

**CODE OF PRACTICE FOR CITY SERVICES
& LAND DEVELOPMENT**

ENGINEERING STANDARDS MANUAL

SECTION 7

PARKS AND RESERVES

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SECTION 7.0 PARKS AND RESERVES

7.1 SCOPE

This Section of the Engineering Standards Manual covers the engineering requirements for works within Parks and Reserve areas associated with land development projects and provides:

- a) The relevant criteria for performance
- b) Specification for design, construction and materials
- c) Standard details.

7.2 PERFORMANCE CRITERIA

All parks and reserves shall be suitable for their intended use and shall provide for the amenity and safety values of the community. Parks and Reserves shall be developed in accordance with the following performance criteria:

- Standards and criteria of the District Plan,
- Parks and Open Space Strategy
- Reserve Management Plans
- Asset Management Plans
- Waitakere City Council Code of Practice
- Parks Standard Specifications
- The New Zealand Building Code
- As approved by the Parks Manager

Note: Parks and Reserves are defined as "Open Space" or "Open Space Environment" in the District Plan.

7.3 DESIGN REQUIREMENTS

7.3.1 LAYOUT AND LOCATION

7.3.1.1

Parks shall be located with wide open road frontages to maximise visibility and access onto the site.

7.3.1.2

Multiuse Parks with active facilities such as sports fields shall have a minimum road frontage of 50m. The area adjoining the road frontage shall be sufficient to accommodate the required carparking, toilet and changing room facilities.

7.3.1.3

Buildings, carparks and playground facilities shall be located in full view and adjoining the road frontage.

7.3.1.4

Housing on adjoining boundaries shall be encouraged to overlook or front onto a reserve to increase safety of the reserve and property.

7.3.1.5

Parks shall be fully developed as part of the subdivisional works. The development shall include earthworks, drainage, planting, pathways, seating/tables, litter bins, fencing, barriers and signs. Further to this The Parks Manager, may specify for the provision of playgrounds, sports fields, sports courts, carparks, lighting, toilet and changing blocks.

7.3.1.6

Walkways and access to Parks and Reserves are to be considered in the design. Reserves shall be safely and easily accessible to the neighbourhood residential catchment and within comfortable walking distance. The minimum width of accessways to a reserve shall be 10m.

7.3.1.7

The developer shall consider unique and different ways in the design of the park to promote the Eco-city principles of Waitakere City . This should be reflected in carpark designs by considering alternative construction methods and the use of sustainable materials for the enhancement of the natural environment. For example, reducing impermeable surfaces by using permeable paving.

7.3.1.8

All environmental weeds as specified in the Waitakere City Council's District Plan are to be eradicated from the site in accordance with the following specifications:

- The standards and criteria set out in the District Plan
- Parks Weed Hygiene Standard
- Parks Use of Agrichemicals Standard
- No Spray Register

7.1.1.9

Maintain and protect all natural vegetation areas and trees from earthwork operations outside of the development area. All relevant areas are to be cordoned off to protect the vegetation or trees prior to commencement of any physical works. The cordon shall be along the drip line of the vegetation and or trees.

7.3.1.10

All existing trees located near proposed housing that potentially would be a threat to life or property shall be inspected by the Parks Arborist and accordingly removed if required. The trees are to be removed by the developer under the direction of the Parks Arborist.

7.3.1.11

All park facilities are to be located to allow for tractor mowing of the lawn area. There is to be a minimum of 2.0m of grassed area between features to allow for access. This needs to be considered at the design stage.

7.3.2 EARTHWORKS

7.3.2.1

Where earthworks are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Sections 1.0 and 2.0 of this Code
- Parks Earthworks Standard Specification

7.3.2.2

Mowable batter slopes are to be no steeper than 1 vertical to 5 horizontal. Batters greater than 1 in 5 shall be densely planted and mulched to reduce maintenance. All planting plans shall be approved by The Parks Manager.

7.3.2.3

Topsoil shall be clean highgrade and free flowing and shall be spread to a minimum compacted depth of 150mm. All material shall be approved by The Parks Manager.

7.3.2.4

Maximum grades on sports fields shall be 1:100 across the diagonal length of the field.

7.3.2.5

Grass seed for sports fields shall be a high quality Rye Grass as approved by The Parks Manager. The seed shall be undersown using a suitable applicator at a rate 400 kg/ha and sown in two different directions.

7.3.2.6

A soil test shall be undertaken to determine the composition and quality of fertiliser and/or lime that is applied to the field. Two applications of fertiliser shall be carried out - the first at one week prior to sowing of seed and the second four weeks after grass seed has germinated.

