

17 October 2023 to 16 October 2024 EPBC 2013/7057 Spring Mountain Mixed Use Master Planned Community Development, Spring Mountain, Queensland

Prepared for Lendlease Communities (Springfield) Pty Limited 14 January 2025

Job No. 7243 E

Document Control

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1. Introduction

The Environmental Management Division of **Saunders Havill Group** was engaged by **Lendlease Communities (Springfield) Pty Limited** (Proponent) to prepare this Annual Compliance Report for the Spring Mountain Mixed Use Master Planned Community Development at Spring Mountain, Queensland. This report provides an assessment of project compliance with the approval granted under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (ref EPBC 2013/7057) and is specifically required by condition 13 of the approval granted on 23 December 2015 (refer **Appendix A**).

The project area covers approximately 387 hectares (ha) and is located within 1 kilometre (km) of Springfield Central (refer to project context map at **Figure 1**). Within the project area, an impact to 255 ha of Matters of National Environmental Significance (MNES) habitat being koala and grey-headed flying-fox foraging habitat was permitted under the approval conditions. Furthermore, due to the potential presence of *Plectranthus habrophyllus* (herein referred to as *Coleus habrophyllus*) in pockets throughout the project area, any impacts on these plants must be compensated by planting in the on-site conservation area. There have been no impacts to *Coleus habrophyllus* as a result of the action. The non-administrative approval conditions are related to the management of impacts and offsets for these three MNES.

1.1. EPBC approval variation

A variation to the conditions of approval was granted by DCCEEW on 18 September 2024. The key changes include the variation to condition 1 and addition of conditions 1A, 1B, 1C and 1D which recognises an increase in the approved impact area to 274.6 ha and the requirement for an additional offset area to be legally secured to compensate for the additional 19.6 ha impact. The varied decision notice is provided at **Appendix A**.

1.2. Approval details

Commonwealth reference	EPBC 2013/7057
Approval holder	Lendlease Communities (Springfield) Pty Limited
ACN	087 876 864
Approval date	23 December 2015
Expiry date of approval	31 December 2040
Approved action	To construct a mixed-use development (including residential, commercial and community development and associated infrastructure) on a 387 ha site at Spring Mountain, Queensland
Controlling provision	Approved – listed threatened species and communities (sections 18 & 18A)
Project commencement	17 October 2016
Reporting period	Year eight — 17 October 2023 to 16 October 2024
Address	Grande Avenue, Spring Mountain
Local government area	Ipswich City Council



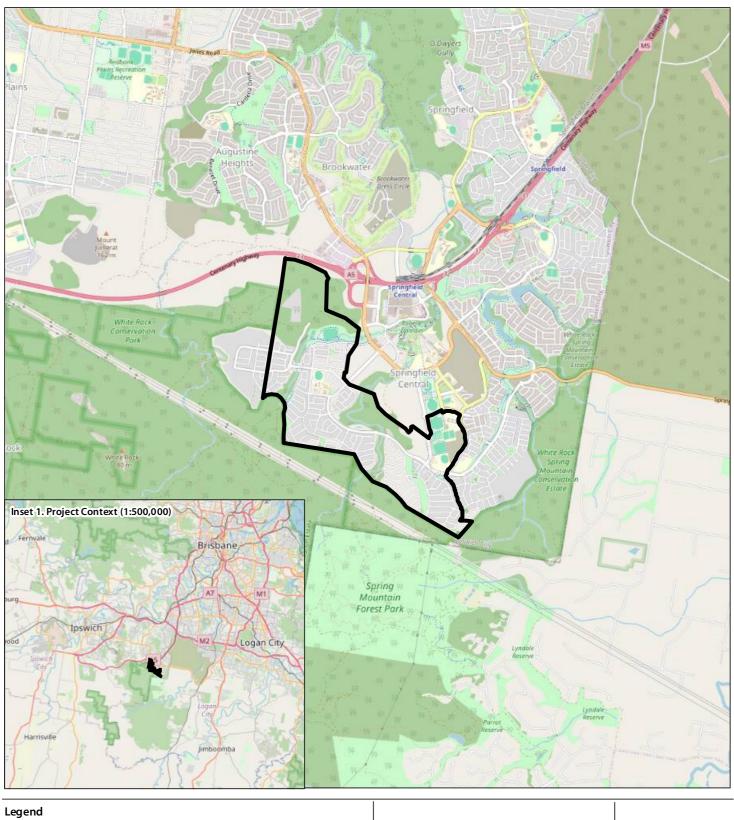


Figure 1 Project Context	Lend Lease Communities (Springfield) Pty Ltd
File ref. 7243 E Figure 1 ACR8 Project Context A Date 19/12/2024 Project Springfield Rise, EPBC 2013/7057 (ACR 2024)	Standers havill group
	THE'S PLANS HAVE BEEN PREPARED FOR THE EXCILISME USE OFTHECIENT SHUNDERS HAVIL GROUP CANNOT ACCEPT REPONSELITY FOR MAY USE OF OR RELARCE LOON THE COMENTS OF THESE DRAWINGS BY MY THRO MRY.

Project area

1.3. Declaration of accuracy

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (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	the etimemone.	
Full name	Murray Saunders	
Position	Director	
Organisation	Saunders Havill Group	
	ABN 24 144 972 949	
Date	14 January 2025	

1.4. Description of activities

Construction activities at Springfield Rise (the estate name of the Spring Mountain mixed use master planned community) commenced on 17 October 2016 and the estate was officially launched to the public in March 2017. Throughout the eight (8) years of operation, the estate continues to be managed across several villages (*i.e.*, stages) which are at various phases of construction and completion. Villages 6, 8 and 13 were the first established, followed by further delivery of Villages 10, 11, 12, 14, 15 and 17 with several thousand residents now residing in these locales. Civil construction works are currently underway within Village 18, with further works to be undertaken in remaining Villages 7, 9 and 16 in future years. The Springfield Rise masterplan is presented in **Figure 2**.

Notable development milestones during Year 8 include the development approval of 600 lots located in Village 16 and opening of Mountain Park. While previous years findings are discussed within this report, more detail can be found in previous ACRs located on the Springfield Rise webpage:

https://www.stockland.com.au/residential/qld/springfield-rise/resources/sustainability-and-environment

This report is reflective of the activities completed and data collected during the reporting period from October 2023 to October 2024.

During this reporting period the following activities were initiated and/or completed during Year 8 of the project:

• Continuation of the Springfield Rise Community Grants Program;



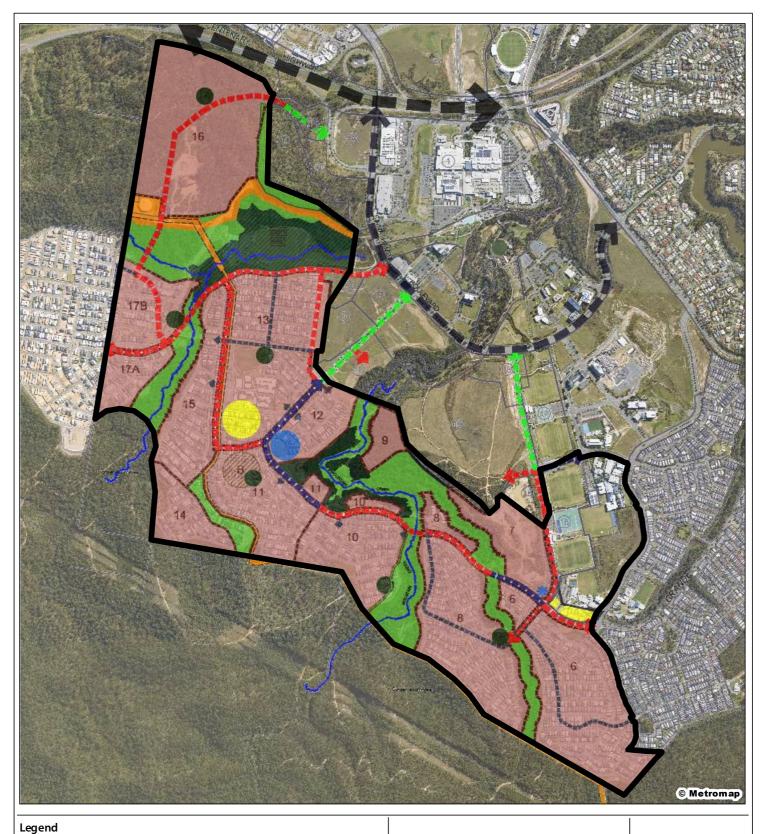
- Community activities (supported, initiated or coordinated by Lendlease):
 - Community movie night
 - Continued community garden
 - Annual Pest Fishing Classic
 - o Silver Jubilee Park opening festival
 - o NAIDOC Week 2024
- Spring Mountain Offset Area works:
 - Weed management activities as per the certified Voluntary Declaration under the Queensland *Vegetation Management Act 1999*;
 - Conservation area surveys including;
 - Weed surveys,
 - SAT surveys, and
 - Motion detection camera surveys,
 - o Inspection of nest boxes within the conservation area; and
 - o Fencing / access restriction assessments
- Estate area works:
 - Site preparation;
 - Pre-clearance surveys and reports;
 - Temporary management infrastructure (e.g. vegetation and fauna fencing, signage);
 - Vegetation clearing in selected villages;
 - Earthworks;
 - o Infrastructure installation sewer, water, power, etc.;
 - Creating new land titles;
 - Completion of district recreation park Mountain Park;
 - Village 16 Development Approval 600 lots;
 - Widespread landscaping works to support the estate;
 - Protection and weed removal measures at the Coleus habrophyllus locations;
 - Weed removal and replanting of environmental corridors; and
 - Ongoing management of erosion and sediment control (ESC) issues.

It is noted that ESC issues associated with the project were identified towards the end of the 2019-2020 reporting period and although not viewed as a non-compliance with the EPBC Approval, the matter continues to be addressed with rectification works in consultation with Ipswich City Council. The rectification works were



affected by the early 2022 floods, however, continue to be implemented whilst rehabilitation works continue in the broader area.







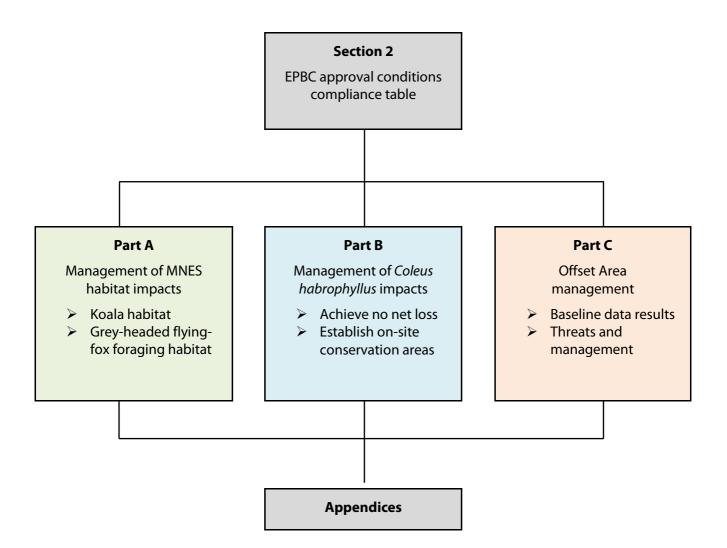
Layer Source: © State of Queen sland 2024

1.5. Report structure

The approval includes ten site-specific approval conditions and a further twelve administrative approval conditions. Site-specific conditions have been categorised into:

- 1. Impact management
- 2. Coleus habrophyllus management
- 3. Offset Area management (habitat for the koala and grey-headed flying-fox)

The approval conditions include a number of 'outcomes based' conditions and Parts A, B and C of this report detail how the implemented management actions will achieve, or are achieving, the outcomes. This includes details of the management strategies and any adaptions that occur during the term of the approval. The compliance table is presented in **Section 2** followed by Parts A, B and C, and Appendices as illustrated below.





2. EPBC approval conditions compliance table

The EPBC approval conditions for the Springfield Rise residential estate are replicated in **Table 1** 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**.

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
1	The approval holder must not clear: a) Outside of the project site	Compliant	The approval conditions define MNES habitat as koala habitat and grey-headed flying-fox foraging habitat.
	b) more than 274.6 hectares of MNES habitat.		A detailed review of impacts completed since the commencement of the action was undertaken as part of the application for the variation. A total of 230.3 ha of MNES habitat has been cleared since the commencement of the action.
1A	To compensate for the clearing of 19.6 ha of koala habitat and grey- headed flying-fox foraging habitat enabled by this variation decision, additional to the clearing allowed by the approval decision made on 23 December 2015, the approval holder must submit an Additional Offset Management Plan (AOMP) to the department for the Minister's approval. The AOMP must specify how a direct offset to compensate for the impacts to the 19.6 ha of MNES habitat will be provided. The approval holder must not clear more than 255ha within the project site until the AOMP has been approved by the Minister in writing.		The Additional Offset Management Plan (AOMP) was submitted to DCCEEW for approval on 5 November 2024.
	The AOMP must be prepared a suitably qualified person, be in accordance with the Environmental Management Plan Guidelines		

Table 1:EPBC approval conditions compliance table



Condition number / reference	Conditi	on	Is the project compliant with this condition?	Evidence / comments
	and the EPBC Act Environmental Offsets Policy (October 2012) to the satisfaction of the Minister and include:			
	a)	a description of the proposed direct offset, including location, size, condition, environmental values present, adjacent land uses and a map of the proposed offset that meets the mapping guidelines;		
	b)	details to demonstrate how the proposed offset will compensate for the additional clearance of 19.6 ha of MNES habitat enabled by this variation decision;		
	c)	details of how the proposed offset will provide connectivity with other habitats and biodiversity corridors and/or will contribute to a larger strategic offset for MNES;		
	d)	maps and shapefiles, prepared in accordance with the mapping guidelines, to clearly specify the location and boundaries of the proposed offset, accompanied by offset attributes.		
	e)	mitigation and management measures to achieve the outcomes required under these conditions;		
	f)	an assessment of the risks to achieving the outcomes committed to in the AOMP and risk management strategies that will be applied;		
	g)	an annual monitoring program that measures the progress of achieving the outcomes required under these conditions and includes:		
		i. results of baseline surveys of the habitat quality of the proposed offset;		

 ii. measurable, timebound performance indicators, including milestones to be achieved within 5, 10 and 15 years after the date of commencement of implementing the AOMP; iii. completion criteria to determine when and how the habitat quality improvements committed to in the AOMP have been fully achieved; iv. trigger values and proposed corrective actions to be implemented, if the trigger values are reached; the timing, methods and frequency of monitoring capable of detecting trigger values and charges in the performance indicators; and v. reporting and review mechanisms. h) Evidence of how management measures and corrective actions for MMES; i) Details of how the proposed offset and AOMP meet the principles of the EPBC Act Environmental Offsets Policy (October 2012); and j) Details of how the proposed to legally secure the proposed offset. The approval holder must not clear more than 255 ha within the Compliant 	Condition number / reference	Condition		Is the project compliant with this condition?	Evidence / comments
 and how the habitat quality improvements committed to in the AOMP have been fully achieved; iv. trigger values and proposed corrective actions to be implemented, if the trigger values are reached; the timing, capable of detecting trigger values and changes in the performance indicators; and v. reporting and review mechanisms. h) Evidence of how management measures and corrective actions for the proposed offset consider and are consistent with conservation advice/s, recovery plans and threat abatement plans for MNES; i) Details of how the proposed to ffset and AOMP meet the principles of the EPBC Act Environmental Offsets Policy (October 2012); and j) Details of the mechanism and timing proposed to legally secure the proposed offset. 			indicators, including milestones to achieved within 5, 10 and 15 years a the date of commencement	be ter	
actions to be implemented, if the trigger values are reached; the timing, methods and frequency of monitoring capable of detecting trigger values and changes in the performance indicators; and			and how the habitat qua improvements committed to in	lity	
 b) Evidence of how management measures and corrective actions for the proposed offset consider and are consistent with conservation advice/s, recovery plans and threat abatement plans for MNES; i) Details of how the proposed offset and AOMP meet the principles of the EPBC Act Environmental Offsets Policy (October 2012); and j) Details of the mechanism and timing proposed to legally secure the proposed offset. 1B The approval holder must not clear more than 255 ha within the Compliant The Proponent has cleared 230.3 ha within the project site.			actions to be implemented, if trigger values are reached; the timi methods and frequency of monitor capable of detecting trigger values a changes in the performance indicate	he ng, ng nd	
 principles of the EPBC Act Environmental Offsets Policy (October 2012); and j) Details of the mechanism and timing proposed to legally secure the proposed offset. The approval holder must not clear more than 255 ha within the Compliant The Proponent has cleared 230.3 ha within the project site. 		acti wit aba	dence of how management measures and correct ions for the proposed offset consider and are consist th conservation advice/s, recovery plans and thr atement plans for MNES;	ent eat	
secure the proposed offset. 1B The approval holder must not clear more than 255 ha within the Compliant The Proponent has cleared 230.3 ha within the project site.		prir	nciples of the EPBC Act Environmental Offsets Po		
				ally	
project site until the offset site proposed in the approved AOMP has	18			-	The Proponent has cleared 230.3 ha within the project site.

Condition number / reference	Condition	ls the project compliant with this condition?	Evidence / comments
	been legally secured. The approval holder must ensure that the offset site proposed in the approved AOMP remains secured at least until the expiry date of this approval.		
1C	The approval holder must commence implementing the approved AOMP no later than the date on which the offset site proposed in the approved AOMP is legally secured and continue to implement the AOMP until the expiry date of this approval.		The AOMP has not been approved.
1D	The approval holder must, within 5 business days of commencing implementation of the AOMP, notify the department of the date on which implementation of the AOMP commenced.		The AOMP has not been approved therefore has not triggered this condition relating to implementation.
2	To minimise adverse impacts to koalas from vegetation clearing and construction activities there must be no koala injury or mortality as a result of vegetation clearing and construction activities at the project site.		No vegetation clearing occurred during the reporting period. During all clearing activities completed to date, a suitably qualified and experienced fauna spotter catcher has been present on-site during vegetation clearing and construction activities which had the potential to impact wildlife clearing. There have been no koala injury or mortality as a result of vegetation clearing and construction activities at the project site.
3	 To minimise adverse impacts to koalas from vehicle strike and in order to maintain safe koala movement opportunities through the project site the approval holder must: a. implement the measures specified in Table 3-3 of the Fauna Management Plan prior to operation, and maintain these measures for the life of the approval; b. ensure koala road crossings are placed in the locations specified at Figure 3-1 of the Fauna Management Plan prior to operation, and maintein these measures for the life of the sum and management plan prior to operation, and maintain these specified at Figure 3-1 of the Fauna Management Plan prior to operation, and maintain these measures for the life of the approval; c. implement measures sufficient to identify any koala injury and mortality at the project site; and 		 The management measures in Table 3-3 are listed below with comments on the status of implementation following each measure. Some measures were under construction or not yet certified as being practically complete by Ipswich City Council, and the below details relate to operational measures only. primary road network posted speed limit no greater than 60 kilometres per hour (km/h) and all other components of the road network posted speed limit no greater than 50 km/h. The current constructed and operational road network has been signed 50 km/h or 60km/h in accordance with the road type designation.



Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
	d. if koala injury or mortality occurs, then revise management measures in consultation with a suitably qualified person to reduce the likelihood of adverse impacts to koalas; and inform the Department, either as part of annual compliance reporting required under condition 13 or as a separate notification in writing.		 design and construct dedicated road crossing treatments where roads intersect retained habitat areas including – Bridging structures make provision for dry land passage through the retention of either the embankments of watercourses beneath a bridge, or elevated portions of road bridging dry land wherever possible. Where this is not achievable, the bridging structure will incorporate a dedicated Koala "boardwalk" between each end of the bridge Where culverts are required for "at grade" crossings, the design will accommodate minimum portal dimensions, fauna movement "furniture" treatments, and targeted rehabilitation of entrance areas (+ retreat/refuge poles as required). Where grade separated crossings are not implemented, treatments associated with "at grade" crossings should include "slow zones" which limit traffic speeds and raise driver awareness (including speed reduction or other traffic calming devices, awareness signs and other awareness heightening treatments such as the use of cat's eye road reflectors). Directional (exclusion) fencing is to be considered in conjunction with grade separated crossings (underpasses) where roads intersect with retained habitat areas. Fauna movement 'furniture' treatments and targeted rehabilitation of entrances including refuge poles has been adapted and included in culvert design. Roadside vegetation management measures are to be undertaken at key locations (e.g. dedicated "at grade" and grade separated crossing locations) to increase the visibility of Koalas entering the roadway.



Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
			Where road crossing treatments have been installed, vegetation management measures have been implemented (Appendix B). Remaining road crossing treatments are currently under construction and the associated vegetation management measures will be completed as part of practical completion works for the road area.
			 Implement measures to improve driver awareness, and thereby minimise the incidence of fauna-vehicle collisions, including:
			 The installation of general signage to signal the presence of Koalas within the site will be undertaken at all primary (strategic) road entry points to the site.
			b) More specific signage treatments will be installed to signal areas within the site where there is an increased likelihood of encountering Koalas on the road. Circumstances where such signage will be installed, including (but not limited to) any section of road or residential street which intersects with a retained habitat area.
			 c) "Cat's eye" reflectors to be installed in conjunction with the specific signage treatment zones.
			Driver awareness measures were installed as part of completing roads across the project at locations agreed with Ipswich City Council. Signage will be installed along roads traversing retained habitat areas once construction is complete for future works.
			Example of driver awareness signage and markings:



Condition	Condition	Is the project	Evidence / comments	
number /		compliant with this		
reference		condition?		



 Annual monitoring event to assess Koala usage and an integrity audit of structures to be implemented for each of five years - to be initiated at the beginning of the "off-maintenance" period for each crossing treatment.

For operational road crossings, annual monitoring events are recurring. The November 2024 survey revealed a variety of fauna utilise the dry fauna passage. However, there were no instances of koalas observed at that point in time. Remaining road crossing treatments still under construction have not entered the off maintenance/practical completion period and therefore monitoring has not commenced.

The following photos illustrate some of the species observed in December 2024 at the functional dry passage culvert locations.



Condition	Condition	Is the project	Evidence / comments
number /		compliant with this	
reference		condition?	



Eastern Grey Kangaroo



Swamp Harrier



Common Ringtail Possum	Condition number / reference	Condition	ls the project compliant with this condition?	Evidence / comments
				Common Ringtail Possum
the supervision of a fauna spotter catcher. During the reporting perio				Works that have the potential to impact fauna (e.g. clearing) are completed under the supervision of a fauna spotter catcher. During the reporting period, there were nil known instances of koala injury or mortality associated with project



Condition number / reference	Condition	ls the project compliant with this condition?	Evidence / comments
			construction. Therefore, no revisions to management measures in response to project works were necessary.
4	To minimise adverse impacts to koalas from domestic dog attack and to exclude koalas from entering residential areas within the project site, the approval holder must: a. implement measures to prevent domestic dog attacks on koalas, including limiting the movement of domestic dogs,		Residential allotments with frontage to retained koala habitat are issued with the <i>Key Design Outcome Fence Requirement</i> notice which stipulates the fencing requirements for particular allotments (Appendix C). As new residents move to the estate, they receive campaign material explaining
	creating dog exclusion zones and signage as specified at section 3.4 of the Fauna Management Plan; and		the importance of dog control between the hours of 6pm and 6am and general management approaches to reduce the potential for dog and koala interactions.
	b. ensure koala exclusion fencing is constructed and located as specified at section 3.4 of the Fauna Management Plan prior to operation, and maintained for the life of the approval.		Landscaping and signage associated with retained habitat areas is installed by agreement with asset owner Ipswich City Council (future and actual). Some greenspaces for public use are not yet constructed or remain under construction. Signage will be installed as part of completing the construction works associated with these spaces. Koala exclusion fencing was observed in areas that construction has been completed.
 must be no net loss of <i>P. habrophyllus</i> at the project site as a result of the proposed action, as defined by the following milestones: a. by six months after the commencement of the action and annually for three years thereafter, there must be 0% cover of weeds of national significance in the on-site conservation areas and buffer areas; b. by one year after the commencement of construction there must be 80% survival of planted <i>P. habrophyllus</i>; c. by three years after the commencement of construction, there must be an increase in the number of mature <i>P. habrophyllus</i>; in the on site concentration areas that is 	must be no net loss of <i>P. habrophyllus</i> at the project site as a result of the proposed action, as defined by the following milestones:a. by six months after the commencement of the action and	5 b) Not applicable 5 c) Not applicable	Extensive site pre-clearance surveys completed in accordance with the Queensland Flora Survey Guidelines since the commencement of the action have not identified <i>Plectranthus habrophyllus</i> (now <i>Coleus habrophyllus</i>) within clearing and construction activities areas (refer to Section 4). Consequently, nil specimens
	of weeds of national significance in the on-site		of <i>C. habrophyllus</i> were adversely impacted by the development and there were nil plantings of the species.
			The only known occurrence of the species is located in the on-site conservation area on Sierra Drive which was established on 24 October 2017 following the
	identification of multiple specimens of the species at this location. Subsequently, a buffer area of 20 m was established. and weed removal works occurred within six months (by 24 April 2018).		

d.	greater than the number of <i>P. habrophyllus</i> removed during construction; and	
	by three years after the commencement of construction, there must be evidence of recruitment from planted <i>P. habrophyllus</i> individuals.	5 a) Weed removal works occurred within six months of the establishment of the on- site conservation area (by 24 April 2018). Follow-up weed removal work was completed in October 2018 and an annual inspection in March 2019 confirmed nil weeds within the on-site conservation area. The scheduled March 2020 inspection could not proceed due to site and work restrictions resulting from COVID-19. The next inspection confirmed the <i>C. habrophyllus</i> specimens remained <i>in situ</i> throughout Year 4. An inspection was completed in February 2021 to confirm weeds of national significance are absent from the conservation area. In addition, surveys were taken to identify if recruitment observed were the threatened <i>C. habrophyllus</i> . Four samples were sent to the QLD Herbarium to confirm identification, with all species sampled were confirmed as <i>C. habrophyllus</i> (refer details of the current condition provided in Part B of this report).
		5 b) No specimens of C. <i>habrophyllus</i> have been removed during clearing and construction since the commencement of the action as confirmed by detailed pre-clearance surveys. As a result, no planting has been required. This condition is not applicable.

Condition number / reference	Condit	ion	Is the project compliant with this condition?	Evidence / comments
				At the on-site conservation area, the <i>C. habrophyllus</i> population has benefitted greatly as a result of the regular weed management and was observed having extensive coverage (juvenile and mature specimens) in the area. In 2021, an inspection confirmed extensive recruitment of the species resulting in the current on-site conservation area for the species as shown on Figure 4 .
				Refer to Section 4, Part B for more details regarding C. <i>habrophyllus</i> management.
6	monito data ga demon	proval holder must undertake a monitoring program. The ring program must be planned and undertaken so that the athered is adequate to: inform adaptive management; and strate whether milestones and outcomes described ir ons 2, 5 and 8 have been met. The monitoring program must	- 	Shadforth have been engaged as the primary civil contractor since the commencement of the action which maintain a permanent office at the estate to oversee construction work. Shadforth hold a copy of all environmental approval documents which are made available to site contractors and visitors. As part of Shadforth's contract with the Proponent, a weekly report is provided to the latter
	a.	include daily surveys for injured or dead koalas during vegetation clearing and construction activities;)	which details incidents and issues and communicates general comments or concerns relating to the construction project.
	b.	include pre-clearance surveys of all areas that will be cleared to establish the number of mature <i>P. habrophyllu</i> that will be lost as a result of the proposed action;		Site induction material is used to inform contractors and visitors of the Fauna Management Plan (FMP) obligations including the requirement to notify Shadforth of any incident pertaining to fauna including koalas.
	c.	establish quadrats within each of the on-site conservation areas where <i>P. habrophyllus</i> has been planted and a control sites that contain remnant <i>P. habrophyllus</i> populations where supplemental planting has no occurred; and	t s	As standard protocol under the FMP, all vegetation clearing activities carried out since the commencement of the action have been completed with a fauna spotter catcher in attendance with all activities documented in pre and post
	d.	be undertaken by a suitably qualified person.		clearance reports (refer example provided in Appendix D). The presence of a fauna spotter catcher during clearing works is a requirement under this approval and State and Local government approvals. With these controls in place, to the

best knowledge of the civil contractor and the Proponent, there have been no

Condition number / reference	Condition	ls the project compliant with this condition?	Evidence / comments
			instances of an injured or dead koala as a consequence of vegetation clearing and construction activities.
			Pre-clearance surveys were completed for all work areas and none identified <i>C. habrophyllus</i> in the impact area (refer Section 4, Part B). No planting of <i>C. habrophyllus</i> within the on-site conservation area has occurred as there have been no impacts to the species as a result of the project.
7	 To compensate for the loss of koala habitat and grey-headed flying-fox foraging habitat the approval holder must: a. secure, prior to the commencement of the action, the offset containing 293 hectares of MNES habitat within the Offset Area at Annex 1; b. provide the Department with the offset attributes, shapefile and map(s) clearly defining the location and boundaries of each offset, within 2 weeks of lodgement of the offset with the Titles Office; and c. ensure the Agreement is registered on the title on which each offset is located, and provide the Department with the vidence of lodgement with the Titles Office, within 2 weeks of lodgement. Provide a copy of the signed agreement within 2 weeks of receipt from the Titles Office. 		A voluntary declaration under the <i>Vegetation Management Act 1999</i> was certified by DNRM over the Offset Area on 10 October 2016, prior to the commencement of the action on 17 October 2017. A copy of the correspondence from DNRM confirming the certification of the Offset Area is provided in previous ACR reports. The certification area is greater than the Offset Area due to agreements between the approval holder and third parties to manage other conservation areas adjacent to the Offset Area. These other areas also comprise koala habitat and grey-headed flying-fox foraging habitat. The certification includes maps that define the location and boundaries of the Offset Area. A shapefile of the Offset Area containing 293 hectares of MNES habitat was provided to the Department on 10 October 2016.
	The approval holder must ensure any proposal for alternative offsets is agreed to in writing with the Department. Note: Offsets for different species may overlap where they share the same habitat requirements.		After certifying the voluntary declaration, DNRM registered the dealing on the land title as part of their internal processes. This process is triggered once the certification is granted. A copy of the Offset Area land titles with the registered voluntary declaration listed under administrative advice have been provided in previous ACR reports. DNRM lodged the administrative advice/dealing on 11 October 2016.



Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
			There has been no proposal for alternative offsets during the relevant period.
8	To compensate for impacts to koala habitat and grey-headed flying fox foraging habitat the approval holder must achieve the following outcomes as compared to baseline offset habitat quality and extent unless agreed in writing with the Department: a. by 20 years after the commencement of construction, there must be a gain in habitat quality across 90% of the offset.) ,	Habitat quality data was collected in order to establish a baseline during 2017 (Year 1). These data, and data collected throughout the subsequent 19 years, will be used to assess habitat quality improvements across the Offset Area. The baseline and data recorded up to Year 8 are presented in Part C of this report.
9	To mitigate impacts on koala and <i>P. habrophyllus</i> , the approva holder must develop a fire management strategy for the project site and the offset, incorporating advice from a suitably qualified persor regarding the impacts of the fire management strategy on koala and <i>P. habrophyllus</i> .	2	Fire management strategies in the residential villages are completed in accordance with the Ipswich City Council approval conditions. Copies of the Bushfire Assessment Reports and their detailed fire management strategies have been previously provided as part of the relevant ACR.
			Offset Area fire management is under the direction of Ipswich City Council which takes action within the Offset Area in conjunction with the larger network of natural area estates in the local government area. A copy of the <i>White Rock – Spring Mountain Fire Management Strategic Plan and Risk Dashboard</i> —where the Offset Area is located—is provided in Appendix E (this document remains current). The establishment of fuel reduction zones had been initiated in late October 2018. The first annual conservation inspection was completed on 8 August 2019, where discussions on fire management, existing fuel loads and planned fuel reduction burns were had with Ipswich City Council representatives.
			Planned burns by Ipswich City Council were not completed within the reporting period.
10	The approval holder must adaptively manage koala habitat, grey- headed flying-fox foraging habitat and <i>P. habrophyllus</i> to achieve the outcomes described in conditions 1-9. This must include:		Adaptive management in previous reporting periods is documented in previous ACRs.

Condition number / reference	Condition	ls the project compliant with this condition?	Evidence / comments
	a. developing and implementing a strateg achieve the outcomes and milesto conditions 1-9, in consultation with a person (noting that the plan does not re the Minister and is not an 'action manag the EPBC Act);	ones outlined in suitably qualified equire approval by	Offset Area management continued to concentrate on weed management, maintaining and establishing access trails and revegetation activities. Weed removal and revegetation activities are managed under a multi-million dollar contract. As with any large-scale weed removal and revegetation project, works are timed to take advantage of seasonal variations and avoid the duplication of work that typically results from poorly timed site works.
	 b. documented process of adaptive r continual improvement, including monitoring and experimentation trials management; and c. where there is a reasonable risk (o outcomes or milestones are not likely 	using data from to inform adaptive or evidence) that y to be achieved:	Given the size of the conservation area, it was necessary to divide the area into smaller progress areas for weed management early on in the project, and this approach has continued. The entire conservation area has now undergone weed management/treatment and are at various stages of treatment.
	revising management measures in co suitably qualified person; increasing th achieve the outcomes; and informing either as part of annual compliance under condition 13 or as a separate noti	e level of effort to the Department, eporting required	A program for the installation of nest boxes over the larger conservation management area commenced with the construction and installation of fifty- eight (58) in total. A variety of nest boxes were installed, including bat, antechinus, possum and sugar glider nest boxes.
			The Proponent has committed to the installation, maintenance and monitoring of these nest boxes as they provide habitat for displaced fauna. The Nest Box

During December 2024 nest box inspection, the following were recorded utilising the nest boxes,

Monitoring and Maintenance Report (January 2025) is provided in Appendix F.

- Ten (10) *Trichosurus vulpecula* (Brushtail Possum)
- Two (2) Phascogale tapoatafa (Brush-tailed Phascogale)
- One (1) *Petaurus norfolcensis* (Squirrel Glider)

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence / comments
			• One (1) <i>Aegotheles cristatus</i> (Owlet-nightjar)
			Based on the achieved milestones and ongoing capture of information, the strategy to achieve the requirements of Conditions 1-9 is presented in Part C of this report. This strategy will be amended as required as part of the ACR to reflect the progress towards achieving the objectives and milestones in the approval conditions.
Administrative c	onditions		
11	Within 7 days after the commencement of the action, the approva holder must advise the Department in writing of the actual date of commencement of the action.		The action commenced on 17 October 2016. The commencement of the action and notification provided to the Department prior to this reporting period. Details regarding this condition can be found in previous ACRs.
12	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 management plan report or strategy 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.		The Proponent and Saunders Havill Group jointly maintain records of activities pertaining to the approval and conditions. A request to make them available to the Department did not occur during the reporting period.
13	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 management plans as specified in the conditions. Documentary		The anniversary of the commencement of the action is 17 October and this ACR must be published on the Proponent website at the below weblink no later than 14 January 2025 or if the day falls on a weekend, then the next business day. When the ACR is published, DCCEEW will be notified along with evidence of the publication.



Condition number / reference	Condition	ls the project compliant with this condition?	Evidence / comments
	evidence providing proof of the date of publication and non- compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published, until agreed in writing with the Department.		https://www.stockland.com.au/residential/qld/springfield- rise/resources/sustainability-and-environment
14	The approval holder must notify the Department in writing of any non - compliance with conditions as soon as practicable and within no more than 2 business days of becoming aware of the non - compliance.		No instances of non-compliance with the approval conditions were identified during the reporting period.
15	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.		A direction from the Minister was not received during the reporting period.
16	 The approval holder may choose to revise a management plan, program or strategy approved by the Minister under conditions 1 - 9 without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the revised plan, program or strategy would not be likely to have a new or increased impact. If the approval holder makes this choice they must: a. notify the Department in writing that the approved plan, program or strategy has been revised and provide the Department with an electronic copy of the revised plan, program or strategy; d. implement the revised plan, program or strategy from the date that the plan, program or strategy is submitted to the Department; and 		The approval holder did not choose to revise a management plan, program or strategy approved by the Minister during the reporting period.



Condition number / reference	Condition	ls the project compliant with this condition?	Evidence / comments
	e. for the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised plan, program or strategy would not be likely to have a new or increased impact.		
17	The approval holder may revoke their choice under condition 16 at any time by notice to the Department. If the approval holder revokes the choice to implement a revised plan, program or strategy, without approval under section 143A of the Act, the plan, program or strategy approved by the Minister must be implemented.		The approval holder did not choose to revise a management plan, program or strategy approved by the Minister during the reporting period.
18	Condition 16 does not apply if the revisions to the approved plan, program or strategy include changes to environmental offsets provided under the plan, program or strategy in relation to a matter protected by a controlling provision for the action, unless otherwise agreed in writing by the Minister. This does not otherwise limit the circumstances in which the taking of the action in accordance with a revised plan, program or strategy would, or would not, be likely to have new or increased impacts.		The approval holder did not choose to revise a management plan, program or strategy approved by the Minister during the reporting period.
19	If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance with the revised plan, program or strategy would be likely to have a new or increased impact, then: a. Condition 16 does not apply, or ceases to apply, in relation to		The approval holder did not choose to revise a management plan, program or strategy approved by the Minister during the reporting period.
	the revised plan, program or strategy; and b. The approval holder must implement the plan, program or strategy approved by the Minister. To avoid any doubt, this condition does not affect any operation of conditions 16, 17 and 18 in the period before the day the notice is given.		

Condition number / reference	Condition	ls the project compliant with this condition?	Evidence / comments
	At the time of giving the notice the Minister may also notify that for a specified period of time that condition 16 does not apply for one or more specified plans, programs or strategies required under the approval.		
20	Conditions 16, 17, 18 and 19 are not intended to limit the operation of section 143A of the EPBC Act which allows the approval holder to submit a revised plan, program or strategy to the Minister for approval.		The approval holder did not choose to revise a management plan, program or strategy approved by the Minister during the reporting period.
21	If, at any time after five years from the date of this approval, the approval holder has not substantially commenced the action, then the approval holder must not substantially commence the action without the written agreement of the Minister.		The approval holder commenced construction on 17 October 2016.
22	Unless otherwise agreed to in writing by the Minister, the approval holder must publish all management plans, reports or strategies referred to in these conditions of approval on their website. Each management plan, report or strategy must be published on the		The applicable management plans, reports and strategies are published on the Springfield Rise website:
	website within 1 month of being approved by the Minister or being submitted under condition 1 - 9.		https://www.stockland.com.au/residential/qld/springfield- rise/resources/sustainability-and-environment



Part A – MNES habitat impact management

Approvals relating to impacts on ecological matters were collated from Commonwealth, State and Local governments for the project and included several overarching environmental management plans. Each contractor was provided a copy of the approval documents; however, the size of the project warranted the preparation of consolidated document packages that stipulated environmental management requirements pertinent to each stage of construction. This resulted in the preparation of Site Based Management Plans which detailed measures for vegetation management (clearing and protection), protection of MNES fauna (koala and grey-headed flying-fox) and other native wildlife, maintenance of safe wildlife movement opportunities, fauna habitat rehabilitation, threatened flora management and pest management. The Site Based Management Plans are available on the Springfield Rise website:

https://www.stockland.com.au/residential/qld/springfield-rise/resources/sustainability-and-environment

As part of managing the smaller work areas of the project, a second supporting document was developed: Springfield Rise — Environmental Pre-Start Checklist (refer Error! Reference source not found.). This checklist was integral to ensuring construction proceeded within the demarcated limits, suitable fencing was installed across the work area and the necessary checks for threatened fauna were completed prior to the clearing of any vegetation. The flow diagram below illustrates the key steps in this process. After completing the checklist and all required parties sign-off, vegetation clearance activities may proceed under the supervision of a fauna spotter catcher. An example of a completed checklist is provided in **Appendix D**.

Environmental pr package, source documents required from third parties AND	Environmental Coordinator Survey Fauna Spotter Catcher undertake survey AND	advises Environmental Pre-start Checklist ready to be circulated and provides	Stakeholders complete Environmental Pre-start Checklist	issues document package (SBMP, Environmental Pre-start Checklist and	may commence within demarcated limits and under the supervision of Fauna
	ina.2		Stakeholders		Station Station
			a second s		
required from third		Pre-start	Environmental	package (SBMP,	demarcated
puttes	survey				
AND	AND	and provides supporting		Checklist and supporting	of Fauna Spotter Catcher
Survey demarcate clearing	Environmental Coordinator	documents		documents)	
extent	undertake				
	P. habrophyllus survey				

Key steps to commencing impact work at each Village



5												Interview Pointe In
Pro	Project Area	Date:	31				0	Har the new	interd Farme Constant			
ŝ	Contractor:	Cons	structi	on Sta	Construction Stage/ Activity:	y:	o	pre-clearance	has the appointed rauna spotter completed pre-clearance surveys and reports?	manadu		
Dai	Date work is to start:					1	6	Has the appo	Has the appointed Fauna Spotter identified	ntified		
Da	Date work is to cease:				Comp	Compliance		any sensitive	any sensitive areas for consideration in classing methode? Plasse newolds a	'n		
	Control Measure	Yes	Ŷ	N/A	Comments	ts		summary.	e anizout account iconti			
-	Is the works extent within the EPBC 2013/7057 referral area?						10		Have all contractors, subcontractors and associated personnel been instructed on	and d on		
N	Are clearing extents marked out and fenced? (N.B. Fencing is required as per ICC permits unless instructed otherwise by Council, Fauna Spotter or						=	environment Has a Counci	environmental procedures and controls? Has a Council pre-start been completed?	rols? ted?		
	Environmental Coordinator)						Ň	OTE: if the answ	ver to any question ab	ove is NO then the clea	NOTE: If the answer to any question above is NO then the clearing activity will not proceed.	oceed.
2	Has the fencing of clearing extents demarcation been inspected by the Environmental Coordinator?						Con	Compliance Awareness	itess			
m	Has sign off been provided by the Environmental Coordinator for demarcation areas?		1		-		All v inclu	works are to be i udes the '< <proj< td=""><td>undertaken in accordan ject area>>' and this <<</td><td>ce with the <<<i>Project ar</i> <i>Project area</i>>> Environn</td><td>All works are to be undertaken in accordance with the <<project area="">> Environmental Pre-Start Package which includes the '<<project area="">>' and this <<project area="">> Environmental Pre-Start Checklist and attachments.</project></project></project></td><td>Start Package whi and attachments.</td></proj<>	undertaken in accordan ject area>>' and this <<	ce with the << <i>Project ar</i> <i>Project area</i> >> Environn	All works are to be undertaken in accordance with the < <project area="">> Environmental Pre-Start Package which includes the '<<project area="">>' and this <<project area="">> Environmental Pre-Start Checklist and attachments.</project></project></project>	Start Package whi and attachments.
4	Has certification for pre-clearance flora been provided? (N.B. Exemptions/permits for protector blants under the MCA must be obtained						Sign	ning below dem d in the checkli	Signing below demonstrates acknowledgement of the er listed in the checklist above and associated attachments.	ment of the environmer attachments.	Signing below demonstrates acknowledgement of the environmental pre-start procedures and requirements listed in the checklist above and associated attachments.	and requirements
	by EHP where works occur in a High Risk Area).						Na	Name	Company	Position	Signature	Date
	Please provide date and reference.			_						Client		
so.	Have pre-clearance checks surveys for Plectranthus habrophyllus been completed over the clearing area?									Representative Site Contractor		
9	Are Plectranthus hadvophyllus 'no-go' zones identified within the clearing area been demarcated, lenced, signed and inspected by the Environmental Coordinator and									Clearing Contractor	61	_
	Contractor?									Fauna Spotter	-	
~	Will works involve clearing within a Fisheries mapped waterway for waterway barrier works? If so, are works compliant with applicable self-assessable codes and / or									Catcher Project Engineer		_
	permits?									Environmental		
00	Will works involve clearing within a watercourse defined under the Water Act 20007 If so, are works compliant with).		1				Coordinator		
	and the second s			_								

Figure 3: Environmental Pre-start Checklist template example



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3.1. Adaptive management

The Environmental Pre-Start Checklist and Site Based Management Plan support an adaptive management framework for vegetation clearance activities. During the first year of construction a change to the on-ground procedure for demarcating and confirming the vegetation clearance area became necessary. The change was the result of the survey contractor demarcating a clearing area that differed slightly to that stipulated in the Site Based Management Plan prepared by the environmental coordinator. The error was an artefact of contractors utilising different software to manage spatial data. To avoid this error reoccurring, after the survey contractor demarcates the vegetation clearance area, the environmental coordinator attends site to confirm the demarcated area is as per the Site Based Management Plan.

During the second year of works, the identification of a sick koala in the clearing area occurred. The koala's health was unrelated to vegetation clearing or construction activities, however, the management plans in place for such occurrences did not include a procedure to manage this type of event. Action taken at the time included stopping work and establishing an exclusion area around the koala. Following this, a site meeting was held to discuss the procedure forward. In conjunction with consultation with a representative from the lpswich Koala Protection Society, it was decided to trap the koala (using approved methods) and transport the koala to Moggill Koala Hospital. This work was completed by the project fauna spotter catcher. As a result of this, management plans associated with pre-clearance survey and reporting include a procedure for this scenario.

Since the revision discussed above, the Environmental Pre-Start Checklist and Site Based Management Plan have not required further revisions.

3.2. Review of impacts

The removal of vegetation from the development area impacted MNES habitat which is defined under the approval conditions as koala habitat and grey-headed flying-fox foraging habitat.

A detailed review of vegetation clearing completed over the course of the action was undertaken as part of the application to vary the conditions of the approval. The review indicated that by the end of the Year 8 reporting period (16 October 2024), a total of 230.3 ha of vegetation has been cleared. As noted in Section 1.1, the approval conditions permit an impact of 274.6 ha of MNES habitat therefore the approval holder has complied with the approved limit (Condition 1A). No vegetation clearing was completed during the reporting period.

The Site Based Management Plan and Environmental Pre-Start Checklist ensure procedures are in place to control impacts on MNES habitat and prevent injuries to wildlife during construction works. A fauna spotter catcher has been present throughout clearing works and the post-works reporting indicates the implementation of the current management system is successful as nil Koala injuries or mortalities resulting from vegetation clearing or construction activities have occurred.

As villages throughout the estate become operational, the measures relating to ongoing fauna management will be established. These include culverts for fauna movement, vehicle speed control signage, driver



awareness signage and fencing controls to prevent koala and domestic dog interactions. Many of these became operational in Year 3 (*i.e.*, certified as meeting practical completion by Ipswich City Council) with the final fauna passage located on London Avenue becoming operational in Year 7.

Inspection photos from this year of these fauna measures are presented in in the Fauna Culvert Audit Report at **Appendix B**. This includes 'furniture' for fauna movement through culverts, fauna exclusion fencing to prevent fauna crossing highly frequented roads, and suitable fencing bounding residence to prevent dog-Koala interactions.



4. Part B – Coleus habrophyllus Impact Management

4.1. Background

During the assessment and approval phase for the project, consultant Yurrah undertook a detailed analysis (desktop and ground-truthing) of potential *Coleus habrophyllus* (*C. habrophyllus*) habitat throughout the referral area. It should be noted that phylogenetic analyses conducted in 2019 separated *Plectranthus habrophyllus* into the genus *Coleus* therefore for consistency with the current taxonomic status, has been referred to as *Coleus habrophyllus* in this document and in all subsequent documents. Specimens and potential habitat were found to occur in several locations as shown in the referral documentation.

Coleus habrophyllus has similar attributes to other *Plectranthus/Coleus sp.* including the non-threatened *P. suaveolens* and *P. parviflorus.* In order to clarify how to distinguish *C. habrophyllus* from the non-threatened *Plectranthus/Coleus sp.* during pre-clearance surveys, Saunders Havill Group liaised with the Queensland Herbarium to ensure a conclusive understanding of the differences between the species was held. Pre-clearance surveys during most of the Year 1 reporting period used this knowledge to determine if *C. habrophyllus* would be impacted and subsequently, no specimens were located in either the impact or on-site conservation areas. During the subsequent years of monitoring several samples have been collected and sent to the Queensland Herbarium for identification, with the results being a mixture of both *C. habrophyllus* and *P. parviflorus*.

As part of completing the Environmental Pre-Start Checklist for each stage, proposed impact locations were surveyed prior to any clearing work to determine if the plant was present and if so, how many individuals would be removed. The latter information was required as part of complying with Condition 5 which stipulates there must be an increase in the number of mature *C. habrophyllus* in the on-site conservation areas that is greater than the number removed during construction.

4.2. Weeds of National Significance (WONS) monitoring and treatment

Weed removal work in these areas was completed within six months of their establishment—by April 2018 (Year 2) —and repeated in early October 2018 (Year 2) to address regenerating *Lantana camara* (Lantana). The weed treatment, specifically targeting weeds of national significance (WONS) was conducted by Evolve Environmental Solutions within the on-site conservation area.

An inspection of the on-site conservation area was conducted by Ecologists from Saunders Havill Group on 12 December 2024. This inspection confirmed some recruitment of Lantana within the on-site conservation area which will be actioned for treatment.



4.3. Population Density Assessment

As time and the development has progressed, as have the number and density of the population within the conservation area. Due to the increased number of observed *C. habrophyllus* individuals an assessment to determine the species density within the conservation area was performed on 15 July 2021 by Ecologists from Saunders Havill Group. Due to the high number of the species observed, a density-based population assessment was used as it was not feasible to count every specimen. The assessment was carried out in accordance with the Queensland *Flora Survey Guidelines – Protected*. During this assessment, a small cluster of *C. habrophyllus* specimens was identified approximately 10 m west of the existing demarcated conservation area. As a result, the buffer area was extended from 20 m to reflect the on-ground extent of the *C. habrophyllus* population.

Annual inspections over the following years (*i.e.*, 2022, 2023 and 2024) confirmed abundant *C. habrophyllus* specimens within the conservation area including a mix of established and juvenile specimens, indicating ongoing natural recruitment and stable population growth (refer **Photo set 2**). The extent of the *C. habrophyllus* population remain protected within the demarcated limits of the conservation area (refer Error! Reference source not found. for location of specimens *C. habrophyllus*). Lantana has been treated as needed since the establishment of the on-site conservation area, with some minor regrowth noted in December 2024 (refer **Photo set 2**).

The construction of Mountain Park, located south of the on-site conservation area, was completed during the reporting period.

There remains potential for other habitat areas throughout the project site to contain *C. habrophyllus* specimens. As construction expands across the site, additional surveys for the species will take place and onsite conservation areas established where *C. habrophyllus* specimens are confirmed in retained habitat areas.



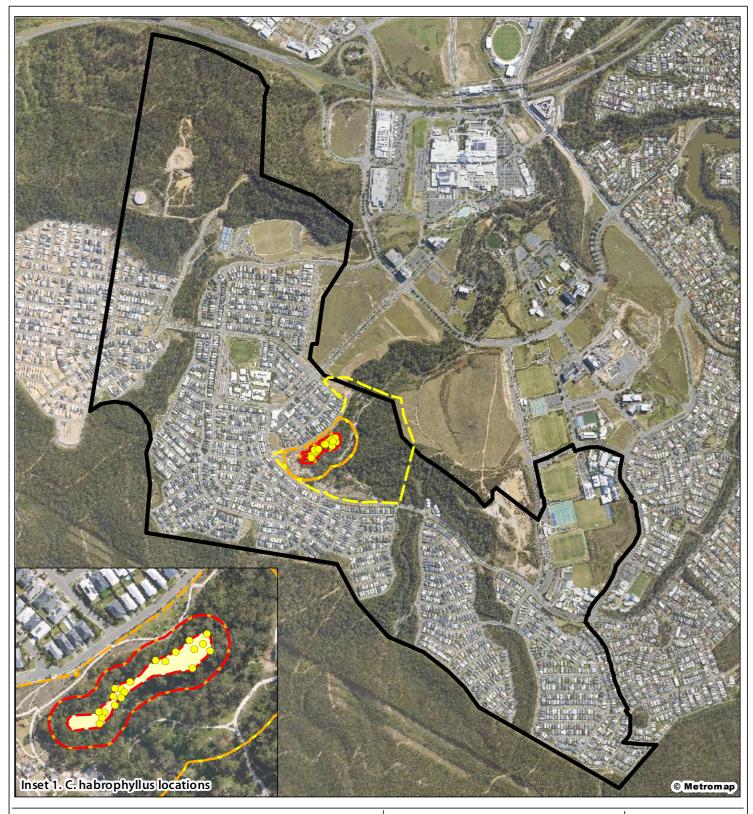
Photo set 1: Observed specimens of C. habrophyllus specimens within the on-site conservation area.





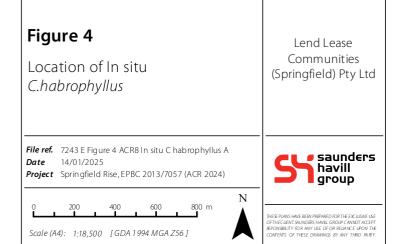
Photo set 2: Treated Lantana (left) and regrowth Lantana (right) within on-site conservation area.





Legend

Legen	u la
	Project area
•	C. habroh pyllus
	Confirmed locations of Coleus habrophyllus specimens
	Zone A
	Zone B
	Zone C
Laver Sourc	er © State of Oueen sland 2025



5. Part C – Offset area management

The 293 ha offset under Condition 7 of the approval comprises seven land parcels that provide koala and greyheaded flying-fox foraging habitat (refer **Appendix A** and Error! Reference source not found.). The offset parcels (listed below) surround the project area and form part of the regional biodiversity corridors. The Offset Area was legally secured on 10 October 2016 prior to the commencement of construction on 17 October 2016 using the Voluntary Declaration process administered under the *Vegetation Management Act 1999*.

The Offset Area land parcels are:

- 1. part 740/SP179412
- 2. 747/SP189043
- 3. 748/SP189044
- 4. part 751/SP189053
- 5. 752/SP189053
- 6. part 753/SP189054
- 7. 745/SP242282

The primary objective to managing the Offset Area is to achieve a gain in habitat quality across 90% of the offset before 17 October 2036. The approval conditions define this as:

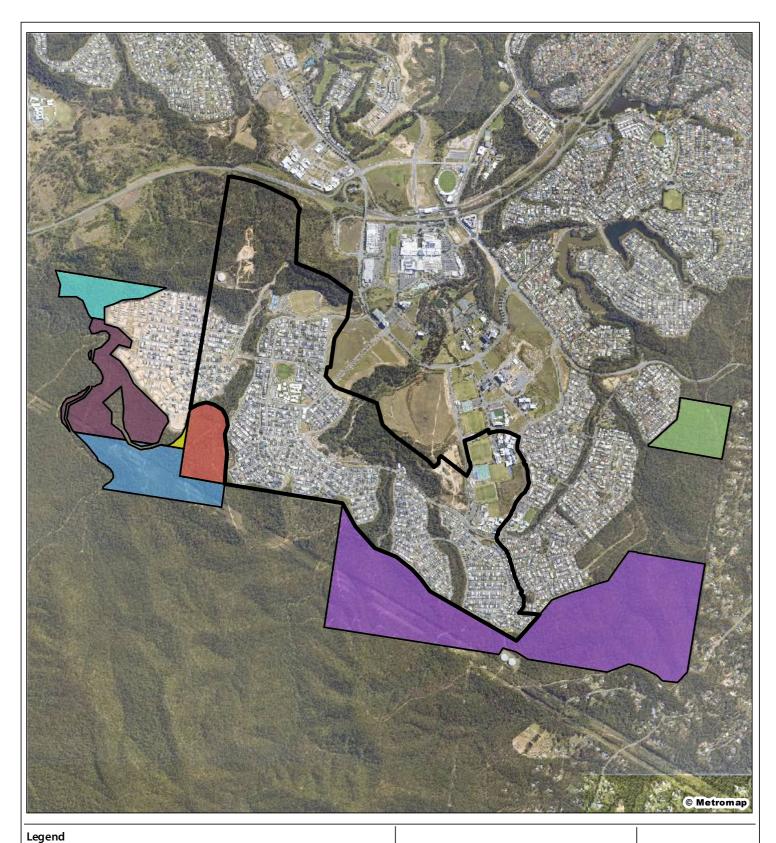
An improvement in the quality and extent of koala habitat and grey-headed flying-fox foraging habitat in comparison to baseline environmental conditions at the offset compared with an unmanaged control site.

The current quality and extent are influenced by several factors including the presence of weeds and pest animals, and vegetation attributes (e.g. species diversity, ecological dominant layer). To arrive at a baseline metric, habitat quality assessments were completed across the Offset Area and at a control site south of the Offset Area during the first year of the action. The assessment was completed using the *Guide to Determining Terrestrial Habitat Quality* published by the Queensland Department of Environment and Heritage Protection (2017). The current version of this guide was published February 2020 by the Department of Environment and Science. A comparison between the baseline habitat quality score and habitat quality score during the year five (5) reporting period are summarised in **Table 2**.

