



Annual Compliance Report

24 June 2019 to 23 June 2020 – EPBC 2013/6866
Woodlinks Village – Master Planned Residential Community,
Collingwood Park, Queensland
Canberra Estates Consortium No. 36 Pty Ltd
23 September 2020

Job No: 7189 E



Woodlinks Village

Document control

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1. Introduction

Saunders Havill Group were engaged by Canberra Estates Consortium No. 36 Pty Ltd to prepare an *Annual Compliance Report* for the Woodlink Project – Master Planned Residential Community granted under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (ref EPBC 2013/6866), and is specifically required by condition 8 of the approval granted on 4 March 2014 (**Appendix A**). The project is referred to in this report as *Woodlinks Village* which is the residential estate name.

The project area covers approximately 78 hectares (ha) and is located approximately 12 kilometres (km) by road east of Ipswich (refer to **Figure 1**).

This report delivers an annual overview of the project’s progression towards achieving the primary objective:

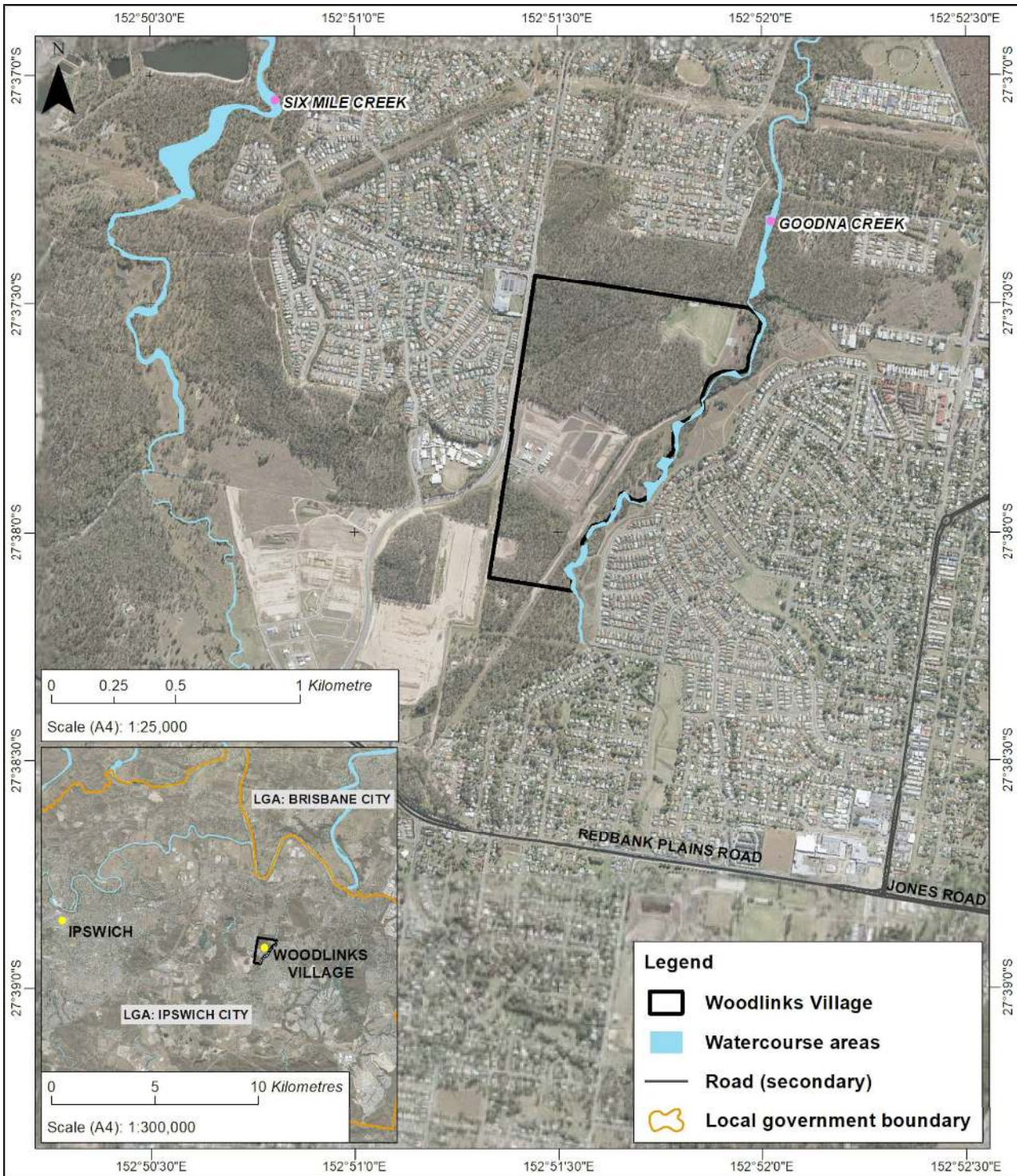
To create a self-sustaining system that provides habitat critical to the survival of the Koala while creating a locally significant corridor connecting habitat areas along Goodna Creek.

The project’s progress and notable events during the reporting period are detailed in Section 3. The assessment of compliance with the approval conditions is presented in **Section 4**. This report is the fourth Annual Compliance Report for the approved action.

1.1. Approval summary

Department reference	EPBC 2013/6866
Approval holder	Canberra Estates Consortium No. 36 Pty Ltd
ACN	156 442 312
Approval date	4 March 2014
Expiry date of approval	31 January 2034
Approved action	To develop the Woodlink residential community in Collingwood Park, Queensland
Controlling provision	Approved - listed threatened species and communities (sections 18 & 18A)
Reporting period	24 June 2019 to 23 June 2020
Address	246-326 Collingwood Drive, Collingwood Park
Local government area	Ipswich City Council

Figure 1: Project area locality



Woodlinks Village – Master Planned Residential Community

EPBC 2013/6866

Figure 1 - Project area context
Prepared on 08 September 2017

File ref: 7189 E 01 A Project area context

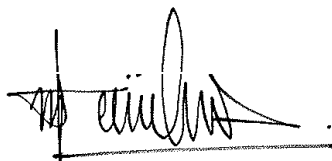
Coordinate System: GDA 1994 MGA Zone 56
Projection: Transverse Mercator Datum: GDA 1994
Data sources: © State of Queensland (Department of Natural Resources and Mines) 2017. © State of Queensland (Department of Transport and Main Roads) 2017. Imagery: Google Earth Pro

Prepared by **SH** saunders havill group

2. Declaration of accuracy

In making this declaration, I am aware that sections 490 and 491 of the EPBC Act make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed



Full name

Murray Saunders

Position

Director

Organisation

Saunders Havill Group (ABN 24 144 972 949)

Date

22 September 2020

3. Description of activities

Woodlinks Village is a residential community located in the suburb of Collingwood Park. The development of residential land parcels and open space areas is under establishment, with approximately 217 houses constructed since the commencement of the action in 2015. As residential development advances, the adjoining Goodna Creek open space area is rehabilitated with a focus on enhancing koala habitat. Other open space areas providing local park facilities and general amenities in the development area have also been established.

Clearing work associated with the residential development was undertaken during the 2019-2020 reporting period with the assistance of AW Environmental Consultants (AWEC). As part of this work, a fauna spotter was in attendance at all times during clearing activities. AWEC reported on the clearing activities and these reports are provided to the Department as part of this Annual Compliance Report (refer **Appendix B**).

Since the 2019 Annual Compliance Report, development activities have included:

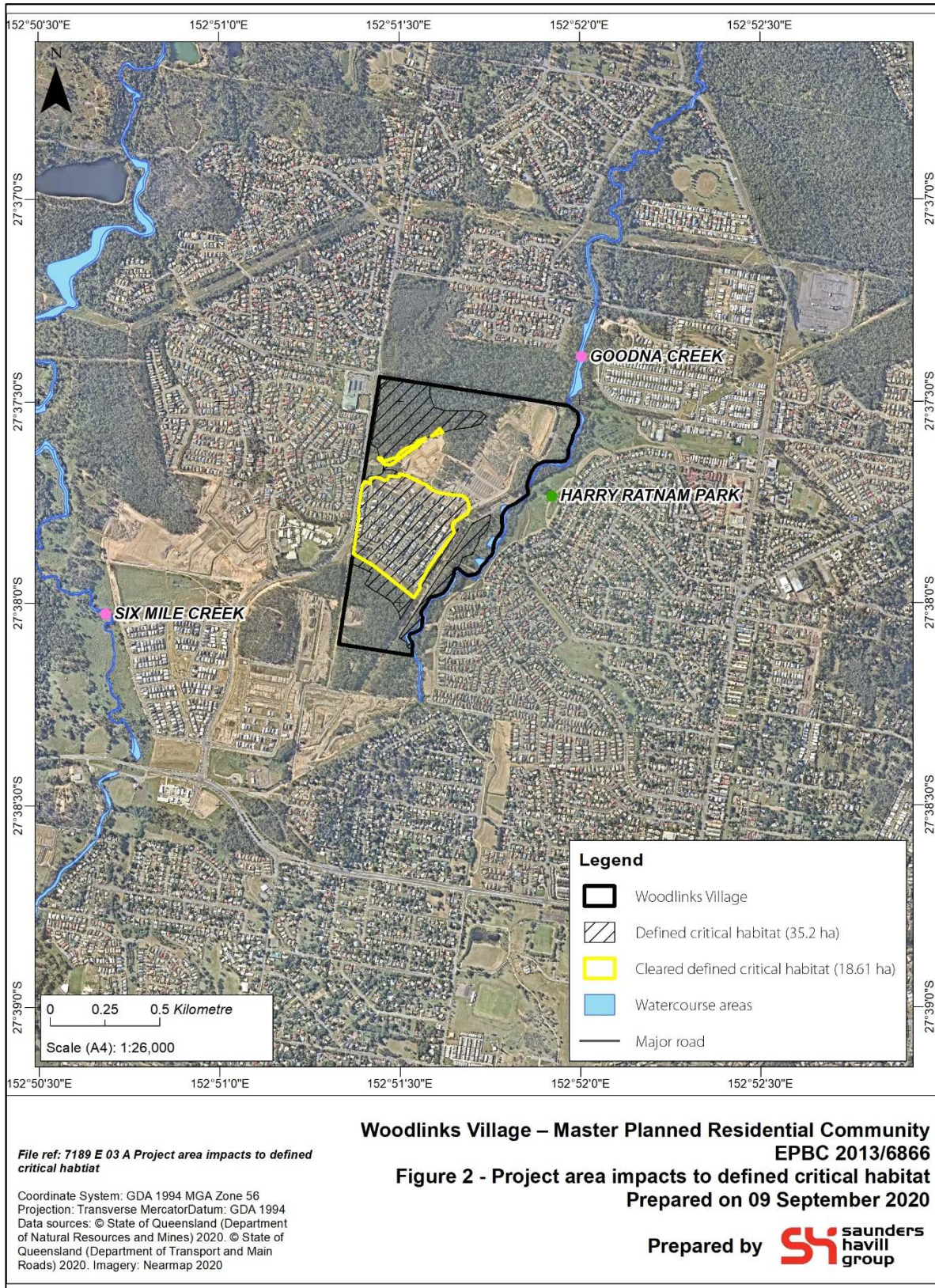
- vegetation clearing;
- house construction;
- landscape and drainage works; and
- offset area improvement works.

The project has delivered 217 residential lots to the market since commencement. **Table 1** summarises the current status of the project in conjunction with **Section 4.2** below. **Figure 2** illustrates the impacts to habitat critical to the survival of the Koala as defined in the approval and listed in **Table 1**.

Table 1: Development details

Total dwellings (approved)	1,000
Dwellings under construction/constructed	217
Total defined critical habitat onsite	35.2 ha
Approved total clearing of defined critical habitat only	25.9 ha
Total current clearing of defined critical habitat only	18.61 ha
Total current clearing of non- critical habitat	16.48 ha
Total current clearing (critical and non-critical habitat)	35.09 ha

Figure 2: Project area impacts to defined critical habitat



4. Offset actions

As per the detail preliminary documentation, the offset land is made up of two distinct areas:

1. Open space dedications

New land created and improved along the Goodna Creek conservation corridor.

2. Harry Ratnam Park

Improvement works for the establishment of new habitat within existing degraded Ipswich City Council parkland.

As part of the EPBC Act approval process, it was determined that offset areas adjacent to Goodna Creek would be created, rehabilitated and improved as Koala habitat. The purpose of the offset was to bolster and enhance the existing local Koala corridor movement along Goodna Creek.

The Offset Management Plan (OMP) lodged under condition 4 of the approval, and approved by the Department on 15 October 2014, details the progressive works to occur throughout the area. Condition 3 of the approval outlines the need for the approval holder to implement “mechanisms” to provide enduring protection. For new offset land on the west of Goodna Creek this involves the creation of parkland allotments and the dedication of the land to Ipswich City Council for conservation purposes.

The process for completing this dedication and enduring protection includes the steps listed below.

1. The western parkland dedication area has been designated as three separate future allotments aligning to development staging:
 - i. Lot 7000
 - ii. Lot 7001
 - iii. Lot 7002 and 7003 completed as one scope of works
2. A detailed operational works drawing set must be completed and lodged for Ipswich City Council approval.
3. Once approved the works are tendered and commissioned.
4. Improvement/rehabilitation works completed including weed removal, revegetation with Koala trees, rubbish removal and fixing of erosion issues.
5. At the completion of works a thorough onsite inspection is completed by Ipswich City Council and once satisfactory the area is accepted as “on-maintenance”.
6. After 24 months, if the completed works continue to satisfy Ipswich City Council during the regular inspections, the works are considered “off-maintenance”.
7. Once the works are considered completed the created allotment can be registered with the Queensland Government titles office and dedicated to Ipswich City Council.

There are two constraints which limit the timeframe for dedications of offset land:

1. The offset allotment is created as the development allotments are reconfigured. This occurs post approval of the stage adjoining the Goodna Creek conservation corridor.
2. The improvement works must have occurred prior to Ipswich City Council accepting the dedicated land (Ipswich City Council will not accept the land title prior to the developer completing all weed management and revegetation works).

The Harry Ratnam Park offset area, which makes up approximately 13.5 ha of the offset area, is already under Ipswich City Council ownership and is therefore secured and protected. Improvement works are on hold awaiting formal feedback and clarity from Ipswich City Council as to the deed of access currency. In the meantime, improvement efforts have been focused on Lot 7002/7003.

Collectively, the 32.8 ha Koala offset area is made up of:

- created allotment 7000 (5.58 ha);
- created allotment 7001 (2.41 ha);
- created allotment 7002 and 7003 (8.5 ha);
- Goodna Creek watercourse allotments (2.8 ha); and
- Harry Ratnam Park allotments (13.5 ha).

4.1. Offset status

At the five years post commencement date, the approved offset has achieved the following status:

Lot 7000:

- Operational works permits achieved.
- Works tendered and complete.
- Plan parcel sealed.
- Pending off-maintenance with Ipswich City Council.

Lot 7001:

- Operational works permits achieved.
- Works tendered and complete.
- Plan parcel sealed.
- Pending off-maintenance with Ipswich City Council.

Lot 7002 and 7003:

- Operational works permits achieved.
- Works tendered and complete.
- Plan parcel sealed.
- Improvement works achieved practical completion stage on 2 July 2019.
- On-maintenance commenced 24 September 2019. Subject to successful establishment, off-maintenance is scheduled for 24-months after the end of establishment (*i.e.* 24 September 2021).

Harry Ratnam Park:

- Operational works documentation updated post-discussions with Ipswich City Council.
- Full land access agreement in place and executed between approval holder and Ipswich City Council.
- Works tendered.
- Commencement of improvement works awaiting formal feedback from Ipswich City Council
- Ongoing use and harvest of the Koala harvest area.

The following documents are provided as supporting documentation to the current offset area status:

- **Appendix C** – revised Harry Ratnam Park operational works drawings and weed management and rehabilitation works status overview.

In summary, 16.5 ha of the 32.8 ha offset area has been completely rehabilitated for improved Koala habitat. This completed area includes lots 7000, 7001, 7002 and 7003, and has a protection mechanism in place under the Preliminary Approval overriding the planning scheme. Additionally, Harry Ratnam Park is a protected park area.

4.2. Offset inspection

During the reporting period, several meetings were held with Ipswich City Council to support the advancement of the offset. Some of these meetings were held on-site to allow for immediate investigations/review. The meetings concentrated on particulars around the operational works, including how the operational works were advancing and how to streamline future works. These meetings will continue to be held throughout the upcoming off-maintenance phase.

4.2.1 Rehabilitation observations

An assessment of improvement works across all rehabilitation allotments, with a particular focus on Lot 7002 and 7003 was conducted by two ecologists from Saunders Havill Group on 31 August, 2020. Improvement works have reached practical completion stage, and were assessed as showing successful establishment (refer **Photo set 1**, **Photo set 2** and **Photo set 3**) 11-months into the 24-month on-maintenance period before being handed to Ipswich City Council as off-maintenance.



Photo set 1: Improvement works from Lot 7002 and 7003 following practical completion.



Photo set 2: Improvement works from Lot 7002 and 7003 following practical completion.



Photo set 3: Improvement works from Lot 7002 and 7003 following practical completion.

4.2.2 Fauna observations

A fauna assessment was conducted across the Goodna Creek corridor site on 31 August, 2020 to identify and describe on-ground habitat features (e.g. habitat trees, koala habitat), signs of fauna activity (e.g. scats, tracks, scratch marks on trees, nests etc.) and observations of species present within the area. Particular consideration was also given to the ecological significance of the site in the context of the utilisation of the site by the local Koala population. No specific surveys for reptiles (e.g. pitfall traps) nor nocturnal animals (e.g. spotlighting) were used.

The following observations have been made based on field survey:

- The 2020 SAT survey results indicated Koala presence throughout the rehabilitation portion of the site, particularly along the Goodna Creek Corridor. Four (4) SAT surveys for Koala scats were carried out across the rehabilitation portion of the site to determine if Koala presence has continued in this area. Evidence of Koala usage was found throughout (refer to **Photo set 4**), indicating continued presence along the Goodna Creek Corridor. No direct observations of Koalas were made.
- All 4 SAT surveys carried out across the site recorded 'Low Use' using the Phillips and Callaghan (2011) Guide for 'The Spot Assessment Technique'.
- The majority of fauna observed on site were highly mobile bird species.
- A number of hollows and nests were observed within the Goodna Creek Corridor, likely supporting common fauna such as *Trichosurus vulpecula* (Brushtail Possum) and common bird species (refer to **Photo set 4**).

It should be noted that due to economic pressures associated with COVID-19, a thermal UAV survey to determine Koala presence along the Goodna Creek corridor was not undertaken during this reporting period.



Photo set 4: Koala scats observed within the Goodna Creek Corridor.

5. EPBC approval conditions compliance table

The EPBC approval conditions for the project are replicated in **Table 2** with a designation on compliance or non-compliance if the condition was applicable during the reporting period, and evidence and comments as necessary. A copy of the EPBC approval and conditions is provided in **Appendix A**.

Table 2: EPBC approval conditions compliance table.

