

Oneroa Cycle and Walkway Weed Control and Planting Plan



9 February 2015

WEED CONTROL PLAN

As per condition 4 of the resource consent decision report 'A weed control plan shall be developed with the Department of Conservation to the satisfaction of Council's Resource Consents Manager.'

The Oneroa Beachfront Cycle and Walkway – Landscape and Visual Effects Assessment dated 23 July 2014 identifies the weed species for removal (see appendix one for images of species). These are as follows:

- Wilding *Pinus* species
- *Cortaderia selloana* (pampas)
- *Yucca filamentosa* (*Yucca*)
- *Agapanthus africanus* (*Agapanthus*)
- *Canna indica* (*Canna Lily*)
- *Amaryllis belladonna* (*Naked Lady lily*)
- *Chrysanthemoides monilifera* subsp. *Monilifera* (*Boneseed*)
- *Agave attenuate* (*Agave*)
- *Phoenix canariensis* (*Phoenix palm*)

The proposed alignment of the walkway also requires the removal of the following tree species

- 2 x Norfolk Island Pines to the west of 10 Salisbury Road
- 3 x Tamarisk trees at the eastern end of Roberts Road
- Localised karo trees (*Pittosporum crassifolium*) to the west of Beacon Street

The plan for weed removal and planting is broken down into three stages as outlined below:

STAGE ONE - February 2015

To control extant invasive weed spp. at Waikanae Beach, Gisborne

Scope:

Ecoworks are to removal extant invasive weed spp. (identified above) at Waikanae beach along a 3-4m strip from 12 Salisbury Road to Roberts Road, plus two protruding areas as prescribed between Roberts Road and Beacon Street. Work to be carried out in February 2015 in preparation for construction of the boardwalk.

This project requires targeted and selective herbicide application which will not result in collateral damage to extant endemic dune spp., wind drift onto adjacent properties and/or create areas of bare sand which will cause sand drift toward neighbouring properties. We use a range of application techniques which avoids these issues. Aerial droplet spray application therefore will be minimal.

Salisbury Road residents will be notified via a mailbox drop and an ecoworks representative will door knock and speak to residents on the seaward side of Salisbury Road.

STAGE TWO – May 2015

Ecoworks to collect and transport 4,434 plants, as prescribed by GDC, from Native Garden Nursery to Oneroa Beachfront. Layout and planting within soft landscape and dune restoration plan Areas A-E, planting to include fertiliser tabs. Work to be carried out in May 2015. Release spraying will be needed for a following two years minimum in order to ensure healthy growth of the plants and prevent competition from invasive spp.

STAGE THREE – 2016-2019 (funding dependant)

Ecoworks to complete dune restoration as prescribed in the Additional Revegetation Proposal, from 12 Salisbury Road to Midway Surf Lifesaving Club, to:

- a) Remove extant invasive weed spp. at Waikanae Beach, Gisborne 2015 over a total area of 18,500m² (Areas A and B) in preparation for complete dune restoration with native species. Species identified for removal are: *Cortaderia selloana* (pampas), *Yucca filamentosa* (Yucca), *Agapanthus africanus* (Agapanthus), *Canna indica* (Canna lily), *Amaryllis belladonna* (Naked lady lily), *Chrysanthemoides monilifera subsp. Monilifera* (Boneseed), and *Agave attenuate* (Agave).
- b) Planting preparation by spot spraying of extant grass spp. Collection and transport of 18,500 plants to Oneroa Beachfront, planting to include fertiliser tabs. Work to be undertaken in 2015-2016 (dependent on availability of plants).
- c) Release spray native plantings with post emergent contact herbicide 2016. Release spraying promotes a healthy growth rate and controls competition from invasive species.
- d) Manage weed re-infestation post planting 2016-2019. Seed from extant invasive species will remain viable for a number of years. It is important that any seedlings or regrowth be controlled annually in order to prevent reestablishment of invasive species within the restoration area. The amount of work required to control re-infestation will gradually reduce over time.

All weed removal and planting work is to be managed and inspected by the Project Manager and Council's Landscape Architect.