Table 2: Habitat quality 2016/2017 – 2020/2021

Location	Baseline habitat quality score	Year Five (5) habitat quality score		
Offset Area	7.44	7.68		
Control site	6.92	7.15		





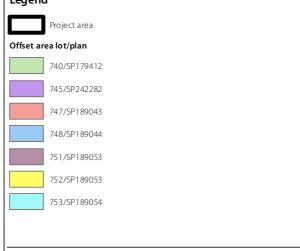


Figure 5

Legally Secured Offset Area

 File ref.
 7243 E Figure 5 ACR8 Offset Area A

 Date
 19/12/2024

 Project
 Springfield Rise, EPBC 2013/7057 (ACR 2024)

0 200 400 600 800 1,000 m Scale (A4): 1:30,000 [GDA 1994 MGA Z56] Lend Lease Communities (Springfield) Pty Ltd

Saunders havill group

THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OFTHECLIENT SHUNDERS HAVILL GROUP CANNOT ACCEPT REPONSELITY FOR ANY USE OF OR RELANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THRD PARTY.

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Layer Source: © State of Queen sland 2024

5.1. SAT survey

Spot Assessment Technique (SAT) surveys have been undertaken across the conservation area in accordance with the methodology developed by the Australian Koala Foundation (as per Phillips & Callaghan 2011). The SAT method is an assessment of Koala activity involving a search for any Koalas and signs of Koala usage. The SAT involves identifying a non-juvenile tree of any species within the site that is either observed to have a Koala or scats or is known to be a food tree or otherwise important for Koalas and recording any evidence of Koala usage of that tree including presence, identifiable scratches, or scats. The nearest non-juvenile tree is then identified, and the same data recorded. The next closest non-juvenile tree to the first tree is then assessed and so on until 30 trees have been surveyed. The number of trees showing evidence of Koala usage. Assessment of each tree involves a systematic search for Koala scats beneath the tree within one metre radius of the trunk. After approximately two-person minutes of searching for scats, the base of the trunk is observed for scratches and the crown for Koala (refer Phillips & Callaghan, 2011).

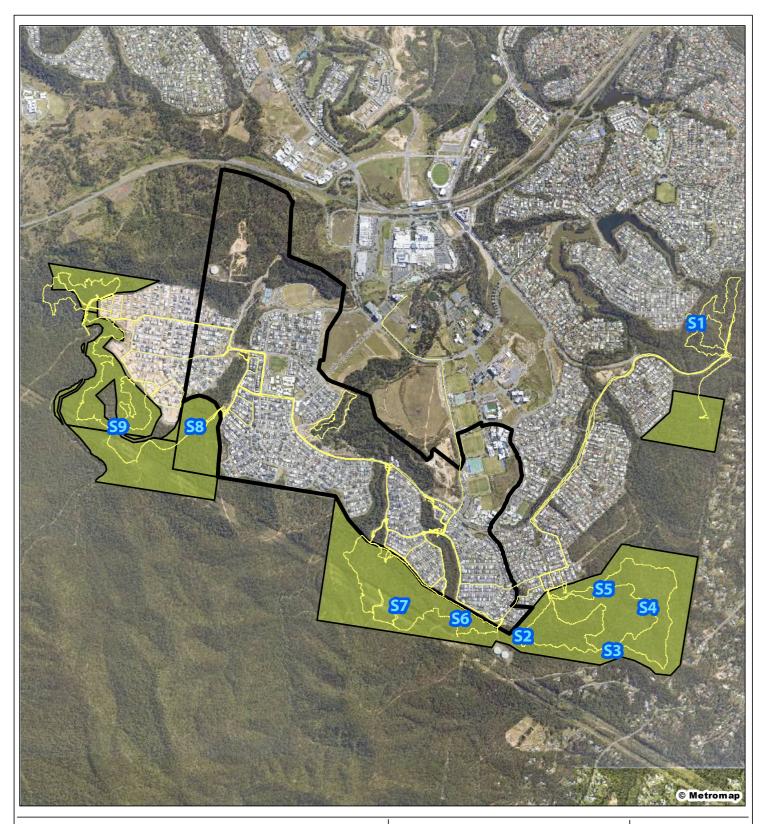
A total of 98 SAT surveys have been completed over the site over the past eight years using a combination of methods to determine location including stratification via a grid and performing a SAT survey where either scats or a koala have been detected. Further details on previous SAT surveys conducted please refer to corresponding ACR available on the Springfield Rise webpage or **Appendix G.**

The SATs conducted in the eighth year of compliance monitoring are presented in **Table 3**. The locations of the nine (9) SATs conducted during the reporting period were randomly selected (refer **Figure 6**).

Survey Year	SAT site no.	Evidence of koala use (%)	Koala use (high/medium/low
8	1	0	Low
8	2	0	Low
8	3	3.33	Low
8	4	3.33	Low
8	5	0	Low
8	6	0	Low
8	7	10.00	Low
8	8	0	Low
8	9	0	Low

Table 3:Year Eight (8) SAT Results





5	
	Project area
	Offset Area
	ACR Year 8 Track Log
S	ACR Year 8 SAT Survey Locations

Figure 6

SAT Survey Locations

 File ref.
 7243 E Figure 6 ACR8 SAT Surveys A

 Date
 7/01/2025

 Project
 Springfield Rise, EPBC 2013/7057 (ACR 2024)

0 200 400 600 800 1,000 m Scale (A4): 1:30,000 [GDA 1994 MGA Z56] Lend Lease Communities (Springfield) Pty Ltd



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5.2. Nest Boxes

Year 4 of the development marked the initiation of the nest box monitoring program across the conservation area with the installation of twenty-seven units, and the following year an additional thirty-one nest boxes were installed. All fifty-eight (58) boxes were constructed by the Springfield Camira Men's Shed inc.

The results for Year Eight (8) of the compliance reporting and therefore Years 3) and 4 of the nest box programs are displayed in **Appendix F.** The annual inspection was completed on 10th and 11th December 2024, of the fifty-eight nest boxes installed, majority were found to be in good condition, of which ten (10) were housing *Trichosurus vulpecula* (Brushtail possum) individuals, two (2) *Phascogale tapoatafa* (Brush-tailed Phascogale), one (1) *Petaurus norfolcensis* (Squirrel Glider) and one (1) *Aegotheles cristatus* (Owlet-nightjar). Several nest boxes were found to have spider webs, ant, caterpillar and insect nests. Four (4) of the nest boxes were recorded at being on an angle which may decrease accessibility and one (1) required a replacement lid.

5.3. Threats

There are several environmental threats that may interfere with the approval holder's efforts towards achieving the milestone and these were assessed alongside opportunities to counteract or control each with active management measures.

These threats are:

- 1. Weeds specifically weeds of national significance such as *Lantana sp*.
- 2. Pest animal management wild dogs and other predatory species are known to occur within the region
- 3. Erosion restorative actions will rectify the historical and recent impacts
- 4. Unlawful access prevent unauthorised access during the management period

To support the future achievement of the gain in habitat quality milestone for benefit of the grey-headed flying-fox and koala, several management actions are underway to address the threats. These actions are discussed in the following subsections and detailed in **Table 4**. This table will be reviewed annually as part of completing the Annual Compliance Report and the status/results of actions discussed accordingly.

5.3.1 Weed management

An extensive survey of dominant weeds throughout the Offset Area was completed in Year 1 which identified *Lantana camara* (*L. camara*) as the dominant weed species. This survey informed a weed management works package for persons undertaking the weed eradication work (refer **Appendix H**). Weed removal will provide an opportunity for the natural regeneration of koala habitat and grey-headed flying-fox foraging habitat in these areas therefore expanding on and improving the available habitat for these species. Habitat quality is expected to improve considerably in these areas which currently provide very little value wherever *L. camara* is a dominant species in the landscape.

Lantana camara (Lantana) was identified throughout the Offset Area during the Year 8 reporting period, particularly within the north-western corner of the site. Surveys are usually completed concurrently with the weed eradication program which commenced in August 2018 and has a 120-month maintenance period



between the practical completion and off maintenance of works. While assessing the eighth year of compliance monitoring. Weed survey and revegetation results documented over the course of the project are provided in previous ACRs located on the Springfield Rise webpage.

The overall management objective is to reduce the presence of weeds of national significance to 5% of the total 293 ha Offset Area. Detailed weed meanders were conducted across the Offset Area during the Year 8 reporting period to determine the extent of weeds across the area (refer **Figure 7**). These surveys found an increase in Lantana camara cover likely associated with seasonal growth periods. A total coverage of approximately 5% of the total 293 ha Offset Area was mapped as containing *Lantana camara* (Lantana). These surveys indicate where treatment is required to ensure weed levels are maintained below 5% for the course of the project approval. Subsequent follow-up and maintenance works programmed across various parts of the Offset Area are scheduled to ensure this is improved and maintained.

Planting of native vegetation to assist natural regeneration was undertaken in areas where weeds had a stronghold and once treated, revegetation was employed to provide bank stability and assist the establishment of koala and grey-headed flying-fox habitat. A total of 3,120 seedlings were planted in the Offset Area (Area 2) during the year four (4), and ~1,400 were planted during year two (2). Surveys to assess the two (2) rehabilitation areas were conducted in year five (5), and results from this reporting period can be found in the year five (5) ACR.

Due to the minimal weed management and rehabilitation that had occurred on-site during the current reporting period, rehabilitation areas were not reported on in this ACR. The proponent will continue to work with the offset area management contractor to maintain and improve areas of weed management and report on the progress in the next ACR. The measure required for continued management include:

- Removal and maintenance of regenerating WONS, and
- maximising surface roughness to slow runoff, which reduces erosion and provides more time for plants to absorb water.

5.3.2 Pest animal management

Periodic inspections and third-party publications have confirmed wild dogs are a threat in the Offset Area. The airborne thermal camera survey also confirmed their presence. Other threats include red foxes, feral pigs and cane toads. Managing pest animals in the Offset Area and greater locality is a combined effort with the landowner, lpswich City Council.

Camera traps were installed across the Offset Area for the purpose of tracking and documenting annual the presence of feral dogs and other vertebrate pest species (refer Error! Reference source not found.). Monitoring confirmed the presence of pest species including *Vulpes vulpes* (European red fox), and *Canis lupus familiaris* (wild dog) within the Offset Area.

Pest management is coordinated across the local government area by council in conjunction with adjacent councils. Previously, the approval holder identified the scope of works required to address the dog presence.



However, discussions with Ipswich City Council determined that pest management through the trapping, baiting and shooting would not be appropriate across the Offset Area for the following key reasons:

- 1. Health and safety concerns given the proximity to residential areas; and
- 2. Trapping and removal of individuals will allow for others to move into the Offset Area.

While supplementary pest animal management is not supported by Ipswich City Council, the approval holder will continue to monitor the presence of pest animals within the Offset Area for the duration of the project.

5.3.3 Erosion

Several parts of the Offset Area are heavily eroded for a multitude of reasons:

- historical unlawful access and use of the Offset Area by 4WD vehicles, trail bikes and all-terrain vehicles (ATV); and
- historical management of the area as part of a larger network of land did not focus solely on addressing erosion in the Offset Area.

Consequently, as part of weed eradication and general management works, the approval holder has continued to address areas of significant erosion and establishing tracks for maintenance and access purposes. As part of erosion remediation work, native vegetation that will benefit the grey-heading flying-fox and koala is planted in areas to assist.

Upon the survey conducted during the Years 7 and 8 ACR, all tracks which are required to be maintained were found to be accessible and well-maintained (refer **Photo set 3**). There was no evidence found that would suggest areas of significant erosion.





Photo set 3: Access tracks within the Offset Area indicating minimal erosion.

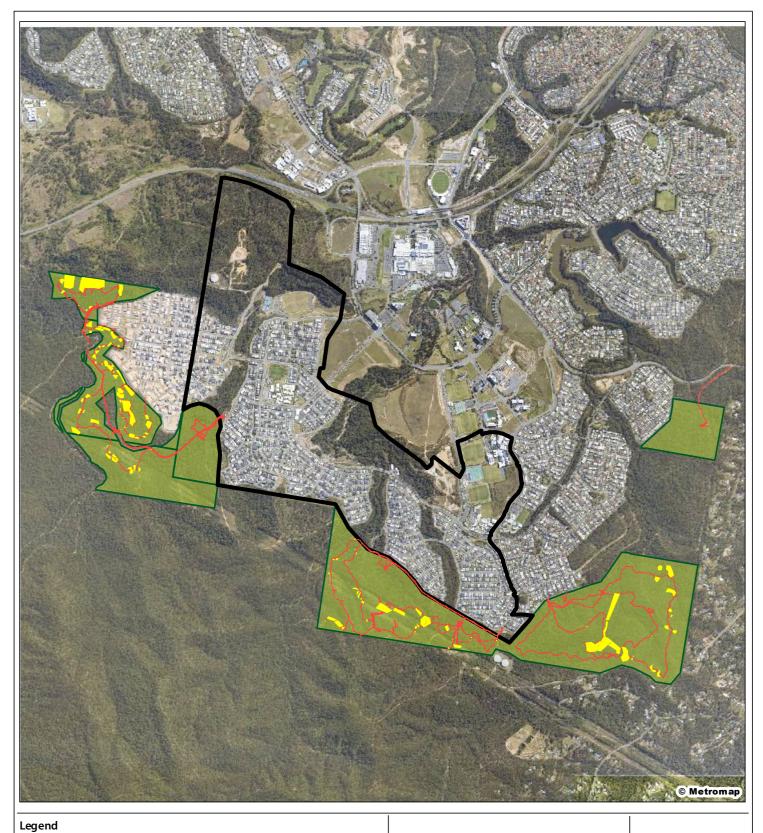
5.3.4 Unlawful access

The Offset Area has been accessed unlawfully in the past by people utilising the area for recreational purposes (e.g. 4WD, trail bikes and ATV). Preventing access is difficult when a presence in the area is not ongoing, however, since the approval holder commenced construction, undesired access to the Offset Area has become easier to prevent due to the works area adjoining the Offset Area. Many fences and gates that prevent access are keyed and therefore secure, and the civil contractor's daily presence deters trespassers onto the adjoining Offset Area. Nonetheless, unlawful access will continue to be monitored and action implemented where necessary.

During the reporting period a review of the current security was undertaken to ensure fencing, gates and other physical deterrents were adequate to prevent access by unauthorised vehicles. The review determined that the existing security measures implemented by the approval holder were sufficient in deterring unauthorised access. Minor damage to a section of Koala exclusion fencing along the north-western boundary of the development (refer **Appendix I**) was noted. Although efforts have been made to secure the Offset Area and deter trespassers through the installation of keyed access points and fencing, the reviews indicate that the issue is ongoing. However as stated above, incidences significantly reduced as a result of construction works and presence of contractors within the project and Offset Areas

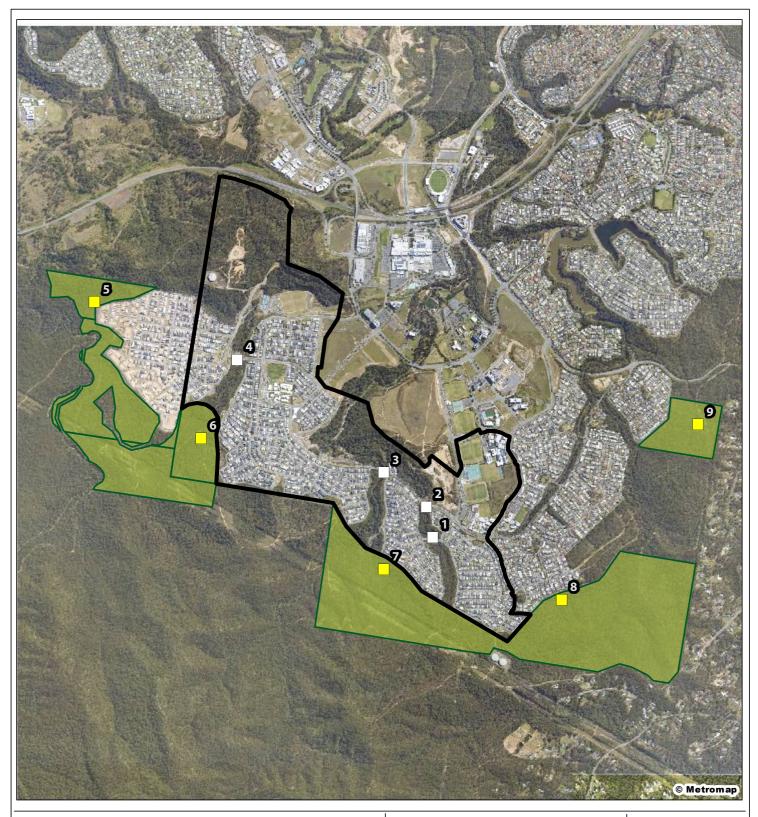
Long-term management of the Offset Area will require diligent monitoring of access points (*i.e.*, gates) and fences to ensure trespassers do not gain access and negate the approval holder's efforts towards improving the Offset Area. While the civil contractor maintains an on-site presence, reviews of Offset Area security will occur in conjunction with other Offset Area management actions. Specific issues regarding trespassing and access will continue to be resolved in consultation with Ipswich City Council as they occur.





d		
Project area	Figure 7	
- Weed meander	lighte /	Lend Lease
Areas containing Lantana	Vegetation data	Communities (Springfield) Pty Ltd
Offset Area	collection sites	
	File ref. 7243 E Figure 7 ACR8 Veg Collection Sites A Date 14/01/2025 Project Springfield Rise, EPBC 2013/7057 (ACR 2024)	St saunders havill group
	0 200 400 600 800 1,000 m Scale (A4): 1:30,000 [GDA 1994 MGA Z56]	THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OFTHECELENT SUNDERS HAVEL GROUP CANNOT ACCEPT REVONSIBILITY FOR WILL GROUP CANNOT ACCEPT CONTENTS OF THESE DRAWINGS BY ANY THRO PLATY.

Layer Source: © State of Queen sland 2025



Legend

5	
	Project area
	Offset Area
	Camera location (conservation area)
	Camera location (no bait)

Figure 8

Fauna data collection sites

 File ref.
 7243 E Figure 8 ACR8 Fauna Collection Sites A

 Date
 14/01/2025

 Project
 Springfield Rise, EPBC 2013/7057 (ACR 2024)

0 200 400 600 800 1,000 m Scale (A4): 1:30,000 [GDA 1994 MGA Z56] Lend Lease Communities (Springfield) Pty Ltd



THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OFTHECLIENT SAUNDERS HAVIL GROUP CANNOT ACCEPT REPONSELITY FOR ANY USE OF OR RELANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THRD PARTY.

Ν

Current threat / quality improvement restoration	Base case	Improvement proposed	Achievement criteria	Measured by	Timeframes	Reporting	Funded by:
of National Significance		management of WONS through the Offset Area	offset area to 5% or less	Mapping – repeated annually / measured against base line study	through the offset area to 5% by 3 years post the commencement of the Action. WONS maintained at 5% or below for 10 years post the	Mappingresultsincluded in the ACR forthe project.In2018,weedmanagementworkscommencedand	licensed and registered contractors.



Current threat / quality improvement restoration	Base case	Improvement proposed	Achievement criteria	Measured by	Timeframes	Reporting	Funded by:
						increase in WON coverage attributed to seasonal variation and will be scheduled for treatment over the following year to ensure WONS level are maintained below 5%. A combination of randomised and targeted searches of previous know infestation areas have been completed at part of annual survey Results in the Year survey found that there is an increase in regrowth of <i>L. caman</i> plants scattered across the offset areas scheduled for treatment in the following year of management to ensure WON coverage will remain less than 5% over the course of the project.	o d d or e e o ls w o f d o f n r e e e e e e e e e e e e e e e e e e

Pest Management 1.
 Site survey Monitor pest species No increase of pest Camera trapping and Pest species are to be Camera trapping and Monitoring surveys to observed Wild (namely Wild Dogs) to species throughout thermal imagery monitored for the life of thermal imagery be funded by the the 293 ha Offset Area. surveys as required.



Current threat / quality improvement restoration	Ba	se case	Improvement proposed	Achievement criteria	Measured by	Timeframes	Reporting	Funded by:
usage of Off Area	fset 2. 3.	located fresh Wild Dog prints across the Offset Area. Ipswich City Council White Rock – Spring Mountain Conservation Estate – Tier 2 Management Plan lists Wild Dogs, Red Foxes, Feral Pigs and Cane Toads as significant pest issues. This conservation estate land is contiguous with the Offset Area (<i>i.e.</i> , no dividing fence). 2011 Environmental Impact Assessment (Aurecon) for the adjoining Department of Defence bushland property to the east of the Offset Area located wild dogs as part of site					were conducted and results reported in the relevant ACR section. The survey completed during the curren reporting period recorded several pes species on camer- including Europeal red fox (<i>Vulpes vulpes</i> and wild dog (<i>Cani</i> <i>lupus familiaris</i>).	e d t d t a n)



Current threat / quality improvement restoration	Base case	Improvement proposed	Achievement criteria	Measured by	Timeframes	Reporting	Funded by:
	4. Wild Dogs and Foxes were recorded on the Spring Mountain project as listed in the November 2013 Austecology MNES vertebrate Fauna Assessment. This land is contiguous with the Offset Area.						
Foraging Habitat	erosion points and areas of extensive weed removal, revegetation — inclusive of MNES habitat trees — will be reinstated. Low-level vegetation values within the	headed flying-fox foraging habitat resources (food and shelter trees). Improve vegetation values within the powerline easement in accordance with planting protocols for	degraded areas, and those created through mass weed removal	within the offset area = equal or greater than 1,500 trees. (Estimated 20-25% of land infested with Lantana sp50.1 ha,	complete on or before 3 years post commencement of construction (<i>i.e.</i> , 17 October 2019). (<i>Timeframe to allow for</i> <i>weed management</i> <i>measures to occur prior</i> <i>to tree planting.</i>)	reporting within the ACR period for which it occurs. The Year 3 ACR confirms the total tree milestone was achieved during Year	completed by a

Current threat / quality improvement restoration	Base case	Improvement proposed	Achievement criteria	Measured by Timeframes	Reporting Funded by:
				Methods employed may include SAT surveys, drone survey, general/ad hoc observations and meander surveys.	to account for stock failure or other losses. Where determined by the ACR, additional trees will be planted.)
				Easement area comprises a vegetated corridor that supports adjoining habitat values.	Relevant ACR period to present results of biennial surveys that assess the presence of koala and grey-headed flying-fox.
					SAT surveys have been completed annually thus far, with the exception of Year 6 ACR. A total of 98 SAT surveys have been conducted over the eight years (Appendix G).
					Evidence of koala usage in the form of scats was predominately calculated as being 'low usage' at most locations. With exceptions being during Year 2 where



Current threat / quality improvement restoration	Base case	Improvement proposed	Achievement criteria	Measured by	Timeframes	Reporting	Funded by:
						one (1) high usage data point was recorded, year 3 where one (1) high and one (1) medium recording was identified, and Year 7 where one (1) medium usage location was identified.	
						The area where high usage was recorded has undergone rehabilitation in August 2018.	
						A koala was observed within the conservation area during Year 6 surveys.	
access and use of the Offset Area by 4WD, trail bikes	Historically the Offset Area included a number of unlawful access tracks and entry points resulting in degraded and eroded sections throughout the Offset Area.	access and use by 4WD, trail bikes and ATV.		securement (e.g. photographs) provided during ACR. Annual review of installed and upgraded security	securement points constructed and operational with six years of the	installation, monitoring and success provided as part of relevant period ACR. A review of Offset Area security was	will continue to monitor and maintain barrier and access point infrastructure.
	Six locations around the periphery of the		management period			undertaken as part of	

Current threat / quality improvement restoration	Base case	Improvement proposed	Achievement criteria	Measured by	Timeframes	Reporting	Funded by:
	offset land have been identified as being historically used to unlawfully access the Offset Area.		Alteration and further upgrades to security points where	and damage	Infrastructure to be in place for the life of the offset (20 years).	contractor works in Year 8. Locked gates have been installed across the site, preventing unlawful access throughout the conservation area. No evidence of forced entry at access points was recorded during the Year 8 inspection.	
5. Overall improvement of the quality of the Offset Area to 9/10.	7-8/10 under the Guide to Determining		achieving a 9/10 average score at the transect locations from surveys completed in accordance with the <i>Guide to Determining</i> <i>Terrestrial Habitat</i>	the transect locations at 5 year intervals for the life of the offset (20 years). If the quality is assessed as not improving at the first five year interval, this will trigger a review of	Demonstrate an improvement of Offset Area quality, subject to external factors (e.g. fire) at each five year	presented in a report completed in accordance with <i>Guide</i> to Determing	will fund the transect data collection and

Current threat / quality improvement restoration	Base case	Improvement proposed	Achievement criteria	Measured by	Timeframes	Reporting	Funded by:
	Reference area transec also completed – score 6.92/10.					MNES habitat quali from baseline. Th project is considere on track to achieve th target for MNE habitat quality.	ie id ie
						Habitat transects a scheduled to k completed again Year 10.	e



6. Appendices

Appendix A

EPBC approval and conditions granted 23 December 2015

Appendix B

Dry Passage Culvert Audit 2024

Appendix C

Key Design Outcome Fence Requirement Notice

Appendix D

Fauna Spotter Catcher Post-works reporting Example

Appendix E

White Rock - Spring Mountain Fire Management Strategic Plan and Risk Dashboard

Appendix F

Nest Box Monitoring and Maintenance Report 2025

Appendix G

SAT Results – Year 1 to Year 8

Appendix H

Weed Management Plans

Appendix I

Securement Point Review 2024



Appendix A

EPBC approval and conditions granted 23 December 2015







Australian Government Department of Climate Change, Energy,

the Environment and Water

Variation of conditions attached to approval

Spring Mountain Mixed Use Master Planned Community Development, Queensland (EPBC 2013/7057)

This decision to vary conditions of approval is made under section 143 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Approved action

Lendlease Communities (Springfield) Pty Limited						
ACN 087 876 864						
To construct a mixed use development (including residential, commercial and community developments and associated infrastructure) on a 387ha site at Spring Mountain, Queensland.						
See EPBC Act referral 2013/7057						
The variation is:						
Delete condition 1 attached to the approval and substitute with the condition specified in the table below.						
Add conditions 1A, 1B, 1C and 1D specified in the table below.						
Add definitions of Clear/Clearing/Cleared, Conservation advice/s, recovery plans and threat abatement plans, Environmental						
Management Plan Guidelines, Mapping guidelines and Offset.						
Delete definitions of Secure or secured and Weeds of national significance and substitute with the definition specified in the table below.						
Delete Annex A and Annex B and substitute with the annexures specified in the table below.						
This variation has effect on the date this instrument is signed.						
make decision						
Natasha Amerasinghe Acting Branch Head						
Environment Assessments (Vic, Tas) and Post Approvals Branch						

signature

Ameranyle

date of decision

18 September 2024

date of decision	conditions attached to approval
As varied on the date this instrument was signed	 The approval holder must not clear: a) outside the project site b) more than 274.6 hectares (ha) of MNES habitat.
As varied on the date this instrument was signed	1A) To compensate for the clearing of 19.6 ha of koala habitat and grey-headed flying-fox foraging habitat enabled by this variation decision, additional to the clearing allowed by the approval decision made on 23 December 2015, the approval holder must submit an Additional Offset Management Plan (AOMP) to the department for the Minister's approval. The AOMP must specify how a direct offset to compensate for the impacts to the 19.6 ha of MNES habitat will be provided. The approval holder must not clear more than 255ha within the project site until the AOMP has been approved by the Minister in writing.
	The AOMP must be prepared a suitably qualified person, be in accordance with the Environmental Management Plan Guidelines and the EPBC Act Environmental Offsets Policy (October 2012) to the satisfaction of the Minister and include:
	 a description of the proposed direct offset, including location, size, condition, environmental values present, adjacent land uses and a map of the proposed offset that meets the <u>mapping guidelines</u>;
	 b) details to demonstrate how the proposed offset will compensate for the additional clearance of 19.6 ha of MNE habitat enabled by this variation decision;
	 c) details of how the proposed offset will provide connectivity with other habitats and biodiversity corridors and/or will contribute to a larger strategic offset for MNES;
	 maps and shapefiles, prepared in accordance with the mapping guidelines, to clearly specify the location and boundaries of the proposed offset, accompanied by offset attributes.

	e)	-	on and management measures to achieve the es required under these conditions;		
	f)	committ	sment of the risks to achieving the outcomes ed to in the AOMP and risk management strategies be applied;		
	g)		al monitoring program that measures the progress ving the outcomes required under these conditions udes:		
			results of baseline surveys of the habitat quality of the proposed offset;		
			measurable, timebound performance indicators, including milestones to be achieved within 5, 10 and 15 years after the date of commencement of implementing the AOMP;		
			completion criteria to determine when and how the habitat quality improvements committed to in the AOMP have been fully achieved;		
			trigger values and proposed corrective actions to be implemented, if the trigger values are reached; the timing, methods and frequency of monitoring capable of detecting trigger values and changes in the performance indicators; and		
		٧.	reporting and review mechanisms.		
	h)	actions f with con	e of how management measures and corrective for the proposed offset consider and are consistent nservation advice/s, recovery plans and threat ent plans for MNES;		
	i)	principle	of how the proposed offset and AOMP meet the es of the EPBC Act Environmental Offsets Policy r 2012); and		
	j)		of the mechanism and timing proposed to legally he proposed offset.		
As varied on the date this instrument was signed	th AC en	e project DMP has l sure that	al holder must not clear more than 255 ha within site until the offset site proposed in the approved been legally secured . The approval holder must t the offset site proposed in the approved AOMP cured at least until the expiry date of this approval.		
As varied on the date this instrument was signed	ар	1C) The approval holder must commence implementing the approved AOMP no later than the date on which the offset site proposed in the approved AOMP is legally secured and			

		continue to implement the AOMP until the expiry date of this approval.
As varied on the date this instrument was signed	1D)	The approval holder must, within 5 business days of commencing implementation of the AOMP, notify the department of the date on which implementation of the AOMP commenced.
Original dated 23/12/2015	2)	To minimise adverse impacts to koalas from vegetation clearing and construction activities there must be no koala injury or mortality as a result of vegetation clearing and construction activities at the project site .
Original dated 23/12/2015	3)	To minimise adverse impacts to koalas from vehicle strike and in order to maintain safe koala movement opportunities through the project site the approval holder must:
		 a) implement the measures specified in Table 3-3 of the Fauna Management Plan prior to operation, and maintain these measures for the life of the approval;
		 ensure koala road crossings are placed in the locations specified at Figure 3-1 of the Fauna Management Plan prior to operation, and maintain these measures for the life of the approval;
		 c) implement measures sufficient to identify any koala injury and mortality at the project site; and
		 d) if koala injury or mortality occurs, then revise management measures in consultation with a suitably qualified person to reduce the likelihood of adverse impacts to koalas; and inform the Department, either as part of annual compliance reporting required under condition 13 or as a separate notification in writing.
Original dated 23/12/2015	4)	To minimise adverse impacts to koalas from domestic dog attack and to exclude koalas from entering residential areas within the project site, the approval holder must:
		 a) implement measures to prevent domestic dog attacks on koalas, including limiting the movement of domestic dogs, creating dog exclusion zones and signage as specified at section 3.4 of the Fauna Management Plan; and
		 ensure koala exclusion fencing is constructed and located as specified at section 3.4 of the Fauna Management Plan prior to operation, and maintained for the life of the approval.

Original dated 23/12/2015	5)	To minimise adverse impacts to <i>Plectranthus habrophyllus</i> , there must be no net loss of <i>P. habrophyllus</i> at the project site as a result of the proposed action, as defined by the following milestones:
		 a) by six months after the commencement of the action and annually for three years thereafter, there must be 0% cover of weeds of national significance in the on-site conservation areas and buffer areas;
		 by one year after the commencement of construction there must be 80% survival of planted <i>P. habrophyllus</i>;
		 by three years after the commencement of construction, there must be an increase in the number of mature <i>P. habrophyllus</i> in the on-site conservation areas that is greater than the number of <i>P. habrophyllus</i> removed during construction; and
		 by three years after the commencement of construction, there must be evidence of recruitment from planted <i>P. habrophyllus</i> individuals.
Original dated 23/12/2015	6)	The approval holder must undertake a monitoring program. The monitoring program must be planned and undertaken so that the data gathered is adequate to: inform adaptive management; and demonstrate whether milestones and outcomes described in conditions 2, 5 and 8 have been met. The monitoring program must:
		 a) include daily surveys for injured or dead koalas during vegetation clearing and construction activities;
		 b) include pre-clearance surveys of all areas that will be cleared to establish the number of mature <i>P. habrophyllus</i> that will be lost as a result of the proposed action;
		 c) establish quadrats within each of the on-site conservation areas where <i>P. habrophyllus</i> has been planted and at control sites that contain remnant <i>P. habrophyllus</i> populations where supplemental planting has not occurred; and
		d) be undertaken by a suitably qualified person.
Original dated 23/12/2015	7)	To compensate for the loss of koala habitat and grey-headed flying-fox foraging habitat the approval holder must:
		 a) secure, prior to the commencement of the action, the offset containing 293 hectares of MNES habitat within the offset area at Annex 1;

		 b) provide the Department with the offset attributes, shapefile and map(s) clearly defining the location and boundaries of each offset, within 2 weeks of lodgement of the offset with the Titles Office; and
		c) ensure the Agreement is registered on the title on which each offset is located, and provide the Department with evidence of lodgement with the Titles Office , within 2 weeks of lodgement. Provide a copy of the signed agreement within 2 weeks of receipt from the Titles Office .
		The approval holder must ensure any proposal for alternative offsets is agreed to in writing with the Department .
		Note: Offsets for different species may overlap where they share the same habitat requirements.
Original dated 23/12/2015	8)	To compensate for impacts to koala habitat and grey-headed flying-fox foraging habitat the approval holder must achieve the following outcomes as compared to baseline offset habitat quality and extent, unless agreed in writing with the Department :
		 a) by 20 years after the commencement of construction, there must be a gain in habitat quality across 90% of the offset.
Original dated 23/12/2015	9)	To mitigate impacts on koala and <i>P. habrophyllus</i> , the approval holder must develop a fire management strategy for the project site and the offset , incorporating advice from a suitably qualified person regarding the impacts of the fire management strategy on koala and <i>P. habrophyllus</i> .
Original dated 23/12/2015	10)	The approval holder must adaptively manage koala habitat , grey-headed flying-fox foraging habitat and <i>P. habrophyllus</i> to achieve the outcomes described in conditions 1-9. This must include:
		 a) developing and implementing a strategy (or strategies) to achieve the outcomes and milestones outlined in conditions 1-9, in consultation with a suitably qualified person (noting that the plan does not require approval by the Minister and is not an 'action management plan' under the EPBC Act);
		 b) a documented process of adaptive management and continual improvement, including using data from

		monitoring and experimentation trials to inform adaptive management; and
	c) where there is a reasonable risk (or evidence) that outcomes or milestones are not likely to be achieved: revising management measures in consultation with a suitably qualified person ; increasing the level of effort to achieve the outcomes; and informing the Department , either as part of annual compliance reporting required under condition 13 or as a separate notification in writing.
	admin	istrative conditions
Original dated 23/12/2015	a	/ithin 7 days after the commencement of the action , the oproval holder must advise the Department in writing of the ctual date of commencement of the action .
Original dated 23/12/2015	si co th aj D Se th	he approval holder must maintain accurate records ubstantiating all activities associated with or relevant to the ponditions of approval, including measures taken to implement the management plan, report or strategy required by this oproval, and make them available upon request to the epartment . Such records may be subject to audit by the epartment or an independent auditor in accordance with ection 458 of the EPBC Act , or used to verify compliance with the conditions of approval. Summaries of audits will be posted in the Department's website. The results of audits may also be ublicised through the general media.
Original dated 23/12/2015	cc pr ea in cc of th ti	Vithin three months of every 12 month anniversary of the commencement of the action , the approval holder must ublish a report on their website addressing compliance with ach of the conditions of this approval, including nplementation of any management plans as specified in the conditions. Documentary evidence providing proof of the date f publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same me as the compliance report is published, until agreed in triting with the Department .
Original dated 23/12/2015	aı w	he approval holder must notify the Department in writing of hy non - compliance with conditions as soon as practicable and ithin no more than 2 business days of becoming aware of the on - compliance.
Original dated 23/12/2015		pon the direction of the Minister , the approval holder must nsure 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 .
Original dated 23/12/2015	16)	The approval holder may choose to revise a management plan, program or strategy approved by the Minister under conditions 1 - 9 without submitting it for approval under section 143A of the EPBC Act, if the taking of the action in accordance with the revised plan, program or strategy would not be likely to have a new or increased impact . If the approval holder makes this choice they must:
		 a) notify the Department in writing that the approved plan, program or strategy has been revised and provide the Department with an electronic copy of the revised plan, program or strategy;
		 b) implement the revised plan, program or strategy from the date that the plan, program or strategy is submitted to the Department; and
		c) for the life of this approval, maintain a record of the reasons the approval holder considers that taking the action in accordance with the revised plan, program or strategy would not be likely to have a new or increased impact .
Original dated 23/12/2015	17)	The approval holder may revoke their choice under condition 16 at any time by notice to the Department . If the approval holder revokes the choice to implement a revised plan, program or strategy, without approval under section 143A of the Act, the plan, program or strategy approved by the Minister must be implemented.
Original dated 23/12/2015	18)	Condition 16 does not apply if the revisions to the approved plan, program or strategy include changes to environmental offsets provided under the plan, program or strategy in relation to a matter protected by a controlling provision for the action, unless otherwise agreed in writing by the Minister . This does not otherwise limit the circumstances in which the taking of the action in accordance with a revised plan, program or strategy would, or would not, be likely to have new or increased impacts .
Original dated 23/12/2015	19)	If the Minister gives a notice to the approval holder that the Minister is satisfied that the taking of the action in accordance

Original dated 23/12/2015	Buffer areas means 20 metre buffers around areas containing remnant or planted <i>P. habrophyllus</i> .
Original dated 23/12/2015	Agreement - the executed agreement between the approval holder and the relevant landowner, to secure the land for long-term protection.
date of decision	definitions attached to approval
Original dated 23/12/2015	22) Unless otherwise agreed to in writing by the Minister , the approval holder must publish all management plans, reports or strategies referred to in these conditions of approval on their website. Each management plan, report or strategy must be published on the website within 1 month of being approved by the Minister or being submitted under condition $1 - 9$.
Original dated 23/12/2015	21) If, at any time after five years from the date of this approval, the approval holder has not substantially commenced the action , then the approval holder must not substantially commence the action without the written agreement of the Minister .
Original dated 23/12/2015	20) Conditions 16, 17, 18 and 19 are not intended to limit the operation of section 143A of the EPBC Act which allows the approval holder to submit a revised plan, program or strategy to the Minister for approval.
	At the time of giving the notice the Minister may also notify that for a specified period of time that condition 16 does not apply for one or more specified plans, programs or strategies required under the approval.
	To avoid any doubt, this condition does not affect any operation of conditions 16, 17 and 18 in the period before the day the notice is given.
	b. The approval holder must implement the plan, program or strategy approved by the Minister .
	a. Condition 16 does not apply, or ceases to apply, in relation to the revised plan, program or strategy; and
	with the revised plan, program or strategy would be likely to have a new or increased impact , then:

As varied on the date this	Clear/Clearing/Cleared means the cutting down, felling, thinning,
instrument was signed	logging, removing, killing, destroying, poisoning, ringbarking,
	uprooting or burning of vegetation excluding Weeds of national
	significance.
Original dated 23/12/2015	Commencement of the action means the date construction is first
	undertaken, excluding fences and signage, associated with the
	proposed action.
As varied on the date this	Conservation advice/s, recovery plans and threat abatement plans
instrument was signed	means conservation advice/s (including listing advice/s), recovery
	plans and threat abatement plans for MNES approved by the
	Minister.
Original dated 23/12/2015	Construction includes any preparatory works required to be
	undertaken 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
	including any works for the creation of vegetation buffers.
Original dated 23/12/2015	Control sites means sites to be monitored concurrently with a
	project site or offset site, to provide evidence of the relative impacts
	or improvements as a result of the proposed action.
Original dated 23/12/2015	Department means the Australian Government Department or any
	other agency administering the EPBC Act from time to time.
As varied on the date this	Environmental Management Plan Guidelines means the
instrument was signed	Environmental Management Plan Guidelines, Commonwealth of
	Australia 2024, as published at the following webpage address:
	Environment Management Plan Guidelines
Original dated 23/12/2015	EPBC Act means the Environment Protection and Biodiversity
	Conservation Act 1999 (Commonwealth).
Original dated 23/12/2015	EPBC Act Environment Offsets Policy (October 2012) is the Policy
	guiding the use of offsets under the Environment Protection and
	Biodiversity Conservation Act 1999, published by the then
	Department of Sustainability, Environment, Water, Population and
	Communities, October 2012.
Original dated 23/12/2015	Fauna Management Plan means the document titled Saunders
	Havill Group's Spring Mountain Fauna Management Plan 17 July
	2015 (FMP).
Original dated 23/12/2015	Gain in habitat quality means an improvement in the quality and
	extent of koala habitat and grey-headed flying-fox foraging habitat

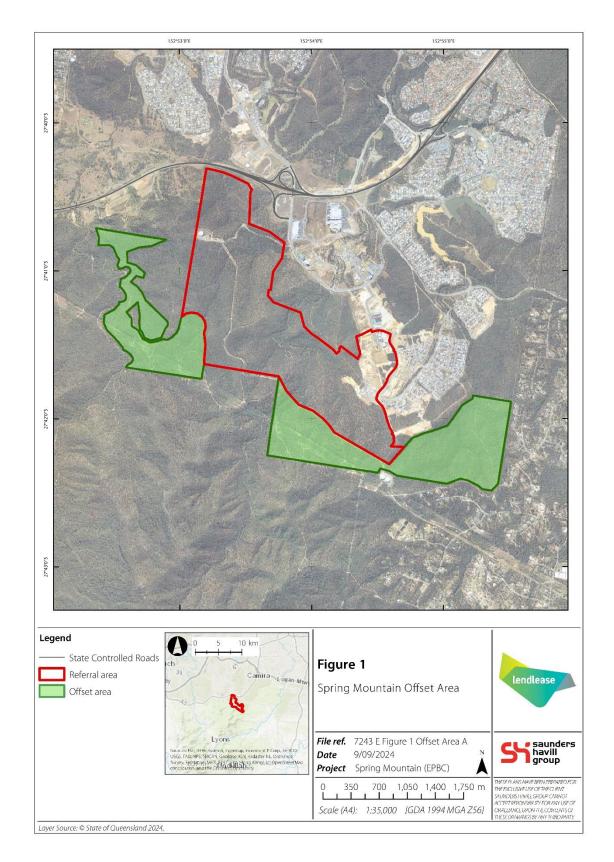
	in comparison to baseline environmental conditions at the offset
	and compared with an unmanaged control site.
Original dated 23/12/2015	Grey-headed flying-fox means the native species Pteropus
	<i>poliocephalus,</i> protected under the EPBC Act .
0.1.1.1.1.1.1.2./12./2015	
Original dated 23/12/2015	Grey-headed flying-fox foraging habitat means the known native food trees, including eucalypts (genera <i>Eucalyptus, Corymbia</i> and
	Angophora), melaleucas and banksias that are the primary food for
	the species.
Original dated 23/12/2015	Koala means the native species Phascolarctos cinereus (combined
	populations of Qld, NSW and the ACT), protected under the EPBC Act.
Original dated 23/12/2015	Koala habitat means any forest or woodland containing species that
	are known koala food trees or shrubland with emergent food trees.
	This can include remnant and non – remnant vegetation in natural,
	agricultural, urban and peri-urban environments and is defined by
	the vegetation community present and the vegetation structure;
	koalas do not necessarily have to be present.
Original dated 23/12/2015	Koala exclusion fencing is fencing constructed and located to
	prevent access by koalas to residences within the project site .
Original dated 23/12/2015	Koala road crossings are road crossings, including underpasses,
	which are specifically designed to facilitate the movement of koalas .
As varied on the date this	Mapping guidelines means Guide to providing maps and boundary
instrument was signed	data for EPBC Act projects (2021), as published at the following
	webpage address: Maps and boundary data for EPBC Act projects
Original dated 23/12/2015	Minister means the Minister administering the EPBC Act and
	includes a delegate of the Minister.
Original dated 23/12/2015	MNES means matters of national environmental significance.
Original dated 23/12/2015	MNES habitat means koala habitat and grey-headed flying-fox
	foraging habitat.
Original dated 23/12/2015	New or increased impact means a new or increased impact on any
	matter protected by the controlling provisions for the action, when
	compared to the plan, program or strategy that has been approved by the Minister .
As varied on the date this	Offset means 293 hectares of MNES habitat located where
instrument was signed	represented in the map at Annex 1 by the three green shaded zones, each enclosed by a green solid line designated 'Offset area (293 ha)'.

Original dated 23/12/2015	Offset attributes means a '.xls' file capturing relevant attributes of
	the offset site, including the EPBC 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 benefiting from the offset , and the size of the offset in hectares.
Original dated 23/12/2015	On-site conservation areas means areas containing remnant or
	planted P. habrophyllus that are managed primarily for
	conservation.
Original dated 23/12/2015	Operation means the date of commencement of functioning as a
	residential development.
Original dated 23/12/2015	Plectranthus habrophyllus or P. habrophyllus means the native
	species protected under the EPBC Act.
	species protected under the EPBC ACL .
Original dated 23/12/2015	Project site is the area defined as 'referral area' in the map at
	Annex 2.
As varied on the date this	Secure or secured means to provide enduring conservation
instrument was signed	protection on the title of land under relevant Queensland legislation,
	or another enduring protection mechanism agreed to in writing by
	the department to provide protection for the site against
	development incompatible with conservation.
Original dated 23/12/2015	Shapefile means an ESRI Shapefile containing '.shp', '.shx' and '.dbf'
	files and other files capturing attributes including at least the EPBC
	reference ID number and EPBC protected matters present at the
	relevant site. Attributes should also be captured in '.xls' format.
Original dated 23/12/2015	Signage is appropriately located signs designed to raise awareness
	of the presence of Koalas within the project site or mitigate against
	impacts to Koalas .
Original dated 23/12/2015	Substantially commence (d) the action means commencement of
0 , ,	clearing the land and construction of infrastructure (i.e. sewerage,
	power, water, stormwater) associated with the action. This does not
	include preparatory works.
Original dated 23/12/2015	Suitably qualified person means a person with qualifications in
	environmental science, ecology or biology from a recognised
	institute and a minimum of 5 years field experience in flora and
	fauna management, or as agreed in writing by the Department .
Original dated 23/12/2015	Titles Office means the relevant authority responsible for registering
	the land title transaction.

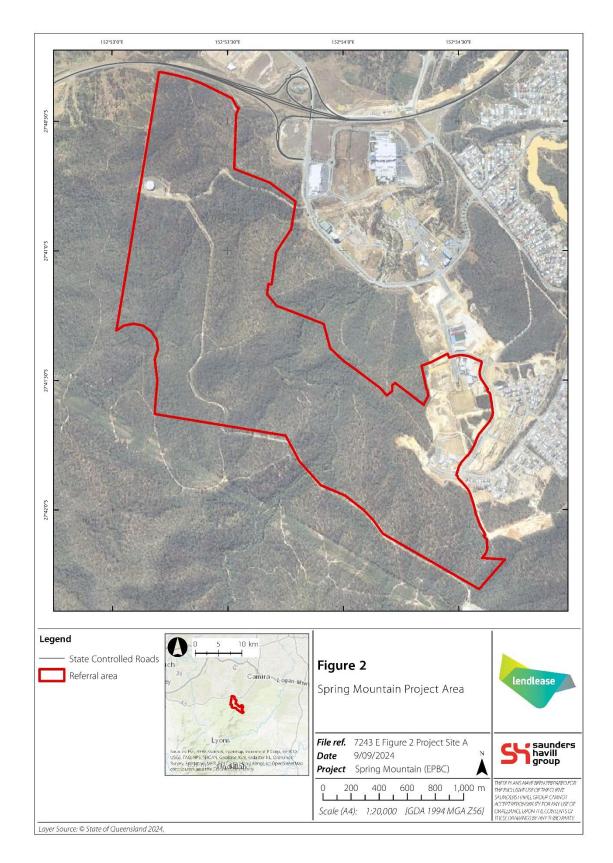
Original dated 23/12/2015	Vegetation clearing and construction activities means any activities that destroy, modify or remove vegetation within the project site , and those activities required during the construction of infrastructure for the duration of the approval.
As varied on the date this instrument was signed	Weeds of national significance means the 32 weed species listed in Appendix B of the <i>Australian weeds strategy 2017 to 2027</i> , Australian Commonwealth of Australia 2017, which, at the time of this decision, is published at the following webpage address: <u>Australian Weeds Strategy 2017-2027 (agriculture.gov.au)</u>

date of decision	annexures	
As varied on the date this instrument was signed	<u>Annex A</u> – Spring Mountain offset area	
As varied on the date this instrument was signed	<u>Annex B</u> – Spring Mountain project site	









Appendix B Dry Passage Culvert Audit 2024





Dry Passage Culverts Inspection Photos -December 2024

Non-Functional Dry Passage Culverts

Village 17 – London Avenue – Northern End POV



Village 17 – London Avenue – Southern End POV



Village 17 – London Avenue - Glider Poles



Functional Dry Passage Culverts

Grande Avenue (Western) – Southern End POV



Grande Avenue (Western) – Northern End POV



Grande Avenue (Western) – Glider Poles



Grande Avenue (Eastern) – Southern End POV



Grand Avenue (Eastern) – Northern End POV



Grande Avenue (Western) – Glider Poles



Woodline Drive – Northern End POV



Woodline Drive – Southern End POV



Woodland Drive – Glider Poles





Appendix C

Key Design Outcome Fence Requirement Notice

Appendix





Fence Requirement

Village 14 Stage 1: Lot 3525

The following requirements set out further items you must consider when designing and siting your home on your block. These requirements are additional to the Springfield Rise Home Design Guidelines. You must comply with the Springfield Rise Home Design Guidelines and this Key Design Outcome.

Springfield Rise at Spring Mountain is subject to a Federal Government environmental approval. This approval has certain conditions that must be complied with. As part of the Federal Approval, the specified lots in this key design outcome are located at the interface of a conservation and/or linear space area and suburban residential area, and as such, these lots must incorporate koala exclusion type fencing to avoid koalas entering into your property.

Requirements

- 1. Front boundary fencing to the front alignment of the specified lots is prohibited. NB. Where on a corner lot, fencing is allowed to the secondary frontage if it meets the requirements as specified in 2.
- 2. Fencing must be installed between the house and the side boundary. Any fencing and/or gates to house and side boundary fencing is to be constructed of the following:
 - Solid powder-coated metal sheet fencing; or
 - Any other solid, non-climbable fence/gate materials as approved by Lendlease.

Lot:	
Name:	 Name:
Signature:	 Signature:
Date:	 Date:



Fence Requirement

Village 14 Stage 2: Lots 3526-3531, 3541-3547, 3498-3499

The following requirements set out further items you must consider when designing and siting your home on your block. These requirements are additional to the Springfield Rise Home Design Guidelines. You must comply with the Springfield Rise Home Design Guidelines and this Key Design Outcome.

Springfield Rise at Spring Mountain is subject to a Federal Government environmental approval. This approval has certain conditions that must be complied with. As part of the Federal Approval, the specified lots in this key design outcome are located at the interface of a conservation and/or linear space area and suburban residential area, and as such, these lots must incorporate koala exclusion type fencing to avoid koalas entering into your property.

Requirements

- 1. Front boundary fencing to the front alignment of the specified lots is prohibited. NB. Where on a corner lot, fencing is allowed to the secondary frontage if it meets the requirements as specified in 2.
- 2. Fencing must be installed between the house and the side boundary. Any fencing and/or gates to house and side boundary fencing is to be constructed of the following:
 - o Solid powder-coated metal sheet fencing; or
 - Any other solid, non-climbable fence/gate materials as approved by Lendlease.

Lot:		
Name:	Name:	
Signature: _	Signature	:
Date:	Date:	



Fence Requirement

Village 14 Stage 3: Lots 3472, 3497

The following requirements set out further items you must consider when designing and siting your home on your block. These requirements are additional to the Springfield Rise Home Design Guidelines. You must comply with the Springfield Rise Home Design Guidelines and this Key Design Outcome.

Springfield Rise at Spring Mountain is subject to a Federal Government environmental approval. This approval has certain conditions that must be complied with. As part of the Federal Approval, the specified lots in this key design outcome are located at the interface of a conservation and/or linear space area and suburban residential area, and as such, these lots must incorporate koala exclusion type fencing to avoid koalas entering into your property.

Requirements

- 1. Front boundary fencing to the front alignment of the specified lots is prohibited. NB. Where on a corner lot, fencing is allowed to the secondary frontage if it meets the requirements as specified in 2.
- 2. Fencing must be installed between the house and the side boundary. Any fencing and/or gates to house and side boundary fencing is to be constructed of the following:
 - Solid powder-coated metal sheet fencing; or
 - Any other solid, non-climbable fence/gate materials as approved by Lendlease.

Lot:		
Name:		Name:
Signature:		Signature:
Date:	[Date:



Koala Fence Requirement

Village 14 Stage 4: Lots 3440, 3548-3558

The following requirements set out further items you must consider when designing and siting your home on your block. These requirements are additional to the Springfield Rise Home Design Guidelines. You must comply with the Springfield Rise Home Design Guidelines and this Key Design Outcome.

Springfield Rise at Spring Mountain is subject to a Federal Government environmental approval. This approval has certain conditions that must be complied with. As part of the Federal Approval, the specified lots in this key design outcome are located at the interface of a conservation and/or linear space area and suburban residential area, and as such, these lots must incorporate koala exclusion type fencing to avoid koalas entering into your property.

Requirements

I ot

- 1. Front boundary fencing to the front alignment of the specified lots is prohibited. NB. Where on a corner lot, fencing is allowed to the secondary frontage if it meets the requirements as specified in 2.
- 2. Fencing must be installed between the house and the side boundary. Any fencing and/or gates to house and side boundary fencing is to be constructed of the following:
 - Solid powder-coated metal sheet fencing; or
 - Any other solid, non-climbable fence/gate materials as approved by Lendlease.

Name:	Name:
Signature:	Signature:
Date:	Date:

Appendix D

Fauna Spotter Catcher Post-works reporting Example







2021

Site: Village 13 – District Park/Sports precinct, Stormwater infrastructure. Springfield.

Date of service: June/July 2021. Dewatering October 2021.

Fauna Management and Consultancy Onsite Fauna and habitat management compliance. RDS Group of Companies. Post Clearance compliance report.



Dean Bemrose.

Bemrose Wildlife Management Services. June/July 2021. Dewatering October 2021 Village 13 Sports Oval and additional works.

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SCOPE OF WORKS

Bemrose Wildlife Management Services (Queensland Government Rehabilitation Permit number WA0021286) was engaged by the RDS Group of Companies via the principal client LendLease to conduct the onsite fauna management and habitat management compliance Fauna/Koala Spotter scope of works service at the authorised developmental site in conjunction with the onsite vegetation and habitat management scope of works program; specifically pertaining to the reconfiguration of the site for the purposes of a greater Sports complex within the Village 13 precinct with additional supervision of stormwater works adjacent to the primary site. Primarily the scope of works entailing fauna management within this scope of works site was to conduct fauna and habitat inspections, onsite consultancy and management at all times of vegetation dismantling and the capture and relocation of fauna assets into analogue green zones. Prior to vegetation removal, the site was traversed to witness the TPZ demarcation. All lines of TPZ and EPZ establishment was observed and did offer compliance as per all referenced documentation that was provided, and stipulations enforced.

Traversing the site, grid transect mechanisms were activated in order to cover the land that was required and authorised to be reclaimed for the greater growth of social infrastructure for Springfield Rise at Spring Mountain. Large areas of the primary scope of works site had been previously disturbed and vegetation assets removed prior to the mobilisation of this work Civil works effort. Floristic assets and morphological transitions (flowering) did not occur in significant levels for the ecological assessment of the site to alter. *Acacia* species were the dominant understory regrowth. No fauna (Avian, Mammalian or Reptilian) breeding places of low or high ecological values were identified or disturbed during vegetation removal throughout the entire program. Habitat values that were salvaged were re-installed within the greater EPZ footprint to act as refugia assets. No scheduled species under the EPBC Act or Nature Conservation Act that are listed as CREVNT or CREVCD was observed on any of the days of service. This applied to the greater terrestrial based vegetation removal program within the scope of works site known as V13 Springfield Rise.

The extent of the fauna management program was inclusive of the dewatering supervision and subsequent solid dead stag removal from within the water way that is located within the scope of works footprint. No access or egress points were located within any of the dead stags, reducing the potential for encountering Australian Wood Duck breeding chambers or any alternate Avian species or fauna species in general to be zero potential. Maximum egress points were available via the dewatering phase in order to enable selfrelocation of amphibians, semi-aquatic fauna and any sedentary and mobile fauna assets. The water body was consistently checked for fauna assets during this program with no semi -aquatic fauna (Turtles) being located. Twenty-six frog species were captured and relocated during the dewatering phase and general vegetation removal phase from within this specific

area. Amphibian species that were detected and relocated were scheduled under the pertinent regulations and legislative frameworks as Least Concern. Striped Rocket Frog, Dainty Green Tree Frog, Eastern Dwarf Tree Frog and Australian Green Tree Frog. Suitable analogue habitat was sourced as a relocation point. Cane Toads were also observed throughout the site. It is critical to mention no amphibian species scheduled as CREVNT were located or aural when utilising a mechanism – amphibian aural point survey effort under the Nature Conservation (Animals) Regulation 2020. No fauna as listed as CREVCD under the Commonwealth Environment Protection and Biodiversity Act 1999 were observed or audible.

