APPENDIX E

City of Wanneroo

SPECIFICATION AND SCOPE OF WORKS

Revegetation Plan
CPS 8807 – Two Rocks Beach Access Road Revegetation and Environmental Offset Condition

Two Rocks, Wanneroo

December 2020

City of Wanneroo

TRIM 4128; 20/547152

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1.0 GENERAL SPECIFICATION AND SCOPE OF WORKS FOR THE COLLECTION OF SEEDS FROM NATURAL VEGETATION AREAS WITHIN THE CITY OF WANNEROO

1.1 GENERAL

This specification details the minimum standards required for Contractors to collect Seeds from Natural Vegetation Areas within the City of Wanneroo. Noting these specifications may be updated dependant upon current best practice techniques.

1.2 SUPPLY OF LABOUR, PLANT AND EQUIPMENT

Supply of all labour, plant and equipment for the collection of seed shall be the responsibility of the Contractor.

Collection of seed shall be undertaken according to all necessary safety practices and adherence to Safety Acts and regulations.

All plant shall comply with relevant statutory requirements and current Australian Standards in relation to the standardised safety equipment e.g. rotating beacons, reversing beeps, roll over protection (ROP) cages and the like.

All operators must be correctly licensed and certified to operate any plant and equipment utilised during the contract period. Correct personal protective equipment (PPE) and work clothing must be worn at all times.

1.3 VEHICLE HYGIENE

Vehicles entering natural vegetation areas must be free of soil borne diseases, insect pests and weed seeds.

To prevent the spread of soil borne diseases such as Phytophthora, insect pests and weed seeds, vehicles entering natural vegetation areas must be thoroughly washed prior to entering the sites with chlorinated scheme water and dried.

1.4 AREA FOR COLLECTION

Seed collection must occur within the designated area only.

The Contractor shall be limited to this area.

Seed collection is not to occur in the areas identified, as "controlled burn areas". The Principal will provide relevant information outlining these areas.

Care must be taken to minimise disturbance to the habitats, and any complaints or actions arising from seed collection activities shall be the Contractor’s responsibility to rectify.

1.5 COLLECTION OF SEEDS

The Contractor shall submit a program of seed collection based on the various sites and/or species to the Superintendent within ten (10) days of Award of Contract.

All seeds collected from the nominated City of Wanneroo Reserves shall remain the property of the City of Wanneroo.

Seeds collected in excess of the quantities specified in the tables that are issued, must be offered to the Principal to purchase, at a rate proportional to that given in the relevant Price Schedules for number of grams available.

On no account shall the surplus seeds be on-sold for the purpose of commercial gain.

1.6 SEED COLLECTION TOOLS

Tools used for seeds collection shall be cleaned regularly, including prior to and during each seed collection visit so as to prevent build up of sap and resins and transmission of virus and disease.

1.7 SEED COLLECTION CONTAINERS

Seed collection containers shall be hygienic, disease and insect free, cleaned prior to seed collection and thereafter periodically with a bleach solution.

1.8 NOMINATED SPECIES

The collection of seeds shall only be from nominated species of plants as specified by the Principal.

Should nominated species not be available at the listed collection sites, the Contractor can suggest alternative species for seed collection and subsequent propagation prior to the collection occuring. The Principal must approve changes prior to the collection occuring and reserves the right to not accept the suggested changes.

1.9 SPECIES IDENTIFICATION

All seed must only be collected from plants positively identified as nominated species using a vouchered specimen (sample of leaves, buds, flowers or fruit and plant description).

No seeds shall be collected for the Principal, from any plant contained within City of Wanneroo Reserves which has not been fully identified as a nominated species for seed collection.

Variations to seed collection species and/or amounts will only be accepted upon written approval received by the Superintendent prior to changes occuring.

1.10 MATURITY OF SEEDS

All seeds collected shall be fully mature.

Only mature seeds contained in the oldest, woodiest, insect free capsule shall be collected from nominated species. Floral plants not containing mature seeds shall not be taken until such a time as the seed matures.

1.11 QUALITY OF SEEDS

Plants selected for seed collection shall be chosen carefully.

Seeds shall be taken:

- From only dominant, mature plants;
- From at least ten (10) widely spaced healthy parent plants of the same species, with 70% of seeds retained on each plant;
- In equal quantities from each plant;
- From plants with a good fall distance between each plant;
- From plants which have not been hybridised and are true to form;
- From plants which are not in an isolated situation, e.g. paddocks, remnants along fence lines or road verges;
- Where possible, from the top 30% of the crown; and
- From all sides of the plant.

1.12 FUTURE CROPS

Future flower production shall be considered.

Seed capsules shall be removed in such a way that future flower production is not interrupted.

1.13 DAMAGE TO PLANTS

Damage to plants shall be avoided.

Vehicles, tools and equipment required for the collection of seeds from natural vegetation areas shall be used in such a manner as to not damage any protected plant species or interfere with the continuing growth or regeneration to the surrounding ecosystem.

Any damage that occurs during the collection process shall be reported to the Principal immediately and rectified as agreed between the Contractor and Principal, at the Contractor's expense.

1.14 SEED TREATMENT

Cleaning of seeds shall be the responsibility of the authorised collector.

All seeds shall be presented to the Principal disease free, dry and ready for sowing. The authorised collector shall be responsible for the necessary cleaning or other treatments to a high standard so as to ensure a high rate of germination.

The Contractor shall outline to the City their recommended seed treatment methodology to ensure good and viable growth when propagated.

Seed treatments are only to commence when approved by the Principal. Only the required amount to acheive propagation numbers are to be treated, with the remaining seed amounts to be left untreated. Seed that remains untreated is to be re-bagged and labelled according to the amount now remaining. The label must state that the seed is untreated.

1.15 STORAGE

Contamination of seeds shall be avoided during storage.

Seeds stored prior to delivery to the Principal shall be thoroughly dry, free of insects and kept in a dark, low humidity, vermin free environment. Storage temperature shall be kept constant at 3 C to 5 C.

Plastic bags or other containers where high humidity is present shall not be used for storage.

The Contractor is required to store the collected and processed seed annually until the November of the year the revegetation program is completed.

The City may withdraw the seed at any time before November 2023.

Storage rates will be paid as per Price Schedules and associated notes.

Collected Species seed is to be bagged and labelled separately into species and the amounts specified for each project and seed bags then grouped per site. See example below.

PROPERTY OF: CITY OF WANNEROO 2021/22
SPECIES: *Banksia attenuata*
GRAMS: 50
COLLECTED FROM: Lake Badgerup Reserve
SITE: Lake Badgerup Offset St 3

1.16 LABELLING, RECORDING AND DELIVERY

Seed collection bags are to be provided by the Contractor and shall be appropriately labelled.

Seed collection bags shall be labelled inside and out with the name of the species contained therein, the location from where the seeds were collected, the quantity collected (grams), the date collection occurred and marked as property of the City of Wanneroo. If seeds are collected from additional locations in order to

fulfill the quantities for each species at the nominated rehabilitation site, these seeds will be stored in separate bags and labelled accordingly.

After the nominated storage time requested by the Principal, the seeds are required to be delivered in labelled, hygienic, disease and insect free bags to the nominated City of Wanneroo location or Propagation Contractor during business hours, Monday to Friday on days nominated by the Principal or Propagation Contractor. Seed will remain stored at the Seed Collection Contractor's place of business until required by the propagator. This may result in staggered delivery dates depending on the plant species. The Contractor will be given 48 hours notice for delivery dates.

1.17 INSPECTION

The Contractor shall make all seed collected for this contract available for inspection by the City at any time during the contract.

All seed collected shall be subject to inspection to ensure seed is stored in accordance with Clause 1.15.

All seed collected shall be inspected by the Principal after receipt of the final report to verify seed quantities.

1.18 REPORTING

The seed Contractor shall provide the Superintendent with monthly update reports (sent at the end of each month) during the seed collection season (November to March).

The Contractor shall notify the Superintendent in the first instance if seed abundance and viability of any species or collection area is deemed unsuitable for collection or if collection volumes are below the listed quantities..

The Contractor shall notify the Superintendent in the first instance if species are particularly abundant in seed. Negotiations can then be made to collect over and above the quantity specified.

The Contractor shall produce a final report to the Superintendent detailing total volumes and seed species collected.

If additional volumes are collected above the requirements, the seed must be offered to the Principal to purchase and these volumes are to be included in the final report displayed in an additional table, describing species, additional amount collected in grams (g) and collection location/site.

2.0 SPECIFICATIONS AND CONDITIONS FOR THE PROPAGATION OF NATIVE SPECIES WITHIN THE CITY OF WANNEROO

2.1 GENERAL

This specification details the minimum standards required for Contractors in the propagation of various endemic plant tube stock for the City's various planting projects that will be undertaken in winter.

Propagation of plants will occur from seed stock collected in 2020 – 2023 and cuttings collected in 2021-2023.