PLANTING PLAN

As per Condition 5 of the resource consent decision report 'A planting plan shall be developed with the Department of Conservation to the satisfaction of Council's Resource Consents Manager.

Five main planting areas are identified on the Oneroa Beachfront Cycle and Walkway Soft Landscape and Dune Restoration plan dated 27/7/2014 referenced EELA LP 01-04. These are as follows:

- Area A: Dune restoration in a linear dune form to the immediate west of the proposed re-built Grey Street termination landscape
- Area B: Closing off Roberts Road vehicle access way to the beach followed by dune restoration
- Area C: Re-aligning the Beacon Street vehicle access way to the beach followed by dune restoration
- Area D: Dune restoration in front of the Beacon Street car park
- Area E: A secondary planting strip along the southern edge of the boardwalk

The below outlines the planting plan:

March 2015

- Beach grooming contractors to begin piling up fine grade material at the toe of the four dune restoration areas
- All existing beach access structures will be removed and disposed off site
- The grassed space in area E will be sprayed in February in preparation for dune planting

April / May 2015

- Following construction of the adjoining boardwalk section, earthworks contractors will re-contour the four restoration areas to the natural dune profile.
- 4434 plants to be installed by ecoworks (see stage two above)

June 2015

- Dune protection fencing and signage to be installed around area A-D. Fencing is to consist of post and rope barrier and two signs will be installed per dune restoration area.

June 2015 – December 2015

- Monitoring plants and replacing any that don't survive

Re-instatement of the fore-dune will involve re-contouring the area with local sand to the typical dune profile and matching gradients to the contours on each side of the eroded or excavated areas. The re-formed dune will be replanted with the following native species appropriate to the ecosystem.

Dune plant species	Number of species
<i>Dune restoration area E: Section 1</i>	
Muehlenbeckia	10
Coprosma acerosa	60
Ficinia nodosa	80
Carex testacea	50
<i>Dune Restoration area E: Section 2</i>	
Muehlenbeckia	10

Coprosma acerosa	100
Ficinia nodosa	160
Carex testacea	110
Dune restoration area A-D toe of dune 1700m²	
Spinifex sericeus	750
Ficinia spiralis - pingao	410
Poa billardiarei	255
Euphorbia glauca	100
Calystegia soldanella	100
Disphyma australe	85
Dune restoration area A-D upper foredune 1900m²	
Muehlenbeckia	10
Coprosma acerosa	490
Carex testacea	600
Ficinia nodosa	800
Rain garden species	
Ficinia nodosa	50
Carex testacea	25
Beacon Carpark	
Ficinia nodosa	95
Carex testacea	58
Metrosideros excelsa (pohutukawa)	7
Cordyline australis	19
Total	4434

The native plants are being sourced locally with cuttings gathered from local sand dune environments. The plants will be established on site by Steve Sawyer of Ecoworks. Each plant will have fertiliser tablets added. Planting has been scheduled for May to give the plants a good chance of survival and to decrease the need for establishment watering. The weather will be monitored and if it is dry additional watering may be required.

If funding for stage three full restoration project is approved the following plants will be installed from 2016 in a staged program:

Dune plant species	Number of species
Full Restoration area A – Secondary Species 13,500m²	
Muehlenbeckia	1000
Coprosma acerosa	4500
Ficinia nodosa	4000
Carex testacea	4000
Full Restoration area B: Primary Species 5000m²	
Spinifex sericerus	2000
Ficinia spiralis	1000
Poa billardiarei	1000
Euphorbia glauca	500
Calystegia soldanella	250
Disphyma australe subsp. Australe	250
TOTAL	18,500

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APPENDICES

Appendix One: Images showing weeds for removal

Appendix Two: Landscape plans and Dune Restoration (Area A-E)

Appendix Three: Additional Revegetation Proposal

APPENDICES

APPENDIX ONE: Weeds for removal



Pampas Grass



Yucca



Agapanthus



Canna lily



Naked lily lady



Boneseed



Agave



Phoenix palm

