Attachment E

NBH Fencing Approach





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Attachment F

Rehabilitation Management Plan



ISSUE D 05.12.2024 REQUEST FOR INFORMATION ISSUE

DRAWING SCHEDULE

| DWG NO. | DRAWING TITLE | ISSUE | DATE |
|---------------|--|-------|------------|
| 11612 L RP 01 | REHABILITATION PLAN - COVER SHEET | D | 05/12/2024 |
| 11612 L RP 02 | REHABILITATION PLAN - LAYOUT PLAN SHEET 1 | D | 05/12/2024 |
| 11612 L RP 03 | REHABILITATION PLAN - LAYOUT PLAN SHEET 2 | D | 05/12/2024 |
| 11612 L RP 04 | REHABILITATION PLAN - LAYOUT PLAN SHEET 3 | D | 05/12/2024 |
| 11612 L RP 05 | REHABILITATION PLAN - LAYOUT PLAN SHEET 4 | D | 05/12/2024 |
| 11612 L RP 06 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 07 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 08 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 09 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 10 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 11 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 12 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 13 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 14 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |
| 11612 L RP 15 | REHABILITATION PLAN - REHABILITATION NOTES | D | 05/12/2024 |

This Rehabilitation Plan has been prepared to provide guidance to the weed management and revegetation of the larger balance bushland areas created through the construction of the Bundaberg Hospital. Specifically the plan outlines areas for rehabilitation based on minor site works to formalise storm water swales on existing drainage low points through the site and the creation of a formal wetland at a natural low point. In these primarily lineal footprints the land will be sculpted and shaped in accordance with the specific parameters of the construction methodology outlined by CPB Constructions. Exposed land will be extensively revegetated with native species endemic to the site and local area. Revegetation works are dominated by native grasses, ground covers and shrub species as and extensive tree canopy remains over the area.

Additionally weed species identified through the various ecological surveys will be managed in accordance with the specifications in this document.

This management plan will be considered in conjunction with the CPB Constructions Memo titled: *Preliminary Southern Swales, Basin and Bunding Construction Methodology* (31/10/2023) which documents a raft of control and management measures to minimise the disturbance from the proposed works.

Rehabilitation works to commence on upon approval of the Rehabilitation Plan and within 12 months of commencement of the action as per EPNBC Act approval Condition 12.



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Management Zone 2 - General Rehabilitation (Reconstruction)

Weed management to entire zone to encourage natural regeneration by reducing competition. Any existing/ occuring regrowth of native trees, shrubs and groundcovers to be protected and retained.

All bare / denuded areas to be appropriately cultivated, topsoiled and blanket mulched (100mm depth) or tecmatting (1:3 batters and locations prone to erosion) as required. All jutenetting to be installed to manufacturer's recommendations. Reconstruction of natural environment to be undertaken via tubestock installation including a diversity of tree, shrub and groundcover species to match regional ecosystem mapping for site. Refer to Rehabilitation Notes for additional details, plant species and densities



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REHABILITATION INTRODUCTION

A substantial amount of rehabilitation research has been conducted and compiled as part of the "South East Queensland Ecological Restoration Framework (SEQERF)" and subsequently endorsed by the majority of South East Queensland councils. Given this, information provided within this Rehabilita document will largely utilize information derived from this framework.

Rebabilitation or "Ecological Restoration" can be described as "the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed" (source: Society for Ecological Restoration International).

A key aspect of ecological restoration is that structure and function are returned to site, improving site stability, and improved habitat for fauna and flora. Structure includes vegetation height and density. canopy cover and appropriate species, as well as habitat features such as fallen logs and site rock. Function refers to the natural and self-sustaining processes occurring within the site including regeneration capacity, succession and cycling of nutrients. Activities required to achieve these objectives will include controlling environmental weeds, re-establishment of wildlife corridors and/ or stabilisation of creek banks or stormwater devices.

In accordance with the South East Queensland Ecological Restoration Framework, four ecological restoration approaches are generally applicable to rehabilitation works:

- Natural Regeneration
- Assisted Natural Regeneration Reconstruction
- Fabrication

It is worth noting as restoration work progresses on a site, ongoing changes to the structure and diversity of the vegetation will become apparent. These changes tend to occur in a cyclical manner, with the initial disturbance to the vegetation (either natural or man-made) being the trigger for changes It is important to recognise that the vegetation will have to pass through a variety of stages of succession first, often over a period of years.

Disturbance as part of restoration works often has a negative connotation, however can often be useful for site restoration. Regeneration of native plant species is stimulated by mimicking natural disturbances. The techniques used will depend on the individual species and vegetation community, as they have evolved to respond to disturbances in different ways. Some examples of these techniques

- Control of competing vegetation, especially environmental weeds
- Controlled burns or burn piles in vegetation communities adapted to fire:
- Soil disturbances such as ripping or raking; and/or
- Alterations to hydrology in wetlands to reinstate natural movement

The SEQERF also highlights that consistent follow up is critical for success of ecological restoration. This ensures that beneficial, permanent changes can occur within the vegetation community benefiting both fauna and flora. In order to be able to confirm these changes are occurring, ongoing site monitoring will also be required.

Ecological restoration is a complicated and evolving field. It requires careful consideration for all ecosystem aspects to try in minimize any unexpected interactions, although is generally accepted that not all can be fully known about each complex ecosystem. Given this, it is necessary to remain flexible throughout this process to adapt to site and natural changes.

REHABILITATION APPROACHES

| | ECOLOGICAL RESTORATION APPROACHES |
|-------------------|---|
| | NATURAL REGENERATION |
| Applies: | To relatively large, intact and weed-free areas of native vegetation. |
| | Where native plants are healthy and capable of regenerating without human intervention. |
| | When native plant seed is stored in the soil or will be able to reach the site from nearby |
| | natural areas, by birds or other animals, wind or water. |
| | Where the plant community has a high potential for recovery after any short-live disturbance |
| | such as a fire or cyclonic winds. |
| | fencing to prevent instruction by cattle |
| Role of planting: | Planting in such areas can work against the aims of restoration by interfering with natural |
| | regeneration. |
| Goal vegetation | The re-establishing plant community will be similar in structure, composition and diversity to |
| community: | the original vegetation. |
| | ASSISTED NATURAL REGENERATION |
| Applies: | To natural areas where the native plant community is largely healthy and functioning. |
| | when native plant seed is still stored in the soll or will be able to reach the site from |
| | Where the natural regeneration processes (seedling germination root suckering, etc.) |
| | are being inhibited by external factors, such as weed invasion, soil compaction, cattle |
| | grazing, mechanical slashing, etc. |
| | When limited human intervention, such as weed control, minor amelioration of soil |
| | conditions, erection of fencing, cessation of slashing, etc. will be enough to trigger |
| | the recovery processes through natural regeneration. |
| | When the main management issue is weed infestation and/or current land use |
| Role of planting | produces. Planting in such areas can work against the aims of restoration by interfering with |
| nere er prenning. | natural regeneration except where species cannot return to site without direct |
| | intervention. |
| Goal vegetation | The re-establishing plant community will be substantially similar in structure, |
| community: | composition and diversity to the original vegetation. |
| | RECONSTRUCTION |
| Applies: | Where the site is highly degraded or altered. |
| | when the degree of disturbance has been so great and long-standing that the pre-existing |
| | To sites such as areas of fill, sites affected by stormwater flow, areas that have been |
| | drastically cleared, even though there may be a few remaining native trees or shrubs. |
| | When a greater degree of human intervention is required, such as weed control, |
| | cessation of grazing and/or slashing, amelioration of soil conditions such as |
| | importation of soils, drainage works or re-shaping of the landscape. |
| Role of planting: | Importation of native species to the area is required, either through planting or direct |
| | seeding (in some situations), natural regeneration and recruitment is insufficient |
| | circumstances the planting of a broad diversity of species from the target ecosystem |
| | may be unnecessary and the use of pioneers may be sufficient to re-establish |
| | ecological processes. |
| Goal vegetation | The re-establishing planted community should be similar to the original vegetation |
| community: | in structure, composition and diversity. |
| | FABRICATION (TYPE CONVERSION) |
| Applies: | Where site conditions have been irreversibly changed. |
| | When it is not possible to restore the original native plant community. |
| | where a better-adapted local plant community can be planted that will function within the changed conditions |
| | In situations such as the construction of a wetland plant community to mitigate |
| | increased urban storm-water run-off. |
| Role of planting: | Revegetation (planting) is the major component in a fabrication program. |
| Goal vegetation | The re-establishing planted community should be similar to a naturally occurring |
| community: | plant community of the same type (e.g. a constructed freshwater wetland should |
| | resemble a natural system in terms of structure, composition and diversity). |

Note: Table adapted from a table in the Gold Coast City Council's "Guideline for the preparation of a Rehabilitation Plan

| REHARII | ΙΤΔΤΙΟΝ | METHODO | I OGV |
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As part of most rehabilitation scopes, it is worth considering an appropriate methodology for both compiling documentation and site works. This can be broken down into the following items

- Site assessment
- Rehabilitation Design / Documentation (this plan)
- Site Works Maintenance and monitoring

REHABILITATION METHODOLOGY - SITE ASSESSMENT

Detailed assessment of site conditions prior to commencement of documentation is essential in the establishment of a site specific ecological restoration methodology. In accordance with the SEQERF the following checklist will form part of the site assessment process

- Describe the history and background of the site
- Describe the soil, drainage, topography and aspect; Describe the native vegetation on the site and along site boundaries;
- Describe the weeds on site: Describe the vegetation dispersal and structure

.

- Describe the fauna use on site: and
- Describe estimated native regeneration response

The responses to the above check list will provide the basis of the proposed restoration approach from Natural Regeneration to Fabrication for each treatment area within this Rehabilitation Pla

Consideration will be made in the importance of integrating site specific measures for fauna habitat and movement. With many fauna species having specific habitat requirements, foraging patterns and movement patterns. During the site assessment process the following provisions will be taken into consideration

- Fauna movement opportunities via easements, tracks, utility corridors and / or infrastructure pathways;
- Diversity and type of fauna and distribution on site
- Habitat opportunities eg. dense foliage, roosting areas, log hollows and potential nesting boxes; Fauna disturbance and vicinity of works to significant nesting areas and / or fauna mover
- Distribution of significant specialised food resources eq. Koala trees; and
- Stage weed removal and / or altering of weed control technique if the weeds are currently forming a significant fauna habitat.

For the sake of keeping this Rehabilitation document concise, site analysis results are compiled under a separate template and may or may not be included in this set, however the analysis outcomes derive the Rehabilitation design methodology



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REHABILITATION METHODOLOGY - REHABILITATION DESIGN

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REHABILITATION METHODOLOGY - SITE WORKS

Following resolution of the site analysis and management areas as part of rehabilitation design, prioritising site works will be considered. Prior to site works commencing, the site is to be secured from degrading impacts such as grazing by stock, unauthorised access and rubbish. Some factors that will require immediate attention include

- The presence of highly invasive weed species which will disperse further prior to substantial site works commencing.
- . The presence of weed species which will have a long term impact on ecological communities such as exotic and weed varieties of vines.
- Flammable materials (including weed thickets, grasses and vines). Damaging and easy access by 4WD, motorbikes and pedestrians into core retained vegetation and ecological restoration areas. This will require installation of temporary fencing if deemed appropriate.

Site works can be typically broken down into the following categories:

- Primary Works
- Follow-up Works Maintenance Works

Primary Works

Primary works or initial works within the site or a section of the site involves a sequence of activities such as the control of all groundcover weeds, woody weeds in the understorey and exotic vines prior to the control of weed trees. Primary work has the effect of creating a large degree of disturbance which will stimulate the germination of native and exotic species. Therefore, continuing works shall be scheduled shortly after the initial visit to allow for timely control of the newly regenerating weeds. Highly invasive weeds to be treated as a priority during primary work in order to avoid invasion of newly disturbed areas. Some weeds will need to be treated in steps e.g. where areas of weed is being used by nesting birds or where the staged removal of canopy weed trees is required. Techniques used during primary work commonly involve spot spray, cut-scrape-paint, cut-paint, scrape-paint, roll-hang and over spraying (source: SEQERF). Refer to Weed Management notes for additional details.

Following completion of weed management, rehabilitation (such as assisted natural regeneration, construction and fabrication planting) to occur in areas unaffected by weed management activities or areas that primary weed management activities have concluded. Refer to Rehabilitation Works notes for additional details

At the end of primary work, the zone will have been comprehensively and systematically worked, ready for follow up works

Follow-up Works

At intervals, which will vary according to the type of weed impacting the site and growing conditions, follow-up work will be necessary. This generally involves the spot-spraying of newly germinating weeds and resprouting sections of woody weeds and vines. It is at this stage that observational visits shall be made to the site to determine what progress the vegetation is making, and decide when to implement further follow-up work. A site that receives badly-timed, too frequent or too little follow-up will rapidly experience setbacks, as weed propagules will quickly become established in the newly disturbed areas. Germinating native seedlings may be swamped by weeds or damaged by inexperienced operators thereby exhausting the seedbank. Unless adequate follow-up can be ensured when planning restoration works, there is little point in commencing primary work, as time and resources are consumed with no substantial gain achieved (source: SEQERF).

enance Works

By the maintenance stage, the vegetation community is at a point where native plant species are minating and establishing, and canopy formation is occurring. Weed density is starting to decrease as the native plants which have been encouraged during the previous restoration works are able to out-compete the weeds. One of the fundamental principles of ecological restoration is that it attempts to create or re-establish an ecosystem that is self-sustaining. Therefore, it is the underlying goal that aintenance will eventually be decreased to a minimum. While this is not always possible, due to factors such as the continual reintroduction of weed propagules to the site from nearby residential areas; unfavourable seasons or weather event; persistent weed species; or global influences such as the enhanced greenhouse effect, it will always be strived for (source: SEQERF).

Maintenance works to include minor ongoing weed management and infill planting depending on site conditions

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

Weed management typically comprises a major part of rehabilitation site works. Weed management provides the basis of aiding natural regeneration and assisted natural regeneration. It also forms part of the preliminary work required for reconstruction and fabrication scopes. Weed Management to be undertaken in accordance with SEQERF Primary, Follow-up and Maintenance works notes (adjacent).

Critical skills for Weed Management include:

- Identification Skills
- Knowledge of different techniques
- Knowledge of relevant legislation

Identification Skills

Both native and weed species will be identified prior to primary weed removal works and ongoing throughout the follow-up and maintenance periods. This is to maximise natural regeneration and reducing likelihood of accidental weed spraying to native vegetation. Regenerating species to be treated and maintained in a similar manner to newly planted revegetation tubestock. If contractor is unsure of species, advice shall be sought by botanist, specialist contractor or confirmed with Queensland Herbarium, Refer to indicative Weed Treatment schedules derived from Queensland Herbarium for an indication of weed species and treatments

Knowledge of Different Techniques

A range of weed management techniques are available to combat varying weed species and scenarios. Refer to adjacent schedules for an indication of weed management te

Knowledge of Relevant Legislation

It is expected contractors have a depth of knowledge of relevant legislation to complete site rehabilitation works.

This includes occupational Health and Safety laws as well as environmental and heritage protection legislation. Bush regenerators must comply with the requirements of the Workplace Health and Safety Act 2011 or, when working on Commonwealth lands, the Commonwealth's Occupational Health and Safety (Commonwealth Employment) Act 1991. Contractors shall also obtain all relevant permits required under State and Commonwealth legislation (e.g. Nature Conservation Act 1992, Fisheries Act 1994, Vegetation Management Act 1999, Biosecurity Act 2014- including Fire Ant Movement Controls). Contractors must also be aware of and adhere to cultural heritage protection obligations under the Aboriginal Cultural Heritage Act 2003 and where chemicals are in use, the Agricultural Chemicals Distribution Control Act 1966.

