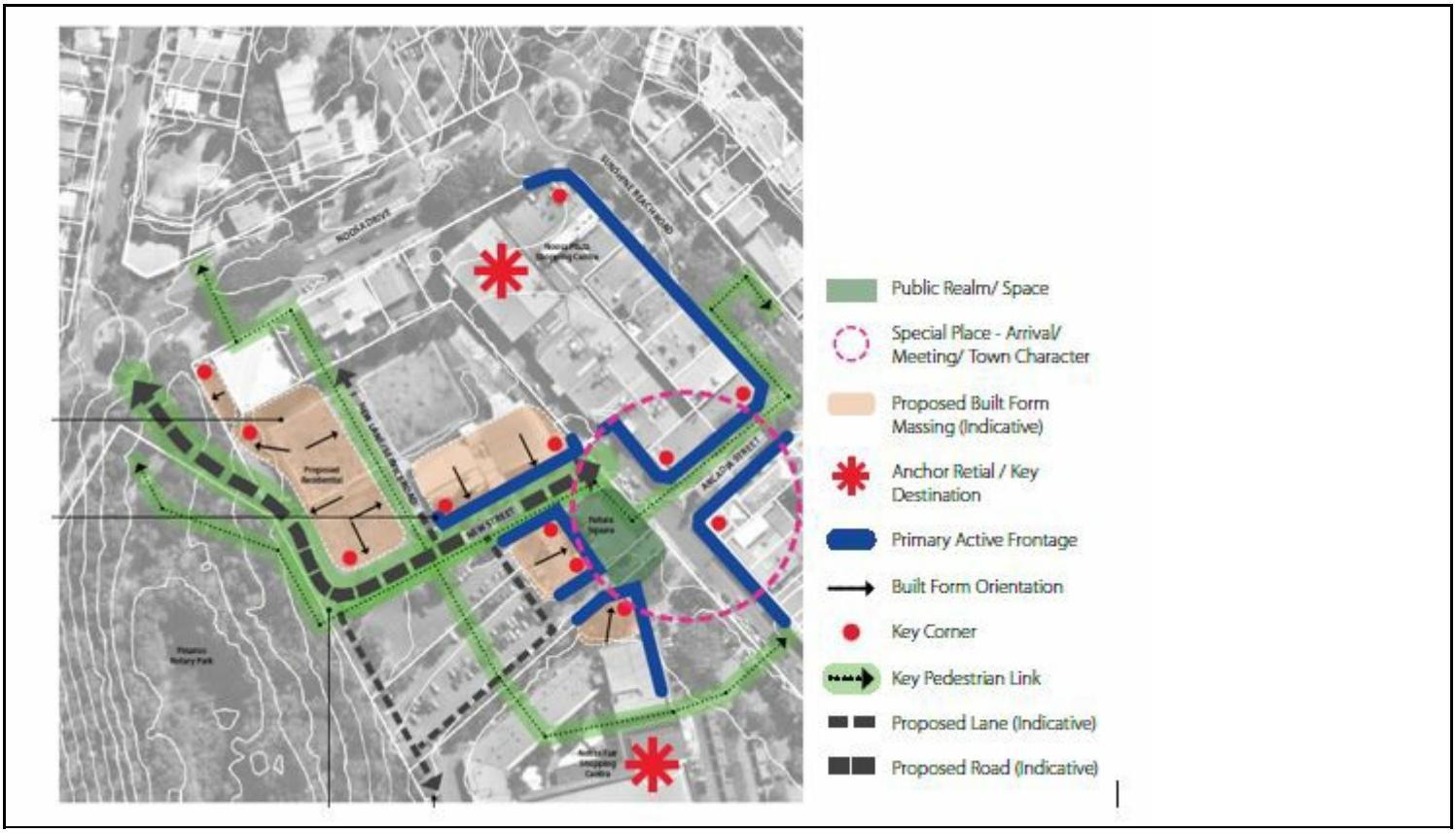
(i) Improvements to pedestrian pathways and connections (to centre); and

(ii) Any redevelopment of corners sites to positively address corners and reinforce the gateway (note the opportunity for new uses/ built form to respond to the gateway on the narrow strip of land north-east of the new entry road).

(b) Noosa Drive and Sunshine Beach Road intersection is also a significant arrival point for vehicles and pedestrians. Its position at a bend in the street, at the low point coming off a hill, signals arrival at the edge of the activity centre. The road geometry highlights corner sites/ built form, framed by existing character vegetation. Pedestrian connectivity could be improved as the formal crossings are a long way from the desired crossing point. Any redevelopment of corners sites should positively address corners and reinforce the gateway (note issues with the scale and interface of Noosa Plaza Shopping Centre at the Noosa Dive address).

(c) Sunshine Beach Road and Cooyar Street intersection is a significant arrival confluence point for various modes of transport. The adjacent National Park and character vegetation ensures a green gateway. Popular pedestrian and cycling links connect to the south and east and an underpass assists with safety. This is the location of the Noosa Junction bus station and there is considerable parking nearby. Any further development or redevelopment should build on the gateway experience, protect the "green" characteristics and maintain pedestrian connectivity.

Figure 2 Redevelopment of Bowls Club Council Car Park



SC6.8.9 Noosa Business Centre

(1) Key urban design and character outcomes for Noosa Business Centre are listed below:

(a) Introduce and encourage architectural design requirements in keeping with the Noosa style with fine grained built form and pavilion style low scale development incorporating high quality landscaping.

(b) Ensure the new 'Main street' is consistent with the Noosa style village streetscape character, that addresses the street edge and contains active frontages with high amenity streetscapes and landscaping.

(c) Car parking arrangements are to be located to the rear or underneath buildings and not visible from the street.

(d) New development is to promote walkability and pedestrian safety as a priority over vehicle movement.

(e) Development is designed and located to maintain an external edge of natural vegetation to effectively screen urban development within the centre from Walter Hay Drive and Eenie Creek Road except at the key entry points.

(2) The Noosa Business Centre Framework and Character Plan is located in the Noosaville Local Plan code in the Noosa Plan. It identifies a number of key urban design and character elements which support the overall outcomes and performance outcomes for Noosaville. Each of these elements are described in more detail below to provide some context and guidance in achieving the outcomes of the Noosa Plan.

(3) **Key Views** – Views identified as important to the character, legibility and experience of Noosaville:

(a) Contextual – typically distant views to landscape elements, often layered with more localised features. The key contextual views for Noosa Business Centre are those to Noosa National Park which provide an important contribution to gateway sites/ arrival experience (regionally significant landscape character, close proximity to proposed transit hub).