The Contractor shall be supplied with seed for propagation of plant species and quantities as listed dependant on the viability of the seed collection season.

The Contractor, in accepting this contract, agrees to indemnify the Principal and its nominated subcontractor from any damage or loss resulting from a reduction in seed quantities from the tendered amount.

The Contractor shall obtain its own cuttings for propagation of plant species and quantities as listed.

Plant propagation will need to be completed with plants hardened off and ready for delivery by the Provision Date.

If seed numbers are low then the Principal will attempt to make this up by increasing numbers of other species where possible in order to meet preferred propagation levels. If this cannot be achieved then payment will only be awarded according to quantities of tubestock available for planting.

2.2 SCOPE OF WORKS

The provision of plant tube stock involves:

- Seed to be propagated according to timeframe and as agreed by the Principal;
- Cuttings to be collected and propagated to ensure delivery by the Provision Date;
- Propagation of plants, with tube stock to be ready for planting by the Provision Date;
- Plants to be delivered to the nominated sites by the Contractor;
- Housing of plant tube stock after the proposed collection date, if planting events are postponed. If all propagation stock is ready for planting as at Provision Date but is required to be stored then a storage fee, will be paid by the Principal to the Contractor at a rate of m2/week, if held from 1 July 2024 onwards until the completion of the revegetation project; and
- A late delivery fee shall apply if plants cannot be provided by the Provision Date.

2.3 PROCUREMENT OF CUTTING MATERIAL

Cutting material collection must occur within the designated areas only.

Damage to plants shall be avoided.

The Contractor shall ensure that long-term plant health and plant structure is maintained on plants in which cutting material is being taken from.

Vehicles, tools and equipment required for the collection of cutting material from natural vegetation areas shall be used in such a manner as to not damage any protected plant species or interfere with the continuing growth or regeneration to the surrounding ecosystem.

Tools used for cutting material collection shall be cleaned regularly to ensure effective sterilisation, including prior to and during each collection visit so as to prevent build up of sap and resins and transmission of virus and disease.

2.4 NURSERY PRACTICES

The Contractor shall maintain and provide evidence of hygiene and nursery standards.

The Contractor shall provide a current Certificate of Accreditation from the Nursery Industry Accreditation Scheme Austrailia (NIASA) for all of their nursery operations and facilities. If the nursery is not accredited they must supply a letter from NIASA stating that they are in the process of becoming accredited. The certificate or letter from NIASA shall be included in the Contractor's tender submission.

The location and address/s of all of the Contractor's nursery operations and facilities shall be included in the Contractor's tender submission.

The Contractor shall outline germination techniques proposed with consideration of particular species within their methodology.

The Contractor shall outline to the City their recommended regime for watering, greenhouse temperatures, pest spraying and fertilizers/nutrients to ensure good and viable growth of tube stock.

2.5 PLANT CONTAINERS

The Contractor shall deliver the tube stock in accordance with the plant container specifications.

The type of container used for the supply can easily be a separable unit providing for one plant per container.

Tube stock plant containers shall have minimum dimensions of 50mm diameter and 70mm depth and maximum dimensions of 50mm x 50mm x 125mm depth or 75mm x 75mm x 100mm deep. Any alternative tube stock plant container sizes must be approved by the Principal prior to use.

Tube stock for supply shall have been grown in their supply container for a minimum continuous period of eight (8) weeks of which at least the last four (4) weeks leading up to the Provision Date, the plants shall have been hardened off.

2.6 PLANT GROWTH REQUIREMENTS

Plant growth requirements shall be strictly adhered to.

All plants shall be:

- Vigorous;
- Well established;
- Hardened off;
- Consistent with species or variety;
- Not forced or soft; and
- Not root bound.

At least fourteen (14) days prior to the dispatch the plants shall:

- Show root growth throughout the entire volume of potting medium;
- Be free of weeds;
- Be free of pests and diseases; and
- Not show any coiled root growth, or excessive root growth outside the plant container.

2.7 PROPAGATION OF SEED

The Contractor shall only treat and propagate the minimum required gram amount to meet the Principals requested plant numbers.

If by using the minimum gram amount, propagation is unsuccessful and extra seed is required, the Contractor shall first gain approval from the Superinterndent before additional seed amounts are released for further propagation purposes.

2.8 TUBE STOCK

All tube stock provided by the Contractor shall be viable.

The City of Wanneroo shall only pay for viable stock. The tube stock provided to the City of Wanneroo shall only be deemed viable if:

- Tube stock is in accordance with the plant container requirements; and.
- The seedlings are in accordance with the plant growth requirements.

2.9 INSPECTION

The Contractor shall make all plants being grown for this contract available for inspections by the City at any time during the contract.

The Contractor shall ensure all plants being grown for this contract are isolated in a clearly identified area separate from other plants as soon as possible but no later than eight (8) weeks prior to the date of dispatch.

All plants shall be subject to inspection to ensure conformity with plant growth requirements.

Inspection of root growth may be determined by removing plants from their containers. Where it is decided to remove soil from the roots, the number so disturbed in a random sample shall not exceed 1% of the total of each of the species or variety where the number exceeds 100, or one sample if the total number specified is less than 100.

The City of Wanneroo reserves the right to reject tubestock (and hence payment for the same) of tubestock that is deemed to be overdeveloped, unsatisfactory, unprepared or too young to be planted.

2.10 ORDER CONDITIONS

The Contractor shall meet the plant order as tendered and agreed, subject to the availability of seed from the Principal.

Substitutions for numbers or species will not be acceptable unless the Contractor has sought and been given authority from the Principal for a variation on the original specifications.

The Contractor shall contact the Principal if there are any problems in not meeting the order, as soon as the problems are identified. When, for any reason whatsoever, the Contractor fails to produce plants, as contracted, the Contractor shall be responsible at it’s own expense, for the securing of acceptable local provenance plants from alternate sources.

2.11 DISPATCH OF PLANTS

Plants shall be ready for delivery by the Provision Date.

All plants contracted shall be delivered to the nominated site/s by the start of the site planting works, as indicated by the Superintendent. The Superintendent or Superintendent's Representative will advise the Contractor of the location of the nominated site/s for plant delivery. The Contractor will be required to liaise with the City's planting contractor to arrange the final delivery date to the nominated site/s.

The City reserves the right to negotiate the species list, numbers and mix.

Tube stock shall be propagated and delivered in racks, not trays.

The Contractor shall ensure that the tube stock is labelled.

Once planting has been completed, the Contractor may collect the empty pots / trays by prior arrangement with the City's planting contractor or Superintendent's Representative.

2.12 SURPLUS SEED

All surplus seed, after satisfying the propagation requirements of the revegetation site(s) remains the property of the Principal and shall be returned in suitable seed collection bags with labelling at the conclusion of the seed propagation process.

2.13 REPORTING

The Contractor shall provide the Principal with monthly update reports at the conclusion of each month using the format of the Propgation Tables throughout the growing period (November to May). Payment of invoices is contingent upon the Principal recieving monthly reports.

3.0 DETAILED SPECIFICATION AND SCOPE OF WORKS FOR ON-GROUND REVEGETATION ACTIONS

3.1 SITE PREPARATION WORKS

3.1.1 RIPPING

Ripping of the soil within revegetation sites is a technique used to improve the success of planted tubestock.

Ripping will occur only in compacted areas within the revegetation sites. This specifically means that it will only be ripped in vegetation areas C1 and D1, as the other areas (A1 – A3 and B1) in the revegetation and offset sites are not suitable for ripping.

Ripping will not occur within areas that contain existing remnant vegetation so as to prevent damage to established plant root systems.

A maximum ripping depth of 200mm will be undertaken in applicable areas. It is anticipated the ripping depth will be between 100-200mm.

For ripping to be successful;

- The ripping tines must be able to penetrate just below the compacted soil layer; and
- Soil must be moist enough to allow penetration of the ripping tines but not so moist that the tines cause smearing without fracturing and shattering the soil.

All machinery and equipment undertaking ripping works shall adhere to the hygiene protocols outlined in Clause 3.2.4

3.1.2 MULCHING

Mulching at the revegetation site(s) will only occur if a suitable volume of remnant vegetation material, that is weed and disease free, can be sourced to enable the works to proceed.

Remnant vegetation will be coarsely mulched and stockpilled nearby to the revegetation site(s) to enable mulched material to dry first before being spread across the site(s).

Mulching will only occur in areas that are open and devoid of vegetation, thus allowing for the matreial to be easily spread thorughout the site without damaging existing vegetation.

Mulching will be spread in applicable areas to a maximum depth of 75mm.

All machinery and equipment undertaking mulching works shall adhere to the hygiene protocols outlined in Clause 3.2.4

3.1.3 WEED MANAGEMENT

For detailed information on weed management see Clause 3.4.

3.2 PROTECTION ACTIONS

3.2.1 FIRE ACCESS TRACKS

The access track located within the offset site will require to be formalised to enable access by Contractor and maintenance vehicles to undertake onground revegetation actions.