In addition to the above, contractors shall also be familiar with local government body requirements (e.g. Pest Management Plans, Local Codes, Policies and Guidelines) and Classifications of weeds Refer to adjacent schedules for classification of weeds under the Land Protection Act (superseded by the Biosecurity Act 2014).

Under the Biosecurity Act 2014, landowners are responsible for taking all reasonable and practical steps to minimise the risks associated with invasive plants and animals under their control. This is known as the general biosecurity obligation (GBO). The act categorises restricted matter (restricted plants and animals) into the following:

- Category 1: must be reported to an inspector within 24 hours (includes Red Imported Fire Ants. amongst others).
- Category 2: must be reported within 24 hours to Biosecurity Queensland on 13 25 23.
- Category 3: must not be distributed either by sale or first, or released into the environment
- Category 4: must not be moved
- Category 5: must not be kept.

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

| | WEED MANAGEMENT TECHNIQUES | WEED MANAGEMENT TECHNIQUES | | | | | |
|--------------------|--|----------------------------|--|--|--|--|--|
| METHOD | DESCRIPTION | METHOD | DESCRIPTION | | | | |
| Herbicide | The herbicide weed control techniques described below provide a range of proven methods that can be used on a restoration site. | | This method involves mixing an oil-soluble herbicide in diesel/kerosene and painting or soraving the full circumference of the trunk or stem of the plant from ground level to a height | | | | |
| Cut - Scrape-Paint | Cut the stem of the plant close to the ground (approximately 1-2cm) ensuring that soil does not come in contact with the cut surface. The cut can be made at a slight angle in order to increase the surface area that is exposed to the chemical. Apply herbicide immediately to the cut stump using poison pot and brush or dripper bottle. Using a knife, scrape the sides of the stump thoroughly to expose the green tissue. Apply herbicide to the scraped stump. The chemical must be applied within 10 seconds of the cut or scrape being made in order for it to be fully effective. | Basal Barking | of approximately 45cm. Basal bark application is suitable for thin-barked woody weeds including saplings, regrowth and multi-stemmed shrubs. The method will usually result in the mortality of difficult-to-control woody weeds at any time of the year, provided the bark is not wet or too thick to enable the herbicide to penetrate. The method should not be used in wet weather, adjacent to waterways or in areas where native trees and shrubs are located. The use should be restricted to situations where a weed is particularly difficult to control e.g. cherry guava and where other methods have been unsuccessful. | | | | |
| Cut - Paint | Cut the stem of the plant close to ground level. Apply herbicide to the cut stump using poison pot and brush or dripper bottle. This method is best suited to easy-to-treat weeds such as small-leaved privet (Ligustrum sinense), provided that the diameter of the stem at ground level is less than approximately three centimetres. If a glyphosate-/ metsulfuron methyl herbicide mix is being used in the poison pot, a greater range of weeds can be controlled using this method e.g. Easter cassia. | Wick Wiping | Wick wipers can be manually used with a sponge or wick applicator, attached to a container filled with herbicide or as an attachment towed by a tractor. The manual method can be used to selectively apply herbicide to the leaves of weeds growing in sensitive situations. The hand held container can leak and generally spot spraying would be recommended. The use of a tractor drawn wick wiper is used to control taller growing species such as introduced grasses and to encourage the growth of lower growing species. This method could be used in | | | | |
| Scrape - Paint | Scrape as much of the stem as possible (one side of the stem) using a knife and apply herbicide to the scrape. Leave a small section of the vine unscraped, and then twist the vine so that the next scrape is made on the opposite side of the stem to the preceding scrape. Continue along the length of the vine, scraping and painting as much of the stem as possible, with scraping to be concentrated along the thicker stems close to the root of the plant. This is the best method to use for madeira vine, as it allows the chemical to translocate to the underground storage organs and aerial tubers which may be hanging in large clusters above head height. This avoids the potential problem of tubers from cut stems left hanging in the trees from dropping to the ground and sprouting. When scraping madeira vine stems a deep scrape is advisable – scrape right through to the fibrous, stringy section of the stem, taking care not to sever the vine. This method is also suitable for treatment of ochna. | Stem Injection | preparation for planting. Large woody weeds such as camphor laurel, coral trees (Erythrina spp, Privet Ligustrum spp) and umbrella trees are generally treated by stem-injection. Holes are drilled at regular intervals around the base of the tree and exposed roots using a drill. A tree injection syringe attached to a small capacity knapsack is used to fill the holes with the herbicide. Stem- injection of trees can also be undertaken using a hatchet to create cuts in a 'brickwork pattern' in trunks of trees for the application of herbicide (known as tree frilling). Frilling is more labour intensive than drilling. The greatest benefit of steminjection is that the trees can be left standing in situ as they die, provided there is no risk to humans or infrastructure from falling limbs. This creates convenient roosts for birds and other animals, and prevents the formation of large amounts of debris on the ground and damage to understorey plants which would result if the trees ware to be are down using a chainsary. | | | | |
| Over-spraying | Over-spraying involves the use of knapsacks or power sprayers to treat large expanses of weed such as lantana thickets. The foliage must be covered with herbicide but not to the point of running off the plant. The dead plants remain in place and can be cut down at a later stage. Prior to over-spraying, any weeds that are growing closely around established native plants | Mechanical | Mechanical weed control involves the use of powered and non-powered equipment such as brushcutters, chainsaws, slashers, shovels, pruners, saws, etc. These methods are best used in situations where there is a large, uninterrupted stand of weeds. | | | | |
| | must be hand removed or treated by cut-scrape-paint. This small gas-powered injector kit is fitted into a knapsack for easy carrying and delivers large | Dig and Bag | Dig and remove tuberous/ rhizomatous root systems. Remove roots or whole plant in hard/ compacted soils. Place in suitable container and remove from site, dispose of by deep burial, burn or burial at a land fill, must not place declared weed species in recycling (mulch). | | | | |
| Splatter Gun | (glyphosate or metsulfactor methyl) across large dense expanses of weed. The method is used for species such as lantana. Splatter gun involves spraying strips at one to two metre intervals over the thicket. The herbicide is then translocated throughout the entire plant. The method | Hand-Pull | Remove totally from ground by hand (human). Perform when soil is moist. Applicable to small infestations or areas of environmental sensitivity (including sensitive watercrouses, when frogs are breeding, or presence of threatened species). | | | | |
| Spot-spraying | A knapsack filled with an appropriate break to be detected as in over spray. A knapsack filled with an appropriate herbicide mix is used by the operator to selectively control environmental weeds. A keen eye and an ability to distinguish between the native and weed species likely to be present, especially at seedling stage, is essential. Marker dye is added to the chemical mix to allow the operator to see what has already been sprayed, thus covering the ground weeds comprehensively and thoroughly Glyphosate and metsulfuron methyl are the main herbicides used for spot-spraying in ecological restoration, together with | General Mechanical | for lage infestations and weed trees. Initially cost-effective, but requires immediate revegetation of site or matting/ mulch application and extensive maintenance periods. Generates excessive soil and vegetation disturbance. | | | | |
| Roll-hang | the addition of a penetrant and/or surfactant and marker dye. Vines such as mile-a-minute (Ipomoea cairica) which produce long stolons extending many metres along the surface of the ground, are suited to the roll-hang method. Locate the base of the plant and carefully pull up the runners and roll them up. The resulting roll of vine is then hung in the fork of a tree to dry out as if it is left on the ground it is likely to re-shoot. Where runners are climbing up into a tree they are cut off at head height prior to the runner being rolled up – there is no need to pull cut vines down from trees as this action is likely to damage the tree. The base of the vine is treated using the cutscrape-paint method. | | | | | | |
| Gouge-paint | This method applies to plant species that have a fleshy underground storage organ, such as the large tuber that is often found at the base of madeira vine. It is also particularly appropriate for the treatment of climbing asparagus (Protasparagus plumosus). If using this technique on climbing asparagus, first cut the stems that are growing into the canopy at head height and also at the base. The fleshy rhizome can then be gouged, or alternatively in the case of climbing asparagus, it may be struck several times firmly with the head of a pair of looppers, allowing the brown outer covering of the crown to peel away exposing the white fleshy inner section of the rhizome for application of herbicide. Gouge out sections of the fleshy base with a knife and apply herbicide using a paint pot and brush or dripper bottle | | | | | | |

Note: Table adapted from a table in the SEQERE

| Note: Source for information contained on this page from SEQERF. | | | | |
|---|---------------------------------|---|----------------------------------|--|
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CLIENT ISSUE PRELIMINARY ISSUE

Hand pull and hang Spray MM or G200 o

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSL

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3

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SUBRE LIFE FORM NON-CHEMICA

CONTROL

Mechanical

emoval of smal

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Hand pull smal

controlled by

planting

species

Seedlings: Hand

pull

Hand pull

to dry.

Fire and/or

N/A

Hand or mechanical

infestations

Seedlings: Hand

pull

N/A

dig out unwanted

plants and dispose

of at the

landfill. remove

the entire crown

underground stem

of plant to prevent

regrowth

06.10.2023

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npetitive nati

stations. Can

SCIENTIFIC &

COMMON NAME

Eichhornia crassipes

(water hyacinth)

Hygrophila costata

(Glush weed)

FAMILY

Pontederiaceae

Acanthaceae

RANK

13

14

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND SUB- LIFE FORM SCIENTIFIC & NON-CHEMICAL FAMILY CHEMICAL CONTROL COMMON NAME REGION & SOURCE CONTROL Seedlings: CS&P (G1.5); Verbenacea antana camara va S/O Seedlings: Hand camara (lantana) pull Shrubs: blanket spray G100 or cut down and spray regrowth G100 o platter gun using 1 part to 9 parts water - apply only when plant is wing, not dormant (r 1). Shrubs: CS&P or F/I (G1 Asteraceae accharis halimifo 10 s/o Seedlings: Hand (groundsel bush) pull Seedlings: CS&P (G1.5) o spray G200 (ref 1). Crassulaceae Bryophyllum H/O Hand pull and Plantlets: spray G200 poense (mot MM or MM (ref 1). of millions) Macfadyena ungu Bignoniaceae V/O Tubers: crown o Regrowth and tuberling cati (cat's claw dig up, bag and spray G100 + MM or F100 (ref 1). creeper) remove. Basellaceae nredera cordifol V/O Small Vines & Ascending Stems: S&P (madeira vine) Fubers: Hand pull (GU); Tubers: gouge Bag and dispose. scrape and paint (GU) und infestations: sp G200 or G200 + MM (ref 1 Asparagaceae Asparagus africanu V/O dig out roots and ıroxypyr (200 g/L) @ 3 (ornamental dispose of at loca mLper 1 L paragus, asparag ouncil landfill site diesel/kerosene fern) remove entir crown and nderground ste to prevent regrowth Ulmaceae Celtis sinensis т/о emove when sm Stem injection (Chinese celtis) .hand pull or dig glyphosate (360 g/L) @ out small seedling Undiluted at 1 mL per 2 cm of hole or combine dozing burning and ontrolled grazin for large infestations Lauraceae Cinnamomum T/O Seedlings: Hand Saplings; CS&P (G1.5); nphora (camph pul Trees: F/I (G1 or G1.5) o laurel) C&P (G1.5 or GU for sten up to 8 diameter); Seedlings: spray G200 o G200 + MM (ref 1). Anacardiaceae T/O Saplings: CS&P (G1.5); Schinus Seedlings: Hand terebinthifoliu pul Trees: F/I (G1.5); broad-leaf peppe Seedlings: spray G200 (re tree) 1). Salviniacea Salvinia molest Mechanical Aquatic areas: calciu (salvinia) emoval of smal dodecylbenzene ulphanate (AF-100) @ infestations; Salvinia weevil rt to 19 parts keros (Biological control diquat (vegetrol) 50-100L/ha or 4L/100L wate uat (watrol) 50-100L/H or 4L/100L water: diqua (regione) 5-10L/Ha or 400mL + 150mL Agral / 100L water (see ref 2. 2, 4-D N-Butyl Ester 11 Cabombaceae Ha/F Mechanical abomba carolinian Rubber Vine Spray) @ cabomba, fanwoi noval of sma infestations 12.5L/ML water (see ref 2 for application guide) Asteracea Chrysanthemoide S/OA Stems: C&P or F/I (G1.5 monilifera subsp Bushes: spray or cut dow rotundata (bitou

15 Oleaceae Ligustrum lucidum 5 (tree privet) 16 Asteraceae Sphagneticola 6 rilobata (Singapore daisy) 17 Asteraceae Ageratina 6 nophora (crof weed) Verbenaceae Lantana montevidensis (creeping lantana Fabaceae 19 Neonotonia wightii 5 (glycine) Poaceae 20 Panicum maximum (green panic and guinea grass) Oleaceae Ligustrum sinen: (Chinese privet) 22 Ochnaceae Ochna serrulata 7 (ochna) 23 Asparagaceae Asparagus 5 aethiopicus cv. orengeri (asparag ground fern) and spray regrowth G100 or MM (ref 1)

Note: Herbicides must be applied by appropriately qualified/ supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered products (such rates supersede those noted in above tables), or on an Australian Pesticides and eterinary Medicines Authority (APVMA) issued off-label permit where applicable

Note: Source for information contained on this page from Queensland Herbarium (Qld Gov't

bush)