(b) **Localised**- typically views within the centre to key character elements, such as significant landmark or character buildings or key landscape forms. Localised Views include:

(i) Views to key corners and proposed landmark buildings which signalise the entry points to the centre (combination of built form and character landscape).

(ii) Views to the proposed transit area from key gateway sites (elevate the importance of public transport in the town centre context)

(iii) Views at the intersection of proposed new north-south 'main street' and existing access road which signalise a key wayfinding point for the centre to the existing shopping centre, showrooms or new mixed use village precinct.

(4) **Open Space and Landscape Treatments** - The Noosa Business Centre has a number of open space assets within and adjoining the centre that make a significant contribution to the place character. Key landscape treatments include:

(a) New north-south main street through the Village Mixed Use Precinct – Landscaping must be of a high quality characterised by the natural/ informal style of planting and the high level of shade created by the trees.

(b) The internal Link Road complements the new Village main street providing a slightly different character and feel (a more formal/ boulevard style of planting). A high quality and amenity of streetscape, including shade coverage in the centre median should be applied to the point it intersects with the main street.

(c) Hofmann Drive - is an internal road that connects precincts within the centre. The landscape quality is quite high along the length of the road; vegetation is dense, informal and reflective of the surrounding natural landscape. The wider verges with meandering paths are quite pleasant for pedestrians and cyclists to navigate. Additionally, the landscape does a good job of screening the servicing and back of house areas of the adjacent shopping centre, lifting the experience and impression on the place. The high quality of landscaping in this road should set a benchmark for other areas.

(d) The Village Green Space – links the existing shopping centre with the proposed new village main street. A high standard of landscaping and public realm treatment is required which:

(i) integrates the existing centre with the proposed new development and links to the village main street; and

(ii) provides high amenity areas for the community to meet and congregate either formally or informally with shading and protection provided by trees.

(5) **Landmark/Character Buildings** – There are no single landmark/ character buildings identified within the centre. The existing Noosa Civic is a large format shopping centre and it is not expected new development will rival it for floor area. There is future potential for landmark/ character built form to contribute to the identified 'special place' and gateway' intersections for the centre. Pavilion style commercial and office buildings with activated frontage of 2 or 3 storeys should contribute to the character.

(6) **Key Corners** - These sites make (or have the potential to make) a significant contribution to the built form character and experience of the Noosaville centre. Built form should positively address the corners; be active and inviting (be 'friendly') and include character landscaping. Roof forms, windows and door openings should reflect this character outcome and orientation. Additional height at the corner may be appropriate to reinforce site specific gateway and wayfinding objectives.

(7) **Primary Active Frontages -** The mapped 'primary active frontages' reflect where this type of built form interface currently exists or is proposed; appropriate, desired and achievable. These built form interfaces muStreetadhere to the planning scheme requirements, particularly the major centre zone. It is recommended that a new 'main street' be created in the centre, forming a new street based retail environment/ focus with fine grain active frontages along the edges of the proposed village green and the village main street.

(8) **Streetscape Treatment Areas** reinforce the character experience of the Noosa Business Centre. They establish street hierarchy and character that is appropriate for the use and role of the street primarily through the extent, quality and application of materials, placement of streetscape elements/furniture and interfaces. Treatments should be consistent with any existing or proposed streetscape improvement works in the area. Primary streetscape treatment areas for the Noosa Business Centre include:

(a) High quality materials and finishes, exhibiting local character, that reinforce the proposed new street as the main street for the centre.

(b) A well-connected pedestrian friendly zone with a high level of amenity for pedestrians: low vehicle speeds, attractive vegetated streetscaping, continuous, even, weather protected footpaths with safe crossings, wide verges and medians, etc.

(c) Reinforced street activation principles and with active interfaces such as well integrated outdoor dining areas

(d) High quality landscaping including enhanced greening at key intersections, street trees with canopy shade cover and extensive low level planting

(e) High quality public realm around, and connecting to public transport (including but not limited to proposed new transit hub)

(f) Provide clear, visible, unique and consistent signage at entries into the centre to help people understand where they are.

(9) **Special Place** – Two 'special places' have been identified in the Noosa Business Centre and provide important arrival points and meeting places, for pedestrians in particular. These intersections and their surrounds should recieve the highest quality streetscaping with the highest levels of embellishment.

(a) Key attributes should include:

(i) Maximised public realm and pedestrian priority - expanded curbs at corners, reduced road pavement and low vehicle speeds

(ii) High quality materials and finishes exhibiting local character

(iii) Intense character landscaping.

(iv) Highly visible outdoor dining areas integrated with the streetscape (particularly on corners);

(v) Public amenities, bike storage, multiple comfortable and attractive resting and meeting places;

(vi) Close proximity to and within sight of the majority of key destinations

(vii) Ready access to public transport;

(viii) Directional signage to key destinations/precincts within the centre;

(ix) Corners sites/ buildings that positively address intersection (note lower scale compared to balance of centre);

(b) The 'Special Places' for Noosa Business Centre are detailed below:

(i) The Intersection of the Village Green Space and the proposed main street marks the arrival in the 'village mixed use precinct' from Noosaville. This area must have a high quality streetscape and be highly activated as a key meeting place.

(ii) The western forecourt and entry point into the Noosa Civic Shopping Centre should also be developed with a high quality streetscape and activation to the street to create a quality meeting place.

(10) **Key Pedestrian/Cycle Connections** - Key links include:

(a) Western end of Noosa Civic Shopping Centre to the Civic Square and Village Mixed Use Precinct. This will be a particularly important link for pedestrians and cyclists.

(b) Mid-Block Links through large format retail development, offices, showrooms and car park. These pedestrian and cyclist links could be improved over time by making more direct and attractive public links (east-west and north-south).

(c) Pathways linking residential areas to the centre – These links should have high amenity with landscaping and suitable shade trees (while not compromising safety) in terms of lighting and clear sightlines to key destinations in the centre.

(11) **Gateways** – The following primary gateways have been identified as important arrival departure experiences for all modes of transport. Consideration has been given to the experience of town character (landscape, built form, views, etc.), legibility of the town and the hierarchy and role of spaces and streets. Primary Gateways typically mark the arrival at the edge of the centre and include a key view - a 'first impression' of Noosa Business Centre as a place and a community. Recommendation for gateway treatments are:

(a) Eenie Creek Road intersection marks the north western arrival at the edge of the centre. Key characteristics include the direct link to/ from Noosaville and intense 'Noosa style' landscape treatment vegetation buffer. Any redevelopment of adjacent sites (Particularly the Business precinct) must ensure the built form positively addresses corners and reinforces the gateway experience. Pedestrian pathway connections to the centre via this entrance are not ideal and could be improved by low level planting on the verge of Eenie Creek Road, which does not currently support at grade crossing. The existing pedestrian underpass requires improvements to be more user friendly.

