"Council is an innovative and connected organisation united in the mission of making our communities even better places within which to live and grow."





Goondiwindi Regional Council

Landscaping Policy









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WAGGAMBA SHIRE COUNCIL LANDSCAPING POLICY

SECTION 1

Introduction

The Waggamba Shire is seeking a new landscape approach that reflects both the strong local character of the area as well as future development potential and directions.

This section of the Town Plan is designed to provide a framework for decision-making processes related to landscape issues. It concentrates on issues of soft landscaping (tree planting, garden development etc) and minor hard landscaping elements such as fencing, edging and retaining walls. It is not intended to address other areas of urban design.

Purpose of the Policy

The purpose of this Policy is to:

- form part of the Shire's planning scheme as the basis for conditions of development approval;
- give guidance to parties applying for development approval;
- give guidance to property owners in landscape matters, whether or not they require development approval; and
- assist Councillors and Council staff in dealing with development applications and enquiries.

Goals and Objectives of the Policy

The goals and objectives of this policy are to:

- provide visual cohesion between natural and built forms;
- recognise the principles of Crime Prevention through Environmental Design (CPTED);
- provide guidelines for private landscapes that are aligned with community expectations and desires:
- minimise adverse impacts that may arise from existing and proposed developments;
- promote the preservation of existing vegetation and the planting of additional vegetation;
- provide a positive image of the towns and villages of the Shire by having a unified landscape treatment to the major approach and through roads;
- promote landscaping that is consistent with the positive character of the districts and will enhance a sense of place;
- encourage the use of vegetation to modify microclimatic factors; and
- ensure that landscaped areas will thrive and be readily maintained.

SECTION 2: THE LANDSCAPE CHARACTER OF THE SHIRE

Rural Landscape Character

The visual character of the rural landscape of the Waggamba Shire is one of level plains, scattered groups of trees, and clear views frequently to the horizon. Natural vegetation remains in some roadside locations and serves to screen or filter the otherwise distant views. In most cases, arrangement of trees is informal and natural in appearance. In some cases where existing forest remains, such as along the Leichhardt Highway between Pittsworth and Goondiwindi, the planting is fairly dense—but this is the exception rather than the rule. Houses and their associated farm buildings usually occur at some distance from the roads and fences in rural areas are largely transparent—in many cases there are no fences between the road alignment and private land.

Farming in the Shire is predominantly intensive agriculture, grain or grazing and these land use practices strongly influence the landscape character. Waggamba Shire's character is entirely different to that portrayed in areas of similar terrain such as that of the Lockyer Valley where the farming practices are basically small crop and market gardening. Furthermore, this scale of primary industry also attributes to the landscape character of the area by generating a distinctive spacing of farm buildings and homesteads. Stated simply, because of the larger holdings required for economical grain growing and grazing the farm buildings are considerably further apart than of those areas where more intensive forms of agriculture are practised.

The cotton growing areas of the shire are a variation on the wider rural landscape character, particularly where levee banks have been constructed to protect cotton fields from flooding. Levee banks are seen to adversely affect the landscape character of their locality in that they are generally formed in straight lines and have regular banks that are considerably steeper than the general terrain.

RECOMMENDATION

Planting could be provided to soften the regular appearance of the geometry of the levee banks by providing some planting in front of the levee bank and varying the width of the planted area across the plain. Where vegetation would be most effective would be in screening views of the levee banks from the major roads.

Within the rural areas in most cases it would be better for planting to be restricted to native species indigenous to the shire and arranged in an informal natural appearing pattern. Formal arrangements of exotic plant material would usually be detrimental to the landscape character of the rural areas unless they are restricted to the immediate proximity of homesteads where such formality, by its contrast, serves to identify the homestead.

Landscape Character of the Townships within the Shire

Most of the townships within the Shire share its flat topography. The townships are predominantly made up of large blocks of land, often with transparent fencing, and although most of the towns still have stands of older, indigenous vegetation, the overall landscape character of the townships is a mix of indigenous and exotic species that occur in both home gardens and public areas.

Generally, the buildings are small scale and single storey. However, there are exceptions and these are the occasional larger scale industrial buildings, including the grain silos at the railway stations. These silos contribute significantly to the landscape character of the townships—they act as landmarks when approaching, and serve to heighten the sense of place through referencing the grain growing practices of the Shire's rural areas, linking them to the towns by virtue of these built forms. The strong verticality of the grains silos lends to them being dramatic elements in a predominantly horizontal landscape, and even though they are industrial structures, their scale and size are such that their aesthetic contribution is positive rather than negative. However their dramatic presence and positive aesthetic influence tends to be diminished by the subsidiary elements and development that occur around their bases.

RECOMMENDATION

Within the townships, new landscape works would be in character if either exotic or native vegetation was used, or possibly a combination of both. The planting pattern in either case could be formal or informal in arrangement, without detriment to the existing character of the townships.

Landscape Character of Goondiwindi

The landscape character of those parts of Goondiwindi within the Shire is somewhat variable depending on the locality, e.g. the approaches to town along Boundary Road, the Cunningham Highway and the Leichhardt Highway are characterised by large lots, open views, transparent fencing and sparse, informal native vegetation. Most of the remnant native vegetation occurs on the road reserve. The same type of character exists along the area of Polo Road and the area north-east of the town. Detached houses occupy the large lots. Within the Leonards Estate area similar large lots exist with open views and detached houses. However, the presence of industrial type buildings becomes more obvious.

For all of the above areas open space of some description dominates the built form. Similarly, within the industrial area of Town Common Road, the flat terrain and clear views uninhibited by vegetation are factors that influence the landscape character. However, a further contributor to landscape character within this area is the unity that has been provided by the type of fencing that Council has promoted along the Town Common Road frontage.

Within the residential areas closer to the river the density of built form is greater than elsewhere within the Waggamba Shire area of Goondiwindi. Closer to the river, the contribution to the landscape character made by remnant eucalypts becomes more apparent and provides another variation to the landscape character. In this vicinity, the landscape is greener and more lush in appearance than elsewhere within the Shire.

RECOMMENDATION

Although the Council has no intention of imposing landscape requirements upon residential properties the following comments and observations are made:

Within the residential areas near the riverbank the appropriate landscape character is probably more one of informal native vegetation.

Within the residential areas between Town Common Road and the fringes of the existing vegetation in the riverside areas, appropriate residential landscape could well include appropriate exotic species as well as native, in either a formal or informal planting and garden arrangement.

Within the other parts of Goondiwindi appropriate new landscape character would be a predominance of native species arranged in a somewhat informal manner. This includes the residential areas to the north-eastern corner of the town.

In the outer areas of Goondiwindi there is a transition between the more urban form of the town to the rural character of the Shire and the dominance of the rural landscape should prevail on the developing urban landscape.

SECTION 3: SOCIAL AND ENVIRONMENTAL BENEFITS OF LANDSCAPING

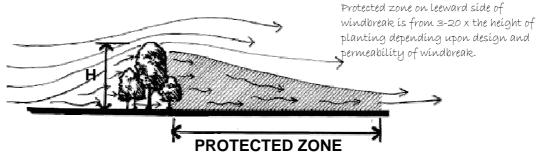
Environmental Benefits

Reduced Local Air Pollution

Reduction of air pollutants due to absorption by vegetation and interception of air borne agents such as dust, pollen, smoke.

Reduced Wind Effects

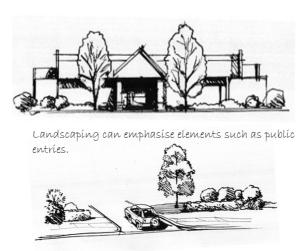
Vegetation can have a positive buffering effect upon moderate winds within localised areas. If planted correctly, functional windbreaks can have positive buffering effects over larger areas.



WINDBREAK

Increased Legibility of Spaces

Vegetation can contribute significantly to people understanding important visual markers such as access points to pedestrian or vehicular areas. It can also emphasise important features and thoroughfares.



LEGIBILITY OF SPACE

Reduced Glare and Reflected Light

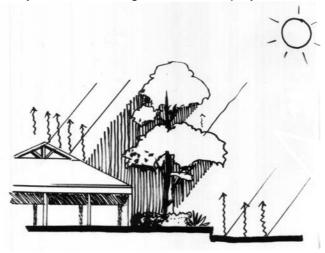
Benefits of reduced glare are created when plants intercept light through their foliage, dampening the effects of glare and reflected light by minimising the amount of light to hit reflective surfaces (pavement, roads, and water).



REDUCED GLARE & REFLECTED LIGHT

Shade and Comfort

Vegetation reduces radiant/reflected heat by intercepting the light falling on heat absorbing surfaces such as concrete or paving. In addition the shade produced breaks up the visual expanse of these areas. In settled and developed areas plants have an important role in shade casting and evapotranspiration (cooling of air through evaporation). Shade from trees also contributes to public amenity and "sun-safing" of children's play and recreation areas.



SHADE & COMFORT

Improved Water Quality

Vegetation and plants filter and absorb runoff in catchment areas (small backyard / Murray Darling basin) and hold soil together to help reduce erosion and sedimentation problems.