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
1	The approval holder must not remove or fragment more than 25.9 hectares of habitat critical to the survival of the Koala. Impacts to habitat critical to the survival of the Koala must be limited to the project area shown in Attachment 1.	Compliant	<p>A total of approximately 18.61 ha of habitat critical to the survival of the koala has been cleared in the project area (refer to Figure 2 for the location).</p> <p>Note: at the time of assessment and approval, critical habitat was defined in accordance with the interim advice note. Under this advice, only portions of the site achieved the criteria. Current vegetation cleared on site equals 35.09 ha of which 18.61 ha is considered critical habitat in accordance with the approval.</p>
2	<p>The approval holder must prepare a Koala Management Plan to address management measures to avoid and mitigate impacts to Koalas.</p> <p>a) The Koala Management Plan must be submitted to the Minister for approval no less than three months prior to its intended implementation. Once approved the Koala Management Plan must be implemented.</p> <p>b) The Koala Management Plan must be implemented prior to commencement of the action, or as otherwise directed in writing by the Minister.</p>	Compliant	<p>On 15 October 2014 the Department approved the KMP and provided confirmation that the KMP met the requirements of condition 2.</p> <p>Implementation of the KMP is detailed in section 7 of this report and Table 3.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
c)	<p>The Koala Management Plan must include, but not be limited to:</p> <ul style="list-style-type: none"> i. details of pre-clearance survey methods for Koalas within the project area to be undertaken prior to the commencement of the action, ii. details of measures to mitigate impacts to Koalas within the project area, including, but not limited to: <ul style="list-style-type: none"> 1. provision for a qualified fauna spotter-catcher to undertake surveys and handling of Koalas prior to and during commencement of the action; 2. construction and permanent fauna exclusion fencing; 3. implementation of appropriate vehicle speed limits; 4. utilisation of plant species in the project area that will not attract Koalas to the project area; 5. implementation of traffic calming awareness signage; and 6. provision of off-leash dog facilities, on-leash areas and dog prohibited areas. iii. details of methods for Koala relocation activities, to be undertaken prior to and during the commencement of the action including the identification and description of suitable recipient Koala habitat. iv. process for reporting results from pre-clearance surveys and relocation activities, including, but not be limited to: <ul style="list-style-type: none"> 1. identification of a website in which information would be made available to the public, 		

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	<ol style="list-style-type: none"> 2. timing and frequency for providing reporting information to the Department, 3. provision of the following details, at a minimum, to be recorded if any Koalas are captured during relocation activities: <ul style="list-style-type: none"> • sex • age class • time and date of capture • method of capture • location of capture (Global Positioning System (GPS)) • state of health • any veterinary intervention required • time held in captivity • location of release (GPS) and date 4. provision of the following details at a minimum to be recorded for incidents if any Koalas are injured or killed: <ul style="list-style-type: none"> • time, location (GPS) and nature of extent • details of Koalas (including sex and age class) • measures taken to address incident 		
3	To offset the residual impacts to Koala, the approval holder must implement mechanisms to provide enduring protection, over a minimum of 27 hectares, to the offset site, referred to as 'Goodna Creek Offset and Rehabilitation Area' as shown in Attachment 1.	Compliant	As described in <i>Section 4 Offset Actions</i> , dedication and enduring protection of the offset area is a sequential process and 16.5 ha of rehabilitated land is awaiting to become off-maintenance and handed over to Ipswich City Council. Improvement works in Harry

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	<p>The protection mechanisms implemented by the approval holder, including but not limited to, land access agreements, dedication of land title and zoning under the Ipswich Planning Scheme must be consistent with the conditions of this approval and the principles of the EPBC Act Offsets Policy.</p> <p>Within three years of the date of the approval, the approval holder must provide written evidence to the Department demonstrating that the protection mechanisms have been implemented.</p>		<p>Ratnam Park are pending formal feedback from Ipswich City Council as to the deed of access currency</p> <p>In total, 32.8 ha is currently protected (including Goodna Creek).</p> <p>It is noted that project commencement occurred twelve months after the issuing of the approval. The Preliminary Approval overriding the planning scheme provides protection over the land.</p>
4	<p>The approval holder must prepare an Offset Management Plan to address significant residual impacts to Koalas as a result of the action:</p> <ol style="list-style-type: none"> a. impacts to Koalas that must be offset include: <ol style="list-style-type: none"> i. the loss of 25.9 hectares of habitat critical to the survival of the Koala, and ii. injury and mortality of Koalas. b. the Offset Management Plan must include, but not be limited to: <ol style="list-style-type: none"> i. a detailed description of all affected values and the extent and likely timing of the impact/s on each, ii. the offset delivery mechanism(s) comprising land offsets and management, and maintenance of Koala population offset within the 'Goodna Creek Corridor' as shown in Attachment 1, iii. detailed descriptions of how enhanced conservation outcomes for the affected Koalas will be achieved in accordance with the EPBC Act Offsets Policy, iv. contribution of funding to the management and maintenance of the Offset Management Plan, 	Compliant	<p>The Woodlinks Village OMP was approved by the Department on 15 October 2014 and the approval confirmed the OMP met the requirements of condition 4.</p> <p>Implementation of the OMP is described in section 8 of this report and Table 4.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	<ul style="list-style-type: none"> v. timeframes and key milestones for implementation of offsets including, but not limited to, beginning to implement the offset plan prior to commencement of the action, vi. discussion of the risks and uncertainties associated with proposed offsets, vii. mechanisms for monitoring and reporting viii. corrective actions and contingency measures to be implemented (including the timing of implementation of these) where monitoring of the offset area/s under the offset plan shows that offset strategies are not effectivity achieving a net benefit or key milestones are not being or unlikely to be met, and ix. include textual descriptions and maps clearly defining the locations and boundaries of offset areas. These must be accompanied by a shapefile. c. The Offset Management Plan must be developed in consultation with the Department and other relevant stakeholders, including but not limited to, the Ipswich City Council and Ipswich Koala Protection Society. d. The approval holder must give consideration to how offsets will contribute to programs or incentives that align with the broader strategies and programs for the conservation and protection of Koalas. e. The Offset Management Plan must be submitted to the Minister for approval no less than three months prior to its intended 		

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	<p>implementation. Once approved the Offset Management Plan must be implemented.</p> <p>The Offset Management Plan must be implemented prior to the commencement of the action, or as otherwise directed in writing by the Minister.</p>		
5	<p>The most recent approved version of the Koala Management Plan and Offset Management Plan must remain accessible to the public on the website of the approval holder for the duration of the action.</p>	Compliant	<p>The approved versions of the KMP and OMP are accessible to the public via the Woodlinks Village website.</p>
6	<p>Within ten days after the commencement of the action, the approval holder must advise the Department in writing of the actual date of commencement.</p>	Compliant	<p>The date of the commencement of the action was 24 June 2015 and the Department was notified on 25 June 2015.</p>
7	<p>The approval holder must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the plans required by this approval, and make them available upon request to the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department’s website. The results of audits may also be publicised through the general media.</p>	Compliant	<p>The Saunders Havill Group records and holds all relevant information for this EPBC approval on behalf of the approval holder. Electronic records of all material are held collectively by the Saunders Havill Group and approval holder and will be made available upon request in accordance with section 458 of the EPBC Act, or if required to verify compliance with the conditions of approval.</p>
8	<p>Any potential or suspected non-compliance with these conditions of approval must be reported to the department in writing within 48 hours of the approval holder becoming aware of the potential or suspected non-compliance. Within three months of every 12 month anniversary of the commencement of the action, the approval holder must publish a report on their website addressing compliance with each of the conditions of this</p>	Compliant	<p>The anniversary of the commencement of the action is 24 June. The annual deadline for publishing the report addressing compliance with each of the conditions of the approval (i.e. this Annual Compliance Report) is 23 September. Documentary evidence providing proof of the date of publication will be provided to the Department when the report is published. Where the annual deadline is not a business day</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	approval, including implementation of any plans as specified in the conditions. Documentary evidence providing proof of the date of publication must be provided to the Department at the same time as the compliance report is published.		in Brisbane, the following business day is taken to be the due date. The 2019 Annual Compliance Report due date was Monday 23 September, 2019 and notification to the Department was provided on 24 September, 2019. The approval holder and Saunders Havill Group are not aware of any potential or suspected non-compliance with the conditions during the reporting period.
9	Upon the direction of the Minister, the approval holder must ensure that an independent audit of compliance with conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Not applicable	The Minister has not directed the approval holder to conduct an independent audit of compliance with the conditions of the approval.
10	If the approval holder wishes to carry out any activity otherwise than in accordance with a plan as specified in the conditions, the approval holder must submit to the Department for the Minister's written approval a revised version of that plan. The varied activity shall not commence until the Minister has approved the revised plan, that plan must be implemented in place of the plan originally approved.	Not applicable	The approval holder has not wished to carry out any activity that is not in accordance with the approved KMP and OMP.
11	If the Minister believes that it is necessary or convenient for the better protection of Koala to do so, the Minister may request that the approval holder make specified revisions to a plan specified in the conditions and submit the revised plan for the Minister's written approval. The approval holder must comply with any such request. The revised approved plan must be implemented. Unless the Minister has approved the revised plan,	Not applicable	The Minister has not provided a direction to revise a plan specified in the conditions.

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	then the approval holder must continue to implement the plan originally approved, as specified in the conditions.		
12	If, at any time after five years from the date of this approval, the approval holder has not commenced the action, then the approval holder must not connective without written agreement of the Minister.	Not applicable	The action commenced on 24 June 2015.

It should be noted that the 2019 Annual Compliance Report (prepared by Saunders Havill Group) incorrectly documented the total clearing activities for the 24 June 2018 – 23 June 2019 period. It has been clarified that clearing documented in the 2019 Annual Compliance Report, in particular Stage 16, included clearing for Stages 17, 18 and 22. As such, the clearing for the reporting period should have totalled 9.72 ha (2.59 ha was defined as critical habitat). The clearing for Stages 16, 17, 18 and 22 was reported in the QFC Fauna Management and Spotter/Catcher Services Report (May 2019) which was included in the 2019 Annual Compliance Report.

6. Koala Management Plan

A review of the KMP commitments and implementation is provided in **Table 3**.

Table 3: Koala Management Plan implementation

No.	Commitment	Evidence/comments/status
KMP-1	<p>Awareness</p> <p>To achieve the objectives of the KMP, it is important that site personnel (e.g. contractors and sub-contractors) are aware of the plan and the requirements pertaining to the protection of the Koala. As part of working on-site, the civil contractor is responsible for ensuring civil works personnel are aware of the KMP and impacts to the Koala are reported to the approval holder.</p>	<p>During the reporting period a total of 5.25 ha of clearing activities were undertaken (0.59 ha was defined as critical habitat). Throughout the clearing activities, site personnel (e.g. contractors and sub-contractors) were made aware of the KMP requirements and could readily access a copy via the Woodlinks Village website at all times. While on-site, the temporary site office displayed a copy of the KMP. Induction material, daily meetings and reporting captured information pertaining to fauna management while the civil contractor's undertook work at Woodlinks Village.</p>
KMP-2	<p>Construction management - fauna</p> <p>Engage a registered fauna spotter/catcher to protect wildlife from the impacts of clearing. This includes the preparation of management plans (e.g. Wildlife Protection and Management Plan (WPMP) and Wildlife and Habitat Impact Mitigation Plan (WHIMP)), attendance at key project milestones such as the pre-start meeting, pre-clearance reporting and post-works reporting. The fauna spotter/catcher management plans incorporate methods for relocating fauna during clearing activities.</p>	<p>During the reporting period a total of 5.25 ha of clearing activities were undertaken (0.59 ha was defined as critical habitat).</p> <p>Throughout these clearing activities (including pre-clearance and post-clearance), AWEC was engaged to provide fauna spotter/catcher services at Woodlinks Village. AWEC reports include data on fauna encountered during clearing and are included as Appendix B of this report. Reporting to the Department on clearing activities is undertaken in accordance with the approval conditions.</p>
KMP-3	<p>Construction management - vegetation clearing</p> <p>Clearing, rehabilitation and revegetation will occur in stages over the life of the project and pre-starts will be held with stakeholders.</p>	<p>Stage 23, firebreak management and sewer construction vegetation clearing was completed during this reporting period and aligned with the development of residential land. Prior to clearing, the works area was demarcated and an on-site pre-start held with Ipswich City Council.</p>

	<p>Vegetation clearing activities are supervised by suitably qualified person/s that adhere to current industry practices that protect the welfare of animals. These activities require demarcating the vegetation clearing limit prior to commencing clearing work. Subsequent reporting is made available to stakeholders and the public.</p>	<p>AWEC supervised all vegetation clearing activities which included inspecting the demarcated boundary of the works area and ensuring clear paths for fauna to reach safe havens were provided. AWEC's Standard Operating Procedure detailed the processes employed to safely and effectively minimise the potential harm caused to fauna during vegetation clearance. AWEC supervised all clearing work and their services reports are provided in Appendix B.</p>
KMP-4	<p>Construction management - vegetation clearing</p> <p>All site trees will be mulched for re-use in on-site erosion and sediment control and revegetation.</p>	<p>All suitable site trees cleared during the reporting period were mulched for re-use in on-site erosion and sediment control and revegetation requirements wherever possible.</p>
KMP-5	<p>Construction management - vegetation clearing - fencing</p> <p>Prior to vegetation clearing, install a temporary fauna exclusion fence around the area of clearing works and maintain the fence until the completion of major civil works.</p>	<p>Stage 23, firebreak management and sewer construction vegetation clearing and Stage 9, 17, 18, 19, 22, 23 and 24 major civil works were completed during this reporting period. Prior to clearing, the works area was demarcated and the fencing was signed-off by Ipswich City Council at the pre-start meeting. The fencing installed excluded fauna from entering the works area. Additionally, daily inspections of the fencing were completed by the contractor.</p>
KMP-6	<p>Operational management – general</p> <p>Manage and protect the Goodna Creek open space area including:</p> <ul style="list-style-type: none"> • undertake weed management and revegetation activities • install landscape furniture and ecological feature signage • establish a cat and dog restriction zone • disallowing pet friendly areas (e.g. open grassed areas) • providing a dog off-leash area outside the corridor • inform new residents of the corridor values and importance. 	<p>Weed management and landscape (i.e. revegetation) works had been undertaken in the Goodna Creek open space area adjacent to the residential development area during previous reporting periods, with these works approved by Ipswich City Council and currently under active management.</p> <p>The next phase of works was planned to advance into Harry Ratnam Park, however improvement works are still awaiting formal feedback as to the deed of access currency and consequently improvement works have been delayed in this area. Instead, weed management and landscape activities proceeded along the corridor into Lot 7002 and 7003, which were carried out as one scope of works.</p> <p>Corridor signage has been installed to inform the local residents of the restrictions relating to dogs, however the power line easement is used as a thoroughfare historically by non-residents walking dogs who do not access the</p>

area via the development. This issue is the partly result of prior trespassing on the land pre-development. As the development expands and the vacant land is transitioned to housing, the trespassing will diminish.

Communication between the approval holder and residents is facilitated using the Woodlinks Village website, the on-site sales village and letterbox pamphlets. These provide current information on the commitments to protecting and improving the Goodna Creek open space area and how residents can contribute to protecting Koalas.

<p>KMP-7</p>	<p>Operational management – fencing and planting</p> <p>Neighbourhood design will include road frontage between residential allotments and the Goodna Creek open space area. Additionally, landscape design will avoid planting known Koala food or shelter trees in areas outside of the Goodna Creek open space area to discourage Koalas from entering residential areas. Residents will be informed of the preference for planting non-Koala food and habitat trees on private land.</p>	<p>The residential layout constructed has provided road frontage to the open space area as an interface between the residential and open space land uses.</p> <p>Approved landscape works do not include Koala trees in the species mix. Community awareness of the Goodna Creek corridor and function is an ongoing campaign and the fencing requirements required are strongly emphasised.</p> <p>Residential buyers are informed of the Koala management measures as part of the land purchasing process. Additional information and guidelines are provided on the Woodlinks Village website and letterbox pamphlets (refer to the lifestyle guidelines for Woodlinks Village in Appendix D).</p> <p>The majority of homes are still under construction, where a small number have very recently been complete. Fencing associated with completed houses was observed to be compliant with the Koala Management Plan residential allotment fencing controls.</p>
<p>KMP-8</p>	<p>Operational management - traffic</p> <p>Install traffic calming measures and signage to alert drivers to the potential presence of fauna. Install fauna exclusion fencing in areas of high traffic volume.</p>	<p>Construction of roads within phase 1 was ongoing during the reporting period. Speed limits within the estate are a maximum of 50 km/h and the existing traffic volume has not necessitated the installation of fauna exclusion fencing along roads.</p> <p>A road was established along the Goodna Creek esplanade and traffic awareness measures (i.e. signage) installed during previous reporting periods.</p>

The street is not a thoroughfare and traffic calming measures have not been implemented at this early stage.

7. Offset Management Plan

A review of the OMP commitments and implementation is provided in **Table 4**.

Table 4: Offset Management Plan implementation

No.	Commitment	Evidence/comments/status
OMP-1	Implement a vegetation clearing and management plan.	Vegetation clearing and management was coordinated between AWEC, Ipswich City Council and the approval holder with guidance and reference to the approved OMP and KMP.
OMP-2	Engage a registered fauna spotter/catcher to protect wildlife from the impacts of clearing. Adhere to industry standards whereby construction activities work alongside, and under instruction from, fauna spotter/catcher personnel in order to avoid impacting wildlife.	During the reporting period a total of 5.25 ha of clearing activities were undertaken. Throughout these clearing activities (including pre-clearance and post-clearance), AWEC was engaged to provide fauna spotter/catcher services at Woodlinks Village. Consultant AWEC provides fauna spotter catcher services in line with current industry standards and in accordance with permit requirements administered by the Queensland Government. AWEC reports include data on fauna encountered during clearing and are included as Appendix B . Reporting to the Department on clearing activities is undertaken in accordance with the approval conditions.
OMP-3	Rehabilitate (i.e. weed removal and revegetation) the Goodna Creek corridor offset area.	As described in <i>Section 4 Offset Actions</i> , dedication and enduring protection of the offset area is a sequential process and 16.50 ha of rehabilitated land is awaiting to become off-maintenance and handed over to Ipswich City Council. Improvement works in Harry Ratnam Park are pending formal feedback from Ipswich City Council as to the deed of access currency. In total, 32.8 ha is currently protected (including Goodna Creek).

OMP-4	Improve access to the koala tree foliage harvest facility in Harry Ratnam Park.	The access upgrade infrastructure is part of the habitat improvement works to Harry Ratnam Park. The approval holder was not made aware of any access issues during the reporting period.
OMP-5	Commence offset area rehabilitation during stage 1 of the development with an on-maintenance period of 18 months. Each stage of rehabilitation is scheduled for completion within three years of stage commencement. After the completion of works, the proponent will maintain the offset area until it is ready for hand over and dedicated to Ipswich City Council.	Rehabilitation allotment 7000 and 7001 met scheduling targets during the 2017-2018 reporting period and is pending handover over to Ipswich City Council. Stage 7002 and 7003 were completed as one scope of works during the previous reporting period and achieved practical completion on 2 July 2019 with on-maintenance beginning 24 September 2019 due for completion 24 September 2021. In total, 32.8 ha is currently protected (including Goodna Creek).
OMP-6	Publish the current OMP online.	The OMP was made available via the Woodlinks Village website.
OMP-7	Monitor landscape works until the relevant area is handed over to Ipswich City Council. Monitoring will include the identification of corrective actions required to progress the works towards the objective of handing over to Ipswich City Council.	The approval holder engaged a landscaping contractor to undertake rehabilitation and regeneration works across Lots 7000, 7001, 7002 and 7003. These works were under active management by the contractor with periodic inspections by a registered landscape architect and Ipswich City Council identifying the corrective actions. Corrective actions are issued to the contractor for remedying.
OMP-8	All upfront costs associated with the weed management and revegetation of Goodna Creek will be the responsibility of the proponent.	Costs associated with the weed management and revegetation of the Goodna Creek open space area were, and will continue to be, met by the approval holder.
OMP-9	The offset area will be transferred to Ipswich City Council as part of their larger conservation land holdings.	As described in Section 4 Offset Actions, the offset area is made up of four newly created allotments, the Goodna Creek waterway and the existing Harry Ratnam Park (13.5 ha) managed by Ipswich City Council. At this stage, Lot 7000 and 7001 are pending off-maintenance with Ipswich City Council, with improvement works at Harry Ratnam Park still awaiting formal feedback as to the deed of access currency. Lots 7002 and 7003 were completed as one scope of works during the previous reporting period and achieved practical completion 2 July

2019 with on-maintenance beginning 24 September 2019 due for completion 24 September 2021.

OMP-10 Ongoing monitoring and reporting of works to assess the success of weed removal and control, natural regeneration and new threats that may arise. Progress the landscape works through the on-maintenance and off-maintenance periods in order to transfer ownership to Ipswich City Council.

The protected Goodna Creek open space area where revegetation works are complete was regularly inspected by a registered landscape architect and Ipswich City Council to review the success of works completed. As part of this process, both parties provided advice and directions to the contractor on additional works required to achieve the off-maintenance objective.

Lots 7002 and 7003 were completed as one scope of works during the previous reporting period and achieved practical completion 2 July 2019 with on-maintenance beginning 24 September 2019 due for completion 24 September, 2021. Improvement works in this area are being regularly inspected by a registered landscape architect and Ipswich City Council to review the success of works completed.

OMP-11 Inform the public on the progress of weed removal and control and landscape works in the Goonda Creek open space area in a timely manner.

This Annual Compliance Report delivers an assessment of the progress of landscape works (weed control and rehabilitation) for the project and will be made available on the Woodlinks Village website.

8. Appendices

Appendix A

EPBC approval and conditions granted 30 October 2014

Appendix B

AWEC Fauna Spotter Catcher Services Reports

Appendix C

Harry Ratnam Park operational works drawings (17 August 2018) and weed management and rehabilitation works status overview

Appendix D

Lifestyle guidelines for Woodlinks Village

Appendix A

EPBC approval and conditions granted
30 October 2014



Approval

**Woodlink Project – Master Planned Residential Community, Collingwood Park, QLD,
(EPBC 2013/6866)**

This decision is made under sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999*.

Proposed action

person to whom the approval is granted Canberra Estates Consortium No. 36 Pty Ltd

proponent's ACN (if applicable) ACN: 156 442 312

proposed action To develop the Woodlink residential community in Collingwood Park, Queensland [See EPBC Act referral 2013/6866].

Approval decision

Controlling Provision	Decision
Listed threatened species and communities (sections 18 & 18A)	Approve

conditions of approval

This approval is subject to the conditions specified below.

expiry date of approval

This approval has effect until 31 January 2034.

Decision-maker

name and position Chris Murphy
Acting Assistant Secretary
Queensland and Sea Dumping Assessment Branch

signature

date of decision 4. March 2014

Conditions attached to the approval

1. The **approval holder** must not remove or fragment more than 25.9 hectares of **habitat critical to the survival of the Koala**. Impacts to **habitat critical to the survival of the Koala** must be limited to the **project area** shown in Attachment 1.
2. The **approval holder** must prepare a Koala Management Plan to address management measures to avoid and mitigate impacts to Koalas.
 - a. The Koala Management Plan must be submitted to the **Minister** for approval no less than three months prior to its intended implementation. Once approved the Koala Management Plan must be implemented.
 - b. The Koala Management Plan must be implemented prior to **commencement of the action**, or as otherwise directed in writing by the **Minister**.
 - c. The Koala Management Plan must include, but not be limited to:
 - i. details of pre-clearance survey methods for Koalas within the **project area** to be undertaken prior to **commencement of the action**.
 - ii. details of measures to mitigate impacts to Koalas within the **project area**, including, but not limited to:
 1. provision for a **qualified fauna spotter-catcher** to undertake surveys and handling of Koalas prior to and during **commencement of the action**;
 2. construction of temporary and permanent fauna exclusion fencing;
 3. implementation of appropriate vehicle speed limits;
 4. utilisation of plant species in the **project area** that will not attract Koalas to the **project area**;
 5. implementation of traffic calming and awareness signage; and
 6. provision of off-leash dog facilities, on-leash areas and dog prohibited areas.
 - iii. details of methods for Koala **relocation activities**, to be undertaken prior to and during **commencement of the action** including the identification and description of suitable recipient Koala habitat.
 - iv. process for reporting results from pre-clearance surveys and **relocation activities**, including, but not be limited to:
 1. identification of a website in which information would be made available to the public;
 2. timing and frequency for providing reporting information to the **Department**;
 3. provision of the following details, at a minimum, to be recorded if any Koalas are captured during **relocation activities**:
 - sex
 - age class
 - time and date of capture
 - method of capture

- location of capture (Global Positioning System (GPS))
- state of health
- any veterinary intervention required
- time held in captivity
- location of release (GPS) and date

4. provision of the following details, at a minimum, to be recorded for incidents if any Koalas are injured or killed:

- time, location (GPS) and nature of incident
- details of Koalas (including sex and age class)
- measures taken to address incident.

3. To offset the residual impacts to Koala, the **approval holder** must implement mechanisms to provide enduring protection, over a minimum of 27 hectares, to the offset site referred to as 'Goodna Creek Offset and Rehabilitation Area' as shown at Attachment 1.

The protection mechanisms implemented by the **approval holder**, including but not limited to, land access agreements, dedication of land title and zoning under the Ipswich Planning Scheme must be consistent with the conditions of this approval and the principles of the **EPBC Act Offsets Policy**.