7.3.2.7

Grass seed for lawn areas shall be a high quality Rye Grass as approved by The Parks Manager and undersown at a rate of 400 kg/ha.

7.3.2.8

The grassed area shall be maintained for a minimum of 6 months after the sowing of the seed to ensure that turf coverage has been established. A minimum of 90% coverage is required on sports field, lawns and passive areas.

7.3.3 STORMWATER DRAINAGE

7.3.3.1

Where stormwater drainage works are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Sections 1.0 and 4.0 of this Code
- Eco-Water Stormwater Standard Specification
- Standard Details 7.10A to 7.10J

Adequate provision shall be made for the disposal and control of stormwater run-off. All parks and reserves that are to be used for active recreational activities and shall be provided with a connection to a piped stormwater system. Developers are to submit a Stormwater Drainage Control Plan that adopts appropriate best practice management and shall require Ecowater approval.

7.3.3.2

All drainage systems on parks and reserves shall be designed to cater for an intensity of 100mm/hr and a 10% AEP storm event.

A run-off coefficient of 0.35 shall be used for field areas and 0.25 for bush and wilderness.

7.3.3.3

Subsoil drains are to be provided at the toe and top of all batters and connected to catchpits and the main drainage system. Perforated pipe shall have a diameter of at least 110mm.

7.3.3.4

Drainage channels, outfalls and inlets are to be provided and constructed according to Section 4 of this code.

7.3.3.5

All stormwater outlets into streams within parks shall be provided with rock outfalls, headwalls and aprons shall incorporate a rock face finish and shall be designed to be visually sympathetic with the stream environment. The outlets shall be designed to prevent erosion and stream scour. All designs are to be approved by the Parks Manager.

7.3.3.6

All streams on Parks shall be planted with native plants to a minimum width of 5.0m from the edge of the stream. Planting shall be carried out to achieve 1.0m spacing along the stream bank. All planting plans are to be approved by The Parks Manager.

7.3.3.7

Consideration shall be given to all stormwater pipelines to discharge via a wetland or other approved water quality treatment devices. This shall be undertaken during the design phase.

7.3.3.8

Stormwater Detention and Treatment Ponds are covered in Section 4.5 of this code.

7.3.4 SPORTS FIELDS

Where Sportsfield development works are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Sections 1.0 and 2.0 and 4.0 of this Code
- Parks Sportsfield Specification
- Standard Details 7.10A to 7.10J

7.3.4.1

The size of sports fields shall be (min 8000sqm) as per the 1978 reprint of the Department of Education publication "Sports Dimensions in Metric" Curriculum Bulletin No.76, 1975.

A minimum of 5.0m shall be provided outside the sideline and dead ball areas as part of the field areas and shall be formed to the same grade as the field.

7.3.4.2

Subsoil perimeter drainage shall be provided around the extremities of a sports field. These shall consist of perforated pipes as and connected to cesspits and a main stormwater system. Pipe size shall be determined by catchment area including batters with a minimum of 150mm diameter pipeline.

7.3.4.3

Lateral drains shall be provided at a minimum of 10m centres across the field and graded to fall to the perimeter drains. These shall consist of 110mm diameter perforated pipes as and connected to perimeter pipes. Lateral drains shall be connected to the perimeter drain with inspection boxes and "Y" junctions provided at each connection point.

7.3.5 CARPARKS

Where carpark development works are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Sections 1.0 and 3.0 of this Code
- Parks Carparks Specification

7.3.5.1

Where roads, carparks, paths or any paved or metalled areas are to be provided they shall be designed and constructed in accordance with the parking and manoeuvring requirements of the District Plan.

7.3.5.2

Carpark designs should consider alternative construction methods and the use of sustainable materials for the enhancement of the natural environment. For example, reducing impermeable surfaces by using permeable paving. Other examples include: a rain garden, planted swale and sand filters etc.

7.3.5.3

Generally, carpark surfacing is to be 25mm depth of Mix 10 asphaltic concrete and provided with kerbing totally around the area. Channelling is to be provided along the low edges of the carpark. Acceptable alternatives to kerb and channel satisfying the assessment criteria of rule 5 of the subdivision rules in the District Plan as approved by The Parks Manager.

7.3.5.4

Subsoil drainage shall be provided around the total carpark area and connected to a cesspit. Cesspits in all carparks shall be provided with sumps and a half siphon to collect silt and debris in the cesspit sump. All cesspits shall be connected to the main stormwater system.

7.3.5.5

The minimum depth of metal shall be 200mm compacted AP40 basecourse metal and blinded with AP20. Refer to Fig. 3.8 (Section 3 Transportation) of this code.