Wildlife Habitat and Environmental Quality

Plants attract and protect native fauna in our settled / developed areas by providing food, shelter, and nesting sites. Also refer to Waggamba Shire Council's Vegetation Management Guidelines.

Social Benefits

Psychological Well-Being

Vegetation contributes positively to psychological well-being through the comfort created by shade, and a positive connection to things "natural" through introduction of vegetation for "place making".

Recreational Benefits

Plants create and provide settings for important recreation opportunities and interaction.



RECREATIONAL BENEFITS OF LANDSCAPE

Improved Community Pride

The aesthetic contribution of suitable plantings has been shown to improve community spirit and pride of "place", having positive flow-on benefits such as reduced vandalism.

Aesthetic Value

Vegetation can contribute positively towards creating more pleasant working and living environments, on the small and broad scale.

Structured vegetation / plantings can screen obtrusive views or undesirable land uses, such as rubbish bin areas, and provide variety and visual interest in helping create more useable and functional spaces.

It is important not to only ensure that plants suite their local climatic conditions but the local landscape character wishing to be achieved. Considerations should include:

- What are the existing streetscape character elements (desirable/undesirable)?
- What are the desirable local species that convey true local character?
- What are the local landscape features, materials and identifiable topography?
- What plants within the existing area have a positive existing identifiable link with the local area?

and the

- Need to ensure functionality and an aesthetically pleasing and safe result/environment;
- Provision of a unified character and shade tree system to maximise shade opportunities where desired (both human/animal requirements);
- Overall form and scale of mature landscape;
- Safety of pedestrian circulation.

Human Scale

Vegetation can create a human scale within the broader landscape, reducing visual mass and the impact of buildings and infrastructure (power, roads, pipelines, bridges), and providing visual relief and experience from constructed surfaces and surrounding settings.

<u>Crime Prevention Through Environmental Design (CPTED)</u>

The widely recognised CPTED approach aims to prevent or minimise vandalism of community property through appropriate environmental design that engenders a sense of community ownership and pride for people using those areas. Landscape design plays an integral role in these fundamental principles—creating environments suitable for use and activity as a positive approach to increasing casual surveillance and assisting in public safety.

Some of the landscape elements seen as critical to CPTED are:

Streetscaping and associated landscape works; and

• The appropriate use of screening elements. Depending upon design, elements such as concealment walls, screen fences and screen planting in public areas can either enhance or undermine public safety as they may prevent casual surveillance.

In addition, it is vital to undertake early rectification of vandalised or accidentally damaged property as this has been shown to reduce vandalism.

Economic Benefits

Reduced Maintenance

The integration of vegetation into spaces with thought for function and comfort can help reduce on-going maintenance inputs such as damage to pedestrian pavements, and pruning for public safety around power lines. Correct preparation and mulching also reduces plant demands over time.

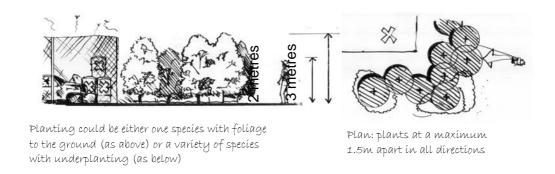
Commercial Activity and Tourism

Vegetation contributes directly to the overall aesthetic and development of "destination" locations as well as general living environments. This translates directly to visitor experience in an area, and localised commercial and tourism benefits.

SECTION 4: PLANTING FOR SPECIFIC FUNCTIONS

<u>Screen Planting of Unsightly Subsidiary Elements</u> Unsightly subsidiary elements include:

- Garbage bin areas and waste material storage areas in industrial and commercial complexes;
- Unenclosed storage areas for bulk loose materials such as soils, gravel, sawdust, and sand:
- Fixed items of machinery and equipment such as air-conditioning plants;
- Minor utilitarian structures such as free-standing toilets and small sheds, etc; and
- Unroofed areas used for the servicing and repair of equipment and vehicles.





SCREEN PLANTING OF UNSIGHTLY SUBSIDIARY ELEMENTS

Screen planting is to be provided to screen unsightly subsidiary elements where:

- the site adjoins zones of existing uses such as rural, rural residential, small town, urban (residential), commercial and open space and recreation and the unsightly subsidiary elements can be seen from the adjoining land; or
- the unsightly subsidiary elements can be viewed from a major road or street, as defined in this policy.

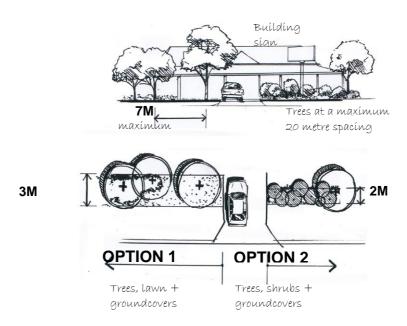
Acceptable screen planting consists of trees and/or shrubs that retain their foliage all year round from close to the ground to 2 to 3 metres above the ground. Such planting is to be provided with individual plants overlapping in the line of sight and spaced at a minimum 1.5m apart in all directions

Amenity Buffer Planting

Amenity buffer planting is planting which is provided to visually enhance the built form by providing some screening of the development without totally concealing the built form.

It is to consist of a continuous strip of soft landscaping made up of one or a combination of the following features:

- The street frontages of developments, except for the width of vehicular and pedestrian
 accesses are to be provided with continuous soft landscaping. Except where visual
 screening is required such soft landscaping is to consist of one or a combination of the
 following:
 - Lawn and or groundcovers (spaced at a density sufficient to give 80% coverage within 2 years of planting) at least 3 metres wide with shade trees spaced a maximum of seven metres apart;
 - Mulched garden beds at least 2 metres wide planted with shrubs at a density of 1 shrub per 3 m2 and/or groundcovers spaced at a density sufficient to give 80% coverage within 2 years of planting with shade trees spaced a maximum of 20 metres apart.

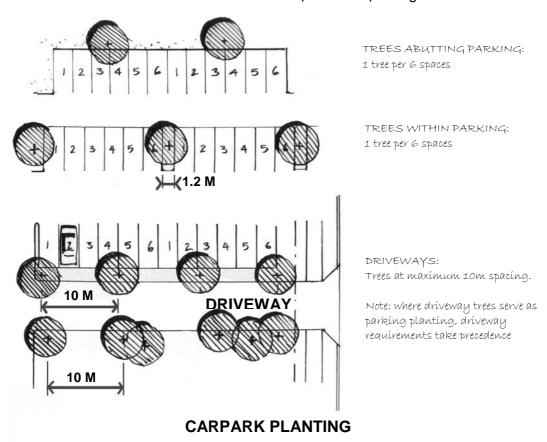


AMENITY BUFFER PLANTING

(Tree planting need not be regularly spaced or in a straight row or rows).

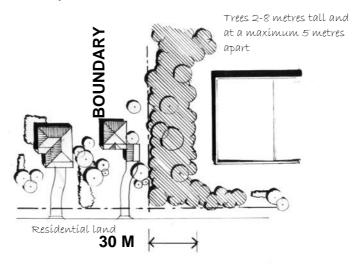
Parking Area Shade Planting

Shade trees are to be located either at the perimeter of or within car parking areas as wall as along driveways at a minimum rate of 1 shade tree per 6 car parks (or part there of) and 1 shade tree beside every 10 metres of driveway (or part there of). The trees may be existing or proposed. Trees within carparking areas are to have or to be provided with at least 1.2 m x 1.2 m of mulched area where and no seal or compaction of parking area.



Vegetated Buffer between Incompatible Land Uses

Where residential land adjoins other residential land that is the subject of an application for a Material Change of Use for an industrial type use, Council may require the provision of a vegetated buffer. Such a vegetated buffer is to consist of a minimum 30 metre wide continuous space planted randomly with trees and large shrubs whose trunks are less than 5 metres apart in any direction and whose heights vary from 2 to 8 metres or greater such that the foliage of different trees and shrubs overlap in the line of view.

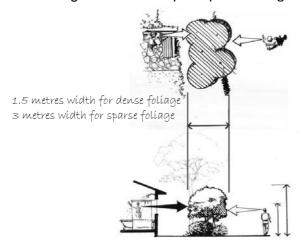


VEGETATED BUFFER BETWEEN INCOMPATIBLE LAND USES

Privacy Screening

Privacy screening is to provide privacy to the windows and outdoor living areas of residential properties.

Privacy screen planting is to be provided by planting evergreen trees or shrubs that retain their foliage from close to the ground to 2 to 3 metres high at a density of 1 tree or shrub per 2 m² of planted area. Minimum width of Privacy Screen planting is to be, 1.5m for plantings dominated by species with dense foliage and 3m for open sparse foliage species.



PRIVACY SCREENING

Privacy screening may be required by Council as a condition of approval for multi-unit dwellings or for other proposed developments where existing houses are likely to suffer loss of privacy due to the proposed development.