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|---|------|----------------|---|-------|-----------------------|---|--|
| HEMICAL CONTROL | RANK | FAMILY | SCIENTIFIC & COMMON NAME | SUBRE | LIFE FORM & SOURCE | NON-CHEMICAL CONTROL | CHEMICAL CONTROL |
| terways: 2, 4-D acid = 300') @ 1:200 with ter; Aquatic Areas: hosate @1-1.3L/100L | 24 | Poaceae | Sporobolus pyramidalis and S. natalensis (giant rat's tail grasses) | 8 | H/U? | Hand or mechanical removal of small infestations | Small infestations: spray glyphosate @ 15mL/L water, flupropanate @ 2mL/L water + ionic wetter |
| ater (see ref 2. for pplication guide). hosate known to be ctive.Species known ccur in waterways so chould be contacted | | | | | | | @ 1mL/Lwater; Dense Infestations: blanket spraying glyphosate 3L/ha, flupropanate 2L/ha (ref 2). |
| ore spraying (ref 4). | 25 | Asteraceae | Ageratina riparia (mistflower) | 5 | H/O | Hand pull and hang to dry. | Spray G100 or MM (ref 1). |
| lings: CS&P or C&P .5); Trees: F/I (G1 or | 26 | Asclepiadaceae | Araujia sericifera (mothvine) | 9 | V/O | Seedlings & Vines: Hand pull. Bag and | Vines: CS&P (G1.5); Seedlings: spray G200 or G200 + MM or MM (rof 1) |
| b to Car Go for stends to to Car Go for stends edlings: spray MM or + MM if other weeds such as Lantana or | 27 | Crassulaceae | Bryophyllum daigremontianum x B. delagoense (hybrid mother-of millions) | 6 | H/O | Hand pull and dispose | Plantlets: spray G200 + MM or MM (ref 1). |
| present (ref 1). nd pull and/or spray 5200 + MM (ref 1). | 28 | Convolvulaceae | lpomoea cairica (mile- a-minute) | 7 | V/O | Vines & Runners: hand pull, roll up and hand up to dry. | Vines and Runners: CS&P (G1.5); Larger Stems, Roots and Nodes: spray G100 + MM (ref 1). |
| y MM or G200 or G200 Mif other weeds such Lantana or Camphor el are present (ref 1). | 29 | Sapindaceae | Cardiospermum grandiflorum (balloon vine) | 7 | V/O | Seedlings & Small Vines: Hand Pull | Stems: CS&P (G1.5); Seedlings or Small vines: spray G200 or G200 + MM (ref 1). |
| ray (march to may): iosate 11/100L water; etsulfuron methyl 10g/100L water; tsulfuron methyls + iphosate 173g/100L water; Basal bark ime): tridopyr 1L/60L | 30 | Asclepiadaceae | Cryptostegia grandiflora (rubber vine) | 6 | V/O | Scattereded or medium-density infestations: Where possible, repeated slashing close to ground level is recommended. | Foliar spray - Follow-up basal bark/cut stump/foliar spray as necessary with Triclopyr + picloram (Grazon DS, Grass-up, etc.) @ 0.35–0.5 L/100 Lwater |
| Diesel, picloram + opyr @ 1L/60L Diesel, | 31 | Phytolaccaceae | Rivina humilis (baby pepper) | 8 | H/O | Hand pull and hang to dry. | Spray G100 (ref 1). |
| Slyphosate, neat pplication; Splatt les: CS&P (1:1.5) or y G100 + MM or MM (ref 1). ray: glyphosate @ nL/1L water (ref 2.) | 32 | Poaceae | Sporobolus africanus (Parramatta grass) | 8 | H/U | Hand or mechanical removal of small infestations | Small infestations: spray glyphosate @ 15m1/L water, flupropanate @ 2mL/L water + ionic wetter @ 1mL/Lwater; Dense Infestations: blanket spraying glyphosate 3L/ha, flupropanate 2L/ha (ref 2). |
| blings: CS&P or C&P .5); Trees: F/I (G1.5); | 33 | Poaceae | Sporobolus fertilis | 9 | H/U | Hand or mechanical | Small infestations: spray |
| dlings: spray MM or + MM if other weeds uch as Lantana or | | | (giant Parramatta grass) | | | removal of small infestations | glyphosate @ 15mL/L water, flupropanate @ 2mL/L water + ionic wetter |
| mphor Laurel are present (ref 1). s: CS&P or S&P or F/I .5); Seedlings and rowth: spray G200 + | | | | | | | @ 1mL/Lwater; Dense Infestations: blanket spraying glyphosate 3L/ha, flupropanate 2L/ha (ref 2). |
| A or MM. Trial basal k F100 or G200 + MM (ref 1). Spot spray - | 34 | Poaceae | Eragrostis curvula (African lovegrass) | 7 | H/U | Chipped out before they flower. When chipping out the plant | Glyphosate (360 g/L) (e.g. Weedmaster® Duo) @ 10 ml/1 L water |
| etsulfuronmethyl g/L) @ 10 g per 100 L ater plus wetting | | | | | | ensure that the tussock crowns are removed, as this will prevent regrowth. If in | |
| gent or 100 g/ha swetting agent. Cut | | | | | | seed, the stems must be cut and bagged first. | |
| stump, spot y, Apply neat Diesel | 35 | Asteraceae | Gymnocoronis spilanthoides (Senegal tea) | 3 | Ha/F | place plant material in a sealed plastic bag, leave in sunlight | Glyphosate and metsulfuron- methyl @ 15mL/L water |

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

QUEENSLAND ROJECT **BUNDABERG HOSPITAL -**CLIENT LOT 23 BUNDABERG GOVERNMENT RM RING ROAD, THABEBAN AMENDMENTS ISSUE RM REQUEST FOR INFORMATION RM

| NSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND | | | | | | | | | | | |
|---|--|---------------|-----------------------|---|---|--|--|--|--|--|--|
| FAMILY | SCIENTIFIC & COMMON NAME | SUBRE GION | LIFE FORM & SOURCE | NON-CHEMICAL CONTROL | CHEMICAL CONTROL | | | | | | |
| Amaranthaceae | Alternanthera philoxeroides (alligator weed) | 1? | Ha/U | physical removal of plant should not be attempted | Terrerstrial plants use Metsulfuron methyl (Brushoff*) + 1mL/L non-ionic wetter @ 80g/ha + 1mL/L non-ionic wetter or 10g/100L water + 1mL/L non-ionic wetter. Free floating plants Glyphosate (Roundup Biartive*) 10mL/ | | | | | | |
| Passifloraceae | Passiflora suberosa (cork passionflower) | 8 | V/0 | N/A | Stems: CS&P Seedlings & Regrowth: spray G200 or G200 + MM (ref 1) | | | | | | |
| Poaceae | Melinis minutiflora (molasses grass) | 5 | H/A | Grazing or mowing | Spray: Fluazifop-P 212g/L @ 2L/Ha, Glyphosate 360g/L @ 1L/100L water (ref 2). | | | | | | |
| Aristolochiaceae | Aristolochia elegans (Dutchman's pipe) | 8 | V/0 | Stems: Hand pull; Fruit: Bag and remove. | Stems: CS&P (G1.5); Seedlings: spray G200 or G200 + MM or MM (ref 1). | | | | | | |
| Convolvulaceae | lpomoea indica (blue morning glory) | 5 | V/O | Vines and Runners: hand pull, roll up and hang to dry. | Vines and Runners: CS&P (G1.5); Larger Stems, Roots and Nodes: spray G100 + MM or F150 (ref 1). | | | | | | |
| Mimosaceae | Leucaena leucocephala (leucaena) | 6 | ST/A | Small plants: Hand pull or mechanical removal | Herbicide Control - Basal Bark application: triclopyr 240g/L + picloram 120g/L @ 11/60L diesel; C&P: triclopyr 240g/L + picloram 120g/L @ 11 per 60L diesel; spray triclopyr 300g/l + picloram 120g/L @ 350mL per 100L water. Combination of chemical and mecha | | | | | | |
| Poaceae | Brachiaria mutica (para grass) | 6 | Ha/A | Grazing | Herbicide Control - Foliar application (Knapsack): glyphosate 360g/L@ 200mL/15L water; Foliar: glyphosate 360g/L@ 9L/Ha; Handgun: glyphosate 360g/L@ 1 31/100 water (ref 2) | | | | | | |
| łydrocharitacea e | Egeria densa (egeria waterweed) | 2 | Ha/F | hand pulling, cutting and digging with machines effective | N/A | | | | | | |
| Pinaceae | Pinus elliottii (slash pine) | 4 | T/A | Seedlings: Hand pull; Saplings and Trees: cut close to ground or ring-bark | Saplings and Trees: F/I (G1.5) ensuring thick bark is penetrated (ref 1). | | | | | | |
| Cae salpiniace ae | Senna pendula var. glabrata (Easter cassia) | 7 | ST/O | Seedlings: Hand pull | Shrubs: CS&P or F/I (G1.5); Seedlings: spray G200 or G200 + MM or MM; collect and bag seeds (ref 1). | | | | | | |
| Poaceae | Chloris gayana (Rhodes grass) | 9 | H/A | Hand pulling and removal and digging of larger clumps | Spray: glyphosate @ 11/100L water | | | | | | |
| Crassulaceae | Bryophyllum pinnatum (resurrection plant) | 6 | H/O | Hand pull and dispose | Plantlets: spray G200 + MM or MM (ref 1). | | | | | | |
| Asteraceae | Parthenium hysterophorus (parthenium weed) | 6 | H/U | hand pulling of small areas is not recommended | Spot spray 2,4-D amine 500 g/L @ 0.4 L/100 L | | | | | | |
| Caprifoliaceae | Lonicera japonica (Japanese honeysuckle) | 3 | v/o | Vines and Runners: hand pull, roll up and hang to dry. | Vines and Runners: CS&P (G1.5); Larger Stems, Roots and Nodes: spray G100 + MM or MM (ref 1). | | | | | | |
| Acanthaceae | Thunbergia alata (black eyed susan) | 5 | H/O | N/A | CS&P (G1.5); spray G200 or G200 + MM (ref 1). | | | | | | |





REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

| RANK | EANAUY | SCIENTIFIC & | SUBRE | LIFE FORM | NON-CHEMICAL | |
|------|-----------------|--|-------|-----------|---|--|
| | FAIVILT | COMMON NAME | GION | & SOURCE | CONTROL | CHEMICAL CONTROL |
| 51 | Fabaceae | Macroptilium atropurpureum (siratro) | 8 | V/A | N/A | Vines: CS&P (1:1.5) or spray G100 + MM or MM (ref 1). |
| 52 | Rosaceae | Rubus ellipticus (yellowberry) | 4 | s/o | slashing hinders growth, giving some control if plants are slashed before they seed | Grazon DS picloram/triclopyr 1:200 parts water + wetting agent |
| 53 | Colchicaceae | Gloriosa superba (glory lily) | 3 | V/0 | N/A | Young Shoots: spray G2C or G200 + MM. Best resul in Oct-Nov and by using 'Pulse' as surfucant (ref 1 |
| 54 | Verbenaceae | Phyla canescens (lippia, Condamine couch) | 3 | Ha/O | a combined approach of different control methods including chemical and mechanical with land management practices is most effective | Foliar spray 600 g/L Dichlorprop @ 5 ml /1 water or 2,4-D amine (50 g/L) +1% crop oil @ 2–c L/ha + 1% crop oil |
| 55 | Solanaceae | Solanum seaforthianum (Brazilian nightshade) | 8 | V/0 | Hand pull | Spray G100 (ref 1). |
| 56 | Araceae | Pistia stratiotes (water lettuce) | 3 | Ha/OF | Mechanical removal of small infestations | Glyphosate 360g/L @ 1 1.3L/100L water or 6.9L/Ha; diquat 20g/L @ 4L/100L water or 50- 100L/Ha (see ref 2. for application guide). |
| 57 | Asparagaceae | Asparagus plumosus (asparagus fern) | 4 | V/O | Rhizomes: crown and hang to dry. | Rhizomes: gouge and paint (G1.5); Stems: wir up and spray or cut hig and low and spray regrowth G200 or G200 MM (ref 1). |
| 58 | Commelinaceae | Tradescantia fluminensis (Qld use T. albiflora) (wandering jew) | 5 | H/O | N/A | Spray F150 (as per labe or G200 or G200 + MM; Collect and bag or roll a rake carefully. Dispose (ref 1). |
| 59 | Solanaceae | Cestrum parqui (green cestrum) | 6 | s/o | Seedlings: Hand pull | Stems: CS&P (G1.5) or spray G100 (ref 1). |
| 60 | Caesalpiniaceae | Senna septemtrionalis (arsenic bush, was S. floribunda) | 6 | s/o | Seedlings: Hand pull | Shrubs: CS&P or F/I (G1.) Seedlings: spray G200 c G200 + MM or MM; colle and bag seeds (ref 1). |
| 61 | Solanaceae | Solanum mauritianum (wild tobacco tree) | 8 | s/o | Seedlings: Hand pull | Shrubs: CS&P (G1.5) or F (G1:1.5); Seedlings: spra G200 (ref 1). |
| 62 | Apocynaceae | Catharanthus roseus (pink periwinkle) | 5 | s/o | Hand pull | Spray G100 (ref 1). |
| 63 | Passifloraceae | Passiflora subpeltata (white passion flower) | 10 | V/O | Stems: Hand pull | Stems: CS&P Seedlings Regrowth: spray G200 o G200 + MM (ref 1). |
| 64 | Fabaceae | Desmodium uncinatum (silverleaf desmodium) | 5 | H/A | Hand pull or crown and dispose | CS&P tuberous roots (G1.5); spray G200 or G2 + MM or MM; collect an bag seeds (ref 1). |
| 65 | Poaceae | Melinis repens (red Natal grass) | 10 | H/A | Grazing or mowing | Spray: Fluazifop-P 212g, @ 2L/Ha, Glyphosate 360g/L @ 1L/100L wate (ref 2). |
| 66 | Nymphaeaceae | Nymphaea caerulea subsp. zanzibarensis (blue lotus) | 4 | Ha/OF | Hand pull small infestations. | Spray with or Diquat Glyphosate. Occurs in waterways, thus EPA should be notified befo any herbicide use (ref 5 |

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

| QUE | | | | | | TEAST QUEENSLAND |
|------|----------------|--|---------------|-----------------------|--|--|
| RANK | FAMILY | SCIENTIFIC & COMMON NAME | SUBRE GION | LIFE FORM & SOURCE | NON-CHEMICAL CONTROL | CHEMICAL CONTROL |
| 67 | Onagraceae | Oenothera drummondii subsp. drummondii (beach evening primrose) | 3 | н/о | Hand pull | Spray G100 (ref 1). |
| 68 | Tiliaceae | Triumfetta rhomboidea (Chinese burr) | 7 | H/U | Hand pull | Spray G100 (ref 1). |
| 69 | Haloragaceae | Myriophyllum aquaticum (parrot's feather) | 3 | Ha/F | N/A | Spray: glyphosate 360g/L @ 100mL/10L water (ref 1). |
| 70 | Passifloraceae | Passiflora foetida (stinking passion flower) | 7 | v/o | Hand Pull | CS&P (G1.5); spray G200 or G200 + MM (ref 1). |
| 71 | Asteraceae | Verbesina encelioides (crownbeard) | 7 | H/U | Vines: Hand pull and remove; Runners: Roll up and hang to dry. | Stems: S&P (GU); Regrowth and seedlings: spray G200 or G200 + MM (ref 1). |
| 72 | Poaceae | Paspalum mandiocanum (broad leaf paspalum) | 3 | H/A | N/A | Spray G200 - resistant to weaker strength (ref 1). |
| 73 | Poaceae | Paspalum dilatatum (paspalum grass) | 10 | H/A | Hand pull or dig up | Spray G100 (ref 1). |
| 74 | Ruppiaceae | Ruppia maritima (sea tassel) | 2 | Ha/F | Hand pull or dig up | Spray G100 (ref 1). |
| 75 | Arecaceae | Syagrus romanzoffiana (queen palm) | 4? | T/O | Seedlings: Hand pull or crown; Trees: cut below growing point | Trees: F/I (G1.5); Seedlings: spray G200 + MM (ref 1). |
| 76 | Poaceae | Hymenachne amplexicaulis cv. Olive (hymenachne) | 1? | Ha/A | a combined approach of different control methods including mechanical, chemical and biological with land management practices is most effective | 360 g/L Glyphosate (includes Roundup Blactive & Weedmaster Duo) – 1 L/100L water or 10 L/ha delivered by boom |
| 77 | Asteraceae | Senecio tamoides (Canary creeper) | 3 | V/0 | Vines: Hand pull and remove; Runners: Roll up and hang to dry. | Stems: S&P (GU); Regrowth and seedlings: spray G200 or G200 + MM (ref 1). |
| 78 | Poaceae | Cenchrus ciliaris (buffel grass) | 4 | H/A | Hand or mechanical removal of young plants | Herbicide Control - Glyphosate 7mL/L water; Dichlobenil 600g/100m2; Fluazifop 50-100mL/10L water (ref 2). |
| 79 | Acanthaceae | Thunbergia grandiflora (thunbergia, blue thunbergia) | 2 | V/0 | N/A | CS&P (G1.5); spray G200 (ref 1). |
| 80 | Cactaceae | Opuntia tomentosa (velvet tree pear) | 8 | S/O | Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used. | Spray; Basal Bark application; Injection: Triclopyr: .8L/60L diesel. Picloram + Triclopyr: 1L/60L diesel. Amitrole: 1mL/3cm (ref 3). |
| 81 | Euphorbiaceae | Ricinus communis (castor oil plant) | 7 | s/o | Seedlings: Hand pull | Shrubs: S: CS&P or F/I (G1.5); Seedlings: spray G200 (ref 1). |
| 82 | Asteraceae | Senecio madagascariensis (fire weed) | 6 | H/U | Vines: Hand pull and remove; Runners: Roll up and hang to dry. | Stems: S&P (GU); Regrowth and seedlings: spray G200 or G200 + MM (ref 1). |