Track installation should adhere to the widths designated in the Fire Act as a minimum, however if the track was not a requirement of the Fire Act, the City's minimum width requirement is 3 metres.

All machinery and vehicles utilised in the track works shall adhere to the hygiene protocols outlined in Clause 3.2.4.

3.2.2 FENCING AND GATES

Fencing and gates will only be installed if the revegetation site(s) are continually vandalised and fencing is deemed the satisfactory measure to prevent further vandalism occurring.

The City's Fencing Standard TS 01-3-1 'Rural Conservation Fencing' and/or TS 01-4-2 'Coastal Foreshore Fencing/Accessway Fencing' are the two fencing styles that will be considered for installation in order to protect the revegetation site(s) until establishment occurs (See Attachment 1 and 2 respectively).

If fencing installation occurs to protect the revegetation site(s), gates to enable access to the site(s) are required to be installed. A Rural Field Gate TS 01-13-0 (Attachment 3) and/or pedestrian access gate are the two types of gates that would be considered for installation in order to provide access to Contractors and maintenance staff. A pedestrian swing gate would not be considered in this instance, as this would also provide access to the revegetation site by persons other than authorised Contractors or maintenance staff. Therefore in this instance a smaller rural field gate of 1 metre width would be installed. A sign wikll also be placed at the entrance tio the offset site - Restricted Vehicle Access Gate – Option 2, TS01-14-0.

All machinery and vehicles utilised in fencing and gate works shall adhere to the hygiene protocols outlined in Clause 3.2.4.

3.2.3 SIGNAGE

Revegetation site signage will be installed at both sites to educate reserve users of the actions being undertaken, timeframe of works and benefits of revegetation activites.

Figure 1: Example of revegetation site signage installed at a City environmental offset site.

3.2.4 HYGIENE PROTOCOLS

The following minimum hygiene protocols will be undertaken within the revegetation sites;

- Vehicles/machinery to be free of soil material prior to entering the revegetation and offset sites;

- Vehicles/machinery to traverse formalised tracks only (where possible); and
- Vehicles/machinery previously attending a known disease-containing location shall be washed in accordance with best practice requirements, prior to entering the revegetation and offset sites.

A copy of the City's current Phytophora hygiene protocols utilised by Conservation Maintenance staff are attached for information (Attachment 4).

3.3 PLANTING WORKS

3.3.1 GENERAL

Tubestock shall only be planted in the site specified on the label or at alternative sites as directed by the Principal.

3.3.2 STORAGE

Plant storage at the site shall be avoided at all times. Where possible, plants shall be planted immediately after delivery to the site. If planting is not possible straight away, the Contractor, at their cost, shall keep them in a good condition and stored in a secure location.

Prevention of theft, drying out or damage from any cause including but not limited to frost, wind, rain and animals is the responsibility of the Contractor. The Contractor shall be responsible for all security issues and costs related to plant storage.

3.3.3 DELIVERY

The plant supplier, will provide various quantities of tube stock for planting. The Contractor shall arrange with the City's Propagation Contractor (plant supplier) the delivery of all items from the respective nurseries. This tube stock will be labelled by the nursery and shall only be planted in the locations designated on the labels. A minimum of two week's notice is required by the plant supplier prior to the plant supplier releasing the plants, the Contractor shall allow for this notification period to co-ordinate all deliveries of tube stock by the plant supplier at the appropriate time.

The City's Representative will supply the Planting Contractor the contact details for the City's Propagation Contractor upon award of works.

3.3.4 PLANTING CONDITIONS

Contractors are not to plant in unsuitable weather conditions such as extreme heat. In the event of unsuitable weather conditions for planting the Contractor shall be responsible for liaising with the City's Representative to receive written approval to temporarily suspend planting activities.

3.3.5 PLANTING LOCATIONS

Revegetation site planting areas are to be planted in a manner that imitates natural regeneration as closely as possible. The Contractor shall ensure that when planting occurs in conservation reserves, a variety of the supplied species is used throughout; ensuring a mixture of species and structure (upper, middle and lower storey species) is achieved over the site. The Contractor shall be responsible for the re-planting of tubestock if specie monoculture areas are identified by the Principal's Representative at no additional cost to the Principal.

3.3.6 PLANTING TECHNIQUE

The planting procedure is as follows:

- A hole will be dug for each tubestock of sufficient depth to enable the root ball of the tubestock to be below the surface of the soil (not mulch).

- For all Conservation reserves, an approved fertilizer (See Clause 2.5.8 Fertiliser) shall then be added to the hole at the manufacturer's recommended rates. Note: Banksia species are not to receive fertilizer applications.
- When the hole is of a correct size and not before, remove the plant from the container with minimum disturbance to the root-ball. Where tubestock is root-bound, the Contractor shall tease out root ball before planting.
- Place tubestock in holes in an up-right position, in the centre of the hole, plumb to the surface and backfill soil level with top of root ball. To backfill, lightly tamp down the soil and water to eliminate air pockets. Backfill shall be done with care, with soil to be placed between the fertiliser and the roots to prevent burning of the roots. The top-soil level shall be slightly below the finished surface of the soil (not mulch) surrounding the hole to provide a small planting dish.

Practical Completion will not be granted at a site(s) if the root ball of the tubestock is exposed or planting occurs in an incorrect manner.

3.3.7 PLANTING IN MULCHED AREAS

No further mulching is required at the sites. Mulching shall be re-spread by hand where disturbed during the planting activities, but maintained away from the newly planted stems.

Efforts shall be made to clear mulch by hand in a 10cm radius around each seedling so as to be removed from around the stem of the tube stock.

Tube stock are to be planted into the soil only, planting is not to occur into the mulched layer. If plants are found to be planted in the mulched layer during inspection by the Principal's representative, the affected plants will be replanted as per "Specifications and Scope of Works – Clause 3.3 - Planting Works" at the Contractor's cost.

3.3.8 FERTILISING

The Contractor shall allow the cost to fertilise all plants except *Banksia* sp with either Baileys 'Australian Native Plant Food' or Richgro 'Native Organic Fertilizer/Native Plus Organic', at the rate described by the manufacturer. Any changes to the fertilizer type or brand must be approved, in writing, by the Principal prior to application.

3.3.9 SUPPLY AND INSTALLATION OF TREE GUARDS AND STAKES

All tube stock plants planted, unless otherwise indicated, shall be protected with one (1) Corflute Tree Guard (450mm high, 250mm wide), and one wooden survey stake (25mm x 25mm x 750mm) or similar. Any substitution of corflute tree guards or wooden survey stakes must be approved prior by the Principal in writing. All tree guards and stakes are to be supplied and installed by the Contractor as per the manufacturer's instructions. The plants must have stakes and corflute guards installed, immediately following planting. The Principal, must approve any changes to the above specification at least 24 hrs prior to the procurement of bagging and staking stock.

Prior to Practical Completion, the Contractor shall be required to replace and/or reinstate damaged and vandalised stakes and corflute guards immediately once the damage has been discovered at no additional cost to the Principal.

3.3.10 WATERING

Prior to planting, the Contractor shall ensure that their watering equipment is available and properly functioning. Contractors are required to source their own water for the term of this Contract.

At the conclusion of each planting day, each plant shall be watered in with a minimum of two (2) litres of water, including the soil wetting agent; equally around the base of each of the tube stock to ensure all air pockets have been eliminated.

The Contractor shall allow in their price, all initial watering-in activities, including the application of a soil wetting agent or similar approved product as per the manufacturer's specifications. For sites where a maintenance period exists, a soil wetting agent or similar product shall be used when watering tubestock.

The Contractors wetting agent will be approved by the Principal prior to use.

3.3.11 CLEANING UP

On completion of the planting activities at each of the sites, the Contractor shall ensure that all plants are in a good condition. If plants are not in good condition the Contractor shall inform the Principal in writing within 24 hours. If the plants are not in good condition and it is by fault of the Contractor practical completion will not be granted until plants are considered by the Principal to be in good condition.

All empty plant containers must be collected daily during planting operations and removed from site. It is the Contractor's responsibility to ensure that containers are returned to the plant supplier once planting operations are completed.

3.3.12 PRACTICAL COMPLETION OF PLANTING WORKS

Upon completion of on-ground planting works at each Site, the Contractor shall request practical completion from the Principal. The Contractor shall give a minimum of 48 hours notice for the practical completion inspection. Practical Completion will only be issued by the Principal provided all works are completed to the specified standard.

3.4 WEED MANAGEMENT

3.4.1 GENERAL WEED CONTROL

Weed species requiring control include; but are not limited to, *Euphorbia terracina* (Carnation Weed), *Pelargonium capitatum* (Rose Pelargonium), *Ehrharta calycina* (Veldt Grass), *Lupinus angustifolius* (Narrow leaf Lupin) and *Avena fatua* (Wild Oats).