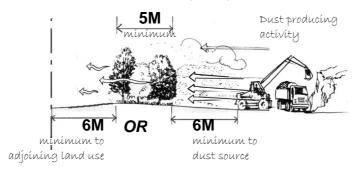
Dust Barrier Planting

Dust Barrier planting is specifically designed and planted to protect sensitive areas from wind that contains dust and other fine particles. Such uses include those where dust is likely to be generated by the principal usage of the land (such as a quarry, or a stockpile of sawdust at a sawmill) or by the usage of vehicles on unsealed driveways, parking, and loading areas and where adjoining land uses are likely to be detrimentally affected by dust.

Dust Barrier planting is to be:

- Continuous and at least 5 metres wide;
- A mixture of species of trees and shrubs that maintain their foliage from ground level to at least 5 metres high; and
- Where possible, located within 6 metres of the edge of the source of dust nuisance, or within 6 metres of adjoining land use likely to be affected by dust.
- Although Dust Barrier planting's primary function is to filter air borne pollution, it will also provide a degree of windbreak. Care should be taken to ensure that any negative windbreak effects are minimised.

This requirement does not apply to land used for cropping or other horticultural uses. Where the cropping or other horticultural use is the only likely source of dust.



DUST BARRIER PLANTING

SECTION 5: LANDSCAPE REQUIREMENTS FOR SPECIFIC PARTS OF THE SHIRE AND SPECIFIC TYPES OF DEVELOPMENT

Properties Fronting Major Roads and Streets

Major roads and streets within the Shire include the following:

- · Cunningham Highway;
- Leichhardt Highway;
- Barwon Highway;
- Boundary Road, Goondiwindi;
- Polo Road, Goondiwindi;
- Town Common Road, Goondiwindi;
- The main streets of Yelarbon, Toobeah, Talwood, and Bungunya, and the roads that connect Bungunya, and Talwood to the Barwon Highway; and
- Any other road determined by Waggamba Shire Council resolution.

Requirements:

Properties with frontages to Major Roads and Streets are to be provided with the following:

- Amenity Buffer Planting
- Screen Planting of Unsightly Subsidiary Elements
- Acceptable Frontage Fencing, if frontage fencing is proposed

The width of Amenity Buffer Planting may be reduced where the frontage setback for buildings is permitted to be less than the width of Amenity Buffer Planting specified in this policy, or where the proposed use within the rural township is shops or commercial and an appropriate urban form of landscaping consisting of planting and paving is provided.

Note:

The Queensland Department of Main Roads also has jurisdiction over declared Main roads. Accordingly, development proposals for properties with frontages to such roads, in addition to complying with Local Council conditions, will also need to comply with Main Roads' specific landscape requirements, such as maintaining visibility and sightlines, and proximity of proposed vegetation to the road way.

Leonards Estate

The aims of this policy are to:

- integrate the primary residential use and residential amenity of the area with the subsidiary industrial uses which are able to be approved within Leonards Estate; and
- minimise the visual impact of the approved industrial uses and development upon the residents of the area and those passing through the area.

Requirements:

- Properties with frontages to Boundary Road or to the Leichhardt Highway are to be provided with:
 - road frontage fencing in accordance with the requirements for "Fencing to the Frontages of Major Roads" contained within this policy; and
 - "Amenity Buffer Planting" (as defined in this policy) to the full frontage of Boundary Road or the Leichhardt Highway as relevant.

- Properties with frontages to streets and roads other than Boundary Road and the Leichhardt Highway are to be provided with screen planting in accordance with "Screen Planting of Unsightly Subsidiary Elements" contained within this Policy;
- Constructed water holes, borrow pits, dams and earth tanks are to be screen planted such that no more than 50% of the water body will be seen from adjacent roads.—DO NOT plant on levees or banks constructed of fill due to the danger of "pipe failure" (where tree roots die and rot away leaving pipes in the soil, leading to failure of the wall).

FENCING

Fencing, especially roadside fencing, is an important element in establishing both rural character and streetscape character in urban areas. Part of the importance of roadside fencing to visual character is due to its proximity to the observer.

Much of the Waggamba Shire has a rural character with uninterrupted, distant views. Vegetation, especially roadside and street-side vegetation, is generally sparse and relatively transparent. Fencing in the rural areas is also generally transparent and non-obtrusive and consequently permits open views. Within Goondiwindi and the townships of the Shire, fencing is also generally transparent and unobtrusive, if it exists at all. It is important that this visual character be maintained.

Fencing should be functional, low maintenance, and in character with its surroundings. Examples of fencing that would appear to be out of character include:

- Timber picket fences when placed across the entire frontage of farms:
- High chain-wire fences around conventional sized residential; and
- Long lengths of Colorbond or corrugated fibre cement sheet fencing in rural areas.

Types of fencing that would appear to be in character with function include:

- Open wire fences on rural properties;
- High timber post and rail fences to cattle yards and horse studs;
- High chain-wire fences to secure outside storage areas of industrial sites; and
- Screening fences around the private courtyards of residential units.

Badly maintained fencing reflects negatively on the character of the Shire, can become dangerous, and encourages vandalism as well as allowing trespass by both animals and humans. Weeds and long grass beside fence lines are also unattractive.

Consistency in the basic design of fencing contributes positively to the landscape, especially beside major roads and thoroughfares. A variety of heights, styles of fencing, types of materials, and varying degrees of transparency, when used in close proximity, can appear most unattractive.

Development Requirements for Fencing

Locations and types of developments where these requirements will apply:

Except for certain properties with frontages to Town Common Road in Goondiwindi (as described in the GOONDIWINDI – TOWN COMMON ROAD part of this section), the requirements listed below apply only to developments where frontage fencing is proposed to be erected.

Rural Townships

Non-residential developments in the main street and on the approach roads into the townships.

Acceptable Frontage Fencing

- Timber panel fencing
- Timber picket fencing
- Chain wire and steel posts
- Welded mesh and steel posts
- Post and rail fencing with or without masonry piers
- Pool fencing consisting of tubular steel fencing
- Proprietary Colour Bond
- Other types of fencing where construction details are provided to Council and are approved by Council.

Applicants are encouraged to provide fencing consistent with that of recently erected fencing on adjoining properties.

Unacceptable Frontage Fencing

- · Sheet steel of any height
- Fibre cement sheet of any height
- Fencing grossly out of character with that of adjoining properties as determined by Council.
- Star picket fence posts
- Barbed wire fencing

Goondiwindi

Non-residential and non-rural developments with frontages to the following streets and roads:

- Leichhardt Highway
- Cunningham Highway
- Boundary Road
- Barwon Highway
- Polo Road, Goondiwindi

Acceptable Frontage Fencing

- Chain wire and steel posts
- Welded mesh and steel posts
- Steel picket and rail fencing with or without masonry piers
- Pool fencing consisting of tubular steel fencing
- Other types of fencing where construction details are provided to Council and are approved by Council.

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- Timber picket fencing
- Fencing grossly out of character with that of adjoining properties as determined by Council.
- Star picket fence posts
- Barbed wire fencing

Goondiwindi – Town Common Road

Intent

To prevent Light Industrial Development on Town Common Road from having an adverse visual impact for adjacent residents and for users of the road.

Requirement

• Developers are required to erect a fence comprising block pillars with tubular infill, to match the existing, for a consistent streetscape for both sides of Town Common Road where the lands are designated as Light Industry.



• The fence is required to be complimented by Amenity Buffer Planting.

CONSTRUCTED WATER HOLES, BORROW PITS, DAMS AND EARTH TANKS

Introduction

Frequently, excavation is carried out on private land for the following purposes:

- To obtain fill to raise house locations above flood level;
- To obtain fill to provide better localised drainage around house pads;
- To provide water storage for stock or irrigation.

Without careful thought these excavations can be unattractive when full or empty of water, unsafe, and may have adverse impacts on natural drainage flows.

Natural water holes and billabongs exist within the Shire and several of these contribute positively to their locations. Examples are the lagoon in Yelarbon, and the lagoons near the creeks and riverbanks in Goondiwindi.

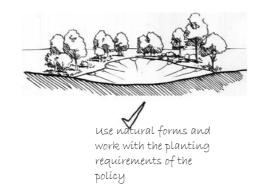
Requirements for Approvals

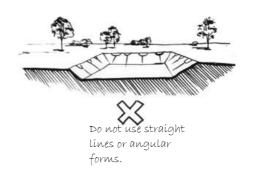
Under the Integrated Planning Act earthworks such as those mentioned above require Development Approval.

Council's consideration in granting Development Approval:

a) APPEARANCE

(i) Form: The excavation, including the shape of the water body, and the slopes and lines of banks and levees are to be natural in shape. Straight lines, angular corners, rectangular shapes, and sharp changes in direction are not natural to the landscape of the Waggamba Shire. Although steep banks occur on the river and some creeks, the banks of natural lagoons and billabongs are not steep.