(b) Walter Hay Drive intersection provides direct access to the transit hub. This gateway experience will be reinforced through the protection of Character 'Noosa style' landscape buffer and enhanced by the development of adjacent sites (particularly the Transit Hub) ensuring the built form positively addresses corners.

Appendix 1 SC6.8 Photos of key contextual and localised views

COOROY

Contextual View down Emerald Street to Mount Cooroy

Contextual View down Garnet Street to Mount Cooroy

Contextual View from Garnet Street - Maple Street Intersection to Mount Cooroy (with Post Office)

Contextual View from Wimmers Lane to Mount Cooroy (with Post Offi Memorial Hall)

Contextual View from Cooroy Creek Bridge to Mount Cooroy (with Library and Butter Factory)

Localised View along Maple Street to Library and Butter Factory, with Cooroy Creek/ Apex Park frame

Localised View along Maple Street to Library, with Cooroy Creek/ Apex Park background

Localised View along Wattle Street to Cooroy Creek/ Apex Park


Localised View along Diamond Street to RSL Park/ war memorial

Localised View along Tewantin Road to RSL Park/ war memorial/ Diamond Street


Localised View along Maple Lane to Apex Park/ Cooroy Creek landscape environment


Localised View along Maple Lane (car park) to Library and Butter Facto

Localised View along Maple Street (from Library) to heritage character shop fronts


Localised View along Maple Street (from Library/ Butter Factory) to heritage character shop fronts with Apex Park/ Cooroy Creek behind

POMONA

Localised View - from Railway Station to heritage sites

Localised View - up Memorial Avenue to Mt Cooroora,layered landscape and fine grain shop frontages

Contextual View 1 - up Memorial Avenue to Mt Cooroora,layered landscape and fine grain shop frontages

Localised View - to Majestic Theatre (Heritage Qld register)

Contextual View 1 - Inside Stan Troper Park to Mt Cooroora

Localised View - down Memorial Avenue, low scale buildings follow the na topography down the hill, marked by the 2 storey Pomona Hotel at the low

Contextual View 1 - from Railway Station to Pomona Hotel and Mount Cooroora

Contextual View 1 - to Mt Cooroora from eastern side of Railway line

Contextual View 1 - to Mt Cooroora from eastern side of Railway line

PEREGIAN BEACH

Localised View along David Low Way at northern Gateway (future community building on right hand corner)

Localised View between buildings/ along driveways to open space - the spaces in between buildings important to local character

Localised View along key path from beach/ parkland, to key development s potential landmark corner site (the centre)

Localised View along David Low Way northern approach, bend in road reinforces importance of corner site (25t currently) and intersection treatment

Localised View along David Low Way southern approach, reinforces importance of corner site (25t currently) and intersection treatment

Contextual View (1) from Rufus Street to Mount Coolum and Mount Emu

Contextual View (2) from David Low Way (Street level), across IGA car park and future Development Site to distant mountain Ranges

Contextual View (2) from David Low Way' stub road across IGA car park and future Development Site to distant mountains (Mount xx & Mount Cooroy)

Contextual View (3) from Heron Street/ Main Street to the ocean/ coast

TEWANTIN

Contextual View (1) Noosa River end of street vista (Donella Street)

Contextual View (1) Noosa River end of street vista (Donella Street)

Contextual View (1) Noosa River end of street vista (Blakesley Street)

Contextual View (1) Noosa River end of street vista (DiyanStreet) - also views from KEy Development site (Bottle Shop)

Contextual View (1) Noosa River end of street vista (DiyanStreet) - also views from KEy Development site (Bottle Shop)

Contextual View (1) Noosa River view from Poinciana Avenue/ Inside the park

Contextual View (1) (Proposed) Noosa River view blocked (from Westpac site/ central shared space) - **recommendation** to relocate toilet block/ shelter to open

CENTRAL NOOSAVILLE

Contextual View (2) from Mary Street to distant mountains and Keyser Island Conservation Park environment (openness)

Contextual View (1) from Thomas Street to Noosa River and the River environment (openness)

Contextual View (1) from Albert Street to Noosa River and the River environment (openness)

HASTINGS STREET - NOOSA HEADS

Contextual View (1) from Hastings Street to ocean/ coastal environment (openness)

Contextual View (1) from Hastings Street to ocean/ coastal environment

Contextual View (1) from Hastings Street to ocean/ coastal environment (openness)

Contextual View (1) from Hastings Street to ocean/ coastal environment (openness)

Contextual View (1) / Localised View from Noosa Drive to ocean/ coastal environment (openness/ green)

Contextual View (2) from Park Road to ocean/ coastal environment

Contextual View (3) from boardwalk/ ferry stop to distant mountain ranges/ Mount Cooroy, with Weyba Creek in foreground

Localised View from Lions Park to Weyba Creek

Localised View from Lions Park to Weyba Creek

Localised View along the Parade/ Boardwalk to Noosa Woods/ Noosa Spit Recreation Reserve

Localised View along Hastings Street to Noosa Woods/ Noosa Spit Recreation Reserve

Localised View along the Boardwalk to Noosa Woods/ Noosa Spit Recreation Reserve

Localised View along Noosa Drive to centre, framed by open space/ inte across Lions Park to Weyba Creek

NOOSA JUNCTION - NOOSA HEADS

Localised View to core public realm spaces (Arcadia Street & future square)

Localised View to core public realm spaces (Arcadia Street & future square)

Localised View to the intersection of Noosa Dive and Sunshine Beach Road (combination of build form and character landscape)

Localised View to the intersection of Noosa Dive and Sunshine Beach R (combination of build form and character landscape)

Contextual View (1) from Sunshine Beach Road to Noosa National Park

Contextual View (1) from Cooyar Street/Bus Interchange to Noosa National Park

Contextual View (1) from Cooyar Street/Bus Interchange to Noosa National Park

Localised View to Pinaroo Park from new town centre entry road/ Noosa Drive

Localised View to residential areas on the steep hills from Lanyana Way (access road)

Localised View to residential areas on the steep hills from Lanyana Way (lane)

Localised View to residential areas on the steep hills from Lanyana Wa

SC6.9 - PSP8 Natural Hazards

SC6.9.1 Purpose

(1) The purpose of this planning scheme policy is to provide guidance to applicants:

(a) on information council may request or require to inform the proper assessment of a development application on land identified as being subject to a natural hazard; and

(b) on the content of technical plans or reports that are required to support a planning application in relation to:

(i) Acid sulfate soils;

(ii) Bushfire;

(iii) Flooding; and

(iv) Landslip;

(2) For the purpose of this policy, land identified as being subject to a natural hazard is identified on the following maps in the Noosa Plan:

(a) Acid Sulfate Soils (ASS) Overlay;

(b) Bushfire Hazard Overlay;

(c) Flood hazard Overlay; and

(d) Landslide Hazard Overlay;

SC6.9.2 Requirements

(1) In certain circumstances technical plans and reports may be required to satisfy outcomes nominated within a planning scheme code. The details contained within this policy provide advice and guidance about the typical content that is to be included in such plans and reports.