When undertaking weed control at the nominated sites, measures must be taken to recognise the high conservation values of the existing natural vegetation, including minimal disturbance to the surrounding areas.

Selective weed control within areas of remnant vegetation is essential where possible, it is however understood that non-selective chemicals may need to be used to control certain species. All weed control personnel must be familiar with endemic plant species and take all measures to avoid ‘off target’ damage.

Unless specified otherwise, weed control at all nominated sites shall be a “whole of site” application. All weeds within the site boundaries indicated in site diagrams must be treated. The whole of site application includes all methods of weed control required to treat weeds within the site boundaries, this includes: chemical control (selective and non-selective herbicides), mechanical and manual weed control.

The Contractor, at their cost, shall undertake two (2) whole of planting site weed control applications prior to planting taking place.

Where a whole of planting site weed control application (chemical, mechanical and/or manual) is not required, light or localized weed infestations may be controlled by the Contractor, following approval in the form of a variation by the Principal.

3.4.2 CHEMICAL WEED CONTROL – LEGISLATIVE COMPLIANCE

Contractors shall conform to all Western Australian Health Regulations stated within the *'Health (Pesticides) Regulations 2011'* and all relevant Australian Standards.

The Contractor/s shall complete Chemical Application Record Sheet(s) when undertaking each weed control application, as per the current Health Regulations (Refer to Section 77 of the Health (Pesticides) Regulations 2011) and provide these completed application records to the Principal at the conclusion of each month.

A copy of the Contractor's or Sub-Contractors 'current' Herbicide Operators Licenses, stating chemicals that individual operators are registered to apply, together with the names of operators who will be applying chemicals under the Contract, shall be submitted to the Principle.

It is a requirement that all the Contractors plant and equipment shall be in excellent working order. If the Contractor's plant and equipment are found to be unsafe or faulty, the Principal will order the unsafe or faulty equipment to be removed from site and it will not be allowed to return until any defects have been rectified.

3.4.3 CHEMICAL WEED CONTROL – WEATHER CONDITIONS

The Contractor is to liaise with the Principal regarding suitability of weather conditions for spraying and arrange with the Principal's Representative for the programming of spraying.

Contractors shall ensure that wind speed measurement(s) are collected with a working anemometer prior to each chemical weed control application and these measurements are to be recorded on the Contractor's Chemical Application Record Sheet(s) (Attachment 6).

The application of weed control methods shall be timed to effectively kill the growth of weeds and grasses. It is the Contractor's responsibility to monitor weather conditions prior to spraying; however the Principal reserves the right to discontinue spraying if, in the Principal's opinion, weather conditions are not suitable for spraying, e.g.: excessive wind and/or rain or temperatures greater than 35^{o}C. If rainfall occurs during the 'rain-fast' period of spray application the Principal may request a re-spray of the area. All additional costs incurred by the Contractor to re-spray the area shall be borne by the Contractor.

3.4.4 CHEMICAL WEED CONTROL – MIXING AND APPLICATION OF PESTICIDES

No products or any component banned by the State or Federal health regulatory bodies shall be used on the Principles site(s).

The Contractor shall adhere to the Western Australian State Health Regulations that permit application rates up to label strength, but not in excess of manufacturers label strength.

The Contractor shall supply and apply a colour agent compatible with the herbicide being used. The dye must be free of the active ingredient 'Rhodamine'. The quality and pH of the water to ensure 'kill' shall be the responsibility of the Contractor. All additional costs incurred by the Contractor to ensure the specified 'kill' rates shall be borne by the Contractor.

All chemicals are to be thoroughly mixed prior to application and agitated during herbicide treatment.

Tanks (including knapsacks) shall not contain residues from previous herbicide applications prior to filling. All safety requirements prescribed in the manufacturers MSDA/MSDS/SDS and on the herbicide label will be followed, including the manufacturer's application rate.

With all herbicides, the volume of water used shall be sufficient to ensure an even application of herbicides.

The Principal reserves the right to test herbicide mixtures in spray tanks for constituents and concentrations without prior notice to the Contractor/s.

The pressure of spray application shall be kept to a level that avoids excessive spray drift, preventing damage to “off target” species and other adjacent environments/property. Any damage to “off target” species and adjacent environments/property will be remediated by the Contractor/s at the Contractor/s cost.

3.4.5 CHEMICAL WEED CONTROL – SPILLS AND SITE CLEAN UP

All chemical spills must be cleaned up and the site decontaminated immediately. The Principal must be informed of all spills immediately.

On the completion of spraying, all chemical containers must be removed from the site by the Contractor.

3.4.6 CHEMICAL WEED CONTROL – 'KILL RATE'

After the initial spraying and the recommended kill time, an inspection shall be made by the Principal to determine the effectiveness of spraying and in so determining the area shall be re- sprayed if required.

A minimum of 90%, or greater, kill of target species shall result under the Contract.

The herbicide manufacturer’s disclaimer of ‘kill’ shall in no way remove the Contractor’s obligation to re-apply herbicide, should the required mortality rate not be fulfilled. The cost of follow-up treatment shall be borne by the Contractor.

In the event of dispute concerning the mortality rate between Principal and Contractor, the Contractor, by predetermined arrangement with the Principal’s Representative, shall arrange for a plant/count survey to be undertaken by an approved technical consulting agency. Costs will be awarded at the discretion of the consulting agency. The consulting agency shall be employed at the expense of the Principal.

3.4.7 MANUAL WEED CONTROL

All weed species within ten (10cms) of planted tubestock, remnant vegetation or within tree guards must be removed by hand unless the weed species can be controlled using a selective herbicide that is not detrimental to planted tubestock or remnant vegetation.

Manual weed control forms part of the "whole of planting site" weed control application and Contractors are required to make allowance for manual weed control. Manual weed control will therefore apply to the pre-planting weed control and maintenance weed control applications.

Weed biomass removed by hand which contains seed or has the ability to spread by vegetative means (e.g. cactus phyllodes, bulbs, corms etc) must be removed from site. Biomass removal shall be undertaken as a Variation.

3.4.8 MECHANICAL WEED CONTROL

Mechanical weed control required under this tender may consist of the use of brushcutters (line trimmers or fixed blade) or chainsaws. Due to planting densities or remnant vegetation coverage at the majority of the sites specified in this tender, the use of mechanical weed control will be limited.

Handweeding is the preferred option to control weeds where chemical weed control is not possible. Agreement must be reached between the Principal and the Contractor that mechanical weed control is the best option to control weeds in specific areas prior to any mechanical weed control works taking place.

3.5 MAINTENANCE OF REHABILITATION AREAS

3.5.1 GENERAL

Maintenance and Establishment of the rehabilitation work shall include, but shall not be limited to the following items:

- weed control as required – hand weeding and chemical treatment;
- watering;
- maintenance of tree guards and stakes where applicable;

- repairs to erosion treated and vehicle affected areas as required;
- joint inspections fortnightly and when requested by the Principal;
- the Contractor's nominated representative will be required to attend safety inductions with the Principal's Representative at each worksite prior to the commencement of the works;
- any repairs due to vandalism as required (reporting the type and repair requirements to the Principal);
- rubbish removal as required;
- reporting illegal dumping to the Principal as required;
- removal of corflute tree guards and stakes prior to Summer at the request of the Principal: and
- reporting of maintenance works as specified in Clause 3.5.10- Reporting.

Any remedial work shall be performed within two weeks of the date of inspection.

The works shall be maintained as follows in accordance with the requirements of this specification, the diagrams, plant schedules and the relevant approvals.

3.5.2 WEED CONTROL – MAINTENANCE PERIOD

On-going weed control shall be undertaken by the Contractor on an ‘as needs’ basis and maintained to a minimum 90% weed free state by the end of the project maintenance period. Commencement of any weed control works are subject to the approval of the City's Representative.

Weeding can be by the use of herbicides or by hand, which ever is deemed the most appropriate to control the targeted species but should not cause any damage to planted tubestock or remnant vegetation during the process. Weed control applications are to treat weed species over the whole of the planting site as specified.

Weed control applications during the maintenance period shall result in a 90% mortality of the weed species present at the time of application. Weed species that cannot be controlled by herbicide application prior to setting viable seed will need to be handweeded and removed from site at the Contractor’s cost.

Due to the planting density within the Rehabilitation Areas, brushcutting is not permitted and weed species must be removed by hand if chemical control will result in off target damage.

All maintenance weed control works must be undertaken according to the Weed Control Specifications.

3.5.3 WATERING

Watering applications shall be allowed for during the 12 month maintenance period within all planted rehabiliation areas.

Each plant shall be watered with a minimum of two (2) litres of water, including the soil wetting agent; equally around the base of each of the tube stock.

The Contractor will ensure that no erosion damage is caused as a result of watering activities.

3.5.4 MAINTENANCE AND REMOVAL OF TREE GUARDS

The contractor is required to maintain tree guards throughout the Contract duration. As the guards are generally removed prior to the summer months, the period of guard maintenance generally extends from June/July to October/November.