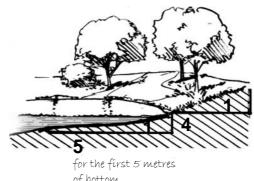


FORM OF EXCAVATIONS

- (ii) Vegetation: The banks of the excavation are to be informally planted with trees and shrubs for at least approximately 50% of the bank's total length. Natural billabongs and lagoons usually have native trees growing on their banks and sometimes other lower forms of vegetation. The vegetation assists in stabilising the banks, provides an attractive appearance, shade, and habitat for wildlife.
- (iii) Water Retention: The excavated area is to be formed to be either self-draining (to be empty of water within one week of the end of rain or flooding), or if it is not selfdraining, the area that is not self-draining is to be permanently covered with water for 80% of its area. Council may require the property owner to undertake that the water body will be filled with water by pumping or by other means, except when the relevant parts of the Shire is drought declared. Excavated areas which are covered with water for long periods of time and then are empty of water frequently leave muddy, damp bottoms which are unsightly, create smells, and can be dangerous for children and animals.

b) SAFETY

- Council cannot be held responsible for human or animal safety in the provision or (i) approval of such excavations even when all guidelines herein are followed.
- Steepness of banks: Banks shall not be steeper than 1 vertical to 4 horizontal. This (ii) should lessen the danger for children or animals and allow for ease of maintenance of vegetation.
- (iii) Steepness of bottoms: Below the water line bottoms shall not be steeper than 1 vertical to 5 horizontal for the nearest 5 metres to the shoreline. This slope is to enable children to scramble out of the water before it gets too deep.



of bottom

SAFETY OF EXCAVATIONS: BANKS + BOTTOMS

Fencing:

Part 5 of the Standard Building Regulations and the Building Code of Australia do not require all constructed water bodies to be fenced to swimming pool fencing standards.

Irrespective of the requirements of the Standard Building Regulations or the Building Code of Australia excavated water bodies should be fenced to the standard otherwise required for swimming pools where the excavated water body is within 200 metres of:

- residential buildings of any description or type;
- nursing homes and aged persons hostels;
- childcare centres, pre-schools, kindergartens, and primary schools.

Water Storage Area/Farm Dams:

Where the purpose of the excavations and/or fill is to provide for water storage or catchment there is no requirement for the excavation to remain full. However, the other provisions relating to form, planting and safety are to be adhered to. Levee and filled banks are to be natural in form and appearance and straight lines are to be avoided. DO NOT plant on levees or banks constructed of fill due to the danger of pipe failure (where roots die and rot away leaving pipes in the soil, leading to failure of the wall). Screen Planting is required for these elements such that no more than 50% of the levee/bank will be seen from adjacent roads.

Engineering Certification:

At either or both the application stage and on completion Council may require applicants to provide certification from a Registered Practising Engineer of Queensland that water-containing structures are structurally sound and will not contribute to flooding or interfere unduly with the water catchments of downstream properties.

Applications:

When applications for approval are lodged drawings are to be provided that show the dimensions, shape and locations of the proposed excavations, water bodies and levees, and the dimensioned proximity to the property boundaries and to buildings within 200 metres of the edge of the water body, and the locations and type of existing and proposed fencing.

SECTION 6: TECHNICAL

Objective:

To ensure that landscaped areas will thrive and be readily maintained.

Note:

BEWARE OF UNDERGROUND SERVICES- Before undertaking any work, ensure you have located all underground services such as sewer, water, phone, and power. Be aware that in addition to lines that service your property, major lines may also cross your property. To help locate services on your site or road reservations call the "Dial Before You Dig" Service on 1100 (at the time of writing of this report).

BEWARE OF OVERHEAD POWER AVT TELECOMMUNICATION LINES- Always be conscious of the location of overhead powerlines while using equipment and be careful when working on trees near power lines. When planting in the vicinity of overhead services, select tree species that are unlikely to approach the services when they reach maturity.

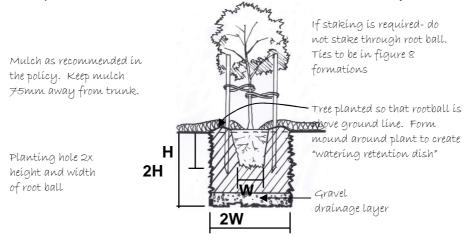
Implementation:

- a) Specify, install and maintain species of plants that:
 - are known to be native to the area; or
 - are not native to the area but are known to do well in the area; or
 - thrive in similar soil, water, climatic and maintenance conditions; or
 - are included on the recommended plant species list that forms part of this policy.
- **b)** Restrict the use of plants that are known to be:
 - invasive of the area beyond where they are planted;
 - declared noxious weeds or poisonous to stock or humans;
 - short in life span;
 - likely, because of proximity, to interfere with underground/overhead powerlines and communication services, buildings and other aspects of construction;
 - unsafe because they become too large, are known to drop limbs / seed pods etc on paved areas;
 - a cause of littering because of unacceptable levels of dropping leaves, flowers, or seed pods; and/or
 - are included on the not recommended species list that forms part of this policy.

Note that some species that fall within item (a) above may be inappropriate in some instances because of insufficient space at maturity, and for other reasons (refer suggested species list).

- c) Select species that are:
 - frost tolerant in locations that are susceptible to frost;
 - drought resistant / unless there is a regular program for watering:
 - able to tolerate long periods of inundation in flood prone or poorly drained areas; and
 - able to grow in clay or black soils where such soils are present.
- **d)** If advanced trees are to be used, ensure adequate planting area preparation to maximise viable establishment and assist in trees reaching long-term maturity:
 - adequate size hole;

- raise top of root ball marginally (50-100mm) above existing ground level for drainage;
- drainage layer of crushed rock for root drainage in soils with poor drainage qualities (e.g. clays);
- watering pipe installed to maximise penetration into root zone (this may not be so necessary on sandy soils);
- adequate mulch (local source better) i.e., forest litter mulch, gravel etc;
- form mound around plant as detailed to create "watering retention dish";
- ensure species selected are suitable for their location at maturity.



e) Select plant sizes at planting such that the plants have the best chance of surviving and thriving.

Plant size at planting is a crucial determinant of costs and success of plantings.

- too small + no care = no chance
- right size + right care = great chance

f) Effective watering

All plants need water to survive and obviously it is better in terms of water conservation that water is delivered naturally rather than artificially, especially when treated town water is the alternative.

Watering is essential until root growth penetrates deeply enough into the soil to a level where the soil remains sufficiently damp. The depth of the permanently damp soil is obviously lower in drought conditions than in wet or normal conditions. Natural drainage patterns play a part in the availability of water for plants, for example, tree growth near creek banks and lagoons as compared to sparse growth on hills.

Different plant species also require different soil/water conditions. Trees are generally able to withstand longer periods of drought than shrubs or groundcovers because of their deeper root systems. Lawns, with very shallow roots, require frequent and even daily watering for survival, let alone prosperity.

Even within the same plant groupings different species are more drought tolerant than others of similar form and habit. Locally indigenous species have survived because they have adapted to local climatic and soil conditions.

Ways of using water wisely include the following:

- choose plant forms that are able to survive reasonably long periods without rain or applied water;
- choose plant species that are known to require less water including those with dryer natural habitat;

- use mulch to keep the soil cool and moist;
- apply water in the evening rather than in the heat of the day to minimise loss through evaporation;
- after the plants are established, water them with a good periodic soaking instead of frequent watering of small quantities. This will encourage deeper root growth and minimise loss through evaporation;
- during establishment plants will require more frequent watering than afterwards;
- minimise areas of manicured lawn;
- soil moisturisers can be used effectively especially during establishment. These can sometimes extract moisture from surrounding soil. Use only in accord with manufacturers directions;
- locate plants that require more water on lower or more moist parts of the site;
- group plants that have higher water needs together to assist in creating suitable microclimates and to minimise the area that requires high supplementary watering.

g) Watering Systems

An approved and appropriate watering system is to be provided when landscaping is required as a condition of development.

Approved watering systems include the following:

- sufficient hose cocks and/or quick coupling points to enable watering by movable garden hoses:
- permanent irrigation systems operated either manually or with mechanical or electronic timers:
- in some instances, subject to Council's approval, water trucks;
- backflow prevention devices are required to prevent irrigation water from being siphoned back into the town mains system;
- where automatically controlled systems are used they should include a rain switch;
- use of water saving drip-irrigation should be considered as a first option if a filtered water supply can be tapped into; and
- above ground sprays utilise more water and can have drawbacks such as evaporation of surface water before plants have a change to utilise moisture.

h) Soils

Good growth of vegetation depends on water, climate, and soil quality. When implementing landscape schemes around building developments it is often quite economical to modify the soil or to "import" good soil to the site. Where the landscape scheme is much broader in scale, modification of the soil or replacing it may not economical or practical. In such cases, careful plant species selection becomes more important than where imported or modified soils are used.

Key characteristics of soils include:

- Structure (the combination of fine and coarse particles and the manner in which they adhere or separate)
- Acidity
- Nutrient content and availability
- Organic content
- Drainage

Many species of native plants have adapted to local soil conditions and careful selection of species will usually enable plants to thrive even in the most adverse of soil conditions, e.g. Spinifex and saltbush.

However, in urban landscapes additional characteristics of plant species are required (rather than mere survival). In such cases the modification or replacement of site soils may be required.