7.3.5.6

Sealed carparks shall be marked out accordingly by an approved road marking contractor. All markings shall be in accordance with this code (Section 3 Transportation) of this code and the relevant documents referred to.

7.3.5.7

Disabled parking facilities shall be provided in accordance with Section 2.2 of the Parking and Driveway Guidelines (see Appendix B, Section 3 Transportation) of this code.

7.3.5.8

Carparks that cater for ten or more cars are to be provided with sand filters at the outlet of the stormwater drainage system.

7.3.6 PLAYGROUNDS

Where playground development works are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- New Zealand Playground Safety Standards NZS5828:2004
- The New Zealand Building Code
- Parks Playground Specification
- Standard Details 7.13A to 7.14D

7.3.6.1

Designs are to allow for the following:

- clear visibility of items;
- be fun, creative and challenging;
- be of a high quality;
- meet the needs of pre and primary school children;
- be easily accessible to users with linkages to existing footpath network;
- meet the needs of both the children and the caregivers in its layout;
- Materials shall be of low maintenance, and able to withstand coastal salt laden air conditions, vandalism and sustained high use;
- the use of sustainable materials;
- All abilities access ;
- On major playgrounds the design shall include a theme to reflect either the history, the use or the character of the local area.

7.3.6.2

The playground shall be located on the road frontage to provide for good visibility and shall be a minimum of 10m away from any park boundary.

7.3.6.2

The playground shall be located near but not next to car parking and other park facilities/buildings. Playground location shall be approved by the Parks Manager.

Barrier fencing shall be provided between the playground and any roads or carparks.

7.3.6.3

All playground equipment shall be installed in accordance with the New Zealand Playground Safety Standards NZS 5828:2004.

7.3.6.4

A building consent shall be obtained for the construction of the play structure
All play equipment shall be certified by an Engineer and building compliance certification is required.

7.3.6.5

A producer statement is required certifying that the playground and associated surfacing has been installed in accordance with the building consent, design requirements and safety standards.

7.3.6.6

All fall zone requirements (i.e. distances between different items of play equipment and between play equipment and other structures such as edging/footpaths/walls shall meet the playground safety standard NZS5828:2004.

7.3.6.7

Playground Surfacing is to be either Matta Tiles(rubber) or Cushionfall which is to be obtained from untreated source (i.e. from non treated timber as currently supplied by Reharvest Timber Ltd) or otherwise approved.

7.3.6.8

Scuff mats (Matta Tile) to be placed under swings, slides and all hard wearing areas and securely fixed to ground if Cushionfall is the safer surface used.

7.3.6.9

Drainage shall be provided around and under playground unless otherwise specified and connected to cesspits and main stormwater system.

7.3.6.10

Swings shall be installed in accordance with the Parks standard swings design. Building consent is required for the installation of swings.

7.3.6.11

No slides shall be permitted with joins. Slides shall be installed so that the finished level does not allow for water to pond. Slides shall be installed flush with the decking.

7.3.6.12

Colour of new play equipment shall be approved by the Parks Manager.

7.3.6.13

Eco-timber shall be used from NZ plantation source.

The timber shall be of suitable durability to meet the NZ Building Code and shall not be treated using Arsenic or Chromium.

No use of imported hardwood will be accepted. All timber products shall comply with the timber section of this specification.

7.3.6.14

Playground edging shall be either concrete or timber (with mowing strip) unless otherwise specified.

7.3.7 PAVING/CONCRETE

Where concrete paving works are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Parks Concrete Specification
- Standard Detail 7.09A, 7.10I, 7.10J, 7.14A, 7.14D

7.3.7.1

All paths shall meet a grade of 1:12 to allow for all abilities access.

7.3.7.2

All paths crossing open grassed areas shall be 100mm thick reinforced concrete(100mm boxing) with 665 mesh on at least a 50mm bed of 20/7 scoria. All concrete shall be ready mixed with a minimum crushing strength of 20 MPa at 28 days unless approved otherwise by The Parks Manager.

7.3.7.3

All footpath concrete paving shall be exposed aggregate concrete. Mowing strips adjoining the paths and the playground edging shall also be exposed aggregate or otherwise approved by the Parks Manager.

7.3.7.4

The exposed edges of all path mowing strips and edgings shall be provided with a 20mm chamfer and all edges boxed.

7.3.7.5

Reinforced mowing strips shall be 300mm wide by 100mm thick with two D12 rods at 150mm centres and 6.5mm diameter stirrups at 1.0m centres.

Concrete mowing strips shall apply around all Park facilities located in lawn areas, including buildings.