(2) In instances where such plans or reports are not provided as part of the submitted application, Council may request them to be provided as part of an information request.

SC6.9.3 Acid Sulfate Soils (ASS) Investigation and management plan

(1) Where a development is subject to the Acid sulfate soils overlay code, a well made application will include an acid sulfate soils investigation and management plan.

(2) The purpose of the ASS investigation and management plan is to provide additional information regarding the existence/location, treatment and management of acid sulfate soils or potential acid sulfate soils (PASS) on a development site.

(3) An ASS investigation is required to include the following information:

(a) the lowest point in metres AHD of the proposed excavation and the volume of excavation below 5 metres AHD;

(b) the height in metres AHD of land to be filled, and the volume and thickness of the fill to be placed below 5 metres AHD;

(c) a detailed acid sulfate soils investigation which, as a minimum, is to include sufficient details on the following:

(i) whether acid sulfate soils/potential acid sulfate soils are present in the area to be disturbed, and if so, the location, depth and existing/potential acidity of the ASS/PASS relative to the proposed disturbance;

(ii) the testing results;

(iii) methodology used for sampling and analysis (both field and laboratory);

(iv) an assessment of the potential for acid sufate soils to be disturbed either through drainage or excavation; and

(v) potential impacts on adjoining areas.

(4) Sampling and analysis included in an ASS investigation is to be carried out in accordance with the procedures described in the following documents available from the Water Quality Australia web site:

(a) Sullivan et al, 2018, National acid sulfate soils guidance: National acid sulfate soils sampling and identification methods manual, Department of Agriculture and Water Resources, Canberra, ACT; and

(b) Sullivan et al, 2018, National acid sulfate soils guidance: National acid sulfate soils identification and laboratory methods manual, Department of Agriculture and Water Resources, Canberra, ACT; and the Australian Standard 4969.

(5) If ASS or PASS identified in an ASS investigation is proposed to be disturbed by the development, an ASS management plan should be prepared. As a minimum, the ASS management plan is to detail the following:

(a) the methods of treating/managing soils;

(b) details of any pilot project or field trial to be undertaken to prove the effectiveness of any new technology or innovative management practice being proposed;

(c) details of the monitoring and reporting procedures to be established and implemented; and

(d) details of contingency procedures including accident/emergency response procedures, and performance criteria to be used to assess the effectiveness of the ASS management and monitoring measures.

SC6.9.4 Bushfire hazard assessment report and management plan

(1) Where a development is subject to the Bushfire hazard overly code, a well made application will include a bushfire hazard assessment report, and management plan including the impacts of mitigation techniques on flora and fauna.

(2) In particular, compliance with the Bushfire hazard overlay code may be demonstrated (in part) by the submission of a bushfire hazard assessment report and management plan prepared by a suitably qualified person in accordance this the following guidelines.

(3) Bushfire hazard assessment report – the level of bushfire hazard shown on the Bushfire Hazard Overlay Map needs to be confirmed via the preparation of a site-specific bushfire hazard assessment report. A bushfire hazard assessment report is to:

(a) Include the detailed site specific calculations of the bushfire hazard score(s) for the development site based upon:

(i) A quantitative assessment of predicted bushfire behaviour including calculation of predicted fire intensity and rate of spread using McArthur's equation and radiant heat flux using a recognised model (i.e. the view Factor Model or the Leicester Model). Calculations should be based on a forest fire danger index (FFDI) of 50 and maximum predicted fuel loads to determine appropriate setbacks;

(ii) A qualitative assessment including discussion of past fire behaviour/history, any prescribed burning undertaken on the site or adjoining sites, likely fire paths, site factors that would minimise or maximise fire behaviour, fuel arrangements and loads, potential ignition points, fire run distances towards houses (or proposed house sites), slopes and any other matter considered important in respect to the issue; and

(b) include a bushfire hazard management summary; and

(c) be informed by consultation with the local fire brigade and where the land adjoins Council, State or Commonwealth land, the relevant land manager.

(4) Bushfire hazard management plan – Where a site-specific bushfire hazard assessment confirms that a development site is subject to a medium or high bushfire hazard, a bushfire hazard management plan may need to be prepared to mitigate the adverse impacts of the hazard. A bushfire hazard management plan is to:

(a) state the purpose, aim and objectives of the bushfire hazard management plan (e.g. having regard to the level of hazard on the land, identify measures, actions ad responsibilities for the management of the hazard);

(b) summarise the results of the bushfire hazard assessment undertaken for the land, including identification of the various parts of the land that have been determined to be high, medium and low bushfire hazard areas;

(c) be informed by consultation with the local Fire Brigade and where the land adjoins Council, State or Commonwealth land, the relevant land manager;

(d) include consideration of potential off-site sources of fire hazard including particular land uses or physical features of the surrounding area (including details of properties within 100m of the land);

(e) address the impacts of the proposed development on the level of fire hazard experienced by other land in the surrounding area, including any land containing water, electricity, gas or telecommunications infrastructure;

(f) address any implications for areas of environmental significance including fauna and fauna, including steps taken to minimise the potential impacts of specified fire hazard mitigation measures;

(g) address the potential impacts of bushfire hazard mitigation measures on slope stability, and on water quality in local receiving waters;

(h) specify fire hazard mitigation measures, such as:

(i) elements of the development design; including the layout of roads and driveways, and the location, size and orientation of lots and buildings;

(ii) specifications and materials for building design and construction in accordance with the Building Code of Queensland;

(iii) fire fighting infrastructure, including water supply and storage, equipment and fittings, fire breaks and maintenance/access trails;

(iv) potential areas of clearing of native vegetation based on the ecological assessment reports or environmental management plan recently prepared for the site;

(v) details of landscape design requirements, including installation and maintenance requirements;

(vi) information for occupants, including required training for persons employed on the site during both construction and operational phases;

(vii) details of long term management requirements, including the frequency, extent and intensity of burning in areas proposed to be subject to regular controlled ignitions;

(viii) details of areas to be subject to mosaic or patch burning techniques and manual fuel reduction zones; and

(ix) any other measures based on or identified in a recently approved ecological assessment report or environmental management plan for the site;

(i) address safe access/egress through hazard areas for evacuation and emergency services;

(j) identify the parties to be responsible for specific actions taken under the terms of the bushfire management plan; and

(k) provide justification for any variation from the bushfire hazard mitigation measures outlined in the Bushfire hazard overlay code.