Within three years of the date of the approval, the approval holder must provide written evidence to the **Department** demonstrating that the protection mechanisms have been implemented.

4. The **approval holder** must prepare an Offset Management Plan to address significant residual impacts to Koalas as a result of the action.

a. Impacts to Koalas that must be offset include:

- i. the loss of 25.9 hectares of **habitat critical to the survival of the Koala**, and
- ii. injury and mortality of Koalas.

b. The Offset Management Plan must include, but not be limited to:

- i. a detailed description of all affected values and the extent and likely timing of the impact/s on each;
- ii. the offset delivery mechanism(s) comprising land offsets and management, and maintenance of Koala population offset within the 'Goodna Creek Corridor' as shown at Attachment 1;
- iii. detailed descriptions of how enhanced conservation outcomes for the affected Koalas will be achieved in accordance with the **EPBC Act Offsets Policy**;
- iv. contribution of funding to the management and maintenance of the Offset Management Plan;
- v. timeframes and key milestones for implementation of offsets including, but not limited to, beginning to implement the offset plan prior to **commencement of the action**;
- vi. discussion of the risks and uncertainties associated with proposed offsets;
- vii. mechanisms for monitoring and reporting of offset milestones and

outcomes, including timing and frequency of monitoring and reporting;

viii. corrective actions and contingency measures to be implemented (including the timing of implementation of these) where monitoring of the offset area/s under the offset plan shows that offset strategies are not effectively achieving a net benefit or key milestones are not being or are unlikely to be met; and

ix. include textual descriptions and maps clearly defining the locations and boundaries of offset areas. These must be accompanied by a **Shapefile**.

c. The Offset Management Plan must be developed in consultation with the **Department** and other relevant stakeholders, including but not limited to, the Ipswich City Council and the Ipswich Koala Protection Society.

d. The **approval holder** must give consideration to how offsets will contribute to programs or incentives that align with the broader strategies and programs for the conservation and protection of Koalas.

e. The Offset Management Plan must be submitted to the **Minister** for approval no less than three months prior to its intended implementation. Once approved the Offset Management Plan must be implemented.

f. The Offset Management Plan must be implemented prior to **commencement of the action**, or as otherwise directed in writing by the **Minister**.

5. The most recent approved version of the Koala Management Plan and Offset Management Plan must remain accessible to the public on the website of the **approval holder** for the duration of the action.

6. Within ten days after the **commencement of the action**, the **approval holder** must advise the **Department** in writing of the actual date of commencement.

7. The **approval holder** must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the plans required by this approval, and make them available upon request to the **Department**. Such records may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the **Department's** website. The results of audits may also be publicised through the general media.

8. Any potential or suspected non-compliance with these conditions of approval must be reported to the department in writing within 48 hours of the **approval holder** becoming aware of the potential or suspected non-compliance. Within three months of every 12 month anniversary of the **commencement of the action**, the **approval holder** must publish a report on their website addressing compliance with each of the conditions of this approval, including implementation of any plans as specified in the conditions. Documentary evidence providing proof of the date of publication must be provided to the **Department** at the same time as the compliance report is published.

9. Upon the direction of the **Minister**, the **approval holder** must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the **Minister**. The independent auditor must be approved by the **Minister** prior to the commencement of the audit. Audit criteria must be agreed to by the **Minister** and the audit report must address the criteria to the satisfaction of the **Minister**.

10. If the **approval holder** wishes to carry out any activity otherwise than in accordance with a plan as specified in the conditions, the **approval holder** must submit to the **Department** for the **Minister's** written approval a revised version of that plan. The varied activity shall not commence until the **Minister** has approved the varied plan in writing. If the **Minister** approves the revised plan, that plan must be implemented in place of the plan originally approved.

11. If the **Minister** believes that it is necessary or convenient for the better protection of Koala to do so, the **Minister** may request that the **approval holder** make specified revisions to a plan specified in the conditions and submit the revised plan for the **Minister's** written approval. The **approval holder** must comply with any such request. The revised approved plan must be implemented. Unless the **Minister** has approved the revised plan, then the **approval holder** must continue to implement the plan originally approved, as specified in the conditions.

12. If, at any time after five years from the date of this approval, the **approval holder** has not **commenced the action**, then the **approval holder** must not **commence the action** without the written agreement of the **Minister**.

Definitions:

Approval holder: means the person to whom the approval is granted.

Commencement of the action/commence(d) the action: means any works involved in the construction phase of the project, including clearing vegetation, the erection of any onsite temporary structures and the use of heavy duty equipment for the purpose of breaking the ground for buildings or infrastructure. This excludes the erection of signage, fences, barriers or bunting for the purposes of excluding areas containing listed threatened species.

Department: the Australian Government Department responsible for the *Environment Protection and Biodiversity Conservation Act 1999*.

EPBC Act: means the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*.

EPBC Act Offsets Policy: means the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (October 2012)* or any subsequent revisions.

Habitat critical to the survival of the Koala: Koala habitat that is considered to be important for the species' long-term survival and recovery. An impact area that scores five or more using the habitat assessment tool for the Koala in Table 3 of the *Draft EPBC Act referral guidelines for the vulnerable koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)* contains habitat critical to the survival of the Koala.

Minister: The Minister responsible for administering the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.

Offset attributes: means an '.xls' file capturing relevant attributes of the offset site, including the EPBC Act reference ID number, the physical address of the offset site, coordinates of the boundary points in decimal degrees, the EPBC Act protected matters that the offset compensates for, any additional EPBC Act protected matters that are benefitting from the offset, and the size of the offset site in hectares.

Project area: refer to 'Woodlink development / works area incl. parks & vegetation corridor areas' at Attachment 1: Development and Offset / Rehabilitation Areas.

Qualified fauna spotter-catcher: must be licensed under relevant state legislation, and have demonstrated experience in surveying for and identifying listed threatened species, including Koala.

Shapefile: means an ESRI Shape file containing '.shp', '.shx' and '.dbf' files and other files capturing attributes of the offset site, including the shape, EPBC reference ID number and EPBC protected matters present at the relevant site. Attributes should also be captured in '.xls' format.

Suitable recipient Koala habitat: means an area that:

- is known to contain, or has historically contained Koalas;
- contains **Koala habitat** which is the same in type to the habitat in the project area, or is known to be able to support Koalas proposed to be translocated and contains appropriate and sufficient sources of food;
- is of sufficient size to allow for dispersal of individuals from the point of release, and
- is not at maximum carrying capacity for Koalas and translocated individuals are not considered likely to have significant impacts on resident Koalas.

Relocation activities: means any human-mediated activity involved in the capture and release of Koalas from the project area into suitable recipient **Koala habitat** within the offset area, including trapping, handling, holding in captivity, veterinary treatment, transportation and release.



Appendix B

AWEC Fauna Spotter Catcher Services Reports

Fauna Post-clearance Report

SHADFORTH CIVIL CONTRACTORS

4280/2015/MAMC/A

Palaszczuk Avenue

Collingwood Park, QLD

Clearing Works- 10th -13th & 17th December 2019

Document prepared by:


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0	December 2019	Issue for Use	Yolande Venter	Joel Keady	Joel Keady
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Document Approval

Approved:	Name	Signature	Date
Company Director	Joel Keady		January 2020

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1. Introduction

1.1. Background

Australia Wide Environmental Consultants (AWEC) were commissioned by SHADFORTH CIVIL CONTRACTORS to manage fauna during the clearing works on Palaszczuk Avenue in Collingwood Park, Queensland (See Figure 1).

1.2. Ecologist and Qualifications

The AWEC nominated Ecologist is Yolande Venter who is a degree qualified ecologist/environmental coordinator with over 10 years of field experience within the ecology and environmental sectors.

1.3. Scope

1. A desktop review of the site's potential ecological value and any planning constraints, including but not limited to-
 - a. QLD Nature Conservation Act 1992 (NC Act) flora and fauna species database (Wildlife Online);
 - b. QLD Sustainable Development Assessment Provisions Module 8 Native Vegetation Clearing State Code & QLD Vegetation Management Act 1999;
 - c. QLD SEQ Koala State Regulatory Planning Provisions;
 - d. Commonwealth's Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Protected Matters Search Tool database.
2. A site inspection which included ground trothing the desktop review findings and a fauna survey.
3. Managing fauna during clearing works

2. Methodology

2.1. Pre-clearance Survey

The purpose of the survey is to record the sites overall habitat value, significant habitat features, vegetation connectivity within the site and surrounding lots, fauna signs and opportunistic fauna sightings and the site's suitability for the significant flora species likely to occur in the area.

For this survey, significant fauna habitat features are described as tree hollows (branch and crown), native wildlife nests (stick nests), burrows (feeding burrows), fallen/felled timber, thick ground-cover, fissured bark, rocky outcrops, aquatic habitat and flora species considered Koala habitat trees under the Nature conservation (Koala) conservation plan 2006.

This survey is to include a targeted amphibian search which will incorporate frog call recording, playing frog calls, an active search in suitable habitat and dip netting.

Prior to clearing works commencing there is a load reduction trapping program proposed for 1-3 days.

Figure 1- Extent of clearing



Figure 2- Extent of clearing- Sewer Alignment



Figure 3- Extent of clearing- Fire Break



3. Statutory Requirements and Guidelines

Table 1- Statutory Requirements and Guidelines

LEGISLATION	PURPOSE OF LEGISLATION	IMPACT ON PROJECT PERSONNEL
<i>Environmental Protection Regulation 2008</i>	Gives legislative support to various national guidelines, plans and Australian Standards. This regulation also outlines requirements for the management of fauna and flora.	To abide by the regulations within Santos Environmental Authorities governed by the DEHP.
<i>Environmental Protection and Biodiversity Conservation Act 1999</i>	The EPBC Act focuses Australian Government interests on the protection of matters of national environmental significance, with the states and territories having responsibility for matters of state and local significance.	To comply with the relevant sections of the Act that relate to matters of national significance which are present in the vicinity of the project works.
<i>Nature Conservation Act 1992</i>	The Act provides for the legislative protection of Queensland's threatened biota. It is aligned with the IUCN redlist which categorises biota into their current status in the wild.	To comply with the relevant sections of the Act and regulations and the Environmental Authority administered by the DEHP.
<i>Nature Conservation (Wildlife) Regulation 2006</i>	This Regulation lists the plants and animals considered presumed extinct, endangered, vulnerable, rare, common, international, and prohibited. It discusses their significance and states the declared management intent and the principles to be observed in any taking and use for each group.	List those animals that may be potentially found on sites being developed as part of the project and limitations for management.
<i>Nature Conservation (Wildlife Management) Regulation 2006</i>	This Regulation provides for the management of wildlife (including taking, keeping and using wildlife including protected plants).	Provides guidance for the management of wildlife on site, particularly in relation to the interference with native wildlife during the clearing process.
<i>Nature Conservation (Koala) Conservation plan</i>	<ul style="list-style-type: none"> Guideline for identifying koala habitat Managing koala habitat 	Provides guidance on where spotter/catcher's are legally required and how they are to manage koala habitat
<i>Animal Care and Protection Act 2001</i>	<ul style="list-style-type: none"> Animal Welfare 	Outlines that animal ethics approval is needed for research, survey and/or monitoring involving vertebrates, where activities such as trapping, census leading to disturbance of animals (such as spotlighting or call play-back), abnormal interruption of behaviour or marking/tagging are involved.
<i>Australian code for the care and use of animals for scientific purposes 8th edition (2013)</i>	<ul style="list-style-type: none"> Ethical framework for animals used for scientific purposes 	Governing principles set out in the Code provide guidance for investigators, teachers, institutions, animal ethics committees and all the people involved in the care and use of animals for scientific purposes.
<i>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (2013)</i>	<ul style="list-style-type: none"> Guidelines for Fauna Surveys 	Detailed guidelines on designing a survey, the different survey methodologies and the ethical considerations that need to be made for each methodology.
<i>Queensland Hygiene protocol for handling amphibians</i>	<ul style="list-style-type: none"> Protocol for handling amphibian species 	Outlines how to handle and manage amphibian species to prevent the spread of diseases among specimens and colonies.

<p>Code of Practice- Care and rehabilitation of orphaned, sick or injured protected animals by wildlife carers</p>	<ul style="list-style-type: none"> Provides guidelines on the rehabilitation and care of wildlife 	<p>Detailed guidelines, in regards to hygiene, housing, capture and release, euthanasia and relevant legislation</p>
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Australia Wide Environmental Consultants holds a current DEHP rehabilitation permit (**Permit #WIRP15140914**), with an extended authority issued by the Department of Environment and Heritage Protection specifying that the holder may take, keep or use an animal whose habitat is about to be destroyed by human activity.

4. Results

4.1. Desktop Review

Site is mapped as containing a remnant vegetation community and is mapped as essential habitat for Vulnerable Koala (**See Figure 3**).

The site is not located within a Koala Assessable Development Area and the areas proposed for disturbance contains areas mapped as medium value koala bushland habitat according to the South East Queensland Koala Conservation-State Planning Regulatory Provisions (**See Figure 4**).

See Table 2 for a list of significant fauna species previously recorded within 5 km of the project area or with essential habitat within 2kms of the site.

Table 2- Significant Species

SIGNIFICANT FAUNA		
Significant Amphibian Species		
<p>Tusked frog (<i>Adelotus brevis</i>)</p> 	<p>Listed in the Nature Conservation Act as Vulnerable</p> <p>1 Confirmed sightings within 2 km of the site</p> <p>Site is mapped as containing essential habitat for this species</p>	<p>No suitable breeding or foraging habitat was found for this species during the fauna pre-clearance survey. The chances of encountering this species is low.</p>

Significant Mammal Species

Koala (*Phascolarctos cinereus*)



Listed in the Environmental Protection and Biodiversity Conservation Act as Vulnerable

Listed in the Nature Conservation Act as Vulnerable

20 Confirmed sightings within 2 km of the site

Site contains moderate value habitat for this species and good linkage to other bushland habitat. No signs of this species utilising this site were recorded during the fauna pre-clearance survey. The chances of encountering this species is low.

Grey-headed flying fox (*Pteropus poliocephalus*)



Listed in the Environmental Protection and Biodiversity Conservation Act as Vulnerable

2 Confirmed sightings within 2 km of the site

Site contains low value food sources for this species and doesn't contain any suitable roosting habitat for this species. The chances of encountering this species on site is low.

Greater Glider (*Petauroides volans*)



Listed in the Environmental Protection and Biodiversity Conservation Act as Vulnerable

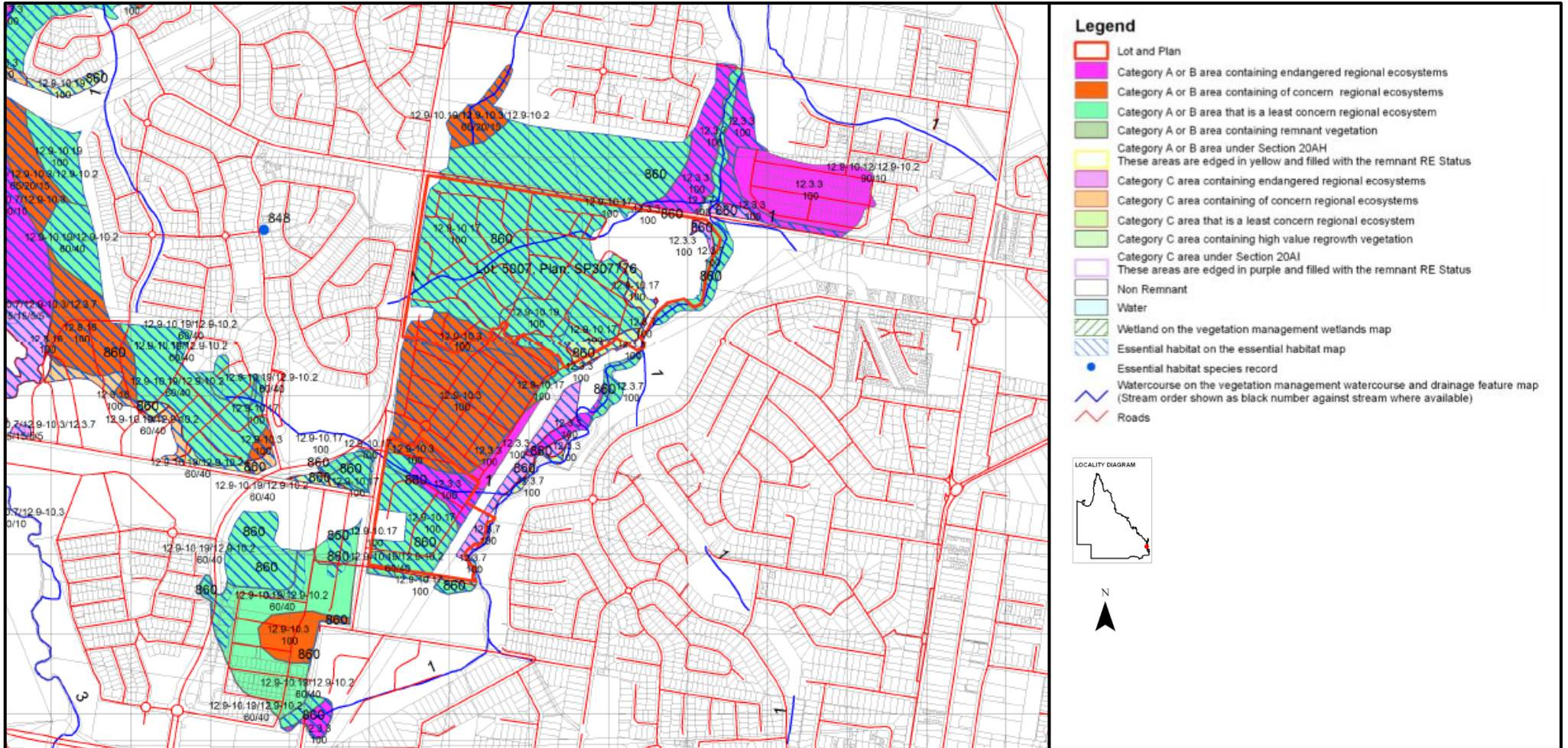
Listed in the Nature Conservation Act as Vulnerable

2 Confirmed sightings within 5 km of the site

Listed as a Threatened Species in the Matters of National Environmental Significance

Site contained suitable foraging habitat and a handful of hollows large enough to be utilised by this species. The chances of encountering this species on site is moderate.

Figure 2-Vegetation Management Supporting Map



Project
Palaszczuk Avenue
Collingwood Park, QLD

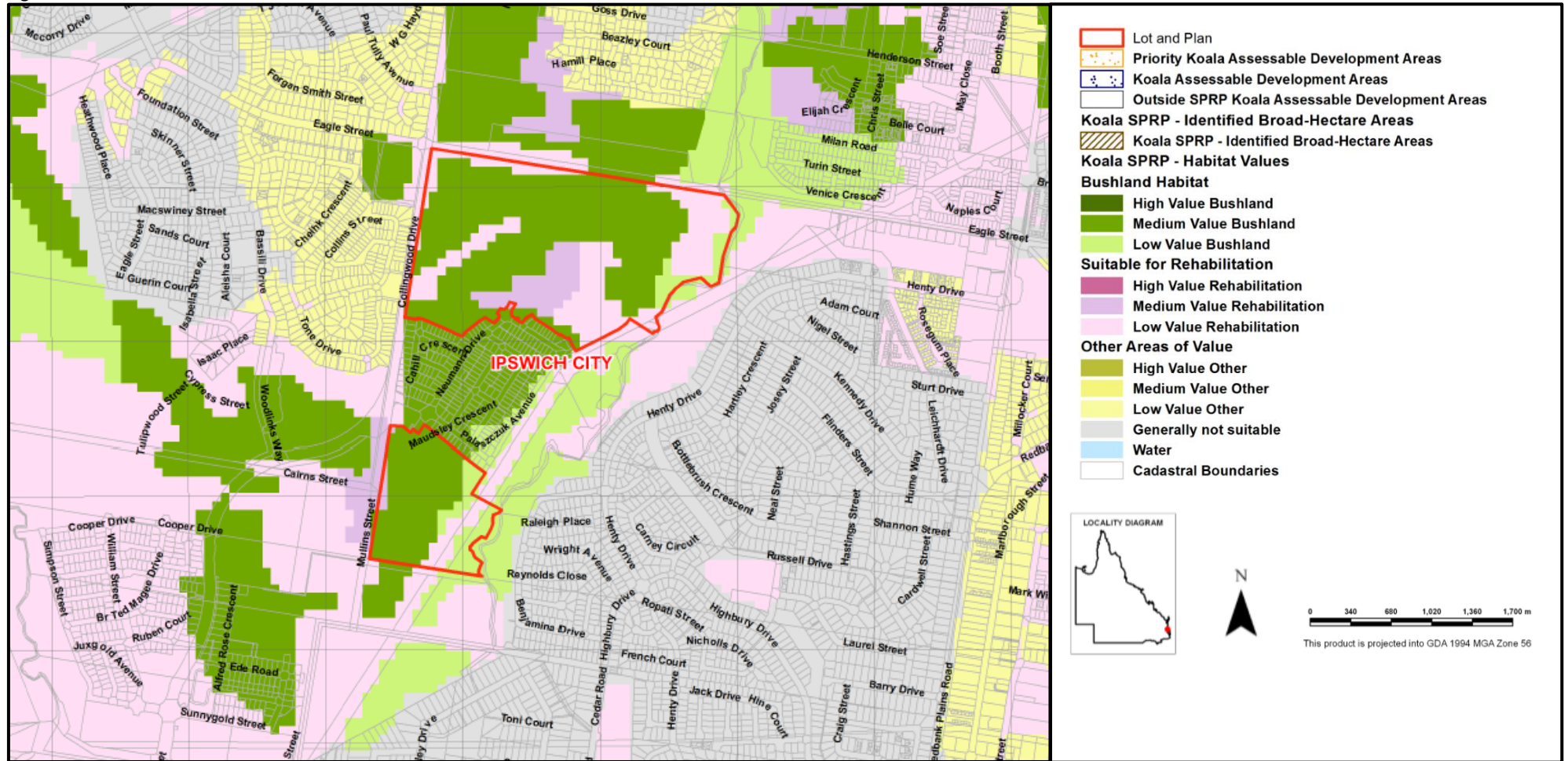
Client



Prepared By



Figure 4- Koala Habitat in South East Queensland



Project
Palaszczuk Avenue
Collingwood Park, QLD

Client


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4.2. Survey Results

No fauna species with significant conservation statuses were sighted on site and no active breeding sites were seen in the fauna pre-clearance survey.

