

PLANTING and VEGETATION GUIDANCE - ALL PARK ENVIRONMENTS

Vegetation is a key element of parks, whether it's part of a natural system or part of a constructed site. Vegetation provides character, comfort, amenity, habitat, climate control, site stabilisation and aesthetic beauty. It affects user experience of the park, the park's ecological value and its climatic function.

Well-designed planting can:

- reflect and reinforce a park's unique character and strengthen its local or heritage identity
- improve comfort by providing shade and shelter
- improve amenity by screening unappealing views, separating vehicles and pedestrians and reducing glare
- improve environmental conditions by absorbing heat and dissipating cold, reducing storm water volumes, filtering air and capturing dust and allergens
- provide seasonal interest and natural beauty through foliage, leaf patterns, flowers, bark, fruit and canopy
- enhance native plant communities and indigenous biodiversity
- provide stability on steep sites and reduce erosion along river and estuary edges
- provide a source of food for the community and sustainable harvesting of plant material
- provide additional habitats for rare or threatened indigenous species
- provide plant material for weaving, dyeing, medicine and healing
- aid in conservation, education, advocacy, heritage protection
- filter and cleanse water runoff
- reduce velocity and scouring



Birkenhead Library, Birkenhead. A range of colours and textures were chosen for this area of native amenity planting, which separates the library entrance and Plunket play space.



Matakana Markets, Matakana Seasonality was an important aspect of the planting design palette here, providing added interest in spring and visual relief from the car park.

DESIGN CONSIDERATIONS

Assess the site and its surrounding context by:

- identifying any vegetation of aesthetic, historic or ecological value that should be protected
- identifying and understanding the existing plant communities on and around the site
- understanding the wider ecological context of the site, including bird flight paths and other wider considerations
- understanding if any pest or weed species exist on the site, and planning for their removal and replacement with suitable native species
- identifying the animals that live on the site. If their habitat is destroyed or disturbed as part of the park design, incorporate planting which will continue to provide suitable habitat areas. Where this is impossible, carefully relocate animals to a suitable nearby location
- carefully identifying if there is any existing or planned infrastructure above or below ground, including the pipe network. Consider the planting layout with this in mind, so as not to cause problems as plants or trees grow over time. Any planting over infrastructure should be minimized, particularly species that can damage the infrastructure or impede access to infrastructure over time
- working with neighbours, Iwi or the community to select species and plan the overall layout of the planting scheme
- identifying soil and hydrological conditions
- taking precautions working around existing trees, protecting canopy, roots, root crowns from damage



selected. New Plymouth.

New Plymouth. Planting along this coastal edge defines the edge of the walkway area. Planting which will withstand the strong winds common along this stretch of coast has been

Plants are great, natives are better, eco-sourced is best

Native species preserve local pollinators, insects, birds, mammals and other wildlife which have co-evolved with plants and depend on them for food. Therefore, planting native species is desirable, particularly eco-sourced native plants.

Plant natives relevant to the ecotone to give parks a sense of place and identity, and help restore Auckland's unique indigenous biodiversity.

Use eco-sourced plants whenever possible, as they are stronger, healthier, more resilient and adapted to the specific locality. You must plan and prepare for eco-sourcing far in advance to ensure success.



Linear planting of the native nikau palm outside Puke Ariki, New Plymouth Museum celebrates a distinct cultural form and marks the entrance area.

Plant for long term success by:

- selecting plants suited to the local conditions. Research the locality and review what is doing well there, as the appropriate plant in the right place will be more likely to flourish and reduce long term maintenance requirements
- providing adequate soil volume, drainage and design grading to direct storm water into planted areas (without flooding them). Substrate depths should be a minimum of 300mm for grasses, 600mm for shrubs and 1000mm for small trees
- considering the mature size of trees and shrubs, and considering the size and habit of root systems. Use this information to select appropriate locations
- selecting species that exhibit growth characteristics appropriate to the scale of the place and functions required. Consider shade, orientation, landmarks, and ecological connections
- ensuring any exotic species being planted will not dominate native species, create a monoculture or reduce biodiversity
- providing higher density planting in areas vulnerable to erosion or damage by people or vehicles
- ensuring planting on the edges of sites is tolerant of roadway splash, temperature extremes and other constraints relating to adjacent land uses
- companion planting

- ameliorating local soils to provide good composition, structure, aeration, nutrients, and drainage
- avoiding species with toxic or allergen causing characteristics
- ensuring planting bed sizes are adequate to support optimal growth, retaining cool areas for root growth to minimize radial heat from surrounding surfaces. The minimum planter width should be 500mm for small shrubs



Aotea Square, Auckland. Complex tree planting pits were design for this space with structural cells, integrated drainage, aeration systems and removable lids allowing any damaged

trees to be easily replaced. Aotea Square, Auckland.