SC6.9.5 Flood hazard assessment and mitigation report

(1) This component of the planning scheme policy applies to development which required assessment against the Flood hazard overlay code and is intended to identify and provide guidance about information that may be required to support a development application.

(2) Compliance with the Flood hazard overlay code may be demonstrated (in part) by the submission of a flood hazard assessment report and/or a flood hazard mitigation report prepared by a suitably qualified person in accordance with the following guidelines.

(3) Flood hazard assessment report— A Flood hazard assessment report is to:

(a) consider Council's adopted flood management and drainage studies for the relevant catchment(s); and

(b) as relevant, include accurate hydrological and hydraulic modelling of the waterway network and assessment of existing flooding and flood levels of major water systems, including modelling the 50%, 10%, 5% 1%, 0.5% and 0.2% AEP flood events and the PMF.

(4) Flood hazard mitigation report— A flood hazard assessment report is to:

(a) assess the potential impacts of the development on flood hazard;

(b) assess the potential impacts of flood hazard on the development;

(c) recommend strategies to be incorporated into the proposed development to satisfy the outcomes of the Flood hazard overlay code;

(d) describe and evaluate the impact of the proposed mitigation strategies on the existing and likely future use of land and buildings in proximity to the proposed development; and

(e) address the following:

(i) water quality and impacts of erosion, sediment and pollutant loads on waterways;

(ii) the characteristics and drainage functions of waterways, including bank stability, natural flows and habitat values;

(iii) impacts on adjacent properties both upstream and downstream;

(iv) preferred areas and non-preferred areas on site for various activities based on the probability of inundation and the volume and velocity of flows;

(v) the predicted impacts of climate change;

(vi) the use of flood resistant materials and construction techniques able to withstand relevant hydraulic and debris loads where appropriate;

(vii) the location and height of means of ingress and egress, including possible floor free escape routes;

(viii) the location and height of buildings, particularly habitable floor areas;

(ix) structural design, including the design of footings and foundations to take account of static and dynamic loads (including debris loads and any reduced bearing capacity owning to submerged soils);

(x) the location and design of plant and equipment, including electrical fittings;

(xi) access requirements for maintenance of proposed infrastructure;

(xii) the storage of materials which are likely to cause environmental harm if released as a result if inundation or stormwater flows;

(xiii) the appropriate treatment of water supply, sanitation systems and other relevant infrastructure;

(xiv) relevant management practices, including flood warning and evacuation measures;

(xv) details of any easements or reserves required for stormwater design; and

(xvi) details of detention/retention storages.

(5) The level of detail required for a particular development application should be determined in consultation with Council's development assessment officers.

SC6.9.6 Landslide

(1) Where a development is subject to the Landslide hazard overly code, a well made application will include a geo-technical, and management plan including the impacts of mitigation techniques on flora and fauna.

(2) A site specific geo-technical analysis prepared by a registered professional engineer:

(a) identifying any potential stability and associated problems including—

(i) long-term stability of the site; and

(ii) any potential adverse effects by landslides originating on sloping land above the site;

(iii) long-term stability of the proposed development; and

(iv) access to the site in the event of a landslip; and

(b) detailing proposed methods of addressing any identified potential stability and associated problems.

SC6.10 - PSP9 Waste Management

SC6.10.1 Purpose

(1) The purpose of this planning scheme policy is to provide guidance to applicants on:

(a) the application of the Waste Management Code in the Noosa Plan;

(b) the preparation and assessment of waste management plans;

(c) design criteria for waste management including minimum service levels for types of development, size and appearance of waste storage areas, and vehicular access standards associated with development;

(d) the provision of efficient, safe, hygienic and sustainable waste management practices that meet the needs of occupants, contractors and minimises environmental nuisance to neighbours; and

(e) the proper consideration of waste minimisation and waste separation to so that materials can be recycled and reused in developments.

SC6.10.2 Preparing a waste management plan

(1) A waste management plan is a document that details the type and quantity of waste material that is likely to be generated from a particular development site. The document also details where and how the waste should be stored, how waste will be disposed and procedures for handling the waste.

(2) A waste management plan is required where the development has the potential to generate significant quantities of waste or waste that is of a hazardous nature and should have a waste management plan as part of the information required to assess the application.

(3) The following is a list of developments which must have a waste management plan submitted with any development application for a Material Change of Use (MCU):

(a) any Residential use with more than 15 dwellings or accommodation units;

(b) any Business use with a total use area greater than 500m²;

(c) all environmentally relevant activities (as defined by Schedule 2 of the Environment Protection Regulation 2008);

(d) construction or demolition of a building other than construction of a Dwelling house, or Class 10 building; and

(e) any other developments as specified by Council's Waste Management Officer (identified as part of a preliminary application or as an information request).

(4) Subject to the scale of the development and the discretion of the Manager Environmental Health, a waste management plan may be submitted as a condition of approval for a MCU, and be approved prior to the issue of a development permit – operational works.

(5) Waste management plans are to be submitted for demolition works, other than for the demolition of a Class 10 building.

SC6.10.3 Information to be provided in a Waste Management Plan – Operational Works

(1) Waste management plans are to include the following:

(a) estimate volumes of waste to be generated;

(b) estimated volumes of recyclables;

(c) estimated volumes of garden/organic waste;

(d) method to be used for disposal of garden/organic waste;

(e) initiatives to minimise waste by waste reduction, reuse or recycling;

(f) description of the procedures involved in disposing of refuse to bins, the storage of bins and the collection of bins by the contractor and who is responsible for each transfer of waste;

(g) description of the design details of waste storage and recycling areas, including the method of preventing stormwater pollution – to be highlighted on plan drawings;

(h) plans showing the location and details of the waste storage areas;

(i) a description of the type of containers proposed to store the waste; and

(j) a detailed description of the proposed access arrangement for waste collection vehicles to be highlighted on plan drawings.