All the significant habitat features within the site are listed in table 4. They included branch and crown hollows, large debris piles, large hollows stags, hollow arboreal termite mounds, dam, fissured bark, small amounts of woody debris, un-occupied stick nests and flowering eucalypts.

There's evidence in the form of stick nests and bird nesting material in a number of the hollows that during bird breeding season (Sep-Jan) there would be active breeding sites within the site.

The significant species most likely to be encountered is the Vulnerable Koala and Southern Greater Glider. There was no evidence in the form of scratch marks and scat that the Vulnerable Koala utilizes the site as a food source and/or movement corridor.

Table 3- Sighted Fauna Biodiversity

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS
Avian		
Australian Magpie	<i>Cracticus tibicen</i>	Least Concern
Australian White Ibis	<i>Threskiornis molucca</i>	Least Concern
Bar-shouldered Dove	<i>Geopelia humeralis</i>	Least Concern
Black-faced cuckoo-shrike	<i>Coracina novaehollandiae</i>	Least Concern
Black-shouldered Kite	<i>Elanus axillaris</i>	Least Concern
Blue-faced Honeyeater	<i>Entomyzon cyanotis</i>	Least Concern
Crested Pigeon	<i>Ocyphaps lophotes</i>	Least Concern
Galah	<i>Cacatua roseicapilla</i>	Least Concern
Grey Fantail	<i>Rhipidura fuliginosa</i>	Least Concern
Laughing Kookaburra	<i>Dacelo novaeguineae</i>	Least Concern
Little Corella	<i>Cacatua sanguinea</i>	Least Concern
Magpie-lark	<i>Grallina cyanoleuca</i>	Least Concern
Masked Lapwing	<i>Vanellus miles</i>	Least Concern
Noisy Friarbird	<i>Philemon corniculatus</i>	Least Concern
Noisy miner	<i>Manorina melanocephala</i>	Least Concern
Pale-headed Rosella	<i>Platyercus adscitus</i>	Least Concern
Pied Butcherbird	<i>Cracticus nigrogularis</i>	Least Concern
Rainbow Lorikeet	<i>Trichoglossus haematodus</i>	Least Concern
Sacred Kingfisher	<i>Todiramphus sanctus</i>	Least Concern
Scaly-breasted Lorikeet	<i>Trichoglossus chlorolepidotus</i>	Least Concern
Spangled Drongo	<i>Dicrurus bracteatus</i>	Least Concern
Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	Least Concern
Torresian Crow	<i>Corvus orru</i>	Least Concern

COMMON NAME	SCIENTIFIC NAME	CONSERVATION STATUS
Welcome Swallow	<i>Hirundo neoxena</i>	Least Concern
Willy Wagtail	<i>Rhipidura leucophrys</i>	Least Concern
Mammal		
Common Ringtail Possum	<i>Pseudocheirus peregrinus</i>	Least Concern
Eastern grey kangaroo	<i>Macropus giganteus</i>	Least Concern
Amphibian		
Cane Toad	<i>Rhinella marina</i>	Declared Pest
Reptile		
Garden Skink	<i>Lampropholis delicata</i>	Least Concern

Table 4- Significant Habitat Features

Number	Habitat Feature Description	Location
1	Hollow bearing arboreal termite mound	-27.627403,152.858491
2	2x Crown hollows	-27.627734,152.858450
3	Stick nest (still being built)	-27.627801,152.859016
4	2x Trunk hollows	-27.627689,152.858520
5	Hollow bearing stag tree	-27.627850,152.858052
6	Hollow bearing arboreal termite mound	-27.627781,152.857971
7	Hollow bearing arboreal termite mound	-27.627800,152.858251

Table 5- Relocated Fauna

Date	Common Name	Scientific Name	Capture Location	Release Location	Number Caught	Notes
10-12-19	Eastern bearded dragon	<i>Pogona barbata</i>	-27.627095, 152.865079	-27.627614, 152.864930	1	
12-12-19	Robust Velvet gecko	<i>Nebulifera robusta</i>	-27.627442, 152.858428	-27.627145, 152.858204	2	

13-12-19	Eastern bearded dragon	<i>Pogona barbata</i>	-27.627374, 152.858416	-27.626957, 152.858424	1	
13-12-19	Eastern bearded dragon	<i>Pogona barbata</i>	-27.627458, 152.858068	-27.626838, 152.857679	1	
13-12-19	Rainbow lorikeet	<i>Trichoglossus moluccanus</i>	-27.627540, 152.858811	N/A	2	Juvenile chicks taken to carer
17-12-19	Bearded dragon	<i>Pogona barbata</i>	-27.632074, 152.857913	-27.633105, 152.857344	1	Approx SVL 250mm

5. Conclusion

Australia Wide Environmental Consultants (AWEC) were commissioned by SHADFORTH CIVIL CONTRACTORS to manage fauna during the clearing works on Palaszczuk Avenue in Collingwood Park, Queensland (See Figure 1).

Suitably qualified fauna spotter/catcher was on site for the duration of clearing works and ensured all the management measures in the 4280/2015/MAMC/A were adhered to. During clearing works four least concern reptiles were relocated out of the clearing site. Two least concern avian chicks were transferred to Eumundi Wildlife Rehabilitation Centre to be rehabilitated. No fauna fatalities or injuries occurred during clearing works. No significant fauna species were encountered.

References

- Eyre TJ, Ferguson DJ, Hourigan CL, Smith GC, Mathieson MT, Kelly, AL, Venz MF & Hogan, LD. 2012. Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland Department of Science, Information Technology, Innovation and the Arts, Queensland Government, Brisbane. Nature Conservation Act 1992 (Qld), http://www.legislation.qld.gov.au/Acts_SL_N.htm
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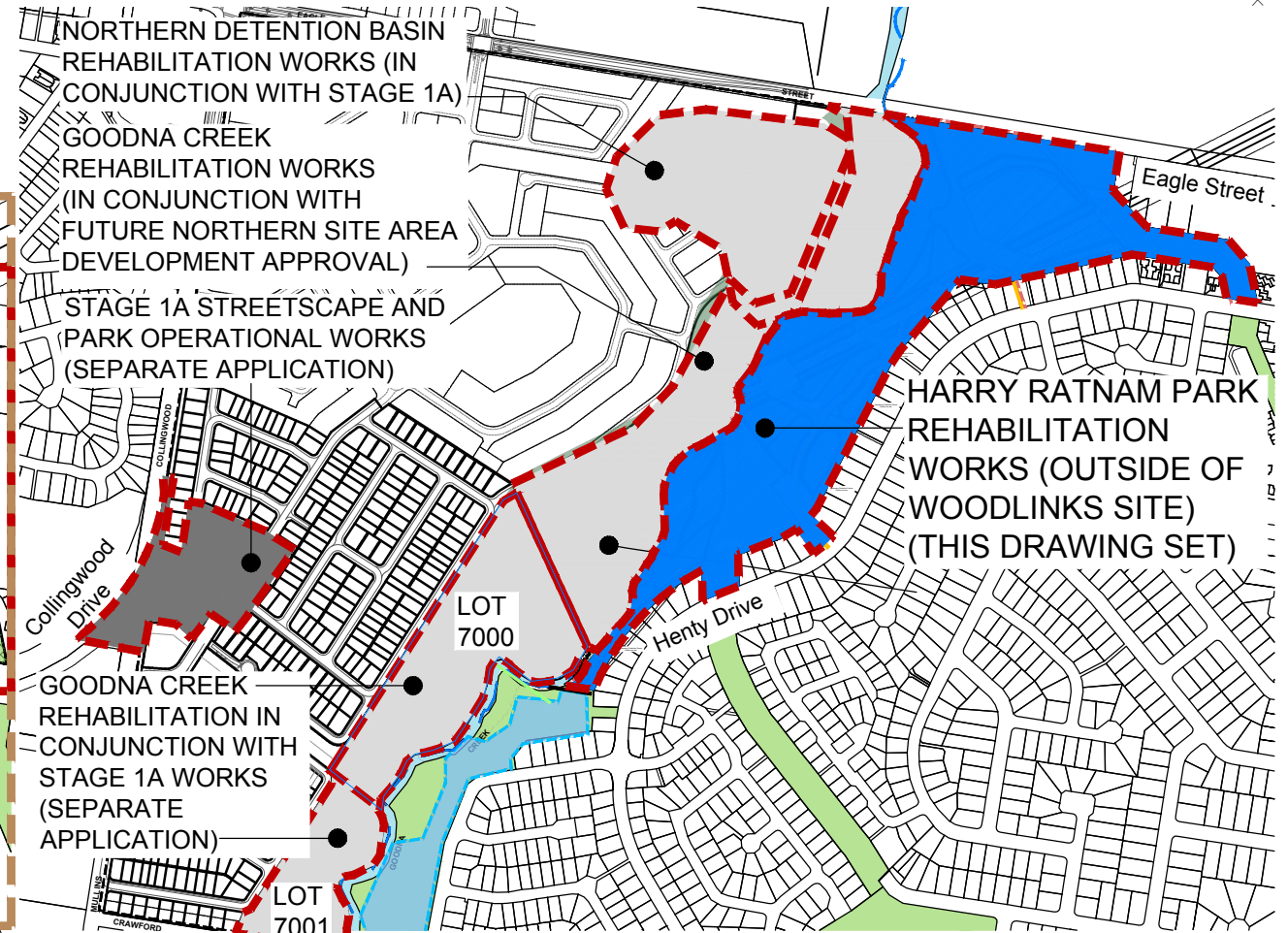
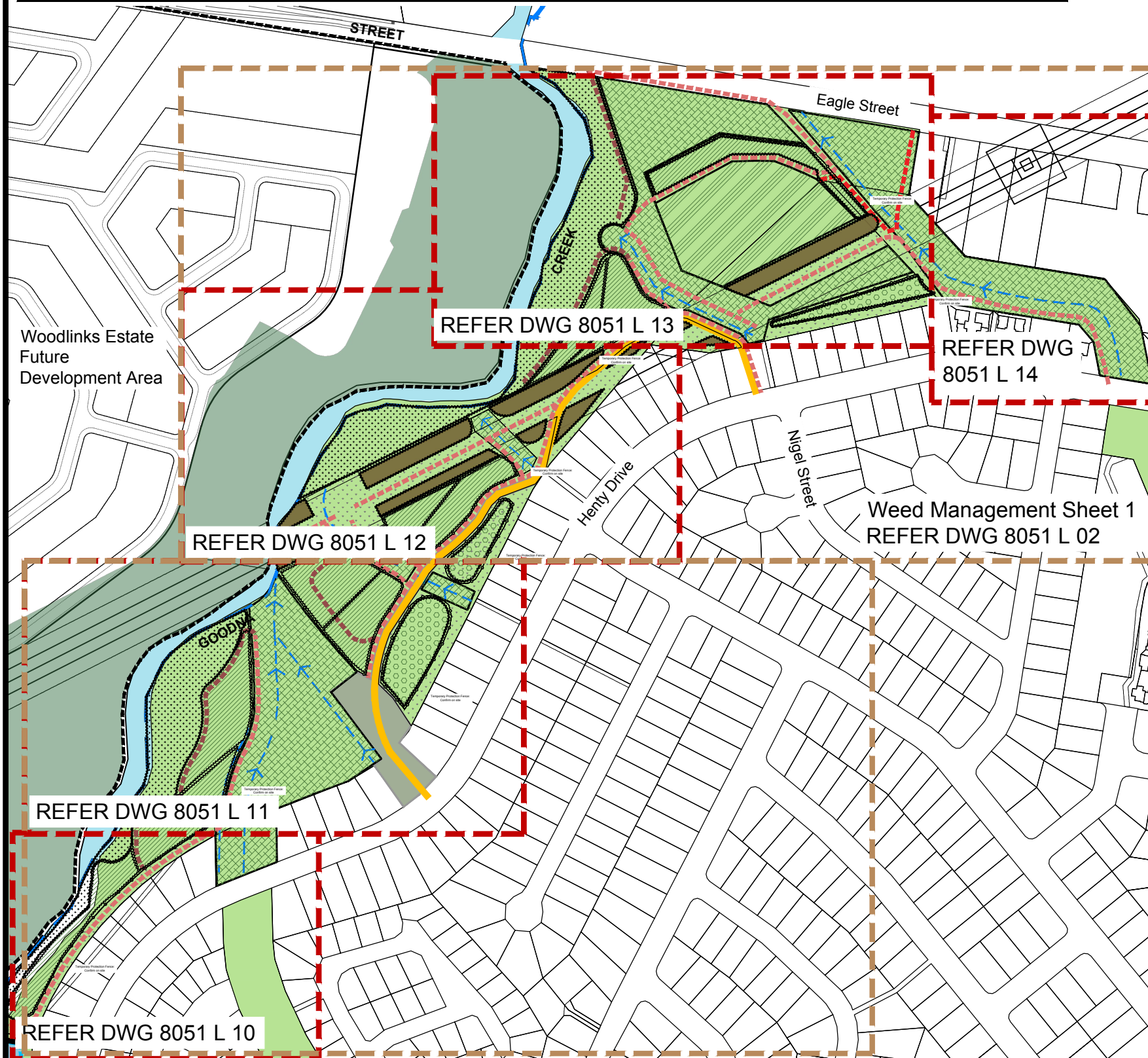
Appendix C

Harry Ratnam Park operational works drawings (17 August 2018) and weed management and rehabilitation works status overview

Woodlinks Village Estate - Harry Ratnam Park

Weed Management & Rehabilitation Works

SITE LAYOUT: 1:2000 @ A1



DRAWING SCHEDULE

Dwg No.	Drawing Title	Issue	Date
8051 L 01	Cover Sheet	C	02.08.18
8051 L 02	Weed Management Plan - Sheet 1	B	22.03.16
8051 L 03	Weed Management Plan - Sheet 2	B	22.03.16
8051 L 04	Weed Management Notes	B	22.03.16
8051 L 05	Weed Treatment & Removal Strategy - Sheet 1	B	22.03.16
8051 L 06	Weed Treatment & Removal Strategy - Sheet 2	B	22.03.16
8051 L 07	Weed Treatment & Removal Strategy - Sheet 3	B	22.03.16
8051 L 08	Weed Treatment & Removal Strategy - Sheet 4	B	22.03.16
8051 L 09	Rehabilitation General Notes - Sheet 1	C	09.07.18
8051 L 10	Rehabilitation Zone Notes - Sheet 2	C	09.07.18
8051 L 11	Rehabilitation Plan - Sheet 1	C	09.07.18
8051 L 12	Rehabilitation Plan - Sheet 2	D	09.07.18
8051 L 13	Rehabilitation Plan - Sheet 3	C	09.07.18
8051 L 14	Rehabilitation Plan - Sheet 4	D	09.07.18
8051 L 15	Rehabilitation Plan - Sheet 5 & Plant Schedules	B	22.03.16
8051 L 16	Rehabilitation Plan Plant Schedules - Sheet 1	B	22.03.16
8051 L 17	Rehabilitation Plan Plant Schedules - Sheet 2	C	09.07.18
8051 L 18	Rehabilitation Sections	C	09.07.18
8051 L 19	Single Tree Planting - Typical Layout Plan	B	09.07.18

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amendments:

Issue	Date	Details	Approved
A	22.03.2016	Preliminary	GC
B	09.07.2018	Phase 1 Tender	GC
C	17.08.2018	Revised Tender	GC

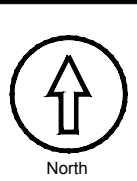
Date Feb 16
Scale N.T.S.

Plan of: Harry Ratnam Park
Rehabilitation Works - Cover Sheet

Drawn by: FW
Checked by: GC / MS

Project: Woodlinks Village Estate H.R.Park
Client: Canberra Estate Consortium No. 36

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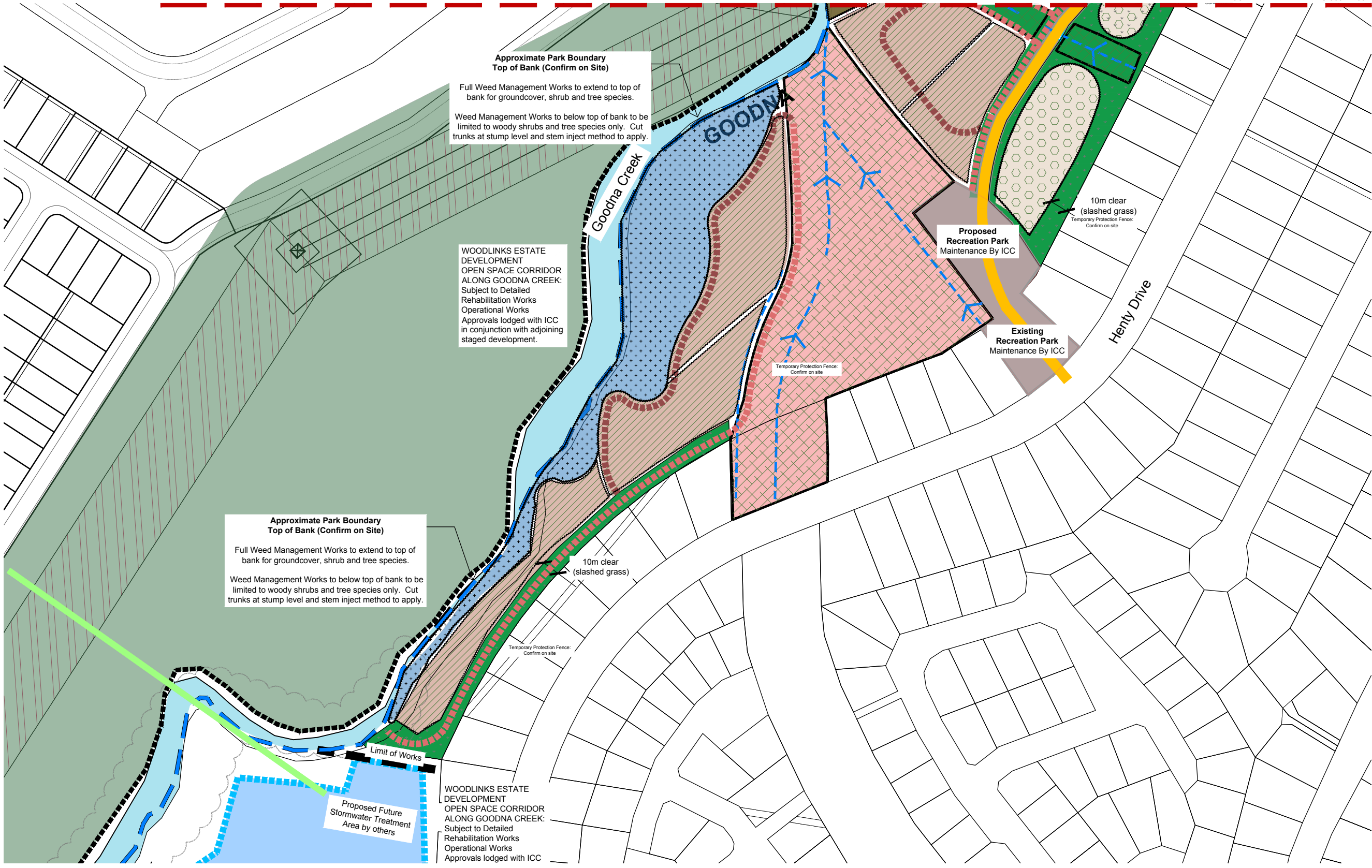
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Dwg No. 8051 L 01 C

Woodlinks Village Estate - Harry Ratnam Park

Weed Management Plan - Sheet I

JOIN LINE: REFER DWG 8051 L 03



LEGEND

- WOODLINKS ESTATE GOODNA CREEK REHABILITATION WORKS AREA: Subject to separate management plan & not part of scope for H. R. Park works package.
- FUTURE ICC WORKS AREAS: These areas to be managed by ICC & not part of scope for H. R. Park works package. No allowance for contractor to weed manage, mow or slash grass in these areas.
- OVERLAND FLOWS & GRASSED ACCESS AREAS (CONTRACTOR): These are areas proposed to be managed by the Landscape Contractor as part of scope for H. R. Park works package. Contractor to make allowance to mow or slash grass in these areas.
- EXISTING VEGETATION MANAGEMENT AREA: Full weed management throughout involving manual removal, stock piling and disposal and usage of prescribed herbicides.
- PROPOSED BROAD-SCALE MULCHED PLANTED AREAS: Full conversion from grass to mulched planting areas. - In these areas the Contractor is to allow for full eradication of existing slashed grass cover through usage of prescribed herbicides and methods.
- PROPOSED TREE PLANTING MULCHED PLANTED AREAS: In these areas the Contractor is to allow for selective individual and grouped tree plantings into existing slashed grass. Contractor to allow for eradication of grass cover through usage of prescribed herbicides and methods in locations confirmed on site with Superintendent.
- ELECTRICAL EASEMENT: No works in the initial phase.

NOTES

- NOTE 1: Where indicative dominant weed locations are noted in approximate locations from site observations these do not represent all weeds on site.
- All weeds listed on Drawings 8051 L 05, 06 & 07 "Weed Treatment and Removal Strategy Sheets 1 to 3" are to be removed.
- NOTE 2: All works in accordance with Notes on Drawing 8051 L 04 "Weed Management Notes"
- NOTE 3: All planting areas to be maintained weed free following establishment.