Pseudo-riparian zones established along the shorelines were checked and cleared comprehensively during the program, Macropod and Avian tracks were observed along the entire transect. Bullrushes and endemic and native floristic variances of differing structure and trophic levels were evident and known to provide refugia and habitat values for several fauna species (focus – amphibian and semi-aquatic fauna). A fauna recovery plan was actioned during this phase and relayed to the client (RDS/Lendlease). The Saunders Havill Group site delegate (Jordan Bachmann – Senior Environmental Planner) was informed of the program via verbal communications.

Monitoring of any formation that may have been conducive to burrow breeding places (Rainbow Bee-eater, Striated Pardelote) was checked and cleared, resulting in no breeding places being identified. Special Least Concern Platypus was not a viable species to be inhabiting this scope of works footprint. During this phase and all phases associated with this site, RDS consistently provided information as to the progressive site works that could potentially have ecological impacts for fauna management principles to be observed and adhered to.

Introduced animal anecdotal evidence that was definitively observed. Red Fox and Domestic Cat spoor was identified traversing the riparian areas of the water body. No Red Fox den sites were located. No actual visual observations did occur. Red Fox and feral cats are commonly observed within the greater Springfield district. The scope of works is within the Ipswich City Council shire. Engagement of specialist companies inclusive of The Saunders Havill Group and Cardno enabled detailed information data sets pertinent to this scope of works program. The RDS Group of Companies has delineated the categorical extent demarcation lines for vegetation management. As the existing site has been previously cleared and in correlation to the remaining regrowth floristic variances the impact to the area in reference to the ecological significance was minor. It is essential to note that the rear perimeters (adjacent to the clearance lines) will not be impacted and did provide suitable analogue relocation habitat values.

Two sites formed this greater project extent, with compliance offered for all areas. The first being the general V13 Sports precinct and secondary ancillary site where a stormwater vein system was installed. The stormwater site was considered of lower value in specific

reference to the primary constriction of scheduled and declared weed tree species (*Leucaena*) located throughout the site. No fauna was observed within this area that required to be captured and relocated. No breeding places were observed to be active and no historical breeding places were located. A significant section of this site was slashed grass enabling comprehensive line of sight fauna and habitat pre-clearance daily inspections. The established primarily ephemeral waterway running through this site is not to be impacted significantly. No fauna assemblages of high-level ecological significance was observed. Adjacent vegetation assets outside of the scheduled scope of works program are to remain providing habitat features essential to and correlated with survivorship potentials. No EVNT fauna was observed. No Koala/s were observed nor any active anecdotal evidence.

Wren and Finch species were observed (Suburb Blue Fairy Wren) during this phase of operation, however the assemblages were not impacted and were able to continue normal behaviours. These Avian species do require strategically close habitat values in order to maintain survivorship characteristics. Therefore, the zones demarked within the EPZ/TPZ were critical vegetation assets. Both areas were traversed on foot with a delegate of the RDS Group of Companies. All protocols were adhered to.

An Ecological site desktop review inclusive of an authorised Vegetation Management Plan/Fauna Management Plan was constructed and forwarded to the Client and Bemrose Wildlife. This pertinent document was constructed by the Saunders and Havill Group. The VMP/FMP has detailed the constructed TPZ/EPZ in addition to stipulations cross governed by Bemrose Wildlife in specific mention to the sequential vegetation management action plan. During the fauna and habitat management program the TPZ's (numbered tree asset species) was itemised and followed.

Natural assets within these zones were scheduled Non-Juvenile Koala Habitat Trees. No anecdotal Koala climbing scratches were observed within these zones. No Physical observations of Koala was observed. During vegetation management works a Koala Spotter supervised this site in accordance with State protocols regarding Koala management. No hollow bearing natural assets were observed within the bulk of the vegetation communities.

No additional clearance parameters other than that authorised was actioned within the biodiversity overlay framework adopted for this project. Remnant floristic species within the framework does conform with endemic and native floristic species known to be established within the environ/s; *Acacia, Angophora, Corymbia, Eucalyptus* and *Lophostemon*. Floristic species within the schedule are a strong floristic asset as they are known fauna (Koala habitat and food trees) and are essential for a continued functioning ecological system.

No low or high level ecologically significant species or breeding places were observed inclusive of RAMSAR fauna species during the fauna and habitat management program that

are within the proposed scope of works envelope. No additional fauna species or fauna assemblages were observed. No EVNT fauna was observed nor was there any anecdotal evidence to suggest recent or historical evidence of Koala or Glider activity. If a Koala was to be observed, full and actionable Koala management programs would have been activated. The direct client managing the works (RDS Group of Companies) is hyper-vigilant in maintaining the greater habitat and ecological core values to this project whilst maintaining a strong professional standard with the principal client (Lendlease). Lendlease has engaged several Environmental, professional and experienced companies to ascertain the levels of ecological core values, environmental impacts and resolution action plans, planning regimes and implementation plans and desktop and onsite field reviews. No breeding places of low or high risk was observed within the floristic communities. EWP activation was not utilised on this site. Strict adherence to fauna management and habitat controls were enforced.

Potential ecological enhancements installed into the greater area is a strong function and mechanism that could be utilised to maintain a level of species richness for endemic fauna species within this regional ecosystem post works. Installations of habitat boxes are based on a ratio of one to three naturally occurring habitat hollows (potential organic breeding places - reclaimed) if located within the scope of works site or adjacent areas could be advantageous. It is essential to note hollow bearing natural assets were identified in a low level. *Acacia* and *Eucalyptus* species are known forage for Glider species. Phyto morphologically the floristic divergence and age of the vegetation inclusive that are scheduled under the developmental approval phase did not have significant observable hollow bearing natural assets. Habitat boxes would be advantageous within the Ecological Protection Zones and any alternate offset green zone for the re-establishment of fauna abundance within the greater area providing natural ecosystem enrichment, it could also act as a significant interpretation and extension tool for the greater residential communities. Historically, the areas regional ecosystem values were high in Open Eucalypt Forest systems inclusive of strong populations of Avian, Mammalian and Reptilian species.

The area of proposed selective vegetation clearance was traversed via a senior Koala Spotter/Fauna consultant to categorically observe the clearance lines that were installed under the strict governance of the State Governmental overlays in correlation with the strict D.E.S and Developmental Approval conditions. Under the program's approval 'Development application that was properly made, clearing was allowable under the provisions offered by the Nature Conservation (Koala) Conservation Plan 2017. Assessable information and direction of the program activation is adhered to under Ipswich City Council.

The program under the ICC directives did not stipulate the inclusion of a fauna load reduction trapping program assessment for this phase. Open egress pathways and the assessment of the area did not warrant this survey effort to be activated.

Site: Village 13 Sports Oval and additional works.

Onsite Fauna and Habitat Compliance Report.

Bemrose Wildlife Management Services.

Author: Dean Anthony Bemrose.

Date of service: June/July 2021. Dewatering October 2021.

Client: RDS Group of Companies

The property is within Koala District A, therefore the sequential clearance conditions prescribed in the Koala Conservation Plan are pertinent to this scope of works. The program has been scrutinised as the general area of proposed clearance is limited to the scope of works site, which has been previously cleared. It is categorised as within areas of the bioregion that is essential and within a core Koala area mapping zone. Environs within the greater area at the time of inspection and scheduled works is consistent with analogue habitat features within this R.E, inclusive of EVNT (Koala inclusive) fauna. The loss of selective habitat within the scope of works site is not considered highly disruptive to endemic fauna at this time. This is a formed opinion based on the floristic variations on site. No significant disturbances to fauna in specific relation to the potential effects of increase to the aggregated distribution of fauna into adjacent vegetated areas correlated with a potential in advancing the possibilities of aggregation of risk and an aggregative response of predator activity is anticipated. The site was confirmed to be a heavily fragmented site with large open areas and limited NJKHT's.

During the transect walkthrough phases of the onsite works schedule, no high-level fauna of listed significance was observed and no ecological values of significance that would suspend the site clearance works in specific regard to the fauna/Koala spotter and consultancy perspective. Comprehensive check and clear grid transect lines did occur on the days of service, activating the fulfilment of the fauna and habitat clearance compliance at the scope of works site known as V13 Springfield Sports precinct. No Koala's were located at any stage. No clearance other than that certified did occur during the onsite works program. Toolbox pre-clearance talks did occur to inform those onsite pertinent to the program of the program implementation.

No levels of floristic or structural variations or levels of high ecological significance was observed. Potential Koala home and food trees were existent on the property in general, however no indicators of recent active utilisation of the native and endemic floristic varieties within the proposed clearance area was observed.

All levels of due diligence were afforded by the site owner. Inspections of the site involved observations of habitat trees and the terrestrial stratum levels. No habitat trees contained hollow bearing natural assets.

Vegetation will be lowered in the direction stipulated by the fauna consultant and design plan in order to afford maximum safe egress pathways for fauna that is deemed not be required to be captured.

Onsite Fauna and Habitat Compliance Report.

Bemrose Wildlife Management Services.

Author: Dean Anthony Bemrose.

Site: Village 13 Sports Oval and additional works.

Date of service: June/July 2021. Dewatering October 2021.

Client: RDS Group of Companies

2.0

PROJECT DESCRIPTION

The site is not a remnant vegetation site within the relevant Regional Ecosystem values. No determinations of significance were evaluated by the listed companies. Several declared invasive weed species were located throughout the project. No significant ecological factors have been flagged.

Floristic variances within the scope of works were inclusive of *Eucalyptus* and *Corymbia* nonjuvenile Koala habitat trees and *Acacia* species commonly observed within this regional ecosystem framework in addition to commonly planted and observed landscape/garden varieties and assemblages. Weed intrusions were observed at varying locations within the project. *Lantana* and Singapore Daisy was observed throughout the site.

Dewatering of dams (water bodies) onsite were inspected and recovery plans have been actioned to assess the semi-aquatic and aquatic fauna assets. Site observations during the inspection level did not indicate fauna assemblages. Exotic and declared invasive Red-eared Slider Turtles (if observed and captured) in accordance with Legislative conditions be euthanised via Veterinarian processes. No Red-eared Sliders were observed. Appropriate PPE and collection equipment will be utilised during dewatering phases.

The principal contractor on behalf Lendlease has forwarded the pertinent information to formulate a concise action and implementation fauna and habitat management plan for this site. The level of vegetation removal is confined to the actual property and has been assessed. This action was for the delineation and categorical transparency of vegetation to be removed and is acknowledged by Bemrose Wildlife Management Services and is in accordance with the specified due diligence compliance framework stipulated by the governing authority.

A line of sight was afforded generally, with some areas with a greater density then others. Observations of herpeto-fauna, terrestrial Avian species and terrestrial mammals was the focus of the fauna and habitat management program. A low to medium load of vegetative felled leaf and debris, which is natural for this class of Regional Ecosystem was observed. Minor terrestrial based refugia is present on the site and was checked and searched accordingly when the works are authorised. Minor shrubbery – or low-level vegetation is present on site, dominated by *Acacia* regrowth and *Melaleuca*.

All stratum levels of flora within the site was managed according to the regulations. Control mechanisms for the site in determining the vegetation clearance zones were activated under the appropriate D.A. The onsite management inspection and onsite protocols that were activated was to conduct a walk through to categorically determine the vegetation assets that are approved to be managed.

All vegetation removal works were monitored and supervised by a suitably qualified and experienced Koala Spotter – Bemrose Wildlife Management Services. All actions and instructions will be adhered to corresponding to the stipulations.

Reclaimed and salvageable habitat hollows extracted from arboreal assets were reincorporated onto the terrestrial base. Observed terrestrial based fauna and habitat assets will be translocated into the EPZ's.

As with sites that do have NJKHT's within the scope correlated to the Koala habitat mapping zones, Koala's are possible, however no Koala was observed during the inspection.

3.0

FAUNA AND HABITAT PROJECT DESCRIPTION

The immediate site offered viability for Koala inhabitation (Greater Springfield area) in correlation with the alternate areas especially with the proximity to strong analogue habitat. The greater Shire and the greater region are renown to have robust and remnant Koala populations extending to historical records decades old. There is a divergence of Koala food and home trees within the greater site.

The habitat that was present on the site does potentially conform with accessible Koala habitat or connectivity corridors. As a precautionary principle, relevant and con-current observational management techniques actioned were 360°Basal to Canopy (inclusive of Canopy over-lapping) the remaining grids predominately contained narrow gauge individual NJKHTs. Koala focused searches, with the aim of locating Koala, Koala scat and or evidence of climbing scratches did occur during the scheduled clearance. Grid and randomized transect search techniques were additionally utilized inclusive of Dique et al Koala search methodologies and S.P.O.T mechanisms. Non-Juvenile Koala Habitat trees on this site have been assessed and approved for removal via State and Shire regulations and compliance systems. As no scheduled or listed species of higher significance were observed correspondingly no specific FMP or SMP documents were constructed.

During the phase of site inspection to the dates of vegetation clearance works no transitional variance of vegetation structure and floristic variations is anticipated to be observed. No terrestrial based Masked-Lapwing breeding sites (Avian species) was identified during the fauna management phase to have terrestrial based nests or chicks. No alternate ground nesting Avian species – Quail – were observed.

No at-risk Special Least concern Platypus was affected or observed in any area. No Echidna or Pardalote or migratory Avian species were observed. Earthen embankments are not expected to be significantly disturbed during this phase, therefore the impact to Striated Pardelote, Australasian Bee eaters should be mute. No Arboreal termitaria was observed.

Therefore, field experience indicates the probability of encountering arboreal mammals or herpeto-fauna that commonly utilise or excavate arboreal termitaria should remain at a low-probability level. Lace Monitor are known to utilise termitaria assets to lay the clutch of eggs, with the resident termites cementing the access/egress points. The juvenile Lace Monitors then self-extricate. It is essential to note that the proposed schedule is to take effect during Winter, when theoretically breeding activity phases should not be active.

No indicators of potential terrestrial based Mammalian fauna, for example Bandicoot species was observed – suitable grasses or habitat was observed, however. No fauna derived habitat burrows were identified, or Bandicoot derived grass nests observed. A static watch and observe technique was activated to determine activity or active presence during the clearance phase. No breeding chambers activity was recorded. No alternate breeding sites were identified. Arboreal mammalian indictors pertaining to Glider and Possum species were not identified within the immediate scheduled vegetation clearance zone. No herpeto-fauna was identified – inclusive of sedentary or highly transient species was observed at any location during the transects. Action and Implementation plans are in effect to capture and relocate fauna. The proposed clearance methodology does allow maximum line of sight to successfully manage the objective. No Antechinus hides or alternate endemic or native small mammal hides, or nests were observed. As the seasonal variation is extending into the Winter months the level of fauna activity observed should correspond to low levels.

Observations of Common Garden skinks were observed, relocating into habitat garden areas not scheduled for vegetation clearance, therefore considered safe. No commonly encountered S.E. Qld Bearded Dragon, S.E Qld Water Dragon or S.E Qld Blue-tongue species were observed. Staff managing this site (Bemrose Wildlife and Skerman Civil) are hyper-vigilant and pro-fauna preservation. Therefore, the commitment in preserving habitat and fauna is very high.

It was determined that the bulk of the vegetation is at an age whereby phytomorphologically, the potential for suitable hollow bearing natural assets was correspondingly a low volume – Nil recovered. This assumption was proven during the preclearance program. Inhabitation by Glider, Phascogale, Possum, Micro-bat, Herpeto-fauna and or Psittaciformes (Parrot species) is possible, however not probable.

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Bemrose Wildlife Management Services.

Author: Dean Anthony Bemrose.

Site: Village 13 Sports Oval and additional works.

Date of service: June/July 2021. Dewatering October 2021.

Client: RDS Group of Companies

4.0

LEGISLATIVE FRAMEWORK

This report acknowledges the principles and values regarding the Koala-sensitive Design Guideline. A guide to Koala-sensitive design measures for planning and development activities prepared by: Koala Conservation Unit, Department of Environment and Heritage Protection © State of Queensland (Department of Environment and Heritage Protection) 2012. All Koala based guidelines and Policy frameworks were adhered to, inclusive of counts pertaining to Non-Juvenile Koala Habitat Trees that were required to be removed.

Acknowledgement is accepted, pertaining to the Queensland Animal Care and Protection Act 2001 which provides legislative protection to animals generally, and the relevant Legislature: Queensland Nature Conservation Act 1992, the Queensland Vegetation Management Act 1999, and the Federal Environmental Protection and Biodiversity Conservation Act 1999, inclusive of the legislature piece: Nature Conservation (Koala) Conservation Plan 2017 were referred to.

5.0

KOALA SPOTTER SCOPE OF WORKS

A Non-Juvenile Koala Habitat Tree is an individual tree that is greater than 300mm diameter at 1.3 meters above ground level and 4 meters above ground level. Any NJKHT over the height of 4 meters will be checked and cleared utilising high-powered binoculars. This was activated regardless of if the tree is singular or bifurcated. Minor continuous over-lapping potential NJKHT canopy cover was located within a grid transect.

Koala/s as a precautionary principle potentially inhabit this site as potential habitat trees and home trees are potentially existent. Koala Doe's and Bucks during the month of the scope of works vegetation clearance if observed may have semi-independent joeys on their backs, therefore observations and high-level actions are a potential for this site. Winter is not a known behavioural breeding activity period for Koala within South-east Queensland, however due to the heightened risk and highly mobile activities of Koala and the welfare of the Doe and joey and mobilised Koala searching for mates, extended 'no entry Koala zones may be activated. Protocol check and clear implementation was enforced to ascertain the observable condition of the animal. Should any trace of Chlamydia or Koala retro virus be observed immediate Koala management capture and Veterinarian support be activated. The positive outcome for this phase is the high-level ecological systems adjacent to the scope of works site with a greater number and values of suitable NJKHT's that can provide egress potentials.

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If a Koala is demonstrating facets of myopathy in general, actions to re-mobilise the plant machinery to an area that is a suitable distance away from the Koala will also be activated if the site area allows this protocol. Contact points for Koala rescue and Veterinarian support has been sourced if required.

It is a fundamental role of the Koala Spotter to maintain and traverse linear transects where vegetation removal is scheduled and to stay onsite until vegetation checks had been completed by an accredited Fauna/Koala Spotter. These actions are to determine and enact fauna mitigation strategies to maximise fauna survivorship whilst minimizing potential myopathy concerns. Habitat retention and assessment is a component of this program in order to maximise potential fauna habitat.

The role of the Fauna/Koala manager (Spotter) for this site, requires onsite management, controlled under the general VMP for the site for observable fauna, anecdotal evidence, analogue habitat assessment and correlated consultancy and direction about the potential on-site fauna that may be encountered and the subsequent fauna management. Fauna management actions are comprehensively scheduled in direct correlation to fauna species observed and habitat anecdotal evidence acquired.

No Koala observations in observance of the regulatory legal protection offered by the Queensland government and Commonwealth government were recorded within this scope of works site. No anecdotal evidence to indicate present activity was observed on any vegetation, specifically on any NJKHT. Techniques utilised to investigate Koala presence entailed a 360° basal to upper canopy of all NJKHT's and scat search around the basal regions and drip line of the canopies. Over-hanging canopy searches did occur to ensure no Koala activity. Continual Koala searches did occur during vegetation transect clearance.

No significant native trees, specifically pertaining to Non-juvenile Koala Habitat trees (*Angophora, Corymbia, Eucalyptus, Melaleuca*) were in abundant flower or seed.

This report pertains to the activities that were and are scheduled to be conducted lawfully at the scope of works site. Fauna management is required for compliance and to supervise vegetation removal (not delineate where clearance lines have been established prior to works commencing) as approved within the Developmental Approval phase issued by the governing Council and approved by the QPWS and DES. A Koala Spotter /Fauna Consultant with over ten years of experience will be monitoring this site.

Comprehensive check and clear protocols were enacted to ensure all potential hollows are lowered safely and with maximum control mechanisms activated. No fauna was observed within any structure at the time of inspection. No EVNT colonial breeders, inclusive of micro-bat, arboreal mammal (Glider species), nor any Avian species was observed within any NJKHT's.

6.0

GENERAL SITE OBSERVATIONS – FAUNA AND HABITAT

The site offered a low to medium level of R.E (Regional Ecosystem) vegetation communities observed throughout S.E.Qld. Vegetation species are evident and were checked and cleared for fauna inclusive of terrestrial Herpeto-fauna and small mammal species. The structural variation of the habitat on site varies in specific reference to the and *Acacia* and *Eucalypt* species. The *Acacia* and garden floristic varieties onsite are established and mature, were in flower. *Acacia* when in flower provide an energy source for endemic and native fauna throughout this ecosystem.

Least concern Avian species were observed egressing from the transects and transitioning into alternate habitat values.

Ephemeral water bodies can pool and run-off attributing to potential assemblages of small to medium amphibians within the classed EVNT ranges and scheduled classes of abundance. Aspect and design of the program should negate any pooling of water. No acid frogs, Wallum frogs or Tusked frog species were observed via visual searches nor was audible resonance heard.

Arboreal termitaria was not observed to be excavated. Therefore, no Kingfisher species were observed in breeding chambers. Extensive and comprehensive pre-clearance monitoring of any potential breeding chamber site did occur. No alternate inhabitation by Parrot species, Kingfisher species, or Lace Monitor was observed. Any tree that was lowered with a termitaria construction was checked and cleared as a precaution. No medium to large Herpeto-fauna or egg chambers was observed.

No migratory Avian species or sedentary Avian species was observed to be breeding or utilising naturally occurring assets as breeding chambers or roosts. Inclusive of RAMSAR Avian species. No earthen banks were scheduled to be affected or disturbed significantly during this phase. No earthen banks were active. Works were authorised to proceed, with a strict purpose to minimise disturbance impacts to any zone where active Straited Pardelote or Australasian Rainbow Bee-eater zones are possible during vegetation management and supervision. It is recorded that no earthen banks are located onsite. No Special Least Concern Low or High-risk Species Management Plan/s were activated.

Maximum precautionary human safety was observed on-site as the potential for observing potentially venomous snakes is evident. Specifically, Eastern Brown, Red-Bellied Black, Yellow-faced Whip and was possible. During the broader program inclusive of the inspection, any potential ground hollow and sedge/tussock grass clumping was checked and cleared. Extreme caution and precautionary fauna management principles were also

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enacted in order to maximise human and animal safety. All areas were subsequently probed utilizing specialized PPE.

The area did not appear at the time of fauna management to contain a significant active biodiversity level to be critically significant or halt the minor works from progressing.

7.0

CONCLUSIONS

Information pertaining to the site and the pro-active influence of the site owners, governing authorities has activated for the greater conservation and protection of fauna that inhabits the general scope of works footprint. Entailed within the information was the commitment to habitat preservation and protection where feasible.

Working positive communication relationships have been activated on this site.

Strong observational techniques were activated to ensure the health and behavioural parameters of fauna management will be adhered to when felling was scheduled.

The aim of the on-site fauna management is to minimize any event that would potentially injure or displace mammals, herpeto-fauna or Avian species. For this to be achieved a preclearance toolbox talk was activated for all those involved with this process to be fully aware of the protocols and actions that were required to be achieved for a successful program to occur. Actions such as a high level of positive communication is necessary.

Concise actions were afforded on this site due to the interaction of all those on site and the methodology enacted; subsequently the vegetation clearance schedule was managed by an experienced, fauna value conscience operator.

All on-site management guidelines and protocols have been enacted to ensure minimal myopathy events, whilst ensuring the highest level of survivorship potential for all fauna potentially inhabiting the site on the days of the scope of works and for the immediate habitat values of the site. It should be noted that all care and due diligence regarding the habitat values and immediate fauna ethical values has been observed by all staff on ground allowing a highly vigilant and successful fauna management program.

At all times of the vegetation clearance program a strong level of positive communication will be maintained by the Contractor, onsite Fauna Manager and the Vegetation felling crews in order to maintain the integrity of the site and potential habitat retention possibilities.

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Slow and controlled tree felling techniques and specialist management are authorized to be utilised by the vegetation clearance contractor under the direction of the RDS Group of Companies and Bemrose Wildlife Management Services to successfully lower potential habitat trees on site. All protocols have been adhered to by the site owners and RDS in order to satisfy the approval requirements. RDS have engaged a registered Rehabilitation permit holder to complete this program and to provide certification. The management and instructions given by Bemrose Wildlife Management Services and RDS will be adhered to during the fauna management program along the designated and approved sections of the scope of works site for a successful fauna management program.

Kind regards,

Dean Bemrose.

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Diplomawildernessreservesandwildlifemanagement. Rehabilitation Permit. WA0021286. EHP. DES. QPWS. Bemrose Wildlife Management Services. Mobile: 0438 667 750 www.bemrosewildlife.com.au email: dean@bemrosewildlife.com.au

DISCLAIMER

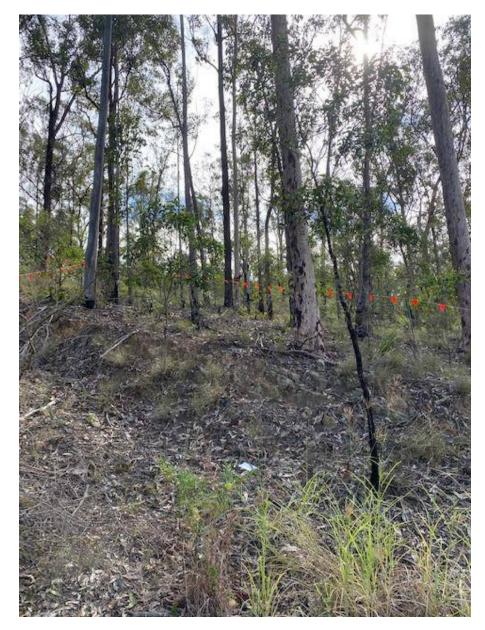
This report has been prepared by Dean Bemrose Trading as Bemrose Wildlife Management Services in accordance with the terms and conditions as detailed in the quotation and agreed to by both parties upon offer and acceptance of an order for services as per that quotation.

The survey results are accurate at the time that the onsite compliance scope of works was completed. However, no responsibility or liability is taken for any actions or works occurring at the site post the completion of the on-site compliance survey or fauna consultancy scope of works. The information as detailed in the report is for the sole use of the contracted parties and not for reproduction, reliance or supply to any other party without express consent of Bemrose Wildlife Management Services.

To the extent that it can be shown that the survey results and report was not accurate at the time of the on-site survey, this company's liability shall be strictly restricted to reperformance of the on-site survey and supply of an update report. Should you have any queries regarding this report or require additional copies please contact Dean Bemrose at Bemrose Wildlife Management Services.



Categorical surveyed demarcation vegetation clearance perimeter fauna friendly fencing was witnessed offering onsite fauna management compliance.



Low numbers of NJKHT's were scheduled for removal during this phase. Open egress areas are evident throughout the site.

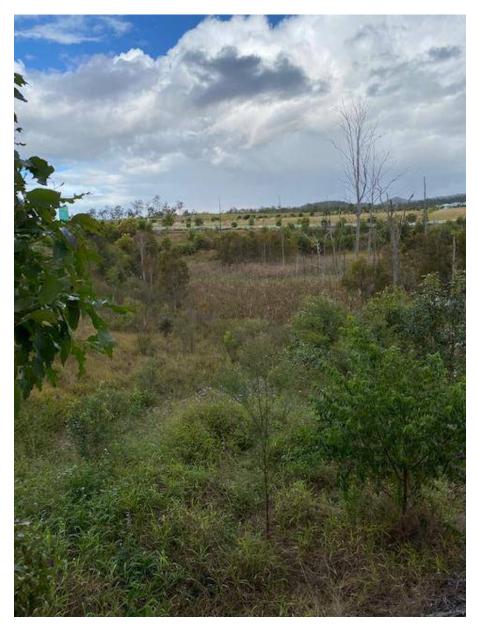


TPZ were established.



Water bodies were comprehensively checked and cleared.





Aquatic vegetation assets will be checked and cleared.













Stags within the water way did not contain hollow bearing natural assets.



Appendix E

White Rock – Spring Mountain Fire Management Strategic Plan and Risk Dashboard



Appendix



Attachment 8: White Rock – Spring Mountain Fire Management Strategic Plan and Risk Dashboard

Ipswich Fire Management Strategic Plan 2017 Version Number: 1 | Created by: GHD | Version Date: APRIL 2017

Background

This risk dashboard identifies and ranks factors that might be influencing bushfire risk within and surrounding Ipswich City Council's Natural Area Estate (NAE). This map based plan is complimented by a Fire Management Strategic Plan (2017) report which provides greater detail of the range of factors which may contribute to risk at ICC NAE, in addition to the site specific factors identified here.

Protection Zones automatically apply around all Fire Vulnerable Assets located on ICC lands. A minimum of ten metres radius for unoccupied assets and twenty metres for occupied assets, or to the existing mown extent for picnic/facility areas.

Approach

Each ICC NAE has been considered using nine bushfire risk factors (Listed A to I in the risk matrix opposite) to generate a relative priority score between reserves.

Risk Summary

A nature refuge lies south west of White Rock – Spring Mountain Reserve and transmission line runs south east through the reserve. Paperbark Flats Picnic Area is located in the north west corner near the Centenary Highway that runs north of the 2992 hectare reserve. The day use and mountain bike areas are in the northern section of the reserve. A number of Very High risk blocks (vulnerable to radiant heat, ember attack and smoke impact from bushfires) are adjacent to the new Springfield Lakes estate.

The reserve is mainly surrounded by unmanaged, Very High and High Potential Bushfire Intensity vegetation. Fires may start in the reserve or run into it from the surrounding area. The reserve is capable of supporting a large scale fire run.

The main factors driving bushfire risk at White Rock – Spring Mountain Reserve are:

- Fire Severity and Surrounding Landscape Vegetation Cover risks (most blocks are rated as High or Very High fire severity and the surrounding area is unmanaged forest); - Fire vulnerable and Smoke Sensitive Asset risk (the Picnic and day-use areas, transmission line and highway all contribute to this risk); and

- Fire Suppression Success risk (steep topography).

The following risk table contain mitigation actions. The acronyms used are explained in the two tables below.

ICC MITIGATION

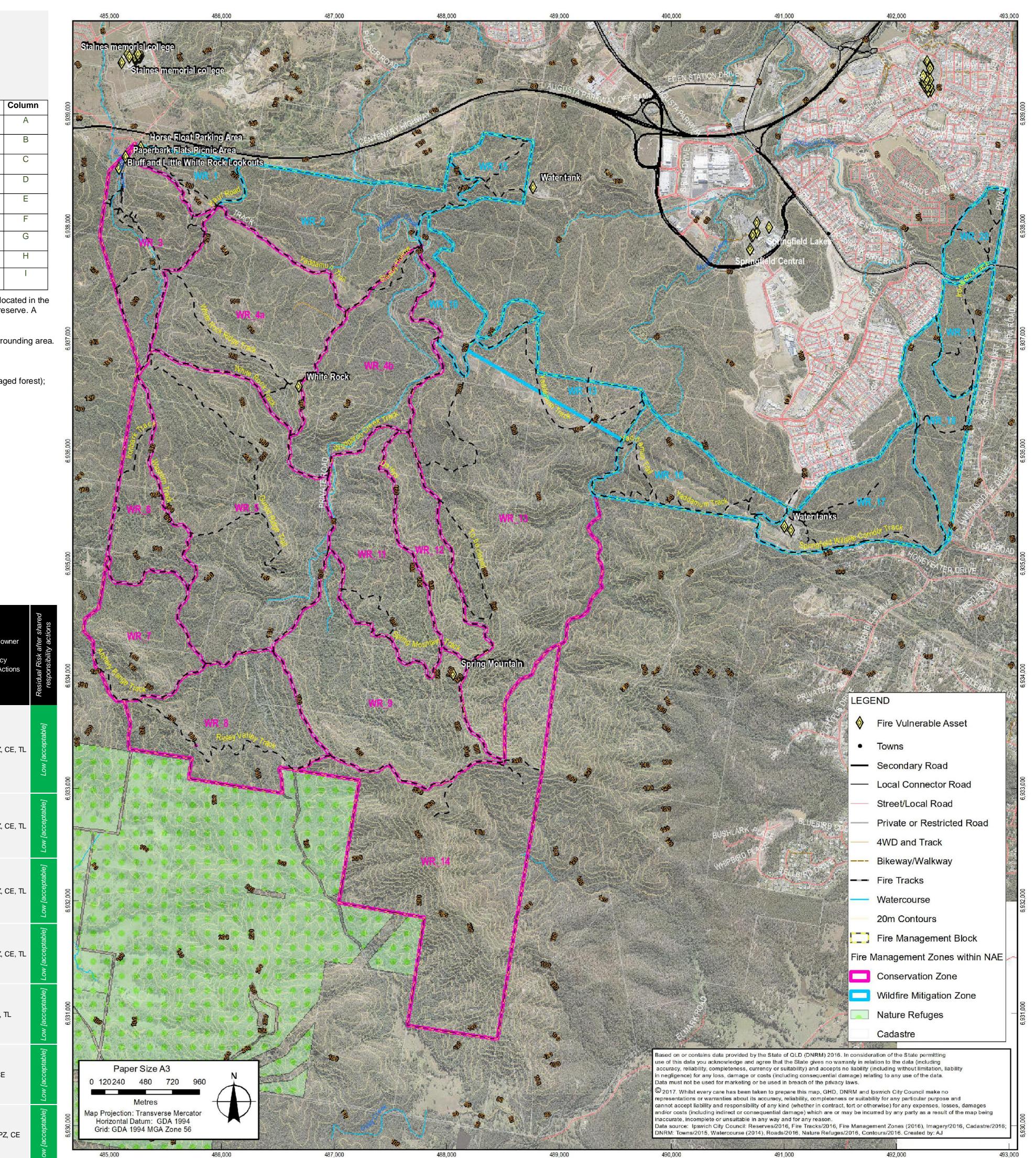
ΡZ	Maintain Protection Zone to required standard
FT	Maintain fire trails in accessible and stable condition, as per the
	NAE Standard (Service Tracks and Firebreaks)
PR	Maintain public roads in accessible and stable condition
PB	Maintain routine prescribed burning of blocks to maintain lower
	fuel levels, reduce fire intensity and rate of spread. The desired
	OFH should correspond to the block zoning class.
CR	Close reserve on total fire ban days and when fires are burning
	in the surrounding landscape
VR	Vegetation removal/ modification through activities such as
	slashing, manual removal, tree pruning (no fire)
EF	Exclude fire from vegetation communities which are fire-
	sensitive
CF	Exclude fire from the reserve to avoid coal fires starting

SHAR	ED RESPONSIBILITY
RA	Residences adjoining the reserve may be vulnerable to bushfire impacts (direct flame, radiant heat and ember attack) due to the poor separation between residences and the adjoining hazard. Residents take action to reduce their vulnerability by actively modifying vegetation and /or maintaining structures to improve bushfire resistance
BSP	Prepare and implement QFES Bushfire Survival Plan
ΡZ	Prepare and maintain structures and protection zones around buildings
CE	QFES Community education
PO	Plantings Owner: Maintain internal slash break between plantings and reserve border, investigate possibility of thinning plantings around mature eucalypts.
TL	Transmission Line Owner: Maintain easement in accordance with industry standards

FO Facilities owners to maintain protection zone around asset

Bushfire Asset Zone	Hectares	(A) Ecological Asset Bushfire Sensitivity Risk	(B) Ecological Health Risk	(C) Fire Severity Risk	(D) Bushfire Attack Level Risk	(E) Access Risk	(F) Housing Stock Risk	(G) Fire Vulnerable and Smoke Sensitive Asset Risk	(H) Surrounding Landscape Vegetation Cover Risk	(I) Fire Suppression Success Risk	Prioritisation Score	Summary notes	Unmitigated risk	ICC Mitigation Strategy	Residual Risk after ICC actions	Property ow and Fire Emergency Service Acti
WR_1	32.76	Гом	Moderate	Moderate	Том	Том	WA	Very High	High	Moderate	16	This block contains a picnic area. It is separated from Block 2 and 3 by fire trails. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact Centenary Highway and Transmission Line.	High [intolerable]	PZ, FT, PR, PB, CR, VR, EF	Medium [tolerable]	BSP, PZ, C
WR_2	143.32	Гом	High	Moderate	N/A	том	WA	Very High	Very High	Moderate	17	This block is utilised as a mountain bike area. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact Centenary Highway and Transmission Line.	High [intolerable]	FT, PR, PB, CR, VR, EF	Medium [tolerable]	BSP, PZ, C
WR_3	95.51	мот	High	Moderate	N/A	Moderate	ΝΆ	Very High	Very High	Moderate	18	This block a picnic area and is heavily used for day hiking. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact Centenary Highway and Transmission Line.	High [intolerable]	PZ, FT, PR, PB, CR, VR, EF	Medium [tolerable]	BSP, PZ, C
WR_4a	183.96	мот	High	High	N/A	High	NIA	Very High	Very High	High	21	This block is used for day hiking. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact the Transmission Line.	High [intolerable]	FT, PB, CR, EF	Medium [tolerable]	BSP, PZ, C
WR_4b	143.81	Гом	High	High	N/A	High	N/A	Very High	Very High	High	21	This block is used for day hiking. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact the Transmission Line.	_	FT, PB, CR, EF	Medium [tolerable]	CE, T
WR_5	301.31	тот	High	High	N/A	N/A	N/A	тол	Very High	Very High	16	Fire trails bound the block with additional trails through the block. The reserve will support a fire run which may enter adjoining blocks within the reserve.	Medium [tolerable]	FT, PB, CR, EF	Low [acceptable]	CE
WR_6	69.59	мот	High	High	N/A	N/A	N/A	Том	Very High	Very High	16	A rural residental block lies west of WR_6. Fire trails almost bound the block. The reserve will support a fire run, including external fire runs, which may move through adjoining blocks.	Medium [tolerable]	FT, PB, CR, EF	Low [acceptable]	BSP, PZ,

	Bushfire Vulnerability Factor	
	Ecological Asset Bushfire Sensitivity Risk	
	Ecological Health Risk	
	Fire Severity Risk	
in	Bushfire Attack Level Risk	
	Access Risk	
	Housing Stock Risk	
	Fire Vulnerable and Smoke Sensitive Asset Risk	
	Landscape Vegetation Cover Risk	
	Fire Suppression Risk	



Bushfire Asset Zone	Hectares	(A) Ecological Asset Bushfire Sensitivity Risk	(B) Ecological Health Risk	(C) Fire Severity Risk	(D) Bushfire Attack Level Risk	(E) Access Risk	(F) Housing Stock Risk	(G) Fire Vulnerable and Smoke Sensitive Asset Risk	(H) Surrounding Landscape Vegetation Cover Risk	(I) Fire Suppression Success Risk	Prioritisation Score	Summary notes	Unmitigated risk	ICC Mitigation Strategy	Residual Risk after ICC actions	Property owner and Fire Emerg Service Actions
WR_7	85.97	Гом	High	High	N/A	N/A	N/A	мот	Very High	Very High	16	A rural residental block lies west of WR_7. The block is almost bounded by fire trails. The reserve will support a fire run which may enter adjoining blocks within the reserve.	Medium [tolerable]	FT, PB, CR, EF	Medium [tolerable]	BSP, PZ, CE
WR_8	140.14	Гом	High	High	N/A	High	Ν/A	мот	Very High	Very High	19	A rural residental block lies west of WR_8. The block is almost bounded by fire trails. A nature refuge adjoins the southern boundary of the block. The reserve will support a fire run which may enter adjoining blocks within the reserve.	Medium [tolerable]	FT, PB, CR, EF	Medium [tolerable]	BSP, PZ, CE
WR_9	193.35	Том	High	Very High	N/A	N/A	N/A	мо7	Very High	Very High	17	Fire trails bound the block. The reserve will support a fire run which may enter adjoining blocks within the reserve.	Medium [tolerable]	FT, PB, CR, EF	Low [acceptable]	CE
WR_10	46.98	Том	High	High	N/A	N/A	Ν/A	Very High	Very High	Very High	19	Fire trails bound the western boundary. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact the Transmission Line.	High [intolerable]	FT, PB, CR, EF	Medium [tolerable]	CE, TL
WR_11	117.75	Гом	High	Very High	N/A	N/A	Ν/A	мот	Very High	Very High	17	Fire trails bound the block. The reserve will support a fire run which may enter adjoining blocks within the reserve.	Medium [tolerable]	FT, PB, CR, EF	Low [acceptable]	CE
WR_12	65.46	Гом	High	Very High	N/A	N/A	Ν/A	мот	Very High	Very High	17	Fire trails bound the block. The reserve will support a fire run which may enter adjoining blocks within the reserve.	Medium [tolerable]	FT, PB, CR, EF	Low [acceptable]	CE
WR_13	368.22	Гом	High	Very High	N/A	N/A	Ν/A	Very High	Very High	Very High	20	The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact the Transmission Line.	High [intolerable]	FT, PB, CR, EF	Medium [tolerable]	CE, TL
WR_14	327.66	Гом	High	Very High	N/A	Very High	ΝΆ	Very High	Very High	Very High	24	A fire trail bounds the northern boundary and the nature refuge bounds the western boundary. A rural residential building lies south of the block. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact the residence and Transmission Line.	High [intolerable]	FT, PB, CR, EF	Medium [tolerable]	CE, TL
WR_15	32.06	Том	High	Very High	N/A	High	МА	High	Very High	High	21	This block contains fire trails. A water storage tank lies east of the block. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact Centenary Highway and Transmission Line.	High [intolerable]	FT, PB, CR, EF	Medium [tolerable]	BSP, PZ, CE, FO
WR_16	81.04	Том	High	High	Том	High	N/A	Very High	Very High	High	22	This block contains fire trails. A residential area lies to the north east of the block. The reserve will support a fire run which may enter adjoining blocks within the reserve. Smoke may impact residences and Transmission Line.	High [intolerable]	FT, PB, CR, EF	Medium [tolerable]	BSP, PZ, CE, TL
WR_17	99.4	Том	High	High	Very High	High	Том	Very High	High	High	25	This block contains fire trails and water storage facilities. Residential areas lie north and south of the block. The reserve will support a fire run which may enter adjoining blocks within the reserve. Radiant heat and smoke may impact residences, water storage facilities and Transmission Line.	High [intolerable]	FT, PR, PB, CR, VR	High [Intolerable]	RA, BSP, PZ, CE, TL, FO
WR_18	60.86	Том	High	High	Very High	High	том	мот	High	High	22	This block contains fire trails. Residential areas bound the northwest and eastern boundaries. The reserve will support a fire run which may enter adjoining blocks within the reserve. Radiant heat and smoke may impact residences.	High [intolerable]	FT, PR, PB, CR, VR	High [Intolerable]	RA, BSP, PZ, CE
WR_19	40.11	Гом	High	High	Very High	High	том	мот	High	High	22	This block contains fire trails. Residential areas bound the eastern and northwestern boundaries. The reserve will support a fire run which may enter adjoining blocks within the reserve. Radiant heat and smoke may impact residences.	High [intolerable]	FT, PR, PB, CR, VR	High [Intolerable]	RA, BSP, PZ, CE
WR_20	28.15	Том	High	High	Very High	High	мот	мот	High	High	22	This block contains fire trails. It is separated from WR_19 by a arterial road. Residential areas bound the northwestern boundary. The reserve will support a fire run which may enter adjoining blocks within the reserve. Radiant heat and smoke may impact residences.	High [intolerable]	FT, PR, PB, CR, VR	High [Intolerable]	RA, BSP, PZ, CE



Appendix F

Nest Box Monitoring and Maintenance Report 2025







Nest Box Monitoring and Maintenance Report (No. 5, December 2024)

Spring Mountain Conservation Area

Prepared for Lendlease Communities (Springfield) Pty Ltd. 14 January 2025



Job Number: 7243

Document Control

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Document Issue

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Acronyms and Abbreviations

EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
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- FMP Fauna Management Plan
- ICC Ipswich City Council
- NCA Nature Conservation Act 1992 (Qld)

Nest Box Locations

- RE Regional Ecosystem
- SEQ South East Queensland
- SHG Saunders Havill Group



Nest Box Monitoring and Maintenance Report (No. 5, December 2024)

1. Introduction

Saunders Havill Group (SHG) was engaged by Lendlease Communities (Springfield) Pty Ltd to prepare this Nest Box Maintenance and Monitoring Report for the nest boxes installed in accordance with the Fauna Management Plan (FMP) (SHG, 2015) associated with the Spring Mountain Estate residential development, located at Sinnathamby Boulevard, Springfield. The development is a master planned residential community with ancillary commercial and retail purposes with designated open space and conservation areas.

The Spring Mountain Estate was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and declared a 'controlled action' (EPBC 2013/7057). The FMP was prepared in accordance with the EPBC Preliminary Documentation submissions and the *Environmental Management Plan Guidelines* (Department of Environment, 2014). The FMP provides technical detail on the management issues and strategies for all fauna, including specific nest box maintenance and management requirements, prior to, during and post-vegetation clearing and construction activities.

1.1. Property Summary

Key site details are provided in **Table 1** below.

Table 1:	Property Summary
----------	------------------

Address	Grande Avenue, Spring Mountain
RPD	753 SP189054 751 SP189053 748 SP189044 747 SP189043 745 SP242282 740 SP179412 705 SP151175 11 S31533
Area	293 hectares (for Lend Lease offset requirements)
Local Government Area	Ipswich City Council (ICC)
Zone	Conservation





1.2. Context

Of the 396 hectare (ha) conservation area, a 293 ha portion has been set aside for Lendlease to fulfil their offset requirements for the Spring Mountain Estate project. Lendlease have the written permission and agreements in place with Springfield Land Corporation (now Springfield City Group) to utilise areas of the existing Conservation Land as it is considered an "advanced offset" under the EPBC Act Environmental Offset Policy for resolutions of impacts created in the Spring Mountain project.

The Offset site (aka Conservation area) adjoins the White Rock-Spring Mountain Conservation Estate as part of the Flinders–Karawatha Bioregional Corridor, providing additional bushland along the edge of these regionally significant habitat areas. The offset is characterised by remnant vegetation made up of Least Concern and Of Concern Regional Ecosystems.

Contextually, the offset area provides the only available public conservation land to form a protected corridor connecting the northern and southern portions. The remaining width of the Flinders-Karawatha Bioregional Corridor is occupied by residential land uses.

1.3. Objectives

The purpose of this report is to detail the continued monitoring and maintenance activities of replacement hollows (i.e. nest boxes) associated within the development of Spring Mountain Estate. To compensate for potential loss of fauna habitat and features, nest boxes have been installed within the conservation area surrounding the Spring Mountain Estate.

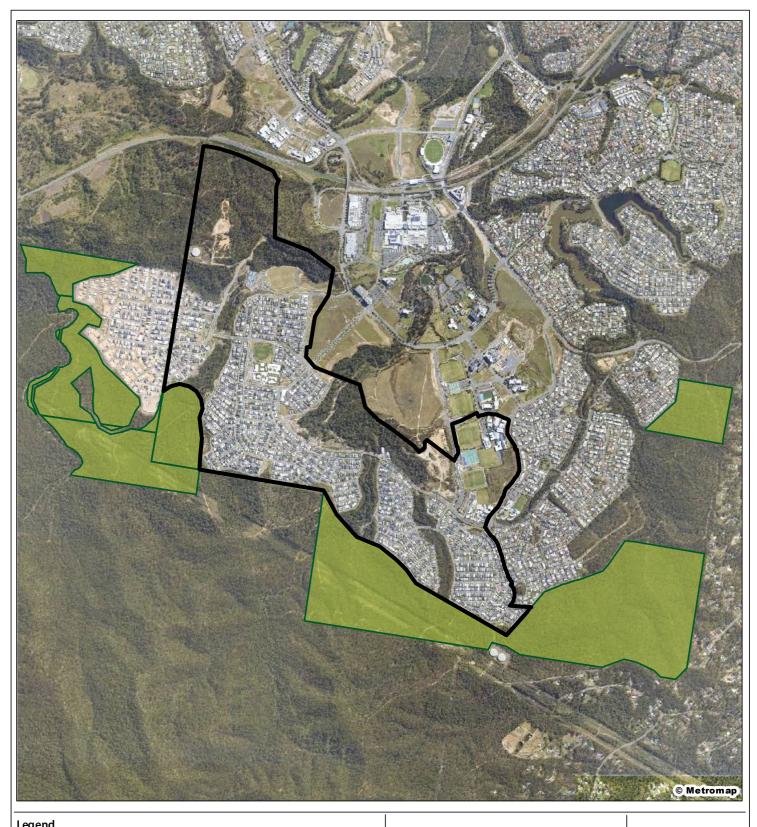
This report aims to detail the monitoring and maintenance of the existing nest boxes installed within the conservation area. Further, this report will provide corrective actions and recommendations where necessary.

This report is designed to be a "dynamic document" which can be continuously updated with every subsequent nest box monitoring and maintenance inspection. The document has been prepared for issue to ICC upon request and will be included within the annual compliance reporting for the EPBC Approval (EPBC 2013/7057).

This report should be read in conjunction with the following documents:

- Annual EPBC Approval Compliance Report;
- FMP, prepared by SHG (2015); and
- Offset Management Plan, prepared by SHG (2015).





Legend

Project area

Project area
Offset Area

Figure 1 Site Aerial	Lend Lease Communities (Springfield) Pty Ltd
File ref. 7243 E Figure 1 ACR8 NB Site Aerial A Date 20/12/2024 Project Springfield Rise, EPBC 2013/7057 (ACR 2024)	Si saunders havill group
0 200 400 600 800 1,000 m Scale (A4): 1:28,500 [GDA 1 994 MGA Z56]	THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OFTHECLENT SUNDARS HAVIL GROUP CANNOT ACCEPT REPORTING TO PARY USE OF OR RELAYCE LOON THE CONTENTS OF THESE DRAWINGS BY ANY THRD MRTY.

2. Nest Box Summary

Natural tree hollows form an important part of many South East Queensland (SEQ) ecosystems. There are at least 134 fauna species in SEQ that are dependent on hollows for survival— including protection from weather and predators and a safe place to eat, sleep and raise young. Natural hollows can take between 80 to 350+ years to develop and form a range of sizes and shapes overtime that suit the requirements of different fauna species. Therefore, the removal of hollow-bearing trees is considered only as a last option.

In circumstances where clearing of hollow-bearing trees cannot be avoided, the installation of nest boxes can provide a functional alternative to natural tree hollows. The lifespan of a nest box is relatively short (usually up to 15 years) compared to natural hollows, and may be complimented by bushland regeneration, to ensure long-term provision of hollow habitat.

Nest box design and installation is highly specialised to suit individual fauna species requirements, and requires: prior knowledge of hollow-dependent fauna at the development and receiving areas; and nest box specifications for target fauna species. Ongoing monitoring and maintenance is also essential to ensure nest boxes are achieving beneficial outcomes for fauna, particularly threatened species.

The environmental values identified within the site are essential to determining the types and optimal installation locations for nest boxes. A brief overview of these values and resulting nest box choice is discussed within the *Nest Box Monitoring and Maintenance Report No. 1* prepared by SHG, dated December 2020.

There are currently nil regulatory guidelines in Queensland for the implementation, monitoring and maintenance of nest boxes. The information in this strategy is based on best knowledge and practices provided on ICC, Moreton Bay Regional Council, Redlands City Council online services and *Nest boxes for wildlife, a practical guide* by Alan and Stacey Franks (2015). The information is intended as a guide and is subject to alteration by the qualified nest box installer.

2.1. Scientific Permits

Fauna surveys were conducted under the following permits held by Saunders Havill Group:

- Scientific Purposes Permit **WA0022007** granted under Section 12(f) of *Nature Conservation* (*Administration*) *Regulation 2017*
- Department of Agriculture and Fisheries Ethics clearance **CA 2020/02/1355**
- Scientific User Registration SUR000451

2.2. Existing Nest boxes

Twenty-seven (27) nest boxes were installed within the Conservation Area on 30 March 2020, including twelve (12) large (possum sized) and fifteen (15) small (parrot sized). The construction and installation of these nest boxes was detailed in the *Nest Box Monitoring and Maintenance Report No. 1* prepared by SHG, dated December 2020.



A further thirty-one (31) nest boxes were installed within the Conservation Area in November 2021, with a variety of nest box sizes including five (5) bat boxes, fifteen (15) antechinus boxes, four (4) possum boxes and seven (7) sugar glider boxes (refer to **Table 2**).

Box ID	Box Size	Longitude	Latitude
1	Large	27°40'47.96"S	152°55'37.52"E
2	Small	27°40'48.33"S	152°55'38.10"E
3	Small	27°40'52.14"S	152°55'39.59"E
4	Small	27°40'52.71"S	152°55'39.97"E
5	Small	27°40'54.83"S	152°55'38.82"E
6	Small	27°40'55.63"S	152°55'38.72"E
7	Small	27°40'56.28"S	152°55'38.53"E
8	Large	27°40'57.75"S	152°55'39.52"E
9	Small	27°41'4.03"S	152°55'37.97"E
10	Large	27°41'5.67"S	152°55'38.37"E
11	Small	27°41'16.61"S	152°55'29.47"E
12	Large	27°41'16.94"S	152°55'29.84"E
13	Small	27°41'17.90"S	152°55'29.53"E
14	Large	27°41'18.09"S	152°55'31.97"E
15	Large	27°41'18.66"S	152°55'32.22"E
16	Large	27°41'18.89"S	152°55'31.74"E
17	Large	27°41'53.24"S	152°55'15.34"E
18	Small	27°41'52.28"S	152°55'15.93"E
19	Large	27°41'53.72"S	152°55'16.20"E
20	Small	27°41'53.83"S	152°55'15.82"E
21	Large	27°41'54.66"S	152°55'16.57"E
22	Small	27°41'54.50"S	152°55'16.15"E
23	Small	27°41'55.00"S	152°55'15.41"E
24	Large	27°41'55.32"S	152°55'13.60"E
25	Large	27°41'54.25"S	152°55'12.52"E
26	Small	27°41'53.69"S	152°55'13.27"E
27	Small	27°41'53.08"S	152°55'14.11"E

Table 2:Nest Box Locations



■ Nest Box Monitoring and Maintenance Report (No. 5, December 2024)

Second Round			
28	Bat	27° 42' 18.44" S	152° 54' 11.10" E
29	Antechinus	27° 42' 11.28" S	152° 53' 49.41" E
30	Possum	27° 42' 10.82" S	152° 53' 49.03" E
31	Sugar glider	27° 42' 10.52" S	152° 53' 49.11" E
32	Sugar glider	27° 41' 57.35" S	152° 53' 43.77" E
33	Antechinus	27° 41' 56.22" S	152° 53' 43.98" E
34	Possum	27° 41' 55.41" S	152° 53' 44.55" E
35	Bat	27° 41' 54.94" S	152° 53' 45.02" E
36	Sugar glider	27° 41' 54.73" S	152° 53' 47.10" E
37	Antechinus	27° 41' 53.85" S	152° 53' 47.41" E
38	Antechinus	27° 41' 52.75" S	152° 53' 47.20" E
39	Antechinus*	27° 41' 53.89" S	152° 53' 45.33" E
40	Sugar glider	27° 41' 55.04" S	152° 53' 43.86" E
41	Antechinus	27° 41' 55.72" S	152° 53' 42.87" E
42	Possum	27° 41' 56.79" S	152° 53' 42.92" E
43	Sugar glider	27° 41' 57.89" S	152° 53' 42.05" E
44	Antechinus	27° 41' 25.33" S	152° 53' 7.20" E
45	Bat	27° 41' 26.81" S	152° 53' 6.28" E
46	Antechinus	27° 41' 26.67" S	152° 53' 6.82" E
47	Sugar glider	27° 41' 24.23" S	152° 53' 8.88" E
48	Possum	27° 41' 23.88" S	152° 53' 9.37" E
49	Antechinus	27° 41' 23.61" S	152° 53' 8.62" E
50	Antechinus	27° 41' 24.12" S	152° 53' 8.39" E
51	Bat	27° 41′ 16.43″ S	152° 52′ 32.53″ E
52	Antechinus	27° 41′ 16.87″ S	152° 52′ 32.70″ E
53	Antechinus	27° 41′ 17.19″ S	152° 52′ 32.77″ E
54	Antechinus	27° 41′ 16.39″ S	152° 52′ 32.65 E
55	Bat	27° 41' 15.57" S	152° 52' 32.04" E
56	Antechinus	27° 41' 15.64" S	152° 52' 31.82" E
57	Sugar glider	27° 41' 16.46" S	152° 52' 31.72" E
58	Antechinus	27° 41' 16.74" S	152° 52' 31.82" E
		1	

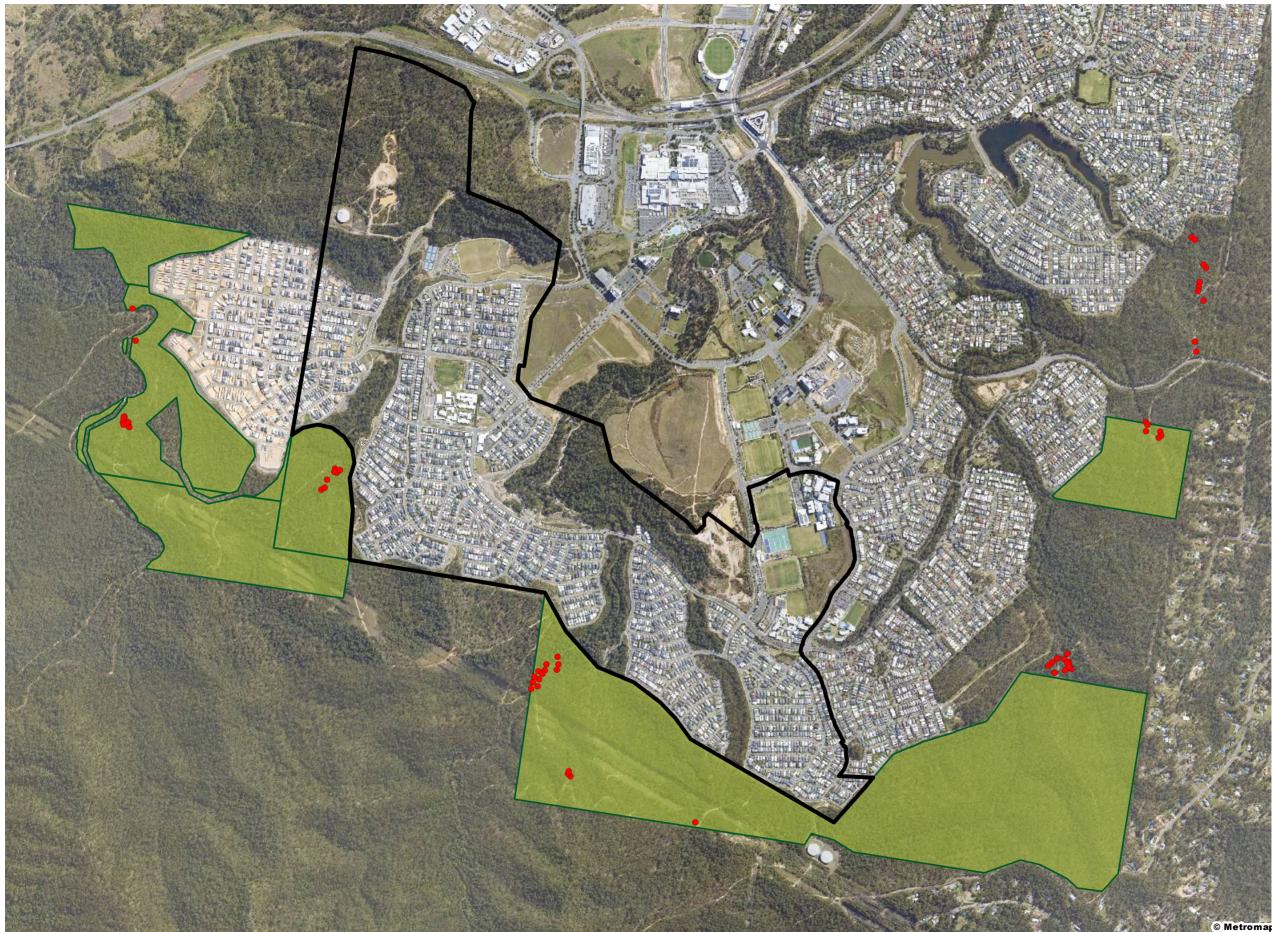
NB Antechinus boxes were recorded as such at time of installation, however the nest box specification at the October 2022 inspection resembled a Glider box.