During the maintenance period, remediation of damage to guards/stakes shall consist of reinstatement where these guards/ stakes remain in good condition. If guards/stakes are not serviceable, the remediation of damage to guards/stakes shall consist of removal and replacement of the damaged guards/stakes. The

Principal may elect, however, not to replace the guards and stakes following damage, due to the following circumstances:

- Ongoing vandalism at the site ;
- Proximity of the damage to the guards, relative to the time guards would normally be removed;
- Tree guards not required due to the plants outgrowing the tree guards; and
- Unseasonably hot weather.

Maintenance of Tree Guards shall be on as "as needs basis" and the Contractor shall not remedy any damage without prior approval from the Principal. The Contractor shall provide photographic evidence of damage to the Principal. Note: All damage to tree guards caused by the Contractor's actions (e.g. dislodgment of guards by hoses during watering or herbicide applications) shall be remedied by the Contractor at the Contractor's cost.

Prior to summer, the corflute tree guards are to be removed and disposed. The exact time frame of guard removal will vary according to weather conditions and plant growth rates.The Principal will advise the Contractor to commence tree guard removal a minimum of four (4) weeks prior to the required removal date.

3.5.5 REPAIRS TO EROSION AFFECTED AREAS, VEHICLE AFFECTED AREAS AND IN-SITU INFRASTRUCTURE

The Contractor shall maintain all areas subjected to erosion protection treatments, and shall repair all damage to infrastructure or any erosion, which arise during the maintenance period as a result of the Contractors actions. Any soil subsidence or erosion, which may occur after filling and preparation operations, shall be made good.

The Contractor shall notify the Principal of any erosion or damage to in situ infrastructure not caused by the Contractor's actions. The Contractor shall not remedy any damage without prior approval from the Principal. After receiving approval, in the form of a variation, from the Principal.

3.5.6 RUBBISH REMOVAL

Rubbish removal from revegetation site(s) shall only be undertaken by the Contractor after approval by the City's Representative. After receiving approval from the City's Representative, the Contractor is to undertake the required works.

3.5.7 JOINT INSPECTIONS

The Contractor and the Principal's Representative shall undertake joint inspections fortnightly or monthly (at the discretion of the Principal) for the revegetation site(s) during the maintenance period and then at the end prior to handover to the Principal.

Note: It is expected that the Contractor, in accepting this Contract, shall bear all costs associated with the Contractor's representative(s) attending the required on-site joint inspections at each of the Revegetation sites (A and B) at no additional cost to the Principal.

3.5.8 DAMAGE TO REMNANT VEGETATION/TUBESTOCK

Contractor shall make good any damage to remant vegetation or planted tubestock during the maintenance period, excluding damage caused by vandalism. The Contractor shall use the plant species in accordance with the site locations and plant lists to make good any damage directly caused by its actions to the existing vegetation and tubestock, at no cost to the Principal

3.5.9 MAKING GOOD

Contractor shall make good any damage during the maintenance period, excluding damage cause by vandalism. The Contractor shall use the plant species in accordance with the location of the revegetation site and plant list to make good any damage directly caused by its actions to the existing vegetation and tubestock, at no cost to the City.

3.5.10 REPORTING

The Contractor shall provide the City's Representative with monthly update reports (sent at the end of each month) during the nominated Maintenance period.

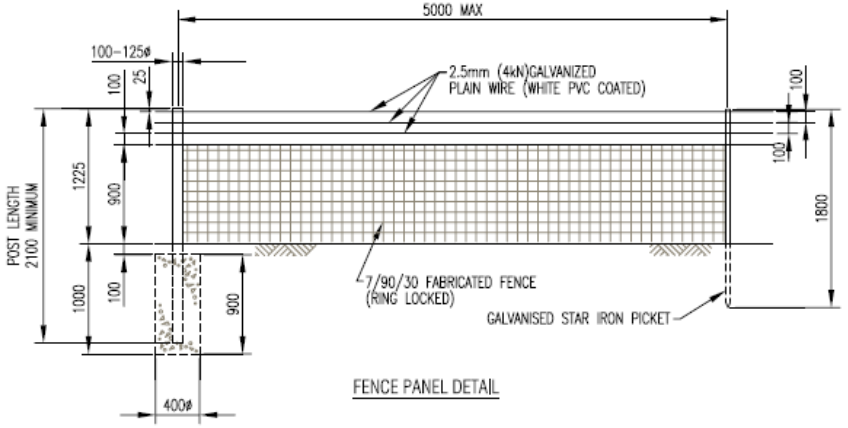
Monthly update Reports shall consist of:

- A written summary report of activities undertaken at each of the Revegetation Site(s);
- Completed Chemical Application Record(s) (Attachment 6), as per current Heath Department requirements); and
- Completed Maintenance Activities Report Spreadsheet(s) (Attachment 7) for the Site.

The Contractor shall produce a final report to the City's Representative detailing ALL Maintenance Activities undertaken during the nominated Maintenance period by close of business on the Friday immediately preceeding the ceasation of the nominated Maintenance period.

ATTACHMENT 1

No	REVISION	BY	DATE	AUTH
0.	ISSUED	J.W.T.	8/2001	
1.	NOTES AMENDED	T.T.	3/2006	B.C.



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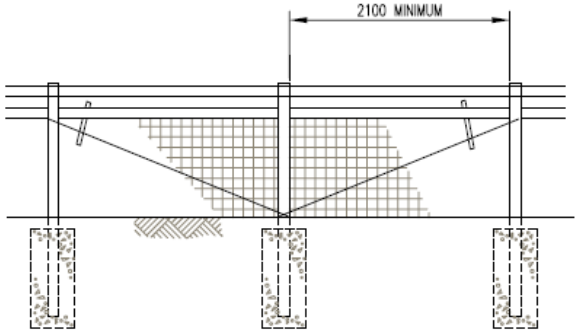

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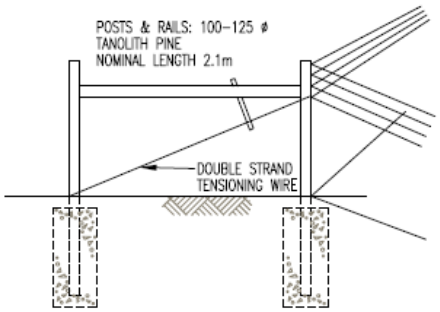

ALIGNMENT BRACING DETAIL

NOTES:

1. FOR ROAD FRONTAGE FENCE, POSTS TO BE AT 25m CRS.(MAX.)
2. FOR RURAL FENCING POSTS TO BE AT 100m MAX
3. ALIGNMENT BRACING TO BE LOCATED AS DIRECTED
4. INTERMEDIATE BRACING TO BE SPACED AS DIRECTED (ON STRAIGHT FENCES, MAXIMUM SPACING 125mm.)
5. FABRICATED WIRE TO BE 7/90/30 RINGLOCK FENCING.
6. WIRES TO BE FIRMLY SECURED TO POSTS AND PICKETS.
7. ALL UPRIGHT MEMBERS SHALL BE VERTICAL WITHIN A TOLERANCE OF 1:100.
8. THE BASE OF FOOTING HOLES SHALL BE ADEQUATELY COMPACTED BY RAMMING.
9. THE DIAMETER OF EACH TIMBER POST OR RAIL SHALL NOT VARY BY MORE THAN 25mm OVER A 2m LENGTH (OR 12.5mm PER METRE LENGTH).
10. CONCRETE SHALL BE MIXED IN THE PROPORTIONS OF (4) PARTS BY WEIGHT OF CLEAN DUST FREE AGGREGATE (NOT EXCEEDING 20mm SIZE) PLUS TWO (2) PARTS BY WEIGHT OF CLEAN DUST FREE SAND PLUS ONE (1) PART BY WEIGHT OF MASONRY CEMENT, WITH WATER CONTENT SUFFICIENT TO ENSURE A SLUMP OF NOT MORE THAN 100mm USING THE AUSTRALIAN STANDARD SLUMP TEST CONE.
11. CONCRETE SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 20MPa AT 28 DAYS.
12. CONCRETE FOOTINGS SHALL BE CURED FOR TWENTY FOUR (24) HOURS BEFORE ERECTION OF WIRES OR MESH TO POSTS AND PICKETS.
13. WIRES ARE TO BE FIXED ON THE ROAD PAVEMENT OR PUBLIC ACCESS WAY SIDE OF POSTS AND UPRIGHTS UNLESS ADJACENT TO PRIVATE PROPERTY OR AS INDICATED ON DESIGN DRAWINGS.
14. GALVANIZED COATINGS FOR ALL FERROUS MATERIALS SHALL HAVE COATINGS OF ZINC IN COMPLIANCE WITH AS1650 (GALVANIZED COATINGS ON FERROUS ARTICLES). THE COATING FOR WIRE SHALL BE TYPE A (HEAVILY GALVANIZED). THE PVC COATING OR COLOURBOND COATING TO WIRE SHALL BE BLACK, UNLESS OTHERWISE DIRECTED BY THE CITY.
15. ALL STAR PICKETS SHALL BE FITTED WITH APPROVED WHITE CAPS.
16. TIMBER BEARING POLES/RAILS TO UPRIGHTS WITH 2 STRANDS PLAIN WIRE, END SHARPENED & INSERTED INTO UPRIGHTS OR END–DRILLED AND PINNED TO ENSURE SECURED FIXING. REFER TO TS01–4

* INDICATES SIGNATURES ON ORIGINAL ISSUE OF DRAWING.