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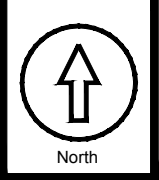
Issue	Date	Details	Approved
A	22.03.2016	Preliminary	GC
B	17.08.2018	Revised Tender	GC

Date Feb 16

Plan of: Harry Ratnam Park
 Weed Management Plan - Sheet 1

Drawn by: FW Project: Woodlinks Village Estate H.R.Park
 Checked by: GC / MS Client: Canberra Estate Consortium No. 36

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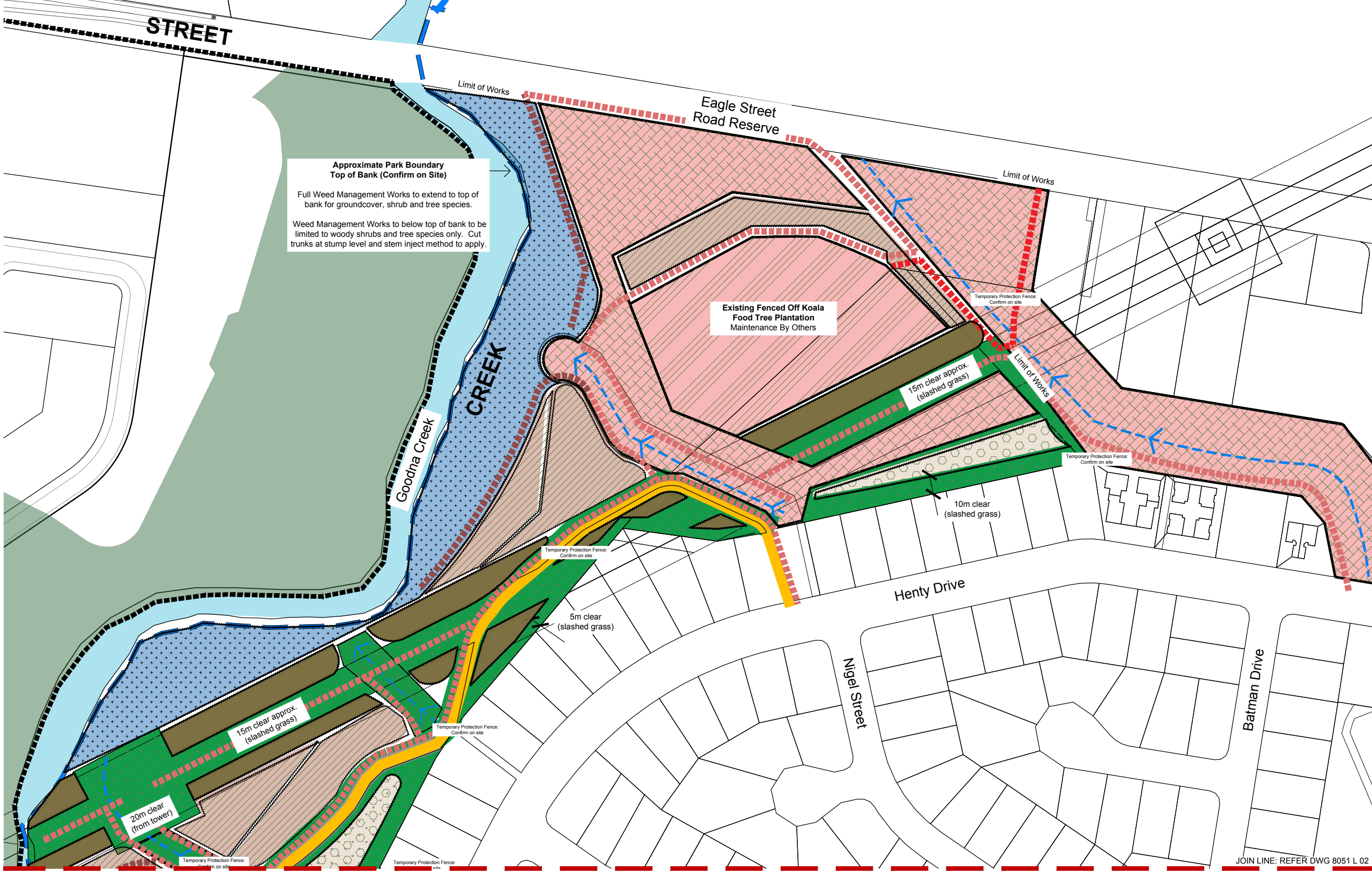


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Dwg No. 8051 L 02 B

Woodlinks Village Estate - Harry Ratnam Park

Weed Management Plan - Sheet 2






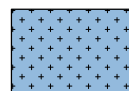



**Approximate Park Boundary
Top of Bank (Confirm on Site)**

Full Weed Management Works to extend to top of bank for groundcover, shrub and tree species.

Weed Management Works to below top of bank to be limited to woody shrubs and tree species only. Cut trunks at stump level and stem inject method to apply.

**Existing Fenced Off Koala
Food Tree Plantation
Maintenance By Others**

LEGEND

-  WOODLINKS ESTATE GOODNA CREEK REHABILITATION WORKS AREA: Subject to separate management plan & not part of scope for H. R. Park works package.
-  FUTURE ICC WORKS AREAS: These areas to be managed by ICC & not part of scope for H. R. Park works package. No allowance for contractor to weed manage, mow or slash grass in these areas.
-  OVERLAND FLOWS & GRASSED ACCESS AREAS (CONTRACTOR): These are areas proposed to be managed by the Landscape Contractor as part of scope for H. R. Park works package. Contractor to make allowance to mow or slash grass in these areas.
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-  ELECTRICAL EASEMENT: No works in the initial phase.

NOTES

- NOTE 1: Where indicative dominant weed locations are noted in approximate locations from site observations these do not represent all weeds on site.
- All weeds listed on Drawings 8051 L 05, 06 & 07 "Weed Treatment and Removal Strategy Sheets 1 to 3" are to be removed.
- NOTE 2: All works in accordance with Notes on Drawing 8051 L 04 "Weed Management Notes"
- NOTE 3: All planting areas to be maintained weed free following establishment.

JOIN LINE: REFER DWG 8051 L 02

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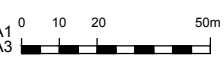
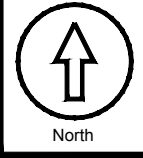
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amendments:			
Issue	Date	Details	Approved
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B	17.08.2018	Revised Tender	GC

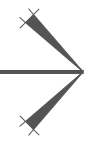
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Date Feb 16	Drawn by: FW
Checked by: GC / MS	Project: Woodlinks Village Estate H.R.Park
	Client: Canberra Estate Consortium No. 36

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Dwg No. 8051 L 03 B



REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND						
RANK	FAMILY	SCIENTIFIC & COMMON NAME	SUBRE GION	LIFE FORM & SOURCE	NON-CHEMICAL CONTROL	CHEMICAL CONTROL
179	Asteraceae	Conyza canadensis (Canadian fleabane)	10	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).
180	Euphorbiaceae	Euphorbia cyathophora (painted spurge)	8	H/O	Hand pull	Spray G100 (ref 1).
181	Poaceae	Setaria palmifolia (palm leaf setaria)	5	H/O	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 infestations. Slashing can be used but should be followed up by herbicide application.	Basal bark application of fluroxypyr (35mL:1L Diesel); Stem 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?	T/O	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. bulbifera (bulbil watsonia)	2	H/O	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).

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

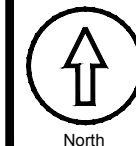
QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND						
RANK	FAMILY	SCIENTIFIC & COMMON NAME	SUBRE GION	LIFE FORM & SOURCE	NON-CHEMICAL CONTROL	CHEMICAL CONTROL
195	Dracaenaceae	Sansevieria trifasciata (sansevieria)	2?	H/O	Hand pull or dig up	Spray G100 + MM (ref 1).
196	Poaceae	Digitaria eriantha (pangola grass)	5	H/A	Hand pull or cultivation	Spot Spray: glyphosate or 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. Picloram + Triclopyr: 1L/60L diesel. Amitrole: 1mL/3cm (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 diesel, 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/l at 1.0L:60L diesel. Foliar application of Clopyralid 300g/L at 500mL:1L water (ref 5).

REHABILITATION METHODOLOGY - SITE WORKS - WEED NOTES

QUEENSLAND HERBARIUM INVASIVE NATURALISED PLANTS IN SOUTH EAST QUEENSLAND						
Explanatory notes:						
Sub-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), Ha-aquatic herbs.						
Source: A-agriculture, O-ornamental and landscaping, F-fish aquarium, U-unintentional introduction and/or contaminant.						
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 glyphosate						
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 + surfactant, eg 20mL LI 700 per 10L						
G200 = 200mL glyphosate per 10L of water + surfactant, eg 50mL LI 700 per 10L						
G100 + MM = 100mL glyphosate + 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. Department of Primary Industries (NSW), 'Noxious and Environmental Weed Handbook, 3rd Edition'.						
Ref. 6. Department of Environment and Conservation, 'Florabase', (DEC- WA)						
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 - WEED NOTES

All Herbicides are to be applied by an appropriately qualified / supervised person in accordance with the Agricultural Chemicals and Distribution Control Act 1966 at rates as identified on registered product labels or an Australian Pesticides and Veterinary Medicines Authority (APVMA) issued off-label permit where applicable. Refer to SEQ Ecological Restoration Framework for additional guidance.



Woodlinks Village Estate - Harry Ratnam Park Rehabilitation Notes

NOTE:

- ALL WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE ACCESS DEED FOR PARK REHABILITATION BETWEEN CANBERRA ESTATES CONSORTIUM NO. 36 PTY LTD & IPSWICH CITY COUNCIL.
- REFER TO SHG LANDSCAPE SPECIFICATIONS AND PRELIMINARIES DESCRIPTION FOR ADDITIONAL REQUIREMENTS FOR CONSTRUCTION AND SITE MANAGEMENT.

REHABILITATION DESIGN & LAYOUT

This Site Based Rehabilitation Plan has been prepared for Canberra Estate Consortium No. 36 Pty Ltd and is designed to enhance and expand the Goodna Creek existing native vegetation areas within the existing Harry Ratnam Park adjacent to the Woodlinks Village Estate.

This plan set has been produced by overlaying existing site data with proposed works to determine impacts and disturbance.

This Site Based Rehabilitation Plan is to identify and control necessary site disturbance as provided for the site plan layout. Where existing native vegetation is already established, low impact weed removal and rehabilitation techniques are required.

In patches that have undergone previous clearing and disturbance, a more aggressive approach to weed removal and revegetation will be applied.

REHABILITATION INTENT

A combination of the following core rehabilitation methods will be employed throughout the site depending on the level of site disturbance, weed infiltration and existing native species vegetation present.

NATURAL REGENERATION

- Applies:
- To relatively large, intact and weed-free areas of native vegetation.
 - Where the 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-lived disturbance, such as a fire or cyclonic winds.
 - When preventative action is all that is required to avert on-going disturbance, e.g. erection of fencing to prevent intrusion from cattle.

Planting in such sites can work against the aims of restoration by interfering with natural regeneration.

The re-establishing plant community will be similar in structure, composition and diversity to 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 soil or will be able to reach the site from nearby natural areas, by birds or other animals.
 - 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 removal, minor amelioration of soil conditions, erection of fencing, cessation of slashing, etc. will be enough to trigger the recovery processes through natural regeneration.
 - When major component is weed control.

Planting in such sites can work against the aims of restoration by interfering with natural regeneration.

The re-establishing plant community will be similar in structure, composition and diversity to the original vegetation.

The planting densities and species selection for Rehabilitation Zones have been chosen to maximise habitat, linkage and movement opportunities.

Rehabilitation treatment is to generally include the following points:

- A number of weeds are recorded for removal within shrub & ground layer.
- Weed removal and management will utilise low impact methods preventing further degradation to the riparian corridor.
- Revegetation species will include a variety of ground, shrub and canopy species selected from pre-clear vegetation communities and specific species - Refer to rehabilitation plant schedules for detail.
- Planting densities to achieve an ultimate established tiered vegetation structure.
- Low impact weed removal techniques will be applied within this zone. This method is used to eliminate, or greatly reduce, further degradation to the soil and "riparian" zone.
- Native trees will replace all woody weeds removed from vegetated zones.
- Ground layer and shrub layer weeds will be removed utilising low impact weed removal methods and replaced with locally occurring native species.

Ecologists from Saunders Havill Group assessed on-site waterways within the Woodlinks Estate providing information on locations of scouring, erosion and disturbances along the drainage lines. This data provides the base information required to compile the various rehabilitation approaches required within this Site Based Rehabilitation Plan. The various approaches are described below:

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 native plant community cannot recover by natural means.
 - To sites such as areas of fill, sites affected by stormwater flow, and areas that have been drastically cleared, either mechanically or by stock even though there may be a few remaining native trees or shrubs.
 - When a greater degree of human intervention is required, such as weed removal, cessation of grazing and/or slashing, amelioration of soil conditions such as importation of soils, drainage works or reshaping of the landscape.
 - When a major component is the importation of native species through planting.

The re-establishing planted community should be similar to the original vegetation 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 stormwater run-off.
 - N.B Revegetation (planting) is the major component in a fabrication program.

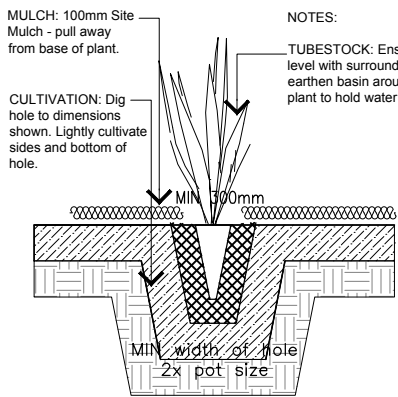
The re-establishing planted community should be similar to the naturally occurring plant community of the same type e.g. freshwater wetlands in structure, composition and diversity.

SITE PREPARATION

Areas designated for revegetation have undergone various stages of disturbance whether it be affected by introduced species or through the necessary development process.

Once planting locations have been determined each planting location is to be spot sprayed (1 square metre) prior to soil cultivation. (knockdown, non residual hebericide = Glyphosate or equivalent used at minimum rate of 2 litres per ha of spot spraying) Several herbicide applications may be required to ensure appropriate kill rates where long grass exists. Note: Weed spray to single plantings only at top of bank. However, if individual weeds have been identified throughout the existing established native vegetation, then manual removal should be applied and replaced with a native revegetation species as identified on this drawing sheet.

CULTIVATION AND PLANTING



Coat sides of holes and incorporate Gypsum at 5kg per m³ and water crystals to maintenance recommendations.

MULCHING & MATTING

Areas to be blanket mulched to a minimum depth of 100mm leaving a 50mm gap surrounding the trunk of planted stock. Areas which are deemed as too steep or not suitable for mulching due to frequent overland flows may utilise a combination of mulch and Jute mat and / or suitably anchored natural fibre weed mat installed to manufacturer's specifications have been specified.

PLANTING STOCK

All planting species to be selected in accordance with the species sizes and numbers setout on the species schedules. Refer to individual schedules for proposed proportions of groundcovers, shrubs and trees within planting areas. Revegetation planting locations shall be generally setout in accordance with a random grid pattern.

All stock shall be true scheduled nomenclature, well formed, hardened off to suit final revegetation location, nursery stock. The root system should be well formed without being tube bound or large roots extruding from the tube container. The landscape coordinator has the right to inspect and reject stock prior to planting.

Each individual planting location should be spot cultivated to at least 2 times the depth and twice the width of the plant stock size. Refer detail for more specifications:

WATERING: At 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 to assist in establishment.

INSTALLATION METHODOLOGY

To maximise plant establishment success rates and minimise plant failure, installation methodology for revegetation works within rehabilitation areas shall include:

- 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 Site Based Rehabilitation Plan & local government policies.
- 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 damage.
- Plants are to be planted immediately after delivery to the planting site. Otherwise, they shall be stored in shade and watered sufficiently.
- 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 depauperate, hydrophobic etc.) and above areas of potential frequent inundation and water flow, topsoil may be used or the ground mechanically ripped where access is feasible.
- Pre-water plant hole to decrease root stress and assess infiltration through soil.
- Incorporate into plant hole, water crystals / hydrating product to manufacturer's recommendations (Hortex 'Rainsaver' / 'Moisturaid' or similar approved).
- Place plant into hole and backfill ensuring that the plant is upright and the stem is not covered in less than 10mm or any more than 20mm of planting medium.
- Plants are to be watered thoroughly immediately after planting (deep irrigation) and thereafter as required during establishment 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 to be applied during planting to manufacturer's recommendations (Nutricote or similar approved).
- To ensure successful establishment, all planting surfaces must be covered in:
 - a 100mm layer of high quality weed-free composted mulch (site mulch) - Note: avoid possible stem rot ensure mulch is 'dished' and not covering plant stem by more than 20mm.
 - suitable individual anchored natural fibre weed mat; or
- Seedlings and saplings to be encouraged and maintained throughout the establishment period.

MAINTENANCE SCHEDULE

MAINTENANCE SCHEDULE	
<i>Maintenance schedule for revegetation areas of the proposed development as specified on the Landscape Plans</i>	
ESTABLISHMENT	<i>Establishment is to occur at the completion of the primary and secondary weed removal phases and any rehabilitation planting. During this period any failed stock are to be replaced and/ or defects identified then repairs are to be made to site works.</i>
1. Watering	Watering shall be carried out to ensure establishment of revegetation. At 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
2. Weed Removal	Weeds evident during the Establishment period but should be removed as part of a monthly weed management program. Best Practice weed management techniques should be employed for weed removal amongst revegetation areas.
	Where grass seeding or turf establishes within planted areas it should be treated with approved herbicide for waterways.
MAINTENANCE	
1. Watering	No specified watering regime is provided during the maintenance period. The intent is for the area to become self sufficient in utilising natural rain patterns and run off. Watering should occur during extended dry periods to ensure continued establishment
2. Weed Removal	Weeds should be tended to on a monthly program. Treatment techniques vary within the landscape planted areas versus revegetation and retention areas.
3. Management	Throughout the establishment and maintenance periods areas where planting stock has not achieved a 90% success survival additional planting shall be installed.
4. Erosion Control	Prior to the commencement of works and to remain throughout the establishment and maintenance period an erosion and sediment control measures shall be employed over the rehabilitation area of the site.

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amendments:

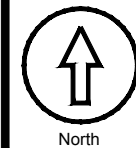
Issue	Date	Details	Approved
A	22.03.2016	Preliminary	GC
B	09.07.2018	Phase 1 Tender	GC
C	17.08.2018	Revised Tender	GC

Date	Feb 16
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Plan of: Harry Ratnam Park
 Rehabilitation General Notes
 Sheet 1

Drawn by:	FW	Project:	Woodlinks Village Estate H.R.Park
Checked by:	GC / MS	Client:	Canberra Estate Consortium No. 36

SCALE: AS NOTED



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 Dwg No. 8051 L 09 C

Woodlinks Village Estate - Harry Ratnam Park

Rehabilitation Zones Notes Sheet 2

ZONES DESCRIPTION

In keeping with the Core Rehabilitation Methods described above, 5 Distinct Zones are applied throughout the rehabilitation areas describing a range of work in Harry Ratnam Park. Refer to Drawing sheets 8051 L 10-17 for an associated full description of proposed plant species, sizes, densities and numbers.

ZONES 1, 1A & 1B Ex.Veg.

Existing Vegetation Areas with Infill Planting and Assisted Natural Regeneration

This large area of intact Vegetation is predominantly weed free with the exception of isolated occurrences of weed species (Lantana, Pepper Trees, Chinese Elms, Blue Billy Goats weed, Singapore Daisy etc) mainly along the creek banks. In the majority of the Zone 1 area the intent is for ongoing native species re-growth to be encouraged from the existing intact seed bank, through the elimination of competition from weed species.

Allowance will be made to allocate reinforcement and re-planting tubestock for this zone. The exact revegetation area and number will be determined following weed management and detailed assessment on site following the initial weed management phase, to revegetate bare areas.

Re-planting in Zone 1 is to be undertaken in two (or possibly more) broad phases:

Initial phases - Higher proportion of tree species in planting mix to increase canopy cover and Follow-up phases - Higher proportion of Shrubs Planting to introduce mid storey open forest structure.

Minor disturbances within Zone 1 will occur as a result of removal of larger areas of weed infestation. Weed treatment will be hand removal and follow up spot spraying. Where significant areas of weed removal occurs such as bare ground areas greater than 10m², Blanket mulching (or Coir matting in overland flow areas) and tubestock is to be installed.

It is noted that in the majority of locations, a generally continuous layer of existing groundcovers of native grasses such as Blady Grass is present, providing topsoil stability. Accordingly the intent is to install revegetation as single hole plantings amongst retained and protected existing groundcovers and to only install new groundcovers to replace removed weeds. The Planting Mixes for these zones are all weighted primarily towards tree species with some shrub layer species and minimal groundcovers.

Where larger sections of weeds (such as Singapore Daisy) are to be removed in overland flow areas, Coirmatting and high density tubestock planting to min. 3 per m² may be required for stabilisation.

Within the broader Zone 1 area there are some sections where Canopy cover is more open. In these areas specific higher density revegetation planting mixes are proposed (Zones 1A and 1B as indicated on plan). The exact extent of areas requiring re-planting will be determined following the initial weed management phase.

ZONE 1A Ex.Veg. (Lower Creek Bank)

Mainly canopy planting is allowed in this zone to create upper level shade cover through individual plantings typically with 1M dia. mulch circles within existing native grass cover.

The species mix in these locations utilise a higher proportion of plants tolerant of frequent inundation.

ZONE 1B Ex.Veg. (Mid Creek Bank)

Mainly canopy planting is allowed in this zone to create upper level shade cover through individual plantings typically with 1M dia. mulch circles within existing native grass cover.

The species mix in these locations utilise a higher proportion of open Eucalypt forest species plants.

ZONES DESCRIPTION CONTINUED

ZONES 2 to 5 Revegetation Planting

As a result of previous land uses, clearing and weed treatments works, these areas are to be rehabilitated through reconstruction procedures. Areas to be rehabilitated include those that are denuded, disturbed and or where bare areas exist following the weed management. Any weed species regrowth is to be eradicated and the area mulched (or matted where nominated in overland flow zones) and revegetated with Koala food and habitat trees, and native shrubs and ground covers. Planting zones are to be dominated by trees, shrub and ground cover species with species selected from pre clear species. Initial Phase planting will focus on the tree planting to promote canopy cover and establish the structure. The ultimate outcome will replicate an established Open Eucalypt Forest.

ZONE 2 Mulch Planting Areas

EXISTING CLEARED AREAS TO BE CONVERTED FROM GRASS TO TIERED PLANTING

MULCHED PLANTING AREAS, TIERED PLANTING STRUCTURE:

Ultimate species mix of Trees, Shrubs and Groundcovers.
75mm Tubestock Rehabilitation, 100mm Site Mulch on Modified Site Topsoil to 1: 4 Max. batters.
Refer to Plant Schedules for species composition and density.