The proponent has committed to the installation, maintenance and monitoring of these nest boxes to ensure adequate provision of habitat for any displaced fauna. Further, a Nest Box Strategy has been prepared by SHG to provide guidance on future nest boxes to be installed within the conservation area in accordance with FMP, prepared by SHG (2015). This strategy was prepared to provide a functional alternative to natural hollows, once located within the Spring Mountain Estate, and to enhance wildlife habitat in the adjoining Spring Mountain Conservation Area.



Nest Box Locations 1.





Lend Lease Communities (Springfield) Pty Ltd

Springfield Rise - EPBC 2013/7057 20/12/2024 | 7243 E 01 ACR8 Nestbox Locations A



Notes: This plan was prepared as a desktop assessment tool. The information on this plan is not suitable for any other purpose. Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the band Saunders Havil Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document papared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan. Layer Sources @State of Queensland (Department of Resources) 2024. Ltps/fabrialinformation.qld.gov.au/catalogue/ *This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

Legend



Project area

Offset Area

Nest box location

lssue	Date	Description		Drawn	Checked
А	20/12/2024	Preliminary		TC	KR
Ĩ-+	+ + + +	300 400 5	500 m ┫ 56 1:18,000 @ A:	3	

Address / RPD: Springfield, Qld

Nest Box Monitoring and Maintenance Report (No. 5, December 2024)

2.3. Monitoring and Reporting

Following nest box installation, a single page memo or email outlining installed nest box types and location coordinates is to be provided to the Proponent and Environmental Coordinator (information contained within this report). This information will be forwarded to ICC and included within the annual EPBC Approval compliance reporting.

Monitoring is to be undertaken six (6) months post installation, and then annually for ten (10) years from the date of installation. Inspections will identify the following:

- fauna use including target and/or non-target species
- rectification procedures for introduced species. N B. Native predators should not be removed from boxes unless they are endangering a threatened fauna species
- any damage or dieback, or risk to the nest box
- maintenance required.

A monitoring and maintenance pro forma provided in **Appendix A**, or a similar checklist, should be completed during each inspection.

Following each inspection, a report is to be issued within 21 days by the consulting ecologist and issued to the Proponent and Environmental Coordinator. This report will detail the results of the inspection and outline any further measures to improve beneficial outcomes of the strategy for fauna (e.g. eradication of pest species, minor repairs or replacement).

2.4. Monitoring Methodology

The previous occupancy audit inspections were completed utilising the pole-mounted camera monitoring approach to inspect the contents of each box. A visual examination of the exterior of each box was also completed to detect signs of fauna occupancy such as scratch or chew marks. Each inspection was kept to a brief time window to minimise disturbance.

This audit inspection was completed using a wireless nest box inspection camera unit developed by StarWeb. The unit includes an LED illuminator that is wildlife eye safe and is ideal for minimising disturbance. The unit was secured to an extendable aluminium pole with reach of up to 4.5 metres (refer **Photo 1**).

Nest boxes 28, 35, 45, 51 and 55 are designed for Microbat species and were not able to be inspected with the camera unit due to the entry hole being located at the base of the box. Using binoculars, a visual inspection of the box opening located at the base of the box was completed to determine occupancy.



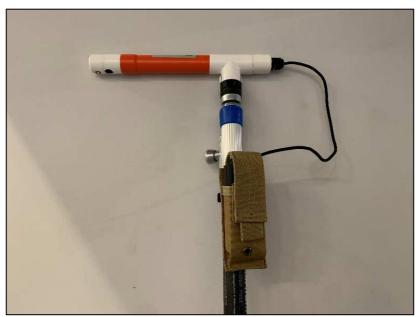


Photo 1: StarWeb Inspection Camera.

2.5. Maintenance Requirements

Maintenance requirements are to be identified during regular inspections and reported to the relevant stakeholders (refer to **Section 2.4**). Damaged boxes are to be repaired or replaced within four weeks of monitoring activities and details of all maintenance work should be submitted to the Proponent and Environmental Coordinator following works. Installed nest boxes will be maintained for a minimum 12 months and/or the remaining life of the committed maintenance period (i.e. 10 years), whichever is greater. The assessment of nest box condition will be described using the condition descriptors below provided within **Table 3**.

Condition	Description
Good	Exterior shows no signs of damage or weathering. No maintenance, repair or replacement is required.
Fair	Exterior shows no signs of damage. Nest box may require maintenance for the removal of blockages or cleaning. Nest box does not need repair or replacement.
Poor	Obvious signs of damage and dilapidation. Nest box requires repair or replacement.

Table 3: Nest Box Condition Categories



Nest Box Monitoring and Maintenance Report (No. 5, December 2024)

2.6. Roles and Responsibilities

This section details the key roles and responsibilities for the works.

2.6.1 Proponent

Lend Lease Communities (Springfield) Ltd is the Proponent for the works.

2.6.2 Environmental Coordinator

SHG is the Environmental Coordinator for the project and is responsible for the development of this report and documentation for overarching environmental management. SHG will be responsible for managing non-compliance by appointed contractors and sub-contractors, including establishing additional management procedures and determining if notification to ICC or the Proponent should be made.

2.6.3 Nest Box Contractor

The Nest Box Contractor is appointed by the Proponent and Environmental Coordinator for the commissioning of, installation, maintenance and monitoring of the nest boxes over the life of the maintenance period. The Nest Box Contractor is required to notify the Proponent and Environmental Coordinator of nest box locations once installed and provide a copy of the reporting schedule and pro forma after each monitoring and maintenance inspection as required under the maintenance, monitoring and reporting schedule (refer **Section 3.3**).

2.7. Maintenance, Monitoring and Reporting Schedule

The nest box strategy phases and roles and responsibilities discussed above have been summarised within the schedule (refer **Table 4**).



Management Item	Responsibility	Deliverable	Timing	Notify	Reporting Schedule
Installation		Y			
Record GPS locations of installed nest box and provide coordinates to the Environmental Coordinator and Proponent.	Nest Box Contractor	Memo or email	Within 14 days of installation	Proponent / Environmental Coordinator	Post installation detailing location and monitoring schedule to be forwarded to ICC upon request and included within annual EPBC Approval compliance reporting (Dec/Jan)
Maintenance and Monitoring					
Nest boxes are to be monitored for 10 years. Monitoring activities will capture the following details:	Nest Box Contractor	Monitoring pro forma	6 months post installation, then annually until the end of year 10	Proponent / Environmental Coordinator	Annual - EPBC Approval compliance reporting (Dec/Jan) and forwarded to ICC upon request
 Tree condition (i.e. dieback or risk to nest box) Box condition and/or maintenance required Fauna use (target and/or non-target species) Rectification procedures for introduced species Other notable observations 					
 Nest boxes are to be maintained for 10 years. Maintenance activities include, but are not limited to, the following: Repairs or replacement to damaged nest boxes The removal of invasive species The removal of obstructions 					
Reporting Schedule and Pro forma					
A reporting schedule and pro forma must be completed to report all nest box maintenance and monitoring activities throughout the monitoring and maintenance period. A copy of the reporting schedule and pro forma must	Nest Box Contractor	Monitoring pro forma	Annually until the end of year 10	Proponent / Environmental Coordinator	Annual - EPBC Approval compliance reporting (Dec/Jan) and forwarded to ICC upon request

Table 4: Maintenance, Monitoring and Reporting Schedule

be provided to the Environmental Coordinator and Proponent.

3. Monitoring Results Summary

An inspection of each nest box was conducted by two (2) ecologists from SHG on 10 and 11 December 2024. The inspection recorded the following details of each nest box:

- GPS location,
- Size,
- Condition,
- Occupancy, and
- Maintenance or corrective actions required.

The nest box monitoring pro forma was utilised for the monitoring and the data sheets are provided within **Appendix A**.

The monitoring event in December 2024 revealed that 57 of 58 nest boxes appear in good structural condition. Nest box fifteen (15) was in poor condition with no lid on the nest box. Fifteen (15) nest boxes were occupied by ants, five (5) with spiders, four (4) with insect mud nests and one (1) with an external caterpillar nest. Four (4) nest boxes were recorded on angles, one (1) nest box was identified to have Australian native stingless bees nest present, one (1) looked to have an internal screw exposed and one (1) nest box the tree has died.

One (1) of the boxes were unable to be assessed for occupation, as they have been positioned too high to safely access by the SHG ecologists alone. However, any external signs of use or notable observations were recorded.

Ten (10) *Trichosurus vulpecula* (Brushtail Possum), two (2) *Phascogale tapoatafa* (Brush-tailed Phascogale), one (1) *Petaurus norfolcensis* (Squirrel Glider) and one (1) *Aegotheles cristatus* (Owlet-nightjar) were observed utilising the nest boxes. Nesting materials in the form of leaf litter, saw shavings and feathers were present in twenty-seven (27) nest boxes.

A summary of the monitoring results is provided in Table 5.

Box ID	Box Size	Date Installed	Species observed/ signs of use	Pests	Box Condition	Maintenance / Corrective Actions Required
1	Large	2020.03.30	Leaf litter present	-	Good	-
2	Small	2020.03.30	Leaf litter present	Ants and a caterpillar nest present on underside of nest box.	Good	-

Table 5: Monitoring Results Summary October 2023



Box ID	Box Size	Date Installed	Species observed/ signs of use	Pests	Box Condition	Maintenance / Corrective Actions Required
3	Small	2020.03.30	Leaf litter	Ants	Good	-
4	Small	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	-
5	Small	2020.03.30	Saw shavings present	-	Good	-
6	Small	2020.03.30	No nesting material	Ants	Good	-
7	Small	2020.03.30	No nesting material	-	Good	-
8	Large	2020.03.30	No nesting material	-	Good	-
9	Small	2020.03.30	Leaf litter present	-	Good	-
10	Large	2020.03.30	No nesting material	-	Good	-
11	Small	2020.03.30	Leaf litter present	-	Good	-
12	Large	2020.03.30	Trichosurus vulpecula Brushtail Possum	-	Good	-
13	Small	2020.03.30	Trichosurus vulpecula Brushtail Possum	-	Poor	Replace Lid
14	Large	2020.03.30	No nesting material Nest box on angle	Mud wasp nest	Good	Reposition
15	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	-
16	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum Nest box on angle	-	Good	Reposition
17	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	-
18	Small	2020.03.30	Leaf litter present	-	Good	-
19	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	-
20	Small	2020.03.30	Leaf litter present	-	Good	-
21	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	-



Box ID	Box Size	Date Installed	Species observed/ signs of use	Pests	Box Condition	Maintenance / Corrective Actions Required
22	Small	2020.03.30	Exposed screw internally Leaf litter present	-	Good	-
23	Small	2020.03.30	Leaf litter present	-	Good	-
24	Large	2020.03.30	Leaf litter present	-	Good	-
25	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	-
26	Small	2020.03.30	Leaf litter present Nest box on angle	Ants	Good	Reposition
27	Small	2020.03.30	Leaf litter present Nest box on angle	-	Good	Reposition
28	Bat	2022.11.15	No nesting material	-	Good	-
29	Antechinus	2022.11.15	Leaf litter	-	Good	-
30	Possum	2022.11.15	Leaf litter present	Spider	Good	-
31	Sugar glider	2022.11.15	Aegotheles cristatus Owlet Nightjar	-	Good	-
32	Sugar glider	2022.11.15	Leaf litter present	Ants	Good	-
33	Antechinus	2022.11.15	Petaurus norfolcensis Squirrel Gliders	-	Good	-
34	Possum	2022.11.15	Phascogale tapoatafa Brushtail Phascogale	-	Good	-
35	Bat	2022.11.15	Spider webs and insect nests present internally	Spider & insects	Good	-
36	Sugar glider	2022.11.15	Ant infestation	Ants	Good	-
37	Antechinus	2022.11.15	Leaf litter present	-	Good	-
38	Antechinus	2022.11.15	Ant infestation Leaf litter present	Ants	Good	-
39	Antechinus	2022.11.15	Leaf litter present	Ants	Good	-
40	Sugar glider	2022.11.15	Leaf litter present	Ants	Good	-



Box ID	Box Size	Date Installed	Species observed/ signs of use	Pests	Box Condition	Maintenance / Corrective Actions Required
41	Antechinus	2022.11.15	Ant infestation	Ants	Good	-
42	Possum	2022.11.15	Leaf litter present Insect mud nest internally	-	Good	-
43	Sugar glider	2022.11.15	Leaf litter present	Spider	Good	-
44	Antechinus	2022.11.15	Ant infestation	Ants	Good	-
45	Bat	2022.11.15	Mud nest internally	Insects	Good	-
46	Antechinus	2022.11.15	Ants nesting in box	Ants	Good	-
47	Sugar glider	2022.11.15	Leaf litter present Ants present	Ants	Good	-
48	Possum	2022.11.15	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	-
49	Antechinus	2022.11.15	No nesting material	-	Good	Tree has died
50	Antechinus	2022.11.15	Leaf litter present Mud nest internally	Insects	Good	Mud nest is development of a native stingless bee hive
51	Bat	2022.11.15	Spiders	Spider	Good	-
52	Antechinus	2022.11.15	<i>Phascogale tapoatafa</i> Brushtail Phascogale	-	Good	-
53	Antechinus	2022.11.15	Leaf litter present	Ants	Good	-
54	Antechinus	2022.11.15	Leaf litter present	Ants	Good	-
55	Bat	2022.11.15	No nesting material	-	Good	-
56	Antechinus	2022.11.15	Leaf litter present	-	Good	-
57	Sugar glider	2022.11.15	Leaf Litter present	-	Good	-
58	Antechinus	2022.11.15	Unreachable	-	Good	_



■ Nest Box Monitoring and Maintenance Report (No. 5, December 2024)

3.1. Corrective Actions and Recommendations

As discussed above, five (5) nest boxes require corrective actions, where four (4) require potential repositioning (#14, #16, #26 and #27). One (1) nest box required replacement with the lid/roof missing on the nest box (#13). From this inspection the nest boxes are to be adjusted or secured, to restore functionality.

It is recommended that nest boxes requiring attention are seen to prior to September 2024 (i.e Spring).

As a result of inspection findings the nest box monitoring pro forma has been updated to increase recording of observations.



4. Site Contacts

Role	Contact Details
Proponent	Lend Lease Communities (Springfield) Pty Ltd (07) 3027 3000
Environmental Coordinator	Amy Westman Saunders Havill Group Ph. (07) 3251 9480
Council	lpswich City Council 45 Roderick Street, Ipswich, QLD 4305 Ph. (07) 3810 6666
Nest Box Contractor	Evolve Environmental Solutions John White (07) 3124 7200
Veterinarian (in closest proximity to application site)	 Springfield Lakes Pet and Vet 1 Springfield Lakes Boulevard, Springfield Lakes, 4300 Mon, Wed & Fri: 7:00am – 6:00pm, Tues & Thurs: 7.00am – 7.00pm, Sat: 7:00am – 3:00pm Ph. (07) 3818 4119 After Hours Contact: Animals Emergency Service, Cnr Lexington & Logan Rd, Underwood Ph. (07) 3423 1888
Queensland Parks and Wildlife Services	South East 60 Mount Nebo Road, The Gap QLD 4061 Ph. (07) 35122300
Department of Environment and Science	For wildlife incidents and licensing and permits: Ph. 1300 130 372
RSPCA Queensland	For reporting injured, sick or orphaned wildlife: Ph. 1300 ANIMAL (1300 264 625)



5. Summary

This report details the continued monitoring of the nest boxes installed in March 2020 with further nest boxes installed November 2021 in the Spring Mountain Conservation Area. A total of 58 nest boxes were installed and the monitoring event in October 2023 revealed that:

- Four (4) nest boxes (#14, #16, #26 and #27) requiring further attention to reorientate/secure the units; and
- One (1) nest box (#13) requires replacement as there is damage to the lid/roof of the nest box.

It is recommended that nest boxes requiring attention are seen to prior to September 2025.

The next monitoring inspection is scheduled for October 2025.



■ Nest Box Monitoring and Maintenance Report (No. 5, December 2024)

6. Appendices

Appendix A

Monitoring Data Sheets (December 2024)



Appendix A

Monitoring Data Sheets (December 2024)







			Nest Box Mo	nitoring Sheet 1		
Obse	rver: XGJ, LF &	k TM				
	10-11/12/24		Springfield Conservati			
Time:	8am – 3pm	Weather C	onditions: Overcast an	d Rain		
Box ID	Box Size	Date Installed	Species observed/ signs of use	Pests	Box Conditi on	Maintenance/Corrective Actions Required
1	Large	2020.03.30	Leaf litter	-	Good	
2	Small	2020.03.30	Leaf litter	Ants and a caterpillar nest present on underside of nest box.	Good	
3	Small	2020.03.30	Leaf litter	Ants	Good	
4	Small	2020.03.30	Trichosurus vulpecula Brushtail Possum	-	Good	
5	Small	2020.03.30	Saw shavings	-	Good	
6	Small	2020.03.30	No nesting material	Ants	Good	
7	Small	2020.03.30	No nesting material	-	Good	
8	Large	2020.03.30	No nesting material	-	Good	
9	Small	2020.03.30	Leaf litter	-	Good	
10	Large	2020.03.30	No nesting material	-	Good	
11	Small	2020.03.30	Leaf litter	-	Good	
12	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	
13	Small	2020.03.30	Trichosurus vulpecula Brushtail Possum	-	Poor	Replace Lid
14	Large	2020.03.30	No nesting material	Mud Wasp Nests	Good	Reposition
15	Small	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	
16	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum Nest box on angle	-	Good	Reposition
17	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	
18	Small	2020.03.30	Leaf litter	-	Good	
19	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	

Box ID	Box Size	Date Installed	Species observed/ signs of use	Pests	Box Conditi on	Maintenance/Corrective Actions Required
20	Small	2020.03.30	Leaf litter	-	Good	
21	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	
22	Small	2020.03.30	Leaf litter Exposed screw internally	-	Good	
23	Small	2020.03.30	Leaf litter	-	Good	
24	Large	2020.03.30	Leaf litter	-	Good	
25	Large	2020.03.30	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	
26	Small	2020.03.30	Leaf litter	Ants	Good	Reposition
27	Small	2020.03.30	Leaf litter	-	Good	Reposition
28	Bat	2022.11.15	No nesting material	-	Good	
29	Antechinus	2022.11.15	Leaf litter	-	Good	
30	Possum	2022.11.15	Leaf litter	-	Good	
31	Sugar glider	2022.11.15	Aegotheles cristatus Owlet Nightjar	-	Good	
32	Sugar glider	2022.11.15	Leaf litter	Ants	Good	
33	Antechinus	2022.11.15	Petaurus norfolcensis Squirrel Gliders	-	Good	
34	Possum	2022.11.15	Phascogale tapoatafa Brushtail Phascogale	-	Good	
35	Bat	2022.11.15	Spider webs and insect nests	Spider & insects	Good	
36	Sugar glider	2022.11.15	Ant infestation	Ants	Good	
37	Antechinus	2022.11.15	Leaf litter	-	Good	
38	Antechinus	2022.11.15	Leaf litter Ant infestation	Ants	Good	
39	Antechinus	2022.11.15	Leaf litter	Ants	Good	
40	Sugar glider	2022.11.15	Leaf litter	Ants	Good	
41	Antechinus	2022.11.15	Ant infestation	Ants	Good	

Box ID	Box Size	Date Installed	Species observed/ signs of use	Pests	Box Conditi on	Maintenance/Corrective Actions Required
42	Possum	2022.11.15	Leaf litter Insect mud nest internally	-	Good	
43	Sugar glider	2022.11.15	Leaf litter	Spider	Good	
44	Antechinus	2022.11.15	Ant infestation	Ants	Good	
45	Bat	2022.11.15	Mud nest internally	Insects	Good	
46	Antechinus	2022.11.15	Ant nest	Ants	Good	
47	Sugar glider	2022.11.15	Leaf litter	Ants	Good	
48	Possum	2022.11.15	<i>Trichosurus vulpecula</i> Brushtail Possum	-	Good	
49	Antechinus	2022.11.15	No nesting material	-	Good	Tree has now died and is a stag
50	Antechinus	2022.11.15	Leaf litter Insect mud nest internally	Insects	Good	Development of a native bee hive
51	Bat	2022.11.15	Spiders	Spiders	Good	
52	Antechinus	2022.11.15	Phascogale tapoatafa Brushtail Phascogale	-	Good	
53	Antechinus	2022.11.15	Leaf litter	Ants	Good	
54	Antechinus	2022.11.15	Leaf litter	Ants	Good	
55	Bat	2022.11.15	No nesting material	_	Good	
56	Antechinus	2022.11.15	Leaf Litter	-	Good	
57	Sugar glider	2022.11.15	Leaf Litter	-	Good	
58	Antechinus	2022.11.15	Unreachable	-	Good	

Nest Box Monitoring Sheet 2					
Maintenance Checklist of Nest Box ID: Box 1	Correct	Incorrect	Other		
1. Box is not occupied by pest species	\checkmark				
2. Box is not vandalised or missing	\checkmark				
3. Box is securely attached with slight lean forward	\checkmark				
4. Box is located at optimal height	\checkmark				
5. Box is not damaged or rotten	\checkmark				
6. The foot holds/ladder in interior of box for young is intact	\checkmark				
7. There are no blockages in drainage holes	\checkmark				
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark				
9. Nesting materials have been replaced to cover floor of box	\checkmark				
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark				
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark				
Other Comments					
Leaf litter present.					



Nest Box Monitoring Sheet 2					
Maintenance Checklist of Nest Box ID: Box 2	Correct	Incorrect	Other		
1. Box is not occupied by pest species	\checkmark				
2. Box is not vandalised or missing	\checkmark				
3. Box is securely attached with slight lean forward	\checkmark				
4. Box is located at optimal height	\checkmark				
5. Box is not damaged or rotten	\checkmark				
6. The foot holds/ladder in interior of box for young is intact	\checkmark				
7. There are no blockages in drainage holes	\checkmark				
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark				
9. Nesting materials have been replaced to cover floor of box	\checkmark				
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark				
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark				
Other Comments		•	•		

Other Comments

Leaf litter present. Caterpillar nest present on underside of box. Ant nest present inside box



Nest Box Monitoring Sheet 2					
Maintenance Checklist of Nest Box ID: Box 3	Correct	Incorrect	Other		
1. Box is not occupied by pest species	\checkmark				
2. Box is not vandalised or missing	\checkmark				
3. Box is securely attached with slight lean forward	\checkmark				
4. Box is located at optimal height	\checkmark				
5. Box is not damaged or rotten	\checkmark				
6. The foot holds/ladder in interior of box for young is intact	\checkmark				
7. There are no blockages in drainage holes	\checkmark				
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark				
9. Nesting materials have been replaced to cover floor of box	\checkmark				
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark				
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark				
Other Comments	•	•			
Saw shavings present. Ants also present					





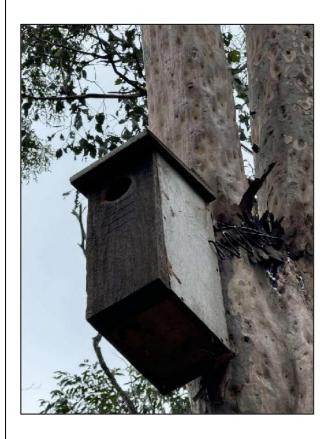
Nest Box Monitoring Sheet 2					
Maintenance Checklist of Nest Box ID: Box 4	Correct	Incorrect	Other		
1. Box is not occupied by pest species	\checkmark				
2. Box is not vandalised or missing	\checkmark				
3. Box is securely attached with slight lean forward	\checkmark				
4. Box is located at optimal height	\checkmark				
5. Box is not damaged or rotten	\checkmark				
6. The foot holds/ladder in interior of box for young is intact	\checkmark				
7. There are no blockages in drainage holes	\checkmark				
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark				
9. Nesting materials have been replaced to cover floor of box	\checkmark				
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark				
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark				
Other Comments	•				
Brushtail Possum (Trichosurus vulpecula) Present					





Nest Box Monitoring Sheet 2					
Maintenance Checklist of Nest Box ID: Box 5	Correct	Incorrect	Other		
1. Box is not occupied by pest species	\checkmark				
2. Box is not vandalised or missing	\checkmark				
3. Box is securely attached with slight lean forward	\checkmark				
4. Box is located at optimal height	\checkmark				
5. Box is not damaged or rotten	\checkmark				
6. The foot holds/ladder in interior of box for young is intact	\checkmark				
7. There are no blockages in drainage holes	\checkmark				
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark				
9. Nesting materials have been replaced to cover floor of box	\checkmark				
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark				
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark				
Other Comments	•				

Saw shavings present.





Nest Box Monitoring Sheet 2					
Maintenance Checklist of Nest Box ID: Box 6	Correct	Incorrect	Other		
1. Box is not occupied by pest species	\checkmark				
2. Box is not vandalised or missing	\checkmark				
3. Box is securely attached with slight lean forward	\checkmark				
4. Box is located at optimal height	\checkmark				
5. Box is not damaged or rotten	\checkmark				
6. The foot holds/ladder in interior of box for young is intact	\checkmark				
7. There are no blockages in drainage holes	\checkmark				
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark				
9. Nesting materials have been replaced to cover floor of box		\checkmark			
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark				
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark				
Other Comments					

No nesting material. Rattle Ant nest inside box.





Nest Box Monitoring Sheet 2					
Maintenance Checklist of Nest Box ID: Box 7	Correct	Incorrect	Other		
1. Box is not occupied by pest species	\checkmark				
2. Box is not vandalised or missing	\checkmark				
3. Box is securely attached with slight lean forward	\checkmark				
4. Box is located at optimal height	\checkmark				
5. Box is not damaged or rotten	\checkmark				
6. The foot holds/ladder in interior of box for young is intact	\checkmark				
7. There are no blockages in drainage holes	\checkmark				
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark				
9. Nesting materials have been replaced to cover floor of box		\checkmark			
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark				
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark				
Other Comments	•	•			

No nesting material present covering the floor of the box.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 8	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box		\checkmark	
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Minor leaf litter present in corners





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 9	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Nesting material present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 10	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box		\checkmark	
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

No nesting material present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 11	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Leaf litter present.

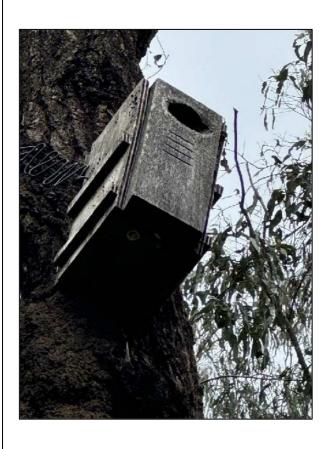




Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 12	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			
Brushtail Possums			



Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 13	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box	\checkmark			
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark			
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
Other Comments				
Brushtail Possums.				





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 14	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward		\checkmark	Reposition
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	

No indication of nesting. Mud wasp Nests





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 15	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten		\checkmark	
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Brushtail Possum. Box missing its lid.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 16	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward		\checkmark	Reposition
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Brushtail Possum.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 17	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Brushtail Possum





Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 18	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box	\checkmark			
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark			
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
Other Comments				

Leaf litter present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 19	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	

Brushtail Possum.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 20	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	
Leaf litter present			





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 21	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		
Brushtail Possum.			



Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 22	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	

Leaf litter present. Internally exposed screw.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 23	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Leaf litter present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 24	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Leaf litter and geckos.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 25	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	

Brushtail Possums.



Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 26	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward		\checkmark	Reposition
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	•
Leaf litter present. Ants present			





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 27	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward		\checkmark	Reposition
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	•
Other Comments			

Leaf litter present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 28 – Bat box	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	n/a		
10. All soiled materials like old shavings, membrane, egg shells have been removed	n/a		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 29	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	

Leaf litter present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 30	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Leaf litter present. Spider-webs on entrance.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 31	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		
		I	

Owlet Nightjar and termite nest.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 32	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Ant infestation and leaf litter.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 33	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Squirrel gliders.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 34	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Brushtail phascogale





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 35 – Bat box	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	n/a		
10. All soiled materials like old shavings, membrane, egg shells have been removed	n/a		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Other Comments

No nesting material present. Spider-webs and insect nests present.



Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 36	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box		\checkmark	
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Ant infestation.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 37	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Leaf litter present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 38	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box		\checkmark	
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

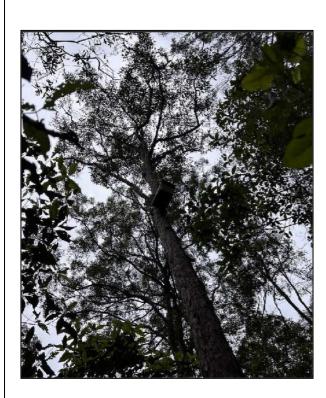
Ant infestation.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 39	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Leaf litter present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 40	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Leaf litter and Ants present





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 41	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Ant infestation.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 42	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Leaf litter present. Insect mud nest present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 43	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	

Leaf litter present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 44	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box		\checkmark	
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		
Ant infestation.			





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 45 – Bat box	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	n/a		
10. All soiled materials like old shavings, membrane, egg shells have been removed	n/a		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments		•	

Insects present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 46	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box		\checkmark	
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

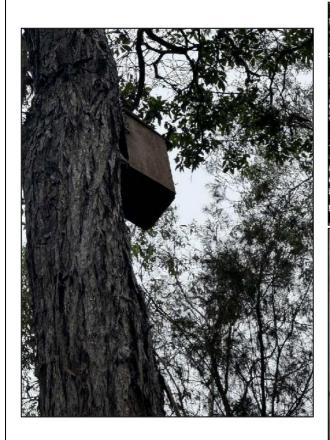
Ant infestation.





 Maintenance Checklist of Nest Box ID: Box 47 1. Box is not occupied by pest species 2. Box is not vandalised or missing 3. Box is securely attached with slight lean forward 	Correct ✓ ✓	Incorrect	Other
2. Box is not vandalised or missing			
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	

Leaf litter present. Ant infestation.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 48	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Leaf litter present.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 49	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box		\checkmark	
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments			

Tree has now died and now considered a stag.





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 50	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•		

Insect mud nest present. Leaf litter present. Native Bee Hive Present





Nest Box Monitoring Sheet 2			
Maintenance Checklist of Nest Box ID: Box 51 – Bat box	Correct	Incorrect	Other
1. Box is not occupied by pest species	\checkmark		
2. Box is not vandalised or missing	\checkmark		
3. Box is securely attached with slight lean forward	\checkmark		
4. Box is located at optimal height	\checkmark		
5. Box is not damaged or rotten	\checkmark		
6. The foot holds/ladder in interior of box for young is intact	\checkmark		
7. There are no blockages in drainage holes	\checkmark		
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark		
9. Nesting materials have been replaced to cover floor of box	n/a		
10. All soiled materials like old shavings, membrane, egg shells have been removed	n/a		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark		
Other Comments	•	•	

Spiders.





Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 52	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box	\checkmark			
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark			
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
Other Comments				

Brushtail phascogale.





Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 53	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box	\checkmark			
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark			
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
Other Comments	•			
Leaf litter and Ants presence.				





Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 54	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box		\checkmark		
10. All soiled materials like old shavings, membrane, egg shells have been removed		\checkmark		
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
Other Comments	-			

Leaf litter and ants present.





Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 55 – Bat box	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box	n/a			
10. All soiled materials like old shavings, membrane, egg shells have been removed	n/a			
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
Other Comments	•			

No nesting material present.





Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 56	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box	\checkmark			
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark			
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
Other Comments	•			

Leaf Litter.



Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 57	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box	\checkmark			
10. All soiled materials like old shavings, membrane, egg shells have been removed	\checkmark			
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
Other Comments				

Leaf litter present.



Nest Box Monitoring Sheet 2				
Maintenance Checklist of Nest Box ID: Box 58 – Bat box	Correct	Incorrect	Other	
1. Box is not occupied by pest species	\checkmark			
2. Box is not vandalised or missing	\checkmark			
3. Box is securely attached with slight lean forward	\checkmark			
4. Box is located at optimal height	\checkmark			
5. Box is not damaged or rotten	\checkmark			
6. The foot holds/ladder in interior of box for young is intact	\checkmark			
7. There are no blockages in drainage holes	\checkmark			
8. Entrance hole is free from obstruction and not damaged or worn	\checkmark			
9. Nesting materials have been replaced to cover floor of box	n/a			
10. All soiled materials like old shavings, membrane, egg shells have been removed	n/a			
11. Box is aligned away from prevailing winds, rain and excessive heat	\checkmark			
		•		

Other Comments

Unreachable due to nest box position on the tree. Box appears in good condition from outside.



Appendix G SAT Results – Year 1 to Year 8





Annual Compliance Report

Survey Year	SAT site no.	Evidence of koala use (%)	Koala use (high/medium/low)
1	1	10.00	Low
1	2	13.33	Low
1	3	10.00	Low
1	4	6.67	Low
1	5	6.67	Low
1	6	6.67	Low
1	7	3.33	Low
2	1	0.00	Low
2	2	0.00	Low
2	3	0.00	Low
2	4	0.00	Low
2	5	0.00	Low
2	6	6.67	Low
2	7	0.00	Low
2	8	3.33	Low
2	9	0.00	Low
2	10	0.00	Low
2	11	0.00	Low
2	12	0.00	Low
2	13	3.33	Low
2	14	13.33	Low
2	15	3.33	Low
2	16	0.00	Low
2	17	0.00	Low
2	18	13.33	Low
2	19	3.33	Low
2	20	3.33	Low
2	21	0.00	Low
2	22	0.00	Low
2	23	0.00	Low
2	24	43.33	High
2	25	10.00	Low
2	26	3.33	Low
2	27	0.00	Low
2	28	3.33	Low
2	29	0.00	Low



Survey Year	SAT site no.	Evidence of koala use (%)	Koala use (high/medium/low)
2	30	3.33	Low
3	1	3.33	Low
3	2	6.67	Low
3	3	13.33	Low
3	4	3.33	Low
3	5	0	Low
3	6	0	Low
3	7	13.33	Low
3	8	13.33	Low
3	9	20	Low
3	10	6.67	Low
3	11	0	Low
3	12	10	Low
3	13	33.33	High
3	14	0	Low
3	15	6.67	Low
3	16	10	Low
3	17	6.67	Low
3	18	0	Low
3	19	0	Low
3	20	13.33	Low
3	21	0	Low
3	22	0	Low
3	23	0	Low
3	24	0	Low
3	25	0	Low
3	26	3.33	Low
3	27	23.33	Medium
3	28	3.33	Low
3	29	20	Low
4	1	0	Low
4	2	3.33	Low



Annual Compliance Report

Survey Year	SAT site no.	Evidence of koala use (%)	Koala use (high/medium/low)
4	3	13.33	Low
4	4	0	Low
5	1	3.33	Low
5	2	10.00	Low
5	3	10.00	Low
5	4	0	Low
5	5	0	Low
5	6	6.67	Low
5	7	3.33	Low
5	8	0	Low
5	9	3.33	Low
7	1	16.67	Low
7	2	0	Low
7	3	3.33	Low
7	4	0	Low
7	5	0	Low
7	6	0	Low
7	7	10.00	Low
7	8	6.67	Low
7	9	6.67	Low
7	10	20	Medium
8	1	0	Low
8	2	0	Low
8	3	3.33	Low
8	4	3.33	Low
8	5	0	Low
8	6	0	Low
8	7	10.00	Low
8	8	0	Low
8	9	0	Low

Appendix

Appendix H Weed Management Plans

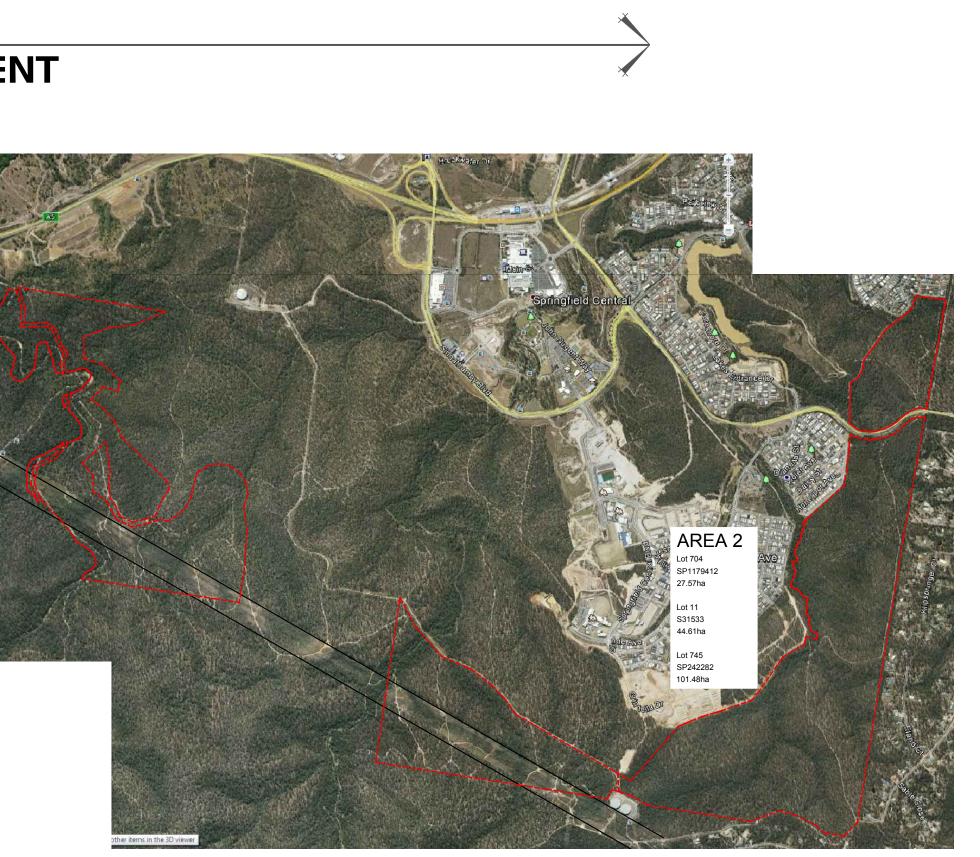


Spring Mountain Precinct AREA 2 WEED MANAGEMENT

ISSUE A 13.11.2017 PRELIMINARY ISSUE

DRAWING SCHEDULE

Dwg No.	Drawing Title	Issue	Date
7243 L 201	Weed Management Plan - Cover Sheet	А	13/11/2017
7243 L 202	Weed Management Plan - Introduction	A	13/11/2017
7243 L 203	Weed Management Plan - Sheet 1	А	13/11/2017
7243 L 204	Weed Management Plan - Sheet 2	А	13/11/2017
7243 L 205	Weed Management Plan - Sheet 3	А	13/11/2017
7243 L 206	Weed Management Plan - Sheet 4	А	13/11/2017
7243 L 207	Weed Management Plan - Sheet 5	А	13/11/2017
7243 L 208	Weed Management Plan - Sheet 6	А	13/11/2017
7243 L 209	Weed Management Plan - Sheet 7	А	13/11/2017
7243 L 210	Weed Management Plan - Sheet 8	А	13/11/2017
7243 L 211	Weed Management Plan - Sheet 9	А	13/11/2017
7243 L 212	Weed Management Plan - Sheet 10	А	13/11/2017
7243 L 213	Weed Management Plan - Technical Notes	А	13/11/2017
7243 L 214	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 215	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 216	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 217	Weed Management Plan - Monitoring & Reporting	А	13/11/2017





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AMEN Issue	DMENTS: Date	Description	Checked
А	13/11/2017	Preliminary Issue	MS

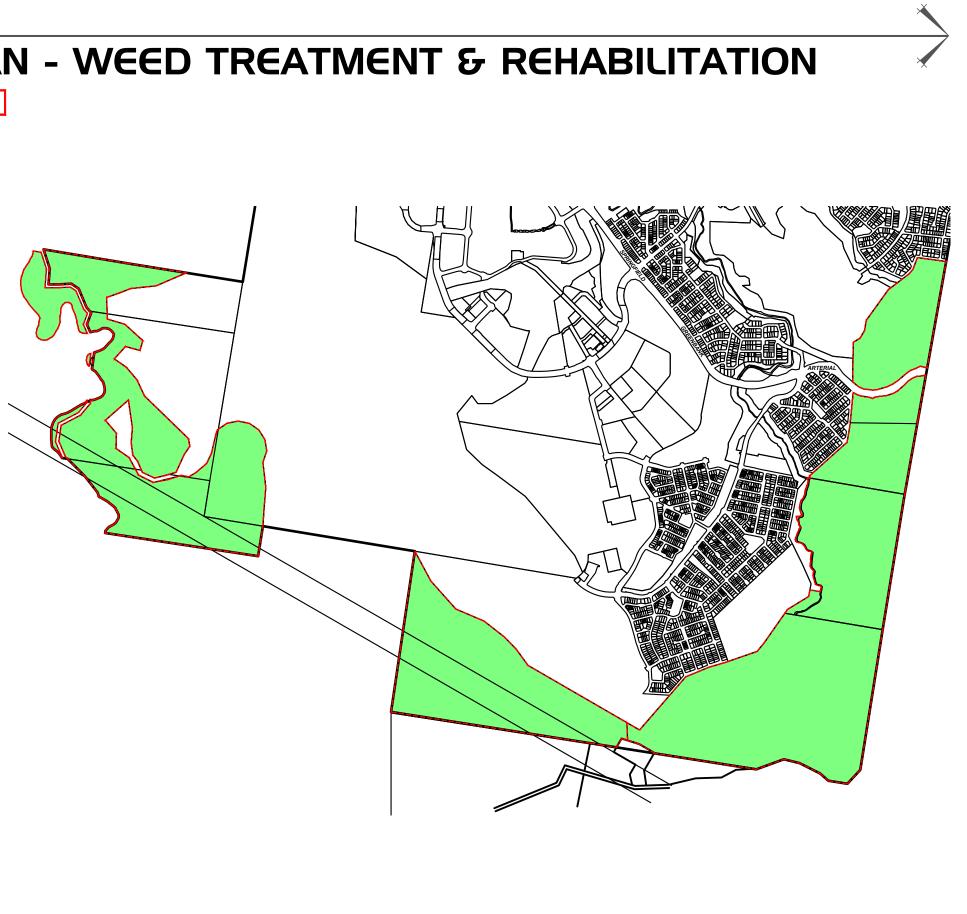
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Lendlease	DRAWING: Area 2 Weed Management Plan Cover Sheet		
ROJECT: Spring Mountain Precinct			
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AREA 2 MANAGEMENT PLAN - WEED TREATMENT & REHABILITATION

INTRODUCTION

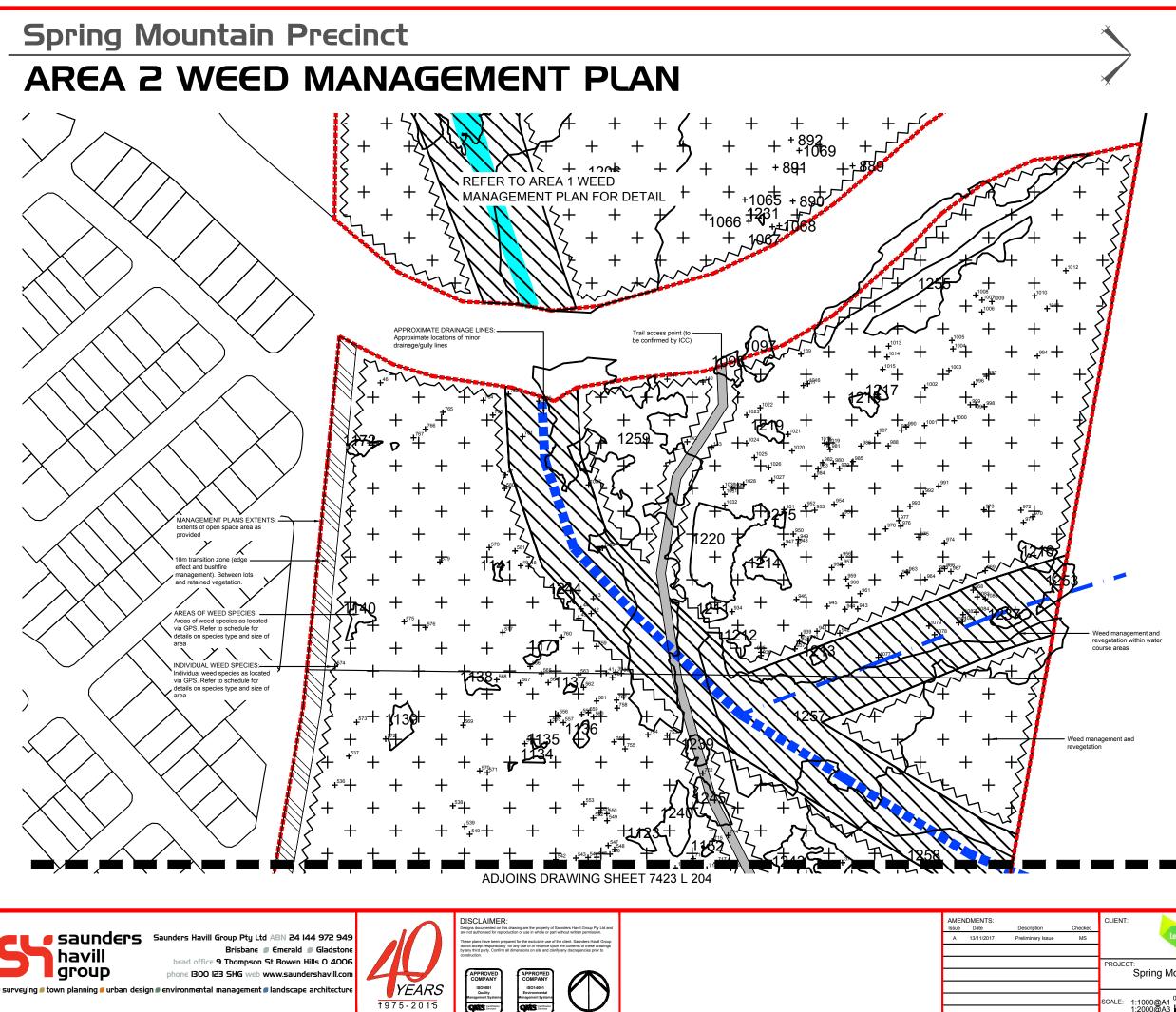
NOTES

This Weed Management Plan



Saunders Havill Group Pty Ltd ABN 24 144 972 949 Brisbane © Emerald © Gladstone havill brad office 9 Thompson St Rowen Hills 0 4006		DISCLAIMER: Designs documented on this drawing are the property of Saunders Havill Group Pty Ltd and are not authorized for reproduction or use in which or part without written permission. These plans have been prepared for the exclusive use of the client. Saunders Havill Group do not accept responsibility for any use of or reliance upon the contents of these diawings contraction.	AMENDMENTS: Issue Date A 13/11/2017	Description Preliminary Issue	Checked MS
phone I300 I23 SHG web www.saundershavill.com		APPROVED COMPANY COMPANY			
🟉 surveying 🟉 town planning 🕖 urban design 🖉 environmental management 🗩 landscape architecture	YEARS	ISO9001 ISO14001 Quality Environmental			ł
	1975-2015	Management Systems Management Systems Objects: Certification Objects: Certification Objects: Certification			ę
	1070 2010				

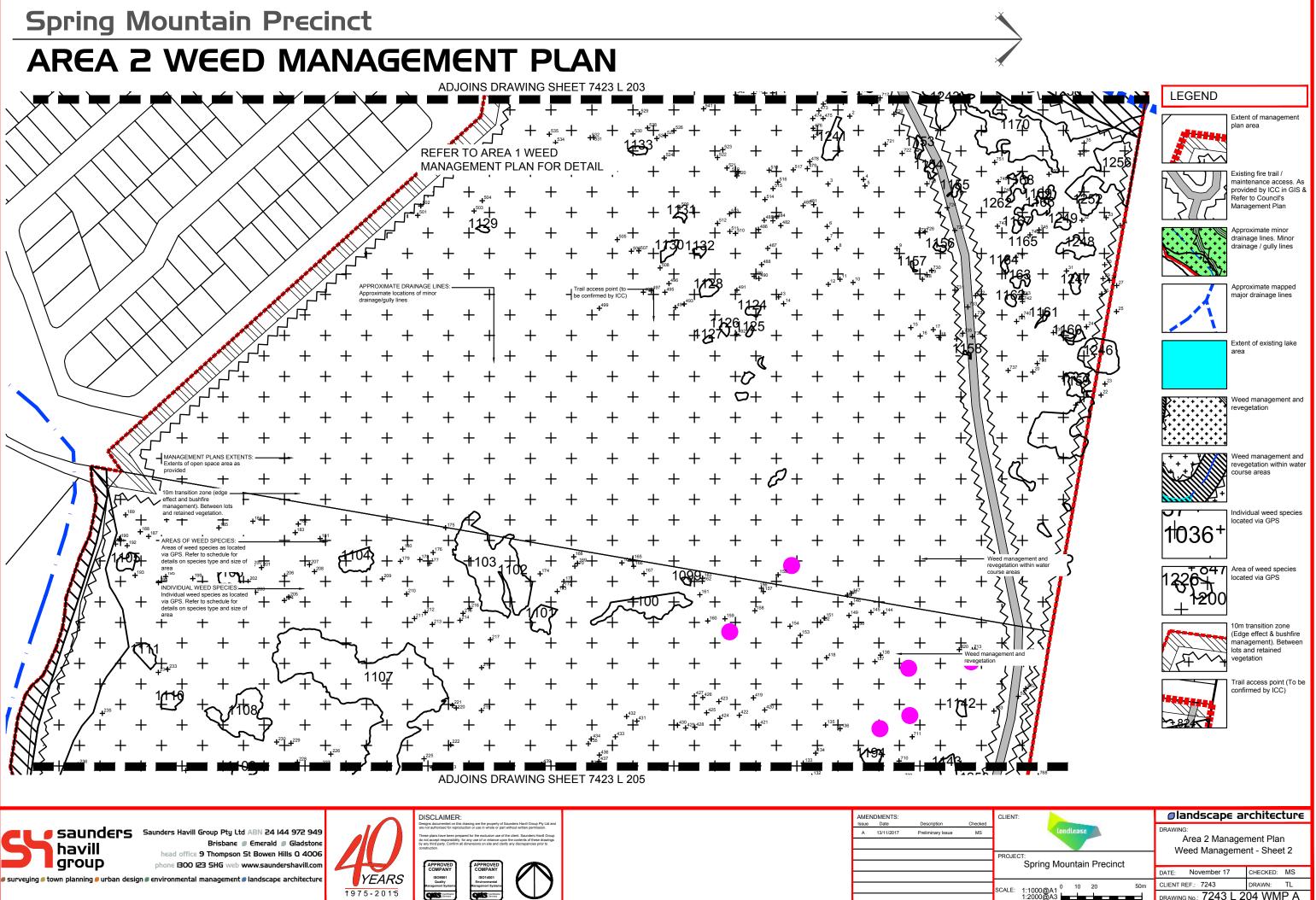
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Lendlease	DRAWING: Area 2 Weed Management Plan Weed Management Notes		
PROJECT: Spring Mountain Precinct			
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LEGEND	
Extent of management plan area	
Existing fire trail / maintenance As provided by ICC in GIS & R Council's Management Plan	
Approximate minor drainage lines. Minor drainage / gully lines	
Approximate mapped major drainage lines	
Extent of existing lake area	
Weed management and revegetation	
Weed management and revegetation within water course areas	
1036 ⁺	
Area of weed species located via GPS	
10m transition zone (Edge effect & bushfire management). Between lots and retained vegetation	
Trail access point (To be confirmed by ICC)	

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ROJECT: Spring Mountain Precinct	DRAWING: Area 2 Management Plan Weed Management - Sheet 1		
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) surveying 🟉 town planning 🟉 urban design 🖉 environmental management 🖉 landscape architecture