There are a range of soil tests that can be carried out. Some of these are simple and basic, such as testing the clay content by squeezing moistened soil between finger and thumb, or testing the pH (acidity) by observing the changes in colour using simple test kits. Alternatively, where warranted, soil samples can be forwarded to consulting agronomists or to the Department of Primary Industries for more sophisticated and complex testing. Many of the fertilizer manufacturers provide such a service. Soil additives such as lime, gypsum, soil moisturisers, and organic materials can then be used to modify the soils to make them more suitable for a wider range of plant species.

Local soils in the Waggamba Shire frequently contain a high clay content in which case soil drainage (which is always important) becomes critical. Drainage of clay soils can be improved by the following ways:

- Altering the soil structure by adding specific quantities of lime, gypsum, and/or organic materials;
- Mounding the soil for garden areas;
- Excavating open drains beside gardens (not acceptable in most urban landscapes); and
- Providing subsurface (seepage, or agricultural) drains.

Sometimes it is suggested that clay soil be replaced by digging a trench, removing the clay, and refilling the trench with good quality, well draining soil. Unless the excavation is very deep or can be drained by agricultural drains, waterlogging and consequent plant death will occur.

Surface drainage of garden and lawn areas is also important to ensure that ponding does not occur.

Minimum Acceptable Standards and Depths for Soils and Soil Preparation for the purpose of this Policy:

- cultivate surface of lawn and garden areas to a depth of 150 mm;
- lawn areas 75 mm of re-spread stockpiled site topsoil;
- grass covered areas 50 mm of re-spread site topsoil as defined in Australian Standard AS 4419 Soils for Landscaping and Garden Use;
- garden areas 200 mm deep topsoil imported to site planting holes for trees and shrubs not in gardens.

i) Mulches

Mulches are used for the following beneficial reasons:

- weed control
- moisture control
- temperature control in the upper root zone
- adding organic material to the soil (providing the mulch is an organic mulch)
- providing nutrients to the soil

Mulch Materials

Uncomposted material, particularly one with a high carbon content such as sawdust or wood chips, can initially be detrimental to plant growth because they extract nitrogen from the soil while composting is occurring. Once composted this nitrogen again becomes available from the soil. If these mulches are to be used it is important to add additional sources of nitrogen such as composted manure or fertiliser. Uncomposted animal and fowl manure can also be detrimental to the soil and plants. Once composted it may be suitable except for use with some native plant species.

Suitable mulches include:

- Organic:
 - Various types of pine park
 - Forest blend (chopped up leaf, branch, and even log clippings resulting from pruning, and tree felling)
 - Straw
 - Sawdust and sawmill shavings (providing it is not preservative treated)
 - Bagasse (by product from crushing sugar cane)
 - Cotton hull waste
- Non-organic mulches:
 - Crushed rocks
 - Crushed bricks (particle size 20 mm or less)
 - Various sizes and colours of river gravels

Requirement For Mulches In This Policy

Mulch is required to be provided as follows:

Garden areas	100 mm deep to the whole area of garden
Trees	100 mm deep for 800 mm diameter
Shrubs in grassed areas	100 mm deep for 600 mm diameter

i) Weed Control

Weeds are often defined as "plants growing in the wrong place". Many of our exotic weeds were originally species that were introduced as garden species but which spread prolifically and thrived in local environmental conditions, and where frequently their natural predators may not have existed. Prickly pear is a particularly relevant example within the history of the Waggamba Shire.

Methods of weed control include:

- Mulching (prevents rather than cures weed infestation)
- The use of weed mats including:
 - Woven plastic fabrics
 - Organic mats such as coir
 - Newspaper spread on the ground with mulch over it
- Mechanical removal (pulling, grubbing, etc)
- Poisoning

Care should be taken with poisoning because of potential harm to:

- Humans
- Wildlife
- Stock
- Other desirable plant species
- Water supplies and water bodies.

Waterproof sheet plastic should not be used as a weedmat because it prevents water from penetrating to the root zone of the desirable plants in dry periods. In moist periods waterproof sheeting does not allow moisture vapour to evaporate and fungus growth occurs in the root zone.

Requirement for Weed Control in this Policy.

Weed control is required to garden and tree and shrub planting as follows:

- by the provision of mulching;
- by total removal and the total eradication of weeds during the planting establishment ("maintenance") period;
- At regular intervals after the end of the planting establishment period to ensure that plant growth is not detrimentally affected and weed propagation (by seeding, suckering, etc) is not occurring.

k) Garden / Mowing Edges

Garden and mowing edges are used to minimise maintenance by:

- Confining mulch to garden areas;
- Minimising lawn grass suckers from penetrating garden areas;
- Providing a neat edge for mowing;
- Preventing grass growth under fences where mowing cannot occur.

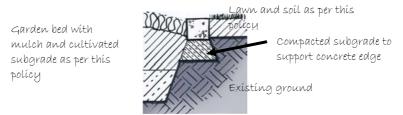
Built up edging can help to increase soil depth and improve drainage.

Minimum Requirements Of This Policy For Edging

When required garden areas adjoin lawn areas

Approved types of garden edging are:

- cast in situ concrete 100 mm x 100 mm profile
- precast concrete
- pavers or bricks set into a concrete base
- durable timber sleepers
- 100 x 15 CCA treated timber set on edge and secured in place with timber pegs
- stone edging.



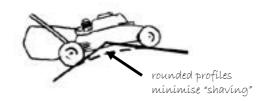
IN SITU CONCRETE EDGE

NOTE: Timber edging of all types should be preservative treated for protection against termite and fungal attack. Most timber preservatives are toxic and timber offcuts and sawdust so treated should not be burnt especially in fireplaces or barbecues.

I) GROUND SURFACE PROFILING.

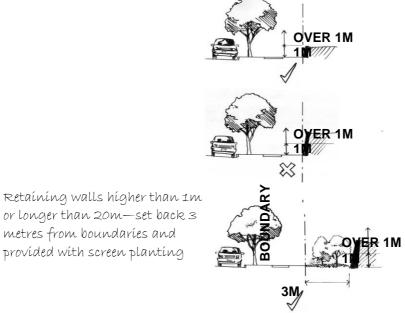
This Policy requires landscaped areas to be profiled as follows:

- eliminate ponding generally gardens and lawn areas 1:100 minimum falls towards drains, gutters, field gullies;
- maximum slopes lawns 1:4 to enable good grass growth and ease of mowing (max also dependant on type of mower) and safety of machinery; and
- rounded profiles to minimise "shaving" of lawns by mowing.



- Gardens
- 1:4 generally maximum slope
- 1:3 or steeper requires erosion control matting
- 1:2.5 max for erosion control matting unless slope is less than 1.5 m long and upper surface slopes away from slope and then 1:2 is acceptable (but not recommended). Otherwise retaining structures are required such as:
 - o reinforced concrete block walls
 - o precast concrete walls
 - o sleepers etc
 - o stone pitched walls

The maximum height and length of retaining walls exposed to view from streets or adjoining properties is 1 metre high and 20 metres long. Retaining walls higher or longer than the dimensions stated are to be set back 3 metres from property boundaries and are to be provided with screen planting (Refer "Screen Planting of Unsightly Subsidiary Elements"). Council may relax this policy where circumstances warrant such relaxation.



RETAINING WALLS EXPOSED TO VIEW FROM STREETS OR ADJOINING PROPERTIES

- **m)** Ensure that plants and grassed areas become established when initially planted by providing a 12-week planting establishment ("maintenance") period during which time plants are watered with a regime that helps them to become established followed by a tapered watering period to harden off prior to the end of the establishment period, and that plants are:
 - fertilised:
 - protected from being eaten by native and exotic animals and stock;
 - replaced if stolen, vandalised or died for whatever reason including frost, flood and fire;
 - Weed eradication should also take place to reduce plant competition and for aesthetic reasons.

n) Ongoing Maintenance

All required landscaped areas are to be maintained permanently by ensuring:

- Plants receive adequate watering
- · Weeds are controlled
- Grassed areas continue to grow but are mown or otherwise suitably maintained
- Plants and grassed areas receive adequate nutrients through fertilizing or other methods
- Dead plants are replaced

- Weed growth is controlled.
- o) Declared Pests
 - Declared noxious weeds are required to be removed. Refer to the list of plant species that are not to be used for further information.
 - Fire Ants: Although, at the time of publishing this document, Fire Ants have not yet been discovered within the Waggamba Shire the Department of Primary Industries regulations referring to Fire Ants are applicable. All plants, soils, mulches, and the like that are used within the Shire are to be certified by the supplier of such materials as being free of Fire Ants.

SECTION 7: DEVELOPMENT APPLICATIONS REQUIRING THE SUBMISSION OF A LANDSCAPE PLAN

A landscape plan will be required to accompany a Development Application in the following instances:

- For all new buildings and extensions that are greater than 25 m2 in floor area other than detached houses;
- For development applications that are Code Assessable or Impact Assessable;
- For all development applications that include the construction of Water Holes, Borrow Pits, Dams, and Earth Tanks;
- Other development applications when requested by Council during the Development Approval process.

Council may dispense with the need for a landscape plan in the following instances:

- Where the location of the proposed development is more than 400 metres from all property boundaries of the subject land;
- Where Council considers that the proposed development will not adversely impact upon either the visual image of the surroundings or the environment; or
- In urban and township locations where the proposed development is not required to be set back from street boundaries or side boundaries.