Use vegetation and planting to provide structure and amenity by:

- establishing a plant infrastructure where different species perform different aesthetic and functional roles. Provide a hierarchy of planting with a key signature species or plant community, with supporting secondary planting
- using amenity planting to make entrances more appealing, frame views or enhance landmark features
- using vegetation to screen ugly buildings and soften the impact of traffic and parking
- using planting to reinforce walkways and circulation networks, and to keep people from wandering away from the path
- using planting to bring year round visual interest, e.g. trees with attractive bark, blossoms, flowers or berries, or mixing evergreens and deciduous species
- choosing tree species that provide fairly clear sightlines along circulation networks
- colour combining



- using plants to integrate the site with its surrounding context. Bring key species from surrounding areas into the park

Rocket Park, Mt Roskil. Large deciduous specimen trees in this suburban park provide shade, separation and buffering from the busy adjacent road.



Columnar trees define and enhance the path through this space.

Use restoration planting and enhance ecosystems by:

- carefully planning any restoration planting. Establish goals for the entire site, understand your constraints, prioritise the areas to be restored, then choose a restoration approach which fits within the budget
- assessing the natural patterns and processes of the landscape to understand the original condition of the site. This will inform the planting objectives
- prioritising areas for restoration planting based on:
 - ecological significance
 - the degree of threat
 - potential to provide habitat
 - opportunities for improving ecosystem viability
 - connections and corridors
 - the extent to which the area has been degraded
 - the level of community support
- planting to reflect local ecosystems. If the area has been significantly degraded consider reintroducing native species naturally occurring in the general vicinity or similar environments
- ensuring that plant and animal pests are controlled and, where possible, eradicated
- ensuring protection from stock impacts by fencing significant ecological or planted areas
- reducing fragmentation and the isolation of existing habitats by creating or restoring linkages with other natural areas (including ecological corridors)
- restoring buffer areas to increase resilience
- providing habitat areas to encourage and enable the expanding bird populations from the Hauraki Gulf islands to migrate over
- investigating the possibility of a restoration nursery associated with a reserve, particularly bigger ones. Hobsonville Point is an example of a successful restoration resource. Run by volunteers it is a great place for engaging with the community as well as ensuring a supply of very cheap eco-sourced plants with no transportation costs



Barry Curtis Park, Flat Bush - Water systems through this park have been extensively replanted to enhance water quality and create habitats for native birds, reptiles and fish.

Weeds and invasive species

Weed species can permanently alter the structure and ecological processes of native plant communities. They are to be removed wherever possible, and never introduced.

Manage weeds and invasive species by:

- never planting any invasive or weed species, and reviewing the weed register online prior to any plant selection
- eradicating all existing invasive or weed species from the site. To find out what weed species must be removed or managed, and methods of removal visit the Regional Pest Management Strategy <hyperlink>
- removing nearby sources of re-infestation. Work with the community and volunteers to educate and encourage removal of weeds on adjoining or nearby properties
- disposing of weeds in a way that does not cause further spreading into new areas

Implement your planting strategy successfully by:

- considering stock availability and planning around this in advance. Stock may need to be contract grown
- preparing the site by removing invasive weeds or controlling pests
- planting between May and September to achieve optimal plant establishment and survival, to and reduce maintenance
- protecting new planting from the threat of weeds, and from damage by pukeko, waterfowl and rabbits. Weed pins can be used to secure monocots to prevent Pukekos removing plants, and rabbits can be deterred by planting unpalatable species until a canopy cover is established
- 'hardening off' plant stock to cope with local conditions. This usually requires the young plants to be placed in conditions similar to the intended site for one to three months
- implementing a succession planting regime. Start with colonizing species and introduce the successive stages over a phased implementation period, finishing with emergent canopy species



Ocean View Rd Pocket Park, Milford. Plant stocks used for this exposed coastal site were 'hardened off' prior to planting, and this was specified in the contract documents.

Ensure easy maintenance and management by:

- producing maintenance plan for existing and new areas of vegetation, outlining key tasks to be completed each season
- monitoring plant health for several years after planting, including the replacement of plants that may have died
- considering the impacts of leaf litter, seeds and other hazards such as falling limbs
- considering the canopy growth and whether this will impede pedestrian and vehicle movement
- ensuring there is a sufficient maintenance budget and resources available to ensure long term success of any fruit trees
- looking for opportunities to produce resources like mulch on site. This will depend on whether weed or pest species are present

Technical standards:

- ARC Planting Guides
- ARC Riparian Zone Management Guidelines (2001) TP 148
- Urban Greening Manual - How to Put Nature into Our Neighborhoods
- Planting Guides, Greater Wellington Regional Council
- Restoring Our Native Plants, Manukau City Council
- Native Forest Restoration: A Practical Guide for Landowners - Tim Porteous, 1993