YEARS

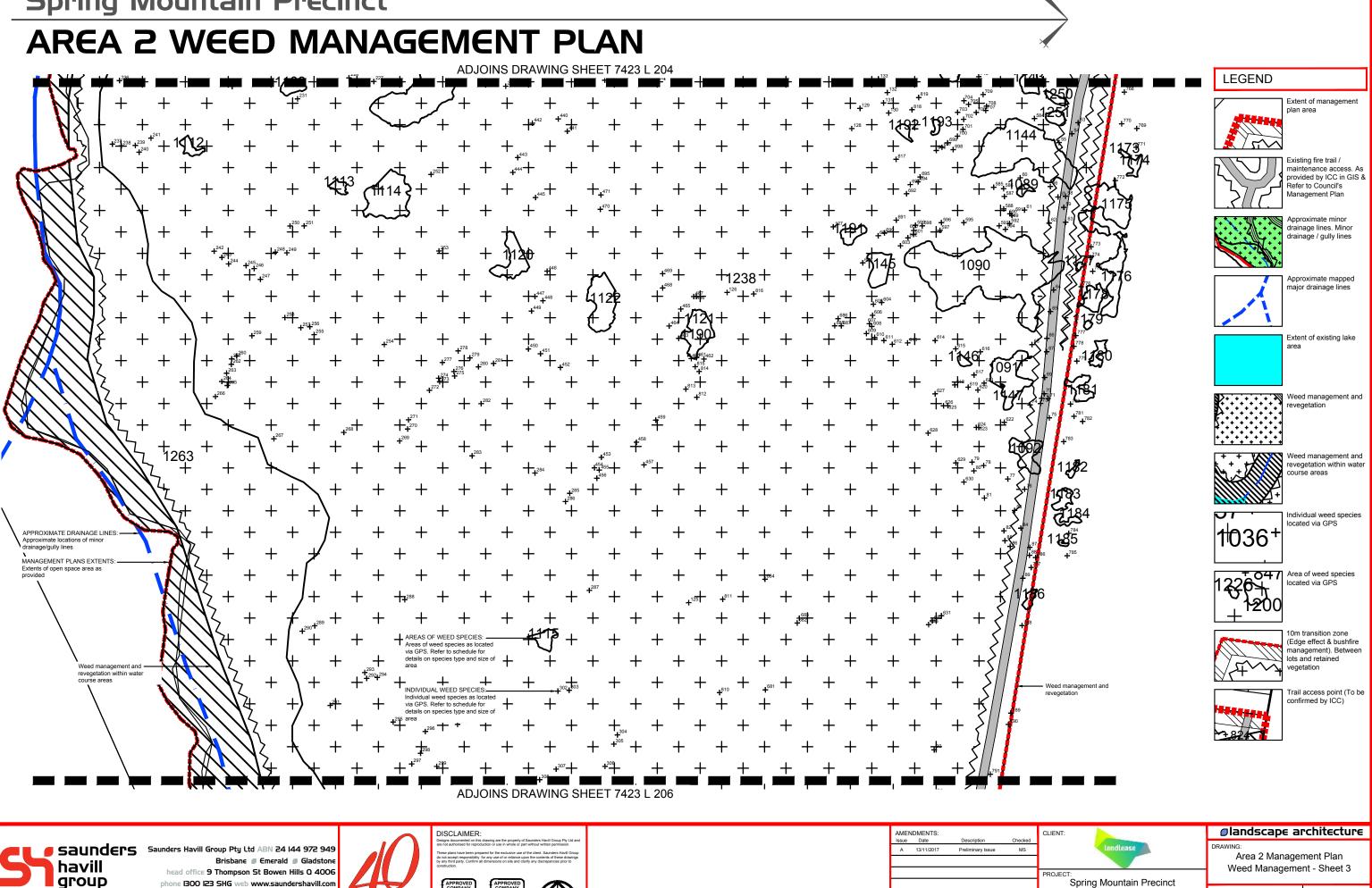
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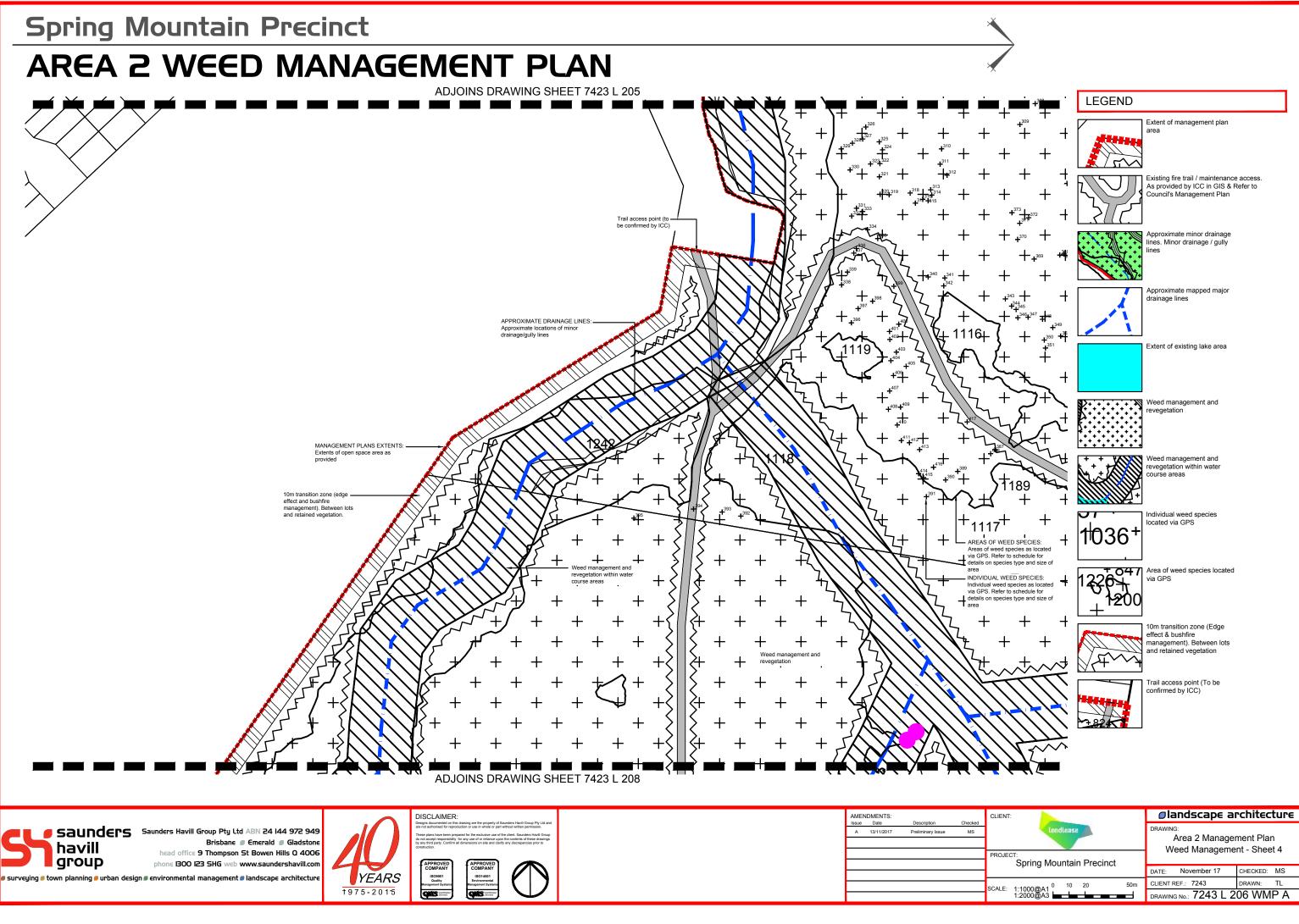
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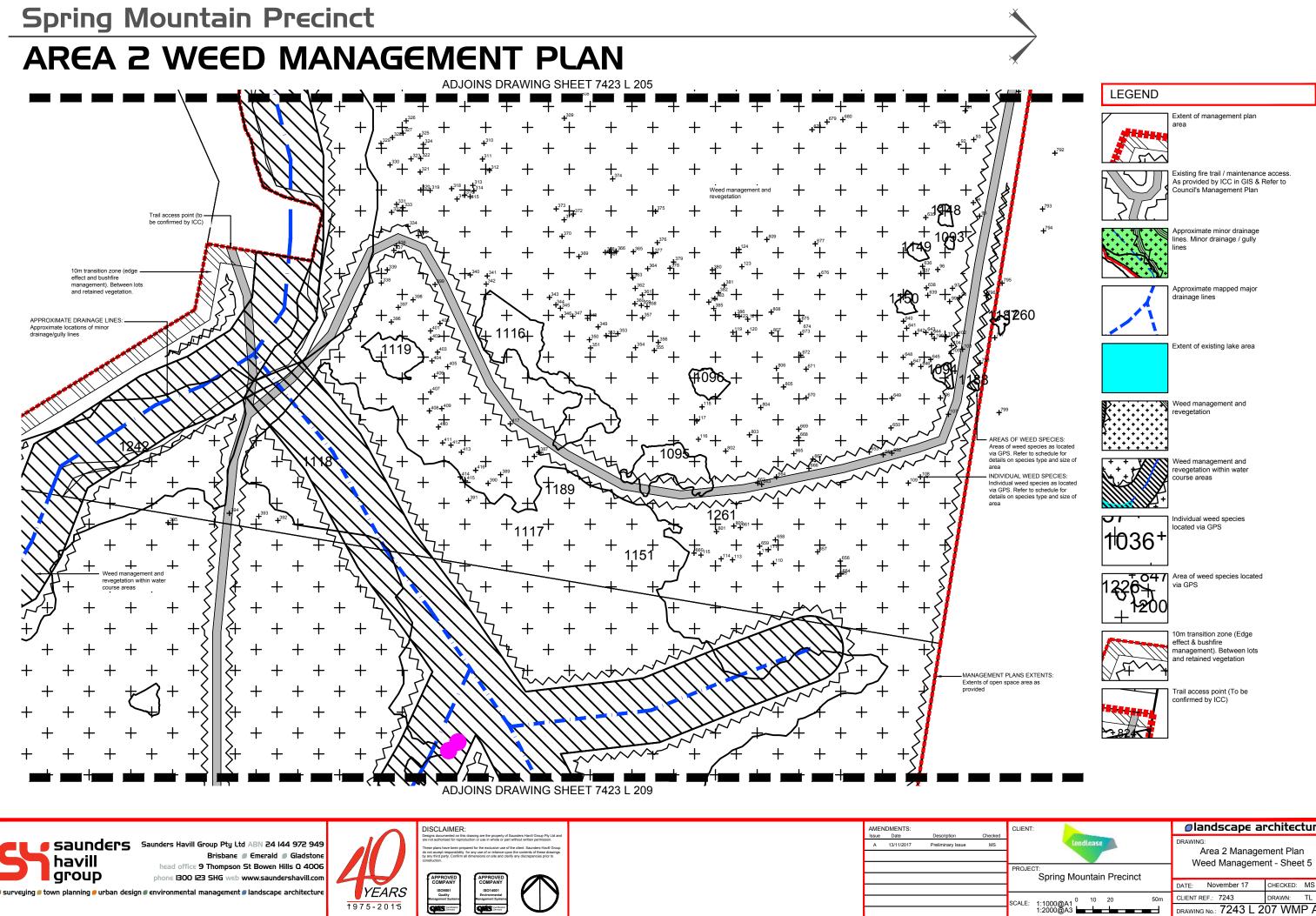


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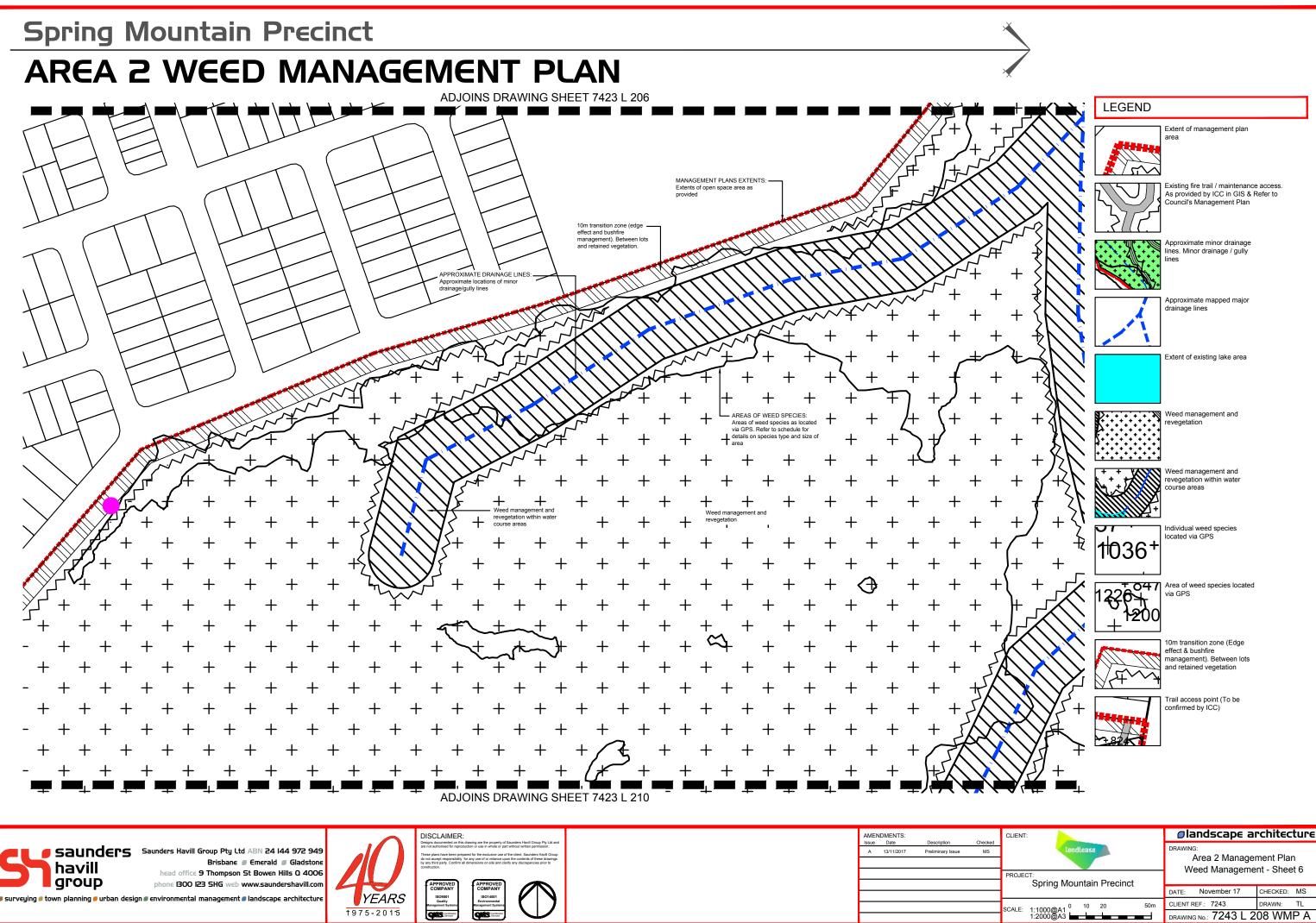


Area 2 Management Plan	
Weed Management - Sheet 4	ŀ

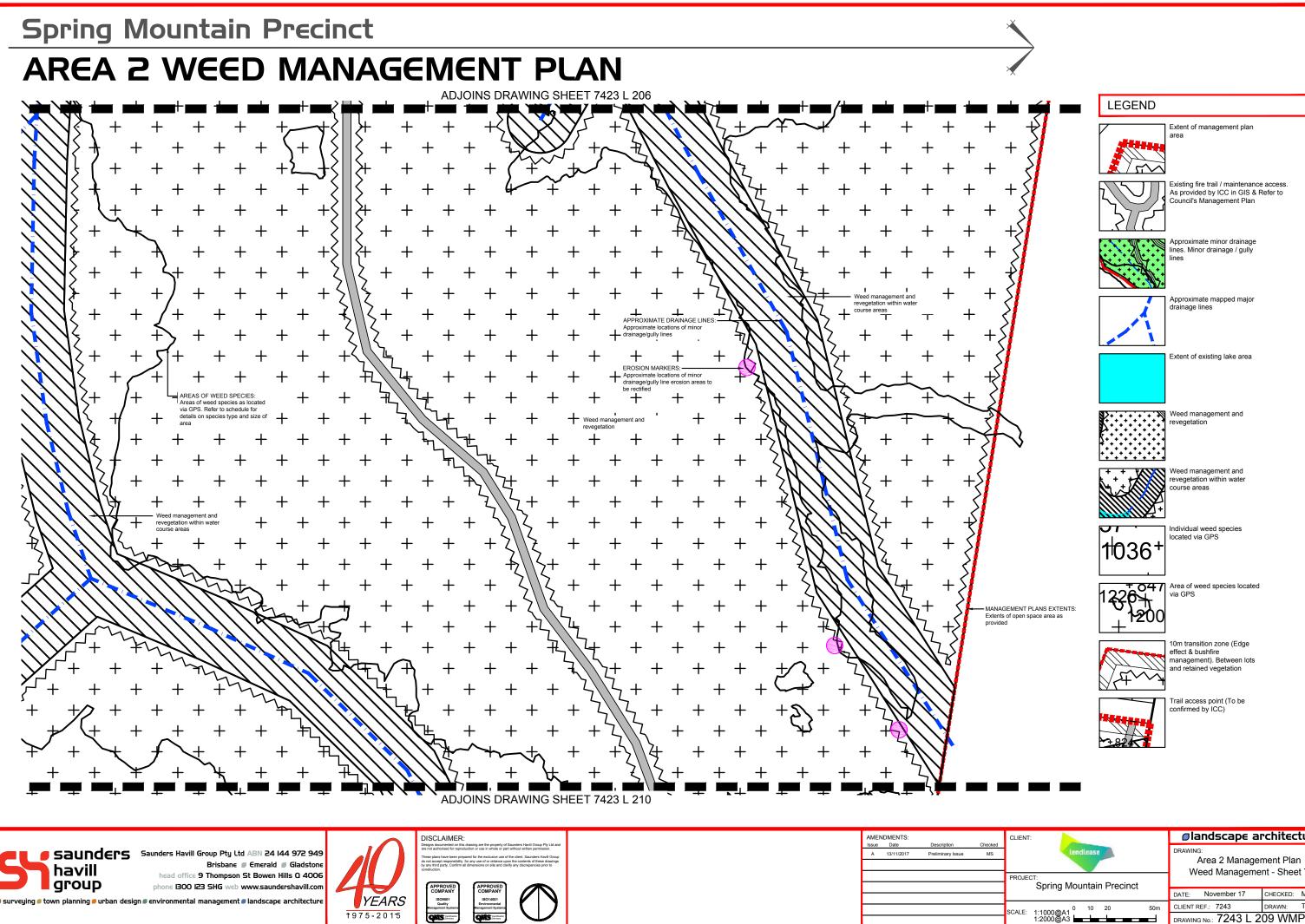
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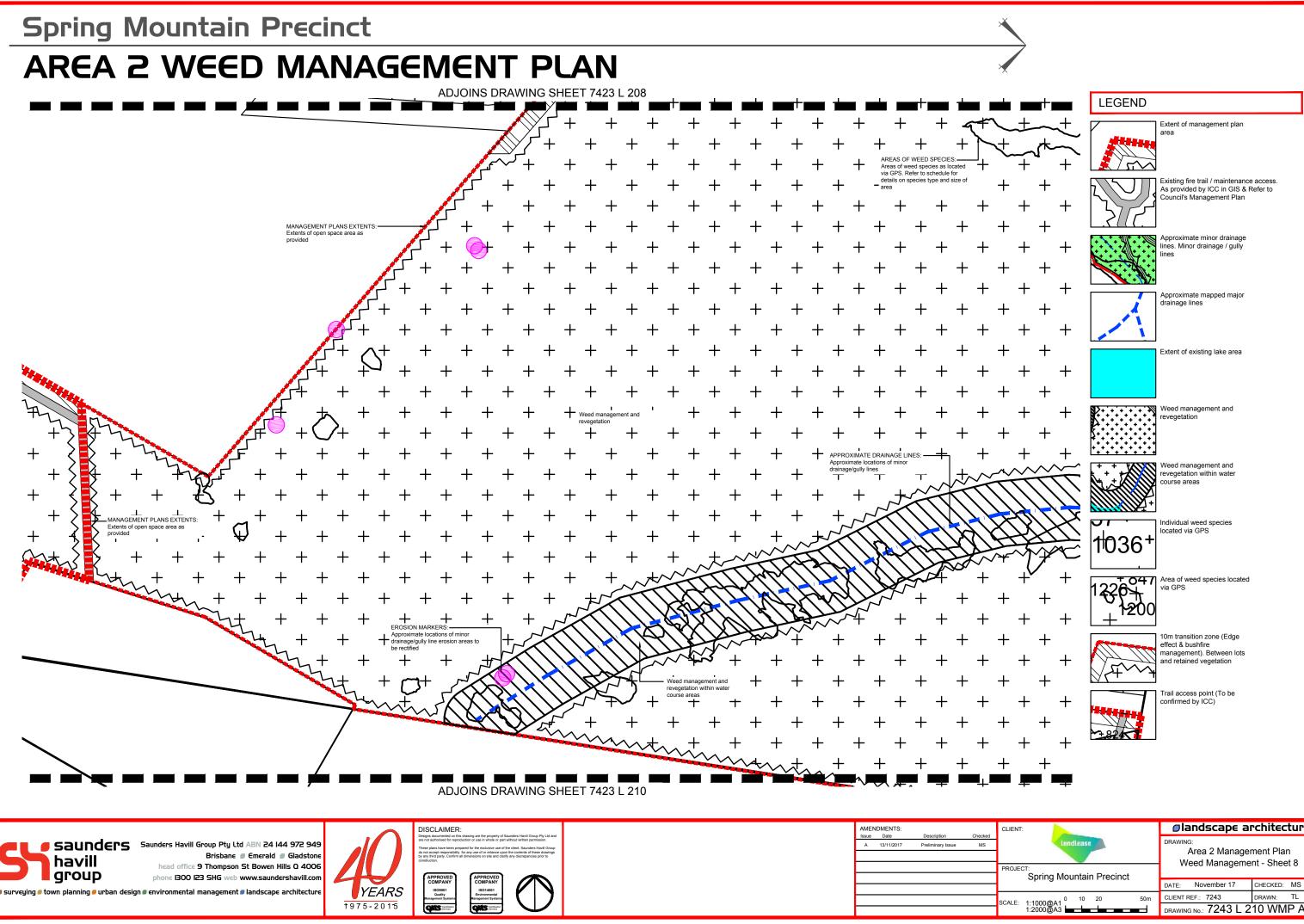
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ROJECT:	DRAWING: Area 2 Management Plan Weed Management - Sheet 5								
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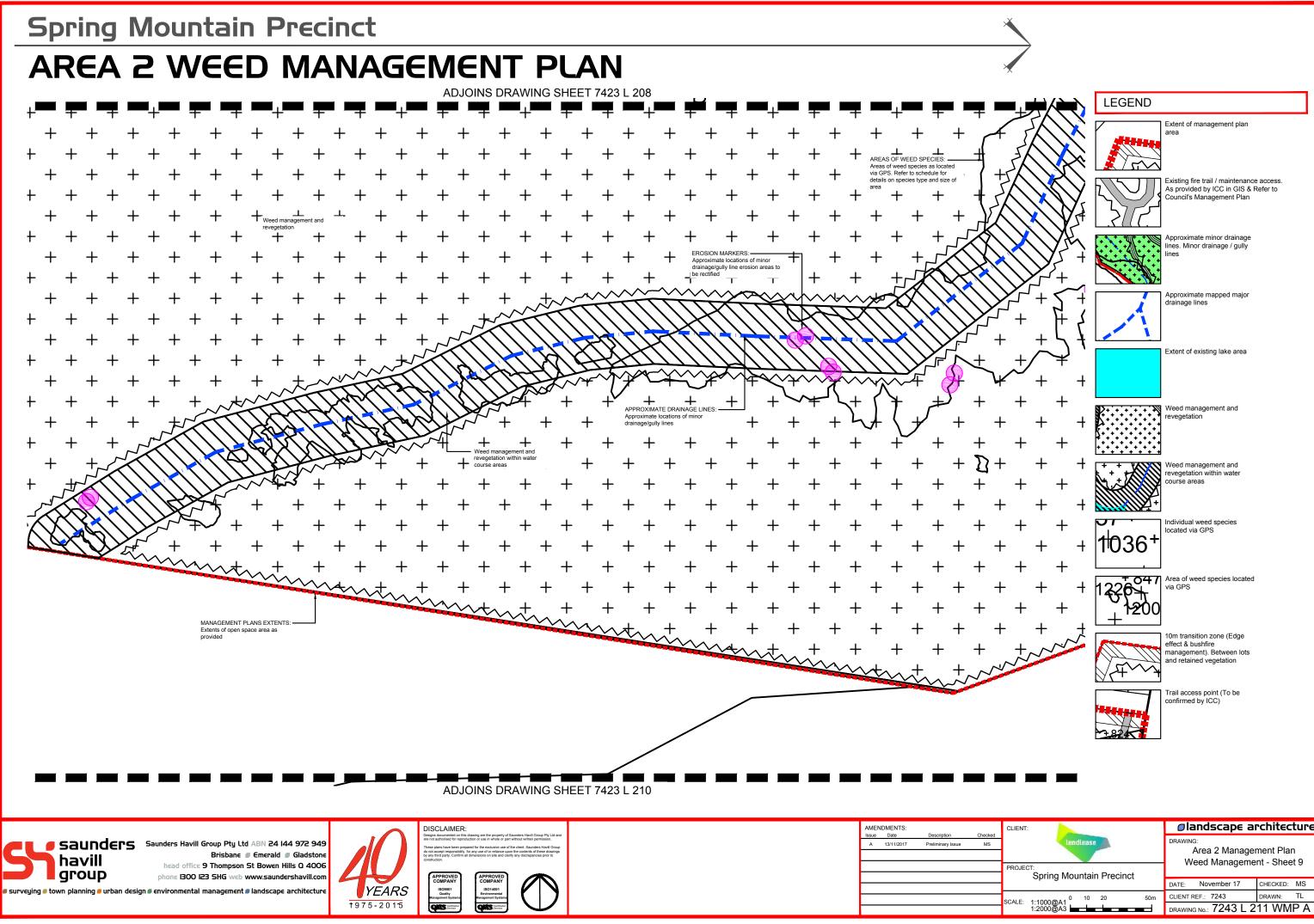
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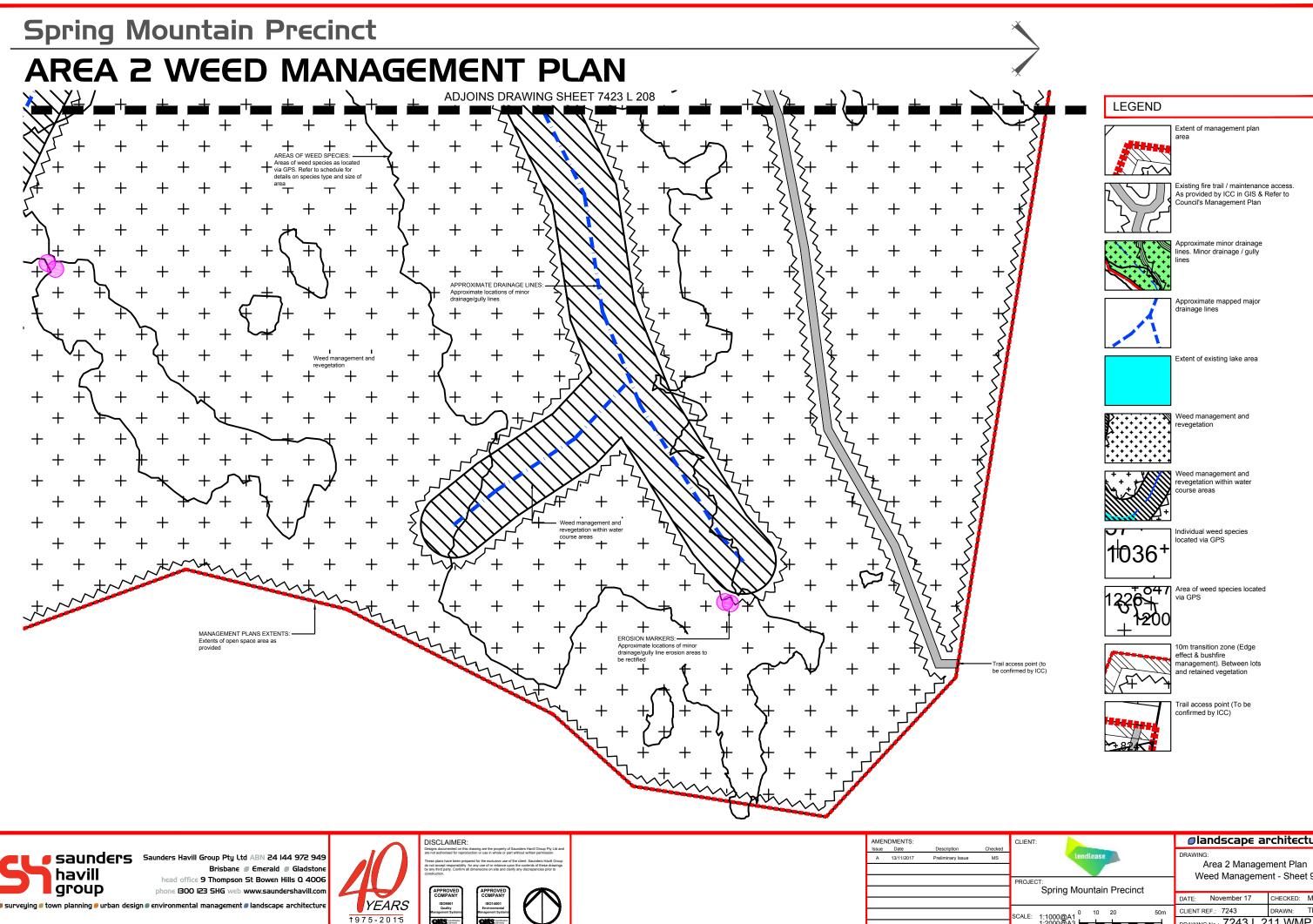
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ROJECT:	DRAWING: Area 2 Management Plan Weed Management - Sheet 7
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ROJECT: Spring Mountain Precinct	DRAWING: Area 2 Management Plan Weed Management - Sheet 9
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AREA 2 MANAGEMENT PLAN - TECHNICAL NOTES - GENERA

NOTES

This Weed Management Plan links specific weed removal and management measures with spatial areas within the declared area included with this application. This Weed Management Plan covers the 173.66ha Area 2 portion of land previous dedicated by Springfield Land Corporation (SLC) to Ipswich City Council (ICC). The main objectives and action items for pest plants are detailed in Table 1 shown on this plan, with the objectives and actions for ecological restoration are detailed in Table 2.

WEED CONTROL PROGRAM TIMING

The primary stage of manual weed removal, treatment and disposal for the parkland dedication is programmed when all existing weeds are removed with secondary and maintenance weeding occurring for another 18 months (18 month program post on-maintenance).

Primary Weed Removal Stage - Consists of the initial weed removal / treatment of site weeds via the methods detailed within the South East Queensland Ecological Restoration Guidelines. Essentially involves the manual removal, stock piling and disposal and initial usage of prescribed herbicides. Additional notes below include: • Implemented weed control method according to this plan.

- Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed.
- Program timing; primary weed removal phase is considered to be completed when all existing weeds within the stage for the declared area have been removed or treated. Both the secondary phase and the primary phase of weed removal can occur concurrently in different stage areas over time.
- A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress.

Secondary or Follow-up Weeding - for all areas will involve the quarterly inspection of areas having undergone Primary Weed emoval and treatment of infestations or outbreak as required. Additional notes below include:
 emplemented weed control method according to this plan.

- Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed.
- Program timing; primary weed removal phase is considered to be completed when all existing weeds within the declared area have been removed initially. Both the secondary phase and the primary phase of weed removal can occur concurrently in
- different work areas over time. • A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress.

Maintenance Weeding Phase - final stage of weeding which occurs in areas where the majority of weeds have been removed and treated. Maintenance weeding continues to remove additional outbreaks but also allows for the fostering of natural regeneration and regrowth seedlings. Additional notes below include:

Implemented weed control method according to this plan.

• Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed. Program timing: primary weed removal phase is considered to be completed when all existing weeds within the designated

Park have been removed initially. Both the secondary phase and the primary phase of weed removal can occur concurrently in different work areas over time.

• A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress

Revegetation occurs in two (2) distinct zones throughout the management area. Refer to Drawing sheets for a full description of proposed plant species, sizes, densities and numbers

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

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, wind or water. • 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

TABLE 1: OBJECTIVES AND ACTION ITEMS FOR PEST PLANTS

Threats	Opportunities	Management action	Timeframe	Responsibility		
		e and enhance the diversity of the the state by controlling pe		species and		
Insufficient monitoring of pest plants		Continue to develop and update the management plan for the estate to identify pest plants present and to recommend and prioritise control and monitoring actions	Annually	Saunders Havill Group (SHG)		
Establish- ment of large infestations of pest hall ficient resourcing of pest plant control measures	Pest plants are controlled effectively and in a way that ensures native vegetation regeneration	Include treating pest plants within the open space area to improve visitors experience to the estate	Ongoing	Contractor		
vegetation of Insufficient monitoring of pest plants Establish- ment of large infestations of pest plant control measures Increased abundance of pest plant control measures Increased abundance of pest plants due to fire Lack of education of visitors and local residents as to the adverse impacts pest plants have on the natural environ-	of pest	Conduct follow up pest plant treatment after any fires within the estate	As required	Contractor		
Lack of education of visitors and local residents as to the adverse impacts pest plants have on the natural environ- ment	Improved public understanding and support for pest plant control	Provide material for public awareness (ie interpretative signage)	As required	Contractor		

Opportunities Management action Timeframe Threats Responsi Objective: Protect, manage and enhance the significant habitat values and ecological

processes found within the estate, so as to contribute positively to the conservation

TABLE 2: OBJECTIVES AND ACTION ITEMS FOR ECOLOGICAL RESTORATION

values of the	local and regior	al area		
Degraded vegetation communities have adverse impacts on other values within the estate, including native flora and fauna species, fire issues and aesthectics	Restore degraded native vegetation communities and minimise impacts associated with pest plants and animals and their control on native flora and fauna, cultural heritage sites, and landscapes within the estate	Prepare and issue a management plan to: - clearly prioritise actions and zones (eg. focus on declared and environmental pest plants and mapped biodiversity zones) - Divide the site into sub-zones which can be managed in a systematic and structured way - Align with the fire management plan as burns could provide ecological and economical efficiencies; reducing fuel loads at the same time as acting as a pest plant control - Lantana (especially) should be managed to reduce the fuel load, as this is a major fire hazard Incorporate training (eg. for relevant community groups) - Write the plan for the target audience working on the estate (eg. bushcare groups working in particular zones)	Prior to commence- ment	Contractor
Pest plant infestations from high use areas may impact on adjacent ecological values	Improve the flora values within the open space area	As part of the site rehabilitation planning for the open space, a planting list of locally occurring plant species for use in rehabilitation is to be provided to enhance population viability where appropriate and possible. Include threatened and locally significant species in plantings.	Ongoing	Contractor
Trail creation, soil compaction and increased erosion	Restore natural habitats to increase the resilience of the estate	Refer to management plans for further detail	As required	Contractor
Pest plant introduction and spread	Deceased abundance of pest plants	Refer to management plans for further detail	As required	Contractor
Disturbance from pest animals	Deceased abundance of pest animals	Refer to management plans for further detail	As required	Contractor
vegetation communities have adverse impacts on other values within the estate, associated including native flora and fauna species, fire issues and aesthecticsassociated animals and animals and their control on native flora and fauna cultural heritage sites, and landscapes within the estatePest plant infestations from high use areas mayImprove the flora values within the estateTrail creation, soil compaction and spreadRestore natural habitats to increase the resilience of abundance of past plantsTrail creation, soil introduction and spreadRestore and fauna, cultural heritage sites, and landscapes within the estatePest plant infestations from high use areas mayRestore natural habitats to increase the resilience of abundance of past animalsTrail creation, soil introduction and spreadRestore natural habitats to increase the resilience of abundance of pest plants populations effectivenes of ecological restoration programsImproved threatened or locally significant plant species are protected		Refer to management plans for further detail	As required	Contractor
data on the effectiveness of ecological restoration	The populations and diversity of near threatened, threatened or locally significant plant species	Refer to management plans for further detail	As required	Contractor

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CLIENT:	✔ landscape architecture DRAWING: Area 2 Weed Management Plan
PROJECT: Spring Mountain Precinct	Technical Notes - General

Spring Mountain Precinct

ALE: AS NOTED

DATE: April 17	CHECKED: MS
	DRAWN: TL
DRAWING NO.: 7243 L 2	13 WMP A

AREA 2 M

NOTE: Species highlighted have been identified within the Springfield Wildlife Corridor Management Requirements' list which have specified removal and/or treatment techniques for Class 1 or 2 weeds. Environmental weeds and weeds of National Significance (WONS) Class 3 are to be:

- Remove dumped garden weeds from urban interface. Liaise with ICC Supervisor regarding ongoing Compliance issues. Lantana controlled within 20m of track edges
- (ie walking, shared and service). Strategic treatment of gully infestations staged from head of gullies downstream utilising cut . stump method and chopping lantana into small (150mm) pieces. Areas to be determined by
- consultation with ICC. Assisted natural regeneration following • removal including direct seeding utilising endemic seed from site. Follow up weed control by spot spraying emerging weeds in cleared areas or hand removal.

4	N /	AGEN	M	Ξ	N .	Γ	Ρ	LAN	-	W	EE	ED TF	RE	A :	Τ	Μ	EN	ТЪF	REM	OVAL		5 T	R	Ά	TEC	Ξ Υ
		IERBARIUM INVAS								19 Fal	bac eae	Neonotonia wightii (glycine)	5	16	4.7	H/A	N/A	Vines: CS&P (1:1.5) or spray G100 + MM or MM (ref.1)		e Atemanthera philoxeroides (alligator wood)		3	5		physical removal of plant should not be	f Terrerstrial plants u Metsulturon methyl
	amily erhenaceas	Scientific and common names	Subregion 10	Rec N: 455	5 Score	& 50	orm Non G urce C D Seed in			Po	ateae	Panicum maximum (green panic and guinea grass)	8	78	1.6	HA	Hand or mechanical removal of small	Spray: glyphosate @ 13mL/1L water (ref 2.)							attempted	(Lirushoffie) + 1mL/ non ionic weller @ 1mL/L non-ionic we
		c <mark>ama</mark> ra (lantana)					pu I	Shrubs: blanket s or out down and s regrowth G100 pr	pray spialter gun	21 Old	DACCAC	Ligustrum sincese (Chinese privet)	4	11	4.6	T/O	infestations Scedings: Hand pull	Saplings: CS&P or C&P (G1.5); Trees: F/I (G1.5);								10g/100L water + Ionic wetter Free plants Glyphosate
		Baccharis halimforia	10	168	18			using 1 part G to - apply only when norwingn.t.dom prorto Shrubs. CS&P o	plant s									Seeclings: spray MM or C200 + MM if other weeds such as Lantana or Camphor Laurel	37 Passitloraceae	Passitora suberosa (cork passionflower)	8	166	4.2	v/o	N/A	Blactive®) 10 ml / Stems: CS&P Se Regrowth: spray G
		(groundsel bush)	10	168	1,8		D Cut stu fowering	Seedlings: CS&P spray C200 (ref 1	(G1.5) or	22 CC	hnaccae	Ochna semilata (ochna)	7	33	45	5/0	N/A	are present (ref 1). Stems: CS&P or S&P or E/ (G1.5); Seedlings and	38 Poaceae	Melinis minutiflora (molassos grass)	5	17	<mark>4</mark> .5	H/A	Grazing or mowing	2L/Ha, Glyphosate
4	rassuraceae	Lityophyllum delagoense (mother of millions)	0	00	4.9	115	baciged infestations sprayed	larger or MM (ref 1).	200 + 1/14									Regrowth, spray G200 + MM or MM. That basat bank I 100 or G200 + MM (ref 1).	30 Aristolochiace	ae Aristolochia elegans (Dutchman's pipe)	8	30	4.3	V/O	Stems: Hand pull, Fruit: Bag and	Seedlings: spray
Bi	ignon acese	Macfodyona unguis cati (cat's claw creeper)	5	36	4.9	V!			erlings: For F100 (ref	23 As	paragancan.	Asparagus aethiopicus cv Sprengeri (asparagus ground tem)	5	35	45	H/O		Spot spray - metsufuronmethyl (600 g/L) (a) 10 g per 100 L	40 Convolvulacca	e Ipomoca Indica (blue moming glory)	5	24	43	wo.		G200 + MM or MM Vines and Runner (G1.5); Larger Ste
a	asellaceae	Anredera corditolia (madeira vine)	8	16	4.9	V!S	C Small V Tubers.		ape and								landli remove th	water plus wetting agent or 100 g/ha plus wetting agent. Cut	41 Mimosaceae	Leucaena leucocephala	6	14	4.3	ST/A	roll up and hang to ory. Small plants: Hand	or I 150 (ret 1) Herbicide Control
19	sparagaceae	Asparagus africanus	1	26	4.9	V!!) dig out	G200 + MM (ref 1 G200 + MM (ref 1 ts and = Furoxypyr (200 g/	/ G200 or).								underground stem of plant to prevent regrowth	stump, spot spray, Apply neat Diesel		(leucaena)					puliormechanical removal	application: thelop pictoram 120g/L @ diesel; C&P: tricle
		(omamental asparagus. asparagus fem)					counci remove	at local per 1 L dfil ste. diesel/kerosene ire		21 Po	aceae	Sporobolus pyramidalis and S. natalensis (glant rat's tail)	8	72	4.8	H/U?	Seed heads cut and bagged,	Small infestations: spray glyphosate @ 15mL/L water,								+ picloram 120g/L 60L dicsel; spray 300g/L+ picloram
							crown s undergr to preve					grasses)					remaining leaves sprayed	flupropanate @ 2mL/L water + ionic wetter (@ 1mL/Lwater, Dense Infestations: blanket								350ml per 1001 v. Combination of ch mecha
i	Imaceae	Celtis sinensis (Chinese celtis)	8	19	4.9	T/C		en small Stem injection, g or dig (360 g/L) @ Undi per 2 cm of hole (uted at 1 mL	As	leraceae	Ageratina riparia	5	38	4.6	H/O	Hand pull and han	spraying glyphosate 31/ha, fluoropanate 2L/ha (ref 2), g:Spray G100 or MM (ref 1).	42 Poaceae	Brachiana mutica (para grass)	6	18	4.4	I a/A	Grazing	Herbicide Control application (Knaps glyphosate 360g/I
								combine cut ning		26 As	clepiadaceae	(mistilower) Araujia sericifera (molhvine)	9	38	4.4	V/O		Vines, CS&P (G1.5), Seedings: spray (3200 or								200mL/15L water; glyphosate 350g/l Handgun: glyphos
- 53	auraceae	Cinnamemum camphora	7	25	4.8	T/0	grazing infestat Sced in	Hand Saplings; CS&P		27 Qia	assulaceae	Bryophyllum	6	15	4.5	H/O	remove fiuit. Hand pull and	G200 + MM or MM (ref 1). Plantlets: spray G200 + MM	40 (lydrochantac) e	ea Lgena densa (egena waterweed)	2	1	4.4	Han	hand pulling, cutting and digging	@ 1.3L/100L wate N/A
		(camphor laurel)					pull	Trocs: F/I (G1 or C&P (G1 5 or GU up to 8 d ameter) spray G200 or G2	for stems Seedlings:			daigremontianum x B delagoense (hybrid mother- of millions)					dispose	or MM (ref 1)	44 Pinaceae	Pinus elliottii (slash pine)	4	22	4.3	TΛ	with machines effective Seedlings, Hand	
4	nacard aceae	Schinus terebinthfolius (broad-leaf pepper tree)	6	49	4.8	170) Seed in pull		G1.5); Seed ings.	25 Co	nvoi vui ac eae	Ipomoea cairica (mile-a- minute)	7	56	4.4	V/O	hand pull, roll up	Vines and Runners: CS&P (G1.5), Larger Stems, Roots and Nodes: spray G100 + MM							pull; Saplings and Tiees, cut close to gmund or ring-bark	penetraled (ref 1).
12	aMniaceas	Savnia molesta (salvinia)	8	57	49	Ha	removal intestat	Aquatic areas: ca smail dodecylberzene (Al -100) (& 1 par	cium ulphanate to 19 parts	29 Sa	pindaceae	Cardiospermum grandiflorum (balloon vine)	1	31	4.4	V/O		(rcf 1) Stems: CS&P (G1.5); Seedlings or Small vines.	45 Caesalpiniace	ae Senna pendula var. glabrata (Fastor cassia)	7	33	4.2	ST/O	Seedlings: Hand pull	Scedlings: spray (G200 + MM or MM
							Salvinia (Biologi	control) 100L/ha or 4L/100 diquot (watrol) 50	L water, 100L/Ha or	30 Asi	cicpladaccae		6	19	44	VIO	Scatteredec or	spray G200 or G200 + MM (ref 1). Follar spray - Follow-up basal	46 Poaceae	Chions gay <i>a</i> na (Hhodes grass)	9	55	4.3	11/A	removal and	and bag seeds (re Spray: glyphosate water
								417100L water; di (regione) 5-1017H 150mL Agral 7 10 (see ref 2.	or 400ml 1			(rubber vine)					Infestations: When possible, repeated		47 Crassular.cae	Bryophylium pionatum	6	17	42	E/O	digging of larger clumps Hand pull an <mark>d</mark>	Plantiets: spray C or MM (ref 1).
	abombacese	Cabomba caroliniana (cabomba, fanwott)	4	12	49	Ha	F Mechan removal	2, 4-D N-Bucyl Es									stashing close to ground level is recommended.	(Grazon DS, Grass up, elc.) @ 0.35–0.5 L /100 L water	45 Asteraccae	(resurrection plant) Parthenium hysterophorus (parthenium weed)	6	14	42	H/U	small areas is not	Spot spray 2,4-D a g/L @ 0.4 L/100 L
	steracese	Onysanthemoidas	3	23	4.9	S/C	infestat IA N/A		or .			Rivina humilis (baby pepper)		61	4.3		to dry	spray G100 (ref 1).	49 Capitoliaceae	Lonicera japonica (Japanese honeysu <mark>c</mark> kle)	3	6	4.3	wo	recommended Vines and Runners, hand pull	Vines and Runner (G1.5), Laiger Ste
		moni ifera subsp. retundata (bitou bush)						Bushes: spray or and spray regrow MV (ref 1)	h G100 or	32 Po	aceae	Sporobolus africanus (Parramatta grass)	8	48	4.5	H/U	Hand or mechanical removal of small	Small infestations, spray glyphosate @ 15mi /I, water, flupropanate @ 2mL/L water +	50 Acanthaccas	Thunbergia alata (black eved susan)	5	22	42	H/O	roll up and hang to dry. N/A	or MM (ref 1). CS&P (C1.5); spr G200 + MM (ref 1
	ontederiaceae	Lichhorna crassipes (water hyacinth)	4	8	4.9	T la/S	0 Mechan removal infestat	small 300) @ 1.200 vil.	rwater, /phosate								Infestations	lonic wetter @ 1mi /l water Dense Intestations: blanket spraying glyphosate 3l /ha,	51 Fabaceae	MacropUlium atropurpureum (siratro)	Ļ	30	4.2		N/A	Vines. CS&P (1.1 G100 + MM or MI
	canthaceae	Hygrophila costata (Glush weed)	з	t	5	Fa	l l and pr	 for application Glyphosate know 	jude). tob≡	33 Po	aceae	Sporobolus tertilis (grant	9	2/	4.5	U.U	Hand or	flupropanate 2L/ha (ref 2). Small intestations: spray	52 Rosaceae	Rubos ellipticus (yellowberry)	4	25	a. I	30	slæshing hinders growth, gMng some control if plants are slashed	Grazion DS picioram/fritciopyr water + wetting ag
							be contr planting competi	ed by occur in waterway should be contact	E SU EPA			Panamalta grass)					mechanical removal of small infestations	glyphosate @ 15mL/L water, ftupropanate @ 2mL/L water + ionic wetter @ 1mL/Lwater, Dense Infestations: blanket	53 Colchicaceae	Gloricsa superba (glory lily)	3	25	4.1	v/o	before they seed	Young Shoots, sp G200 + MM, Dest
l	leaceas	Ligustrum lucidum (tree privet)	5	9	4.8	170	spacies) Seed in pull	Hand Saplings: CS&P (G1.5), Trees. F/	(G1 ur G1.5)									spraying glyphosate 3L/ha, flupropanate 2L/ha (ref 2).	54 Verbenacieae	Phyla canescens (lippia,	3	4	42	Ea/O	a combined	Oct-Nov and by us as surflicant (ref 1 Foliar spray 600 g
								or C&P GU for stu 8cm diameter; St spray MM or C20 other weeds such	edings: 0 1 MM if	34 Po	a ccac	Eragrostis cumila (Atrican lovegrass)	7	29	43	нли		Clyphosate (360 g/l.) (e.g. Weedmaster® Duo) @ 10 ml/1 L water		Condamine couch)					approach of different control	Dichlorprop @ 5 m or 2,44D amine (50 crop of @ 2 4 L/h
	staraceae	Sphagnetic claitríobeta (Singapore deisy)	6	34	4.6	(19) Fand p	other weeds such or Camphor Laure Fland pull and/or + MM (ref 1).	are present								plant ensure that the tussock crowns are	to the right of the total of total							chemical and mechanical with land management	crop oil
	storacebe	Ageratina adenophora (crofton weed)	6	38	4.6	H	D Hand pu to dry.	ind hang Spray MM or G20 MM if other weed Lantana or Camp	such as								removed, as this will prevent regrowth. If in		55 Solanaceae	Solanum seaforthianum	8	78	4		practices is most effective Hand pull	Sprav G100 (ref 1)
10	erbenaceae	Lantana montevidensis (creeping lantana)	8	62	4.8	30		control glyphosate 1L/10	nev): OL water,								negrowuh, in in seed, the stems must be cut and bagged first		50 Anaceae	(Brazilian nightshadd) Pistia stratiotes (water lettuce)	з	8			Mechanical	Givphosate 360g/L 1.3L/100L water or
								motsulfuron meth water; metsulfuro glyphrisate 173g/ Basal bark (anyti	mothyls + IOOL water;	35 As	teraceæ	Gymnocoronis spilanthoices (Senegal lea)	3	4	4.7	Ha/F	place plant material in a sealed plastic bag	Glyphosate and metsulfuron- methyl @ 15mL/L water							intestations	diquat 20g/L (d) 4L or 50-100L/H a (se application guide)
								Hasal bark (anytu 1L/60L Diesel, pio trickopyr @ 1L/60	luram +								leave in sunight to rot then turn or		57 Asparagaceae	As paragus plumosus (asparagus ferri)	4	8	4.1	W/O	Rhizomes: crown and hang to dry.	Rhizomes gouge (G1.5), Stems wir

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ROJECT: Spring Mountain Precinct	DRAWING: Area 2 Weed Management Plan Weed Management Techniques					
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	Commelinaceae		5	9	×.1		N/A	Spray F150 (as per label) or G200 or G200 + MM; Collect and bag or roll and rake	84 Asterace	eae Tithonia	diversifolia 1 suntower)	5	11	3.9 H	10 N	JA	Stems: CS&P (31.5) or cut and spray regrowth and seedings (6100 or I/ M) (ref		Lamiaceae	Salvia coccinea (red calvia)	B	46	4	H/O ren by	move small areas hand or	Aqua:c areas (drains, channeis, margins of streams, lakes and dams) -
59	Solanaceae	Cestrum parquí (green	6	36	3.9	8/0	Seedlings: Hand	carefully. Dispose (ref 1). Stems: CS&P (G1.5) or spray	85 Poaceae		spriacelala (Soul) Viceon grass)	9	41	3.8 H	VA Ha	and pull or dig u	1). Spray G100 (ref 1).			_						calcium dodecylbenzene sulphonate (AF 100) @ 1 part
60	Caesalpiniaceae	(arsenic bush, was S	6	25	4	S/O	pull Seedlings, Hand pull	G100 (ref 1). Shrubs: CS&P or F4 (G1.5), Seed ings: spray C200 or	86 Asdepia	daceae Gompho	calpus Ipus (balloon	10	132	3.7 S/	bu	um cultines.	d Spray: dyphosate @ 1.1000 with water, in spring before scooling (rof 3).	1000000000	Asteraceae	Ageratum houstonianum (blua billygoat waed)	8	U1	3.8 1		Ą	in 19 parts kemsene Spray (3100 or hand pull and spray regrowth (3100 (ref. 1)
51	Solanaceae	floribunda) Solanum mauritianum (wild	8	30	4	8/0	Seedlings: Hand	G200 + MM or MM; collect and bag seeds (ref 1). Shruba: CS&P (C1 5) or F/I	87 Poaceae	e Digitaria (Qusens	didactyla land blue couch)	9	70	3.7 H	iA Ha	an also, be used and pull or utivation		116	Мутасеан	Paidium guajava and P guineense (vellow guava and West Indes guava)	4	7	37 8	T/AO N//		Shruba: CS&P or F/I(C1.5) or spr≊y G200 + MM or MM. Trial basal bark F100 or G200
52	Apocynaceae	tobacco trae) Catharanthus roseus (pink	ij	22	4	S/O	pull Fland pull	(G1:1.5): Seedings: spray G200 (ref 1) Spray G100 (ref 1).	88 Caesalp	niaceae Gledilsia locust)	i triacanthos (honey	7	12	3.8	de	n grazing land,	non agricultural land fluroxpy ril (Starane 2008) @ 1.5 L	117	Rosaceae	Rubus bellobatus (kittatinny blackberry)	5	22	35 3	gra	ashing hindera swith, giving	+ MM (ref 1). Grazon DS protoram/trictopyr 1:200 parts
63	Passifloraceae	periwinkle) Pasaiflora subpettata (white passion flower)	10	60	3.5	V/Q	Stems: Hand pul	Stems: CS&P Seedlings & Regrowth: spray G200 or							sp	uming followed b pot spraying is a conomical	y 75mi/100 L diesel 1							p'a h=1	ants are slashed fore they seed	water + welling agent
54	Fabacese	Desmodium uncinatum (s iverles) desmodium)	5	14	4	H/A	Hand pull or crown and dispose	G200 + MM (ref 1). CSSP tuberous roots (G1.5); spray G200 or G200 + MM or	H9 Poaceae 90 Cadace	grass)	m notatum (bah a monacantha	4	10	3.8 U	IA II	and pull or dig up	o Spray G100 (ret 1) Spray: Basal Bark applection:	118	Myrtaceae	Lugenia unflora (Urazilian cherry)	4	19	3.5 5	317O N/4		Stems: C&P or F/t (G1.5); Bushes: spray or cut down and spray regrowth G100 or MM (ref 1)
65	Роасеае	Melinis repens (red Natal	10	134	·····	H/A	Grazing or mowing	MM; collect and bag seeds (ref 1) g Spray: Fluazifop-P 212g/L @			g tree pear, syn. O				100	tem injected, or ver spraved with adon	Injection Trictopyrt.86/600 diesel: Pictoram + Trictopyrt.16/600	119	() eaceae	Olea europaea (olive)	2	6	4?	1/A Se pul	edlings: Land II	Saplings: COSP (G1.5); Tress. FJ (G1.5), Seedlings. spray G200 or G200 + MM
66	Nymphaeseeee	grass) Nymphaes caerules subsp.	4	17	4	Ha/O	F Hand pull small	21./Ha, Clypnosate 360g/L @ 1L/100L water (ref 2). Spray with or Diquat									desel. Amibole 1nL/3cm (ref 3).	120	Poaceae	Brachiaria decumbens (signal grass)	4	<u>34</u>	3,5	H/A Gr	azing	(ref 1). Herbicide Control - Foriar application (Knapsack):
		zanzibarensis (blue infus)					infestations	Glyphosate, Occurs in waterways, thus EPA should be notified before any	91 Poacead 92 Maicigni	(pascalu accas Histags	m conjugatum m grass) benghalensia	7 3	38 5		V/O H	and pullsmall	Spot Spray: plychosate or 2,2 DPA (ref 3) Seedlings: Foliar spray of									glyphosate 350 g/ @ 200 mL/15L water; Iolian; glyphosate 350 g/L @ 9L/Ha;
67	Onagraceae	Oenothera drummondi subsp. drummondii (beach	3	17	4	H/O	Hand pull	herbicide use (ref 5). Spray G100 (ref 1).		(hiptage)					in	restations.	doamba, furoxypyr, and triclopy#picioram. Larger plants out stume application of fluroxypyr and	121	I abaceaa	Stylosanthes scabra	4	۷	2.39	11/A N/2	A	Handgun: giyphosate 360g/L @ 1.3L/100L water (ref 2) Vines: CS&P (1:1.5) or spray
	Til aceae	evening primrose) Triumfetta rhombuidea (Chinese borr)	7	44	4	H/U		Spray G100 (ref 1).									di to sky priand tric lopy //picloram with diesel, gly phosate with water and picloram undi uted (ref 7).	000000		(shrubby style) Commelina benghalensis (hairy wandering jew)	4	7	3.5 1	H/O Co	lect and Eag	G100 + MM or MM (ref 1). Spray G200 or G200 + MM (ref 1)
	Haloragaceae Passifloraceaa	Mynophyllum aquaticum (perrot's feather) Plassiflera toet da (stinking	3	15 50	4 3.9	Ha/H	N/A	Spray, glyphosate 360g/L @ 100mL/10L water (ref 1). CS&P (G1.5); spray G200 or	93 Selanac		i toivum (devil s fg)	6			pu	eedlings: <mark>Hand</mark> u1	Shubs: CS&P (G1.5) or F/I (G1.1.5), Seedinos, scray G200 (ref.1).		Poaceae	Pannisetum purpuraum (elephant grass)	2	y	0.5 I	ren	acharrical moval	N/A (ret 2).
71	Asteraceas	passion flower) Verbesina encelloidea (crownbeard)	7	34	4	HAU	and remove;	and seedlings: spray G200 or			ioinclana)	1	20		an	eed-heads. Bag nd remove.	Seedlines, spray G200 or G200 + MM or MM (ref 1).	124	∠ingiberaceae	(liedychium coronarium (wi <mark>ld</mark> ginger)	2	2	3.5 1	IVO Sn	na I Plants: Hand Il and dispose	Small Plants: spray G200 or G200 + MM, Large Plants, out and spray regrowth, if
12	Poaceae	Paspalum mandroc anum	Э	G	4	- IVA	Runners, Roll up and hang to dry N/A	Gpray G200 - resistant to	95 Peacead 96 Verbena	(swamp)	tum alopecuroldes toctar) erecta (duranta)	7 6	29 14	3.8 H		hnips: (21&12	Spot Spray: physhosate or 2,2 DPA (ref 3) Spray G100 (ref 1)									nhizomes are at ground level, cut stem and gouge nhizom∋ - fil hole with G1.5 with injector
	Poaceae	(broad loof posp <mark>alum)</mark> Paspalum dilatatum (paspalum grass)	10	30	3.5	H/A	Hand pull or dig up	weaker strength (ref 1). 5 Spray C100 (ref 1)	97 Urassio	use Rori	im officinale (Old ppa nastuti um- m) (watercress)	7	19	37 Ha		anually grub and estroy.	t Spray G100 and replace with local species (ref 1).		Phyto accecese	Phytolaeca setandra (inkwead)	10	50			ind pull or crown	kit or sim lar (rof 1). CSSP (C1.5) or CSP (C1.5); spray G100 (ref.1).
	Ruppiaceae Arececeae	Ruppia mantima (sea tassel) Syagrus romonzoffiana	2 4?	8 10	4 3.9	Ha/F T/O	Seedlings: Hand		98 Polygon 99 Poaceae	aceae Acetosa dock)	sagitata (rambling dactylon (couch	4 10	18 45	3.7 V 3.6 H	ba	ubers: Dig up, ag and remove. and puils mai	Tubers: Spray G200 or G200 - M M or M M (ref 1). Spray: glyphosate (2)		Asclepiadaceae Solanaceae	Asclepias curassavica (red cotton bush) Lyclum ferociasimum	9	<u>4</u> 3 5	3.1		A,	Stash and/or spray G100 (ref 1). Stems: C&P (G1.5):
		(queen palm)					pull or crown: Trees: cut below growing point	apray G200 + MM (ref 1)			glass introduced				ini rei or	rfest <mark>ations,</mark> amoving all roots rismother with	200mL/15L water. Follow up	128	Mimosaceae	(Atrican boxthom) Prosopis pailide (algeroba)	2	2	4 8	st/O (Wł	hen using	Regrowth: spray (3200 + MM) (ref 1). Basol bark: triclopyr +
76	Poaceae	Hymenachne amplexiceulie cv. Clive (hymenachne)	12	1	4	Ha/A	a combined approach of different control	360 g/L C yphosate (includes Roundup Biactive & Weedmaster Duo)	100 Bignonia	iceae Tecoma	stans (y cllow bolls)	4	<mark>16</mark>	3.6 61	m T/O IV/	iulch. //	Stems: CS&P (C1.5) or scray G200, Beeds: collect, bag and							me imj	ethods, it is portant to	pictonam Access® @, 1∟/60L diesel. Cut stump triciopyr + pictonam
							methods including mechanical, obemical and	water or 10 L/ha delivered by boom	101 Rosades	is Khaphiol hawthorr	lapia Indica (Indian 1)	з	10	3.5 <mark>5</mark>	I/C) Sie pu	eedlings:) land u1	remove (ret 1) Saplingst (S14 * (G1 5)) Treast 17 (G1 5); Seedingst spray (G20) or G200 - MM or							zoi sys	ne of the rost sløm	pecionam Access® (a) 1L/GOL diessl. Overall spray - triclopyr + pictoram
							biological with land management practices is most	1	102 Mimosa	ceae Mimosa sensitive	pudica (common plant)	4	12	3.7 3	VA NJ	JA	MM (ref 1). Plastures - Fluroxy pyr/Starane 200 @ 1.5							bel	low the ground rlac ∈).	Grazon OSO @ 350 ml/100 l waterpus a wetting agent if plant is
77	Asteraceae	Senscio tamoides (Canary creeper)	3	8	4	V/0	and remove;	Stoms: S&P (GU): Regrowth and seeclings: spray G200 or G200 + MM (ref 1).									Uha Between cropping applications (conservation 11 age) Dicamba/Banyo 200 @ 0.8							ren sine		growing actively
78	Poaceae	Cenchrus cilians (buffel orass)	4	15	4.1	- IVA	and hang to dry. Hand or mechanical	Gizou + Min (jet 1). Herbicide Control - Glyphosate 7mD/L water.	103 Commol	inaccae Gallisia f succulor		3	9	3.9 H	VO NJ	W	1.4 U/ha Spray F100 or G200 or G200 - M M; Collect and bag or roll	129	Juncaceae	Juncus articulatus (jointad rush)	1	2	4 H	a/FO Ha		Spot spray with Glyphosate, 2,2-DPA or MCPA L dicamba
							removal of young plants		104 Soropou	lanaceae Paulows			5	4 1/	A0 51/	eedlings:) land	and rake carefully 10 spose (ref 1) Saplings: CSRCP ((31,5);	130	Cactaceae	Opuntia surantiaca (tiger pear)	1	2	4	ste	ind removed, em injected, or	(ref 3). Spray: Basal Bark application: Injection: Triclopyr - 8I /601 diasel, Ptoloram +
79	Acanthaceae	Thunbergia grandiflora (thunbergia, blue tounbergia)	2	J.	57	V/O	N/A	CSSP (G1.5); spray G200 (ref 1).	105 Commel	(paulown inaceae Tradesca (zebrina)	artis zebins	3	12	3.7 H	VO NJ	7A	iress' 171 (G1 5); Seedings; spray G200 (ref 1) Spray F100 or G200 or G200 - 17 M; Collect and bag or rol							gai	rlon	orssen, Frictoram + Trictopyr, 1L/60L dieset, Am trole: 1mL/3cm (ref 3)
80	Cactaceae	Opuntia tomentosa (velvet tree pear)	U	46	0.9	5/0	Fland removed, stem injected, or over sprayed with	Spray, Basal Bark application; injection: Triclopyr. 8L/60L cliesel: Picloram (106 Apancha		nalacosperma	5	16	3.8 H	70 N	/A	and rake carefully. Dispose (ref 1). Spray G200 + MM (ref 1).	131	Роасвае	Arundo donax (giant reed)	1	4	3.8 1			"/ Spot spray of cut stomp and sprcy with Givphosate (ref 5).
							garlon	Triclopyr: 1L/60_ cicsel. /vmitrole: 1mL/3cm (ref 3)	107 Poacead	(ruella) Perniset (kikoyu ;	tum clandestinum	4		3.8 H			Spot Spray: plyphosate or 2,2 DPA (rof 3)	132	Cactaceae	O <mark>puntiaum</mark> bricata (rope uear)	1	4	4 1	IVO Bio	o ogical controls	Spray, Uasal Bark application; Injection: Triclopyr 8L/60L
81	Euphorbiaceae	Ricinus communis (castor of plant)	7	20	3.9	S/C	Scedlings: Hand	Shrubs: S: CS&P or F/I (31.5); Seedings: spray G200	108 Lillacead	Ellium foi Illy) eac Sigestee	rmosanum (Talwon okla orlentalis	5 10			vU Ha	nd dispose and pull or	Spray C100 + MM or MM (ref 1). Spray with 2,4 D amino or							CBI	ctobiastis ctorum	diesel, Pieloram + Tielopyr 11/601 diesel, Amtrole: 1mL/Jom (ref
82	Asteraceae	Senecio madagascariensis (hre weed)	6	28	3.8	HAU	Hand pulled and	(ref 1). Stems: S&P (GU): Regrowth and seedings: spray G200 or	110 Asterace		veed) vi osa (cobbler's	10	110	3.5 H	VU Ha		sodium, pr MCPA + dicamba (ref 3). Spray with 2,4-D amins or codium, as MCPA + dicamba	. Statement						M⊧ d†f	echanical control ficult. Fire can used.	
83	Gyp <mark>eracese</mark>	Cyperus involucratus (African sedge)	6	15	3.8	Ha/C	F Each has to be dug out	G200 + MM (ref 1). Aquatic areas - Cityphosate-	111 Cadace	pegs) ae Opuntia prickly p	stricta (common ea)	7	67	3.6 S	VO Ha	utivation. and removed tern injected, or	sodium, pr MCPA + dicamba (ref 3). Spray, Basal Bark application, Injection, Trictopy), .8L60_	cherry d	Bignoniaceae Poaceae	Pyrostegia venusta (fame v.nc) Corraderia selloana	1 2	1		V/O N// H/O Sm	A nall Plants: dig	CS&P (G1.5); spray G200 (ref 1). Stems: C&P (G1.5) or cut
							with a spade and the entire plant turned over,	Land commercial/industrial, ngnts of way - Glyphosate-ipa, glyphosate-mas, imazapyr		provid p							dese, Picloam + Tricloom, 12/60L dese, Amibole, 1mL/3cm fiel	135	Solanaceae	(pampas grass) Solanum hispidum (giant	6	23	3.6	ma	achine	back and slash and spray regrowth G100 (ref 1). Spray G100 (ref 1).
							exposing the root system while making		112 Pacear	l isus ne	ndica (provision)	в	55	35 1		ul and chip epant with nativ	3). Spray: glyphosate or 2,94031A oref 10	00005550	Agavaceae	devilis fig) Furcrasa tostida (Cuban hemp) Euromon collos (Somo)	3	2		fila	schine	CS& Pinear ground or spray MM (ref 1). CS& Pinear ground or spray
							sure all serial parts of the plant are	8	113 Poaceae	grass)	is compressus (co	ouch	Spot spray with Glyphosate		Agavaceae Agavaceae	Furcraco selloa (nemp) Agave americana (century	1	2		ma	schine	CS& Pincar ground or spray MM (ref 1) CS& Pincar ground or spray