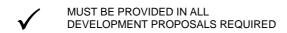
The landscape plan is to show the following:

- the existing and proposed boundaries of the lot or lots;
- the location of the existing and proposed buildings, driveways, carparks, and the like;
- existing and proposed trees, garden areas, and grassed areas;
- existing and proposed fencing and type of fencing;
- the type of watering system to be used including the location of hosecocks;
- when requested by Council during the approval process, a detailed planting plan including the proposed plant species, numbers of each species, and size of plants when planted.

SUMMARY OF LANDSCAPE REQUIREMENTS

Note: the detail of the policy takes precedence over this summary.

	ZZ	LEON	ARDS E	STATE			MOM	
	MAJOR ROADS AND STREETS	BOUNDARY ROAD AND LEICHHARDT HIGHWAY	FRONTAGES OTHER THAN BOUNDARY ROAD LEICHHARDT HIGHWAY	WATER HOLES, BORROW PITS DAMS AND EARTH TANKS	GOONDIWINDI	RURAL TOWNSHIPS	GOONDIWINDI - TOWN COMMON ROAD	WATER BODIES
SCREEN PLANTING OF UNSIGHTLY SUBSIDIARY ELEMENTS	\checkmark	✓	√		✓	✓	✓	
AMENITY BUFFER PLANTING	\checkmark	✓	✓		✓	✓	✓	
PARKING AREA SHADE PLANTING	✓	✓	✓		✓	✓	✓	
VEGETATED BUFFER BETWEEN INCOMPATIBLE LAND USES	✓	✓	✓	✓	✓	✓	✓	✓
PRIVACY SCREENING								
DUST BARRIER PLANTING	✓	✓	✓	✓	✓	✓	✓	✓
ACCEPTABLE FRONTAGE FENCING	✓	✓	✓		✓	✓	√	
FENCING				✓				✓
CONSTRUCTION DETAILS AND PLANTING REQUIREMENTS				√				\checkmark



✓ MUST BE PROVIDED WHERE APPROPRIATE TO THE POLICY

MUST BE PROVIDED WHERE
APPROPRIATE TO THE POLICY
and
MAY BE IMPOSED AS A CONDITION
OF DEVELOPMENT APPROVAL

APPENDICES: SPECIES LISTS

APPENDIX A: STREET TREE SPECIES LIST

The list is a guide to suitable street trees as these species:

- are compatible with, and potentially contribute to, the character of area;
- are non invasive;
- provide shade.

BOTANICAL NAME	COMMON NAME	HEIGHT	FLOWER COLOUR / FEATURE
NATIVE TREES & PALMS			
Araucaria cunninghamiana	Hoop Pine	to 30m	Form
Brachychiton discolour	Lace Bark Tree	8-30m	Pink
Brachychiton rupestris	Bottle Tree	6-20m	Form, Trunk
Casuarina cunninghamiana	River Oak, She Oak	<30x6m	Foliage
Geijera parviflora	Wilga	<8x4m	Form, Foliage
Grevillea robusta	Silky Oak	to 30m	Golden
Livistona sp.	Cabbage Palm		
Lysiphyllum hookeri	White Bauhinia	5-10m	White Flowers, Red Stamen
Macrozamia sp.	Cycads		
Xanthorrhea sp.	Grass trees		
EVOTIC TREES & DAI MS			
EXOTIC TREES & PALMS	0 14 11		
Lagerstroemia indica	Crepe Myrtle	6mx3m	Pink/Lavendar / White
Tabebuia argentea	Silver Trumpet Tree	7mx3m	Yellow Flower

APPENDIX B: AMENITY PLANT SPECIES

BOTANICAL NAME

The following list is a guide to species that do well in the soils and climate of the Waggamba Shire. However, some of these species may be difficult to source commercially and it is important to consult a local nursery as to the availability of species before undertaking a planting plan.

Plants marked with and asterisk (2) are more readily available and more widely known.

COMMON NAME

HEIGHT

FLOWER COLOUR /

FEATURE NATIVE TREES & PALMS Acacia aneura Mulga <7x7m Golden Flower Gidgee <15x5m Yellow Flower Acacia cambagei Acacia harpophylla Brigalow <20x4m Foliage Acacia pendula Weeping Myall <6x3m Cream-yellow Flower Acacia salicina Cooba, Sally Wattle to 14m Yellow ② Agathis robusta Foliage Kauri Pine 30m+ Agonis flexuosa White Peppermint Willow 5-8m Scrub Boonaree Alectryon diversifolius to 8m Foliage Alectryon oleifolius Boonaree 5-9m Foliage Desert Oak <15m Form Allocasuarina decaisneana Oak Bark, Form Allocasuarina inophloia <7m Allocasuarina torulosa Forest Oak <15m Bark, Form Alphitonia excelsa Red Ash to 20m Form ² Angophora costata <30x10m Bark, Form, White Flower Apple Gum Angophora floribunda Rough-barked Apple <20x6m Bark, Form, White Flower Angophora melanoxylon Coolabah Apple <12x4m Bark, Form, White Flower 30m+ Araucaria bidwillii Bunya Pine Foliage Brachychiton acerifolius Illawarra Flame Tree 8-30m Red Brachychiton discolour Lace Bark Tree 8-30m Pink Brachychiton populneus Kurrajong 6-20m Form Brachychiton rupestris Form, Trunk Bottle Tree 6-20m Callistemon viminalis Weeping Bottlebrush <10x4m Red Flowers, Form Callitris columellaris Cypress Pine <10m Columnar Form Form Callitris endlicheri Black Cypress Pine <10m <20m Callitris glaucophylla White Cypress Pine Form **2** Cassia brewsteri Leichhardt Bean <12x4m Orange-vellow to red Cassia fistula Golden Shower 6x5m Yellow Flower 2 Castanospermum australe Black Bean to 40m Yellow / Red Casuarina cristata Belah 12x4m Foliage Casuarina cunninghamiana River Oak, She Oak <30x6m Foliage Batswing Coral Tree 15x5m Red Flower Erythrina vespertilio Eucalyptus camaldulensis River Red Gum to 30m Eucalyptus citriodora Lemon Scented Gum to 30m Trunk / Scented leaf 10-20m Form, Foliage Eucalyptus coolabah Coolibah Eucalyptus drepanophylla Q'land Grey Ironbark <30x5m Form River Box, Black Box Form, Foliage Eucalyptus largiflorens 10-20m Eucalyptus melliodora Yellow Box <40x6m Leaf, White Flower, Form <15x4m Eucalyptus ochrophloia Yapunyah Form, Cream Flower Mountain coolibah Form, Cream Flower Eucalyptus orgadophila <15x3m Eucalyptus populnea Poplar Box / Gum Form, Foliage 10-15m Forest Red Gum Euccalyptus tereticornis <40x5m Form, Foliage <30x4m Eucalyptus tessellaris Carbeen Form Eucalyptus thozetiana Yapunyah <15x4m Form, Cream Flower Eucalyptus torreliana Bark, Foliage Cadaghi to 30m

	Ficus macrophylla var. hillii	Hills Fig	10x10m	Foliage, Form
	Ficus macrophylla var. hillii	Moreton Bay Fig	10x10m	Foliage, Form
2	Flindersia australis	Crows Ash		Ornamental Fruit
	Flindersia maculosa	Leopard wood		Bark, Form
2	Geijera parviflora	Wilga	<8x4	Form, Foliage
2	Grevillea robusta	Silky Oak	to 30m	Golden
	Grevillea striata	Beefwood	8x3m	Cream Flower, Form
2	Hakea salicifolia	Hakea	<8m	White Flower, Foliage
2	Hymenosporum flavum	Native Frangipani	7m	Cream Fragrant Flower
2	Lagunaria patersonii	Norfolk Island Hibiscus	10x3m	Large Pink Flower
2	Livistonia australis	Cabbage Tree Palm	to 25m	Form
2	Lophostemon confertus	Brush Box	to 30m	Form, White Flower
	Lysiphylum carronii	Red Bauhinia	5-10m	Red Flowers & New Growth
	Lysiphyllum hookeri	White Bauhinia	5-10m	White Flowers, Red Stamen
2	Macadamia tetraphylla	Macadamia Nut	to 20m	Edible Nut
2	Melaleuca linariifolia	Snow in Summer	2-4m	White
2	Melaleuca stypheliodides	Prickly Paperbark	3-10m	Creamy Flower, Bark
2	Melaleuca viridiflora	Tea Tree / paperbark	to 18m	Pale Green / Red
2	Melaleuca 'Revolution Gold'	Tea Tree / paperbark		Gold Flower
2	Melia azedarach var. australiasica	White Cedar	20x6m	Birds eat fruit
_	Pittosporum phylliraeoides	Pittosporum	to 8m	Graceful Habit
2	Syzygium leuhmanni	Small-leaved Water Gum	10+m	Foliage
2	Toona australis	Red Cedar	to 40m	White or Pink