7.2.7.6

Dish and trough channels shall be designed as per Standard Details of this Code.

7.3.7.7

A nominal crossfall of 3% shall be provided across the pathway to shed stormwater run-off.

7.3.7.8

Dish channels are to be provided on the high side of a footpath with subsoil drainage to prevent and collect run-off from higher land discharging onto the path.

7.3.7.9

Subsoil drainage shall be provided along the high side of the path or prevent run-off and seepage entering onto the pathway.

Suitable collection chambers and drainage lines shall also be provided.

7.3.7.10

Paths shall be a minimum width of 1.5m and in areas of high use 2.0m. . In addition they shall splay out to a width of 2.5 metres at the junction of the road footpath.

7.3.7.11

When exposing aggregate it is imperative that wash off is not directed to cesspits, channels or stormwater systems. To prevent the poisoning of streams it needs to be filtered by means of ensuring that it first washes through grass and hay bales along the flow path.

7.3.7.12

Saw cuts shall be formed using a 'v' notch jointing tool and shall be provided at 3m intervals.

7.3.8 FURNITURE

Where installation of furniture is to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Parks Furniture Specification
- Standard Details 7.01A to 7.08A

7.3.8.1

Seats, tables, rubbish bins, fencing, drinking fountains and signs etc are to be provided at all reserves in accordance with the appropriate standard details of this code. Any deviations from these standards are to be approved by The Parks Manager.

7.3.8.2

All Park furniture is to be provided with a 100mm thick reinforced exposed aggregate concrete pad or mowing strip under in accordance with Standard Details of the this code.

7.8.8.3

Adequate signage shall be provided for safety, identification and information purposes. Signs shall be designed in accordance with NZS 8603: 2005 "Outdoor Recreation Symbols". Larger signs may be subject to resource and/or building consents.

7.3.9 FENCING

Where fencing works are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Parks Furniture Specification
- Standard Details 7.05A to 7.08

7.3.9.1

All road frontages to reserves (other than entrances) are to be fenced with the Parks wooden bollard and chain fence or otherwise approved by The Parks Manager.

7.3.9.2

All boundary fencing is to be open mesh or wire 1.2m high as per Standard Detail of this Code or as specified by The Parks Manager.

7.3.9.3

No timber board or solid faced fencing is permitted on the park boundary unless approved by The Parks Manager.

7.3.10 PLANTING/LANDSCAPING AND REVEGETATION

Where planting/landscaping works are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Parks Tree Planting Strategy
- Parks Tree, Planting and Revegetation Specification
- Table 7.1 Tree Selection List (below)
- "Native To The West – A guide For Planting and Restoring the Nature of Waitakere City".
- Standard Details 7.19A

7.3.10.1

Parks require the supply and delivery of high quality trees, planted in appropriate places. All plantings on Parks, Open Space and Streetscapes are to be approved by The Parks Manager.

All planting activities shall be performed by experienced workers in accordance with the recognised best landscape, arboriculture and horticultural practices.

7.3.10.2

Plantings shall generally be grouped together to allow for maintenance and improve the survival rate of the plants. These shall be placed on raised topsoil mounds and mulch spread around and over the total surface of the planted area.

7.3.10.3

Planting should be undertaken between April and September. Planting areas are to be weed sprayed 2 weeks prior to commencing of planting.

7.3.10.4

Weed/grass growth is to be cut, trimmed and removed off site from the planting area prior to planting.

7.3.10.5

Herbicide application shall be undertaken by an approved applicator operator and using only approved herbicide to the area.

7.3.10.6

On specimen/individual trees an area of 500mm diameter is to be kept totally weed free.

7.3.10.7

A topsoil depth of 400mm minimum is to be achieved prior to planting. Topsoil shall be mounded in grouped planting areas.

Topsoil shall have a pH between 5.5 to 7.5 and be free of stones and other deleterious matter.

7.3.10.8

Mulch shall be spread to a depth of 100mm under the shrub/trees and over the total group area and 500mm diameter around specimen trees.

7.3.10.9

Plants shall be first class specimens of nursery stock, true to name and type with well developed and well shaped trunk or stem and head. They shall be well hardened off to cope with the climatic conditions of the site and free from pest and disease.

7.3.10.10

Advanced nursery stock shall be 2.5-3.0m in overall height and have sturdy, clean, straight stems no less than 120mm girth at 1.0m above ground level. The girth shall be between 140 and 180mm.

7.3.10.11

Container grown shrubs shall have a container size, (i.e. PB) and overall height as specified by the Parks Manager. They shall be strong, well rooted sturdy plants without stakes or canes. They must have been grown in the containers for at least 6 months over a summer period prior to planting out.