SC6.10.4 Information to be provided for Construction or Demolition Works

(1) The waste management plan for either the construction or demolition stage of a development is to contain the following Information:

Material On-Site	**Destination**			
	Re-use and Recycling			**Disposal**
Type of Material	Estimated Volume (m³)	On-site specify proposed re-use or on-site recycling methods.	Off-site specify contractor and recycling outlet	Specify contractor and landfill site
Excavation material				
Garden organics				
Bricks				
Concrete				
Timber - please specify				
Plasterboard				
Metals - please specify				
Others - please specify				

Note: Waste that cannot be collected by Council's normal collection service is collected by an approved Regulated Waste Transporter.

(2) An area is also to be allocated on the development site for the segregation of construction and demolition materials. Details of the site area to be used for on-site separation, treatment and storage (including weather protection) are to be provided on the plan drawings accompanying the application.

SC6.10.5 Waste management design criteria

(1) Preliminary considerations prior to designing waste management facilities may include:

(a) types of waste generated from the site;

(b) presence or absence of service staff or on site management;

(c) distance waste needs to be moved to a waste storage area and/or collection area;

(d) mechanism or pathway used to move bins to the waste storage area;

(e) the need for a bin wash facility;

(f) whether the collection service will be kerbside or on private property; and

(g) whether a central waste storage area will be used prior to relocation of the bin to a bin collection point.

(2) Council may consider the following matters in assessing applications under the Planning Act 2017:

(a) the types of waste generated;

(b) waste generation rates;

(c) minimum service levels;

(d) the types of waste storage bins;

(e) location of waste storage areas and bin wash areas;

(f) required size of waste storage areas

(g) safe vehicle and pedestrian access to bins; and

(h) nuisance issues.

(3) **Types of Waste Generated** – Consideration of the following matters will determine the types of waste storage bins and the minimum service level required;

(a) whether the waste will be putrescible or dry waste;

(b) whether the waste will be recyclable waste; and

(c) whether the waste will be heavy or light.

(4) **Waste Generation Rates** - Refer to SC6.10 - Appendix 1 which provides a guide to likely waste generation for various uses.

(5) **Minimum Service Levels** – Table SC6.10.5.1 indicates minimum service levels for uses. Council may seek to vary the requirements having regard to the size, location and level of occupancy of the use.

(6) **Specialised Waste Storage Bins** – SC6.10 - Appendix 2 describes two types of specialised waste storage bins available through Council's contractor.

(7) **Size and location of Waste Storage Areas –**

(a) The following matters will be considered in determining an appropriate size for waste storage areas:

(i) Types of waste and storage required:
- bins for putrescible waste;
- bins for recyclables;
- drums for waste cooking oils;
- bales for cardboard;
- bags or bins for green waste; and
- any other specialised waste storage bins needed, eg: medical waste; and

(ii) Sufficient space between waste storage bins to allow for maneuvering and washing of bins, where appropriate noting that the bin store must be large enough for the bins to sit next to each other, not behind each other.

(b) Adequate lighting needs to be provided to allow the usage of the bin store after dark

(c) Internal waste rooms should be well ventilated and have a smooth easily cleanable floor

(d) Suitable drainage, with water discharging into a sewer drain, must be installed to allow the washing of bins and a tap with hose connection available.

(e) Waste storage areas can be roofed or unroofed.

(f) Waste storage areas contain bunded and non-bunded areas depending on their size and he type of waste to be stored. Where bunded areas are required:

(i) waste oil containers must be stored within bunded areas; and

(ii) bins must be washed within the bunded area.

Advisory Note: **Washing bins within bunded areas** - 240 litre bins should be tipped on their side and washed out to the bunded drain. Bulk bins should be wheeled over the bunded area and washed out by removing the plug from the base of the bin.

(8) **Screening of Waste Storage Areas** - Waste storage areas are required to be screened and can be attractively designed to minimise their visual impact on the streetscape and surrounding areas. Examples exist within our shire of such storage areas. Figure SC6.10.1 indicates a storage area designed as a feature wall, with 240 litre bins stored behind the wall and access via wooden panel doors.

(9) **Indoor Waste Storage –**

(a) Waste and waste storage bins must not be placed:

(i) where they may impede safe use of any exit, exit corridor, doorway or stairway;

(ii) under stairways; or

(iii) near any existing or potential heat source.

(b) Waste storage bins must be made of non-combustible materials.

(c) Indoor waste storage areas must:

(i) be well ventilated;

(ii) be well lit; and

(iii) have “hazardous waste” and “no smoking” signs installed.

(d) Figure SC6.10.2 provides an example of an indoor waste storage area.

(10) **Design Standards for Vehicle Access** – Within the development site:

(a) design specifications must be sufficient to carry a wheel load of 7 tonnes per axle; and

(b) turning circles are designed in accordance with AUSTROADS: design single unit truck/bus (12.5 metres) template; and

(c) vehicles must be able to move in a forward direction at all times or be able to enter and exit the development in a forward direction; or

(d) a turning bowl or a “T” or “Y” shaped manoeuvring area is provided, which allows the vehicle to turn with no more than a three point turn; and

(e) for bin collection from within a building or structure:

(i) height clearance must be sufficient to allow for safe travel and lifting for vehicles and bins (see Appendix 2 for bin dimensions and Appendix 3 for vehicle specifications); and

(ii) the grade of access/egress ramps must not exceed 1:8.

(11) **Specialised Equipment and Facilities –**

(a) Council may require or accept specialised equipment in some circumstances, including:

(i) refuse chutes where the building is 3 storeys or greater; and

(ii) compaction equipment to minimise storage area.

(b) Compaction equipment may be accepted for the following wastes:

(i) mixed waste (other than glass);

(ii) cardboard or paper;

(iii) plastic or aluminium containers; and

(iv) putrescible waste - provided a specialised refrigerated compactor is used.