EXOTIC TREES & PALMS

$L \wedge$	OTIC TREES & FALING			
2	Albizia lebbek	Woman's Tongue Tree	to 20m	Yellow
2	Bauhinia blakeana	Bauhinia	5x3m	Burgundy-red
2	Caesalpinia ferrea	Leopard Tree	10x5m	Yellow Flower, Mottled Bark
	Carya illinoiensis	Pecan	30+m	Edible Nuts
	Ceratonia siliqua	Carob	10x4m	Form, Foliage
	Citharexylum quadrangulare	Fiddlewood	12x4m	Fragrant White Flowers
	Delonix regia	Poinciana		Red
2	Ficus carica	Culinary Fig		
	Jacaranda mimosaefolia	Jacaranda	10x5m	Mauve
2	Lagerstroemia indica	Crepe Myrtle	6x3m	Pink/Lavendar/White
	Olea species	Olive	to 8m	Edible fruit
	Paulownia fortunei	Powton	to 8m	Cream-mauve flower
	Phoenix canariensis	Canary Island Date Palm	10x5m	Form
2	Schotia brachypetala	Hottentot Bean	10x4m	Deep Red Flower
	Sophora japonica	Japanese Pagoda Tree	20x8m	Creamy Flower, Trunk
	Tabebuia argentea	Silver Trumpet Tree	7x3m	Pink Flower
	Taxodium distichum	Swamp Cypress	30m+ x 5m	Foliage
	Tipuana tipu	Race Horse Tree	20x6m	Yellow Flower
2	Washington robusta	Mexican Fan Palm	20m+ x 3m	Form

NATIVE SHRUBS, ACCENT PLANTS, GROUNDCOVERS & GRASSES

2	Acacia podalyriifolia	Q'ld Silver Wattle	3x5m	Silver Foliage, Gold Flower
2	Agonis flexuosa nana.	Myrtle	2m	White Flowers, Foliage
2	Anigozanthos species	Kangaroo Paw	small	Red, Yellow, Green; Form
2	Callistemon species	Bottlebrush	Sm - Lge	Red, Yellow, White
	Clematis microphylla	Small leaved Clematis	Climber	Fragrant White Flowers
2	Cordyline banksii	Cordyline	3x1.5m	Form, Fragrant Flower

	Cordyline baueri	Cordyline	300x300	Form, Leaf
	Cymbopogon ambiguus	Native Lemon Grass	<0.5m	Form, Scent
	Cymbopogon refractus	Barbed-wire Grass	<1.5m	Form
	Dicanthium sericeum	Q'land Bluegrass	<.80m	Form
	Dipteracanthus australasicus subs.	3		
	Australasicus		.5x.5m	Blue or White Flower
2	Eremophila species	Emu Bush	Sm - Lge	Variety of Flower Colours
	Graptophyllum earlii		3x1m	Red Flower
2	Grevillea juniperina species	Prostrate Grevillea	2x2m	Red or Yellow Flowers
2	Grevillea species	Grevillea	Sm - Lge	Varied
2	Lomandra confertifolia	Mat Rush	300x700	Form
2	Lomandra longifolia	Mat Rush	700x1000	Form
2	Lomandra multiflora	Mat Rush	750x750	Form
	Melaleuca nesophila	Tea Tree	<4x1.5m	Deep Mauve, Handsome
	Melaleuca species	Tea Tree	Sm - Lge	Variety of Colours
	Myoporum debile	Amulla	300x1000	White, Pink Flower
	Myoporum desertii	Turkey Bush	3x2m	White Flower, Edible Berry
2	Myoporum parvifolium	Creeping Boobialla	0.5x1m	White & Lilac Flower
	Myoporum parvifolium 'Purpurea'	Boobialla	0.5x1m	Lilac Flower
	Pennisetum alopecuroides	Grass	1x1m	Form, Foliage
2	Themeda triandra	Kangaroo Grass	300x300	Foliage
2	Vitex 'Purpurea'	Ornamental Grape	Climber	Purple Foliage
2	Westringia species	Native Rosemary	<2x<2m	Blue, Lilac, White Flower
		, i		,

EXOTIC SHRUBS, ACCENT PLANTS, GROUNDCOVERS & GRASSES

2	Abelia species	Abelia	Sm - Lge	Variety of Flower Colours
2	Bauhinia corymbosa	Climbing Bauhinia	Vine	Pink Flower
2	Bauhinia galpinii	Orchid Tree	2x2m	Red Flowers
2	Bauhinia species	Orchid Tree	Large	Variety of Flower Colours
2	Bougainvillea species	Bougainvillea	Vine	Variety of Flower Colours
	Carissa 'Desert Star'	Carissa	2x2m	White Flowers
	Convolvulus mauritanicus	Moroccan Glory Bind	Climber	Blue Flower
	Duranta repens 'Alba'	White Duranta	2x2m	White Flower
	Duranta repens varieties	Duranta	Sm-Med	Blue Flower Varieties
	Escallonia species		3x2m	White or Pink Flower
	Pelargonium peltatum	Ivy Vine Pelargonium	Vine	Pink, Lilac or Red Flowers
	Pyracantha crenulata "Ruby Mound'	Nepal Firethorn	2x2m	White Flowers
2	Rhaphiolepsis umbellata	Hawthorn	3x2m	White Flowers
2	Rhaphiolepsis 'Springtime'	Hawthorn	2x2m	Foliage
2	Rosa Species	Roses	Medium	Variety of Colours
2	Tecoma smithii	Trumpet Bush	4x3m	Yellow Flower
	Tecoma stans	Yellow Trumpet Bush	3x2m	Yellow Flower
2	Trachelospermum jasminoides	Start Jasmine	Vine	White, Fragrant Flower
	Viburnum suspensum	Laurestinus	3x2m	White-Pink Fragrant Flower
	Viburnum tinus	Laurestinus	3x2m	White-Pink Fragrant Flower

APPENDIX C: GOONDIWINDI BOTANICAL GARDENS - SPECIES LIST

BOTANICAL NAME

The following is a selection of native species growing in the Goondiwindi Botanical Gardens. The advantage of this group of species is that in addition to being suitable for the local conditions there are specimens located locally that can be visited to show the plants form colour and texture. However, some of these species may be difficult to source commercially and it is important to consult a local nursery as to the availability of species before undertaking a planting plan.

COMMON NAME

BOTANICAL NAIVIE	COMMON NAME
NATIVE TREES & PALMS	
Acacia cambagei	Gidgee
Acacia harpophylla	Brigalow
Acacia pendula	Weeping Myall
Acacia salicina	Cooba, Sally Wattle
Acacia polybotra	
Acacia jucunda	
Acacia deanii	
Acacia spectabilis	
Acacia julifera	
Acacia muelleriana	
Acacia fimbriata	
Acacia baileyana	
Acacia sparsiflora	
Acacia stetnophylla	
Acacia buxifolia	
Acacia macradenia	Zig-Zag wattle
Acacia oswaldii	
Acacia victiriae	
Acacia decora	
Acacia petraea	
Acacia haviliandi	
Acacia excelsa	
Acacia homalophylla	
Alphitonia excelsa	Red Ash
Alstonia constricta	
Angophora costata	Apple Gum
Angophora floribunda	Rough-barked Apple
Angophora subvelutina	
Apophylllum anomalum	
Atalaya hemiglauca	
Brachychiton discolour	Lace Bark Tree
Brachychiton populneus	Kurrajong
Brachychiton rupestris	Bottle Tree
Brachycome whitei	
Bursaria incana	
Cadellia pentastyllus	
Callistemon viminalis	Weeping Bottlebrush
Callistemon weir river	
Callistemon bracheandrus	
Calostemia purpureum	
Callitris columellaris	Cypress Pine
Canthuim odoratum	
Canthium buxifolium	
Canthium vasiniifolium	
Canthium oleifolium	

Capparis lasiantha Capparis mitchellii Capparis loranthifolia

Carissa ovata
Cassia brewsteri
Cassia artemisioides
Cassia caronolloides
Cassia circinnata
Cassia nemophylla
Cassia tomentella
Cassiaphyllodinea
Cassia sturtii

Casuarina leuhmannii Casuarina cristata

Casuarina cunninghamiana

Cassine australe Cayratia clematidea

Chenopoduim auricomeson

Clemtis microphylla

Craspedia

Crinum flocciduim
Croton phebaloides
Cyperus dactylotes
Cyperus alternifolius
Dodonaea boroniifolia
Dodonaea viscosa
Duboisia leichardtii
Ehretia membranifolia

Enchylaena tomentosa
Eremophilia maculata
Eremophilia sturtii
Eremophilia mitchelli
Eremophilia gilesii
Eremophilia polyclada
Eremophilia glabra
Eremophilia oppositifolia

Eremophila duttonii Eremophila longifolia Eremophila bignoniflora Eremophila divaricata Eremociturs glauca

Eucalyptus microtheca Eucalyptus pilligaensis

Eucalyptus maculata Eucalyptus tessellaris Eucalyptus argophloia

Eucalyptus camaldulensis

Eucalyptus crebra Eucalyptus bakeri

Eucalyptus drepanophylla Eucalyptus largiflorens Eucalyptus melliodora

Eucalyptus ochrophloia Ecualyptus orgadophila Eucalyptus populnea Eucalyptus tereticornis