7.3.10.12

An approved time release fertiliser shall be applied at planting.

7.3.10.13

A detailed planting plan with a schedule showing the PB or tree size shall be approved by The Parks Manager prior to the commencement of planting.

- All paths shall have a 1.5m grass strip on either side that shall be free of mulch and planting.
- Low ground cover type planting (that does not grow to more than 500mm in height) or one off type specimen trees shall be planted within 20m of any park facilities.

7.3.10.14

The maintenance of areas, including the mowing around specimen trees, shall be considered in the design of the planting plan. The design is to also allow for a 3m spacing for tractor access between the mulched perimeters of the plantings.

7.3.10.15

Native planting to be eco-sourced where possible and be eco-sited to the area. The type of plants to be in accordance with the Parks tree planting strategy.

Eco-sourced plants are plants grown from seed or cuttings from plants which naturally occur in the area to be planted. Eco-sited is to plant plants in the location where they would occur naturally.

7.3.10.16

The new garden and planted areas are to be maintained for a 2 year period to ensure the successful establishment of the plants. All diseased or dead plants are to be replaced with appropriate new healthy plants.

7.3.10.17

All existing trees that have been identified to remain are to have an arborist report on safety, life expectancy and possible future problems with adjacent housing and buildings. Trees that pose a threat now or in the future shall be removed.

7.3.10.18

The planting of trees on the southern boundary of park land shall consider the location of neighbouring houses to limit or prevent shading of the house.

7.3.10.19

Major trees shall not be planted closer to the park boundary than 1.5 times the maximum drip line at maturity.

7.3.10.20

Revegetation plantings are to achieve canopy closure in three years and weed establishment is to be prevented.

7.3.10.21

Native plants are to be used for revegetation purposes following guidelines in "A guide for Planting and Restoring the Nature of Waitakere City" using eco-sourced plants where possible.

7.3.10.22

Densities of one (1) root trainer or PB3/4 shrub or tree per square metre is considered the minimum acceptable spacing for level ground. On slopes or stream sides densities of two root trainers or PB3/4 shrubs or trees per square metre are required.

7.3.10.23

Groundcovers plants are to be planted at three plants per square metre. Larger grade plants may reduce the density requirements if the required canopy closure can be obtained and can be inter planted up to a year after the initial shrub or tree planting occurred.

Table 7.1 Tree Selection

BOTANICAL	COMMON	EVERGREEN	SIZE	SITE	Urban	Coastal	Bush	Beneath Utilities	Trial Species	No Tolerance Sites
Native Species										
<i>Kunzea ericoides</i>	Kanuka	Y	M	Local / Collector Road. Park Group. Park Individual.	Y	Y	Y	N	Y	
<i>Agathis australis</i>	Kauri	Y	L	Arterial Road Park Group Park Individual	Y	Y	Y	N	Y	
<i>Alectryon excelsus</i>	Titoki	Y	M	Local / Collector Road	Y	Y	Y	N	N	Exposed
<i>Alseuosmia macrophylla</i>	Toropapa	Y	S	Local Road	Y	Y	Y	Y	Y	
<i>Beilschmiedia tawa</i>	Tawa	Y	M	Local / Collector Road. Park Group. Arterial Road	Y	Y	Y	N	Y	

BOTANICAL	COMMON	EVERGREEN	SIZE	SITE	Urban	Coastal	Bush	Beneath Utilities	Trial Species	No Tolerance Sites
<i>Beilshmedia taraire</i>	Taraire	Y	M / L	Local / Collector Road Park Group	Y	Y	Y	N	Y	
<i>Brachyglottis repanda</i>	Rangiora	Y	S	Local Road	Y	Y	Y	Y	Y	
<i>Coprosma robusta</i>	Karamu	Y	S	Local Road	Y	Y	Y	Y	Y	
<i>Cordyline australis</i>	Cabbage tree	Y	S	Local / Collector Road. Park Group. Park Individual.	Y	Y	Y	N	N	
<i>Cordyline banksii</i>	Forest cabbage tree	Y	S	Local Road	Y	Y	Y	Y	Y	
<i>Corynocarpus laevigatus</i>	Karaka	Y	M	Local / Collector Road	Y	Y	Y	N	N	
<i>Dacrycarpus dacrydoides</i>	Kahikatea	Y	L	Arterial Road Park Group Park Individual	Y	N	Y	N	N	
<i>Dacrydium cupressinum</i>	Rimu	Y	L	Arterial Road Park Group Park Individual	N	N	Y	N	N	
<i>Dysoxylon spectabile</i>	Kohekohe	Y	M / L	Park Group	Y	Y	N	Y	N	Exposed
<i>Eleocarpus dentatus</i>	Hinau	Y	M	Local / Collector Road. Park Group. Park Individual.	Y	N	Y	N	Y	
<i>Eleocarpus hookerianus</i>	Pokaka	Y	M	Local / Collector Road. Park Group. Park Individual.	Y ?	Y	Y	N	Y	
<i>Entlea arborescens</i>	Whau	Y	S	Local Road Park Group	Y	Y	Y	Y	Y	
<i>Griselinia lucida</i>	Pukanui	Y	S	Local / Collector Road Park Group	Y	Y	Y	Y?	Y	
<i>Hedycarya arborea</i>	Pigeonwood	Y	M	Local / Collector Road. Park Group	Y	N	Y	N	Y	
<i>Knightia excelsa</i>	Rewarewa	Y	M	Park Group	N	N	Y	Y	N	Exposed