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

| | EANALLY | SCIENTIFIC & | SUBRE | LIFE FORM | NON-CHEMICAL | | DANI | |
|------|-----------------|-------------------------|-------|-----------|----------------------------|-------------------------------|------|----------|
| RANK | FAMILY | COMMON NAME | GION | & SOURCE | CONTROL | CHEMICAL CONTROL | RANK | |
| 83 | Cyperaceae | Cyperus involucratus | 6 | Ha/OF | Each | Aquatic areas - Glyphosate | 98 | |
| | | (African sedge) | | | with a spade and | ipa Land—commercial/indust | 99 | ╞ |
| | | | | | the entire plant | rial, rights of way - | 55 | |
| | | | | | turned over | Glyphosate-ipa | | |
| | | | | | exposing the root | glyphosate-mas, imazapyr | | |
| | | | | | system while | 8.7F | | |
| | | | | | making | | 100 | F |
| | | | | | sure all aerial parts | | | |
| | | | | | of the plant are | | | |
| | | | | | completely | | | |
| | | | | | covered. | | 101 | |
| 84 | Asteraceae | Tithonia diversifolia | 5 | H/O | N/A | Stems: CS&P (G1.5) or cut | | |
| | | (Mexican sunflower) | | | | and spray regrowth and | | |
| | | | | | | seedlings (G100 or MM) | 102 | |
| 05 | D | Contradio andre andrete | 0 | 11/4 | Used and a set of a set | (ref 1). | 102 | |
| 85 | Poaceae | Setaria sphacelata | 9 | H/A | Hand pull or dig up | Spray G100 (ref 1). | | |
| | | (South African pigeon | | | | | | |
| 86 | Ascleniadaceae | Gomphocarpus | 10 | \$/011 | Slash in winter and | Spray: dynhosate @ | | |
| | Asciepiadaceae | nhysocarnus (halloon | 10 | 3,00 | burn cuttings | 1.1000 with water in | | |
| | | cotton bush) | | | Wanderer Butterfly | spring before seeding (ref | | |
| | | | | | can also be used as | 3). | 103 | 1 |
| | | | | | biological control. | - / - | | |
| | | | | | | | | |
| 87 | Poaceae | Digitaria didactyla | 9 | H/A | Hand pull or | Spot Spray: glyphosate or | | |
| | | (Queensland blue | | | cultivation | 2,2-DPA (ref 3) | 104 | S |
| | | couch) | | | | | | |
| 88 | Caesalpiniaceae | Gleditsia triacanthos | 7 | T/O | For the control of | pastures | | |
| | | (honey locust) | | | dense infestations | non-agricultural land | | |
| | | | | | on grazing land, | fluroxpyr1 | 105 | ' |
| | | | | | burning followed | (Starane 200®) @ 1.5 L - | | |
| | | | | | by spot spraying is | 75ml/100 L diesel | | |
| | | | | | an economical | | 106 | ┝ |
| 80 | Poaceae | Paspalum notatum | 4 | Н/А | Control method. | Spray G100 (ref 1) | 106 | |
| 05 | Touccuc | (bahia grass) | - | | hand pair of dig up | spiny diod (iet i). | | |
| 90 | Cactaceae | Opuntia monacantha | 2 | S/O | Biological controls | Spray; Basal Bark | 107 | |
| | | (drooping tree pear, | | | available: | application; Injection: | | |
| | | syn. O. vulgaris) | | | cactoblastis | Triclopyr: .8L/60L | | |
| | | | | | cactorum | diesel. Picloram + | 108 | |
| | | | | | successful. | Triclopyr: 1L/60L | | |
| | | | | | Mechanical control | diesel. Amitrole: 1mL/3cm | 109 | |
| | | | | | difficult. Fire can be | (re† 3). | | |
| 91 | Poaceae | Paspalum | 7 | H/A | Cut below crown. | Spot Spray: glyphosate or | 110 | |
| | | conjugatum | | | | 2,2-DPA (ref 3). | | |
| | | (paspalum grass) | | | | , , , | | |
| 92 | Malpighiaceae | Hiptage benghalensis | 3 | s,v/o | Hand pull small | Seedlings: Foliar spray of | 111 | |
| | | (hiptage) | | | infestations. | dicamba, fluroxypyr, and | | |
| | | | | | | triclopyr/picloram. Larger | | |
| | | | | | | plants cut stump | | |
| | | | | | | application of fluroxypyr | | |
| | | | | | | and triclopyr/picloram | | |
| | | | | | | with diesel, glyphosate | | |
| | | | | | | with water and picloram | | |
| | | | | | | undiluted (ref 7). | 112 | |
| 93 | Solanaceae | Solanum torvum | 6 | s/o | Seedlings: Hand | Shrubs: CS&P (G1.5) or F/I | | |
| | | (devil's fig) | | | pull | (G1:1.5); Seedlings: spray | | |
| | | | | | | G200 (ref 1). | 113 | |
| 94 | Caesalpiniaceae | Caesalpinia | 4 | s,v/o | Seed-heads: Bag | Stems: CS&P (G1.5); | | |
| | | decapetala (thorny | | | and remove. | Seedlings: spray G200 or | | \vdash |
| 05 | D | poinciana) | - | | 11 | G200 + MM or MM (ref 1). | 114 | |
| 95 | Poaceae | Pennisetum | ' | H/O | Hand Pull | spot Spray: glyphosate or | | |
| | | alopecuroides | | | | 2,2-DPA (ref 3) | | |
| 06 | Varbar | (swamp foxtail) | 6 | ST/0 | Shruhe: CS P D | Spray G100 / £1) | | |
| 30 | verbenaceae | (duranta) | | 31/0 | (1:1.5) | opiay GLOU (ret 1). | | |
| 97 | Brassicaceae | Nasturtium officinale | 7 | Ha/FU | Manually grub and | Spray G100 and replace | 115 | F |
| | 2 | (Qld use Rorippa | | | destrov. | with local species (ref 1) | | |
| | | nasturtium- | | | | | | |
| | | aguaticum) | | | | | | |
| | | (watercress) | | | | | | |

Note: Herbicides must be applied by appropriately qualified/ supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered products (such rates supersede those noted in above tables), or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable.

Note: Source for information contained on this page from Queensland Herbarium (Qld Gov't).

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| EN E | DMENTS: | DESCRIPTION | CHECKED | CLIENT: | QUEENSLAND | PROJECT: | BUNDABERG HOSPITAL |
|---------|------------|-------------------------|---------|---------|------------|----------|---------------------|
| | 06.10.2023 | CLIENT ISSUE | RM | | GOVERNMENT | 1 | LOT 23 BUNDABERG |
| | 01.11.2023 | PRELIMINARY ISSUE | RM | | | 1 | |
| | 02.10.2024 | AMENDMENTS ISSUE | RM | | | 1 | RING ROAD, THABEBAN |
| | 05.12.2024 | REQUEST FOR INFORMATION | RM | | | 1 | |
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| | | | | | | | |

| VSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND | | | | | | | | | | |
|---|--|---------------|-----------------------|---|--|--|--|--|--|--|
| FAMILY | SCIENTIFIC & COMMON NAME | SUBRE GION | LIFE FORM & SOURCE | NON-CHEMICAL CONTROL | CHEMICAL CONTROL | | | | | |
| Polygonaceae | Acetosa sagittata | 4 | V/U | Tubers: Dig up, bag | Tubers: Spray G200 or | | | | | |
| Poaceae | (rambling dock) Cynodon dactylon (couch, Bahama grass introduced cultivars) | 10 | H/OA | and remove. Hand pull small infestations, removing all roots or smother with | G200 + MM or MM (ref 1). Spray: glyphosate @ 200mL/15L water. Follow up spray (ref 3). | | | | | |
| Bignoniaceae | Tecoma stans (yellow bells) | 4 | ST/O | N/A | Stems: CS&P (G1.5) or spray G200; Seeds: collect, bag and remove (ref 1). | | | | | |
| Rosaceae | Rhaphiolepis indica (Indian hawthorn) | 3 | ST/O | Seedlings: Hand pull | Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings: spray G200 or G200 + MM or MM (ref 1). | | | | | |
| Mimosaceae | Mimosa pudica (common sensitive plant) | 4 | S/A | N/A | Pastures - Fluroxypyr/Starane 200 @ 1.5 L/ha Between cropping applications (conservation tillage) - Dicamba/Banvel 200 @ 0.8- 1.4 L/ha | | | | | |
| Commelinaceae | Callisia fragrans (purple succulent) | 3 | H/O | N/A | Spray F100 or G200 or G200 + MM; Collect and bag or roll and rake carefully. Dispose (ref 1). | | | | | |
| Scrophulariace ae | Paulownia tomentosa (paulownia) | 3 | T/AO | Seedlings: Hand pull | Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings: spray G200 (ref 1). | | | | | |
| Commelinaceae | Tradescantia zebrina (zebrina) | 3 | H/O | N/A | Spray F100 or G200 or G200 + MM; Collect and bag or roll and rake carefully. Dispose (ref 1). | | | | | |
| Acanthaceae | Ruellia malacosperma (ruellia) | 5 | H/O | N/A | Spray G200 + MM (ref 1). | | | | | |
| Poaceae | Pennisetum clandestinum (kikuyu grass) | 4 | H/A | Hand Pull | Spot Spray: glyphosate or 2,2-DPA (ref 3) | | | | | |
| Liliaceae | Lilium formosanum (Taiwan lily) | 5 | H/O | Hand pull or crown and dispose | Spray G100 + MM or MM (ref 1). | | | | | |
| Asteraceae | Sigesbeckia orientalis (Indian weed) | 10 | H/U | Hand pull or cultivation. | Spray with 2,4-D amine or sodium, pr MCPA + dicamba (ref 3). | | | | | |
| Asteraceae | Bidens pilosa (cobbler's pegs) | 10 | H/U | Hand pull or cultivation. | Spray with 2,4-D amine or sodium, pr MCPA + dicamba (ref 3). | | | | | |
| Cactace ae | Opuntia stricta (common prickly pear) | 7 | s/o | Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used. | Spray; Basal Bark application; Injection: Triclopyr: .8L/60L diesel. Pidoram + Triclopyr: 1L/60L diesel. Amitrole: 1mL/3cm (ref 3). | | | | | |
| Poaceae | Eleusine indica (crowsfoot grass) | 8 | H/A | Pull and chip. Replant with native couch. | Spray: glyphosate or 2,2- DPA (ref 3). | | | | | |
| Poaceae | Axonopus compressus (broad leaved carpet grass) | 5 | H/AO | Cut stems from roos. | Spot spray with Glyphosate (ref 3). | | | | | |
| Lamiaceae | Salvia coccinea (red salvia) | 9 | H/O | remove small areas by hand or machine | Aquatic areas (drains, channels, margins of streams, lakes and dams) - calcium dodecylbenzene sulphonate (AF-100) @ 1 part in 19 parts kerosene | | | | | |
| Asteraceae | Ageratum houstonianum (blue billygoat weed) | 8 | H/UO | N/A | Spray G100 or hand pull and spray regrowth G100 (ref 1). | | | | | |





CHEMICAL CONTROL

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND SCIENTIFIC & SUBRE LIFE FORM NON-CHEMICAL RANK FAMILY CHEMICAL CONTRO GION & SOURCE COMMON NAME CONTROL 116 Myrtaceae Shrubs: CS&P or F/L(G1.5 sidium guajava ar ST/AO . guineense (yello or spray G200 + MM or uava and West Ind MM. Trial basal bark F10 or G200 + MM (ref 1). guava 117 Rosaceae Rubus bellobatus S/O slashing hinders Grazon DS (kittatinny growth, giving oicloram/triclopyr 1:20 blackberry some control if parts water + wetting plants are slashed agent before they seed Eugenia uniflora 118 Myrtaceae ST/O Stems: C&P or F/I (G1.5) N/A (Brazilian cherry) Bushes: spray or cut dow and spray regrowth G100 or MM (ref 1). 119 Oleaceae Olea europaea T/A Seedlings: Hand Saplings: CS&P (G1.5); Trees: F/I (G1.5); (olive) pu eedlings: spray G200 c G200 + MM (ref 1). Poaceae 120 H/A Grazing Brachiaria lerbicide Control - Fol application (Knapsack) cumbens (sign grass) glyphosate 360g/L@ 200mL/15L water; Folia glyphosate 360g/L@ 9L/Ha: Handgun: glyphosate 360g/L@ 1.3L/100L water (ref 2) 121 Fabaceae Stylosanthes scabra H/A N/A Vines: CS&P (1:1.5) or 4 (shrubby stylo) spray G100 + MM or MN (ref 1). 122 Commelinacea Commelina H/O Collect and Bag Spray G200 or G200 + MN enghalensis (hair (ref 1). andering jew) 123 Poaceae Pennisetur H/O Grazing or N/A (ref 2). ureum (eleph mechanica removal grass) 124 Zingiberacea Hedvchium H/O Small Plants: Hand Small Plants: sprav G200 (G200 + MM; Large Plants oronarium (wild pull and dispose ginger) ut and spray regrowth. rhizomes are at ground level, cut stem and goug rhizome - fill hole with G1.5 with injector kit o similar (ref 1). 125 Phytolaccaceae Phytolacca octandra H/O Hand pull or crow CS&P (G1.5) or C&P (G1.5) 10 (inkweed) spray G100 (ref 1). 126 S/O Hand pull; Slash Slash and/or spray G10 (red cotton bush) (ref 1). 127 s/o Solanaceae Stems: C&P (G1.5) cium ferocissi Regrowth: spray G200 + . (African boxthorn MM (ref 1). 128 ST/O Mimosaceae When using Basal bark - triclopyr Prosopis pallid chanical con (algaroba) picloram methods, it is Access® @ 1L/60L diese important to Cut stump - triclopyr + emove the bug picloram zone of the root Access® @ 1L/60L diese system Overall spray - triclopyr bout 30 cm bel nicloram the ground Grazon DS* @ 350ml/100 surface). water plus a etting agent if plant i If this is not removed, regrowing actively oting can occu Juncus articulatu 129 Juncaceae Ha/FO Hand pull Spot spray with (iointed rush) Glyphosate, 2,2-DPA or MCPA + dicamba (ref 3) Cactaceae 130 Opuntia aurantiac S/O **Biological contr** Spray; Basal Bark available: application: Injection (tiger pear) cactoblastis Triclopyr: .8L/60L diesel. Picloram cactorum successful. Triclopyr: 1L/60L Mechanical contro sel. Amitrole: 1mL/3 lifficult. Fire can b (ref 3).

used. Note: Herbicides must be applied by appropriately qualified/ supervised persons in accordant the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered

products (such rates supersede those noted in above tables), or on an Australian Pesticides and

eterinary Medicines Authority (APVMA) issued off-label permit where applicable

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AMENDMENTS 06.10.2023 CLIE 1.2023 QUALITY Management System 0 2024 D 05.12.2024

SCALE

Malvaceae

Sida rhombifolia

(Paddy's lucern

AS NOTED

S/U

out.

| fluoxypyr (ref 3). | | | | | |
|--|---------------------------------|---------|--------------------------|----------|---|
| | | | | | |
| NT ISSUE IMINARY ISSUE NOMENTS ISSUE UEST FOR INFORMATION | CHECKED RM RM RM RM | CLIENT: | QUEENSLAND GOVERNMENT | PROJECT: | BUNDABERG HOSPITAL LOT 23 BUNDABERG RING ROAD, THABEBAN |