(c) Plans for the installation of compactors must be submitted for the approval of Council’s Waste Management Officer

Table SC6.10.5.1 Minimum Service Levels

Use	Minimum Service Level
Entertainment and dining Type 1 Food and Beverages; Entertainment and dining Type 3 Bar; Retail business Type 1 Local and Type 3 Landscape and Rural	One 240 litre waste storage bin serviced twice a week; and One 240 litre waste storage bin serviced once a week or if a food premise is involved - one 240 litre waste storage bin serviced twice a week
Multiple housing Type 2 Duplex Multiple housing Type 3 Retirement and Special Needs; Multiple housing Type 4 Conventional;	One 240 litre waste storage bin per 2 dwelling units or accommodation units or one 1000 litre waste storage bin per 8 dwelling units or accommodation units; and one 240 litre recycling bin per 2 dwelling units or accommodation units
Multiple housing Type 5 Relocatable; Visitor accommodation Type 2 Caravan park; Visitor accommodation Type 3 Rural;	One 240 litre waste storage bin per 4 cabins or caravan sites per week; and 1 240 litre recycling bin per 4 camp sites per fortnight (Bulk

Use	Minimum Service Level
Visitor accommodation Type 4 Conventional	bins can also be used for waste storage, provided the capacity of the bin equates to 60 litres per cabin or caravan site per week).
All other uses	Determine as part of the assessment of the proposal

Figure SC6.10.1 Example of screened waste storage area

Example of screened waste storage area

Figure SC6.10.2 Indoor waste storage area

Indoor waste storage area

SC6.10 - Appendix 1 Indicative waste generation rates for various uses

Indicative waste generation rates for various uses

(1) Waste Generation Rates – Kg/m²/d

Use	Cardboard/ Paper *	Soft Plastics *	Recycling*	Food & Organics *	General Waste *
Fresh meat, fish & poultry	0.116	0.038	0.011	0.549	0.045
Fruit & veg retail	0.234	0.006	0.002	0.701	0.085
Bread & cake retail	0.077	0.003	0.014	0.074	0.153
Takeaway food retail	0.055	0.007	0.02	0.157	0.055
Milk vending	0.087	0.009	0.028	0.073	0.046
Specialised food retailing (other)	0.162	0.009	0.004	0.043	0.009
Clothing retail	0.034	0.010	0.002	0.003	0.009
Footware retailing	0.076	0.006	0.002	0.000	0.009
Fabric & other soft goods retailing	0.043	0.002	0.000	0.000	0.009
Furniture retailing	0.119	0.006	0.000	0.000	0.004
Domestic hardware & houseware	0.035	0.001	0.001	0.000	0.009
Domestic appliance retailing	0.042	0.002	0.002	0.000	0.008
Recorded music retailing	0.197	0.002	0.000	0.000	0.018
Sport & camping equipment	0.051	0.006	0.002	0.000	0.003
Toy & game retailing	0.149	0.008	0.002	0.000	0.009
Newspaper, book & stationary retailing	0.084	0.003	0.001	0.000	0.008
Photographic equipment retail	0.005	0.000	0.000	0.000	0.001
Pharmaceutical, cosmetic retailing	0.038	0.003	0.001	0.000	0.031
Flower retailing	0.006	0.000	0.002	1.423	0.091
Watch & jewellery retailing	0.041	0.003	0.003	0.001	0.014
Other personal & household goods retailing	0.044	0.006	0.004	0.000	0.067
Automotive repair & service	3.911	0.119	0.000	0.000	0.356
Cafes & restaurants	0.069	0.005	0.021	0.226	0.164
Travel agency	0.063	0.003	0.006	0.000	0.022
Gambling services	0.148	0.000	0.027	0.000	0.010
Photographic film processing	0.162	0.031	0.006	0.000	0.156

(2) Waste Generation Rates per employee/year (tonnes)

Use	Total waste #	Cardboard / paper #	Recycling #	Food & Organics #	General waste #
Food retail	1.23	0.31	0.07	0.54	0.31
Supermarkets & grocery stores	2.33	0.69	0.09	1.23	0.32
Motor vehicle retailing & services	1.10	0.18	0.05	0.23	0.61
Accommodation	1.61	0.36	0.41	0.51	0.33
Pubs, taverns & bars	2.12	0.28	0.25	1.26	0.31
Cafes and restaurants	1.55	0.22	0.24	0.77	0.33
Clubs (hospitality)	1.80	0.42	0.17	0.71	0.50
Health care facilities	0.77	0.08	0.04	0.44	0.21

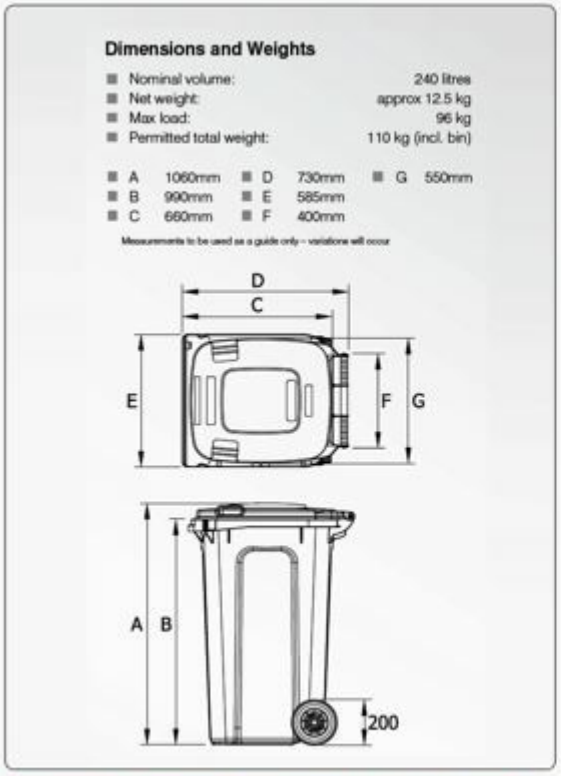
Tonnes of waste generated per employee per year

(3) Waste density conversion factors

Uncompacted rubbish	0.131 tonnes / cubic metres
Compacted rubbish	0.296 tonnes / cubic metres
Paper	0.24 tonnes / cubic metres

SC6.10 - Appendix 2 Specialised Waste Storage Bins

(1) 240 litre mobile garbage bins (MGB)



(2) Bulk or Skip Bin Dimensions

Size	Width	Height	Depth
1 cubic metre	1400mm	900mm	900mm
1.1 cubic metre	1360mm	1465mm	1070mm
1.5 cubic metres	2000mm	900mm	900mm
2 cubic metres	2000mm	1200mm	900mm
3 cubic metres	2000mm	1400mm	1200mm

Note: Maximum weight for all bulk bins = 200kg per cubic metre.