Parks & Reserves

BOTANICAL	COMMON	EVERGREEN	SIZE	SITE	Urban	Coastal	Bush	Beneath Utilities	Trial Species	No Tolerance Sites
<i>Laurelia novaezelandiae</i>	Pukatea	Y	M	Buttress and surface roots.	Y	Y	Y	N	Y	
<i>Libocedrus plumosa</i>	Kawaka	Y	M /L	Collector Road Park Group. Park Individual. Arterial Road	Y	N	Y	N	Y	
<i>Metrosideros excelsa</i>	Pohutukawa	Y	L	Arterial Road Park Group Park Individual	Y	Y	Y	N	N	
<i>Metrosideros robusta</i>	Rata	Y	M	Park Group Park Individual	Y	Y	Y	N	Y	
<i>Myoporum laetum</i>	Ngaio	Y	M	Local Road Park Group	Y	Y	Y	Y	Y	
<i>Olearia arborescens</i>	Olearia	Y	M	Local / Collector Road. Park Group.	Y	Y	Y	Y?	Y	
<i>Phyllocladus trichomanoides</i>	Tanekaha	Y	M	Local / Collector Road. Park Group.	Y	Y	Y	N	Y	
<i>Pittosporum crassifolium</i>	Karo	Y	M /L	Local / Collector Road Park Group	Y	Y	Y	N	N	
<i>Pittosporum eugenoides</i>	Tarata	Y	M	Local / Collector Road	Y	Y	Y	N	N	
<i>Pittosporum tenuifolium</i>	Kohuhu	Y	M	Local / Collector Road	Y	Y	Y	N	Y	
<i>Planchonella costata</i>	Tawapou	Y	M	Local / Collector Road. Park Group.	Y	Y	Y	N	Y	
<i>Podocarpus totara</i>	Totara	Y	L	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	Y	Y	N	N	
<i>Prumnopitys ferruginea</i>	Miro	Y	L	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	N	Y	N	Y	Exposed
<i>Pseudopanax arboreus</i>	Five finger	Y	M	Local / Collector Road. Park Group.	Y	Y	Y	Y?	Y	

Parks & Reserves

BOTANICAL	COMMON	EVERGREEN	SIZE	SITE	Urban	Coastal	Bush	Beneath Utilities	Trial Species	No Tolerance Sites
<i>Pseudopanax lessonii</i>	Houpara	Y	M	Local / Collector Road. Park Group.	Y	Y	Y	N	Y	
<i>Rhopalostylis sapida</i>	Nikau	Y	M	Arterial Road Park Group Park Individual	Y	Y	Y	N	N	Exposed
<i>Sophora microphylla var. fulvida</i>	Kowhai	Y	S	Park Group	Y ?	Y	Y	N	N	Exposed Individual planting
<i>Vitex lucens</i>	Puriri	Y	M /L	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	Y	Y	N	Y	Exposed
Exotic trees										
<i>Betula nigra</i>	River birch	N	M	Local / Collector Road. Park Group. Park Individual.	Y	N	Y	N	N	
<i>Betula utilis jacquemonti</i>	Jacquemonts birch	N	M	Local / Collector Road. Park Group. Park Individual.	Y	N	Y	N	N	
<i>Calistemon sp.</i>	Bottlebrush	Y	S	Local / Collector Road.	Y	Y	Y	Y	N	
<i>Camellia spp</i>	Camellia	Y	S	Local Road.	Y	Y	Y	Y	N	
<i>Castanea sativa</i>	Spanish chestnut	N	L	Park Group. Park Individual.	Y	N	N	N	Y	
<i>Cedrus libani</i>	Cedar	Y	L	Park Individual.	Y	Y	Y	N	N	
<i>Cercis siliquastrum</i>	Judas tree	N	S	Local Road. Park Group.	Y	N	Y	Y?	Y	
<i>Corylus colurna</i>	Turkish hazel	N	M	Good for woodland setting in sheltered location.	Y	Y	N	N	Y	
<i>Fraxinus excelsior</i>	Ash	N	M	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	N	N	N	N	