131 Poaceae undo donax (gian H/O hysical removal pot spray or cut stump reed) small infestations and spray with Glyphosate (ref 5). 132 Spray; Basal Bark Cactacea Opuntia imbricat H/O **Biological contr** (rope pear) available: application: Injection cactoblastis Triclopyr: .8L/60L diesel Picloram cactorum successful Triclopyr: 1L/60L Mechanical cont sel. Amitrole: 1mL/3cr lifficult. Fire can b (ref 3). used. 133 V/O CS&P (G1.5); spray G20 Bignoniaceae Pyrostegia venusta 1 N/A (flame vine) (ref 1). 134 Poaceae Cortaderia selloana H/O Small Plants: die Stems: C&P (G1.5) or cut 2 back and slash and spray out by hand or (pampas grass) regrowth G100 (ref 1). machine 135 Solanaceae Solanum hisnidum \$/0 Hand null Spray G100 (ref 1) 5 (giant devil's fig) 136 Agavaceae urcraea foetida S/OA Dig out by hand CS& P near ground o (Cuban hemp) machine spray MM (ref 1). 137 S/OA Agavaceae Furcraea selloa Dig out by hand o CS& P near ground or (hemp) machine spray MM (ref 1). 138 Agavaceae S/04 Dig out by hand o CS& P near ground or Agave americana 4 (century plant) machine spray MM (ref 1). 139 Rutaceae s/o ubs: CS&P or F/I (G1.5 /lurraya paniculata Seedlings: Han v. Exotica (murrava Seedlings: spray G200 (ref pull 1). 140 Rosaceae Rubus discolor (R S/OA slashing hinder Grazon DS uticosus complex. growth, giving icloram/triclopyr 1:200 blakberry) some control if parts water + wetting plants are slashe agent. A variety of rbicides may be used before they seed control this species including (ref 5). 141 Brassicacea Cakile edentula Manually grub and Spray G100 and replace H/U (American sea destroy. vith local species (ref 1 rocket) 142 Balsaminace tiens walleri H/O N/A Spray G100 (ref 1). (balsam) 143 S/OA CS& P near ground o Agavaceae gave sisalana (sisal) Dig out by hand o 2 machine spray MM (ref 1). 144 Agavaceae Agave vivipara var S/OA Dig out by hand o CS& P near ground or spray MM (ref 1). vivipara (sisal) machine 145 ubs: CS&P or F/I (G1.5 Rosacea ST/A Seedlings: Ha (wild goose plum) pull eedlings: spray G200 (re 1). 146 Hand pull or dig o Poaceae ninochloa crus-ga H/A Spot spraying with (barnyard grass) small infestation phosate or 2.2-DPA (re 3). 147 pray MM or G200 or G200 Asteraceae olidago canaden H/O land pull and ha ar. scabra (Canadia to dry. MM if other weeds such goldenrod) as Lantana or Camphor urel are present (ref 1) 148 Fabaceae Pueraria lobata V,S/O Slash: Diminish by S&P (G1.5): spray G200 o (kudzu) shading site MM (ref 1). 149 Alismatacea Ha/FO Spot Spray wit agittaria gramir hysical removal var. platyphylla small infestations Glyphosate at 1.0 :100 (sagittaria water (ref 5). arrowhead) 150 Nymphaeaceae Ha/OF Hand pull small Spray with or Diquat ymphaea mexicana (vellow waterlily) infestations. Glyphosate. Occurs in waterways, thus EPA hould be notified befor any herbicide use (ref 5). hyllostachys aurea 151 Poaceae s/o N/A Stems: cut and f (fishpole bamboo segment (G1.5); egrowth: spray G100 (re 152 Euphorbiaceae s/o Hand pull Spray G100 (ref 1). tropha gossypiifolia (cotton-leaf physic ut, bellyache bus 153 Hand pull or dig Spray with 2,4-D amine o

| REHABILITATION METHODOLOGY - S | SITE WORKS - WEED NOTES |
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SCIENTIFIC &

FAMILY

RANK

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND

COMMON NAME GION & SOURCE CONTROL

SUBRE LIFE FORM NON-CHEMICAL

| RANK | FAMILY | SCIENTIFIC & COMMON NAME | SUBRE GION | LIFE FORM & SOURCE | NON-CHEMICAL CONTROL | CHEMICAL CONTROL | RANK | FAMILY | SCIENTIFIC & COMMON NAME | SUBRE GION | LIFE FORM & SOURCE | NON-CHEMICAL CONTROL | CHEMICAL CONTROL |
|------|---------------|---|---------------|-----------------------|---|--|------|-----------------|--|---------------|-----------------------|--|--|
| 154 | Poaceae | Themeda quadrivalvis (grader grass) | 8 | H/A | Hand pull or dig out small infestations. | Spot spraying with Glyphosate or 2,2-DPA (ref 3). | 167 | Cactaceae | Harrisia martinii (harrisia cactus) | 2? | s/o | The use of the biological mealy- bug agent is | Triclopyr + picloram at 1.0L:60L diesel, Dichlorprop 600 g/l at |
| 155 | Poaceae | Andropogon virginicus (whisky grass) | 6 | H/A | Hand pull or dig out small infestations. | Spot spraying with Glyphosate or 2,2-DPA (ref 3). | | | | | | recommended | 1.0L/60L water, metsulfuron methyl 60 g/l at 2.0L:100L water Re |
| 156 | Bignoniaceae | Jacaranda mimosifolia (jacaranda) | 4 | т/о | Seedlings: Hand pull | Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings: spray G200 (ref | 168 | Acanthaceae | Thunbergia laurifolia (laurel clock vine) | 1 | V/0 | N/A | 5). CS&P (G1.5); spray G20 (ref 1). |
| 157 | Acanthaceae | Justicia betonica (squirreltail) | 2 | s/o | Hand pull smal infestations. Can be controlled by planting competitive native species. | 1). Glyphosate known to be effective.Species known to occur in waterways, DERM should be contacted before spraying in waterways (ref 4). | 169 | Fabaceae | Erythrina crista-galli (cockspur coral tree) | 2? | T/O | N/A | F/I (G1.5) or C&P stump Cut and stack branches: above ground to dry to prevent resprouting. F, sprouted branches (G1. or spray regrowth G200 MM or MM. Trial Tordo (ref 1). |
| 158 | Mimosaceae | Acacia boliviana (Bolivian wattle) | 1 | T/O | Mechanical or chain removal. | Basal Bark or cut stump application. Triclopyr 600g/L at 1.0L:120L diesel, Triclopyr + Picloram 240 g/l + 120g/l at 1.0L:60L diesel, Picloram 45 g/kg | 170 | Sapindaceae | Koelreuteria elegans (Chinese rain tree) | 1? | T/O | Seedlings: Hand pull | Trees: F/I (G1.5) or C&F stumps (G1.5); Saplings CS&P (G1); stack cut branches above ground dry; Seedlings: spray (G200) (ref 1). |
| 159 | Simaroubaceae | Ailanthus altissima (tree of heaven) | 1? | т/о | Seedlings: Hand pull | Seedlings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings: spray G200 or MM (ref 1). | 1/1 | ZIIIBIDELaceae | gardnerianum (ginger lily) | 1. | ny O | pull and dispose | G200 + MM; Large Plants cut and spray regrowth. rhizomes are at ground level, cut stem and goug |
| 160 | Poaceae | Echinochloa colona (awnless barnyard grass) | 9 | H/A | Hand or mechanical removal of small infestations | Spray: glyphosate @ 13mL/1L water (ref 2.) | | | | | | | rhizome - fill hole with G1.5 with injector kit o similar (ref 1). |
| 161 | Cyperaceae | e Cyperus brevifolius (Mullumbimby couch) | 8 | н/о | Each has to be dug out with a spade and | Aquatic areas - Glyphosate ipa Land—commercial/indust | 172 | Acanthaceae | Hypoestes phyllostachya (polka- dot plant | 3 | H/O | Hand pull or crown and dispose | Spray G200 or G200 + MM (ref 1). |
| | | | | | the entire plant turned over, exposing the root system while | rial, rights of way - Glyphosate-ipa, glyphosate-mas, imazapyr | 173 | Caprifoliaceae | Sambucus canadensis (American elder) | 3 | ST/O | Vines and Runners: hand pull, roll up and hang to dry. | Vines and Runners: CS& (G1.5); Larger Stems, Roots and Nodes: spray G100 + MM or MM (ref 1 |
| | | | | | making sure all aerial parts of the plant are completely covered. | | 174 | Asteraceae | Conyza sumatrensis (tall fleabane) | 9 | Η/U | Hand or mechanical removal of small infestations | Seedlings: Altrazine or Chlorosulfuron in combination with competitive native species; Plants: |
| 162 | Moraceae | Morus alba (white mulberry) | 3 | T/O | N/A | Trees: F/I (G1.5), stack cut branches above the ground to dry; Saplings: CS&P (G1.5); Seedlings: | | | | | | | Glyphosate and Tordon D mix. Glyphosate ratio depends on other weed present (ref 2). |
| 163 | Arecaceae | Colocasia esculenta (taro) | 3 | H/AO | Hand pull. | Cut at base and apply glyphosate or metsulfuron methyl. Plant often occurs | 175 | Fabaceae | (tipuana tipu | 2 | 170 | pull | Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings: spray G200 (re 1). |
| | | | | | | in waterways so consult DERM prior to application (ref 6). | 176 | Asteraceae | Tagetes minuta (stinking roger) | 8 | H/U | Hand pull and hang to dry. | Spray MM or G200 or G20 + MM if other weeds suc as Lantana or Camphor Laurel are present (ref 1 |
| 164 | Cannaceae | Canna indica (canna lily) | 3 | н/о | Dig out entire plant | Cut/Slash and spay regrowth G200 or G200 + MM; Collect and bad seeds. Resistant to herbicide (ref 1). | 177 | Caesalpiniaceae | Chamaecrista rotundifolia (round- leaf cassia) | 6 | ST/A | Seedlings: Hand pull | Shrubs: CS&P or F/I (G1.5 Seedlings: spray G200 o G200 + MM or MM; colle- and bag seeds (ref 1). |
| 165 | Buddlejaceae | Buddleja madagascariensis (buddleja) | 5 | S,V/O | N/A | Stems: CS&P (1:1.5); Vines: spray or cut down and spray regrowth G200 (ref 1). | 178 | Poaceae | Cenchrus echinatus (Mossman river grass) | 8 | H/A | Hand or mechanical removal of young plants | Herbicide Control - Glyphosate 7mL/L water Dichlobenil 600g/100m2 Fluazifop 50-100mL/101 |

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES





REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

| QUE | ENSLAND HERE | | NATU | | LANTS IN SOUT | H EAST QUEENSLAND |
|------|----------------|---|---------------|-----------------------|---|---|
| RANK | FAMILY | SCIENTIFIC & COMMON NAME | SUBRE GION | LIFE FORM & SOURCE | NON-CHEMICAL CONTROL | CHEMICAL CONTROL |
| 179 | Asteraceae | Conyza canadensis (Canadian fleabane) | 10 | Η/U | Hand or mechanical removal of small infestations | Seedlings: Altrazine or Chlorosulfuron in combination with competitive native species; Plants: Glyphosate and Tordon 75 D mix. Glyphosate ration depends on other weeds present (ref 2). |
| 180 | Euphorbiaceae | Euphorbia cyathophora (painted spuge) | 8 | H/O | Hand pull | Spray G100 (ref 1). |
| 181 | Poaceae | Setaria palmifolia (palm leaf setaria) | 5 | н/о | Hand pull or dig up | Spray G100 (ref 1). |
| 182 | Euphorbiaceae | Euphorbia heterophylla (milk weed) | 5 | H/O? | Hand pull | Spray G100 (ref 1). |
| 183 | Fabaceae | Desmodium intortum (greenleaf desmodium) | 4 | H/A | Hand pull or crown and dispose | CS&P tuberous roots (G1.5); spray G200 or G200 + MM or MM; collect and bag seeds. Monitor regrowth over 2 - 3 years (ref 1). |
| 184 | Poaceae | Pennisetum setaceum (fountain grass) | 3 | H/O | Hand Pull | Spot Spray: glyphosate or 2,2-DPA (ref 3) |
| 185 | Asteraceae | Conyza bonariensis (flax-leaf fleabane) | 7 | H/U | Hand or mechanical removal of small infestations | Seedlings: Altrazine or Chlorosulfuron in combination with competitive native species; Plants: Glyphosate and Tordon 75 D mix. Glyphosate ration depends on other weeds present (ref 2). |
| 186 | Solanaceae | Solanum erianthum (a tobacco bush) | 7 | s/o | Hand pull | Spray G100 (ref 1). |
| 187 | Poaceae | Stenotaphrum secundatum (buffalo grass) | 3 | H/AO | Hand or mechanical removal of small infestations | Spray: glyphosate @ 13mL/1L water (ref 2.) |
| 188 | Apocynaceae | Cascabela thevetia (syn. Thevetia peruviana) (yellow oleander) | 5 | ST/O | Hand pull small infesttions. Slashing can be used but should be followed up by herbicide application. | Basal bark application of fluroxypyr (35mL:1L Diesel); 5 tem injection Glyphosate (1L:2L Water); Cut stump application of fluroxypyr (1L:55L Diesel; Foliar Spray of fluroxypyr 1:100 for larger plants. 1:200 for seedlings (ref 2). |
| 189 | Rubiaceae | Coffea arabica (coffee) | 3 | ST/A | Saplings: Hand pull | Shrubs: F/I (G1) between flower and fruit set; Saplings: CS&P (G1); Seedlings: spray G200 or G200 + MM (ref 1). |
| 190 | Bignoniaceae | Spathodea campanulata (African tulip tree) | 1? | т/о | N/A | Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings: spray G200 (ref 1). |
| 191 | Fabaceae | Macrotyloma axillare (perennial horse gram) | 4 | V,H/A | N/A | Vines: CS&P (1:1.5) or spray G100 + MM or MM (ref 1) |
| 192 | Iridaceae | Watsonia meriana var. bulbillifera | 2 | н/о | Dig up, bag and remove | Spray G200 + MM (ref 1). |
| 193 | Passifloraceae | Passiflora edulis (passion fruit) | 6 | V/AO | Hand Pull | CS&P (G1.5); spray G200 or G200 + MM (ref 1). |
| 194 | Asteraceae | Zinnia peruviana (wild zinnia) | 6 | H/O | Seedlings: Hand pull | Shrubs: CS&P or F/I (G1); Seedlings: CS&P (G1.5) or spray G200 (ref 1). |

Note: Herbicides must be applied by appropriately qualified/ supervised persons in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates identified on registered products (such rates supersede those noted in above tables), or on an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable.

Note: Source for information contained on this page from Queensland Herbarium (Qld Gov't)

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| KEHABILITATIO | N METHODOLOG | Y - SHE WORKS | - WEED NOTES |
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| QUEE | ENSLAND HERE | BARIUM INVASIVE | NATU | RALISED F | PLANTS IN SOUTI | H EAST QUEENSLAN |
|------|--------------|---|---------------|-----------------------|---|---|
| RANK | FAMILY | SCIENTIFIC & COMMON NAME | SUBRE GION | LIFE FORM & SOURCE | NON-CHEMICAL CONTROL | CHEMICAL CONTROL |
| 195 | Dracaenaceae | Sansevieria trifasciata (sansevieria) | 2? | H/O | Hand pull or dig up | Spray G100 + MM (ref 1) |
| 196 | Poaceae | Digitaria eriantha (pangola grass) | 5 | H/A | Hand pull or cultivation | Spot Spray: glyphosate o 2,2-DPA (ref 3) |
| 197 | Rosaceae | Eriobotrya japonica (loquat) | 3 | T/O | Seedlings: Hand pull | Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings: spray G200 or G200 + MM or MM (ref 1) |
| 198 | Cactaceae | Acanthocereus tetragonus (sword pear) | 1 | S/O | Biological controls available: cactoblastis cactorum successful. Mechanical control difficult. Fire can be used. | Spray; Basal Bark application; Injection: Triclopyr: .8L/60L diesel. Pidoram + Triclopyr: 1L/60L diesel. Amitrole: 1mL/3cl (ref 3). |
| 199 | Mimosaceae | Acacia nilotica subsp. indica (prickly acacia) | 3 | T/A | Mechanical or chain removal. | Basal Bark or cut stump application. Triclopyr 600g/L at 1.0L:120L diese Triclopyr + Picloram 240 g/l + 120 g/l at 1.0L:60L diesel, Picloram 45 g/kg undiluted (ref 5). |
| 200 | Mimosaceae | Acacia farnesiana (mimosa bush) | 6 | T/A | Mechanical removal of small plants. | Basal Bark or cut stump application of Triclopyr- Picloram 240 g/l + 120 g/ at 1.0L:60L diesel. Foliar application of Clopyralid 300g/L at 500mL:1L wate ref 5). |

AMENDMENTS

AS NOTED

 ISSUE
 DATE
 DESCRIPTION

 A
 06.10.2023
 CLIENT ISSUE

 B
 01.11.2023
 PRELIMINARY ISSUE

 C
 02.10.2024
 AMENDMENTS ISSUE
 RM

 D
 05.12.2024
 REQUEST FOR INFORMATION
 RM

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND

Explanatory notes:

ub-region: Number of the ten sub-regions of the Southeast Queensland bioregion (Young and Dillewaard 1999) within which species recorded (Queensland Herbarium data). Rec no.: Total number of records for species within study area, Queensland Herbarium CORVEG and HERBRECS data

Scores: Based on panel data of invasiveness, 5 (highest) to 3 (moderate), ? indicate doubtful scores,

Life forms: T-tree (woody plant >5m), ST-small tree (2-5m), S-shrub (woody <2m), H-herb (grasses & forbes), Haaquatic herbs.