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🛛 surveying 🖉 town planning 🔎 urban design 🖉 environmental management 🗩 landscape architecture



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AMEN Issue	IDMENTS: Date	Description	Checked	CI
А	13/11/2017	Preliminary Issue	MS	
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	Iandscape architecture					
ROJECT: Spring Mountain Precinct	DRAWING: Area 2 Management Plan Weed Management Techniques					
opinig mountain ricomot	DATE: November 17 CHECKED: MS					
	CLIENT REF.: 7243 DRAWN: TL					
AS NOTED	DRAWING NO.: 7243 L 215 WMP A					

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	12		N A	G	ie	N	IEN	T PLA	Ν -	WE	ED) T	R	E	AT	ΜΕΝΤ	B	REM	JV	ΆΙ	. ST	RATEGY	;
	Rufaceae		6	26	3.6	<u>\$/O</u>	Seedlings: Hand pull		165 Buddlejaceae		5	6	3.4	s,v/o	MA	spray or out down and spray	188 Apocynaccad	Theve: a penuviana) (yellow	5 9	3.1	infestions	fluroxypyr (35ml 11 Diesel);	
	Rosaceae		4	10	3.7	S/OA			166 Bignonlaccae		3	8	4	ST/O	N/A	Stoms: OS&P (G1 5) or spray		ole ander)			used but should be	(1L.2L Water), Cut stump	
							some control if	water + welting agent. A	167 Cartaneae		22	4	4	30	the use of the	remove (ref 1)					herbic de	(IL:56L Diesel; Follar Spray of fluroxypyr 1:100 for larger	
								used to control this species			-			interna - A	tiological meany	1 01 601 diesel, Dichioprop						2).	
	Brass caceae	Selence Cochiene prenericent	4	24	37	INU		Spray G100 and replace with								2.0L:100L water Ret 5).	189 Rubiscess	Coffea arabica (coffea)	3 7	3.2	SDA Sapings Hand po	flower and fruit set; Saplings;	
	Balsaminaceae	(baisam)	2	6						clock vnc)		1			NA	1)							
			2	4			machine	MM (ref 1).	169 Fabaceae		27	4	3.5	10	NA	and stack branches above	190 Bighoniaceae		17 1	34	TAO NVA	reas:1 /l (G1.5); Seedings:	
	Rosaccac	(sis al)		31			machine	MM (ref 1).								resprouting. F/I sprouted	191 Fabaceae		4 12	3.1	V,HVA NVA	Vines. CS&P (1.1.5) or spray	
							pull									Trial Tordon (rof 1)		Watson a meriana var bulbill fera (b. b l watson a)	2 3	3.5	remove	Spray C200 1 MM (ref 1)	
	Poaceae		6	84	3.7	1/A			170 Sapindaceae		1?	1	3.67	1/0	Seedlings: Hand	stumps (G1.5); Saplings		fruit)	5 12 5 33			G200 + MM (ref 1).	
whole whole <th< td=""><td>Asteraceae</td><td></td><td>7</td><td>15</td><td>4?</td><td>H/O</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>branches above ground to cry;</td><td>Let Calcinuses</td><td></td><td>·</td><td></td><td>pull</td><td>Seedlings: CS&P (G1.5) or spray G200 (ref 1).</td><td></td></th<>	Asteraceae		7	15	4?	H/O										branches above ground to cry;	Let Calcinuses		·		pull	Seedlings: CS&P (G1.5) or spray G200 (ref 1).	
								Lantana or Camphor Laurel	1/1 Zingiberaceae	Lecychium gardherianum	17	3	3.6	1VO	Small Plants: Ha	1).		(sansevieria)	2? 7				
	Fabaceae		3	4			shading site	MIM (Ref 1)		(ginger lily)					pull and dispose	and spray regrowth if		grass)	5 20		cultivation	UPA (ref 3)	
	Alismataceae	platyphylia (sagittaria	3	7	3.5	Ha/FO										out stem and gouge thiz one -	ist hoodbade					Trees: F/I (G1.5); Seedings: spray G200 or G200 + MM or	
	Nymphaeaceae	e Nymphaea mexicana	2	4	3.7	Ha/OF			1/2 Acanthaceae	Livpoestes phyliostachua		5	3.5	(VO	l and pull or crow	kil or similar (ref 1).	198 Cactaceae		1 1	3.3		Spray; Jasal Bark application;	
								waterways, thus EPA should	173 Caprifollaceae	(polka dot plant	3				and dispose	(ref 1).		(sword pear)			cactob astis	dicsel. Picloram +	
	Poaceae		1	2	3.7	\$/O	ŴA	Stems, cut and fill segment		(American elder)					roll up and hang t	and Nodes: spray C100 + MM					successful. Mechanical control	diesel. Am trole. 1mL/3cm (ref	
	Limborhoose					1107.1	Land a ult	(ref t)	174 Asteraccae		9	45	33	H/U	Hand or	Seedlings: Altrazine or	100	0 analo ministra subsa		4.42	be used	David Dark on side along	
Visione Michael Bale Networks Visione	Luphorbaceae	(cotton leaf physic nut,			3.1	3/0		spiay Groc (iei 1)		italaire)					removal of small	with competitive native	155 Williosa, ede		,	4.47		application. Triclopyr 600g/L	
	Malvaceae	Sida mombifolia (Faddy's	9	69	3.6	S/U	Hand pull or dig									and Tordon 75 D mix.) Fictoram 240 g/t + 120 g/t at 1.0 -60 -clesel, Fictorem 45	
	Poaceae		8	25	3.6	H/A		Spot spraying with		<u> </u>							200 Minosaceae	Acacia famesiada (miniosa	6 15	3.1		Basa Bark or cut stump	
	Poaceae		6	14	3.E	H/A			175 Fabaceae	Tipuana tipu (tipuana)	2	5	3.4	7/0	Seedlings: Hand pull	Trees: F/I (G1.5), Seedlings.		DUSIC)			piants	Pictorem 240 g/Lt 120 g/Lat	
Second P	Rigospiasago		,	12	2.4	70			176 Asteraceae		8	32	3.3	H/U	Hand pull and har	g Spray MM or G200 or G200 +						application of Clopyralid	
Alert weis Alert weis <td>Bigili Ana. Cat.</td> <td></td> <td>-</td> <td>12</td> <td>514</td> <td>1002</td> <td>pull</td> <td>Trees: F/I (G1.5); Seedings:</td> <td></td> <td>inger)</td> <td></td> <td></td> <td></td> <td></td> <td>in all</td> <td>Lantana or Camphor Laurei</td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td>5)</td> <td></td>	Bigili Ana. Cat.		-	12	514	1002	pull	Trees: F/I (G1.5); Seedings:		inger)					in all	Lantana or Camphor Laurei				_		5)	
Implementation	Acanthaceae		2	4	N	S/C	infestations Can	Glyphosate known to be effective Species known to	177 Caesalpiniaceae		6	14	3.3	ST/A	Seedlings, Hand pull	Shrubs: CS&P or F/I (G1.5), Seedlings: spray G200 or	Explanatory notes.						
							planting	should be contacted before	6.71 Haaraaa							and bag seeds (ref 1)	Sub-region, Number of Recincut Total number	r of records for species within study a	area, Queensland	Herbarium Co	RVEG and HERBRECS dat		
wildie wildie wildie maren wildie ma	Mimosaccac	Acacla bollvana (Bollvan		1	4	7/0	species.		170 Poaleae			4)	3.5	104	mechanical	Glyphosate 7mL/L water,	Life forms: 1-tree (woo	dy plant >5m), ST-small tree (2-5m)	S-shrub (woody	<2m), Hherb	(grasses & forbes), I la-aqual		
Answer Ans								application. Triclopyr 600g/L											in aqua tan, o u	and the one and			
Description Approx attributing to drive or is a tributing to drive or is a tributin								1.0L.60L diesel, Pictoram 45	179 Asteraceae		10	55	3.3	2	mechanical	Chlorosulfuron in combination	CS&P - cut scrape a	nd paint					
Market songer jung warden in der jung warde	Simaroubacea		12	3	36	T/O	Seedlings Hand	Seedings: CS&P (C1.5);								species, Plants, Glyphosate	C&P = cut and paint						
Subject Data Site Splittle Europe 1 genes (Section 1) Section 2) Splittle Europe 1 genes (Section 2) Splittle Europe 1 gene 1 genes (Sectin 2) Splittle Europe 1 genes (Section 2)	Poaceae		y	44	3.3	1/A	land or	spray G200 or M.M. (ref 1).								Glyphosate ration depends on							
Oppositive works in distantservey scare? Oppositive works in site de data de serve servey de serve de serve de serve de serve de servey de serve de servey de server de servey de server de serve de server de server de server de server de server de server de server de server de server de server de server de server							removal of small		180 Euphorbiac eac		8	21	33	H/O	Hand pull		MM = Metsulfuron me	chyl, eg, Brushoff					
the second of the second	Сурегассае		8	53	34	H/O	Fach		181 Poaccae	Setaita pa mito la (palm leat	5	13	33	H/O	Hand pull or dig u	p. Spray C100 (mr 1)	Abbreviations: Herb	icide Dilution Rates for High Conc	entration Applic	ations			
Image: Second		(wullumbimby couch)					with a spade and	Land commercial/industrial,	182 Euphorbiaceae	Euphorbia heterophylla	5	12	3.4	H/O?	Hand pull	Spray G100 (ref 1).	GU = Glyphosate und G1 = 1 part water to 1	iluted part glyhphosate	100				
Image: Seven state Seven state More eee More eee M							turned over, exposing the root		183 Fabaceae	Desmodium intortum	4	11	3.3			spray G200 or G200 1 MM or							
Vice-cee Joing abag (and entitiers (a) joing abag							system while making									Monitor regrowth over 2 - 3	G100 = 100m_ glypho	osate per 10L of water + surfuctant, a	g 20mL LI 700 pe	r 10L			
Mode also guine mutery 3 10 34 100 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>of the plant are</td> <td></td> <td>184 Poaceae</td> <td></td> <td>3</td> <td>11</td> <td>3.3</td> <td>H/O</td> <td>Hand Pull</td> <td>Spot Spray, glyphosate or 2,2</td> <td>G100 + MM = 100mL</td> <td>glyphosate + 1.5g motsulfuron moth</td> <td>y per 10_ of wate</td> <td>r + wetting ag</td> <td></td> <td></td> <td></td>							of the plant are		184 Poaceae		3	11	3.3	H/O	Hand Pull	Spot Spray, glyphosate or 2,2	G100 + MM = 100mL	glyphosate + 1.5g motsulfuron moth	y per 10_ of wate	r + wetting ag			
Image: And the second is a state of the second is grant and the second is a state of the s	V praceae	Morus alba (white multerivi)	3	10	3.4	EO	covered.	Irees: 17 (G1.5), stark out	185 Asteraceae	Conyza bonariensis (Ilax	7	38	3.3	H/U		Seedlings. Altrazine or	MM = 1.5g metsulturo F100 = 100mL fluroxy	n methyl per 10L water + wetting ag pyr per 10L water					
Area decises been represented and representation and representati		(1111)	1				1177101	branches above the ground to ory; Saplings: CS&P (G1.5);		- (1999), 1993 (1993) - (1999), 1993 (1993)					removal of small	with competitive native species; Plants: Glyphosate	F150 - 150mL Euroxy	pyr per 10L water					
Image: Second																Clyphosate ration depends on							
Image: Carrie Use: Image: Carrie Use: Carrie: Image: Carrie Use: Carrie:	Arecaceae	Colocasia esculenta (taro)	3	4	3.4	H/AO	Hand pull.	glyphosate or metsulfuron	100 Bolanaceae	Solahum eranthum fa		10	30	12/1 1	Land out		Ref 2 Department or	Primary Industries and Fisheries (Q	nor Weeds of Si D), Weeds and	ubtropical Rai pest an mals	forests of Eastern Australia. and ants'	A practical manual on them	
Carms occurs Carms occurs <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>waterways so consult DE RM</td><td></td><td>lobacco bush)</td><td>3</td><td>1</td><td></td><td></td><td></td><td></td><td>Ref 4 Fort Stephens</td><td>Council (NSW), Weed Busters'</td><td></td><td></td><td></td><td></td><td></td></th<>								waterways so consult DE RM		lobacco bush)	3	1					Ref 4 Fort Stephens	Council (NSW), Weed Busters'					
Weed Ridgy and Management, 9 (1) pp 54-52 EPS Saunders Havill Group Pty Ltd ABN 24 144 972 949 Brisbane @ Emerald @ Gladstone head office 9 Thompson 5t Bowen Hills 0 4006 phone B00 I23 5HG web www.saundershavill.com Disclement Clement	Cannaceae	Canna indica (canna liiy)	3	9	3.8	H/O	Dig out entire plant	Cul/Stash and spay regrowth							removal of small		Ref 6 Department of	Environment and Conservation, "Flora	hase' (DEC-WA	5)		· Fore I foreign housingtonia	
Issue Date Description Checked A 13/1/2017 Preliminary issue MS Preside office 9 Thompson St Bowen Hills 0 4006 of relaces on the date grade to explore to an date												1			intestations				z. and Setter, S.	and Logan, P	(2009) Control of the Invasiv	e Lana, Hiptage benghalensis.	
Issue Date Description Checked A 13/11/2017 Preliminary Issue MS Prescription Gladstore head office 9 Thompson St Bowen Hills 0 4006 phone IB00 I23 SHG web www.saundershavill.com PROJECT: Date PROVECT: Spring Mountain Precinct Precinct						_																dlandscape ar	rchite
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phone BOO 123 SHG web www.saundershavill.com	51.2 s		-					These plans have been prepared do not accept responsibility for a by any third party. Confirm all dim construction	for the exclusive use of the client. Saunder ny use of or reliance upon the contents of th ensions on site and clarify any discrepance	rs Havill Group hese drawings es prior to							A 13/11/2017	Preliminary Issue MS	1			Area 2 Manager	
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AREA 2 MANAGEMENT PLAN - MONITORING & REPORTING

MONITORING & REPORTING

MONITORING AND REPORTING PROCEDURES

Monitoring and maintenance of the weed management and vegetation, both adjacent to proposed works and within the management area, is a vital component to the success of

this management plan set. An ongoing maintenance schedule, detailing the monitoring program, management intervals, methodologies, and corrective actions for contractors undertaking rehabilitation works within the ecological area is provided below. It is the responsibility of the rehabilitation landscape contractor to ensure the ongoing maintenance and monitoring schedule is actioned. Monitoring of the parkland weed management and revegetation works allows for

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

Monitoring is required for weed eradication, revegetation and assisted regeneration.

MAINTENANCE ACTIONS AND METHODOLOGIES

- Tree Retention Construction Phase · Ecologist / Arborist to assess tree exclusion zones are adhered to;
- · Trees assessed for signs of stress or die back; and
- Implementation of VMP if retained tree roots Critical Root Zone (CRZ) is impacted
- Initial Establishment Rehabilitation Planting Initial 12 week establishment period applies to all rehabilitation planting works. During this period weekly maintenance is to occur that involves the following: Watering; Watering;
- Ongoing weed control;
 Fertilising; and
- Replacement of dead or damaged stock.
- Ongoing Maintenance Rehabilitation Planting After this period, it is recommended that the ecological planting site be maintained on a monthly basis over a 5 year period to ensure that the planting has been successful. The following is to occur:
- · Conduct weed spraying, plant watering, plant replacement of losses as necessary to maintain >95% survival rate: All other areas of non-use / limited access or steep terrain areas are to be hydro
- seeded to maintain a minimum 90% ground cover All planting species will be disease free and supplied from an accredited nursery
- supplier; Assess condition of sediment control devices and replace if necessary; and Removal of excess sediment from erosion control devices as required.

MONITORING TIME FRAMES

For weed removal and revegetation three (3) Council determined timeframes form the anchor of the monitoring process. These include:

<u>Council Pre-Start</u> - On-site meeting prior to the initial commencement of work within each stage of weed management. Will involve Consultant, Contractor and Council to work through weed treatment areas and clarify works approved and appointed.

<u>On-Maintenance</u> - At the completion of the Primary Weed Removal Stage and Secondary weeding an On-Maintenance meeting will be held with Council to inspect the works on-site weeding an On-Maintenance meeting will be held with Council to inspect we ... in relation to the approved plans and previously agreed on-maintenance criteria.

<u>Off-Maintenance</u> - At the completion of all site weeding works and the agreed maintenance timeframe a final inspection will be held by Council to determine if works have been completed to the required level for Council hand over.

REPORTING

Reporting to Ipswich City Council will occur on a yearly interval during the total period. Council will physically attend the Pre-Start, On-maintenance and Off-maintenance meetings. For this project it is recommended reporting include a short memo styled report responding to agreed criteria. As part of the monitoring a number of pre-determined transect and quadrant sampling sites have been allocated. At these locations a number of trablect twidtabets are as a start and the set of the monitoring and the set of t baseline studies have been completed and will be repeated post weed removal and maintenance to measure the success of the programmed works. It is also recommended this include a visual diary of imagery from selected locations at each inspection (Including the pre-start and monthly inspections). The imagery for the each period will be included with the report to Council

n addition to the photo monitoring the biannual report to Council should include sufficient

- information on: Date, time and whether conditions at time of inspection
 Changes in weed extent populations (spreading / contracting)
- Changes in weed densities
- Health of existing vegetation protected by NRM provisions Rate of success for revegetation plantings Growth and PFC rate of assisted regeneration areas Occurrences of new weed infestations or species outbreak Commente on any inferred character to the scenario

- Occurrences of new weed infestations or species outbreaks
 Comments on any indirect changes to the area as a result of weed management (ie
- erosion / change in weed footprints / death to natives)
- Annual reporting is required to be sent to the Department of the Environment (DOE).

Saunders Havill Group Pty Ltd ABN 24 144 972 949 Brisbane 🟉 Emerald 🟉 Gladstone havill head office 9 Thompson St Bowen Hills Q 4006 droud phone 1300 123 SHG web www.saundershavill.com

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NOTES

MONITORING PARAMETERS

- The monitoring should address the following issues: Maintained health and vigour of retained Remnant Trees adjacent to the corridor; Plant growth, percentage cover and survival rates; Plant losses through herbivores, disease, vandalism, storm damage or other
- factors; Weed re-growth and control measures;
- Plant replacement:
- Maintenance watering regime; and Erosion prevention

It is also essential to keep an accurate photo record of the retained trees and progress of the rehabilitation planting by setting fixed photo monitoring points across the site. Photos should be taken by a digital camera and recorded in the project file by date and discrete photo monitoring point number. Photo monitoring point locations should be clearly marked on site and mapped by a surveyor or by GPS.

Corrective Actions

- Monitor construction activity;
 Monitor construction activity;
 Educated construction team on tree retention measures;
 Educated construction team on tree retention mitigation measures i.e. exclusion zones;
- Review VMP for particular trees;
- Remove if necessary unsafe tree; Compensation by planting:
- If soil erosion is still occurring in planting zones the following is to occur:
- Review rehabilitation techniques conducted by contractor; Assess the potential for disturbance to occur; Assess the potential for disturbance to occur; Assess of disturbances of disturbances to occur; and Maintain planting regimes to a minimum of 95% survival rate.

If weed infestations occur in planting zones or in disturbed construction area, the following

is to occur: Review weed removal and weed management techniques conducted by contractor;

- Assess the appropriate use and amounts of herbicides are being used; Assess the potential for weeds to occur; and
- Assess other potential sources or causes of weeds to occur
- If there is poor regeneration of plants occurring in ecological areas, the following is to
- $\stackrel{\text{occur:}}{\bullet}$. Review planting and direct seeding management techniques conducted by
- · Assess the appropriate use and amounts of herbicides are being used in planting
- Assess the potential for weeds to occur in ecological areas; and Assess other potential sources or causes of weeds or limited re-growth of native plants to occur, ie. plant pests and disease monitoring.

RESOURCES / ROLES & RESPONSIBILITIES

All resources required to implement this plan will be provided by the proponent (Lendlease). The following roles are applicable

PROPONENT

- Ensure all consultants, contractors, sub contractors or others utilizing the area are aware of the <u>Weed Management Plan</u>. Appoint appropriate consultants and contractors to undertake works as prescribed on the drawings and conditioned by **Ipswich City Council**.
- Cover the costs of all necessary resources to ensure works are completed as per
- the approved documents.

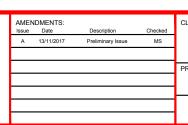
CONSULTANTS

- Brief the proponent on their requirements in implementing and maintaining works as per the <u>Weed Management Plan</u>.
 Attend pre start, on maintenance and off maintenance meetings.
 Undertake monitoring and reporting to **Ipswich City Council** as set up by this
- document.
- Be available to respond to technical gueries or departures to the approved documentation when on-site conditions require changes. Liaise with Council throughout all stages of approval, initial works and maintenance
- of works
- COUNCIL
- Provide technical expertise via commentary on the approval of documentation.
- Attend pre-start, on and off maintenance inspections.
 Undertake random inspections through the Secondary weed management and Maintenance weed management phases
- Accept and review biannual reports as dictated in this document

CONTRACTOR

- Complete works in strict accordance with the documentation.
 Recommend changes to the documentation when specific experience or on-site
 working and a strict accordance with the documentation.
- conditions require so.Attend pre-start, on and off maintenance inspections.
- 9 4 5 7





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	DRAWING: Area 2 Weed Management Monitoring & Reporting	Plan
PROJECT: Spring Mountain Precinct SCALE: 1:2000@A1 ⁰ 20 100m 1:4000@A3	DRAWING: Area 2 Weed Management	Plan)

Spring Mountain Precinct **AREA 3 WEED MANAGEMENT**

ISSUE A 13.11.2017 PRELIMINARY ISSUE

DRAWING SCHEDULE

havill

Dwg No.	Drawing Title	Issue	Date
7243 L 301	Weed Management Plan - Cover Sheet	А	13/11/2017
7243 L 302	Weed Management Plan - Introduction	А	13/11/2017
7243 L 303	Weed Management Plan - Sheet 1	А	13/11/2017
7243 L 304	Weed Management Plan - Sheet 2	А	13/11/2017
7243 L 305	Weed Management Plan - Sheet 3	А	13/11/2017
7243 L 306	Weed Management Plan - Sheet 4	А	13/11/2017
7243 L 307	Weed Management Plan - Sheet 5	А	13/11/2017
7243 L 308	Weed Management Plan - Sheet 6	А	13/11/2017
7243 L 309	Weed Management Plan - Technical Notes	А	13/11/2017
7243 L 310	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 311	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 312	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 313	Weed Management Plan - Monitoring & Reporting	А	13/11/2017





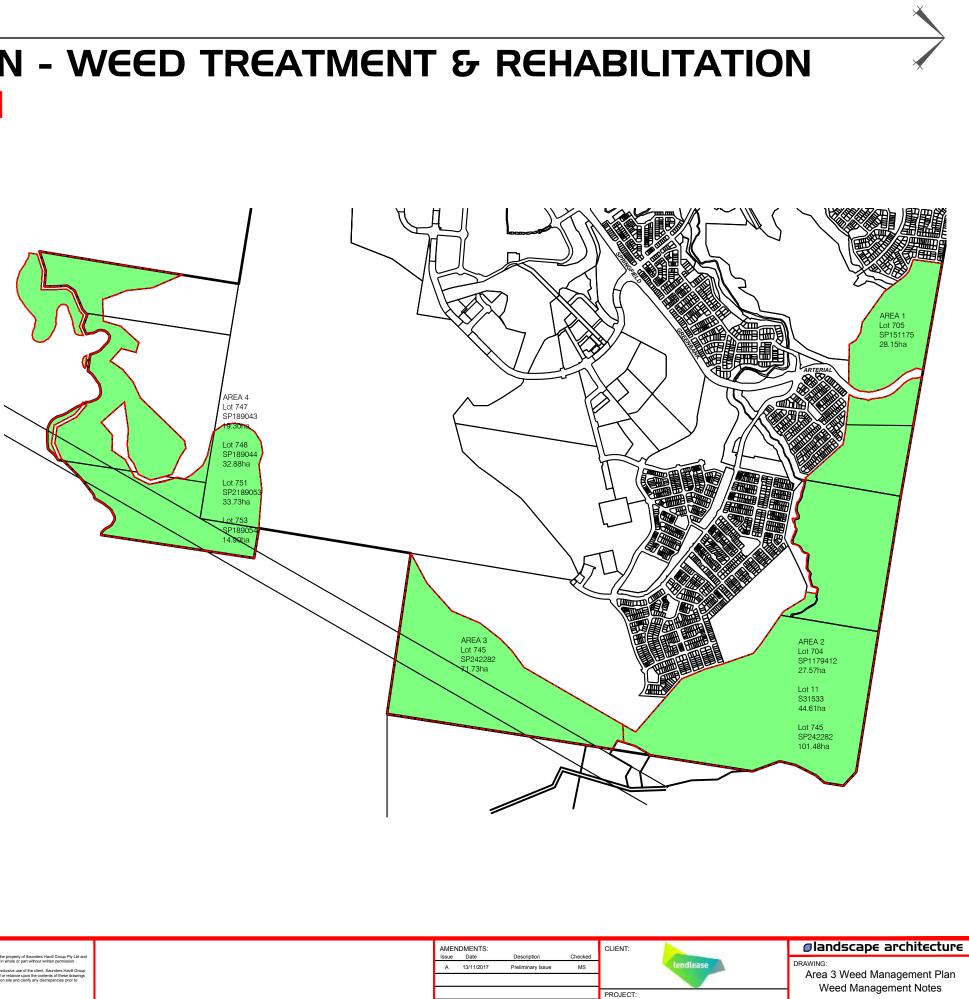
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AREA 3 MANAGEMENT PLAN - WEED TREATMENT & REHABILITATION

INTRODUCTION

NOTES

This Weed Management Plan



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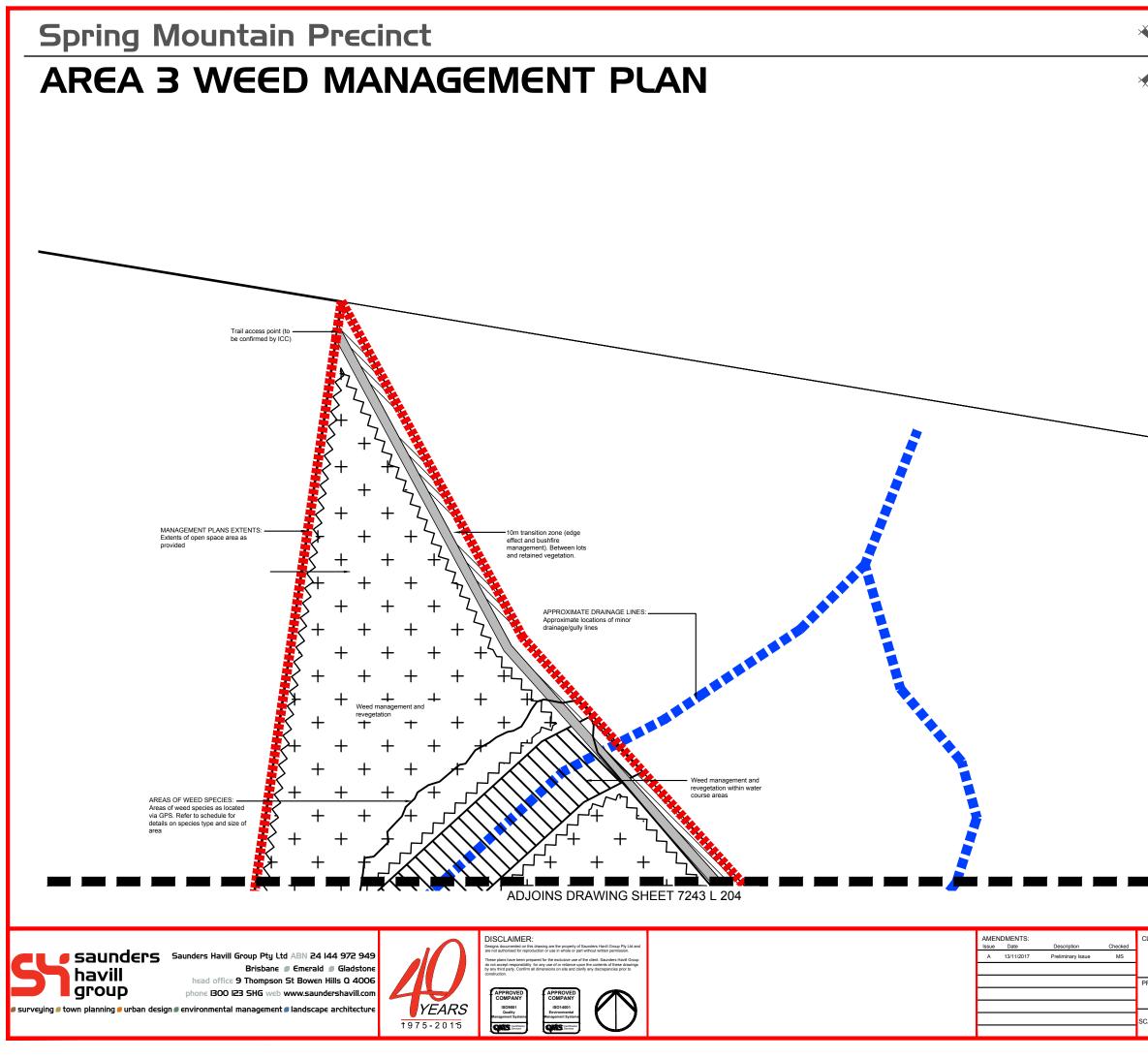
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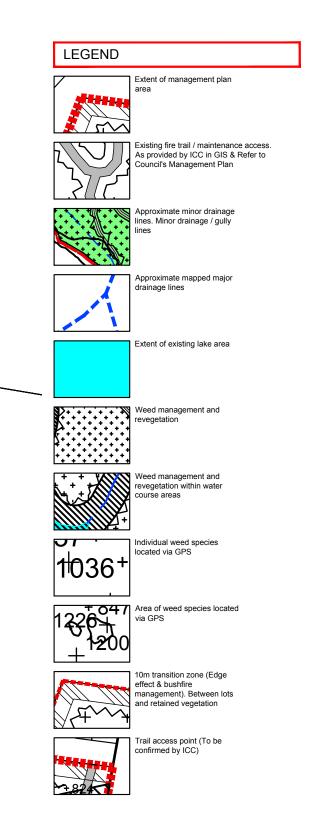
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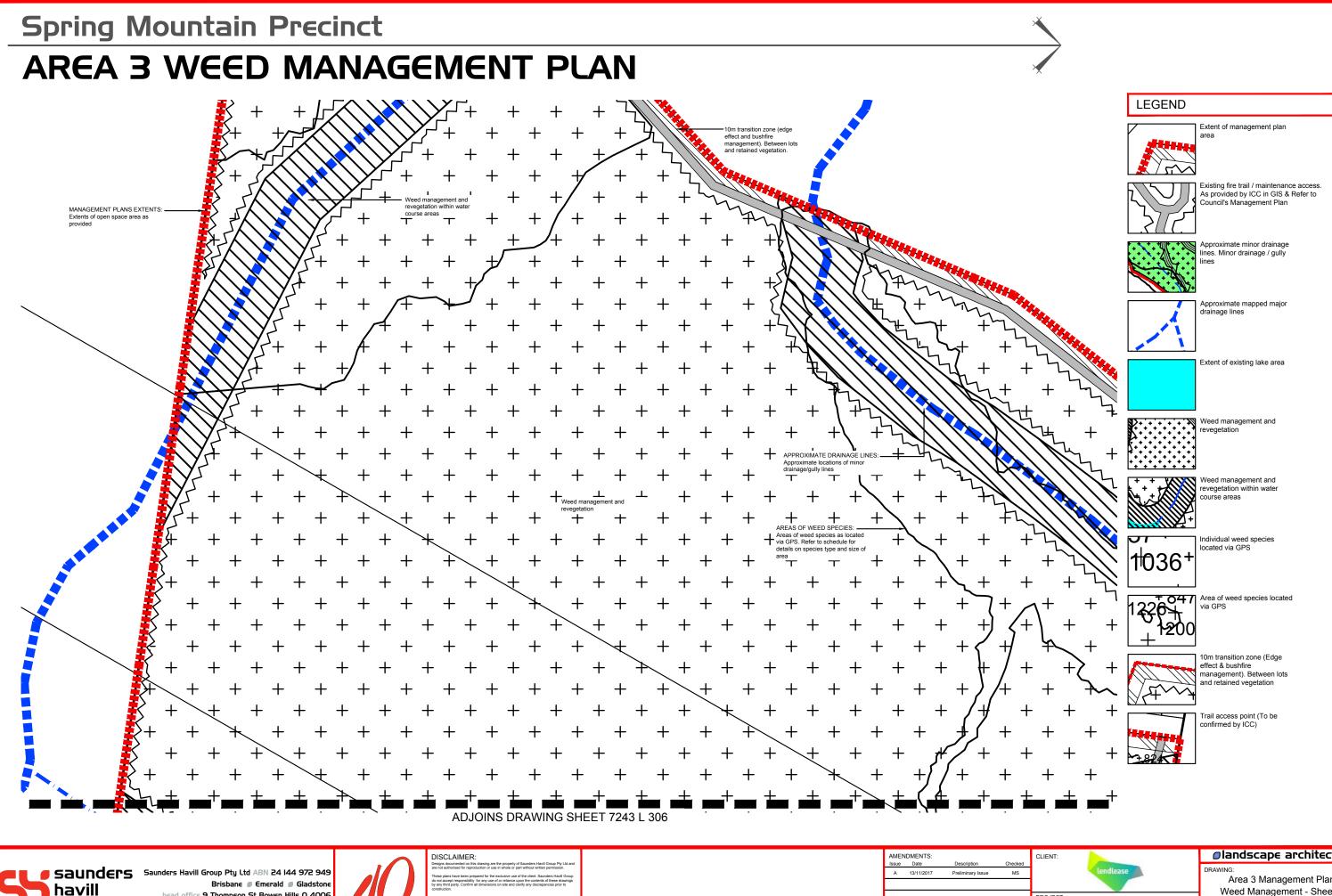
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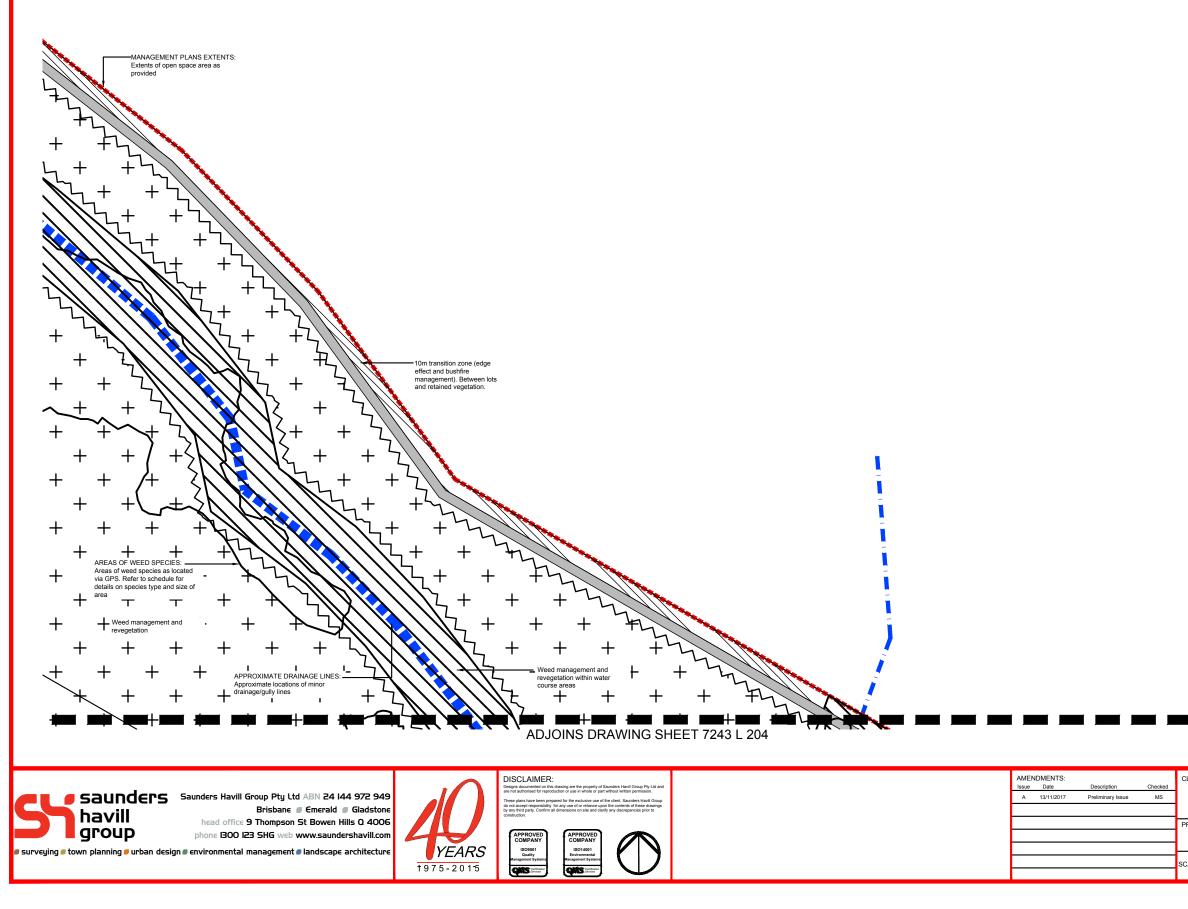
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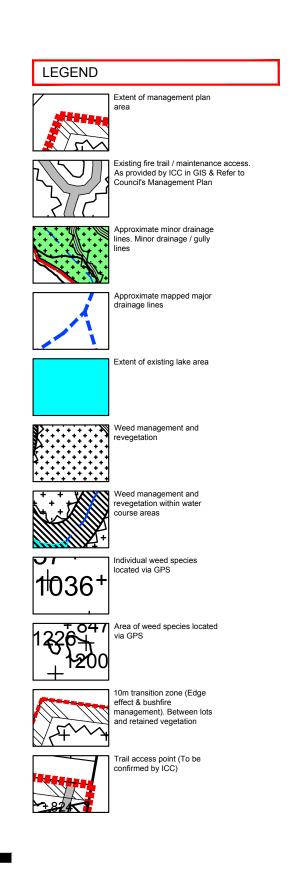


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ROJECT:	DRAWING: Area 3 Management Plan Weed Management - Sheet 2		
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AREA 3 WEED MANAGEMENT PLAN



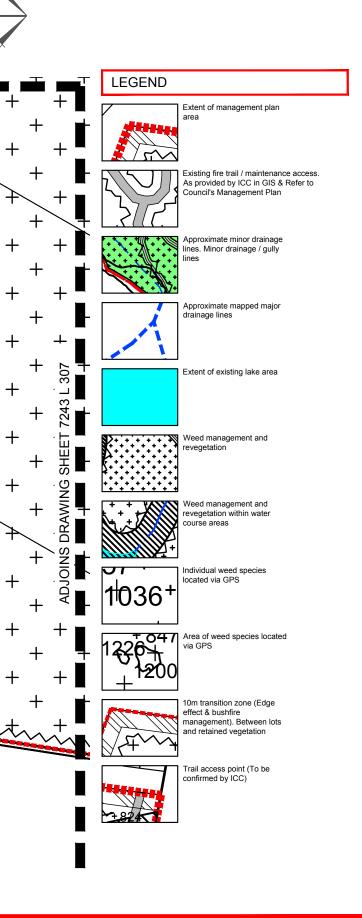




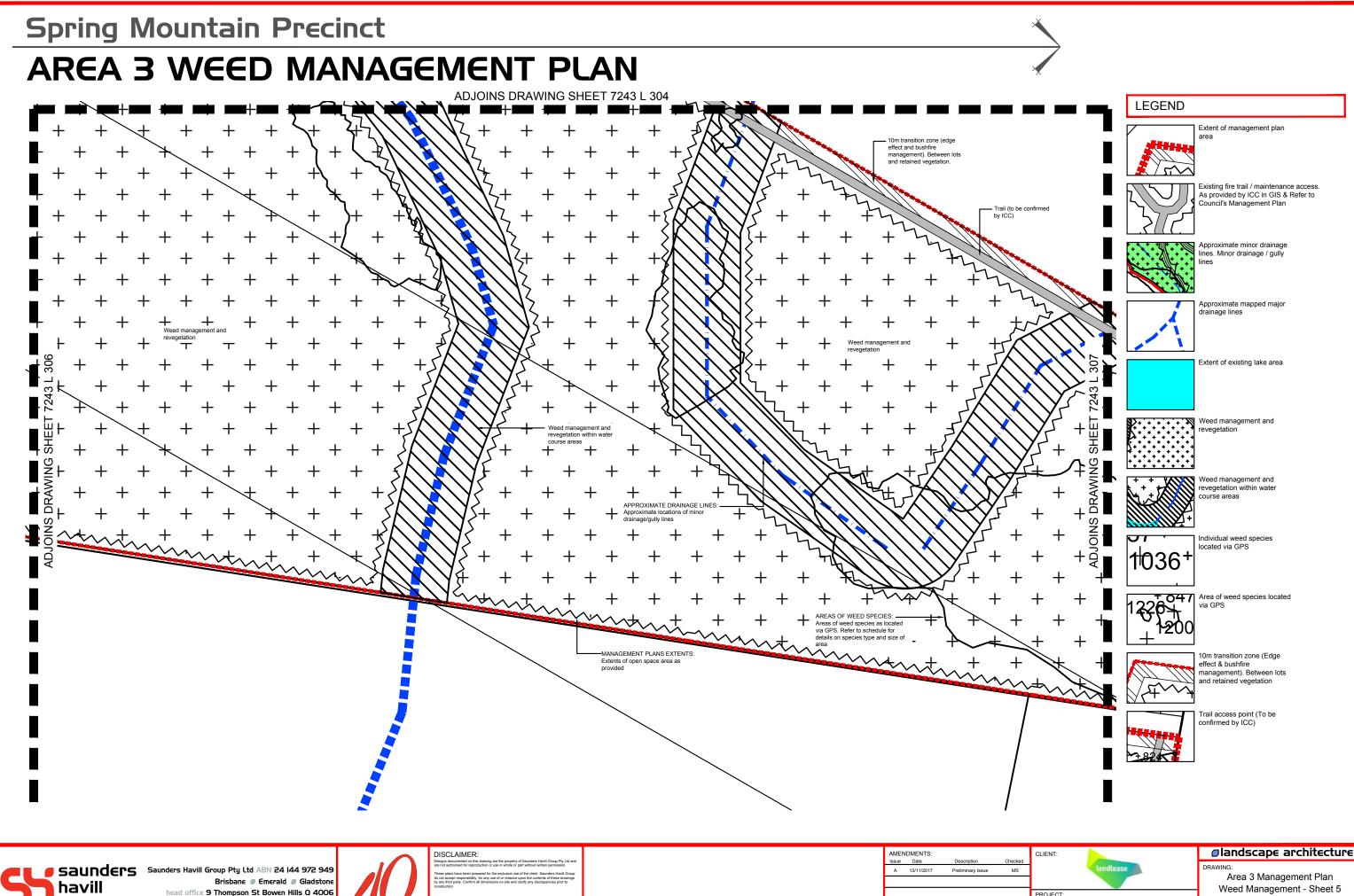
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ROJECT: Spring Mountain Precinct		
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Spring Mountain Precinct AREA 3 WEED MANAGEMENT PLAN ADJOINS DRAWING SHEET 7243 L 304 **----** ' **_**' ++╋ ++++APPROXIMATE DRAINAGE LINES: hpproximate locations of minor frainage/gully lines +╈ AREAS OF WEED SPECIES: Areas of weed species as located via GPS. Refer to schedule for *********** Muturtut mutut MANAGEMENT PLANS EXTENTS: Extents of open space area as provided

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YEARS

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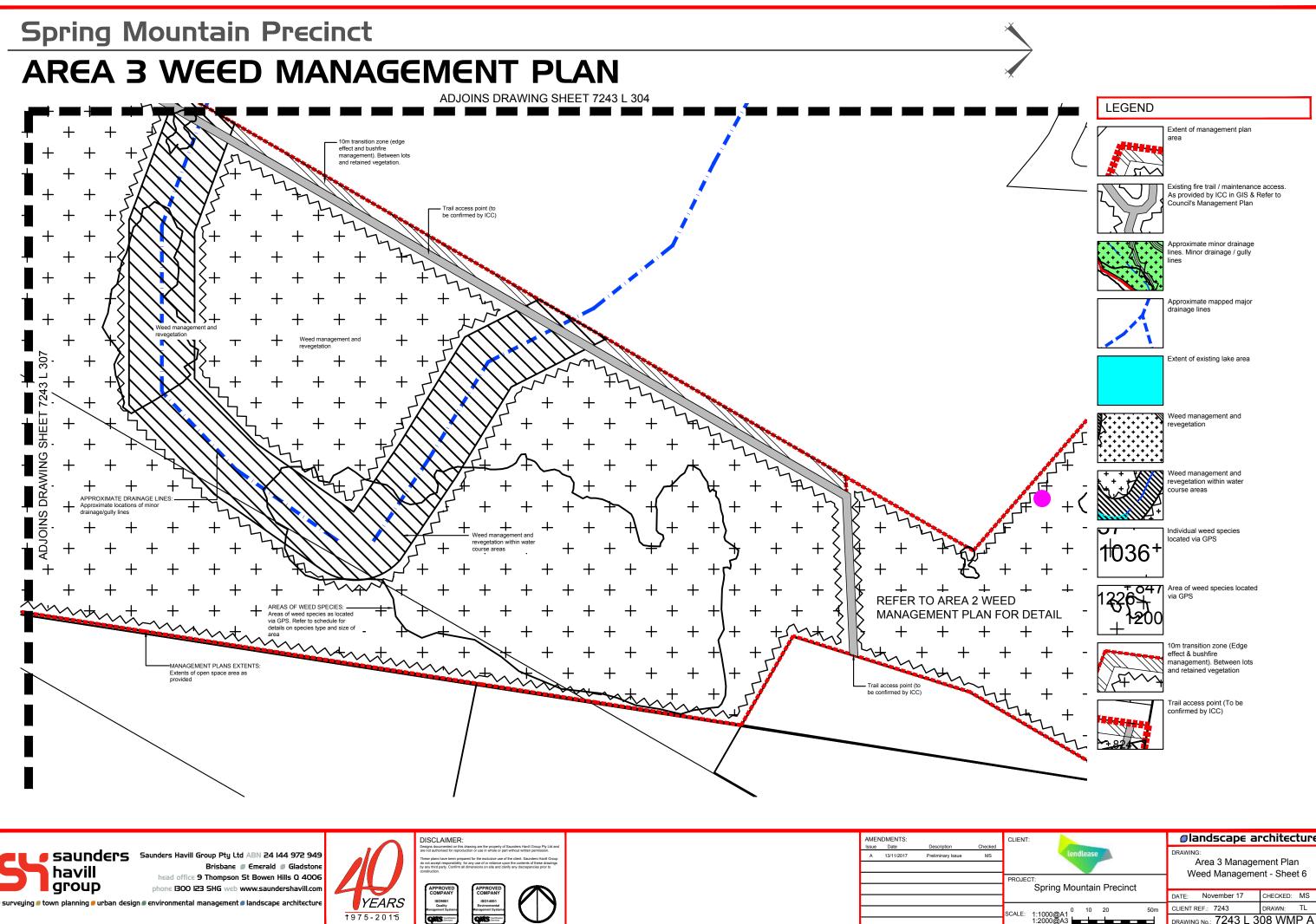
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AREA 3 MANAGEMENT PLAN - TECHNICAL N

NOTES

This Weed Management Plan links specific weed removal and management measures with spatial areas within the declared area included with this application. This Weed Management Plan covers the 71.73ha Area 3 portion of land previous dedicated by Springfield Land Corporation (SLC) to Ipswich City Council (ICC). The main objectives and action items for pest plants are detailed in Table 1 shown on this plan, with the objectives and actions for ecological restoration are detailed in Table 2.

WEED CONTROL PROGRAM TIMING

The primary stage of manual weed removal, treatment and disposal for the parkland dedication is programmed when all existing weeds are removed with secondary and maintenance weeding occurring for another 18 months (18 month program post on-maintenance).

Primary Weed Removal Stage - Consists of the initial weed removal / treatment of site weeds via the methods detailed within the South East Queensland Ecological Restoration Guidelines. Essentially involves the manual removal, stock piling and disposal and initial usage of prescribed herbicides. Additional notes below include: • Implemented weed control method according to this plan.

- Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed.
- Program timing; primary weed removal phase is considered to be completed when all existing weeds within the stage for the declared area have been removed or treated. Both the secondary phase and the primary phase of weed removal can occur concurrently in different stage areas over time.
- A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress.

Secondary or Follow-up Weeding - for all areas will involve the quarterly inspection of areas having undergone Primary Weed emoval and treatment of infestations or outbreak as required. Additional notes below include:
 emplemented weed control method according to this plan.

- Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed.
- Program timing; primary weed removal phase is considered to be completed when all existing weeds within the declared area have been removed initially. Both the secondary phase and the primary phase of weed removal can occur concurrently in
- different work areas over time. • A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress.

Maintenance Weeding Phase - final stage of weeding which occurs in areas where the majority of weeds have been removed and treated. Maintenance weeding continues to remove additional outbreaks but also allows for the fostering of natural regeneration and regrowth seedlings. Additional notes below include:

Implemented weed control method according to this plan.

• Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed. Program timing: primary weed removal phase is considered to be completed when all existing weeds within the designated

Park have been removed initially. Both the secondary phase and the primary phase of weed removal can occur concurrently in different work areas over time.

• A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress.

Revegetation occurs in two (2) distinct zones throughout the management area. Refer to Drawing sheets for a full description of proposed plant species, sizes, densities and numbers

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

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, wind or water. • 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

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TABLE 1: OBJECTIVES AND ACTION ITEMS FOR PEST PLANTS

Threats	Opportunities	Management action	Timeframe	Responsibility
		e and enhance the diversity of the the state by controlling pe		species and
Insufficient monitoring of pest plants	Increased knowledge of pest plant abundance and distribution within the estate	Continue to develop and update the management plan for the estate to identify pest plants present and to recommend and prioritise control and monitoring actions	Annually	Saunders Havill Group (SHG)
Establish- ment of plants are controlled controlled of pest and in a platts are controlled effectively of pest and in a way that ensures native of pest of the plants are controlled way that ensures native plant vegetation regeneration		Include treating pest plants within the open space area to improve visitors experience to the estate	Ongoing	Contractor
Increased abundance of pest plants due to fire	Increased knowledge of pest plant responses to fire	Conduct follow up pest plant treatment after any fires within the estate	As required	Contractor
Lack of education of visitors and local residents as to the adverse impacts pest plants have on the natural environ- ment	Improved public understanding and support for pest plant control	Provide material for public awareness (ie interpretative signage)	As required	Contractor

NC	ΤΕ	S	- GE	NE	:R	•	
TABLE 2: O	BJECTIVES A	ND ACTIO	N ITEMS FOR ECOL	OGICAL RES	TORATIO		
		Manageme		Timeframe	Responsi		
processes fo		estate, so a	e the significant habitat as to contribute positive				
Degraded vegetation communities impacts on other values within the estate, including native flora and fauna species, fire issues and aesthectics	Restore degraded native vegetation communities and minimise impacts associated with pest plants and their control on native flora and fauna, cultural heritage sites, and landscapes within the estate	managem - clearly p zones (eg and envir and mapp zones) - Divide tt which car systemati - Align wir managem could pro economic reducing same timp plant conf - Lantana be manag load, as tf hazard Incorpora relevant C - Write th audience estate (eg	nent plan as burns vide ecological and al efficiencies; fuel loads at the e as acting as a pest	Prior to commence- ment	Contracto		
Pest plant infestations from high use areas may impact on adjacent ecological values	Improve the flora values within the open space area	planning li planting li plant spee rehabilitat enhance where ap Include th	the site rehabilitation for the open space, a st of locally occurring cies for use in ion is to be provided to population viability propriate and possible. reatened and locally t species in plantings.	Ongoing	Contracto		
Trail creation, soil compaction and increased erosion	Restore natural habitats to increase the resilience of the estate	Refer to n for further	nanagement plans r detail	As required	Contracto		
Pest plant introduction and spread Disturbance	Deceased abundance of pest plants Deceased	for furthe	nanagement plans r detail nanagement plans	As required	Contracto Contracto		
from pest animals	abundance of pest animals	for further			Jonuaulu		
Insufficient resourcing of restoration measures	Improved public understanding of and	Refer to r for further	nanagement plans r detail	As required	Contracto		
Insufficient data on the effectiveness of ecological restoration programs	support The populations and diversity of near threatened, threatened or locally significant plant species are protected and enhanced	Refer to n for further	nanagement plans r detail	As required	Contracto		
	1						
			AMENDMENTS:				Ølandscape architect
				Description reliminary Issue	Checked MS	lendlease	RAWING: Area 3 Weed Management P
							Technical Notes - Genera

ROJECT Spring Mountain Precinct DATE: April 17 CHECKED: MS CLIENT REF.: 7243 DRAWN: TL ALE: AS NOTED

DRAWING No.: 7243 L 309 WMP A

AREA 3 M

NOTE: Species highlighted have been identified within the 'Springfield Wildlife Corridor Management Requirements' list which have specified removal and/or treatment techniques for Class 1 or 2 weeds. Environmental weeds and weeds of National Significance (WONS) Class 3 are to be:

- Remove dumped garden weeds from urban interface. Liaise with ICC Supervisor regarding ongoing Compliance issues. Lantana controlled within 20m of track edges
- (ie walking, shared and service). the walking, shared and service). Strategic treatment of gully infestations staged from head of gullies downstream utilising cut stump method and chopping lantana into small (150mm) pieces. Areas to be determined by .
- consultation with ICC. Assisted natural regeneration following • removal including direct seeding utilising endemic seed from site. Follow up weed control by spot spraying emerging weeds in cleared areas or hand removal.

								<u>AN - '</u>												Alternanthera philoxeroides	10	-		Uall		Terrerstrial plants use
		HERBARIUM INVAS					TS IN SOUTH	EAST QUEENSLAND	19	Fabaceae Poaceae	Neonotonia wightii (glycine) Panicum maximum (green	5 8	16 78	4.7	H/A H/A	N/A Hand or	Vines: CS&P (1:1.5) or spray G100 + MM or MM (ref 1). Spray: glyphosate @ 13mL/1L	30	Amaraninaceae	(alligator weed)	17	3	0	Ha/U	the damage course of	Metsulfuron methyl (Brushoff®) + 1mL/L
	erbenaceae	names Lantana camara var	10	455	5	& Sou	Control Seedlings: Hand	Seedlings: CS&P (G1.5);			panic and guinea grass)					mechanical removal of small infestations	water (ref 2.)									non-ionic wetter @ 8 1mL/L non-ionic wett 10g/100L water + 1m
		camara (lantana)					pull	Shrubs: blanket spray G100 or cut down and spray regrowth G100 or splatter gun	21	Oleaceae	Ligustrum sinense (Chinese privet)	4	11	4.6	T/O		Saplings: CS&P or C&P (G1.5): Trees: F/I (G1.5);									ionic wetter. Free fl plants Glyphosate (l
							-	using 1 part G to 9 parts water - apply only when plant is proving, not dormant (ref. 1).									Seedlings: spray MM or G200 + MM if other weeds such as Lantana or Camphor Laurel	37	Passifloraceae	Passifora suberosa (cork passionflower)	8	166	4.2	V/O	N/A	Biactive®) 10 mL/L Stems: CS&P See Regrowth: spray G2
A	Isteraceae	Baccharis halimitolia (groundsel bush)	10	168	4.8	S/C	Cut stump prior t flowering	Shrubs: CS&P or F/I (G1); Seedlings: CS&P (G1.6) or	22	Ochnaceae	Ochna serrulata (ochna)	7	33	4,5	S/O	N/A	are present (ref 1) Stems: CS&P or S&P or F/I	38	Poaceae	Melinis minutifiora	5	17	4.5	H/A	Grazing or mowing	G200 + MM (ref 1) Spray: Fluazifop-P
Ċi	Trassulaceae	Bryophyllum delagoense (mother of millions)	8	38	4.9	HYC	Hand removed a bagged or larger	spray G200 (ref 1) nd Plantlets: spray G200 + MM or MM (ref 1).									(G1.5); Seedlings and Regrowth: spray G200 + MM or MM. Tital basal bark F100	30	Aristolochiaceae	(molasses grass) Aristolochia elegans	R	30	4.3	V/O	Stems: Hand pull;	2L/Ha, Glyphosate 1L/100L water (ref) Stems: CS&P (G1)
	lignoniaceae	Macfadyena unguis-cati	5	36	4.9	Vid	infestations sprayed Tubers: crown or	Regrowth and tuberlings:	23	As paragac eae	Asparagus aethiopicus cv.	5	35	4.5	H/O	dig out unwanted	or G200 + MM (ref 1). Spot spray -			(Dutchman's pipe)				10	Fruit: Bag and remove.	Seedlings: spray G G200 + MM or MM
		(cat's claw creeper)					dig up, bag and remove.	spray G100 + MM or F100 (ref 1).			Sprengeri (asparagus ground fem)					of at the	metsulfuronmethyl (600 g/L) @ 10 g per 100 L	40	Convolvulaceae	ipomoea indica (blue moming glory)	5	24	4.3	V/O		Vines and Runners (G1.5): Larger Sten and Nodes: spray (
3:	lasellaceae	Anredera cordifolia (madeira vine)	8	16	4.9	V/C	Tubers: Hand pu	Ascending Stems: S&P (GU); II. Tubers: gouge, scrape and paint (GU); Ground								landfil. remove the	water plus wetting agent or 100 g/ha plus wetting agent. Cut	41	Mimosaceae	Leucaena leucocephala	6	14	4.3	ST/A	dry. Small plants: Hand	or F150 (ref 1).
	sparagaceae	Asparagus africanus		26	10	w		infestations: spray G200 or G200 + MM (ref 1) fluroxypyr (200 g/L) @ 35 mL									stump, spot spray, Apply neat Diesel			(leucaena)					pull or mechanical removal	application: triclopy picloram 120g/L @
	oparagaceae	omamental asparagus, asparagus fem)	1	20	4.5	V/C	dispose of at loc council landfill si		24	Poaceae	Sporobolus pyramidalis and	8	72	4.8	H/U?	regrowth Seed heads cut	Small infestations: spray									diesel, C&P: triclog + picloram 120g/L 60L diesel, spray t
							remove entire crown and underground ster	m			S. natalensis (glant rat's tail grasses)				V (1997)	and bagged, remaining leaves	glyphosate @ 15mL/L water, flupropanate @ 2mL/L water +									300g/l + picloram * 350mL per 100L w
	Imaceae	Coltin since in 101	ļ	19		T/C	to prevent regrov	#h								sprayed	ionic wetter @ 1mL/Lwater. Dense Infestations: blanket spraving glyphosate 3L/ha,	42	Poaceae	Brachiana mutica (para	6	18	4.4	Ha/A	Grazing	Combination of che mecha Herbicide Control -
	imaceae	Celtis sinensis (Chinese celtis)	в	19	49	1/0	hand pull or dig out small	all Stem injection, glyphosate (360 g/L) @ Undiluted at 1 mL per 2 cm of hole or		Asteraceae	Ageratina riparia	5	38	4.6	H/O	the second s	flupropanate 2L/ha (ref 2) Spray G100 or MM (ref 1).			grass)						application (Knaps glyphosate 360g/L
							seedlings comb dozing, burning and controlled	ine cut	26	Asclepiadaceae	(mistflower) Araujia sericifera (mothvine)	9	38	4.4	V/0		Vines: CS&P (G1.5); Seedlings: spray G200 or									200mL/15L water; glyphosate 360g/L Handgun: glyphos
	auraceae	Cinnamomum camphora	7	25	48	T/C	grazing for large	Saplings; CS&P (G1.5);								remove fruit.	G200 + MM or MM (ref 1).	43	Hydrocharitacea	Egeria densa (egeria waterweed)	2	7	4.4	Ha/F	hand pulling	@ 1.3L/100L wate N/A
	anareae	(camphor laurel)		25	4.0		pull	Trees: F/I (G1 or G1.5) or C&P (G1.5 or GU for stems	27	Crassulaceae	Bryophyllum daigremontianum x B. delagoense (hybrid mother-	6	15	4.5	H/O	Hand pull and dispose	Plantiets: spray G200 + MM or MM (ref 1).		e	waterweed)					cutting and digging with machines effective	
ū	nacardiaceae	Schinus terebinthifolius	6	49	4.8	T/0	Seedlings: Hand	up to 8 diameter); Seedlings: spray G200 or G200 + MM Saplings: CS&P (G1.5);	28	Convolvulaceae	of millions) Ipomoea cairica (mile-a-		56	4.4	V/O		Vines and Runners: CS&P	44	Pinaceae	Pinus elliottii (slash pine)	4	22	4.3	T/A	Seedlings: Hand pull; Saplings and	ensuring thick bark
	akiniaceae	(broad-leaf pepper tree) Salvinia molesta (salvinia)	B	57	49	Ha/	pull F Mechanical	Trees. F/I (G1.5); Seedlings: spray G200 (ref 1) Aquatic areas: calcium			minute)						(G1.5); Larger Stems, Roots and Nodes: spray G100 + MM (ref 1).	45	Caesalpiniaceae	Senna pendula var. glabrata	7	33	4.2	ST/O	Trees: cut close to ground or ring-bark Seedlings: Hand	
54	ammaceae	camina niciesta (samina)		57	4.0	The	removal of small infestations;	dodecylbenzene sulphanate (AF-100) @ 1 part to 19 parts	29	Sapindaceae	Cardiospermum grandiflorum (balloon vine)	7	31	4.4	V/0		Stems: CS&P (G1.5); Seedings or Small vines:			(Easter cassia)					pul	Seedlings: spray C G200 + MM or MM
							Salvinia weevil (Biological contri	kerosene, diquat (vegetrol) 50- ol) 100L/ha or 4L/100L water; diquat (watrol) 50-100L/Ha or	30	Asclepiadaceae	Cryptostegia grandifiora	6	19	4.4	V/O	Scattereded or	spray G200 or G200 + MM (ref 1). Foliar spray - Follow-up basal	46	Poaceae	Chloris gayana (Rhodes grass)	9	55	4.3	H/A	Hand pulling and removal and	and bag seeds (ref Spray: giyphosate water
								4L/100L water; diquat (regione) 5-10L/Ha or 400mL + 150mL Agral / 100L water			(rubber vine)					medium-density infestations: When	bark/cut stump/foliar spray as necessary with Triclopyr +	17	Crassulaceae	Dariaschedlinge ginnertries		17	4.2	H/O	digging of larger clumps Hand pull and	Plantiets: spray G
							nun fürstundenten	(see ref 2.								possible, repeated slashing close to ground level is	(Grazon DS, Grass-up, etc.) @ 0.35–0.5 L/100 L water		Asteraceae	Bryophyllum pinnatum (resurrection plant) Parthenium hysterophorus	6	14	4.2		dispose	or MM (ref 1). Spot spray 2,4-D a
Ci	Cabombaceae	Cabomba caroliniana (cabomba, fanwort)	4	12	4.9	Ha/	F Mechanical removal of small infestations	2, 4D N-Butyl Ester (Rubber Vine Spray) @ 12.5L/ML water (see ref 2, for								recommended.	Ŭ.	40	Caprifoliaceae	(parthenium weed)		6	4.3	V/O	small areas is not recommended Vines and	g/L @ 0.4 L/100 L Vines and Runners
Ā	steraceae	Chrysanthemoides monilifera subsp. rotundata	3	23	4.9	S/O	A N/A	application guide), Stems: C&P or F/I (G1.5); Bushes: spray or cut down		Phytolaccaceae Poaceae	Rivina humilis (baby pepper) Sporobolus africanus	8	61 48	4.3	H/O H/U	Hand pull and hang to dry Hand or	Spray G100 (ref 1).	49	Caphionaceae	Lonicera japonica (Japanese honeysuckle)	з	0	4.3	WO	Runners: hand pull	(G1.5); Larger Sten and Nodes: spray (
		(bitou bush)						and spray regrowth G100 or MM (ref 1).	~		(Parramatta grass)					mechanical removal of small	glyphosate @ 15mL/L water, flupropanate @ 2mL/L water +	50	Acanthaceae	Thunbergia alata (black	5	22	4.2	H/O	dry. N/A	or MM (ref 1). CS&P (G1.5), spra G200 + MM (ref 1)
	ontederiaceae	Eichhomia crassipes (water hyacinth)	4	8	4.9	Ha/(F Mechanical removal of small infestations	Aquatic Areas: glyphosate								infestations	ionic wetter @ 1mL/Lwater; Dense Infestations: blanket spraying glyphosate 3L/ha;	51	Fabaceae	eyed susan) Macroptilium atropurpureum (siratro)	8	39	4.2	V/A	N/A	Vines: CS&P (1.1. G100 + MM or MM
Ē	canthaceae	Hygrophila costata (Glush	3	7	E	Ha/		@1-1.3L/100L water (see ref 2. for application guide). Glyphosate known to be	<u>y.</u>	Dearcai	Onesekal - t dit					Li mandi	flupropanate 2L/ha (ref 2).	52	Rosac eae	Rubus ellipticus (yellowbeny)	4	26	4,1	S/O	growth, giving	Grazion DS picloram/triclopyr 1
1		weed)				t sd/	infestations. Car be controlled by	effective Species known to occur in waterways so EPA	33	Poaceae	Sporobolus fertilis (glant Parramatta grass)	9	27	4.5	H/U	Hand or mechanical removal of small	Small Infestations: spray glyphosate @ 15mL/L water, flupropanate @ 2mL/L water +								plants are slashed before they seed	
							species.	should be contacted before e spraying (ref 4).								infestations	ionic wetter @ 1mL/Lwater, Dense Infestations: blanket	53	Colchicaceae	Gloriosa superba (glory lily)	3	26	4.1	V/O	N/A	Young Shoots spr G200 + MM. Best Oct-Nov and by us
í	leaceae	Ligustrum lucidum (tree privet)	5	9	4.8	T/C	Seedlings: Hand pull	Saplings: CS&P or C&P (G1.5); Trees: F/I (G1 or G1.5) or C&P GU for stems up to									spraying glyphosate 3L/ha, flupropanate 2L/ha (ref 2).	54	Verbenaceae	Phyla canescens (lippia,	3	4	4.2	Ha/O	a combined	as surfuc ant (ref 1) Foliar spray 600 g/
								8cm diameter, Seedlings: spray MM or G200 + MM if	34	Poaceae	Eragrostis curvula (African Iovegrass)	7	29	4.3	H/U	they flower. When	Glyphosate (360 g/L) (e.g. Weedmaster® Duo) @			Condamine couch)						Dichlorprop @ 5 ml or 2,4-D amine (500 crop oil @ 2-4 L/ha
i.	steraceae	Sphagneticola trilobata	6	34	4.6	HK) Hand pull	other weeds such as Lantana or Camphor Laurel are present Hand pull and/or spray G200								chipping out the plant ensure that the tussock	to must L water								chemical and mechanical with	crop oil
A,	steraceae	(Singapore daisy) Ageratina adenophora (crofton weed)	6	38	4.6	H/C) Hand pull and ha to dry.	+ MM (ref 1) ang Spray MM or G200 or G200 + MM if other weeds such as								crowns are removed, as this									land management practices is most effective	
						_		Lantana or Camphor Laurel are present (ref 1).								will prevent regrowth. If in seed, the stems		12454	Solanaceae	Solanum seaforthianum (Brazilian nightshade)	8	78			Hand pull	Spray G100 (ref 1)
v.	/erbenaceae	Lantana montevidensis (creeping lantana)	8	62	4.8	5/0) Fire and/or mechanical cont	Spray (march to may): rol glyphosate 1L/100L water; metsulfuron methyl 10g/100L water; metsulfuron methyls + glyphosate 173g/100L water;	35	Asteraceae	Gymnocoronis spilanthoides (Senegal tea)	3	4	4.7	Ha/F	must be cut and bagged first. place plant material in a	Glyphosate and metsulfuron- methyl @ 15mL/L water	56	Araceae	Pistia stratioles (water lettuce)	3	8	4.1	Ha/OF	Mechanical removal of small infestations	Glyphosate 360g/L 1.3L/100L water or diquat 20g/L @ 4L/ or 50-100L/Ha (see
					**********			Basal bark (anytime): triclopyr 1L/60L Diesel, picloram + triclopyr @ 1L/60L Diesel, Glyphosate, neat application; Solatt								sealed plastic bag, leave in sunlight to rot then bum or dispose of at a council-approved		57	Asparagaceae	Asparagus plumosus (asparagus fem)	4	8	4,1	V/O		application guide). Rhizomes: gouge at (G1.5), Stems: wind spray or cut high an spray regrowth G20

AMEN Issue	IDMENTS: Date	Description	Checked	С
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🛢 surveying 🛢 town planning ቐ urban design 🛢 environmental management 🛢 landscape architecture

CLIENT:	Iandscape architecture						
lendlease PROJECT:	DRAWING: Area 3 Weed Management Plan Weed Management Techniques						
Spring Mountain Precinct	DATE: November 17 CHECKED: MS						
	CLIENT REF.: 7243 DRAWN: TL						
AS NOTED	DRAWING No.: 7243 L 310 WMP A						

WEED TREATMENT & REMOVAL STRATEGY AREA MANIACCNICNIT DI ANI

		/IAN/	-10](VI		IN I	' PLA	N		VVCC				70				J	RCIV) V	A			RAI
58	Commelinaceae	Tradescantia fluminensis (Qld use T. albiflora) (wandering jew)	5	9	4	.1	H/O	N/A	Spray F150 (as per label) or G200 or G200 + MM; Collect and bag or roll and rake	84	Asteraceae	Tithonia diversifolia (Mexican suntower)	5	11	3.9	HVO	N/A	Stems: CS&P (G1.5) or cut and spray regrowth and seedings (G100 or MM) (ref	114	Lamiaceae	Salvia coccinea (red salvia)	9	46	4		remove small areas by hand or machine	Aquatic areas (drains, channels, margins of streams, lakes and dams) -
-	Solanaceae	Cestrum parqui (green	6	36	3	9	S/0	Seedlings: Hand	carefully. Dispose (ref 1). Stems: CS&P (G1.5) or spray	85	Poaceae	Setaria sphacelata (South	9	41	3.8	H/A.	Hand pull or dig u	1). Spray G100 (ref 1).									calcium dodecylbenzene sulphonate (AF-100) @ 1 pa
	Caesalpiniaceae	cestrum) Senna septemtrionalis	6	25	5	4	S/0	pull Seedlings: Hand	G100 (ref 1). Shrubs: CS&P or F/I (G1.5);	86	Asclepiadaceae	African pigeon grass) Gomphocarpus physocarpus (balloon	10	132	3.7	S/0U	Slash in winter a bum cuttings.	d Spray: glyphosate @ 1.1000 with water, in spring before	115	Asteraceae	Ageratum houstonianum	8	81	3.8	H/UO	N/A	in 19 parts kerosene Spray G100 or hand pull and
		(arsenic bush, was S. floribunda)						pull	Seedlings: spray G200 or G200 + MM or MM; collect and bag seeds (ref 1).		Poaceae	cotton bush)		70	3.7		W anderer Butter can also be used	seeding (ref.3).	116	Myrtaceae	(blue billygoat weed) Psidium guajava and P. guineense (yellow guava	4	7	3.7	ST/AO	N/A	spray regrowth G100 (ref 1). Shrubs: CS&P or F/I (G1.5) spray G200 + MM or MM.
	Solanaceae	Solanum mauritianum (wild tobacco tree)	8	30)	4	S/0	Seedlings: Hand pull	Shrubs: CS&P (G1.5) or F/I (G1.1.5); Seedlings: spray	Albert.		Digitaria didactyla (Queensland blue couch) a Gleditsia triacanthos (honey	9 7	0.00	3.8	1	Hand pull or cultivation For the control of	Spot Spray: glyphosate or 2,2- DPA (ref 3) pastures			and West Indes guava)						Trial basal bark F100 or G20 + MM (ref 1).
-	Apocynaceae	Catharanthus roseus (pink	5	22	Σ	4	S/0	Hand pull	G200 (ref 1). Spray G100 (ref 1).			locust)					on grazing land,	i non-agricultural land fluroxpyr1 (Starane 2006) @ 1.5 L - y 75ml/100 L diesel	117	Rosaceae	Rubus bellobatus (kittatinny blackberry)	5	22	3.5	S/0	slashing hinders growth, giving some control if	Grazon DS picloram/triclopyr 1:200 part water + wetting agent
	Passifloraceae	periwinkle) Passiflora subpeltata (white passion flower)	10	60) 3	.9	V/0	Stems: Hand pull	Stems: CS&P Seedlings & Regrowth: spray G200 or								spot spraying is economical									plants are slashed before they seed	
-	Fabaceae	Desmodium uncinatum (silverleaf desmodium)	6	14	-	4	H/A		G200 + MM (ref 1). CS&P tuberous roots (G1.5); spray G200 or G200 + MM or		Poaceae	Paspalum notatum (bahia grass)	4	10	3.8		control method. Hand pull or dig u	o Spray G100 (ref 1).	116	Myrtaceae	Eugenia uniflora (Brazilian cherry)		19	3.5	ST/O	N/A	Stems: C&P or F/I (G1.5); Bushes: spray or cut down and spray regrowth G100 or
								and dispose	MM; collect and bag seeds (ref 1).	90	Cactaceae	Opuntia monacantha (drooping tree pear, syn. O. vulgaris)	2	3	4	S/0	Hand removed, stem injected, or over sprayed with		119	Oleaceae	Olea europaea (olive)	2	6	4?	T/A	Seedlings: Hand	MM (ref 1). Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings
5	Poaceae	Melinis repens (red Natal grass)	10	13	4 4	.1	H/A	Grazing or mowing	Spray: Fluazifop-P 212g/L @ 2L/Ha, Glyphosate 360g/L @ 1L/100L water (ref 2).								garlon	Triclopyr: 1L/60L diesel. Amitrole: 1mL/3cm (ref								pun	spray G200 or G200 + MM (ref 1).
	Nymphaeaceae	Nymphaea caerulea subsp. zanzibarensis (blue lotus)	4	17	r	4 1	Ha/OF	Hand pull small infestations.	Spray with or Diquat Glyphosate. Occurs in	91	Poaceae	Paspalum conjugatum	7	38	3.8	H/A	Cut below crown.	Spot Spray: glyphosate or 2,2-	120	Poaceae	Brachiaria decumbens (signal grass)	4	14	3.5	H/A	Grazing	Herbicide Control - Foliar application (Knapsack): glyphosate 360g/L @
									waterways, thus EPA should be notified before any herbicide use (ref 5).	92	Malpighiaceae	(paspalum grass) Hiptage benghalensis (hiptage)	3	5	4	S,V/O	Hand pull small infestations.	DPA (ref 3). Seedlings: Foliar spray of dicamba, flurokypyr, and									glyphosate 500g/c @ 200mL/15L water; Foliar: glyphosate 360g/L @ 9L/Ha Handgun: glyphosate 360g/L
	Onagraceae	Oenothera drummondii subsp. drummondii (beach	3	17	r	4	H/O	Hand pull	Spray G100 (ref 1).									triclopyr/picloram. Larger plants cut stump application of fluroxy pyr and	121	Fabaceae	Stylosanthes scabra	4	4	4.3?	H/A	N/A	@ 1.3L/100L water (ref 2). Vines: CS&P (1:1.5) or spra
	Tiliaceae	evening primrose) Triumfetta rhomboidea	7	44	r in the second s	4	H/U	Hand pull	Spray G100 (ref 1).						1			triclopy ripicloram with diesel, dv phosate with water and	122	Commelinaceae	(shrubby stylo) Commelina benghalensis	4	7	3.5	H/O	Collect and Bag	G100 + MM or MM (ref 1) Spray G200 or G200 + MM
	Haloragaceae	(Chinese burr) Myriophyllum aquaticum	3	15	,	4	Ha/F	N/A	Spray glyphosate 360g/L @	02	Solanaceae	Solanum torvum (devil's flg)			2.0	800	Coodlines: Lond	picloram undiluted (ref 7). Shrubs: CS&P (G1.5) or F/I	122.55	Poaceae	(hairy wandering jew) Pennisetum purpureum		9	3.5		Grazing or	(ref 1). N/A (ref 2).
		(parrot's feather) Passiflora foetida (stinking	7	50				Hand Pull	100mL/10L water (ref 1). CS&P (G1.5): spray G200 or				•		1		pul	(G1:1.5); Seedings: spray G200 (ref 1).	14.07	r ouccut	(elephant grass)					mechanical removal	
	Asteraceae	passion flower) Verbesina encelioides (crownbeard)	7	34		4	H/U	Vines: Hand pull and remove	G200 + MM (ref 1). Stems: S&P (GU); Regrowth and seedlings: spray G200 or	94	Caesalpiniacea	Caesalpinia decapetala (thorny poinciana)	4	20	3.9	S,V/O	Seed-heads: Bag and remove.	Stems: CS&P (G1.5); Seedlings: spray G200 or G200 + MM or MM (ref 1).	124	Zingiberaceae	Hedychium coronarium (wild ginger)	2	2	3.5	H/O		Small Plants: spray G200 o G200 + MM; Large Plants: o and spray regrowth. If
		(crownboard)							G200 + MM (ref 1).	alle a	Poaceae	Pennisetum alopecuroides (swamp fortail)	7		3.8	1	Hand Pull	Spot Spray: glyphosate or 2,2- DPA (ref 3)									rhizomes are at ground leve cut stem and gouge rhizom
-	Poaceae	Paspalum mandiocanum (broad leaf paspalum)	3	6		4	H/A	NA	Spray G200 - resistant to weaker strength (ref 1).	1228	Verbenaceae	Duranta erecta (duranta)	0	14	3.6		Shrubs: CS&P (1:1.5)	Spray G100 (ref 1).									fill hole with G1.5 with inject kit or similar (ref 1).
	Poaceae	Paspalum dilatatum (paspalum grass)	10	30) 3	9	H/A	Hand pull or dig up		97	Brassicaceae	Nasturtium officinale (Old use Rorippa nasturtium-	7	19	3.7	Ha/FU	Manually grub an destroy.	Spray G100 and replace with local species (ref 1).	125	Phytolaccaceae	Phytolacca octandra (inkweed)	10	50	3.4	H/O	Hand pull or crown	CS&P (G1.5) or C&P (G1.5) spray G100 (ref 1).
	Ruppiaceae	Ruppia maritima (sea tassel)	2	8		4	Ha/F	Hand pull or dig up	Spray G100 (ref 1).	98	Polygonaceae	aquaticum) (watercress) A cetosa sagittata (rambling	4	18	3.7	V/U	Tubers: Dig up, bao and remove	Tubers: Spray G200 or G200 + MM or MM (ref 1).	126	Asclepiadaceae	Asclepias curassavica (red cotton bush)	9	43	3.4	S/0	Hand pull; Slash	Slash and/or spray G100 (re 1)
	Arecaceae	Syagrus romanzoffiana (queen palm)	4?	10) 3	9	T/0	pull or crown;	Trees: F/I (G1.5); Seedlings: spray G200 + MM (ref 1).	99	Poaceae	Cynodon dactylon (couch, Bahama grass introduced	10	45	3.6	HVOA	Hand pull small infestations,	Spray: glyphosate @ 200mL/15L water, Follow up	127	Solanaceae	Lycium ferocissimum (African boxthorn)	1?	5	4.4?	S/0	N/A	Stems: C&P (G1.5); Regrowth: spray G200 + MN (ref 1)
	Poaceae	Hymenachne amplexicaulis	12			4	Ha/A	Trees: cut below growing point a combined	360 g/L Glyphosate (includes			cutivars)					removing all roots or smother with mulch	spray (ref 3)	128	Mimosaceae	Prosopis pallida (algaroba)	2	2	4	ST/O	When using mechanical control	Basal bark - triclopyr +
		cv. Olive (hymenachne)	1.5				THE P	approach of different control	Roundup Biactive & Weedmaster Duo)	100	Bignoniaceae	Tecoma stans (yellow bells)	4	16	3.6	ST/O	N/A	Stems: CS&P (G1.5) or spray G200; Seeds: collect, bag and remove (ref 1).								methods, it is important to remove the bud	Access® @ 1L/60L diesel. Cut stump - triclopyr + picloram
								methods including mechanical, chemical and	- 1 L/100L water or 10 L/ha delivered by boom	101	Rosaceae	Rhaphiolepis indica (Indian hawthorn)	3	10	3.5	ST/O	Seedlings: Hand pull	Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings:								zone of the root system	Access® @ 1L/60L diesel. Overall spray - triclopyr +
				-				biological with land management		102	Mimosaceae	Mimosa pudica (common	4	12	3.7	S/A	N/A	spray G200 or G200 + MM or MM (ref 1). Pastures -								(about 30 cm below the ground surface)	picloram Grazon DS® @ 350ml/100L water plus a
_	Asteraceae		3	8		4		practices is most effective	Stems: S&P (GU); Regrowth			sensitive plant)						Fluroxypyr/Starane 200 @ 1.5 U/ha Between cropping								If this is not removed, re-	wetting agent if plant is growing actively
^	Asteraceae	Senecio tamoides (Canary creeper)	3	•		•		and remove; Runners: Roll up	and seedlings: spray G200 or G200 + MM (ref 1).									applications (conservation tillage) - Dicamba/Banvel 200 @ 0.8-	110010000							shooting can occur.	
-	Poaceae	Cenchrus ciliaris (buffel grass)	4	15	5 4	.1	H/A	and hang to dry. Hand or mechanical	Herbicide Control - Glyphosate 7mL/L water;	103	Commelinacea	Callisia fragrans (purple succulent)	3	9	3.9	HVO	N/A	1.4 Uha Spray F100 or G200 or G200 + MM; Collect and bag or roll	129	Juncaceae	Juncus articulatus (jointed rush)	1	2	4	Ha/FO	Hand pull.	Spot spray with Glyphosate 2,2-DPA or MCPA + dicamb (ref 3).
								removal of young plants	Dichlobenil 600g/100m2; Fluazifop 50-100mL/10L water (ref 2).	104	Scrophulariaces	e Paulownia tomentosa	3	5	4	T/AO	Seedlings: Hand	and rake carefully. Dispose (ref 1). Saplings: CS&P (G1.5);	130	Cactaceae	Opuntia aurantiaca (tiger pear)	1	2	4	S/O		Spray, Basal Bark application Injection: Triclopyr: 8L/60L
	Acanthaceae	Thunbergia grandiflora (thunbergia, blue	2	3	6	17	V/0	N/A	CS&P (G1.5); spray G200 (ref 1).	105	Commelinacea	(paulownia) Tradescantia zebrina	3	12	3.7	H/O	pull N/A	Trees: F/I (G1.5); Seedlings: spray G200 (ref 1). Spray F100 or G200 or G200								over sprayed with garlon	diesel. Picloram + Triclopyr: 1L/60L diesel. Amitrole: 1mL/3cm (
	Cactaceae	thunbergia) Opuntia tomentosa (velvet tree pear)	8	46	s 3	9		Hand removed, stem injected, or	Spray, Basal Bark application; Injection: Triclopyr: 8L/60L	10222		(z ebrina)						+ MM; Collect and bag or roll and rake carefully. Dispose	121	Poaceae	Anunda danasi (siast cood)			2.9	100	Diversional external et	3). Sant array or and atoms are
								over sprayed with garlon	diesel. Pictoram + Triclopyr: 1L/60L		Acanthaceae	Ruellia malacosperma (ruellia)	5	1	1	H¥O		(ref 1). Spray G200 + MM (ref 1).			Arundo donax (giant reed)					small infestations	Spot spray or cut stump and spray with Glyphosate (ref 5
									diesel Amitrole 1mL/3cm (ref 3).		Poaceae Uliaceae	Pennisetum clandestinum (kikuyu grass) Lilium formosanum (Taiwan	4	12 10	3.8	H∉A H∕O	Hand Pull	Spot Spray: glyphosate or 2.2- DPA (ref 3) 1 Spray G100 + MM or MM (ref	132	Cactaceae	Opuntia imbricata (rope pear)	1	1	4	H/O	available:	Spray, Basal Bark application Injection: Triclopyr: .8L/60L
	Euphorbiaceae	Ricinus communis (castor oil plant)	7	20) 3	9	S/0	Seedlings: Hand	Shrubs: S: CS&P or F/I (G1.5); Seedlings: spray G200		Asteraceae	lily) Sigesbeckia orientalis	10	10 148	3.6	H/U	and dispose Hand pull or	1). Spray with 2,4-D amine or								cactorum	diesel. Picloram + Triclopyr: 1L/60L diesel. Amitrole: 1mL/3cm (
-	Asteraceae	Senecio madagascariensis	6	28	3 3	8	H/U		(ref 1). Stems: S&P (GU); Regrowth	110	Asteraceae	(Indian weed) Bidens pilosa (cobbler's	10	110	3.5	H/U	cultivation. Hand pull or	sodium, pr MCPA + dicamba (ref 3). Spray with 2.4-D amine or								Mechanical control difficult. Fire can	
	Cyperaceae	(fire weed) Cyperus involucratus	6	15		8	Ha/OF	Fach	and seedlings: spray G200 or G200 + MM (ref 1) Aquatic areas - Glyphosate-	14.255		pegs)	<u> </u>	100			cutivation.	sodium, pr MCPA + dicamba (ref 3).	133	Bignoniaceae	Pyrostegia venusta (flame vine)	1	1	4	V/O	be used. N/A	CS&P (G1.5); spray G200 (r 1).
		(African sedge)						has to be dug out with a spade and	ipa Land—commercial/industrial,	m	Cactaceae	Opuntia stricta (common prickly pear)		6/	3.6	5/0	Hand removed, stem injected, or over sprayed with	diesel. Picloram +	134	Poaceae	Cortaderia selloana (pampas grass)	2	1	3.7	H/O	out by hand or	Stems: C&P (G1.5) or cut back and slash and spray
					Ì			the entire plant turned over,	rights of way - Glyphosate-ipa, glyphosate-mas, imazapyr								gation	Triclopyr 1L/60L diesel. Amitrole. 1mL/3cm (ref	135	Solanaceae	Solanum hispidum (giant	5	23	3.6	S/0	machine Hand pull	regrowth G100 (ref 1). Spray G100 (ref 1).
				1				exposing the root system while			Į.				-	1		3).	136	Agavaceae	devil's fig) Furcraea foetida (Cuban	3	4	4.3?	S/OA		CS& P near ground or spray
								making sure all aerial parts		112	Poaceae	Eleusine Indica (crowsfoot grass)	8	56	3.5	H/A	Pull and chip. Replant with nati	Spray: glyphosate or 2,2-DPA e (ref 3).	137	Agavaceae	hemp) Furcraea selloa (hemp)	1	2	4?	S/OA	Dig out by hand or	MM (ref 1) CS& P near ground or spray
								of the plant are		113	Poaceae	Axonopus compressus (5	23	3.6	HAO	couch. Cut stems from	Spot spray with Glyphosate		Agavaceae	Agave americana (century	4				machine	MM (ref 1). CS& P near ground or spray
	p 5	1		12	13	1		completely	1			broad leaved carpet grass)	5.52	1		1	1	(ref 3).	1000		and an an an and beautionly	K 17 1	a	3 77 3			MM (ref 1).



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AMEN Issue	DMENTS: Date	Description	Checked	CI
А	13/11/2017	Preliminary Issue	MS	
				PI
				sc

CLIENT:	Iandscape architecture
ROJECT: Spring Mountain Precinct	DRAWING: Area 3 Management Plan Weed Management Techniques
opining mountain roomot	DATE: November 17 CHECKED: MS
	CLIENT REF.: 7243 DRAWN: TL
AS NOTED	DRAWING No.: 7243 L 311 WMP A

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9 Rutaceae	Murraya paniculata cv. Exotica (murraya)	6	26	3.6	S/O	Seedlings: Hand pull	Shrubs: CS&P or F/I (G1.5); Seedings: spray G200 (ref 1).	165	Buddlejaceae	Buddleja madagascariensis (buddleja)	5	6	3.4	S,V/O	N/A	Stems: CS&P (1:1.5); Vines: spray or cut down and spray	188	Apocynaceae	Cascabela thevetia (syn. Thevetia peruviana) (yellow	5	9	3.1 \$1	70 Hand pull sm infesttions.	nall Basal bark application of fluroxypyr (35mL:1L Diesel);	
0 Rosaceae	Rubus discolor (R. fruticosus complex, a blakberry)	4	10	3.7	S/OA	slashing hinders growth, giving some control if	Grazon DS picloram/tric lopyr 1:200 parts water + wetting agent. A	- (5×1×1)	Bignoniaceae	Tecoma capensis (Cape honeysuckle)	3	8	4	ST/O	N/A	regrowth G200 (ref 1) Stems: CS&P (G1.5) or spray G200, Seeds: collect, bag and remove (ref 1).			oleander)				used but sho followed up b herbicide	(1L:55L Diesel; Foliar Spray of	
1 Brassicaceae	Caklie edentula (American	4	24	37	НЛІ	before they seed	variety of herbicides may be used to control this species including (ref 5) Spray G100 and replace with	167	Cactac eae	Hamisia martinii (hamisia cactus)	27	4	4	S/O	The use of the biological mealy bug agent is recommended	Triclopyr + picloram at 1.0L:60L diesel, Dichlorprop 600 g/l at 1.0L/60L water, metsulfuron methyl 600 g/l at	189	Rubiaceae	Coffea arabica (coffee)	3	7	3.2 ST	application. 7A Saplings: Ha	fluroxypyr 1:100 for larger plants. 1:200 for seedlings (ref 2) ind pull Shrubs: F/I (G1) between	
2 Balsaminaceae	sea rocket)	*	6	3.7	H/O	destroy.	local species (ref 1). Spray G100 (ref 1).	168	Acanthaceae	Thunbergia laurifolia (laurel			4	V/O	N/A	2.0L-100L water Ref 5). CS&P (G1.5), spray G200 (ref								flower and fruit set; Saplings: CS&P (G1); Seedlings: spray	
3 Agavaceae	(balsam) Agave sisalana (sisal)	2	, s	3.7			CS& P near ground or spray		Fabaceae	clock vine) Erythrina crista-galli	22	A		1/0		1). F/I (G1.5) or C&P stumps. Cut								G200 or G200 + MM (ref 1).	
1		2	-	3.7	1	machine	MM (ref 1). CS& P near ground or spray	105	1 dual cac	(cockspur coral tree)		-	0.0	1/0	1004	and stack branches above ground to dry to prevent	190	Bignoniaceae	Spathodea campanulata (African tulip tree)	17	1	3.4 Ti	O N/A	Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings:	
4 Agavaceae	Agave vivipara var. vivipara (sisal)	2	0			machine	MM (ref 1).									resprouting F/I sprouted	191	Fabaceae	Macrotyloma axillare	4	12	3.1 V,	VA N/A	spray G200 (ref 1). Vines: CS&P (1.1.5) or spray	
5 Rosaceae	Prunus munsoniana (wild goose plum)	· /	31	3.7	ST/A	Seedlings: Hand pull	Shrubs: CS&P or F/I (G1.5); Seedlings: spray G200 (ref 1).									branches (G1.5) or spray regrowth G200 + MM or MM.	192	Indaceae	(perennial horse gram) Watsonia meriana var	2	3	3.1 H	O Dig up, bag a	G100 + MM or MM (ref 1) and Spray G200 + MM (ref 1).	
5 Poaceae	Echinochioa crus-galli (barriyard grass)	6	34	3.7	H/A		It Spot spraying with Glyphosate or 2,2-DPA (ref 3).	170	Sapindaceae	Koeireuteria elegans (Chinese rain tree)	1?	1	3.6?	770	Seedlings: Hand pull	Trial Tordon (ref 1). Trees: F/I (G1.5) or C&P stumps (G1.5); Saplings: CS&P (G1); stack cut		Passifloraceae Asteraceae	bulbilifera (bulbil watsonia) Passiflora edulis (passion fruit) Zinnia peruviana (wild	6	12	3.2 V/	AO Hand Pull	CS&P (G1.5); spray G200 or G200 + MM (ref 1) and Shrubs: CS&P or F/I (G1);	
7 Asteraceae	Solidago canadensis var. scabra (Canadian qoldenrod)	7	15	4?	H/O	Hand pull and han to dry.	Spray MM or G200 or G200 + MM if other weeds such as Lantana or Camphor Laurei									branches above ground to dry; Seedlings: spray (G200) (ref 1).		Dracaenaceae	zinnia) Sansevieria trifasciata	27	7		pull	Seedlings: CS&P (G1.5) or spray G200 (ref 1). dig up Spray G100 + MM (ref 1).	
Fabaceae	Pueraria lobata (kudzu)	3	4	3.8	V.S/C	Slash, Diminish b	are present (ref 1). CS&P (G1.5); spray G200 or	171	Zingiberaceae	Hedychlum gardnerianum (ginger lily)	1?	3	3.6	H/O		nd Small Plants: spray G200 or G200 + MM; Large Plants: cut	196	Poaceae	(sansevieria) Digitaria eriantha (pangola	5	20	3.1 H			
9 Alismataceae	Sagittaria graminea var.	3	7			shading site	MM (ref 1). Spot Spray with Glyphosate								-	and spray regrowth. If thizomes are at ground level,	197	Rosaceae	grass) Enobotrya japonica (loquat)	3	5	3.1 T	cultivation O Seedlings: H		
0 Nymphæaceae	platyphylla (sagittaria arrowhead)	2	4				at 1.0L'100L water (ref 5).	1.1.1.1.1.1.1								cut stem and gouge rhizome - fill hole with G1.5 with injector kit or similar (ref 1).	109	Cactaceae	Ac anthorses we take some	4		33 S	pull O Biological	Trees: F/I (G1.5); Seedlings spray G200 or G200 + MM or MM (ref 1) introls Spray, Basal Bark application.	
	(yellow waterlily)			-		infestations.	Glyphosate. Occurs in waterways, thus EPA should	172	Ac anthaceae	Hypoestes phyliostachya (polka-dot plant	3	5	3.5	H/O	Hand pull or crow	n Spray G200 or G200 + MM (ref 1).	198	Gaciaceae	Acanthocereus tetragonus (sword pear)	1	3	3.3 8	 Biological co available: cactoblastis 	Introls Spray; Basal Bark application; Injection: Triclopyr: .8L/60L diesel. Picloram +	
1 Poaceae	Phyllostachys aurea	1	2	3.7	S/O	N/A	be notified before any herbicide use (ref 5). Stems: cut and fill segment	173	Caprifoliaceae	Sambucus canadensis (American elder)	3	7	3.4	ST/O	Vines and Runners: hand p	Vines and Runners: CS&P ill. (G1.5): Larger Sterns. Roots o and Nodes: spray G100 + MM							cactorum successful Mechanical o	Triclopyr: 1L/60L diesel. Amitrole: 1mL/3cm (ref control 3).	
	(fishpole bamboo)						(G1.5), Regrowth: spray G100 (ref 1).	174	Asteraceae	Conyza sumatrensis (tall	9	45	3.3	H/U	dry. Hand or	or MM (ref 1). Seedlings: Altrazine or							difficult. Fire be used.	can	
Euphorblaceae	Jatropha gossypiifolia (cotton-leaf physic nut, bellyache bush)	1				Hand pull	Spray G100 (ref 1).			feabane)					mechanical removal of small infestations	Chlorosulfuron in combination with competitive native species; Plants: Glyphosate	199	Mimosaceae	Acacia nilotica subsp. indica (prickly acacia)	3	3	4.4? T	A Mechanical o chain remova	al. application. Triclopyr 600g/L at 1.0L:120L diesel, Triclopyr	
3 Malvaceae	Sida rhombifolia (Paddy's luceme)	9	69	3.6	1	Hand pull or dig out.	Spray with 2,4-D amine or fluox ypyr (ref 3).									and Tordon 75-D mix. Glyphosate ration depends on								+ Picloram 240 g/l + 120 g/l at 1.0L:60L diesel, Picloram 45 g/kg updikted (gf.5)	
Poaceae	Themeda quadrivalvis (grader grass)	8	25				Glyphosate or 2,2-DPA (ref 3).	175	Fabaceae	Tipuana tipu (lipuana)	2	5	3.4	T/O	Seedlings: Hand		200	Mimosaceae	Acacia famesiana (mimosa bush)	6	15	3.1 T	A Mechanical removal of sr	g/kg undiluted (ref 5) Basal Bark or cut stump nall application of Triclopyr + Picloram 240 g/l + 120 g/l at	
Poaceae	Andropogon virginicus (whisky grass)	6					Glyphosate or 2,2-DPA (ref 3).	176	Asteraceae	Tagetes minuta (stinking	8	32	3.3	H/U		Trees: F/I (G1.5): Seedlings: spray G200 (ref 1) ng Spray MM or G200 or G200 +							Plants.	1.0L:60L diesel. Foliar application of Clopyralid 300g/L at 500mL:1L water ref	
Bignoniaceae	Jacaranda mimosifolia (jacaranda)	4	12	3.4		Seedlings: Hand	Saplings: CS&P (G1 5); Trees: F/I (G1.5); Seedlings: spray G200 (ref 1).			roger)	ļ				to dry.	MM if other weeds such as Lantana or Camphor Laurel are present (ref 1).								5).	
Acanthaceae	Justicia belonica (squimetail)	2	4	4	S/O	infestations. Can	Glyphosate known to be effective. Species known to occ ur in waterways, DERM should be contacted before	177	Caesalpiniacea	e Chamaecrista rotundifolia (round-leaf cassia)	6	14	3.3	ST/A	Seedlings: Hand pull	Shrubs: CS&P or F/I (G1.5), Seedlings: spray G200 or G200 + MM or MM, collect and bag seeds (ref 1).	Sub-reg		e ten sub-regions of the Southea						
3 Mimosaceae	Acacia boliviana (Bolivian	1	1	4	T/O	competitive native species.	spraying in waterways (ref 4). Basal Bark or cut stump	178	Poaceae	Cenchrus echinatus (Mossman river grass)	8	43	3.3	H/A	mechanical removal of young	Herbicide Control - Glyphosate 7mL/L water, Dichlobenii 600g/100m2;	Scores Life for	Based on panel ms: T-tree (woody	records for species within study data of invasiveness, 5 (highest) plant >5m), ST-small tree (2-5m) ornamental and landscaping, F-fi	to 3 (moder), S-shrub (v	ate). ? indi woody <2m	cate doubtful n), H-herb (gra	scores. sses & forbes), Ha	-aquatic herbs.	
	wattle)					chain removal.	application. Triclopyr 600g/L at 1.0L.120L diesel, Triclopyr + Picloram 240 g/l + 120 g/l at 1 0L-50L diesel, Dieleem 45	179	Asteraceae		10	55	3.3	H/U				viations: Control = cut scrape and							
) Simaroubaceae	Allanthus altissima (tree of heaven)	1?	3	3.5	T/O	Seedlings: Hand	1.0L:60L diesel, Picloram 45 g/kg undiluted (ref 5). Seedlings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings:			(Canadian fleabane)					mechanical removal of small infestations	Chlorosulturon in combination with competitive native species; Plants: Glyphosate and Tordon 75-D mix.	S&P = C&P =	 cut scrape and scrape and paint cut and paint ill or inject stem 							
) Poaceae	Echinochioa colona (awniess barnyard grass)	9	44	3.3	H/A	Hand or mechanical	spray G200 or MM (ref 1). Spray: glyphosate @ 13mL/1L water (ref 2.)									Glyphosate ration depends on other weeds present (ref 2).	Abbrev G = Gh	viations: Herbicio lyphosate, eg. Rou	ndup Biactive, Weedmaster Duo	6					
	(and grass)					removal of small infestations		180	Euphorbiac eae	Euphorbia cyathophora (painted spuge)	8	20	3.3	H/O	Hand pull	Spray G100 (ref 1).	MM = I F = Flu	Metsulfuron methy uroxypyr, eg. Stara	l, eg, Brushoff ne						
1 Cyperaceae	Cyperus brewfolius (Mullumbimby couch)	8	53	3.4	H/O		Aquatic areas - Glyphosate- ipa	181	Poaceae	Setaria palmifolia (palm leaf setaria)	5	13	3.3	H/O	Hand pull or dig	p Spray G100 (ref 1).			e Dilution Rates for High Con	centration	Applicatio	ons			
							Land-commercial/industrial, rights of way - Glyphosate-lpa,	182	Euphorblac eae		5	12	3.4	H/0?	Hand pull	Spray G100 (ref 1).	G1 = 1	Glyphosate undilut I part water to 1 pa = 1.5 parts water to	rt glyhphosate						
						turned over, exposing the root system while	glyphosate-mas, imazapyr	183	Fabaceae	Desmodium intortum (greenleaf desmodium)	4	11	3.3	H/A	Hand pull or crow and dispose	n CS&P tuberous roots (G1.5); spray G200 or G200 + MM or MM; collect and bag seeds.	G4 = 4 Abbrev	l parts water to 1 p viations: Herbicio	art glyphosate le Spray Concentrations		70.5				
						making sure all aerial part of the plant are completely	5	184	Poaceae	Pennisetum setaceum (fountain grass)	3	11	3.3	H/O	Hand Pull	Monitor regrowth over 2 - 3 years (ref 1) Spot Spray: glyphosate or 2,2- DPA (ref 3)	G200 = G100 +	= 200mL glyphosal + MM = 100mL gly	e per 10L of water + surfuctant, e per 10L of water + surfuctant, phosate + 1.5g metsulfuron meti phosate + 1.5g metsulfuron meti	eg 50mL LI hyl per 10L	700 per 10 of water +	L wetting agent.			
2 Moraceae	Morus alba (white mulberry)	3	10	3.4	T/O	covered.	Trees: F/I (G1.5), stack cut branches above the ground to dry; Saplings: CS&P (G1.5);	185	Asteraceae	Conyza bonariensis (flax- leaf fleabane)	7	38	3.3	H/U	Hand or mechanical removal of small infestations	Seedlings: Altrazine or Chlorosulturon in combination with competitive native species; Plants: Glyphosate	MM = F100 = F150 =	1.5g metsulfuron n 100mL fluroxypyr 150mL fluroxypyr	nethyl per 10L water + wetting ag per 10L water					NANASAN MARKA	
Arecaceae	Colocasia esculenta (taro)	3	4	3.4	H/AO	Hand pull.	Seedlings: spray G200 (ref 1). Out at base and apply									and Tordon 75-D mix. Glyphosate ration depends on other weeds present (ref 2).	# = Loc	Abbreviations cally non-indigenou Big Scrub Rainfor		nmon Weer	is of Subtr	opical Rainfew	ists of Fastam Auc	stralia: A practical manual on their	
							glyphosate or metsulfuron methyl. Plant often occurs in waterways so consult DERM	1112200.00	Solanaceae Poaceae	Solanum erianthum (a tobacco bush) Stenotaphrum secundatum	7				Hand pull Hand or	Spray G100 (ref 1).	Ref. 2. Ref. 3. Ref 4.	Department of Pr Holland et al. (19 Port Stephens Co	mary Industries and Fisheries (G 96), 'Suburban Weeds', DPI QLD uncil (NSW), 'Weed Busters'.	QLD), "Weed).	is and pest	t animals and	ants".		
Cannaceae	Canna indica (canna Iliy)	3	9	3.3	H/O	Dig out entire plan	prior to application (ref 6). t Cut/Slash and spay regrowth G200 or G200 + MM; Collect and bad seeds. Resistant to backbick (ref 1).	.107	rooteae	(buffalo grass)		20	J.2	and	mechanical removal of small infestations	Spray: glyphosate @ 13mL/1L water (ref 2.)	Ref 6. Ref 7.	Department of En Vitelli, J.S. and M	nary Industries (NSW), Noxious ironment and Conservation, 'Flor adigan, B.A. and Van Haaren, P. gement, 9 (1), pp. 54-62.	rabase', (DE	C-WA)			nvasive liana, Hiptage benghalensis.	
		1	.1				DISCLAIMER:										AM	ENDMENTS:		CLIET	NT:	No.		alands	scape ar
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AREA 3 MANAGEMENT PLAN - MONITORING & REPORTING

MONITORING & REPORTING

MONITORING AND REPORTING PROCEDURES

Monitoring and maintenance of the weed management and vegetation, both adjacent to proposed works and within the management area, is a vital component to the success of

this management plan set. An ongoing maintenance schedule, detailing the monitoring program, management intervals, methodologies, and corrective actions for contractors undertaking rehabilitation works within the ecological area is provided below. It is the responsibility of the rehabilitation landscape contractor to ensure the ongoing maintenance and monitoring schedule is actioned. Monitoring of the parkland weed management and revegetation works allows for

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

Monitoring is required for weed eradication, revegetation and assisted regeneration.

MAINTENANCE ACTIONS AND METHODOLOGIES

- Tree Retention Construction Phase · Ecologist / Arborist to assess tree exclusion zones are adhered to;
- · Trees assessed for signs of stress or die back; and
- · Implementation of VMP if retained tree roots Critical Root Zone (CRZ) is impacted
- Initial Establishment Rehabilitation Planting Initial 12 week establishment period applies to all rehabilitation planting works. During this period weekly maintenance is to occur that involves the following: Watering;
- Ongoing weed control;
 Fertilising; and Replacement of dead or damaged stock.

- Ongoing Maintenance Rehabilitation Planting After this period, it is recommended that the ecological planting site be maintained on a monthly basis over a 5 year period to ensure that the planting has been successful. The following is to occur:
- Conduct weed spraying, plant watering, plant replacement of losses as necessary to maintain >95% survival rate: All other areas of non-use / limited access or steep terrain areas are to be hydro
- seeded to maintain a minimum 90% ground cover;
 All planting species will be disease free and supplied from an accredited nursery
- supplier; Assess condition of sediment control devices and replace if necessary; and Removal of excess sediment from erosion control devices as required.

MONITORING TIME FRAMES

For weed removal and revegetation three (3) Council determined timeframes form the anchor of the monitoring process. These include:

<u>Council Pre-Start</u> - On-site meeting prior to the initial commencement of work within each stage of weed management. Will involve Consultant, Contractor and Council to work through weed treatment areas and clarify works approved and appointed.

On-Maintenance - At the completion of the Primary Weed Removal Stage and Secondary intenance meeting will be held with Council to inspect the works on-site weeding an On-Maintenance meeting will be held with Council to inspect the wo in relation to the approved plans and previously agreed on-maintenance criteria.

Off-Maintenance - At the completion of all site weeding works and the agreed maintenance timeframe a final inspection will be held by Council to determine if works have been completed to the required level for Council hand over.