Eucalyptus tereticornis Eucalyptus tessellaris Eucalyptus thozetiana Leichhardt Bean

Belah

River Oak, She Oak

Blue bush

Billy Buttons

Rushes

River Red Gum

Q'land Grey Ironbark River Box, Black Box Yellow Box Yapunyah

Mountain coolibah Poplar Box / Gum Forest Red Gum

Carbeen Yapunyah Eucalyptus curtisii Eucalyptus terminalis Eucalyptus microcarpa Eucalyptus albens Eucalyptus dealbata Eucalyptus trachyphloia Eucalyptus polycarpa Eucalyptus exserta Eucalyptus melanophloia Eucalyptus cambagaeana Eustrephus latifollus Exocarpus aphyllus Exocarpus cupressiformis Geijera parviflora Grevillea striata Hakea leucoptera Hakea frazeri Hardenbergia monophylla Heterodendron obifolium Heterodendron diversifolium Hovea acutifolia Hovea longifolia Indigofera australis Jacksonia scoparia Kennedya rubicunda Leptospernum flavescens Leptospernum ftrivalue Lophostemon confertus Lomandra Lotus australis Ludevigia peploides Lysiphylum caronii Lysiphylum hookeri Marsilea drummondii Melaleuca trichostachya Melaleuca styphelioides Melaleuca bracteata Melaleuca densispicata Melaleuca lanceolata Melaleuca bracteata Maytenus cunninghamii Melia azedarach mimulus gracilus Minuria Myoporum debile Myoporum desertii Muehlenbeckia cunninghamii Mycromyrtus ciliata Neptunia gracillis Notelaea microcarpa Nymphaea alba (water) Olearia pimeloides Ottelia ovafolia Owenia acidula

Pandorea pandorana Pandorea doratoxylon Pandorea jasminoides

Eucalyptus torreliana Cadaghi Wilga Beefwood Hakea **Brush Box** Water primrose Several varieties of daisy Parsonsia eucalyptophylla Petalostigma pubescena Philotus exaltatus Pittosporum phylliraeoides Pittosporum rhombifolium Potamogeton tricarinatus Prostanthera ovalifolia Prostanthera striatiflora Santalum lanceolatum Sarostemna australe Scaevola spinescens Solanum esuriale Spartothamnella juncea Stypandra glauca Swainsona greyana Swainsona Ggalegifolia Terminalia oblongata

Thryptomene Triglochin procera Ventilago viminalis Wahlenbergia Westringia cheeli Tropical deciduous Almond found in the Carnarvons Not in Darling Basin

Bluebells

APPENDIX D: RESTRICTED/PROHIBITED SPECIES

The lists for restricted plants include the following categories:

- The Weeds of National Significance (Commonwealth Government);
- Declared plants of Queensland (Queensland State Government); and
- Plants determined by the Waggamba Shire Council as unsuitable.

The following lists included in the report provide a comprehensive list of RESTRICTED/PROHIBITED SPECIES. Further information on plants that can become problem weeds are included on the Department of Natural Resources and Mines Website www.nrm.qld.gov.au. Although additional lists such as the Environmental Weeds List are general and may include species that are suitable for the Waggamba Shire.

Weeds of National Significance

(Taken from- http://www.weeds.org.au/natsig.htm)

In 1999 The Commonwealth Government announced twenty Weeds of National Significance.

There selection is based upon:

- Invasiveness
- Impacts
- Potential for Spread
- Socioeconomic and Environmental Values.

Weeds of National Significance status brings the weed species under national management for the purpose of restricting its spread and/or eradicating it from parts of Australia.

Rank	Scientific Name	Common Name
1	Parkinsonia aculeata	Parkinsonia
2	Prosopis spp.	mesquite
3	Rubus fruticosus agg.	blackberry
4	Lantana camara	lantana
5	Cryptostegia grandiflora	rubber vine
6	Chrysanthemoides monilifera	bitou bush / boneseed
7	Acacia nilotica ssp. indica	prickly acacia
8	Hymenachne amplexicaulis	hymenachne
9	Salvinia molesta	salvinia
10	Mimosa pigra	mimosa
11	Cabomba caroliniana	cabomba
12	Nassella neesiana	Chilean needle grass
13	Tamarix aphylla	athel pine
14	Salix spp. except S. babylonica, S. X calodendron and S. X reichardtiji	willows except weeping willows, pussy willow and sterile pussy willow
15	Nassella trichotoma	serrated tussock
16	Parthenium hysterophorus	parthenium weed
17	Annona glabra	pond apple
18	Ulex europaeus	gorse
19	Asparagus asparagoides	bridal creeper
20	Alternanthera philoxeroides	alligator weed

Declared plants of Queensland

(Taken from- http://www.nrm.gld.gov.au/pests/legislation/pdf/PP1.pdf)

Pest plants targeted for control under state legislation are species that have, or could have, serious economic, environmental or social impacts. Declaration under the Land Protection

(Pest and Stock Route Management) Act 2002 imposes a legal responsibility for control by all landowners on land under their management.

It is illegal to sell a declared plant or its seed anywhere in Queensland without permission from the Minister for Natural Resources and Mines. Species not declared under the Land Protection (Pests and Stock Route Management) Act may still be declared at a local government level under local laws. Species declared as Class 3 may be subject to local legal control outside environmentally significant areas.

Class 1 Pest Plants

Class 1 pests established in Queensland are subject to eradication from the state. Landowners must take reasonable steps to keep land free of Class 1 pests. A maximum penalty of \$60,000 applies to the introduction of any Class 1 plant.

Reporting Class 1 Plants

Please report the sale or presence of any Class 1 plants to your local Department of Natural Resources and Mines Officer. Phone 1 800 803 788 to be connected to your nearest office.

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	Ziziphus spina-christi	Christ's thorn

Class 2 Pest Plants

The management of these pests requires coordination and they are subject to local government-, community- or landowner-led programs. Landowners must take reasonable steps to keep land free of Class 2 pests. Other powers of the Act apply.

Acacia nilotica	prickly acacia
Ambrosia artemisiifolia	annual ragweed
Annona glabra	pond apple
Baccharis halimifolia	groundsel bush
Bryophyllum tubiflorum and B.	mother of millions
daigremontianum x B. tubiflorum	
Cryptostegia grandiflora	rubber vine
Eichhornia crassipes	water hyacinth
Elephantopus mollis	tobacco weed
Eriocereus spp.	harrisia cactus
Hymenachne amplexicaulis	hymenachne
Jatropha gossypiifolia	bellyache bush
Lycium ferocissimum	African boxthorn
Mimosa invisa	giant sensitive plant
Opuntia spp. other than O. ficus-indica	prickly pear
Parkinsonia aculeata	parkinsonia
Parthenium hysterophorus	parthenium
Pistia stratiotes	water lettuce
Salvinia molesta	salvinia
Senecio madagascariensis	fireweed
Senna obtusifolia, Senna hirsuta and	sicklepods
Senna tora	
Sporobolus africanus	Parramatta grass
Sporobolus fertilis	giant Parramatta grass
Sporobolus jacquemontii	American rat's tail grass
Sporobolus pyramidalis and S. natalensis	giant rat's tail grass
Thunbergia grandiflora	thunbergia
Ziziphus mauritiana	chinee apple

Class 3 Pest Plants

A pest control notice can only be issued for land that is, or is adjacent to, an environmentally significant area. Thus, the impact of species in this class is primarily environmental. Only some of the other powers of the Act apply.

Species declared as Class 3 may be subject to local legal control outside environmentally significant areas.

Anredera cordifolia	Madeira vine
Aristolochia spp. other than native	aristolochia or Dutchman's
species	pipe
Cardiospermum grandiflorum	balloon vine
Celtis sinensis	Chinese celtis
Cinnamomum camphora	camphor laurel
Cryptostegia madagascariensis	purple rubber vine
Harungana madagascariensis	harungana
Lantana spp.	lantana all species
Ligustrum lucidum and L. sinense	privets
Macfadyena unguis-cati	cat's claw vine
Pennisetum setaceum	African fountain grass
Rubus anglocandicans, Rubus fruticosus	blackberry
agg.	
Salix chilensis; syn. S. humboldtiana	pencil willow
Schinus terebinthifolius	broad-leaved pepper tree

Spathodea campanulata	African tulip tree
Sphagneticola trilobata •	Singapore daisy
Tamarix aphylla	athel pine
Tecoma stans	yellow bells
Thevetia peruviana	captain cook tree
'Sprengeri', A. africanus and A. plumosus	asparagus fern

Note: Declaration of Class 3 species comes into force on 1 November, 2003.

This list is current at 1 July 2003, but new declarations of plants and/or changes in plant declaration can occur at any time.

Further information

Further information is available from weed control/environmental staff at your local government office or your local Department of Natural Resources and Mines Land Protection Officer: contact details available through 1800 803 788.

Plants determined by the Waggamba Shire Council as unsuitable to be grown.

These plants are considered environmental weeds as they tend to become invasive when grown in the local conditions, or have negative social or economic impacts.