Source: A-agriculture, O-ornamental and landscaping, F-fish aquarium, U-unintentional introduction and/o contaminant

QUEE

PROJECT **BUNDABERG HOSPITAL -**LOT 23 BUNDABERG RING ROAD, THABEBAN

GOVERNMENT

CLIENT

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QUEENSLAND

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

| QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND |
|--|
| Abbreviations: Control Methods |
| CS&P = cut scrape and paint |
| S&P = scrape and paint |
| C&P = cut and paint |
| F/I = frill or inject stem |
| |
| Abbreviations: Herbicides |
| G = Glyphosate, eg. Roundup Biactive, Weedmaster Duo |
| MM = Metsulfuron methyl, eg, Brushoff |
| F = Fluroxypyr, eg. Starane |
| |
| Abbreviations: Herbicide Dilution Rates for High Concentration Applications |
| GU = Glyphosate undiluted |
| G1 = 1 part water to 1 part glyhphosate |
| G1.5 = 1.5 parts water to 1 part glyphosate |
| G4 = 4 parts water to 1 part glyphosate |
| |
| Abbreviations: Herbicide Spray Concentrations |
| G100 = 100mL glyphosate per 10L of water + surfuctant, eg 20mL LI 700 per 10L |
| G200 = 200mL glyphosate per 10L of water + surfuctant, eg 50mL LI 700 per 10L |
| G100 + MM = 100mLglyphosate + 1.5g metsulfuron methyl per 10L of water + wetting agent, eg. 2mL Agral per 10L |
| water |
| G200 + MM = 200mL glyphosate + 1.5g metsulfuron methyl per 10L of water + wetting agent, eg. 2mL Agral per 10L |
| water |
| MM = 1.5g metsulfuron methyl per 10L water + wetting agent, eg. 2mL Agral per 10L water |
| F100 = 100mL fluroxypyr per 10L water |
| F150 = 150mL fluroxypyr per 10L water |
| |
| Other Abbreviations |
| # = Locally non-indigenous native species |
| Ref. 1. Big Scrub Rainforest Landcare Group (2008), 'Common Weeds of Subtropical Rainforests of Eastern Australia: |
| A practical manual on their identification and control' |
| Ref. 2. Department of Primary Industries and Fisheries (QLD), 'Weeds and pest animals and ants'. |
| Ref. 3. Holland et al. (1996), 'Suburban Weeds', DPI QLD. |
| Ref 4. Port Stephens Council (NSW), 'Weed Busters'. |
| Ref 5. Depertment of Primary Industries (NSW), 'Noxious and Environmental Weed Handbook, 3rd Edition'. |
| Ref 6. Department of Environment and Conservation, 'Florabase', (DEC- WA) |
| Ref 7 Vitalli, L.S. and Medican, D.A. and Van Haaron, D.F. and Sattay, S. and Jacon, D. (2000). Control of the investiga |

Ref 7. Vitelli, J.S. and Madigan, B.A. and Van Haaren, P.E. and Setter, S. and Logan, P. (2009) Control of the invasive liana, Hiptage benghalensis. Weed Biology and Management, 9 (1). pp. 54-62.





REHABILITATION METHODOLOGY - SITE WORKS - PLANTING NOTES

Following Primary weed management works, areas requiring infill planting (assisted natural regeneration), and larger scale planting (reconstruction and fabrication) can be undertaken. Prior to installation, the following items are to be considered:

- Species selection
- . Sourcing plant material Timing of planting
- Site preparation
- Planting density
- Planting installation

Species Selection

Species selection is critical in achieving the desired ecological restoration outcomes for rehabilitation sites. Planting is typically derived from

- Local Regional Ecosystem (RE) descriptions
- Observed site native vegetation.
- Bioretention guideline requirements
- Climatic and weather conditions observed on site (frost, salt-spray, etc.). 'Pioneer' species are useful in site stablisation and encouraging native regeneration.
- Utilising flowering and fruiting species are useful to attract wildlife and result in introduction of
- seeds. Diverse vegetation lavers (trees, shrubs, groundcovers).
- Species availability from seed propagation and/ or local nurseries

Refer to plant schedule for species and planting densities.

Sourcing Plant Material

There are a number of options for sourcing plant material for revegetation purposes. Propagation from site seed is a good outcome however is often limited by required timing of works. Sourcing planting from local nurseries is the commonly-chosen option and has the following benefits:

- Awareness of genetic considerations when collecting seed.
- Experience with breaking dormancy mechanisms in hard to germinate seeds
- Highly successful propagation techniques.
- Ability to provide high quality stock to order
- . Draw on industry resources.

Timing of Planting

The timing of planting is ideally aligned with the wet season in SEQ (summer and autumn). This minimises the need for intensive watering to establishment planting. Planting between February to May is the most beneficial as it also seeks to avoid intense heat periods of summer. Despite this, it is understood planting can occur at various times within rehabilitation areas due to development timing

Site Preparation

Site or planting preparation includes:

- Fencing to exclude grazing animals and people (if required)
- Pre-spraying of exotic grasses and other weeds to planting areas
- Consideration of source of water for new planting (access tracks, temporary irrigation).
- Arranging delivery of mulch, jutenetting and tree guards (if required).
- Treatment of heavily compacted soils by ripping and/or application of gypsum
- Soil amelioration as required

Planting Density

Plant density is calculated on a zone by zone basis. This allows planting to cater for various requirements including standard revegetation, infill only requirements such as canopy trees at low densities, as well dense bioretention plantings as per Bioretention Technical Guidelines (where/ if applicable). Refer to plant schedule for species and planting densities.

Planting Installation

The following outlines the preferred installation methodology for revegetation works within the rehabilitation areas. It has been designed to maximise plant establishment success rates and minimise plant mortality. Revegetation works shall be either undertaken or directly supervised by an experienced and qualified contractor. All works shall be in accordance with the provisions of this Rehabilitation Plan, and local government policies and Australian Standards.

REHABILITATION METHODOLOGY - SITE WORKS - PLANTING NOTES

Plant installation methods shall include

- Plants are to be vigorous, well established, hardened off, consistent with species or variety, free from disease and insect pests, with large root systems and no evidence of having been restricted or damaged. The landscape coordinator has the right to inspect and reject stock prior to planting.
- Tubestock is to be disease and pest free and purchased from local nurseries within 10kms of subject sites where possible.
- Plants are to be planted immediately after delivery to the planting site
- Planting is to be undertaken in accordance with the planting module contained within this drawing sheet
- Excavate planting medium to a depth suitable for the installation of tube or pot specimens. In areas where planting substrate is deemed to be very poor (compacted, nutrient deficient, hydrophobic, etc.) and above areas of potential frequent inundation and water flow, topsoil will be
- Pre-water plant hole, if soil is dry, to decrease root stress upon planting and assess the infiltration of water through the soil.
- Incorporate into the planting substrate the appropriate quantity of prepared water crystals or other suitable hydrating product such as Hortex 'Rainsaver' or 'Moisturaid'.
- Place plant into hole and backfill ensuring that the plant is upright and the stem is not covered in any less than 10mm or any more than 20mm of planting medium.
- Plants are to be watered thoroughly immediately after planting (ensure deep irrigation) and thereafter as required during the construction phase of the development depending on climatic conditions. Creation of a concave hollow around the base of each plant will aid water infiltration to the plant roots.
- A complete, slow release fertiliser is recommended, and is to be administered appropriately during planting. Top dressing with slow release fertiliser is preferred to avoid toxic levels of fertiliser accumulating in the plant hole around the plant roots.
- To ensure successful establishment, all planting surfaces must be covered in a 100mm layer of high quality weed-free composted chip mulch (site mulch) - Note: to avoid possible stem rot in some 'drier' species ensure mulch is 'dished' and not covering plant stem by more than 20mm. Where available mulch material to be sourced from cleared vegetation material if adequately seasoned (12 weeks minimum).
- •• suitable individual anchored natural fibre weed mat (jutenetting); or
- A long term slow release fertiliser, such as Nutricote or similar product shall be used for all
 plantings after initial plant establishment.
- A minimum 90% survival rate shall be achieved.
- Any planting substitutions to be approved by Superintendent and Assessment Manager where applicable Any wheel ruts from site works within rehabilitation areas to be rectified to minimise risk of erosion
- and use as conduits for introduced species (such as cane toads).
- Address requirements under "Hygiene protocol for handling amphibians" by the Qld Government will also be given including washdown requirements and handling on site as required.



Typical planting details as below for standard medium/ mulch installation and jutenetting. Refer to nanufacturer's recommendations for detailed jutenetting installation including pinning, etc

Each individual planting location shall be spot cultivated to at least 2 times the depth and twice the width of the plant stock size

MULCH: 100mn Site Mulch - pull away from base of plant. UBESTOCK: Ensure top of CULTIVATION:-Dig hole to dimensions shown. Lightly MIN I

rootball is level with surrounding ground. Form an earthen basin around the base of the plant to WATERING: At the time of planting soak the Wa I ERING: A the time of planting soak the root ball of each plant in a diluted solution of liquid seaweed according to the directions on product label to assist in establishment. Plants are to be watered deeply only once at the time of planting and then allowed to establish within the prevailing climatic conditions. If it is observed during the maintenance process that the plant is under

stress then a subsequent watering is allowed

Where evidence of plant damage is occuring, tree guards/ growtubes to be installed as required.



Jutenetting/ mesh to be installed as per manufacturer's recommendations. Indicative detail shown only

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| DISCLAIMER: DESIGNS DOCUMENTED ON THIS DRAWING ARE THE PROPERTY OF SAUNDERS HAVILL GROUP PTY LTD AND ARE NOT AUTHORISED FOR REPODUCTION OR USE IN WHOLE OR PART WITHOUT WRITTEN PERMISSION. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL GROUP DD NOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OT THESE DRAWINGS BY ANY THRID PARTY. CONFIRM ALL DIMENSIONS ON SITE AND CLARIFY ANY DISCREPANCIES PRIOR TO CONSTRUCTION. | AMENDMENTS: DESCRIPTION CHECK A 06.10.2023 CLIENT ISSUE RM B 01.11.2023 PRELIMINARY ISSUE RM C 02.10.2024 AMENDMENTS ISSUE RM D 05.12.2024 REQUEST FOR INFORMATION RM | PROJECT: BUNDABERG HOSPITAL - LOT 23 BUNDABERG RING ROAD, THABEBAN |

REHABILITATION METHODOLOGY - SITE WORKS - PLANTING NOTES

Revegetation planting locations shall be generally setout in accordance with a typical random grid pattern as shown below. Various typical densities shown. Refer to plant schedule for species and , planting densities







REHABILITATION METHODOLOGY - SITE WORKS - PLANT SCHEDULES



| Recommen | ded Species List Total. | Approxin | nate Ar | ea = 3.510m2 | |
|----------------------------------|-----------------------------------|---------------|-----------|--|------------|
| (| Overall density approximately | 1 plants n | nin per r | n2) | |
| NOTES: | | | | | |
| 1) Species selected from site ar | nd local species mix (RE 12.5.4) | | | | |
| 2) Setback trees 3m min from a | ll property boundaries, sewer, re | taining wal | ls and se | rvice alignments. | |
| 3) Refer to additional plans for | general locations and additiona | l details for | planting | notes. | |
| 4) Distribute plants in groups o | on site in random arrangement t | be confirm | ed with s | superintendent on s | ite. |
| species | LOMMON | LANT FORM | OT SIZE | vLANTING DENSITY DVERALL @ DVERALL @ IER 1M ² | QUANTITY |
| TREES | 0 2 | | - | 1/10m2 | - <u> </u> |
| Allocasuarina torulosa | Forest Oak | Tree | Tree | 1/215m2 | 16 |
| Angophora leiocarpa | Pink Bloodwood | Tree | Tube | 1/85m2 | 40 |
| Eucalyptus crebra | Narrow Leaved Ironbark | Tree | Tube | 1/215m2 | 16 |
| Lucalyptus exserta | Queensland Peppermint | Tree | Tube | 1/85m2 | 40 |
| Corymbia intermedia | Pink Bloodwood | Tree | Tube | 1/85m2 | 40 |
| Corymbia trachyphloia | Brown Bloodwood | Tree | Tube | 1/85m2 | 40 |
| Eucalyptus latisinensis | White Mahogony | Tree | Tube | 1/85m2 | 40 |
| Eucalyptus siderophloia | Grey Ironbark | Tree | Tube | 1/215m2 | 16 |
| Eucalyptus tereticornis | Forest Red Gum | Tree | Tube | 1/215m2 | 16 |
| ophestmon confertus | Brush Box | Tree | Tubo | 1/215m2 | 16 |
| ophestmon suaveolops | Swamp Box | Tree | Tube | 1/215m2 | 16 |
| Melaleuca viridiflora | Broad Leaved Paperbark | Tree | Tube | 1/213112 | 40 |
| Melaleuca guinguenenzia | Baparbark | Troo | Tube | 1/03/112 | 16 |
| menaledea quinquenerria | ruperbuik | lice | Tube | SURTOTAL | 252 |
| SHRURS | | | | 1/5m2 | 332 |
| Acacia concurrens | Black Wattle | Shrub | Tubo | 1/50m2 | 72 |
| Acacia disparrima | Acacia | Shrub | Tubo | 1/50m2 | 72 |
| Acacia flavescens | Acacia | Shrub | Tube | 1/30m2 | 111 |
| Acacia lejocalyx | Black Wattle | Shrub | Tube | 1/30m2 | 111 |
| Allocasuarina littoralis | Black She Oak | Shrub | Tube | 1/30m2 | 111 |
| Banksia integrifolia | Coastal Banksia | Shrub | Tube | 1/50m2 | 73 |
| Grevillea banksii | Banks' Grevillea | Shrub | Tube | 1/50m2 | 73 |
| Jasksonia scoparia | Dogwood | Shrub | Tube | 1/50m2 | 73 |
| | | | • | SUBTOTAL | 698 |
| GROUNDCOVERS | | | | 1/m2 | |
| Cymbopogon refractus | Barbed Wire Grass | Ground | Tube | 1/8m2 | 432 |
| Dianella longifolia | Flax Lilly | Ground | Tube | 1/8m2 | 432 |
| Dianella caerulea | Blue Flax Lilly | Ground | Tube | 1/8m2 | 432 |
| Eremochloa bimaculata | Poverty Grass | Ground | Tube | 1/8m2 | 432 |
| Imperata cylindrica | Blady Grass | Ground | Tube | 1/8m2 | 432 |
| Lomandra longifolia | Mat Rush | Ground | Tube | 1/8m2 | 432 |
| Lomandra multiflora | Mat Rush | Ground | Tube | 1/8m2 | 432 |
| Themeda triandra | Kangaroo Grass | Ground | Tube | 1/8m2 | 432 |
| | | | | SUBTOTAL | 3456 |
| | | | | TOTAL | 45.00 |

| NDABERG HC - SWALE REN s List Total. A ty approximately mix (RE 12.5.4) undaries, sewer, re | DSPITAL VEGETA Approxim y 3 plants n | FION ate Are nin per i | ea = 10,620m2 n2) rvice alignments. | | | | | | |
|--|---|------------------------------|---|-------|--|--|--|--|--|
| ons and additiona | l details for | planting | notes. | | | | | | |
| 4) Distribute plants in groups on site in random arrangement to be confirmed with superintendent on site. | | | | | | | | | |
| | - | <u> </u> | 1/10m2 | | | | | | |
| ak | Tree | Tree | 1/75m2 | 145 | | | | | |
| odwood | Tree | Tube | 1/75m2 | 145 | | | | | |
| ed Gum | Tree | Tube | 1/75m2 | 145 | | | | | |
| x | Tree | Tube | 1/75m2 | 145 | | | | | |
| Зох | Tree | Tube | 1/75m2 | 145 | | | | | |
| aved Paperbark | Tree | Tube | 1/75m2 | 145 | | | | | |
| rk | Tree | Tube | 1/75m2 | 145 | | | | | |
| | | | SUBTOTAL | 1015 | | | | | |
| | | | 3/m2 | | | | | | |
| Vire Grass | Ground | Tube | 1/2.5m2 | 4550 | | | | | |
| | Ground | Tube | 1/2.5m2 | 4550 | | | | | |
| (Lilly | Ground | Tube | 1/2.5m2 | 4550 | | | | | |
| ass | Ground | Tube | 1/2.5m2 | 4550 | | | | | |
| ۱ | Ground | Tube | 1/2.5m2 | 4550 | | | | | |
| ۱ | Ground | Tube | 1/2.5m2 | 4550 | | | | | |
| o Grass | Ground | Tube | 1/2.5m2 | 4550 | | | | | |
| | | | SUBTOTAL | 31850 | | | | | |
| omandra multifora Mat Rush Ground Tube 1/2.5m2 4550 'hemeda triandra Kangaroo Grass Ground Tube 1/2.5m2 4550 SUBTOTAL 31850 SUBTOTAL 31850 | | | | | | | | | |