ZONE 2A (Mid Creek Bank)

These zones are located between the creek and the mapped Q100 high inundation line. The species mix in these locations utilise a higher proportion of plants tolerant of frequent inundation.

ZONE 2B (Upper Creek Bank)

These zones are located between the mapped Q100 high inundation line and the pathway edges to the east. The species mix in these locations utilise a higher proportion of open Eucalypt forest species plants.

ZONE 3 Mulch Plant. Power. POWERLINE EASEMENT - MULCHED DISTURBED AREAS FOLLOWING EARTHWORKS (OUTSIDE OF FLOW PATHS) PLANTING AREAS - NOTE: NOT PART OF INITIAL PHASE WORKS

ZONES DESCRIPTION CONTINUED

ZONE 4 Tree Planting

MULCHED SINGLE AND GROUPED TREES IN EXISTING GRASSED AREAS:

In areas between existing pathway and house lots, tree species are proposed into existing grassed areas with no understorey planting, trees will be set back from pathway edges and rear lot boundaries to allow for safe management and CPTED sightlines.

Trees planted in Tree Guards

75mm Tubestock Rehabilitation species, 100mm Site Mulch x 1.0M Dia. circles into Modified Site Topsoil planting holes.

Refer to Plant Schedules and Typical Layout Plan 8051 L 18 for species composition and density.

ZONE 5 Future Works

STORMWATER REHABILITATION & SHARED USE AREAS BY ICC

These areas have been designated by ICC for future works to install stormwater devices and local recreational park outcomes. These areas will be maintained as slashed open grass to maintain flexibility for construction outcomes by ICC in the future.

NOTE: Coir Mat Plant.

COIR MATTING PLANTING AREAS IF REQUIRED ON SITE

If during site investigations following weed removal or during construction works it is considered by the Site Superintendent that site mulch should be substituted with a bio-degradable matting solution, Coir matting will be installed. Matting will be installed to manufacturer's recommendations to existing & disturbed ground in areas only where frequent overland flows are expected.

PLANTING DETAILS:

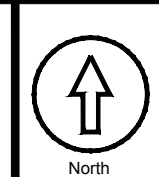
75mm Tubestock Rehabilitation species mix of Trees, Shrubs and Groundcovers.

"Coir Matting Polyfabrics Tecmat TMC9" (Thickest Version rated to cater for flow velocity of 4.8m/s).

amendments:			
Issue	Date	Details	Approved
A	22.03.2016	Preliminary	GC
B	09.07.2018	Phase 1 Tender	GC
C	17.08.2018	Revised Tender	GC

Plan of: Harry Ratnam Park Rehabilitation Zone Notes Sheet 2			
Date	Feb 16	Drawn by:	FW
		Project:	Woodlinks Village Estate H.R.Park
		Checked by:	GC / MS
		Client:	Canberra Estate Consortium No. 36

SCALE:	AS NOTED
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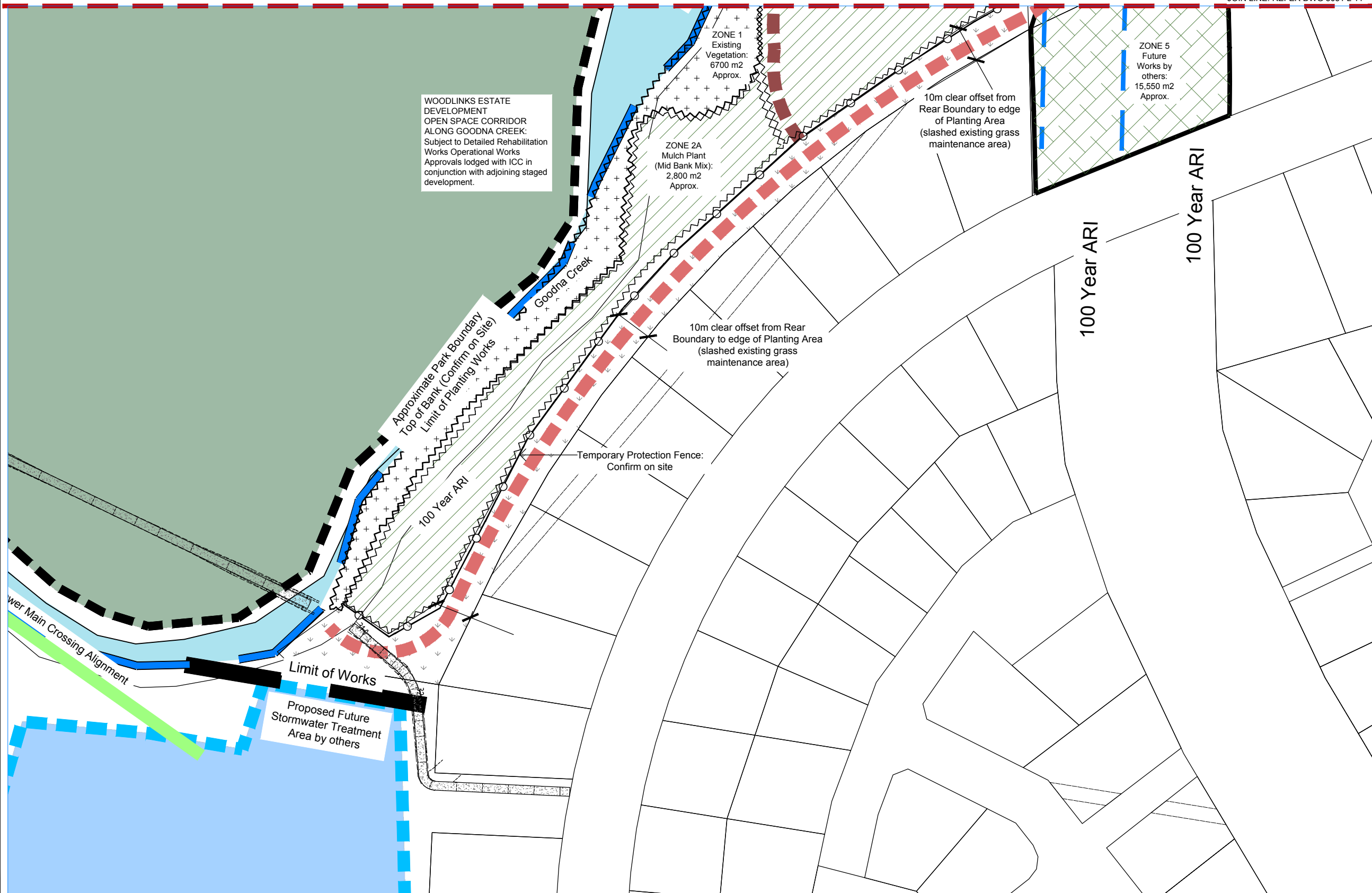


Woodlinks Village Estate - Harry Ratnam Park

Rehabilitation Plan - Sheet 1



JOIN LINE: REFER DWG 8051 L 11



LEGEND

LEGEND: to be read in conjunction with accompanying SHG & ICC Detail Drawings, Specifications and Schedules that form part of the detailed landscape documentation set.

REFER TO DWG 8051 L 08 & 09 REHABILITATION NOTES FOR DETAILED DESCRIPTIONS
REFER TO DWGS 8051 L 16 FOR DETAILED PLANT SCHEDULES

- INITIAL PHASE WORKS**
- ZONE 1 Ex. Veg. (See Notes)**
EXISTING VEGETATION COVER - INFILL OPEN AREAS WITH FUTURE PHASE WORKS. REINFORCEMENT PLANTING AS REQUIRED TO EXISTING BARE AREAS & BARE AREAS AFTER INITIAL WEED MANAGEMENT
 - ZONE 2A (Mid Bank) & ZONE 2B (Upperbank)**
BROAD SCALE REVEGETATION - MULCHED PLANTING AREA
 - ZONE 3 - NOT PART OF INITIAL WORKS**
POWERLINE EASEMENT - MULCHED PLANTING AREAS, NO TREES OR LARGE SHRUBS PLANTING STRUCTURE
 - ZONE 4 TREE PLANTING -**
MULCHED SINGLE TREES WITHIN MANAGED EXISTING GRASS
 - ZONE 5 FUTURE WORK BY OTHERS -**
STORMWATER & REHABILITATION SHARED USE AREAS: BY ICC
 - CONCRETE PEDESTRIAN / CYCLE PATH -**
EXISTING 2M WIDE INSIDE PARK
 - 3M WIDE MAINTENANCE TRACKS -**
REHABILITATION AREAS FOR ONGOING MANAGEMENT REFER TO NOTES ON PLANS:
 - (EXISTING GRASS SLASHED TRACK)
 - (WEED SPRAY & 100MM MULCH SPREAD ON EXISTING GROUND)
 - EXISTING DRAINAGE SWALES -**
AREAS EXCLUDED FROM WORKS TO ALLOW UNIMPEDED FLOWS AND PREVENT SCOURING TO REHABILITATION AREAS.
 - TOP OF BANKS -**
PLANTING LIMIT OF WORKS APPROXIMATE ONLY - CONFIRM LOCATION ON SITE, BASED ON ACTUAL TOP OF BANK LIMIT.
 - TEMPORARY PROTECTION FENCING -**
REFER TO DETAILS. APPROXIMATE EXTENT SHOWN. CONFIRM EXACT REQUIRED LOCATIONS ON SITE.

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Issue	Date	Details	Approved
A	22.03.2016	Preliminary	GC
B	09.07.2018	Phase 1 Tender	GC
C	17.08.2018	Revised Tender	GC

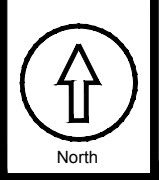
Date Feb 16

Plan of: Harry Ratnam Park
Rehabilitation Plan LOT 7000
Sheet 1

Drawn by: FW Project: Woodlinks Village Estate H.R.Park

Checked by: GC / MS Client: Canberra Estate Consortium No. 36

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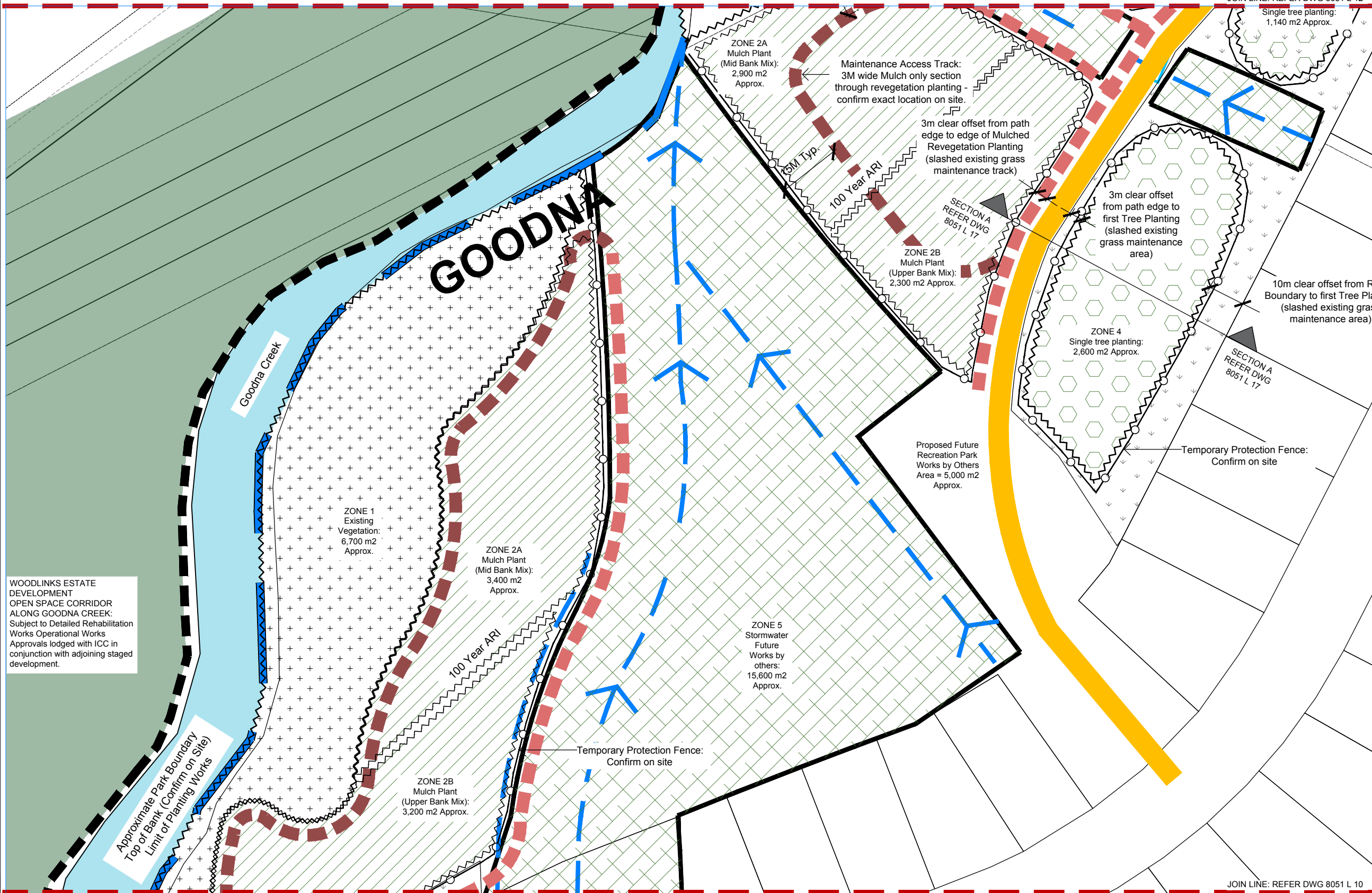


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Dwg No. 8051 L 11 C

Woodlinks Village Estate - Harry Ratnam Park

Rehabilitation Plan - Sheet 2



LEGEND

LEGEND: to be read in conjunction with accompanying SHG & ICC Detail Drawings, Specifications and Schedules that form part of the detailed landscape documentation set.

REFER TO DWG 8051 L 08 & 09
REHABILITATION NOTES FOR DETAILED DESCRIPTIONS
REFER TO DWGS 8051 L 16
FOR DETAILED PLANT SCHEDULES

INITIAL PHASE WORKS

- ZONE 1 Ex. Veg. (See Notes)
- ZONE 2A (Mid Bank) & ZONE 2B (Upperbank)
- ZONE 3 - NOT PART OF INITIAL WORKS
- ZONE 4
- ZONE 5
- CONCRETE PEDESTRIAN / CYCLE PATH - EXISTING 2M WIDE INSIDE PARK
- 3M WIDE MAINTENANCE TRACKS - REHABILITATION AREAS FOR ONGOING MANAGEMENT REFER TO NOTES ON PLANS:
- (EXISTING GRASS SLASHED TRACK)
- (WEED SPRAY & 100MM MULCH SPREAD ON EXISTING GROUND)
- EXISTING DRAINAGE SWALES - AREAS EXCLUDED FROM WORKS TO ALLOW UNIMPED FLOWS AND PREVENT SCOURING TO REHABILITATION AREAS.
- TOP OF BANKS - PLANTING LIMIT OF WORKS APPROXIMATE ONLY - CONFIRM LOCATION ON SITE. BASED ON ACTUAL TOP OF BANK LIMIT.
- TEMPORARY PROTECTION FENCING - REFER TO DETAILS. APPROXIMATE EXTENT SHOWN. CONFIRM EXACT REQUIRED LOCATIONS ON SITE.

WOODLINKS ESTATE DEVELOPMENT
OPEN SPACE CORRIDOR
ALONG GOODNA CREEK:
Subject to Detailed Rehabilitation
Works Operational Works
Approvals lodged with ICC in
conjunction with adjoining staged
development.

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amendments:

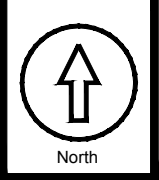
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A	12.02.2016	Preliminary	GC
B	20.11.2017	Tender (Stage 7)	GC
C	09.07.2018	Phase 1 Tender	GC
D	17.08.2018	Revised Tender	GC

Date Feb 16

Plan of: Harry Ratnam Park
Rehabilitation Plan LOT 7000
Sheet 2

Drawn by: FW Project: Woodlinks Village Estate H.R.Park
Checked by: GC / MS Client: Canberra Estate Consortium No. 36

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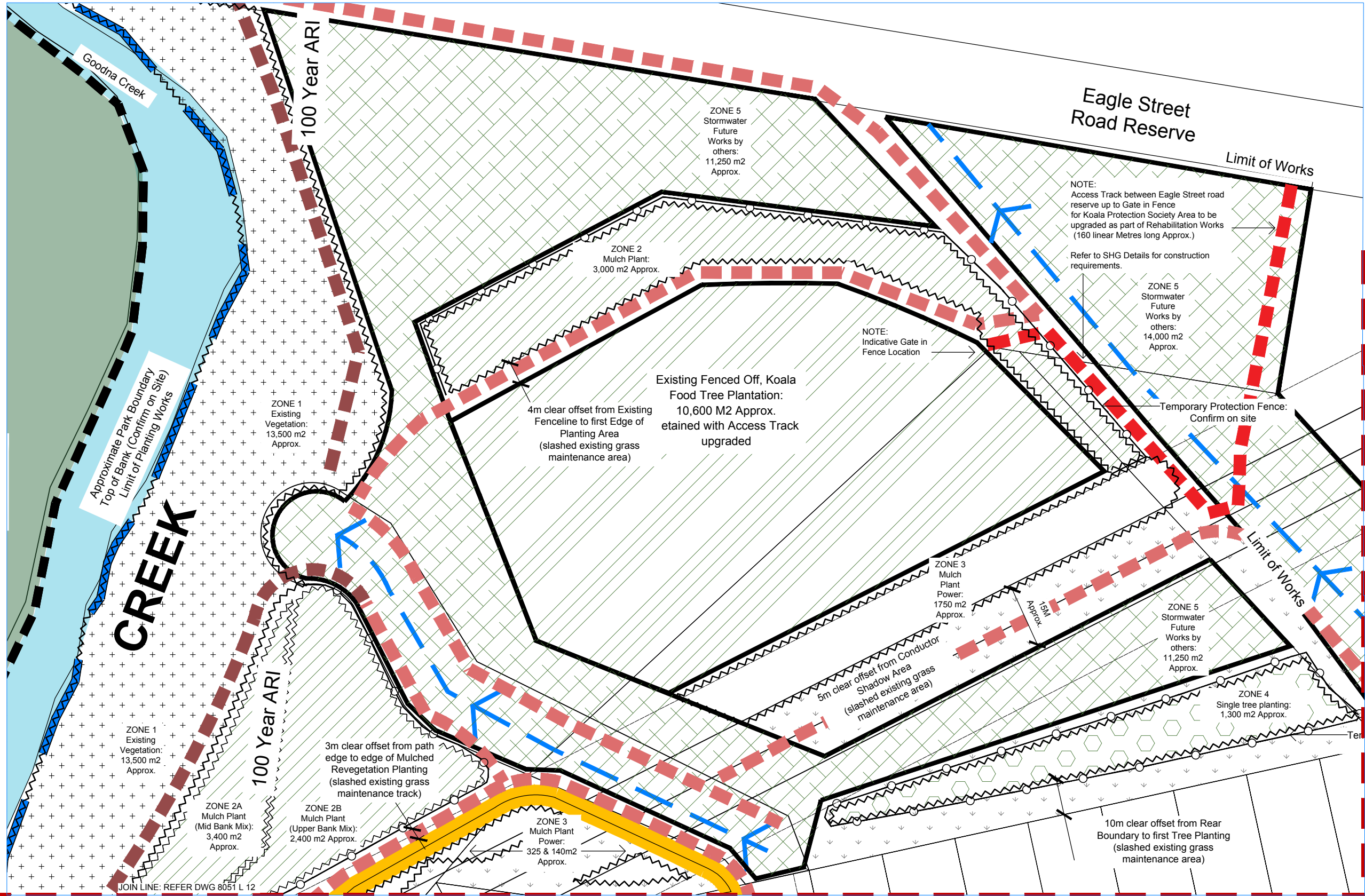


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Dwg No. 8051 L 12 D

Woodlinks Village Estate - Harry Ratnam Park













Rehabilitation Plan - Sheet 4



LEGEND

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REFER TO DWGS 8051 L 16 FOR DETAILED PLANT SCHEDULES

- INITIAL PHASE WORKS**
-  ZONE 1 Ex. Veg. (See Notes)
 -  ZONE 2A (Mid Bank) & ZONE 2B (Upperbank) BROAD SCALE REVEGETATION - MULCHED PLANTING AREA
 -  ZONE 3 - NOT PART OF INITIAL WORKS POWERLINE EASEMENT - MULCHED PLANTING AREAS, NO TREES OR LARGE SHRUBS PLANTING STRUCTURE
 -  ZONE 4 TREE PLANTING - MULCHED SINGLE TREES WITHIN MANAGED EXISTING GRASS
 -  ZONE 5 FUTURE WORK BY OTHERS - STORMWATER & REHABILITATION SHARED USE AREAS: BY ICC
 -  CONCRETE PEDESTRIAN / CYCLE PATH - EXISTING 2M WIDE INSIDE PARK
 -  3M WIDE MAINTENANCE TRACKS - REHABILITATION AREAS FOR ONGOING MANAGEMENT REFER TO NOTES ON PLANS:
 -  (EXISTING GRASS SLASHED TRACK)
 -  (WEED SPRAY & 100MM MULCH SPREAD ON EXISTING GROUND)
 -  EXISTING DRAINAGE SWALES - AREAS EXCLUDED FROM WORKS TO ALLOW UNIMPEDED FLOWS AND PREVENT SCOURING TO REHABILITATION AREAS.
 -  TOP OF BANKS - PLANTING LIMIT OF WORKS APPROXIMATE ONLY - CONFIRM LOCATION ON SITE. BASED ON ACTUAL TOP OF BANK LIMIT.
 -  TEMPORARY PROTECTION FENCING - REFER TO DETAILS. APPROXIMATE EXTENT SHOWN. CONFIRM EXACT REQUIRED LOCATIONS ON SITE.