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DRAWING ARCHIVE: *\FINAL STANDARD DRAWINGS			STANDARDS/DOCUMENT CONTROL: * J. TRIMMER 8/8/2001 INFRASTRUCTURE TECHNICAL OFFICER

APPROVED: * T. QUINN 8/8/2001 COORDINATOR	
APPROVED: * R. KORENHOF 23/8/2001 MANAGER INFRASTRUCTURE	
APPROVED: * D. BLAIR 23/8/2001 DIRECTOR TECHNICAL SERVICES	

FENCING

RURAL CONSERVATION FENCING

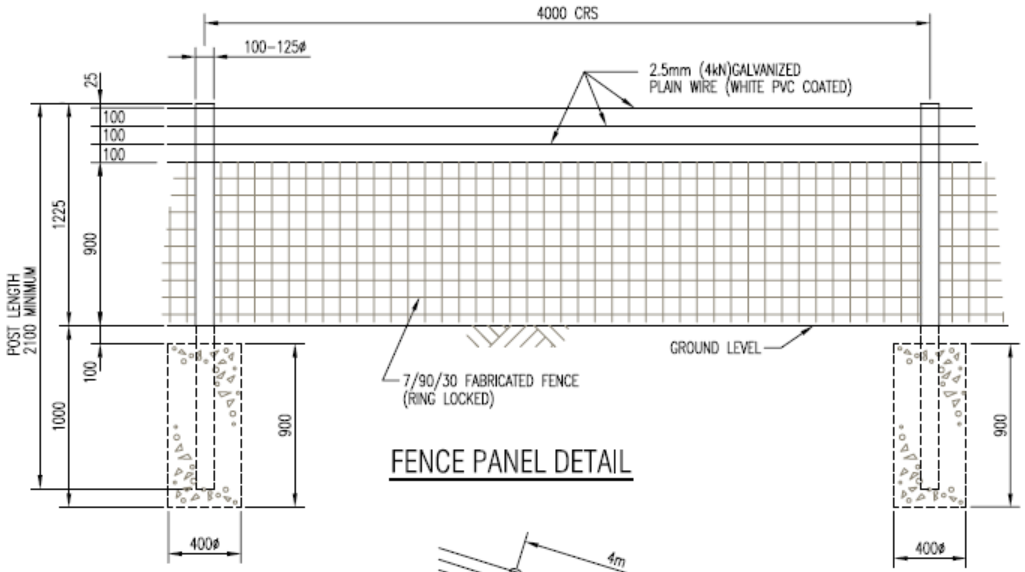
LOCALITY: STANDARD

CITY OF WANNEROO
TECHNICAL SERVICES
INFRASTRUCTURE SERVICES

FILE No.	DRAWING No	SHEET	REVISION	ORIGINAL DRG.SIZE
	TS 01 - 3 - 1			A3

ATTACHMENT 2

No	REVISION	BY	DATE	AUTH
0.	ISSUED	J.W.T.	8/2001	
1.	NOTE 1 REMOVED	T.T.	3/2006	B.C.
2.	FENCE POST ADJUSTED	P.H.	11/2007	B.C.



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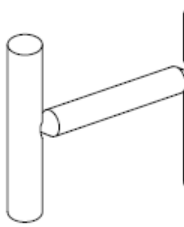

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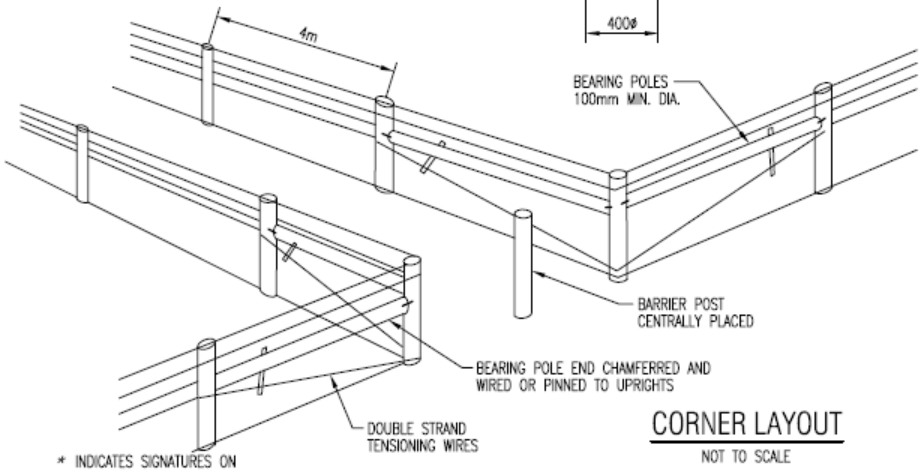

CORNER LAYOUT

NOT TO SCALE

NOTES:

1. OPENINGS BETWEEN CORNER UNITS AND BARRIER POSTS TO BE MAXIMUM OF 1500mm.
2. BEARING POLES TO BE WIRED TO UPRIGHTS WITH 2 STRANDS PLAIN WIRE, END SHARPENED & INSERTED INTO POSTS OR END–DRILLED AND PINNED TO ENSURE SECURED FIXING.
3. MESH TO BE 7/90/30 RINGLOCK FABRICATION FENCING. WIRES TO BE AS SHOWN AND TO BE GALVANIZED ACCORDING TO SPECIFICATIONS.
4. ALL UPRIGHT MEMBERS SHALL BE VERTICAL WITHIN A TOLERANCE OF 1:100.
5. CONCRETE FOOTING SHALL BE MIXED IN THE PROPORTIONS OF (4) PARTS BY WEIGHT OF CLEAN DUST FREE AGGREGATE (NOT EXCEEDING 20mm SIZE) PLUS TWO (2) PARTS BY WEIGHT OF CLEAN DUST FREE SAND PLUS ONE (1) PART BY WEIGHT OF MASONRY CEMENT, WITH WATER CONTENT SUFFICIENT TO ENSURE A SLUMP OF NOT MORE THAN 100mm USING THE AUSTRALIAN STANDARD SLUMP TEST CONE.
6. CONCRETE SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH OF 20MPa AT 28 DAYS.
7. CONCRETE FOOTINGS SHALL BE CURED FOR TWENTY FOUR (24) HOURS BEFORE ERECTION OF WIRES OR MESH TO POSTS.
8. GALVANISED COATINGS FOR ALL FERROUS MATERIALS SHALL HAVE COATINGS OF ZINC IN COMPLIANCE WITH AS 1650. THE COATINGS FOR WIRES SHALL BE TYPE A (HEAVILY GALVANISED).

* INDICATES SIGNATURES ON ORIGINAL ISSUE OF DRAWING.

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DESIGN ARCHIVE:			DESIGN CHECKED: DESIGNER	APPROVED: * D. BLAIR 23/8/2001 DIRECTOR TECHNICAL SERVICES
DRAWING ARCHIVE: *\FINAL STANDARD DRAWINGS			STANDARDS/DOCUMENT CONTROL: * J. TRIMMER 8/8/2001 INFRASTRUCTURE TECHNICAL OFFICER	

FENCING

COASTAL FORESHORE FENCING
BEACH ACCESSWAY FENCING

LOCALITY: STANDARD

CITY OF WANNEROO
TECHNICAL SERVICES
INFRASTRUCTURE SERVICES

FILE No.