Note: Source for information contained on this page from SEQERF

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| NG Y OR DR | ISO 9001 QUALITY Management System | ISO 14001 ENVIRONMENT Management System | AS 4801 OHS Management System | | | \mathbf{i} |
|---------------------|--|---|-------------------------------------|---|--------|--------------|
| ES | certifications | Certifications | Certifications | Australian Institute of Landscape Architects | SCALE: | AS NOTED |

| AMEN | DMENTS: | 250000000 | 0.0500050 | CLIENT: |
|-------|------------|-------------------------|-----------|---------|
| ISSUE | DATE | DESCRIPTION | CHECKED | |
| A | 06.10.2023 | CLIENT ISSUE | RM | |
| В | 01.11.2023 | PRELIMINARY ISSUE | RM | |
| С | 02.10.2024 | AMENDMENTS ISSUE | RM | |
| D | 05.12.2024 | REQUEST FOR INFORMATION | RM | |
| | | | | |
| | | | | |
| | 1 | | | |

QUEENSLAND GOVERNMENT ROJECT **BUNDABERG HOSPITAL -**LOT 23 BUNDABERG RING ROAD, THABEBAN

NOTE:

| | BUNDABERG HO | SPITAL | | | |
|--|--|--|---|--|--|
| zc | NE 4 - DETENTION R | EVEGET | ALION | 1 | |
| Recommended | Species List Total. | Approxin | nate Ar | ea = 8,810m2 | |
| (Over | rall density approximately | 3 plants n | in per n | n 2) | |
| NO TES: | | | | | |
| Species selected from site and lo Setback trees 3m min from all pre- | caispecies mix (RE125.4) operty boundaries sewer re | tain in a wal | c and cou | wice alignments | |
| 3) Refer to additional plans for gen | eral locations and additional | details for | planting | notes. | |
| 4) Distribute plants in groups on sit | e in random arrangement to | be confirm | ed with s | uperinten dent on si | te. |
| | | × | | | |
| | z | OR | ш | S L B | ≧ |
| de | 1 MG | Ł | SIZ | I WI | E. |
| 5 D | AAN | PLA | 100 | P ER | SUA |
| TREES (HIGH BANK ONLY) | | | - | 1/10m2 | - T |
| Allocasuarina torulosa | Forest Oak | Tree | Tree | 1/115m2 | 75 |
| Corymbia intermedia | Pink Bloodwood | Tree | Tube | 1/115m2 | 75 |
| Eucalyptus tereticomis | Forest Red Gum | Tree | Tube | 1/115m2 | 75 |
| Lophestmon confertus | Brush Box | Tree | Tube | 1/115m2 | 75 |
| TREES (ALL ZONES) | | | | 1/5m2 | |
| Lophestmon suave ol ons | Swamp Box | Tree | Tube | 1/25m2 | 400 |
| Melaleuca viridiflora | Broad Leaved Paperbark | Tree | Tube | 1/25m2 | 400 |
| Melaleuca quinquenervia | Paperbark | Tree | Tube | 1/25m2 | 400 |
| CHRIDE (MID. HIGH BANK ONLY) | | | 1 | SUBTOTAL | 1500 |
| Acosin flower conc | Acacia | Chert | Tal | 1/5m2 | 150 |
| Acacia leiocalvx | Black Wattle | Shrub | Tube | 1/60m2 | 150 |
| Allocasuarina littoralis | Black She Oak | Shrub | Tube | 1/60m2 | 150 |
| Banksia integrifolia | Coastal Banksia | Shrub | Tube | 1/60m2 | 150 |
| Grevillea banksii | Banks' Grevillea | Shrub | Tube | 1/60m2 | 150 |
| Jasksonia scoparia | Dogwood | Shrub | Tube | 1/60m2 | 150 |
| | | | | SUBTO TAL | 900 |
| GROUNDCOVERS | | | | 3/m2 | |
| Carex appressa | "Tall Sedge" | Ground | Tube | 1/2m2 | 4405 |
| Imperata cylindrica | "Blady Grass" | Ground | Tube | 1/2.5m2 | 4405 |
| Ficinia nodosa Lemendre lengifelio | "Long Lowed Matruch" | Ground | Tube | 1/2m2 | 4405 |
| Poa labillardieri | "Common Tussock Grass" | Ground | Tube | 1/2m2 | 4405 |
| Themedaaustralis | "Kangaroo Grass" | Ground | Tube | 1/2m2 | 4405 |
| | | | | | _ |
| | | | | SUBTO TAL | 26430 |
| | | | | SUBTO TAL TOTAL | 26430 28830 |
| | | | | SUBTO TAL TOTAL | 26430 28830 |
| | BUNDABERG HO | | | SUBTO TAL TOTAL | 26430 28830 |
| Z | BUNDABERG HO | DSPITAL EVEGET | ATION | SUBTOTAL TOTAL | 26430 28830 |
| Z/ Recommender | BUNDABERG HO ONE 5 - WETLAND R d Species List Total. | DSPITAL EVEGET Approxir | ATION nate A | subtotal Total | 26430 28830 |
| Z Recommende (Ove | BUNDABERG HO DNE 5 - WETLAND R d Species List Total. erall density approximatel | DSPITAL EVEGET Approxir y 8 plantm | ATION nate A | subto TAL TOTAL rea = 1585m2 12) | 26430 |
| Z Recommende (Ove | BUNDABERG HO DNE 5 - WETLAND R d Species List Total. rall density approximatel | DSPITAL EVEGET Approxir y 8 plantm | ATION nate A | subto tal Total rea = 1585m2 12) | 26430 28830 |
| Zi Recommende (Ove NO TE 5: 1) Plant species selected from Bio- D Cache data 2 area in a plan | BUNDABERG HO ONE 5 - WETLAND R d Species List Total. erall density approximatel tetention Technical Guidelin | DSPITAL EVEGET Approxir y 8 plant m | ATION nate A in per n y Design) | SUBTO TAL TOTAL TOTAL rea = 1585m2 12) | 26430 28830 |
| Zi Recommender (Ove NOTES: 1) Plant species selected from Bio- 2) Setback trees 3m min from all pr 3) Befer to additional plane for gen | BUNDABERG HO ONE 5 - WETLAND R d Species List Total. erall density approximatel Retention Technical Guidelin operty boundaries, sewer, sewer | DSPITAL EVEGET Approxir y 8 plant m es (Water by etaining wal details for | ATION mate Ai in per n y Design) Is and se | SUBTO TAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% constructivice alignments. potes | 26430 28830 |
| Zi Recommender (Ove NOTES: 1) Plant species selected from Bio-f 2) Setbacktrees 3m min from all pr 3) Refer to additional plans for groups on si | BUNDABERG HO ONE 5 - WETLAND R d Species List Total. erall density approximatel Retention Technical Guidelin operty boundaries, sewer, re reral locations and additiona te in rand om arrangement t | DSPITAL EVEGET Approxir y 8 plant m es (Water b) etaining wal I details for o be confirm | ATION nate A in per n y Design) Is and se planting red with a | SUBTO TAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% constructivice alignments. notes. superintendant on si | 26430 28830 |
| Z/ Recommender (Ove NOTES: 1) Plant species selected from Bio-F 2) Setbacktrees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on sit | BUNDABERG HC DNE 5 - WETLAND R d Species List Total. reall density approximatel ketention Technical Guidelin operty boundaries, sewer, re reral locations and additiona te in random arrangement to | DSPITAL EVEGET Approxir y 8 plant m es (Water b) etaining wal I details for o be confirm | ATION nate A in per n y Design) Is and se planting red with | SUBTO TAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% construct rvice alignments. notes. superinten dant on si | 26430 28830 :tion, |
| Z Recommende (Ove NO TE 5: 1) Plant species selected from Bio F 2) Setbacktrees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on sit | BUNDABERG HO ONE 5 - WETLAND R d Species List Total. erall density approximatel Retention Technical Guidelin operty boundaries, sewer, re reral locations and additiona te in random arrangement to Z | DSPITAL EVEGET Approxin y 8 plant m es (Water b) ttain ing wal I details for o be confirm | ATION nate Ai in per n y Design) Is and se planting ied with | SUBTOTAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% construct vice alignments. notes. superintendant on si | 26430 28830 ttion, tte. È |
| Z Recommende (Ove NOTE 5: 1) Plant species selected from BioF 2) Setback trees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on sit | BUNDABERG HC ONE 5 - WETLAND R d Species List Total. erall density approximatel tetention Technical Guidelin operty boundaries, sewer, ro eral locations and additiona te in random arrangement to | DSPITAL EVEGET Approxir y 8 plant m es (Water by taining wal details for o be confirm | ATION nate A in per n y Design) Is and se planting red with | SUBTOTAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% construct rvice alignments. notes. superinten dant on si Superinten dant on si Superinten dant on si | 26430 28830 ttion, tte. |
| Zi Recommende (Ove NO TE 5: 1) Plant species selected from Bio-f 2) Setback trees 3m min from all pr 3) Refer to additional plants for gen 4) Distribute plants in groups on si | BUNDABERG HO ONE 5 - WETLAND R d Species List Total. erall density approximatel tetention Technical Guidelin operty boundaries, sewer, re real locations and additions te in random arrangement to N N N N N N N N N N N N N N N N N N N | DSPITAL EVEGET Approxir y 8 plantm es (Water b) tain ing wal details for o be confirm W2 0 L L L V V T | ATION mate Ai in per n y Design) Is and se planting ie d with IS I | SUBTO TAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% construct rvice alignments. notes. superintendant on si SULIVITA SUBTO TAL | 26430 28830 ttion, tte. |
| Z/ Recommender (Ove NOTES: 1) Plant species selected from Bio-f 2) Setback trees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on si bibliotic selection of the selection of the selection bibliotic selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the select | BUNDABERG HC ONE 5 - WETLAND R d Species List Total Trall density approximatel tetention Technical Guidelin operty boundaries, sewer, re eral locations and additiona te in random arrangement to WW W O State Sove of AREA) | DSPITAL EVEGET Approxir y 8 plantm es (Water b) tain ing wal details for o be confirm Wa OL UNY A | ATION mate Ai in per n y Design) Is and se planting ted with : I I I I I I I I I I I I I I I I I I I | SUBTO TAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% construct rvice alignments. notes. Superintendant on si @ n TITAL NUMPAL Superintendant on si @ n TITAL Superintendant on si % Superintendant on | 26430 28830 ttion, tte. |
| Z Recommedee (Ove NOTES: 1) Plant species selected from Bio-f 2) Setback trees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on si 3) Refer to additional plans for gen 4) Distribute plants in groups on si 3) TREES/ SHRUBS (MID- HIGH BANKS - Loohestmon suaveolons | BUNDABERG HC DNE 5 - WETLAND R d Species List Total. erall density approximatel tetention Technical Guidelin perty boundaries, sewer, re eral locations and additiona te in random arrangement to www. Swamp Box | DSPITAL EVEGET Approxir y 8 plantm es (Water b) taining wal Idetails for o be confirm b be confirm Way LLY Id | ATION mate A in per n y Design) Is and se planting red with I I I I I I I I I I I I I I I I I I I | SUBTOTAL TOTAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% construct rvice alignments notes. superintendant on si Superintendant on si Supe | 26430 28830 :ttion, tte. 100 32 |
| Z Recommendee (Ove NO TES: 1) Plant species selected from Bio- 2) Setbacktrees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on sit S TREES/ SHRUBS (MID- HIGH BANKS- Lophestmon suave olons Melaleuca wiridiflora | BUNDABERG HC ONE 5 - WETLAND R d Species List Total. erall density approximatel Retention Technical Guidelin operty boundaries, sewer, re eral locations and additiona te in random arrangement to R Swamp Box Swamp Box Broad Leaved Paperbark | DSPITAL EVEGET Approxir y 8 plantm es (Water b) taining wal details for b be confirm W2 U U U U U U U U U U U U U U U U U U | ATION mate A in per n y Design) Is and se planting red with ZZ E U Q Tube Tube | SUBTOTAL TOTAL TOTAL rea = 1585m2 n2) . Upon 80% construction superintendant on sinces. Superintendant on sinces. | 26430 28830 :ttion, tte. 32 32 |
| Z(Recommender (Ove NOTE 5: 1) Plant species selected from Bio-F 2) Setback trees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on sit G 5 1 1 1 1 1 1 1 1 1 1 1 1 1 | BUNDABERG HC ONE 5 - WETLAND R d Species List Total. erall density approximatel tetention Technical Guidelin operty boundaries, sewer, re eral locations and additiona te in random arrangement to W W W S Swamp Box BroadLeaved Paperbark Paperbark | DSPITAL EVEGET Approxir y 8 plantm es (Waterb) ttaining wal details for details for details for details for me Event Tree Tree Tree Tree | ATION nate Ad in per n y Design) Is and se planting red with SI OA Tube Tube Tube | SUBTOTAL TOTAL TOTAL TOTAL rea = 1585m2 n2) . Upon 80% construct rvice alignments notes. Superinten dant on si Superinten dant on si | 26430 28830 ttion, tte. 2830 ttion, tte. 2830 2830 2830 2830 2830 2830 2830 2830 |
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| Z Recommende (Ove NO TES: 1) Plant species selected from Bio-F 2) Setback trees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on si 3) Refer to additional plans for gen 4) Distribute plants in groups on si 5) 50 50 50 50 50 50 50 50 50 50 | BUNDABERG HC DNE 5 - WETLAND R d Species List Total Trall density approximatel Retention Technical Guidelin perty boundaries, sewer, re eral locations and additiona te in random arrangement to WW W O S Assume Book of AREA) Swamp Box Broad Leaved Paperbark Paperbark Black She Coak Coastal Banksia | DSPITAL EVEGET Approxir y 8 plantm es (Water b; tain ing wall details for o be confirm 0 be conf | ATION mate Ai in per n y Design) is and see planting red with : I I I I I I I I I I I I I I I I I I I | SUBTOTAL TOTAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% construct notes. superintendant on si . Upon 80% construct . Upon 8 | 26430 28830 28830 ttion, tte. 32 32 32 32 32 32 |
| Zi Recommede (Ove NO TES: 1) Plant species selected from Bio-f 2) Setback trees 3m min from all pr 3) Refer to additional plans for gen 4) Distribute plants in groups on sit 3) Refer to additional plans for gen 4) Distribute plants in groups on sit 3) Refer to additional plans for gen 4) Distribute plants in groups on sit 4) Distribute plants in groups on sit We laleuca viridifiona Me laleuca viridifiona | BUNDABERG HC ONE 5 - WETLAND R d Species List Total. erall density approximatel ketention Technical Guidelin operty boundaries, sewer, re eral locations and additiona te in random arrangement t Swamp Box Swamp Box Swamp Box Swamp Box Broad Leaved Paperbark Paperbark Black She Oak Coastal Banksia | DSPITAL EVEGET Approxir y 8 plantm es (Water b) stain ing wal details for b be confirm Wa O U U U U U U U U U U U U U U U U U U | ATION mate Au in per n y Design) Is and se planting eed with to o Tube Tube Tube Tube Tube Tube | SUBTOTAL TOTAL TOTAL TOTAL rea = 1585m2 12) . Upon 80% construct superintendant on si UV UV A A A A A A A A A A A A A A A A A | 26430 28830 :ttion, :tte. : : : : : : : : : : : : : : : : : : : |
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Final planting species and densities subject to minor alteration at the direction of project landscape architect based on specific site areas during on-site inspections.