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amendments:

Issue	Date	Details	Approved
A	22.03.2016	Preliminary	GC
B	20.11.2017	Tender (Stage 1)	GC
C	09.07.2018	Phase 1 Tender	GC
D	17.08.2018	Revised Tender	GC

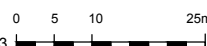
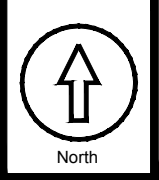
Date Feb 16

Plan of: Harry Ratnam Park
Rehabilitation Plan LOT 7000
Sheet 4

Drawn by: FW Project: Woodlinks Village Estate H.R.Park

Checked by: GC / MS Client: Canberra Estate Consortium No. 36

SCALE: 1:500@A1 1:1000@A3

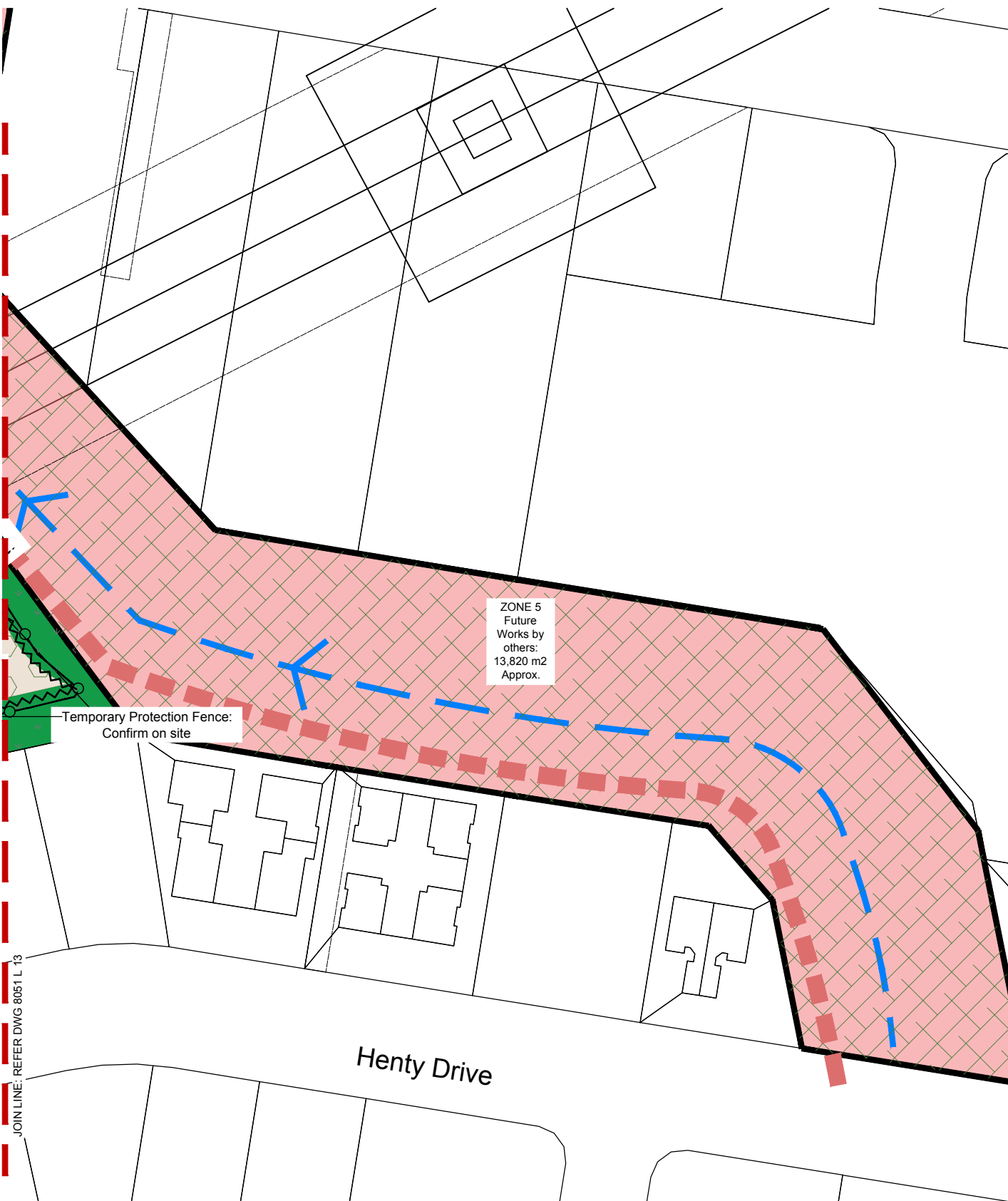



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Dwg No. 8051 L 14 D

Woodlinks Village Estate - Harry Ratnam Park

Rehabilitation Plan - Sheet 5



8051 - WOODLINKS VILLAGE STAGE 1A GOODNA CK LOT 7000 REHABILITATION WORK						
ZONE 1A PLANT SCHEDULES (INITIAL PHASE)						
"EX. VEG" INFILL MULCHED PLANTING OPEN AREAS TO LOWER BANK						
ALLOWANCE AMONGST EXISTING VEGETATION REHABILITATION PLANTING						
Recommended Species List Total. Approx. Area = 2,200m ²						
(10% Approx. OUT OF OVERALL AREA OF 20,200 M ²)						
SPECIES	COMMON NAME	PLANT FORM	POT SIZE	PLANTING DENSITY APPROX. OVERALL @ 1.5 PER M ²	QUANTITY	
TREES (SETBACK MIN. 3M FROM PATH EDGE)				1 per 3m²		
<i>ALPHITONIA excelsa</i>	Red Ash	Tree	Tube	1/100m ²	22	
<i>ALLOCASUARINA littoralis</i>	Black She-Oak	Tree	Tube	1/60m ²	108	
<i>EUCALYPTUS tereticornis</i>	Old Blue Gum	Tree	Tube	1/20m ²	280	
<i>FICUS obliqua</i>	Small Leaved Moreton Bay Fig	Tree	Tube	1/100m ²	22	
<i>GLOCHIDION sumatrum</i>	Cheese Tree	Tree	Tube	1/100m ²	22	
<i>LOPHOSTEMON suaveoleans</i>	Swamp Brush Box	Tree	Tube	1/60m ²	108	
<i>MELALEUCA quinquenervia</i>	Broad Leaved Paperbark	Tree	Tube	1/60m ²	108	
					SUBTOTAL	670
SHRUBS (SETBACK MIN. 6M FROM PATH FOR CPTED VISIBILITY)				1 per 6m²		
<i>ACACIA leiocalyx</i>	Early Lack Wattle	Small Tree	Tube	1/40m ²	55	
<i>CALLISTEMON viminalis</i>	"Bottlebrush Red"	Shrub	Tube	1/40m ²	55	
					SUBTOTAL	110
GROUNDCOVERS				1 per 1.5m²		
<i>IMPERATA cylindrica</i>	Blady Gras	Ground	Tube	1/8m ²	275	
<i>LOMANDRA hystrix</i>	Creek Matrush	Ground	Tube	1/7m ²	314	
					SUBTOTAL	589
					TOTAL	1369

LEGEND

LEGEND: to be read in conjunction with accompanying SHG & ICC Detail Drawings, Specifications and Schedules that form part of the detailed landscape documentation set.

REFER TO DWG 8051 L 08 & 09 REHABILITATION NOTES FOR DETAILED DESCRIPTIONS
REFER TO DWGS 8051 L 16 FOR DETAILED PLANT SCHEDULES

INITIAL PHASE WORKS

- ZONE 1Ex.Veg. (See Notes)
EXISTING VEGETATION COVER - INFILL OPEN AREAS WITH FUTURE PHASE WORKS, REINFORCEMENT PLANTING AS REQUIRED TO EXISTING BARE AREAS & BARE AREAS AFTER INITIAL WEED MANAGEMENT
- ZONE 2A (Mid Bank) & ZONE 2B (Upperbank)
BROAD SCALE REVEGETATION - MULCHED PLANTING AREA
- ZONE 3 - NOT PART OF INITIAL WORKS
POWERLINE EASEMENT - MULCHED PLANTING AREAS, NO TREES OR LARGE SHRUBS PLANTING STRUCTURE
- ZONE 4
TREE PLANTING - MULCHED SINGLE TREES WITHIN MANAGED EXISTING GRASS
- ZONE 5
FUTURE WORK BY OTHERS - STORMWATER & REHABILITATION SHARED USE AREAS: BY ICC

- CONCRETE PEDESTRIAN / CYCLE PATH - EXISTING 2M WIDE INSIDE PARK
- 3M WIDE MAINTENANCE TRACKS - REHABILITATION AREAS FOR ONGOING MANAGEMENT REFER TO NOTES ON PLANS:
 - (EXISTING GRASS SLASHED TRACK)
 - (WEED SPRAY & 100MM MULCH SPREAD ON EXISTING GROUND)
- EXISTING DRAINAGE SWALES - AREAS EXCLUDED FROM WORKS TO ALLOW UNIMPEDED FLOWS AND PREVENT SCOURING TO REHABILITATION AREAS.
- TOP OF BANKS - PLANTING LIMIT OF WORKS APPROXIMATE ONLY - CONFIRM LOCATION ON SITE, BASED ON ACTUAL TOP OF BANK LIMIT.
- TEMPORARY PROTECTION FENCING - REFER TO DETAILS, APPROXIMATE EXTENT SHOWN, CONFIRM EXACT REQUIRED LOCATIONS ON SITE.

JOIN LINE: REFER DWG 8051 L 13

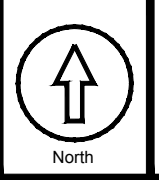
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amendments:			
Issue	Date	Details	Approved
A	22.03.2016	Preliminary	GC
B	17.08.2018	Revised Tender	GC
Date Feb 16			

Plan of: Harry Ratnam Park
 Rehabilitation Plan LOT 7000
 Sheet 5

Drawn by: FW Project: Woodlinks Village Estate H.R.Park
 Checked by: GC / MS Client: Canberra Estate Consortium No. 36

SCALE:
 1:500@A1
 1:1000@A3



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Dwg No. 8051 L 15 B

Zone 2A

8051 - HARRY RATNAM PARK, GOODNA CK REHABILITATION WORK ZONE 2A (MID BANK - BELOW Q100) PLANT SCHEDULES (INITIAL PHASE) "MULCH PLANT" MULCHED REHABILITATION PLANTING AREAS Recommended Species List Total. Approximate Area = 12,200m2					
SPECIES	COMMON NAME	PLANT FORM	POT SIZE	PLANTING DENSITY APPROX. OVERALL @ 2.0 PER 1M ²	QUANTITY
TREES (SETBACK MIN. 3M FROM PATH EDGE)				1 per 4m2	
<i>ALPHITONIA excelsa</i>	Red Ash	Tree	Tube	1/100m2	122
<i>ALLOCASUARINA littoralis</i>	Black She-Oak	Tree	Tube	1/60m2	172
<i>CORYMBIA intermedia</i>	Pink Bloodwood	Tree	Tube	1/60m2	200
<i>CORYMBIA tessellaris</i>	Moreton Bay Ash	Tree	Tube	1/80m2	305
<i>EUCALYPTUS crebra</i>	Narrow Leaved Ironbark	Tree	Tube	1/80m2	305
<i>EUCALYPTUS moluccana</i>	Grey Box	Tree	Tube	1/80m2	305
<i>EUCALYPTUS propinqua</i>	Grey Gum	Tree	Tube	1/100m2	122
<i>EUCALYPTUS siderophloia</i>	Northern Grey Ironbark	Tree	Tube	1/80m2	305
<i>EUCALYPTUS tereticornis</i>	Old Blue Gum	Tree	Tube	1/20m2	610
<i>GLOCHIDION sumatrum</i>	Cheese Tree	Tree	Tube	1/100m2	122
<i>LOPHOSTEMON confertus</i>	"Brush Box"	Tree	Tube	1/100m2	122
<i>LOPHOSTEMON suaveoleans</i>	Swamp Brush Box	Tree	Tube	1/60m2	180
<i>MELALEUCA quinquenervia</i>	Broad Leaved Paperbark	Tree	Tube	1/60m2	180
SUBTOTAL					3050
SHRUBS (SETBACK MIN. 6M FROM PATH FOR CPTED VISIBILITY)				1 per 6m2	
<i>ACACIA leiocalyx</i>	Early Lack Wattle	Small Tree	Tube	1/40m2	305
<i>BANKSIA integrifolia</i>	Coastal Banksia	Small Tree	Tube	1/75m2	163
<i>CALLISTEMON viminalis</i>	"Bottlebrush Red"	Shrub	Tube	1/40m2	305
<i>DAVIESIA villifera</i>	Prickly Pea	Shrub	Tube	1/75m2	163
<i>DODONAEA triquetra</i>	Forest Hop Bush	Shrub	Tube	1/75m2	163
<i>HOVEA acutifolia</i>	Purple Pea Bush	Shrub	Tube	1/40m2	305
<i>JACKSONIA scoparia</i>	Dogwood	Shrub	Tube	1/75m2	163
<i>LEPTOSPERMUM polygafolium</i>	Wid May	Shrub	Tube	1/40m2	305
<i>PITTOSPORUM undulatum</i>	"Sweet Pittosporum"	Shrub	Tube	1/75m2	163
SUBTOTAL					2033
GROUNDCOVERS				1 per 12m2	
<i>BOTHRIOCHLOA sp.</i>	"Beardgrass"	Ground	Tube	1/80m2	33
<i>DIANELLA caerulea</i>	Flax Lilly	Ground	Tube	1/10m2	33
<i>GOODENIA rotundifolia</i>	Star Goodenia	Ground	Tube	1/80m2	49
<i>IMPERATA cylindrica</i>	Blady Gras	Ground	Tube	1/8m2	159
<i>LOMANDRA hystrix</i>	Creek Matrush	Ground	Tube	1/7m2	219
<i>LOMANDRA longifolia</i>	Matrush	Ground	Tube	1/6m2	369
<i>MYOPORUM ellipticum</i>	Boobiala	Ground	Tube	1/10m2	69
<i>THEMEDA triandra</i>	Kangaroo Grass	Ground	Tube	1/10m2	69
SUBTOTAL					1000
TOTAL					6083

Zone 1B

8051 - WOODLINKS VILLAGE STAGE 1A GOODNA CK LOT 7000 REHABILITATION WORK ZONE 1B PLANT SCHEDULES (INITIAL PHASE) "EX. VEG" INFILL MULCHED PLANTING OPEN AREAS TO MID CREEK BANK Recommended Species List Total. Approx. Area = 1300m2 (10% OUT OF OVERALL AREA OF 20,200 M2)					
SPECIES	COMMON NAME	PLANT FORM	POT SIZE	PLANTING DENSITY APPROX. OVERALL @ 1.0 PER 1M ²	QUANTITY
TREES (SETBACK MIN. 3M FROM PATH EDGE)				1 per 3m2	
<i>ALPHITONIA excelsa</i>	Red Ash	Tree	Tube	1/100m2	22
<i>ALLOCASUARINA littoralis</i>	Black She-Oak	Tree	Tube	1/60m2	36
<i>CORYMBIA intermedia</i>	Pink Bloodwood	Tree	Tube	1/60m2	36
<i>CORYMBIA tessellaris</i>	Moreton Bay Ash	Tree	Tube	1/80m2	71
<i>EUCALYPTUS crebra</i>	Narrow Leaved Ironbark	Tree	Tube	1/80m2	75
<i>EUCALYPTUS moluccana</i>	Grey Box	Tree	Tube	1/80m2	73
<i>EUCALYPTUS propinqua</i>	Grey Gum	Tree	Tube	1/100m2	22
<i>EUCALYPTUS siderophloia</i>	Northern Grey Ironbark	Tree	Tube	1/80m2	72
<i>EUCALYPTUS tereticornis</i>	Old Blue Gum	Tree	Tube	1/40m2	169
<i>GLOCHIDION sumatrum</i>	Cheese Tree	Tree	Tube	1/100m2	22
<i>LOPHOSTEMON suaveoleans</i>	Swamp Brush Box	Tree	Tube	1/60m2	36
<i>MELALEUCA quinquenervia</i>	Broad Leaved Paperbark	Tree	Tube	1/60m2	36
SUBTOTAL					670
SHRUBS (SETBACK MIN. 6M FROM PATH FOR CPTED VISIBILITY)				1 per 12m2	
<i>ACACIA leiocalyx</i>	Early Lack Wattle	Small Tree	Tube	1/40m2	93
<i>CALLISTEMON viminalis</i>	"Bottlebrush Red"	Shrub	Tube	1/40m2	92
SUBTOTAL					185
GROUNDCOVERS				1 per 2m2	
<i>IMPERATA cylindrica</i>	Blady Gras	Ground	Tube	1/8m2	293
<i>LOMANDRA hystrix</i>	Creek Matrush	Ground	Tube	1/7m2	332
<i>LOMANDRA longifolia</i>	Matrush	Ground	Tube	1/6m2	385
SUBTOTAL					1010
TOTAL					1865

Woodlinks Village Estate - Harry Ratnam Park

Rehabilitation Plants Sheet I

Zone 2B

8051 - HARRY RATNAM PARK, GOODNA CK REHABILITATION WORK ZONE 2B (UPPER BANK - ABOVE Q100 LINE) PLANT SCHEDULES (INITIAL PHASE)

"MULCH PLANT" MULCHED REHABILITATION PLANTING AREAS

Recommended Species List Total. Approximate Area = 10,150m²

SPECIES	COMMON NAME	PLANT FORM	POT SIZE	PLANTING DENSITY APPROX. OVERALL @ 2.0 PER 1M ²	QUANTITY
TREES (SETBACK MIN. 4M FROM PATH EDGE)				1 per 4m²	
<i>ALPHITONIA excelsa</i>	Red Ash	Tree	Tube	1/60m ²	166
<i>CORYMBIA intermedia</i>	Pink Bloodwood	Tree	Tube	1/60m ²	254
<i>CORYMBIA tessellaris</i>	Moreton Bay Ash	Tree	Tube	1/50m ²	324
<i>EUCALYPTUS crebra</i>	Narrow Leaved Ironbark	Tree	Tube	1/80m ²	223
<i>EUCALYPTUS moluccana</i>	Grey Box	Tree	Tube	1/50m ²	324
<i>EUCALYPTUS propinqua</i>	Grey Gum	Tree	Tube	1/80m ²	218
<i>EUCALYPTUS siderophloia</i>	Northern Grey Ironbark	Tree	Tube	1/80m ²	219
<i>EUCALYPTUS tereticornis</i>	Qld Blue Gum	Tree	Tube	1/30m ²	677
<i>LOPHOSTEMON confertus</i>	Brush Box	Tree	Tube	1/75m ²	135
SUBTOTAL					2540
SHRUBS (SETBACK MIN. 4M FROM PATH - LOW DENSITY FOR CPTED VISIBILITY)				1 per 6m²	
<i>ACACIA leiocalyx</i>	Early Lack Wattle	Small Tree	Tube	1/40m ²	254
<i>BANKSIA integrifolia</i>	Coastal Banksia	Small Tree	Tube	1/75m ²	135
<i>CALLISTEMON viminalis</i>	"Bottlebrush Red"	Shrub	Tube	1/40m ²	254
<i>CRYPTOCARYA triplinervis</i>	"Three-veined Cryptocarya"	Shrub	Tube	1/75m ²	135
<i>DAVIESIA villifera</i>	Prickly Pea	Shrub	Tube	1/75m ²	135
<i>DODONAEA triquetra</i>	Forest Hop Bush	Shrub	Tube	1/75m ²	135
<i>HOVEA acutifolia</i>	Purple Pea Bush	Shrub	Tube	1/50m ²	203
<i>JACKSONIA scoparia</i>	Dogwood	Shrub	Tube	1/75m ²	135
<i>LEPTOSPERMUM polygafolium</i>	Wid May	Shrub	Tube	1/50m ²	203
<i>PITTOSPORUM undulatum</i>	"Sweet Pittosporum"	Shrub	Tube	1/75m ²	135
SUBTOTAL					1726
GROUNDCOVERS				1 per 12m²	
<i>BOTHRIOCHLOA sp.</i>	"Beardgrass"	Ground	Tube	1/35m ²	70
<i>CYMOBOPOGON refractus</i>	Barb-wire Grass	Ground	Tube	1/20m ²	118
<i>IMPERATA cylindrica</i>	Blady Gras	Ground	Tube	1/7m ²	162
<i>LOMANDRA longifolia</i>	Matrush	Ground	Tube	1/4m ²	263
<i>THEMEDA triandra</i>	Kangaroo Grass	Ground	Tube	1/5m ²	237
SUBTOTAL					850
TOTAL					5116

Single Tree Planting

8051 - HARRY RATNAM PARK, GOODNA CK REHABILITATION WORK INITIAL PHASE - TREE PLANTING SINGLE TREE PLANTING IN GRASSED AREAS BETWEEN PATHWAY AND HOUSES WITHIN ZONE 4

Recommended Species List Total. Approximate Area = 5,040m²

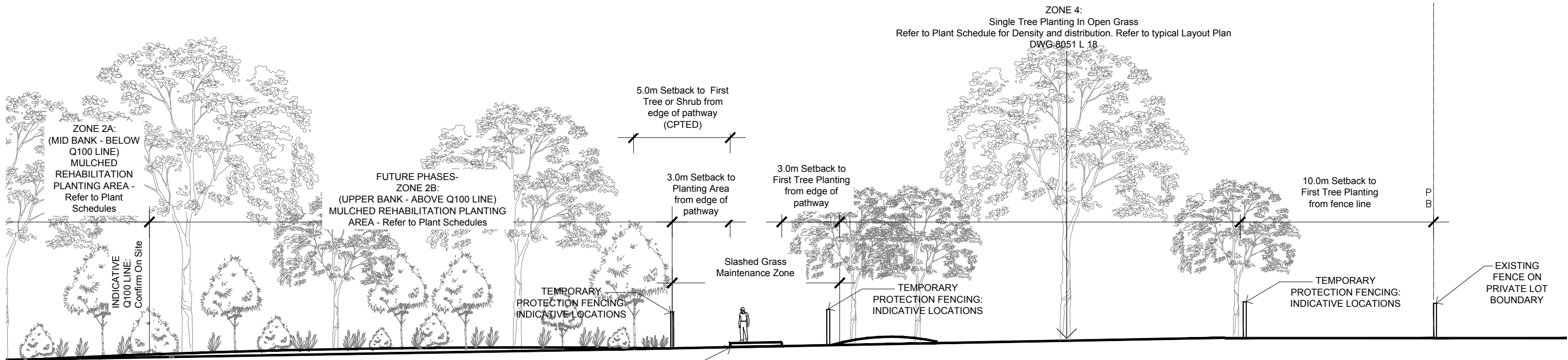
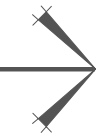
SPECIES	COMMON NAME	PLANT FORM	POT SIZE	MATURE HEIGHT (m)	DENSITY OVERALL @ 1.0 PER 18M ²	QTY.
TREES (PHASE 1)						
<i>CORYMBIA tessellaris</i>	Moreton Bay Ash	Tree	Tube	35	1/360m ²	14
<i>EUCALYPTUS crebra</i>	Narrow Leaved Ironbark	Tree	Tube	35	1/180m ²	28
<i>EUCALYPTUS moluccana</i>	Grey Box	Tree	Tube	35	1/180m ²	28
<i>EUCALYPTUS propinqua</i>	Grey Gum	Tree	Tube		1/180m ²	28
<i>EUCALYPTUS siderophloia</i>	Northern Grey Ironbark	Tree	Tube	35	1/180m ²	28
<i>EUCALYPTUS tereticornis</i>	Qld Blue Gum	Tree	Tube	45	1/51m ²	98
<i>LOPHOSTEMON confertus</i>	Brush Box	Tree	Tube	35	1/360m ²	14
<i>LOPHOSTEMON suaveoleans</i>	Swamp Brush Box	Tree	Tube	35	1/360m ²	14
<i>MELALEUCA quinquenervia</i>	Broad Leaved Paperbark	Tree	Tube	25	1/180m ²	28
TOTAL						280