BOTANICAL	COMMON	EVERGREEN	SIZE	SITE	Urban	Coastal	Bush	Beneath Utilities	Trial Species	No Tolerance Sites
<i>Fraxinus griffithii</i>	Evergreen ash	Y	M	Local / Collector Road. Park Group. Park Individual.	Y	Y	N	N	N	Close to infrastructure
<i>Ginkgo biloba</i>	Ginkgo	N	M	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	N	N	N	N	
<i>Hymenosporum flavum</i>	Frangipani	S E	M	Local / Collector Road. Park Group. Park Individual.	Y	Y	N	N	N	Exposed
<i>Juglans regia</i>	Walnut	N	M	Park Group. Park Individual.	Y	N	N	N	Y	
<i>Lagunaria patersonii</i>	Norfolk island hibiscus	Y	M	Local / Collector Road. Park Group. Park Individual	Y	Y	N	N	Y	
<i>Lagerstroemia indica</i>	Crepe myrtle	N	S	Local / Collector Road. Park Group.	Y	Y	N	Y?	N	
<i>Larix deciduas</i>	Larch	N	L	Arterial Road Park Group. Park Individual.	Y	N	N	N	Y	
<i>Liquidambar styraciflua</i>	Liquid-ambar	N	L	Collector Road. Park Group. Park Individual. Arterial Road	Y	N	N	N	N	
<i>Liriodendron tulipifera</i>	Tulip tree	N	L	Collector Road. Park Group. Park Individual. Arterial Road	Y	Y	N	N	N	
<i>Lophostemon conferta</i>	Queensland Box	Y	M	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	N	N	N	N	
<i>Magnolia grandifolia</i>	Magnolia	Y	L	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	Y	N	N	N	
<i>Malus floribunda</i>	Japanese crab	N	S	Local / Collector Road. Park Group.	Y	N	N	N	N	

BOTANICAL	COMMON	EVERGREEN	SIZE	SITE	Urban	Coastal	Bush	Beneath Utilities	Trial Species	No Tolerance Sites
<i>Malus or Prunus sp.</i>	Flowering apple or cherry	N	S/M	Local / Collector Road. Park Group.						P.awanui best adapted for Waitakere City conditions
<i>Melia azedarach</i>	Indian bead tree	N	M	Local / Collector Road. Park Group.	Y	N	N	N	N	
<i>Nyssa sylvatica</i>	Tupelo	N	M	Local / Collector Road. Park Group. Park Individual.	Y	Y	N	N	Y	
<i>Olea europea</i>	Olive	Y	M	Local / Collector Road. Park Group. Park Individual.	Y	Y	N	N	N	
<i>Platanus acerifolia</i>	Plane	N	L	Collector Road. Park Group. Park Individual. Arterial Road	Y	N	N	N	N	
<i>Prunus awanui</i>	Flowering cherry	N	S/M	Local / Collector Road. Park Group. Park Individual.	Y	N	N	N	N	
<i>Pyrus communis</i>	Pear	N	S/M	Local / Collector Road. Park Group.	Y	N	N	N	Y	
<i>Quercus cerris</i>	Turkey oak	N	L	Collector Road. Park Group. Park Individual. Arterial Road	Y	N	N	N	N	
<i>Quercus coccinea</i>	Scarlet oak	N	L	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	N	N	N	N	
<i>Quercus ilex</i>	Holm oak	Y	L	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	Y	N	N	N	

BOTANICAL	COMMON	EVERGREEN	SIZE	SITE	Urban	Coastal	Bush	Beneath Utilities	Trunk Species	No Tolerance Sites
<i>Quercus palustris</i>	Pin oak	N	L	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	Y	N	N	N	
<i>Quercus robur</i>	Oak species	N	L	Park Group. Park Individual. Arterial Road	Y	N	N	N	N	
<i>Quercus rubra</i>	Red oak	N	L	Collector Road. Park Group. Park Individual. Arterial Road	Y	N	N	N	N	
<i>Quercus suber</i>	Cork oak	Y	S/ M	Local / Collector Road. Park Group. Park Individual.	Y	Y	N	Y?	Y	
<i>Sequoia sempervirens</i>	Dawn redwood	N	L	Local / Collector Road. Park Group. Park Individual. Arterial Road	Y	Y	N	N	N	
<i>Taxodium distichum</i>	Swamp cypress	N	L	Arterial Road Park Group. Park Individual.	Y	Y	N	N	N	
<i>Tilia europa</i>	Lime	N	M	Collector Road. Park Group. Park Individual.	Y	Y	N	N	N	
<i>Tristaniaopsis laurina</i>	Watergum	Y	S/ M	Local / Collector Road.	Y	Y	N	Y?	N	