DRAWING No SHEET REVISION: **TS 01 - 4 - 2**

ORIGINAL DRG.SIZE: **A3**

No.	REVISION	BY	DATE	AUTH
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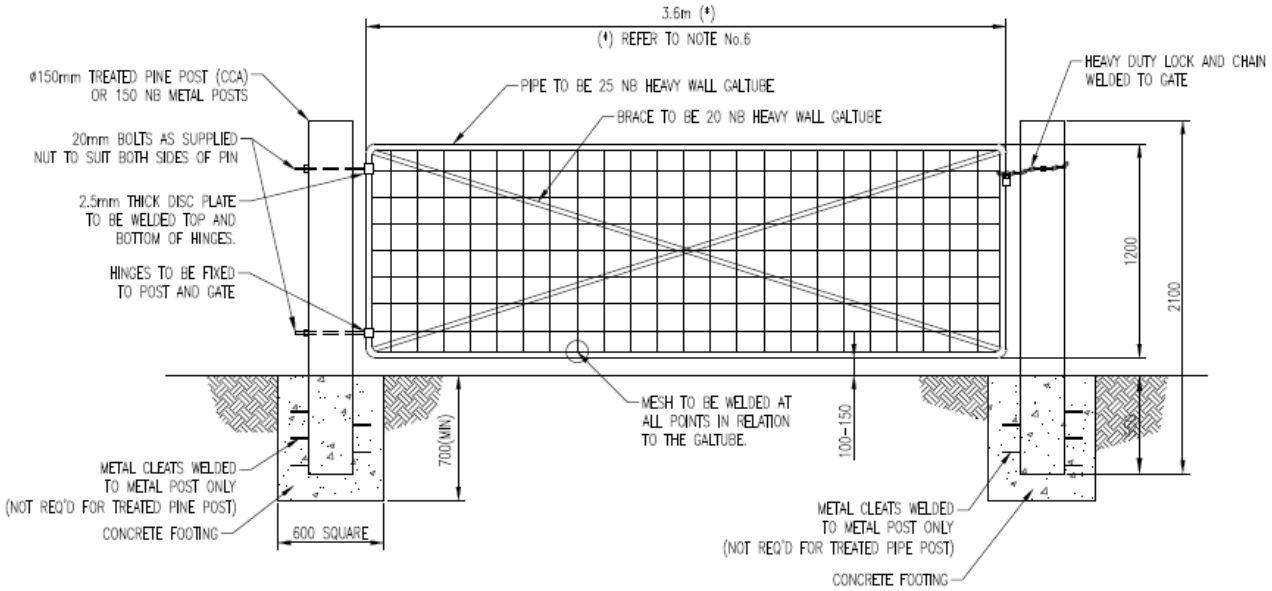

RURAL FIELD GATE

NOTES:

1. ALL STEEL TO BE GALVANIZED.
2. ALL STEEL POSTS TO BE SECURELY CAPPED.
3. ALL WELDS TO BE POWER WIRE BRUSHED AND COLD GALVANIZED.
4. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.
5. MESH TO BE METRIC MESH 46G5 AND GALVANIZED FINISHED COMPLETE WITH FITTINGS.
6. A 3.9m GATE SHALL ONLY BE INSTALLED WHEN THE INTERNAL VEHICLE TRACK DOES NOT RUN PERPENDICULAR TO THE GATE LOCATION, ALL GATES WITH WIDTHS LARGER THAN 3.9M SHALL ONLY BE CONSIDERED IN EXCEPTIONAL CIRCUMSTANCES AND TECHNICAL SPECIFICATIONS WILL REQUIRE APPROVAL PRIOR TO INSTALLATION.
7. CONCRETE FOOTINGS TO BE GRADE N32 TO AS 1379
8. ALL GALVANISED STEEL TO MEET AS/NZS 4792 FOR HOT-DIP GALVANISED (ZINC) COATING ON FABRICATED FERROUS ARTICLES

* INDICATES SIGNATURES ON ORIGINAL ISSUE OF DRAWING.

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SURVEYED: N/A SURVEYOR 2015	DATUM: N/A	AUTHORISED: * B.CHANG A/MANAGER ASSETS MANAGEMENT 11/2/2015
DESIGNED: C.O.W CIVIL PROJECTS DESIGNER 2015	GRID: N/A	AUTHORISED: * G.CHETTLEBURGH MANAGER PARKS AND RESERVES 11/2/2015
DRAWN: C.O.W CIVIL PROJECTS DESIGNER 2015		APPROVED: * H.SINGH A/DIRECTOR INFRASTRUCTURE 16/2/2015

FENCING

GATE DETAILS
RURAL FIELD GATE

STANDARD

CITY OF WANNEROO
INFRASTRUCTURE

FILE No.	DRAWING No.	SHEET	REVISION	ORIGINAL DRG. SIZE
N/A	TS 01-13-0			A3
PROJECT No. N/A				

ATTACHMENT 3

No.	REVISION	BY	DATE	AUTH
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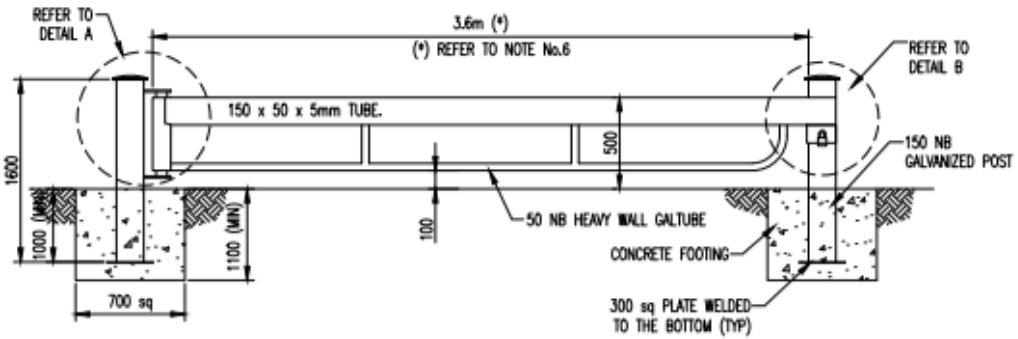

RESTRICTED VEHICLE ACCESS GATE OPTION 1

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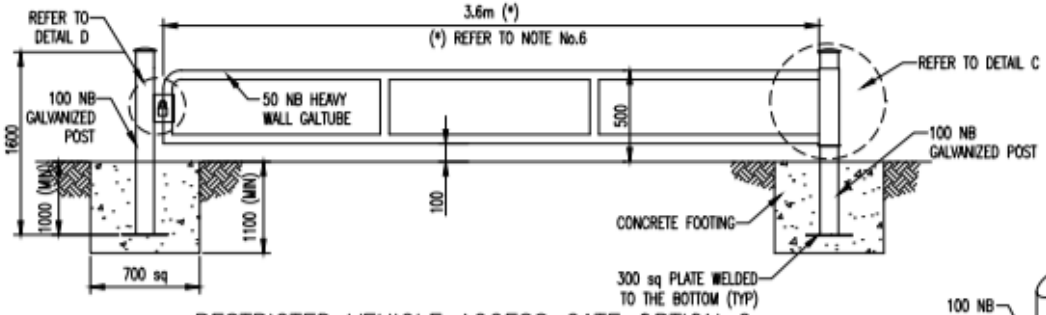

RESTRICTED VEHICLE ACCESS GATE OPTION 2

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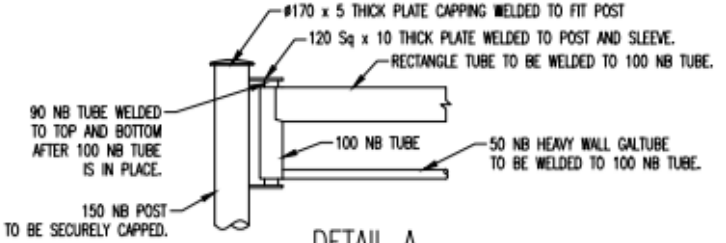

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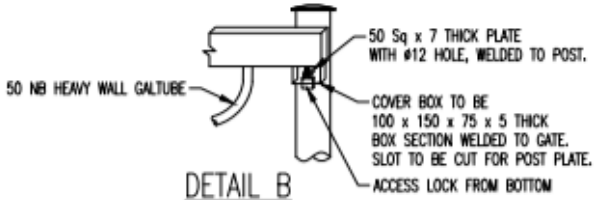

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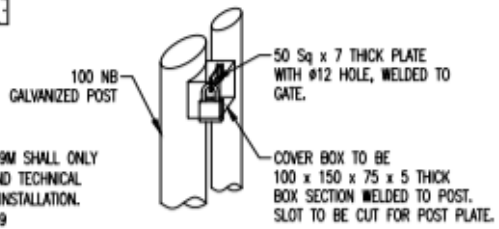

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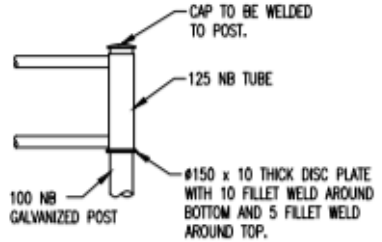

DETAIL C

SCALE 1:20

NOTES:

1. ALL TUBING TO BE GALVANIZED STEEL.
2. ALL STEEL POSTS TO BE SECURELY CAPPED.
3. ALL WELDS TO BE POWER WIRE BRUSHED AND COLD GALVANIZED.
4. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SHOWN.
5. MESH TO BE METRIC MESH 4605 AND GALVANIZED FINISHED COMPLETE WITH FITTINGS.
6. A 3.9m GATE SHALL ONLY BE INSTALLED WHEN THE INTERNAL VEHICLE TRACK DOES NOT RUN PERPENDICULAR TO THE GATE LOCATION, ALL GATES WITH WIDTHS LARGER THAN 3.9M SHALL ONLY BE CONSIDERED IN EXCEPTIONAL CIRCUMSTANCES AND TECHNICAL SPECIFICATIONS WILL REQUIRE APPROVAL PRIOR TO INSTALLATION.
7. CONCRETE FOOTINGS TO BE GRADE N32 TO AS 1379
8. ALL GALVANISED STEEL TO MEET AS/NZS 4792 FOR HOT-DIP GALVANISED (ZINC) COATING ON FABRICATED FERROUS ARTICLES
9. ALL POSTS WITH FOOTINGS SHALL HAVE A WALL THICKNESS OF 5mm.
10. COVERED LOCKBOX OF OPTION 1 & 2 ONLY OPEN AT BASE.