Woodlinks Village Estate - Harry Ratnam Park

Rehabilitation Plants Sheet 2

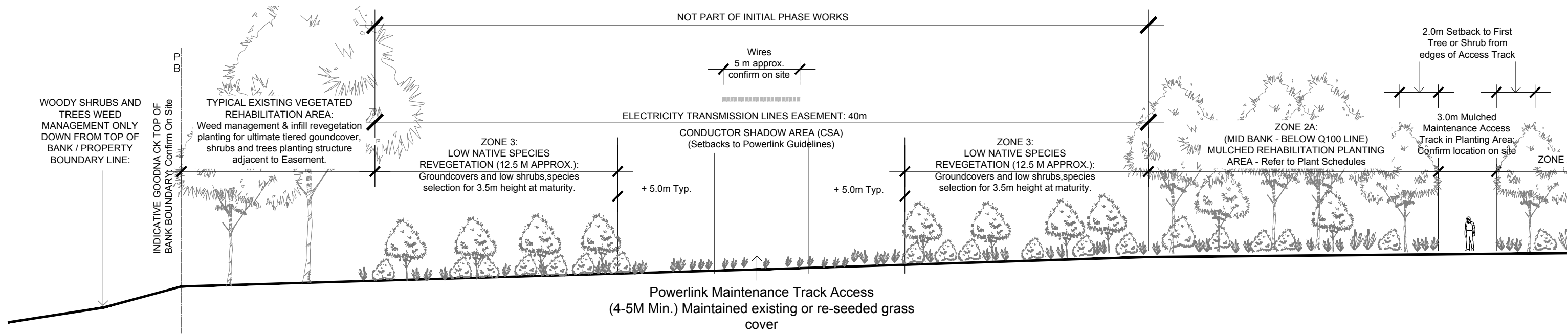
Woodlinks Village Estate - Harry Ratnam Park

Rehabilitation Plan Sections



INITIAL PHASES : MULCHED REVEGETATION TO PATHWAY TO EXISTING PRIVATE LOTS - TYPICAL SECTION A-A

Approximate Scales 1:100 @A1 / 1:200 @ A3



FUTURE PHASES: GOODNA CREEK TO POWERLINK EASEMENT TO MULCHED REVEGETATION - TYPICAL SECTION B-B

Approximate Scales 1:100 @A1 / 1:200 @ A3

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amendments:			
Issue	Date	Details	Approved
A	12.02.2016	Preliminary	GC
B	09.07.2018	Phase 1 Tender	GC
C	17.08.2018	Revised Tender	GC

Plan of: Harry Ratnam Park Rehabilitation Sections	
Date: Feb 16	Drawn by: FW
Checked by: GC / MS	Project: Woodlinks Village Estate H.R.Park
	Client: Canberra Estate Consortium No. 36

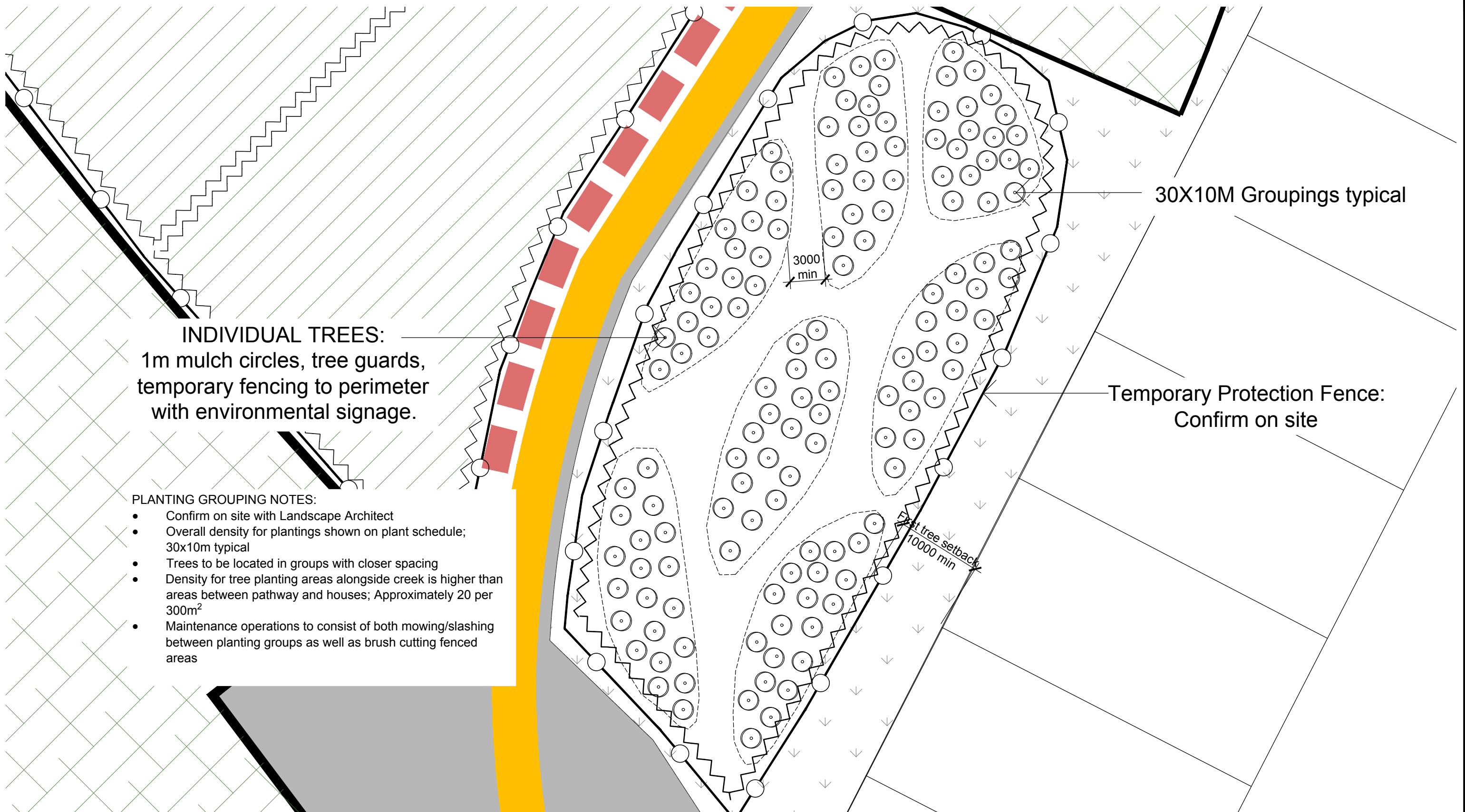
SCALE: AS SHOWN



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 Dwg No. 8051 L 18 C

Woodlinks Village Estate - Harry Ratnam Park

Phase I - Single Tree Planting Typical Layout Plan



INDIVIDUAL TREES:
 1m mulch circles, tree guards,
 temporary fencing to perimeter
 with environmental signage.

- PLANTING GROUPING NOTES:**
- Confirm on site with Landscape Architect
 - Overall density for plantings shown on plant schedule; 30x10m typical
 - Trees to be located in groups with closer spacing
 - Density for tree planting areas alongside creek is higher than areas between pathway and houses; Approximately 20 per 300m²
 - Maintenance operations to consist of both mowing/slashing between planting groups as well as brush cutting fenced areas

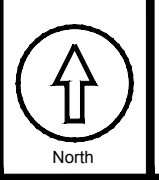
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amendments:			
Issue	Date	Details	Approved
A	09.07.2018	Phase 1 Tender	GC
B	17.08.2018	Revised Tender	GC

Date Feb 16

Plan of: Harry Ratnam Park Phase 1 - Single Tree Planting Layout Plan	
Drawn by: AB	Project: Woodlinks Village Estate H.R.Park
Checked by: GC / MS	Client: Canberra Estate Consortium No. 36

SCALE:
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 1:500@A3



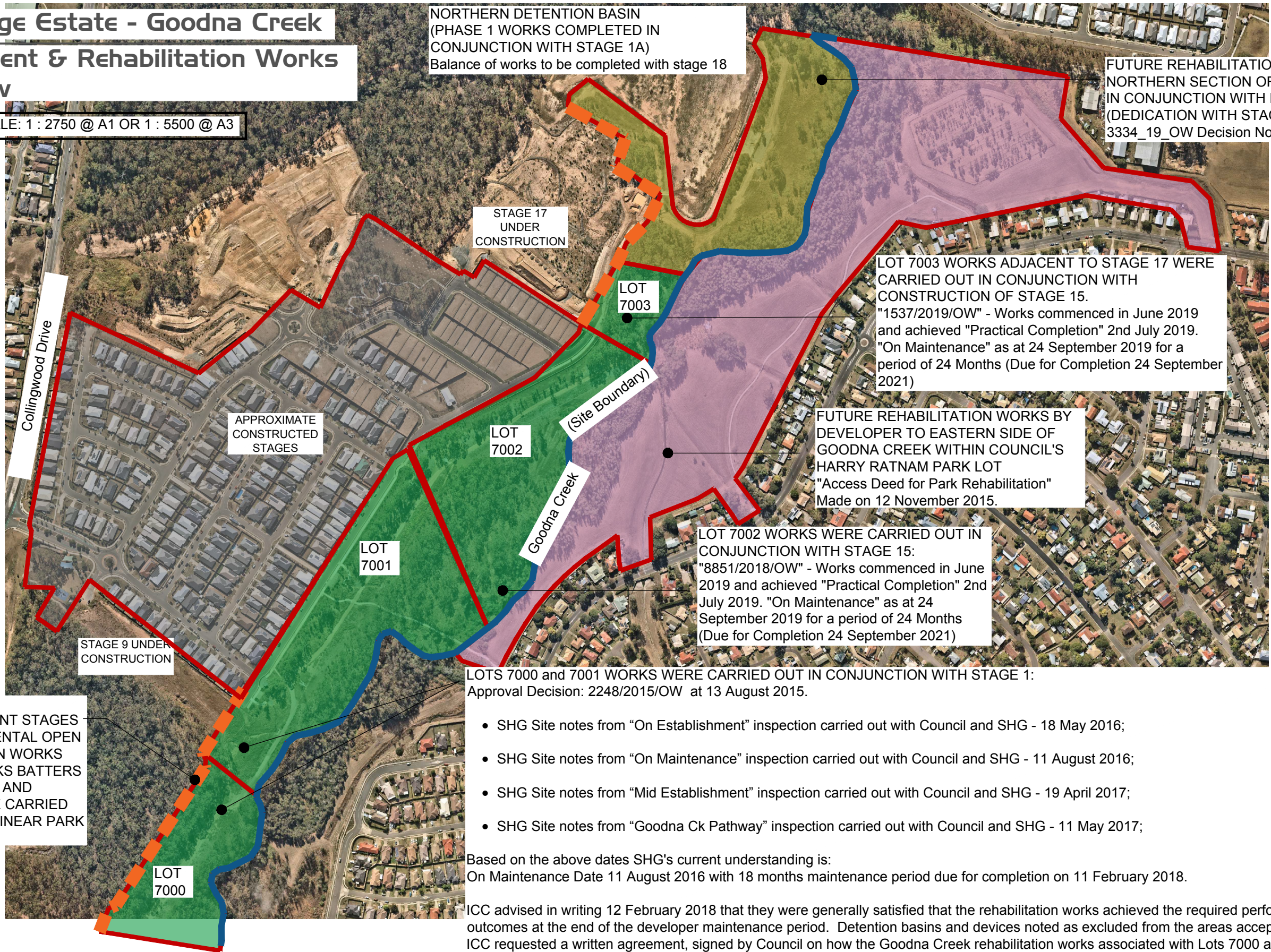
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Woodlinks Village Estate - Goodna Creek

Weed Management & Rehabilitation Works Status Overview

SITE LAYOUT APPROX. SCALE: 1 : 2750 @ A1 OR 1 : 5500 @ A3



NORTHERN DETENTION BASIN
(PHASE 1 WORKS COMPLETED IN CONJUNCTION WITH STAGE 1A)
Balance of works to be completed with stage 18

FUTURE REHABILITATION WORKS TO NORTHERN SECTION OF GOODNA CREEK IN CONJUNCTION WITH FUTURE LOT 7004 (DEDICATION WITH STAGE 18)
3334_19_OW Decision Notice 21.05.19

STAGE 17 UNDER CONSTRUCTION

LOT 7003

LOT 7003 WORKS ADJACENT TO STAGE 17 WERE CARRIED OUT IN CONJUNCTION WITH CONSTRUCTION OF STAGE 15.
"1537/2019/OW" - Works commenced in June 2019 and achieved "Practical Completion" 2nd July 2019. "On Maintenance" as at 24 September 2019 for a period of 24 Months (Due for Completion 24 September 2021)

APPROXIMATE CONSTRUCTED STAGES

LOT 7002

FUTURE REHABILITATION WORKS BY DEVELOPER TO EASTERN SIDE OF GOODNA CREEK WITHIN COUNCIL'S HARRY RATNAM PARK LOT
"Access Deed for Park Rehabilitation" Made on 12 November 2015.

LOT 7001

LOT 7002 WORKS WERE CARRIED OUT IN CONJUNCTION WITH STAGE 15:
"8851/2018/OW" - Works commenced in June 2019 and achieved "Practical Completion" 2nd July 2019. "On Maintenance" as at 24 September 2019 for a period of 24 Months (Due for Completion 24 September 2021)

STAGE 9 UNDER CONSTRUCTION

LOTS 7000 and 7001 WORKS WERE CARRIED OUT IN CONJUNCTION WITH STAGE 1:
Approval Decision: 2248/2015/OW at 13 August 2015.

- SHG Site notes from "On Establishment" inspection carried out with Council and SHG - 18 May 2016;
- SHG Site notes from "On Maintenance" inspection carried out with Council and SHG - 11 August 2016;
- SHG Site notes from "Mid Establishment" inspection carried out with Council and SHG - 19 April 2017;
- SHG Site notes from "Goodna Ck Pathway" inspection carried out with Council and SHG - 11 May 2017;

NOTE:
WHERE FUTURE DEVELOPMENT STAGES INTERFACE WITH ENVIRONMENTAL OPEN SPACE LOTS, REHABILITATION WORKS TO ASSOCIATED EARTHWORKS BATTERS AND STORMWATER OUTLETS AND INFRASTRUCTURE ARE TO BE CARRIED OUT IN CONJUNCTION WITH LINEAR PARK STAGE WORKS.

Based on the above dates SHG's current understanding is:
On Maintenance Date 11 August 2016 with 18 months maintenance period due for completion on 11 February 2018.

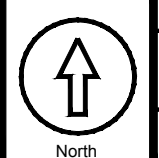
ICC advised in writing 12 February 2018 that they were generally satisfied that the rehabilitation works achieved the required performance outcomes at the end of the developer maintenance period. Detention basins and devices noted as excluded from the areas accepted. ICC requested a written agreement, signed by Council on how the Goodna Creek rehabilitation works associated with Lots 7000 and 7001 are to be maintained by Canberra Estates Consortium No.36 Pty Ltd to comply with the EPBC 2013/6866 decision and conditions.

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amendments:			
Issue	Date	Details	Approved
A	14/09/2020	Coordination	GC

Plan of: Goodna Creek Rehabilitation Works Status Overview		
Date	FEB 2019	Drawn by. AB
Scale	N.T.S	Checked by. GC
Project:	Woodlinks Village	Client: The Village Building Co. Ltd

SCALE: AS NOTED



saunders havill group
Dwg No. 9574 L 14 A

Appendix D

Lifestyle guidelines for Woodlinks Village

Protecting and supporting

the local koala population at Woodlinks Village



Did you know...

koalas have a relatively well-defined home range and regularly visit the same trees?

As a new resident to Woodlinks Village you also form part of the future custodians of the Goodna Creek Environmental Corridor. You may not have seen them yet, however from time to time you will hear or glimpse the local koala population living side by side with residents of Woodlinks. The vegetated land on Goodna Creek has been purposely set aside, protected and rehabilitated to ensure the existing local koala usage of the site continues as the village is constructed and ultimately completed. To ensure Goodna Creek continues to function for koala movement all residents need to play a role in making sure this vulnerable species is able to coexist as the estate evolves into a full community.

Despite the retention of the corridor and trees along Goodna Creek, as a resident there are a simple ways you can help reduce the dangers koalas face when traversing urban environments.

Legislation

The koala is listed as a Vulnerable Fauna Species under the Commonwealth Government's Environment Protection and Biodiversity Conservation Act 1999 and the Queensland Government's Nature Conservation Act 1992. Along with specific controls put in place by Ipswich City Council all of these levels of government have had a role in the assessment and approval of the Woodlinks Village estate. The Goodna Creek Corridor is one of the first environmental offsets approved by the Commonwealth Government since the listing of the Koala in 2012.



Koala Trees in Landscaping

Did you know an adult koala can eat up to 1 kilo of gum leaves each night?

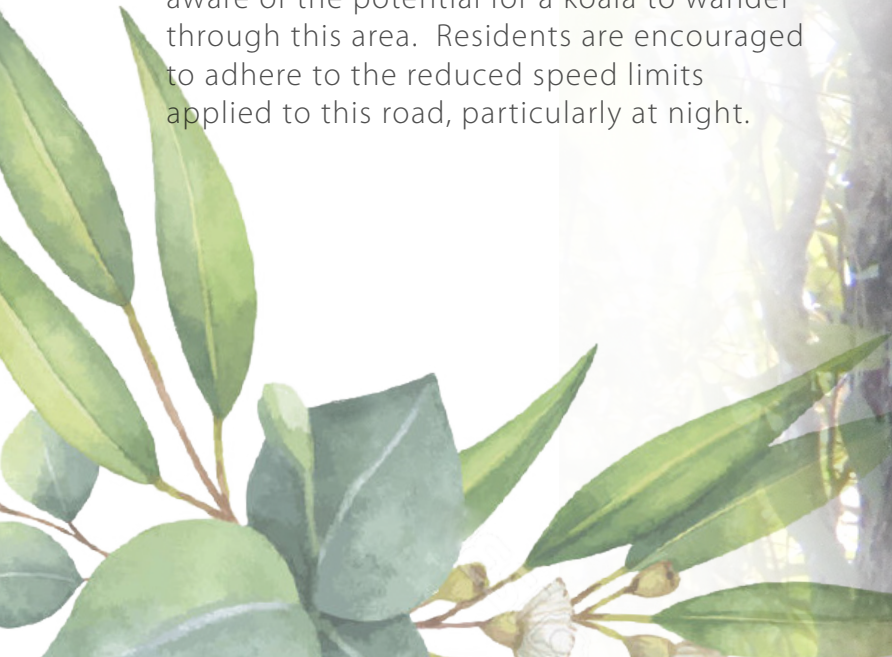
Any tree can provide shelter or refuge for a koala when avoiding predators or adverse weather, however a number of the large Eucalypt and Corymbia species along Goodna Creek are preferred for food and habitat. These trees have been protected and are currently being bolstered for this purpose. Importantly none of the street trees or fresh landscaping away from the Goodna Creek includes new koala food tree plantings. These have been deliberately excluded from the estate to avoid attracting koalas outside of the corridor to where housing occurs and the risk of dog attack or vehicle strike is amplified.

You can support this outcome by ensuring you don't plant large gum trees around your own house and gardens (these species are not that suitable for these areas regardless of the koala).

Road Etiquette & Koala Safety

Did you know koalas are mostly asleep during the day and are actively moving around and feeding at night?

A common cause of koala deaths in urbanised parts of Queensland is being run over by a motor vehicle. When complete you will see signage and traffic calming devices along the Goodna Creek Esplanade Road as a constant reminder for drivers to be aware of the potential for a koala to wander through this area. Residents are encouraged to adhere to the reduced speed limits applied to this road, particularly at night.



Responsible Pet Ownership

Dog attacks on koalas result in death or very serious injuries. All dogs have the ability to cause stress to koalas with medium and large dogs more responsible for physical attacks. The Goodna Creek Corridor Parkland should only be utilised by dogs on a lead in constant control of the pet owner. Once the esplanade road is completed signage explaining these requirements will be installed at all entry and exit points to the parkland.

Dogs can behave differently when their owner is not present, particularly if a strange person or animal enters their territory. You can minimise the potential for your dog to attack a koala by ensuring it's contained to your property when not on a lead, particularly at night.

If You Find a Sick, Injured or Orphaned Koala

Don't try to handle a sick or injured koala, as you may put yourself or the animal in a situation where there is a risk of further injury. Koalas can also become easily stressed. Leave the koala undisturbed and ensure it is safe from further threats then contact either of the following groups for assistance:

*The Ipswich Koala Protection Society –
Koala Rescue*
Phone: (07) 5464 6274 or
(07) 3832 5035

Daisy Hill Koala Centre
Daisy Hill Road,
Daisy Hill Qld 4127
Phone: (07) 3299 1032

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