Low Noise 1.1m^3 Skip with rubber wheels – suitable for unit and resort situations

SC6.10 - Appendix 3 – Refuse vehicle specifications

Side loading collection Vehicle

Front loading collection Vehicle

Side loading collection vehicle for MGBs (Mainly used for domestic waste collection)		
	Garbage truck	**Recycling Truck**
Length overall	8.70m	9.90m
Front overhang	1.42m	0.85m
Wheelbase	5.00m	5.30m
Rear overhang	2.30m	2.65m
Turning circle kerb to kerb	16.40m	18.70m
Turning circle wall to wall	18.14m	19.20m
Front of vehicle to collection arm	2.70m	3.30m
Maximum reach of side arm	2.00m	1.70m
Travel height	3.65m	3.8 m
Clearance height for loading	4.00m	3.80m

Front loading collection vehicle for skips (mainly used for commercial waste collection)	
Length overall	9.90m
Front overhang	1.42 m
Wheelbase	5.84 m
Rear overhang	2.64 m
Turning circle kerb to kerb	22.10 m
Turning circle wall to wall	23.66 m
Travel height	3.64 m
Clearance height for loading	6.10m

SC6.11- PSP10 Effluent disposal

SC6.11.1 Purpose

(1) The purpose of the Effluent disposal planning policy is to:

(a) ensure that where development is not served by reticulated sewage infrastructure, there is no adverse impact on ground and surface water quality, human health and amenity as a consequence of the on-site disposal of effluent;

(b) ensure that land use decisions favour the protection of ground and surface water quality where there is doubt regarding the likely impacts of on-site disposal of effluent; and

(c) provide guidance to the public, developers and Council staff to assist in assessing development applications in relating to

design and siting of effluent disposal systems.

(2) This policy applies to development that is:

(a) outside of sewerage service areas; and

(b) a material change of use or reconfiguring of a lot.

SC6.11.2 Design

(1) An on-site effluent system is installed that:

(a) is designed, approved and installed by a licensed plumber or drainer or other person who has been accredited by the State Government; and

(b) is calculated assuming waste water flows for standard water fittings.

(2) If the effluent disposal system uses surface irrigation, it has permanently installed pipework that evenly distributes effluent.

(3) Systems using holding tanks and requiring a regulated pump-out service have a storage capacity of not less than seven days peak demand.

SC6.11.3 Siting

(1) The effluent disposal system is located on land:

(a) at least 15 metres from any potable water supply tank;

(b) above the 1% AEP (1:100 ARI) flood level; and

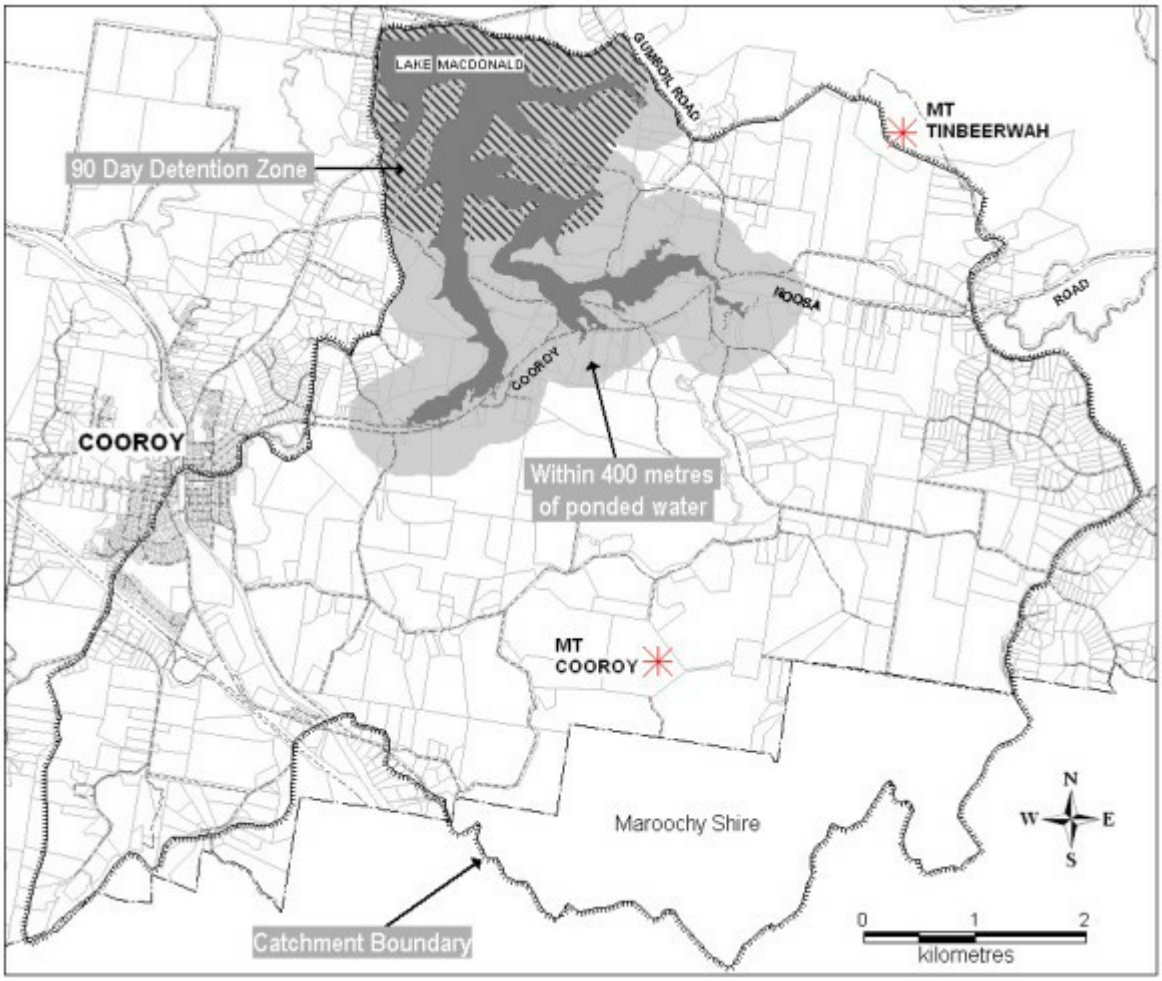
(c) more than 40 metres horizontally from the level of the Highest Astronomical Tide (HAT);

(2) Within the Water Supply Buffer Area as shown on the Water Resources and Gas Pipeline Overlay:

(a) no on site effluent treatment and disposal system is located within the 90-day detention zone (see Figure SC6.11.1); or

(b) outside the 90-day detention zone but within 400 metres of the full level of Lake Macdonald (see Figure SC6.11.1), the disposal area (land application area) for any on site effluent treatment and disposal system must be located to achieve the greatest possible setback, but not less than 100 metres from any permanent or intermittent watercourse; or

Figure SC6.11.1 Lake Macdonald Catchment, 90 day detention zone 400 metres of ponded water


LAKE MACDONALD
GUMBOIL ROAD
MT
TINBEERWAH
90 Day Detention Zone
NOOSA
ROAD
COOROY
COOROY
Within 400 metres
of ponded water
MT
COOROY
Maroochy Shire
N
W
E
S
Catchment Boundary
0
1
2
kilometres