7.3.11 SPORTS COURTS

Where Sports Courts works are to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- Standard Detail 7.05H, 7.10J, 7.15A to 7.15D

7.3.11.1

The size of sports courts shall be as per the standard details of this Code and provided with a 2.7m pipe and mesh fence.

7.3.11.2

Drainage trough channels are to be provided outside the fence line to discharge into cesspits connected to the main system. Subsoil drainage shall be provided around the total perimeter of the court under the channel or mowing strip.

7.3.11.3

The court shall be laid to a minimum grade of 1 vertical to 200 horizontal.

7.3.11.4

In concrete surfaced courts a black oxide pigment shall be incorporated into the mix at a rate of 1kg/40 kg bag of cement and mixed thoroughly to produce an even grey colouring. The courts shall be constructed as per the appropriate standard details.

7.3.11.5

In seal surfaced courts, the seal shall be a 25mm compacted depth of 3mm chip hot mix or a similar surface as approved by The Parks Manager.

7.3.11.6

The courts shall be marked out as per the appropriate standard details.

Note: Other Court layouts are to be supplied.

7.3.11.7

Basketball, tennis and netball sockets are to be provided on all court areas and constructed as per Standard Details of this Code.

7.3.12 OTHER UTILITIES

Where other utilities such as wastewater disposal or water supply are to be provided they shall be designed and constructed in accordance with the relevant sections of this Code or in accordance with the New Zealand Building Code as appropriate.

7.3.13 ACCESSWAYS

7.3.13.1

All accessways connecting to reserves shall be at least 10 metres wide.

7.3.13.2

The alignment of all accessways shall be in accordance with section 3.3.12.5 of this Code.

7.3.13.3

The fencing of all accessways shall be in accordance with section 3.3.12.6 of this Code.

7.4.13.4

The lighting of all accessways shall be in accordance with section 3.3.12.8 of this Code.

7.3.14 TOILETS/BUILDINGS

Where toilet installation is to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- The New Zealand Building Code
- NSZ 4121:2001 Design for Access and Mobility: Buildings and Associated Facilities
- Parks Building Specification

7.3.14.1

Designs are to allow for the following:

- Clear visibility and access of the building;
- At least one all accessibilities toilet shall be catered for;
- Maximum use of natural light and ventilation;
- All fixtures and fittings shall be stainless steel or a similar durable material;
- All services (plumbing and electrical) shall be hidden from view and access;
- All pans must be fixed to the floor;
- Water saving devices;
- The use of sustainable, durable materials;
- All external spouting shall be protected by durable boxing;
- All external down-piping shall be galvanised, stainless steel or sleeved by a protective layer to prevent vandalism;
- All surfaces shall be treated with graffiti guard or similar product to minimise the effects of graffiti;
- Supply of a tap with a hose fitting for cleaning;
- The drain for wash water must connect to the wastewater system;
- The use of lockable solid steel or steel coated timber external doors;

7.3.14.2

Toilets shall be located in full view and adjoining the road frontage or carpark.

7.3.14.3

Eco-timber shall be used from NZ plantation source.

The timber shall be of sustainable durability to meet the NZ Building Code and shall not be treated using Arsenic or Chromium.

No use of imported hardwood will be accepted. All timber products shall comply with the timber section of this specification.

7.3.15 STRUCTURES

Where the installation of structures is to be carried out within Parks and Reserves, works shall be undertaken in accordance with:

- The standards and criteria set out in the District Plan
- The New Zealand Building Code
- Parks Timber Specification
- Standard Details 7.09D, 7.11A, 7.11B, 7.11C, 7.12A, 7.12B, 7.12C,

7.3.15.1

Structures shall include but are not limited to:

Bridges, boardwalks, platforms jetties steps and retaining walls.

7.3.15.2

All structures over 1 metre in height require a steel hand rail/barrier fence or balustrade for safety reasons and a building consent is also required.

7.3.15.3

All structures shall meet the grade of 1:12 for all abilities access.

7.3.15.4

Bridges and boardwalks shall be a minimum of 1.5m wide and splay out at the path junction unless otherwise specified by The Parks Manager.