* INDICATES SIGNATURES ON ORIGINAL ISSUE OF DRAWING.

SCALE: NOT TO SCALE, UNLESS SHOWN		CHECKED: * P.WILLIAMS COORDINATOR DESIGN 11/2/2015	FENCING GATE DETAILS RESTRICTED VEHICLE ACCESS GATE STANDARD
SURVEYED: N/A SURVEYOR 2015	DATUM: N/A	AUTHORISED: * B.CHANG A/MANAGER ASSETS MANAGEMENT 11/2/2015	
DESIGNED: C.O.W CIVIL PROJECTS DESIGNER 2015	GRID: N/A	AUTHORISED: * G.CHETTLEBURGH MANAGER PARKS AND RESERVES 11/2/2015	
DRAWN: C.O.W 2015		APPROVED: * H.SINGH A/DIRECTOR INFRASTRUCTURE 16/2/2015	

CITY OF WANNEROO
INFRASTRUCTURE

FILE No.	DRAWING No.	SHEET	REVISION	ORIGINAL DRG. SIZE
N/A	TS 01-14-0			A3

PROJECT No. N/A

ATTACHMENT 4

GUIDELINES FOR PHYTOPHTHORA (DIEBACK) HYGIENE STANDARDS

Identification of areas affected by dieback:

- Lines, groups or localised areas of plant deaths rather than odd scattered plant deaths amongst healthy vegetation;
- Look for an age range in the deaths. Old deaths, and recent deaths. This is because Phytophthora moves from plant to plant over time, killing each plant as it goes.
- Look for something that could have introduced the disease eg. Vehicle tracks; and
- Look for signs of the disease in a range of susceptible plant species. Indicator species are listed in Table 1.

Table 1: Common Indictor Species for the Presence of Dieback (28 Indictor Species)

Genus & Species	Common Name
Acacia pulchella	Prickly Moses
Adenanthos cygnorum	Woolly Bush
Andersonia lehmanniana	
Astroloma xerophylla	
Banksia attenuata	Slender Banksia
Banksia grandis	Bull Banksia
Banksia ilicifolia	Holly-leaves Banksia
Banksia littoralis	Swamp Banksia
Banksia menziesii	Firewood Banksia
Banksia prionotes	Acorn Banksia
Banksia sessilis	Parrot Bush
Bossiaea eriocarpa	Common Brown Pea
Conospermum stoechadis	Common Smokebush
Conostephium pendulum	
Eucalyptus marginata	Jarrah
Hibbertia hypericoides	Yellow Buttercups
Hibbertia subvaginata	
Jacksonia floribunda	Holly Pea
Melaleuca scabra	Rough Honeymyrtle
Leucopogon conostephioides	
Leucopogon parviflorus	Coast Beard-heath
Patersonia occidentalis	Purple Flag
Petrophile linearis	Pixie Mops
Pteridium esculentum	Bracken
Macrozamia riedlei	Zamia
Scholtzia involucrata	Spiked Scholtzia
Stirlingia latifolia	Blueboy
Verticordia nitens	Morrison Featherflower
Xanthorrhoea preissii	Grass Tree

Equipment to be carried in each vehicle:

- Hard, stiff brush;
- Spray bottle of methylated spirits, well labelled.

Equipment, vehicles and footwear:

- When undertaking activities, complete tasks in uninfected areas of the bushland first, before moving to suspected or infected parts of the bushland;
- When possible or practical, restrict maintenance activities to times where dry soil conditions prevail;

- In known or suspected Phytophthora infected sites, remain on roads and tracks and do not enter bushland when soil is wet;
- Ensure vehicles are cleaned between sites especially if travelling from a reserve with known Phytophthora infestation;
- Cleaning should be undertaken at the Depot or a designated cleaning area.
- Designated cleaning areas must be hard, well-drained surfaces, (e.g. road) that is away from and does not drain into native vegetation and wetland areas;
- Removal of mud and soil should be achieved by dry cleaning techniques when possible, (e.g. with a hard stiff brush or compressed air). Water usage should be minimized where possible;
- Pay particular attention to mudflaps and tyres when cleaning;
- Avoid driving through any effluent from cleaning process when exiting a wash down area;
- When exiting a site where Phytophthora Dieback is known to exist or is suspected, tyres, shoes and any equipment must be sprayed with Methylated spirits, covering all surfaces and allowed to soak for a few minutes or until evaporated.

Revegetation and water management:

- Plants must be purchased from accredited nurseries to ensure soil used is Phytophthora Dieback free;
- Only introduce to the site certified Phytophthora free materials, (e.g. soil, mulch, compost etc);
- If watering revegetation areas near Phytophthora infested sites, water used must be from mains or deep bore, not from onsite.

Chemical application record (simplified)		
Property address:		
Applicator:		
Address of applicator (if not property address):		
Applicator's phone number:		
Date of application:	Start time:	Finish time:
Crop/situation/weed sprayed:	Block name(s)/numbers in order treated:	Total area sprayed in ha or m^2:
Pest/disease/weed targeted:		
Full trade name of product:		
Rate of concentration used mL/L or g/kg:	Total quantity of spray applied:	
Spray equipment used:	Date last calibrated:	
Wind speed:	Wind direction:	
Temperature:	Relative humidity:	
Other weather conditions specified on label:		
Did weather change during spraying? Yes/No	If yes, details:	
Other comments:		

Chemical application record

Property holding (residential address):					Date:
Applicator's full name:			Owner (if not applicant):		
Address:			Address		
Phone: Mobile:	Fax:	Email:	Phone: Mobile:	Fax:	Email:
Sensitive areas (incl distances and buffers): N W E S			Comments (incl risk controls for sensitive areas):		
Paddock no/name:	Paddock area:		Order paddocks sprayed:		
Crop/situation:			Type of animals:		
Crop/pasture/variety:			Age/growth stage:		
Growth stage:			Mob/paddock/shed:		
Pest/weed/disease:			No animals treated:		
Pest density/incidence: Heavy ☐		Medium ☐		Light ☐	
Full product name:			Rate/dose:	Water rate (L/ha):	
Permit no:	Expiry date:		Adjuvants:		
Total L or kg:	WHP:		ESI:	Date suitable sale:	
Equipment type:	Release height:		Speed:	Nozzle type:	Pressure:
Date last calibrated:	Water quality (pH and/or description):				
Showers ☐	Overcast ☐		Light cloud ☐	Clear sky ☐	

Rainfall (24 hours before and after)

Before mm		During mm		After mm	
Time	Temperature	RH %	Wind speed	Direction	Variability
Start:					
Finish:					

Comments:

ATTACHMENT 7

MAINTENANCE ACTIVITIES REPORT – 11/122004

SITE:		**ATTENDANT(S):**
DATE ATTENDED:		**COMPANY:**
SUPERVISOR:		**SUPERVISOR SIGNATURE OF ACTIVITIES UNDERTAKEN:**

TASKS	ACTIONS				COMMENTS
TUBESTOCK PLANTING					
SURVIVAL RATE/COVERAGE	90%	70%	50%	<50%	

PLANT CONDITION Health of vegetation	VERY GOOD 90%	GOOD 70%	AVERAGE 50%	POOR <50%	
WATERING					
LOCATION within Rehabilitation site	Section/ Stage 1	Section/ Stage 2	Section/ Stage 3	Section/ Stage 4	
VOLUME APPLIED	4Lt per plant	10 Lt per plant	Other		
COIRFLUTES/STAKES					
CONDITION	VERY GOOD	GOOD	AVERAGE	POOR	
VOLUME / NO: REMOVED (EST.)					
LOCATION	Section/ Stage 1	Section/ Stage 2	Section/ Stage 3	Section/ Stage 4	

WEED MANAGEMENT					
TYPE					
COVERAGE (%)	**90%**	**70%**	**50%**	**<50%**	
REMOVAL METHOD					
CHEMICALS USED (Type and Rate)					
LOCATION within site					
VANDALISM					
DESCRIPTION/ TYPE					
LOCATION within site					
METHOD OF REINSTATEMENT					
RUBBISH					
TYPE					
VOLUME					
REMOVAL METHOD					
LOCATION					
EROSION/VEHICLE AFFECTED AREAS					
DESCRIPTION/ TYPE					
METHOD OF REINSTATEMENT					
LOCATION					
OTHER COMMENTS/ACTION REQUIRED					