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REHABILITATION METHODOLOGY - SITE WORKS - FAUNA NOTES

Consideration for fauna habitat and values will be given during rehabilitation site works and will enhance and restore the existing native vegetation areas and promote safe fauna movement throughout the site and into the larger greenspace corridors where possible. It is assumed properties adjacent to the rehabilitation scope of works will undertake individual site analysis, fauna investigations, and implement future measures as required.

As part of these rehabilitation works, basic fauna works will be undertaken. These treatments will primarily involve:

• Fauna Habitat Value and Protection - Increased fauna habitat value within the rehabilitation areas.

Fauna Habitat Value and Protection

Rehabilitation Areas to include reuse of site fallen / hollow logs and site rock to create fauna safe havens and cover from predators for small fauna. This approach coupled with additional revegetation works allows greater fauna security and movement within the rehabilitation areas. Consideration for bushfire requirements will be reviewed to confirm no conflict in both the fauna and rehabilitation approaches. Refer indicative images below.



REHABILITATION METHODOLOGY - MAINTENANCE & MONITORING

Maintenance, as with all ecological restoration work is fundamental in ensuring project success. Maintenance of the planting includes:

- Herbicide spraying to control competing weeds.
- Watering while plants are establishing. This is often highly variable and depends on the suite of species planted, weather conditions and time of year when planted. A watering schedule will consist of watering every day for week 1, twice per week for weeks 2-6 and then weekly from weeks 6-12. Contractor to confirm final watering regime. Ongoing watering will be required subject to weather conditions during maintenance period.
- Repair of tree guards if they become damaged.
- Replenishment of mulch. Maintaining exclusion fencing; and

.

Additional planting if required.

Additional planting will be required to replace plants that do not survive (e.g. to meet survival rate requirements, or to fill gaps), but it will also be necessary to introduce new species at different stages of vegetation succession. An adaptive management approach will be utilised, if one plant species consistently dies on a site, replace with a species that is performing well.

Maintenance is required following installation of the plants, although if maintenance is regular and thorough during the first year, maintenance requirements are likely to taper off significantly in the following years.

The utilisation of benchmark criteria to all Management Zones helps to determine rehabilitation success during the maintenance period and assists in prompting when additional maintenance activities are required. Typically accepted benchmarks to all Management Zones or performance indicators for dedicated or open space rehabilitation works include:

Primary site works will be signed off by a suitably qualified Rehabilitation Ecologist on completion.

The desired end-product is a fully-functioning system that can support itself in perpetuity, with minimal maintenance and input required.

REHABILITATION METHODOLOGY - MAINTENANCE & MONITORING

It is also critical for all parties to understand their responsibilities as part of the overall rehabilitation 'team'.

REHABILITATION TEAM RESPONSIBILITIES

| PARTY | DESCRIPTION |
|-------------|--|
| | Ensure all consultants, contractors, sub contractors or others utilizing the area are aware of the |
| | Rehabilitation Plan. |
| | Appoint appropriate consultants and contractors to undertake works as prescribed on the |
| Proponent | drawings and conditioned by the Assessment Manager. |
| rioponent | Provide security via an uncompleted works bond and maintenance bond for the cost of works |
| | if required. |
| | Cover the costs of all necessary resources to ensure works are completed as per the approved |
| | documents. |
| | Brief proponent on their requirements in implementing and maintaining works as per the |
| | Rehabilitation Plan. |
| | Attend pre-start and compliance (on and off maintenance) inspections. |
| Consultants | Undertake monitoring and reporting to the Assessment Manager as set up by this document. |
| | Be available to respond to technical queries to the approved documentation when on-site |
| | conditions require changes. |
| | Liaise with the Assessment Manager throughout all stages of approval, initial works and |
| | maintenance of works. |
| | Provide technical expertise via commentary on the approval of documentation. |
| | Attend pre-start and compliance (on and off maintenance) inspections. |
| Accorcment | Reduce and release securities held against works at the completion of successful milestone |
| Manager | inspections. |
| manager | Be available to respond to technical queries to the approved documentation when on-site |
| | conditions require changes. |
| | Accept and review maintenance reports as dictated (if required) in this document. |
| | Complete works in strict accordance with the documentation. |
| | Attend pre-start and compliance (on and off maintenance) inspections. |
| | Hold relevant licenses in applicable weed management/ revegetation/ fauna management, |
| | any required insurances for scope of works and an understanding of required Laws, Act, |
| Contractor | Policies and Guidelines. |
| | Recommend changes to the documentation when specific experience or on-site conditions |
| | require so. |
| | Hold minimum certifications such as Certificate III in Conservation and Land Management, or |
| | Certificate III in Horticulture, or Certificate III in Rehabilitation Construction, or equivalent |
| | experience in rehabilitation. |

Note: Source for information contained on this page from SEQERF.

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REHABILITATION METHODOLOGY - MAINTENANCE & MONITORING

Informal Monitoring of rehabilitation works is another method of determining ecological restoration success in conjunction with the adjacent benchmarks to all Management Zones. Informal monitoring to occur through ongoing site inspections and note-taking. Notes to be distributed to the rehabilitation team and rectification works completed against notes.

itoring of the weed management and revegetation works allows for:

- Review of the pre-established performance indicators for measuring the success of the weed removal and control.
- Ensure level of protection for existing identified native vegetation inclusive of that which has naturally regenerated
- Review the rate of spread or contraction of weed infestation within the control program.
- Monitor the rate of assisted regeneration and revegetation of desirable native species promoted in areas where weeds have been removed.
- Identification of new weed threats or other factors which will be effecting areas designated for rehabilitation.

itoring timeframes will involve a series of key milestones:

- Works will commence on approval of the Final Rehabilitation Plan and within 12 months of commencement of the action as per EPBC Act approval Condition 12.
- Prestart Inspection On site meeting prior to the initial commencement of work. Typically involves Consultant, Contractor and Assessment Manager to work through rehabilitation areas and clarify any adjustments to scope against approved works.
- Inspections by the Rehabilitation Ecologist to be held quarterly until self-sustaining, to inspect the works on-site in relation to the approved plans and previously agreed benchmarks / performance indicators to all Management Zones.
- Ongoing Monitoring Inspections- Informal monitoring to occur on a regular basis as highlighted above.





REHABILITATION BENCHMARK TABLE

| | Score Year 1 | Year 5 | Year 10 | Year 15 | Year 20 | Justifications / Management Actions | Monitoring | Adaptive Management |
|---|-----------------|--------|---------|---------|---------|--|---|---|
| SITE CONDITION | | | | | | | | |
| Recruitment of woody perennial species in EDL | 3 | 3 | 5 | 5 | 5 | Recruitment of a minimum of >75% of the recruitment of woody perennial species in EDL benchmark by Year 10 utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If recruitment is not maintained at 75% then remedial actions to improve recruitment will be applied. These include refining weed and fire control methods to ensure recruiment is not impacted and increasing remedial plantings to boost recruitment counts where necessary. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Native plant species richness - trees | 5 | 5 | 5 | 5 | 5 | Maintain a minimum of 100% of the tree species richness benchmark utilising the RMP management actions | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If the canopy layer species richness is not maintained, then remedial action swill be applied. This will include remedial plantings of advanced stock or extending the rehabilitation period to reach minimum objectives. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Native plant species richness - shrubs | 2.5 | 2.5 | 5 | 5 | 5 | Establish by Year 10 a minimum of 90% of the shrub species richness benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If the shrub species richness has not improved to greater than 90% at 10 years than remedial actions to improve the prospect of achieving 100% in 20 years will be applied. These will include remedial plantings. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Native plant species richness - grasses | 2.5 | 2.5 | 5 | 5 | 5 | Establish a minimum of 90% of the grass species richness benchmark utilising the RMP management actions . | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If grass species richness has not improved to greater than 90% at 10 years then remedial actions to improve the prospect of achieving 100% in 20 years will be applied. These will include remedial plantings. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Native plant species richness - forbs | 2.5 | 2.5 | 5 | 5 | 5 | Establish a minimum of 90% of the forb species richness benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If the forb species richness has not improved to greater than 90% at 10 years, then remedial actions to improve the prospect of achieving 100% in 20 years will be applied. These will include remedial plantings. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Tree canopy height (Canopy)* | 5 | 5 | 5 | 5 | 5 | Tree species to be a minimum of 70% of the tree canopy height benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If the tree height has not maintained 70% at year 15 then the prospect of extending the management period will be investigated by a Rehabilitation Ecologist. By Year 20 to be a minimum of 70% of the tree canopy height benchmark. |
| Tree canopy height (Sub-canopy)* | 5 | 5 | 5 | 5 | 5 | Tree species to be a minimum of 70% of the tree sub- canopy height benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If the tree height has not maintained 70% at year 15 then the prospect of extending the management period will be investigated by a Rehabilitation Ecologist. By Year 20 to be a minimum of 70% of the tree canopy height benchmark. |
| *Average tree canopy height | 5 | 5 | 5 | 5 | 5 | | | |
| Tree canopy cover (Canopy)** | 5 | 5 | 5 | 5 | 5 | Tree canopy cover to be a minimum 50% of the tree canopy cover (canopy) benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If canopy cover has not maintained 50% at 15 years, then remedial actions to improve the prospect of achieving 50% in 20 years will be applied. This will include remedial plantings of advanced stock or extending the life of the offset to reach minimum objectives. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Tree canopy cover (Sub-canopy)** | 3 | 3 | 5 | 5 | 5 | Tree sub-canopy cover to be a minimum of 50% of the tree canopy cover (sub-canopy benchmark by Year 10 utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If canopy cover has not reached 50% at 10 years, then remedial actions to improve the prospect of achieving 50% in 20 years will be applied. This will include remedial plantings of advanced stock or extending the life of the offset to reach minimum objectives. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| **Average tree canopy cover | 4 | 4 | 5 | 5 | 5 | | | |
| Shrub canopy cover | 5 | 5 | 5 | 5 | 5 | Maintain shrub canopy cover of 50% of the shrub canopy cover benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If canopy cover has not maintained 50%, then remedial actions to improve the prospect of achieving 50% in 20 years will be applied. This will include remedial plantings of advanced stock or extending the life of the rehabilitation to reach minimum objectives. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Native grass cover* | 1 | 5 | 3 | 3 | 5 | Improve native grass cover to 50% of the benchmark by Year 10 and 90% by Year 20 utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If monitoring indicates native grass is not improving at 10 years then remedial actions will be applied. These will include refining weed and fire control methods to ensure native grass cover is improved and remedial plantings where necessary. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Organic litter* | 5 | 5 | 5 | 5 | 5 | Organic Litter to be at least 50% of benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If organic litter has not maintained greater than 50% at 15 years, then remedial actions to improve the prospect of achieving 50% in 20 years will be applied. These will include refining weed and fire control methods to ensure organic litter is maintained. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Large trees (euc plus non-euc) (per ha) | 10 | 10 | 10 | 10 | 10 | Large trees to maintain greater than 50% of benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If large tree threshold has not been maintained then remedial actions to improve the prospect of achieving 50% in 20 years will be applied. This will include remedial plantings of advanced stock or extending the life of the rehabilitation to reach minimum objectives. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Coarse woody debris (per ha) | 5 | 5 | 5 | 5 | 5 | Maintain a minimum of 50% of the coarse woody debris benchmark utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If monitoring indicates that coarse woody debris has not maintained to between 50 and 200% by year 10 then remedial actions will be applied. These will include a review of actions that impact on coarse woody debris such as fire regimes and importing native tree debris where necessary. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| Non-native plant cover | 0 | 5 | 10 | 10 | 10 | Weed coverage to be less than 25% by Year and less than 5% by Year 10 utilising the RMP management actions. | Baseline Site Condition attributes are established. Habitat quality transects to be completed by suitably qualified professionals at 1, 5, 10, 15 and 20 years. | If improvement to 5% has not been achieved at the 10-year mark, then remedial actions to reduce weed cover will be applied. This will include refining and impriving weed control methods. Adaptive management measures to be implemented by a Rehabilitation Ecologist. |
| | | | | | | | | |
| Site Condition Score (/80) | 40.5 | 59.5 | 73 | 73 | 75 | | | |

AMENDM ISSUE DATI A 06.' B 01.' C 02.' D 05.'

AS NOTED

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| ENTS: | DESCRIPTION | CHECKED | CLIENT: | QUEENSLAND | PROJECT: | BUNDABERG HOSPITAL - |
|--------|-------------------------|---------|---------|------------|----------|----------------------|
| 0.2023 | CLIENT ISSUE | RM | | GOVERNMENT | | LOT 23 BUNDABERG |
| 1.2023 | PRELIMINARY ISSUE | RM | | | | DINC DOAD THADEDAN |
| 0.2024 | AMENDMENTS ISSUE | RM | | | | RING ROAD, THABEBAN |
| 2.2024 | REQUEST FOR INFORMATION | RM | | | | |
| | | | | | | |
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The Rehabilitation Management Plan includes:

a) benchmarks and outcomes for the rehabilitation of the disturbed areas outside the development footprint as shown in the map in Appendix A5 at 1, 5, 10, 15 and 20 year intervals;
 b) trigger values for corrective actions;

c) corrective actions to be implemented to ensure that the rehabilitation benchmarks are achieved; and

d) monitoring and reporting measures to ensure that if trigger values occur they will be promptly detected and that timely progress is made to achieve the rehabilitation benchmarks and that subsequently they are maintained.

Rehabilitation benchmarks means the vegetation benchmarks based on Queensland Herbarium BioCondition benchmarks at 1, 5, 10, 15 and 20 year intervals, from the commencement of the Action to achieve remnant vegetation status for rehabilitated areas in accordance with the definition of remnant vegetation under the Queensland Vegetation Management Act 1999.

Queensland Herbarium BioCondition benchmarks refers to the Queensland Herbarium BioCondition benchmarks for regional ecosystem 12.5.4 in Appendix A4 below (downloaded 8 March 2024), available at:

https://www.qld.gov.au/environment/plantsanimals/biodiversity/benchmarks

Note: Source for information contained on this page from SEQERF.