REPORTING

Reporting to Ipswich City Council will occur on a yearly interval during the total period. Council will physically attend the Pre-Start, On-maintenance and Off-maintenance meetings. For this project it is recommended reporting include a short memo styled report responding to agreed criteria. As part of the monitoring a number of pre-determined transect and quadrant sampling sites have been allocated. At these locations a number of trablect twidtabets are as a start and the set of the monitoring and the set of t baseline studies have been completed and will be repeated post weed removal and maintenance to measure the success of the programmed works. It is also recommended this include a visual diary of imagery from selected locations at each inspection (Including the pre-start and monthly inspections). The imagery for the each period will be included with the report to Council

In addition to the photo monitoring the biannual report to Council should include sufficient

- information on: Date, time and whether conditions at time of inspection
 Changes in weed extent populations (spreading / contracting)
- Changes in weed densities
- Health of existing vegetation protected by NRM provisions Rate of success for revegetation plantings Growth and PFC rate of assisted regeneration areas Occurrences of new weed infestations or species outbreak Commente on any inferred character to the scenario

- Occurrences of new weed infestions or species outbreaks Comments on any indirect changes to the area as a result of weed management (ie
- erosion / change in weed footprints / death to natives)
- Annual reporting is required to be sent to the Department of the Environment (DOE).
- Saunders Saunders Havill Group Pty Ltd ABN 24 144 972 9 Brisbane 🟉 Emerald 🟉 Gladste havill head office 9 Thompson St Bowen Hills Q 40 droud phone 1300 123 SHG web www.saundershavill.

) surveying 🟉 town planning 🟉 urban design 🗊 environmental management 🖉 landscape architec



MONITORING PARAMETERS

- The monitoring should address the following issues: Maintained health and vigour of retained Remnant Trees adjacent to the corridor; Plant growth, percentage cover and survival rates; Plant losses through herbivores, disease, vandalism, storm damage or other factors;
- Weed re-growth and control measures;
- Plant replacement: Maintenance watering regime; and
- Erosion prevention.

It is also essential to keep an accurate photo record of the retained trees and progress of the rehabilitation planting by setting fixed photo monitoring points across the site. Photos should be taken by a digital camera and recorded in the project file by date and discrete photo monitoring point number. Photo monitoring point locations should be clearly marked on site and mapped by a surveyor or by GPS.

Corrective Actions

- Monitor construction activity;
 Monitor construction activity;
 Educated construction team on tree retention measures;
 Educated construction team on tree retention mitigation measures i.e. exclusion zones;
- Review VMP for particular trees;
- Remove if necessary unsafe tree;
- Compensation by planting: If soil erosion is still occurring in planting zones the following is to occur:

- Review rehabilitation techniques conducted by contractor; Assess the potential for disturbance to occur; Assess the potential for disturbance to occur; Assess of disturbances of disturbances to occur; and Maintain planting regimes to a minimum of 95% survival rate.

If weed infestations occur in planting zones or in disturbed construction area, the following

is to occur:
 Review weed removal and weed management techniques conducted by contractor;

- Assess the appropriate use and amounts of herbicides are being used;
- Assess the potential for weeds to occur and
- Assess other potential sources or causes of weeds to occur
- If there is poor regeneration of plants occurring in ecological areas, the following is to occur
- Review planting and direct seeding management techniques conducted by contracto
- Assess the appropriate use and amounts of herbicides are being used in planting
- Assess the potential for weeds to occur in ecological areas; and Assess other potential sources or causes of weeds or limited re-growth of native plants to occur, ie. plant pests and disease monitoring.

RESOURCES / ROLES & RESPONSIBILITIES

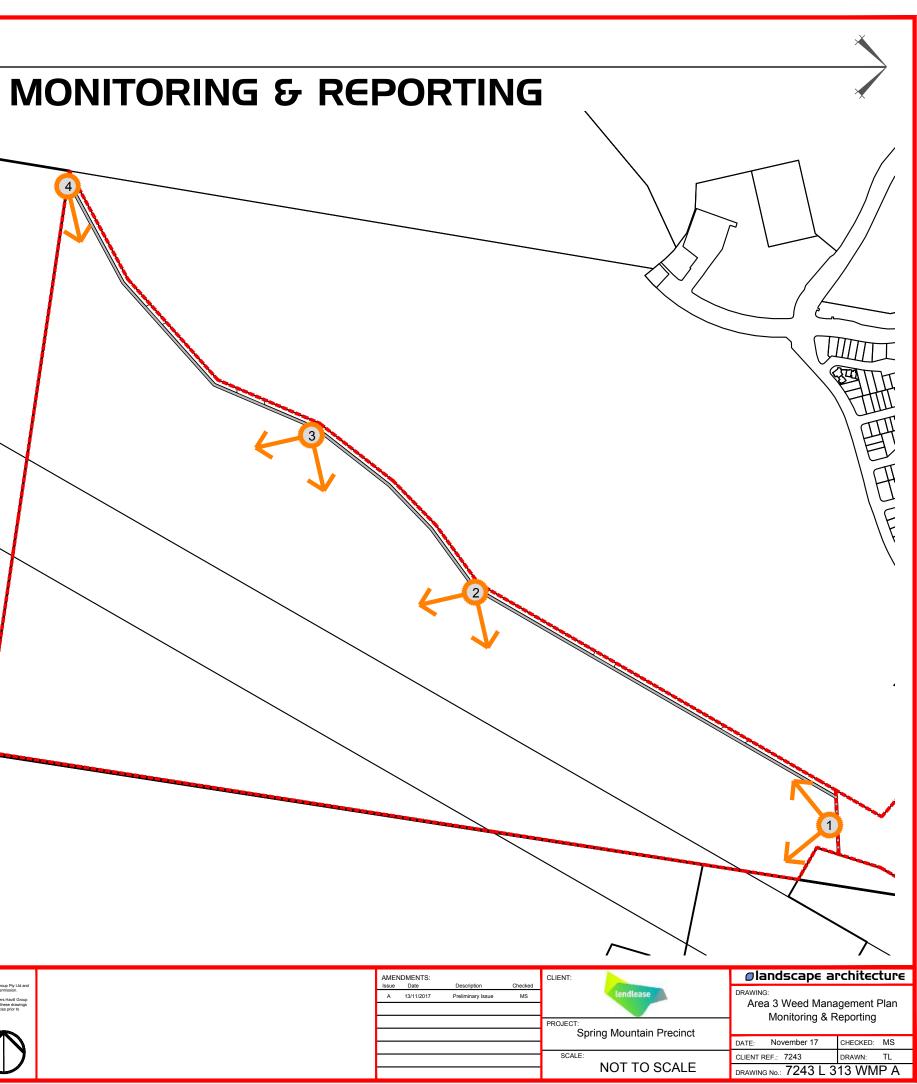
All resources required to implement this plan will be provided by the proponent (Lendlease). The following roles are applicable

PROPONENT

- Ensure all consultants, contractors, sub contractors or others utilizing the area are aware of the <u>Weed Management Plan</u>. Appoint appropriate consultants and contractors to undertake works as prescribed on the drawings and conditioned by **Ipswich City Council**.
- Cover the costs of all necessary resources to ensure works are completed as per
- the approved documents.

CONSULTANTS

- Brief the proponent on their requirements in implementing and maintaining works as per the <u>Weed Management Plan</u>.
 Attend pre start, on maintenance and off maintenance meetings.
 Undertake monitoring and reporting to **Ipswich City Council** as set up by this
- document. Be available to respond to technical queries or departures to the approved documentation when on-site conditions require changes. Liaise with Council throughout all stages of approval, initial works and maintenance
- of works
- COUNCIL
- Provide technical expertise via commentary on the approval of documentation.
- Attend pre-start, on and off maintenance inspections.
 Undertake random inspections through the Secondary weed management and
- Maintenance weed management phases Accept and review biannual reports as dictated in this document
- CONTRACTOR
- Complete works in strict accordance with the documentation.
 Recommend changes to the documentation when specific experience or on-site
 working and a strict accordance with the documentation.
- conditions require so.Attend pre-start, on and off maintenance inspections.



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Spring Mountain Precinct AREA 4 WEED MANAGEMENT

ISSUE A 13.11.2017 PRELIMINARY ISSUE

DRAWING SCHEDULE

Dwg No.	Drawing Title	Issue	Date
7243 L 401	Weed Management Plan - Cover Sheet	А	13/11/2017
7243 L 402	Weed Management Plan - Introduction	A	13/11/2017
7243 L 403	Weed Management Plan - Sheet 1	А	13/11/2017
7243 L 404	Weed Management Plan - Sheet 2	А	13/11/2017
7243 L 405	Weed Management Plan - Sheet 3	А	13/11/2017
7243 L 406	Weed Management Plan - Sheet 4	А	13/11/2017
7243 L 407	Weed Management Plan - Sheet 5	А	13/11/2017
7243 L 408	Weed Management Plan - Sheet 6	А	13/11/2017
7243 L 409	Weed Management Plan - Sheet 7	А	13/11/2017
7243 L 410	Weed Management Plan - Sheet 8	А	13/11/2017
7243 L 411	Weed Management Plan - Sheet 9	А	13/11/2017
7243 L 412	Weed Management Plan - Sheet 10	А	13/11/2017
7243 L 413	Weed Management Plan - Technical Notes	А	13/11/2017
7243 L 414	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 415	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 416	Weed Management Plan - Treatment Techniques	А	13/11/2017
7243 L 417	Weed Management Plan - Monitoring & Reporting	А	13/11/2017





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Spring Mountain Precinct AREA 4 MANAGEMENT PLAN - WEED TREATMENT & REHABILITATION

INTRODUCTION

NOTES

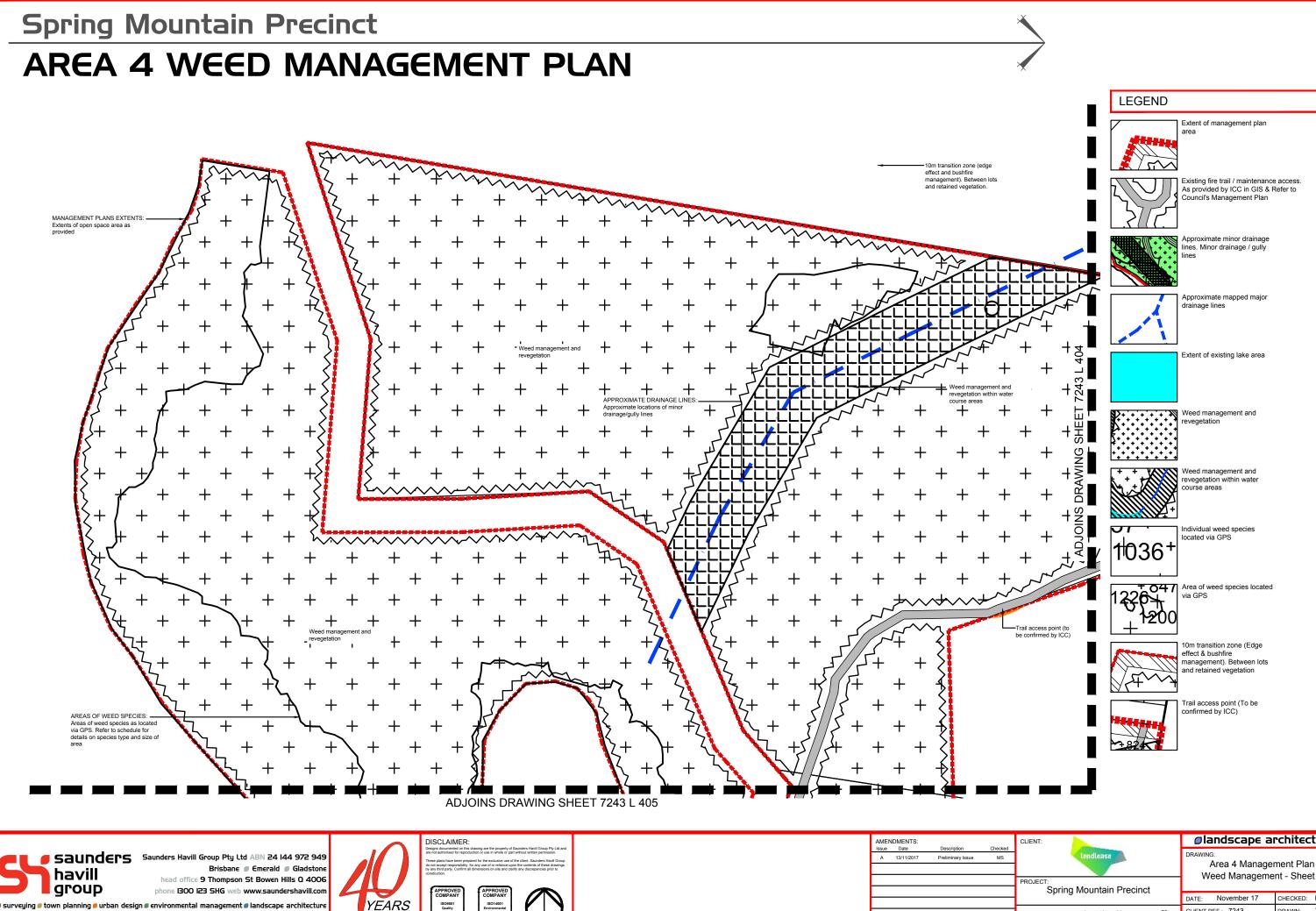
This Weed Management Plan



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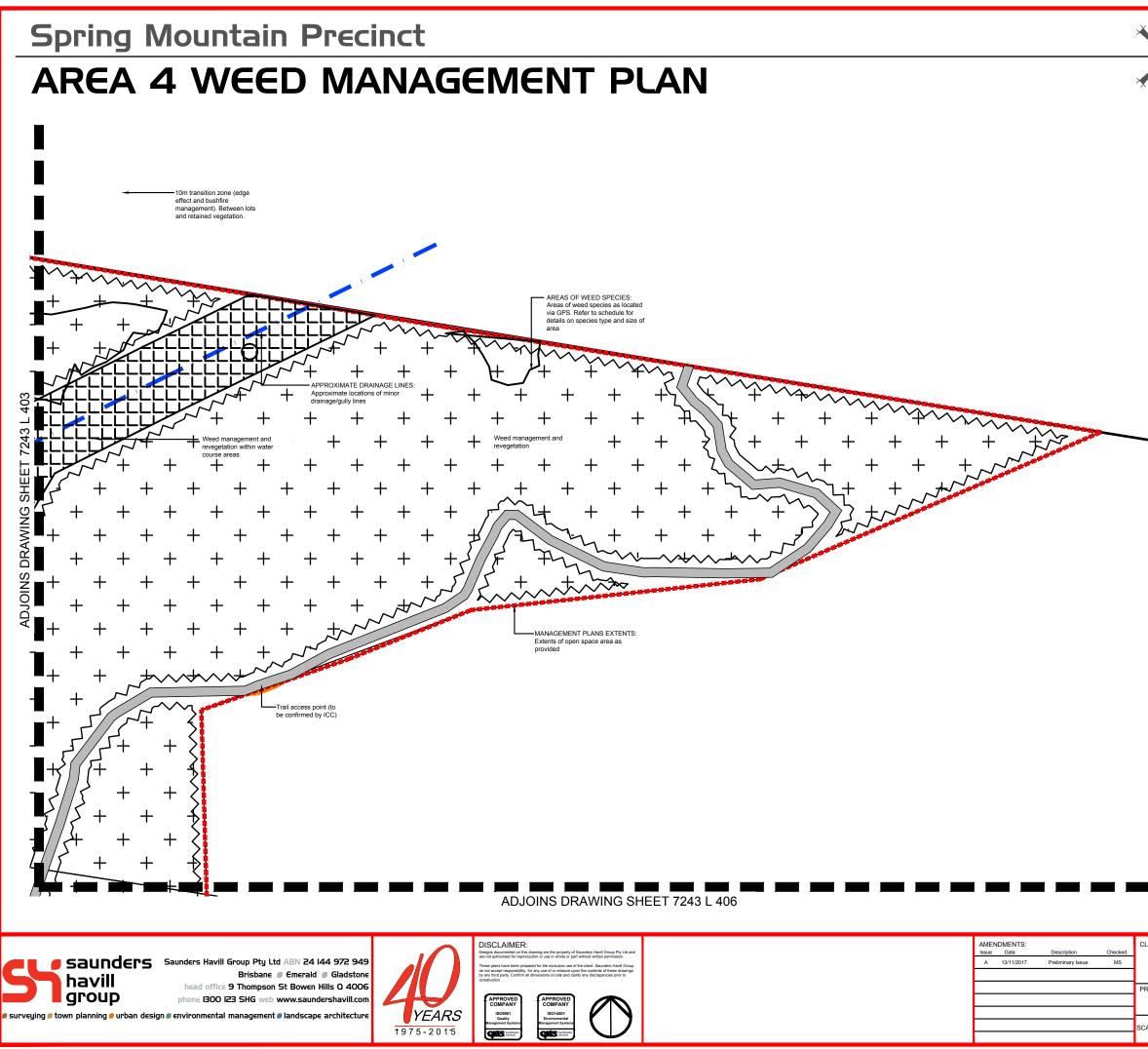


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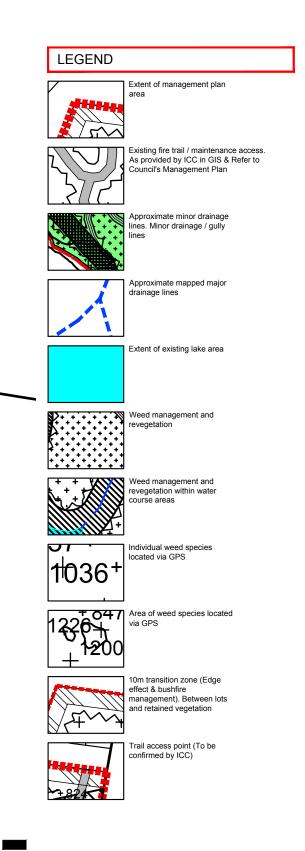
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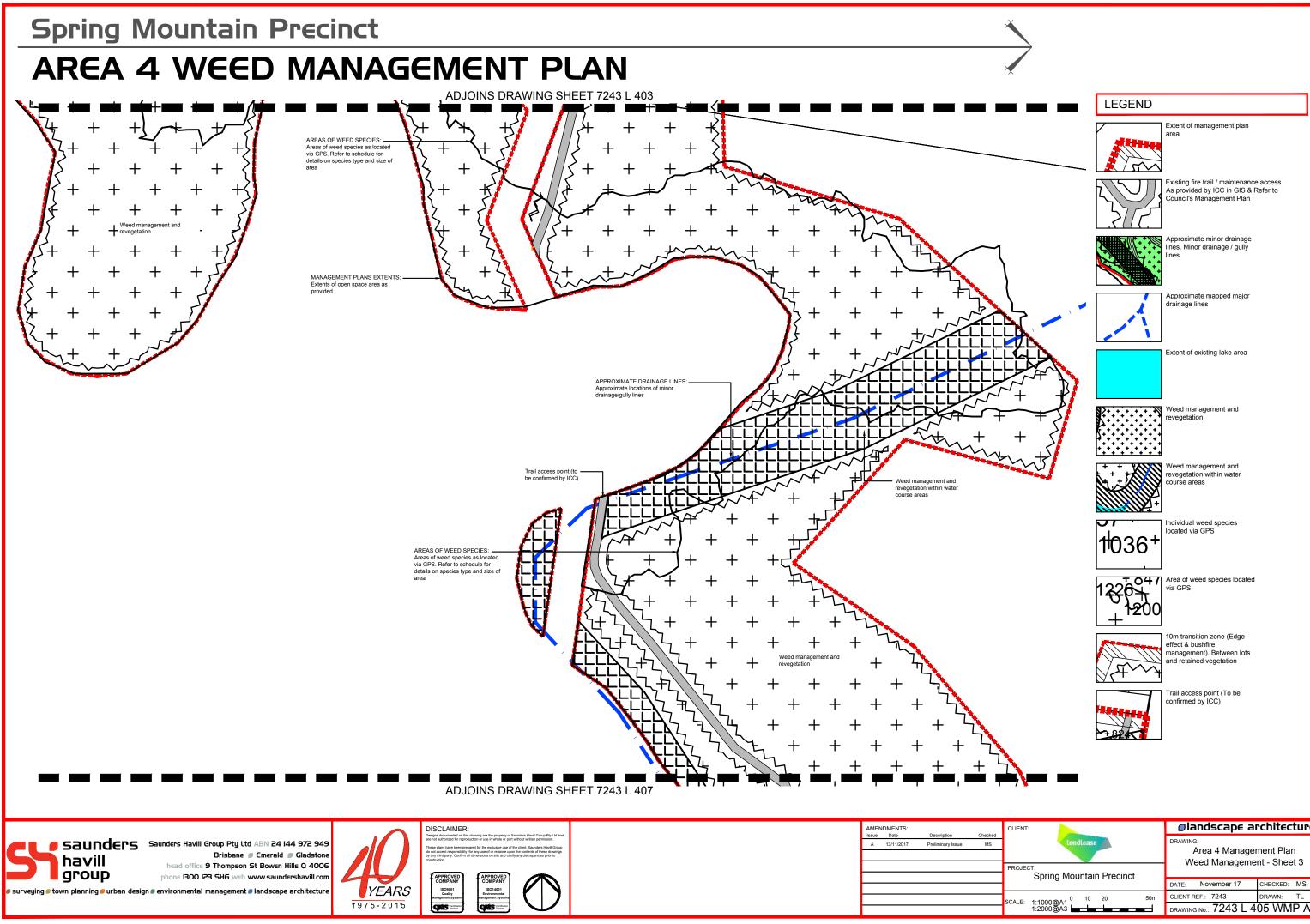
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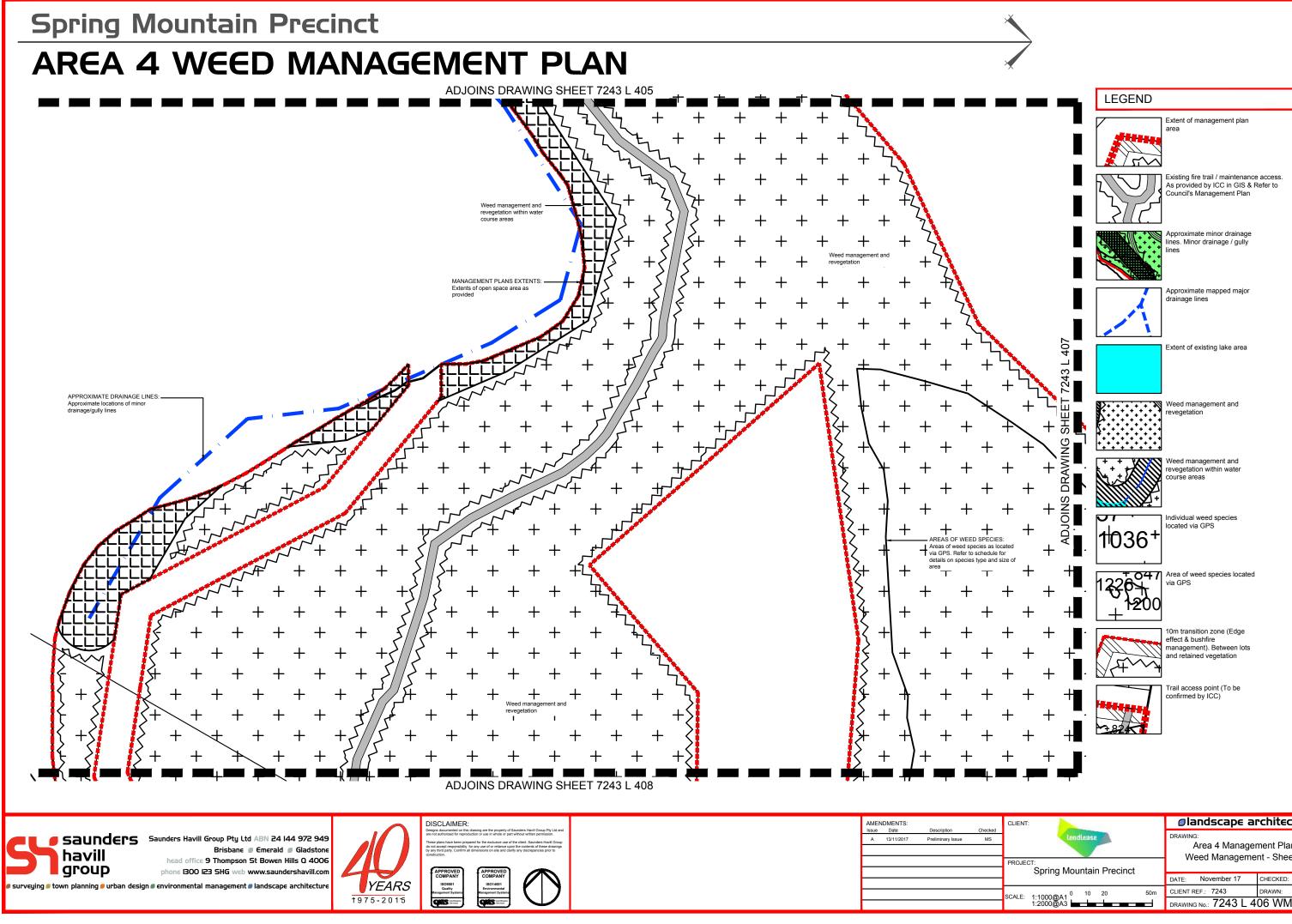




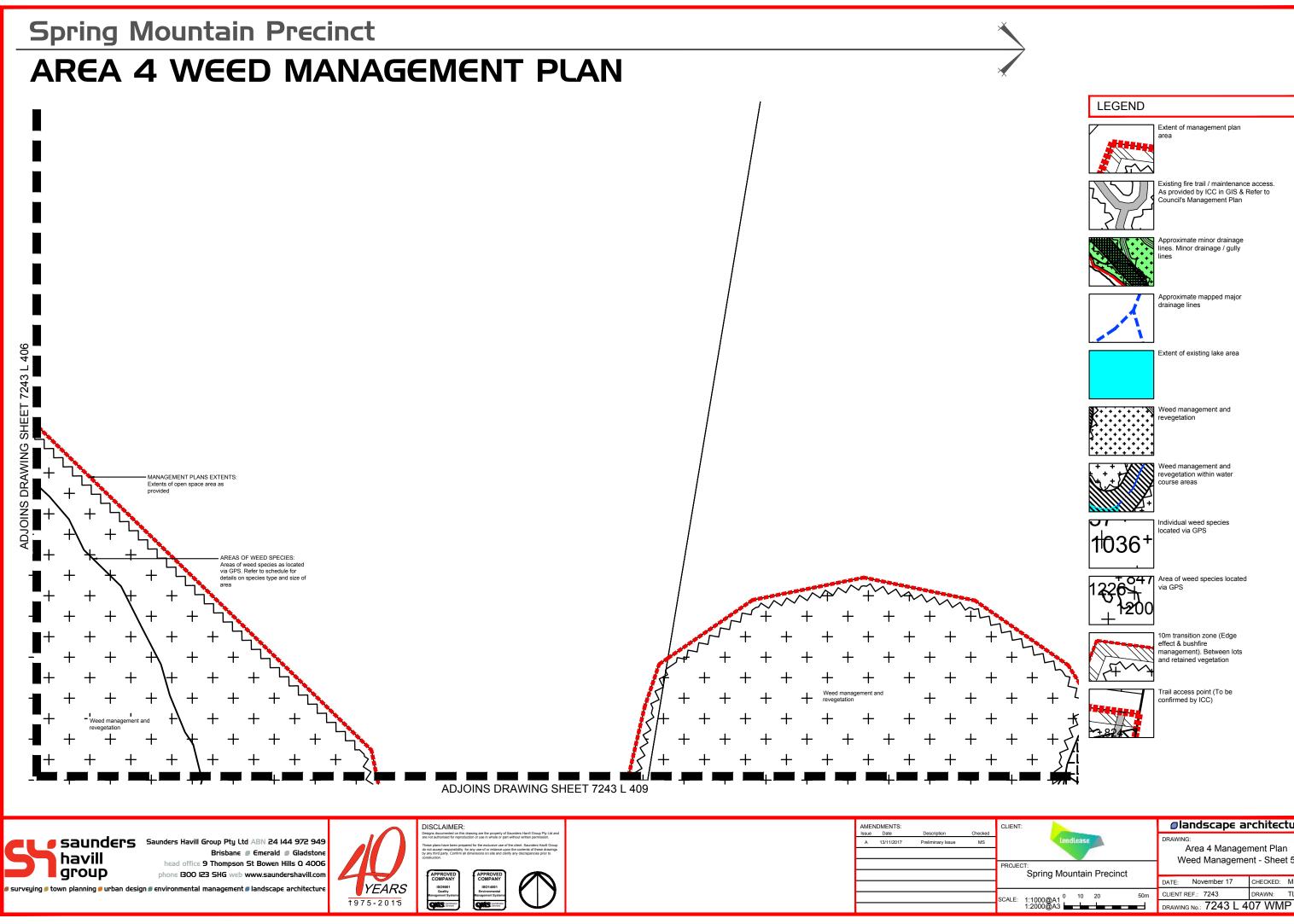
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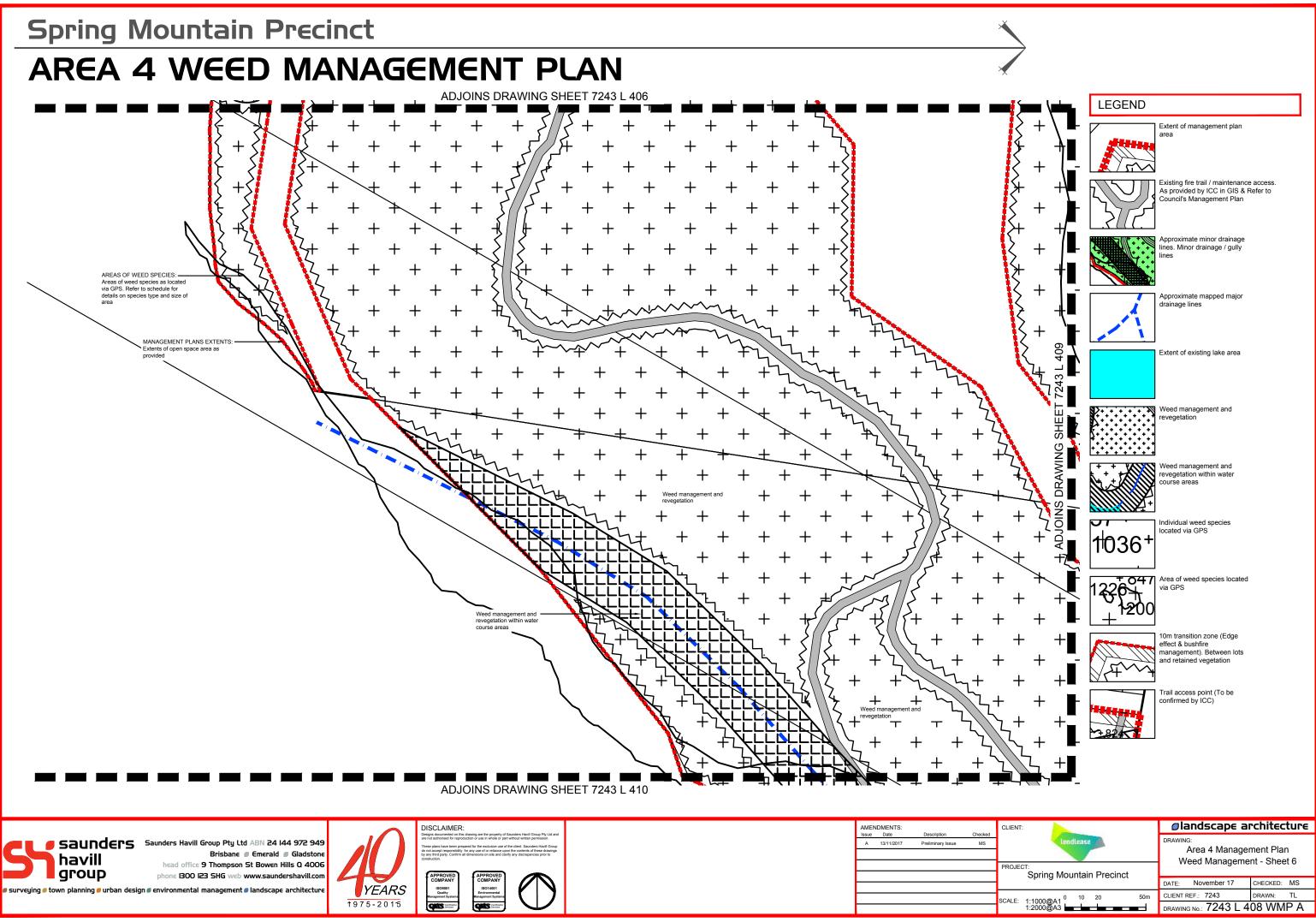
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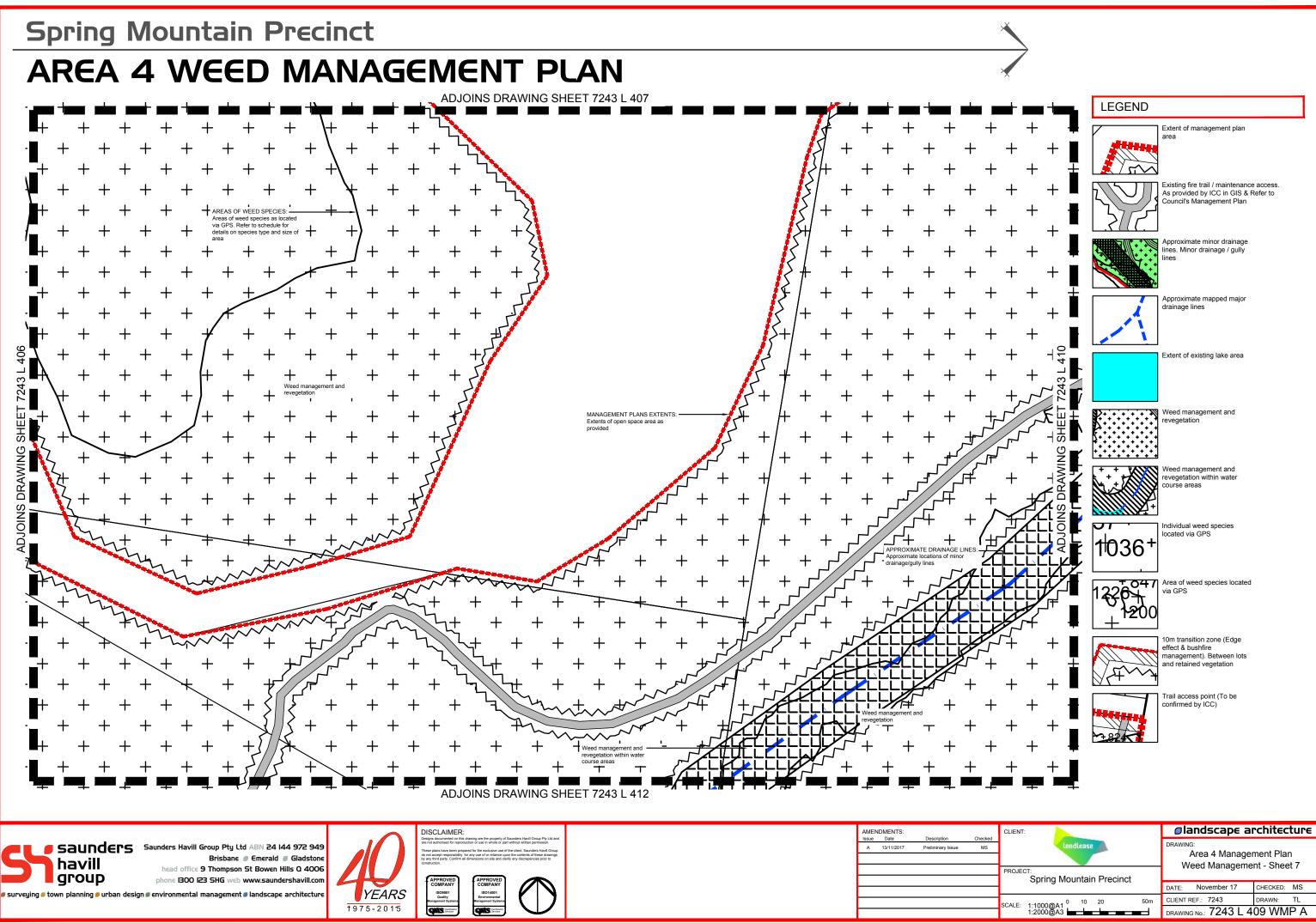
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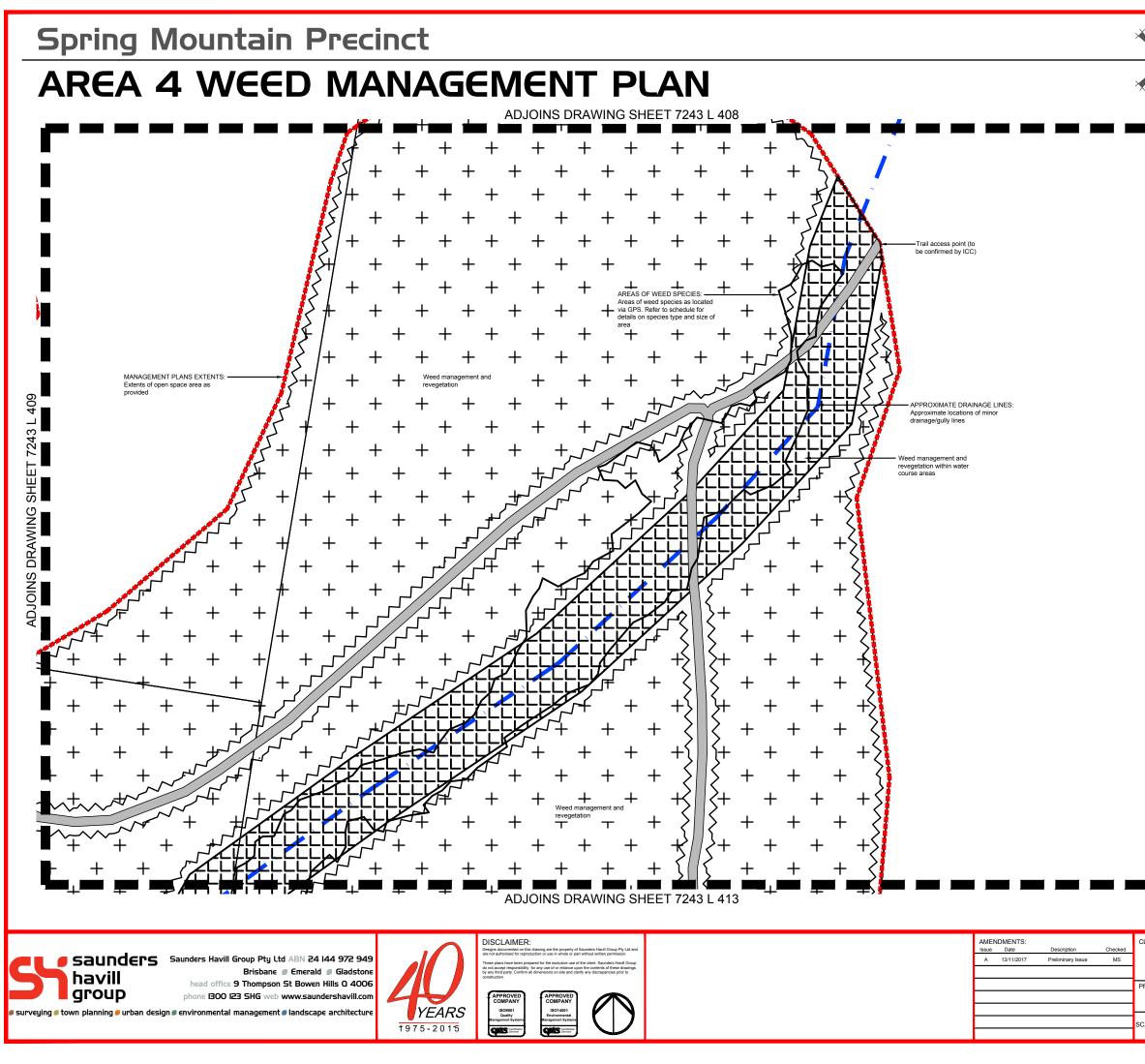
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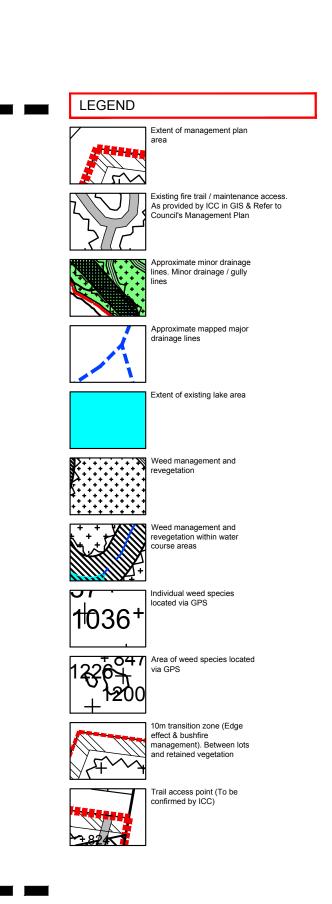


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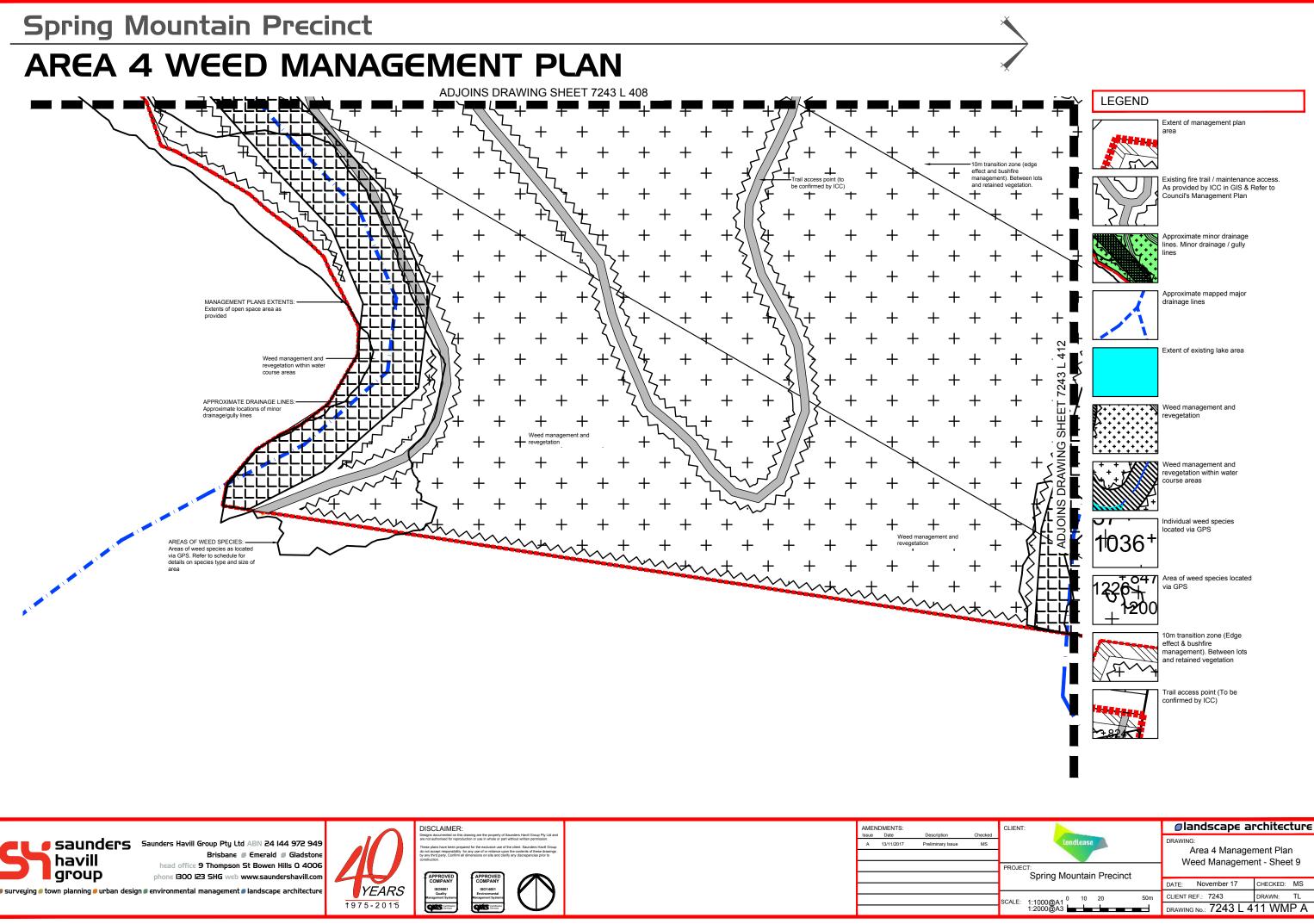


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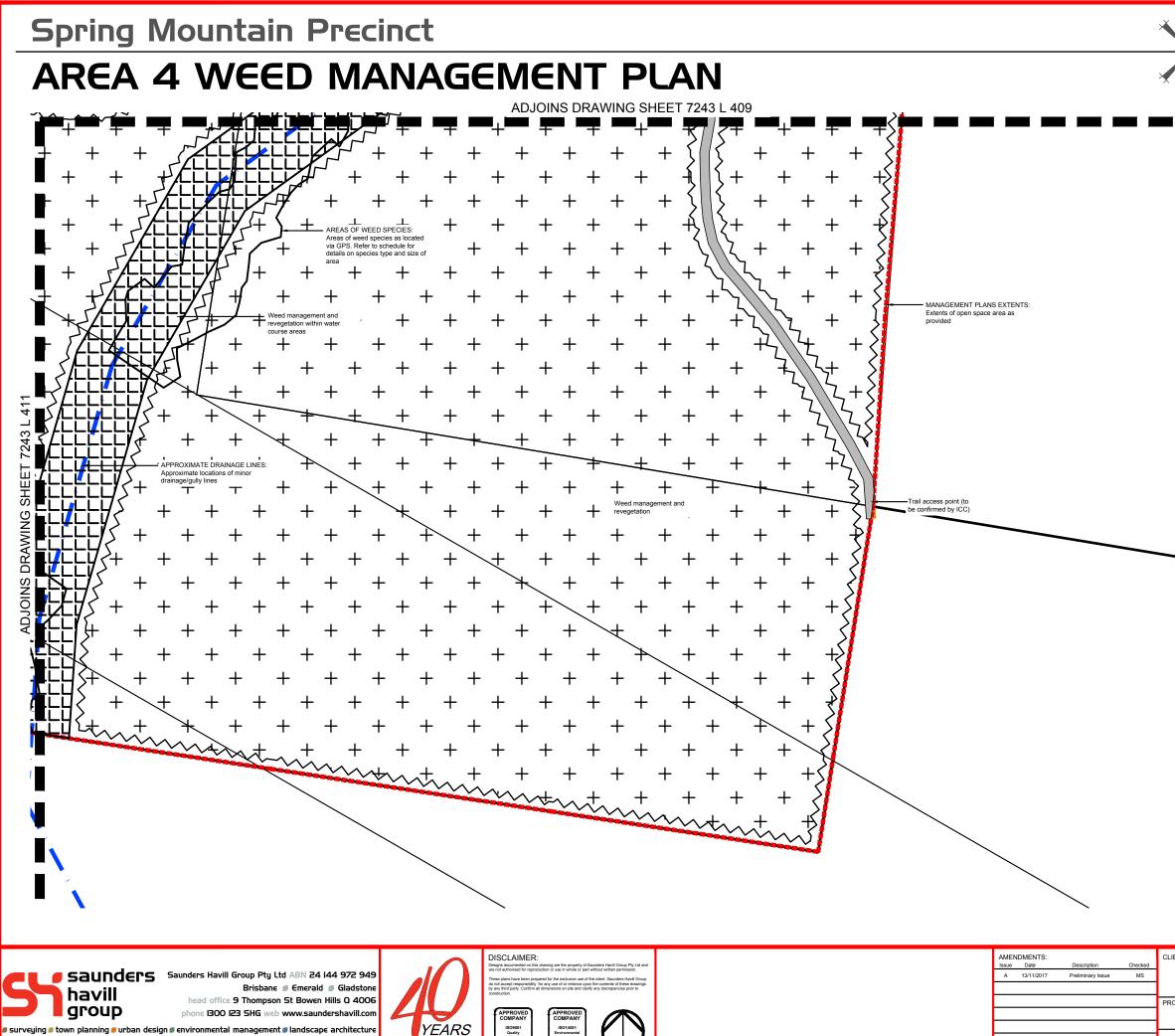




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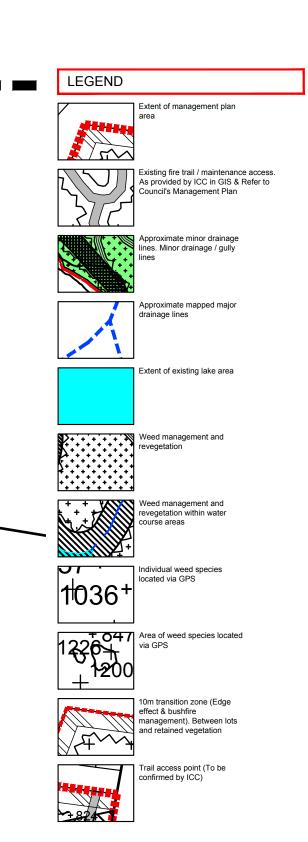
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AREA 4 MANAGEMENT PLAN - TECHNICAL NOTES - GENERAL

NOTES

This Weed Management Plan links specific weed removal and management measures with spatial areas within the declared area included with this application. This Weed Management Plan covers the 100.81ha Area 4 portion of land previous dedicated by Springfield Land Corporation (SLC) to Ipswich City Council (ICC). The main objectives and action items for pest plants are detailed in Table 1 shown on this plan, with the objectives and actions for ecological restoration are detailed in Table 2.

WEED CONTROL PROGRAM TIMING

The primary stage of manual weed removal, treatment and disposal for the parkland dedication is programmed when all existing weeds are removed with secondary and maintenance weeding occurring for another 18 months (18 month program post on-maintenance).

Primary Weed Removal Stage - Consists of the initial weed removal / treatment of site weeds via the methods detailed within the South East Queensland Ecological Restoration Guidelines. Essentially involves the manual removal, stock piling and disposal and initial usage of prescribed herbicides. Additional notes below include: • Implemented weed control method according to this plan.

- Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed.
- Program timing; primary weed removal phase is considered to be completed when all existing weeds within the stage for the declared area have been removed or treated. Both the secondary phase and the primary phase of weed removal can occur concurrently in different stage areas over time.
- A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress.

Secondary or Follow-up Weeding - for all areas will involve the quarterly inspection of areas having undergone Primary Weed emoval and treatment of infestations or outbreak as required. Additional notes below include:
 emplemented weed control method according to this plan.

- Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed.
- Program timing; primary weed removal phase is considered to be completed when all existing weeds within the declared area have been removed initially. Both the secondary phase and the primary phase of weed removal can occur concurrently in
- different work areas over time • A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress.

Maintenance Weeding Phase - final stage of weeding which occurs in areas where the majority of weeds have been removed and treated. Maintenance weeding continues to remove additional outbreaks but also allows for the fostering of natural regeneration and regrowth seedlings. Additional notes below include:

Implemented weed control method according to this plan.

• Weed trees located within 20M zone of the existing trail network are to be removed where trunk is cut down to ground level and vegetative matter removed. • Program timing: primary weed removal phase is considered to be completed when all existing weeds within the designated

Park have been removed initially. Both the secondary phase and the primary phase of weed removal can occur concurrently in different work areas over time.

• A key map is to be provided logging the progress of areas from primary to secondary phases of weed removal and areas of rehabilitation as part of the reporting progress

Revegetation occurs in two (2) distinct zones throughout the management area. Refer to Drawing sheets for a full description of proposed plant species, sizes, densities and numbers

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

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, wind or water. • 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

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TABLE 1: OBJECTIVES AND ACTION ITEMS FOR PEST PLANTS

Opportunities Management action

, values of the local and regional area

Restore

native

degraded

vegetation

impacts

associated

with pest

plants and

animals and

their control

and fauna,

cultural

on native flora

heritage sites

andscapes

mprove the

flora values

open space

within the

Restore

natural

habitats to

increase the silience of

the estate

Deceased

pest plants

eceased

abundance o

nest animals

mproved

understa

populations

and diversity

threatened

threatened

significant

plant species are protecte

and enhance

of and

of near

locally

abundance

within the

estate

communities

and minimise

Objective: Protect, manage and enhance the significant habitat values and ecological

processes found within the estate, so as to contribute positively to the conservation

Prepare and issue a

management plan to:

clearly prioritise actions and

zones (eg. focus on declared

and environmental pest plants

- Divide the site into sub-zones

which can be managed in a systematic and structured way

nanagement plan as burns

economical efficiencies;

educing fuel loads at the

could provide ecological and

same time as acting as a pest

- Lantana (especially) should

be managed to reduce the fuel

load, as this is a major fire

Incorporate training (eg. for

relevant community groups)

audience working on the

- Write the plan for the target

estate (eg. bushcare groups

working in particular zones)

As part of the site rehabilitation

planning for the open space, a planting list of locally occurring

rehabilitation is to be provided to

where appropriate and possible

Include threatened and locally

significant species in plantings

Refer to management plans

for further detail

for further detail

for further detai

for further detail

for further detail

enhance population viability

plant species for use in

and mapped biodiversity

- Align with the fire

plant control

hazard

zones)

Timeframe

Prior to

ment

commen

Ongoing

As required

As required

As required Contractor

Contractor

Threats

Degraded

vegetation

communities

have adverse

impacts on

other values

within the

estate,

including

native flora

species, fire

issues and

aesthectics

Pest plant

from high

use areas

impact or

ecological

values

Trail

soil compaction

creation,

increased

Pest plant

introduction

and spread

Disturbance

Insufficient

restoration

measures

Insufficient

data on the

effectiveness

of ecological

restoration

programs

resourcing of public

from pest

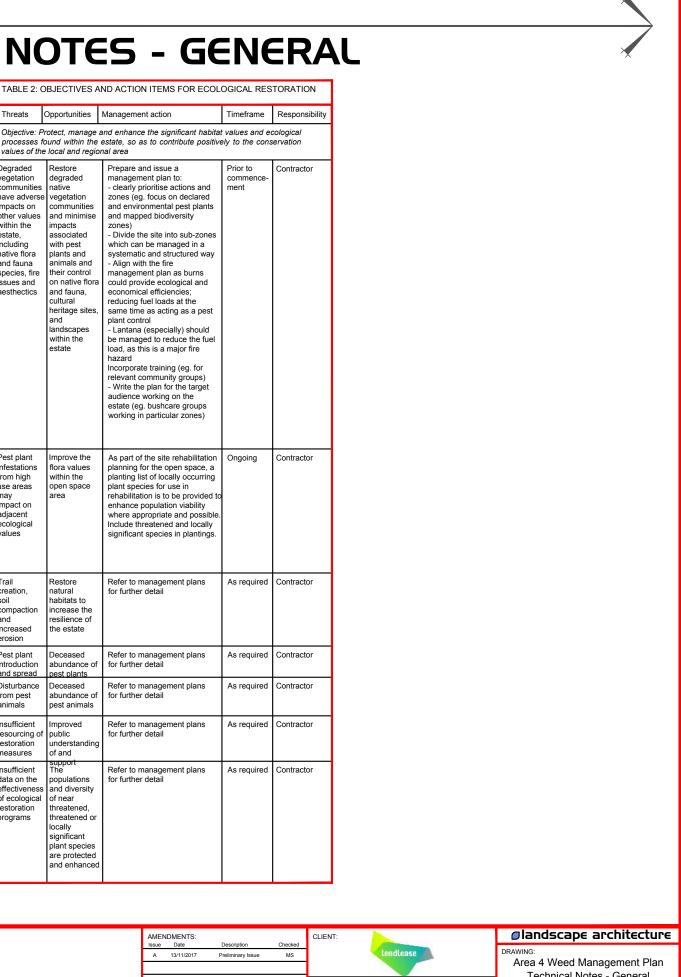
animals

erosion

infestations

and fauna

Threats	Opportunities	Management action	Timeframe	Responsibility	
		e and enhance the diversity of the the state by controlling pe		species and	
Insufficient monitoring of pest plants		Continue to develop and update the management plan for the estate to identify pest plants present and to recommend and prioritise control and monitoring actions	Annually	Saunders Havill Group (SHG)	
Establish- ment of large infestations of pest Plaufficient resourcing of pest plant control measures	Pest plants are controlled effectively and in a way that ensures native vegetation regeneration	Include treating pest plants within the open space area to improve visitors experience to the estate	Ongoing	Contractor	
ncreased abundance of pest plants due to fire	of pest	Conduct follow up pest plant treatment after any fires within the estate	As required	Contractor	
ack of education of visitors and local residents as to the adverse mpacts oest olants olants nave on he natural environ- ment	Improved public understanding and support for pest plant control	Provide material for public awareness (ie interpretative signage)	As required	Contractor	



PROJECT: Spring Mountain Precinct	Area 4 Weed Management Plan Technical Notes - General							
	DATE: April 17	CHECKED: MS						
	CLIENT REF.: 7243	DRAWN: TL						
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AREA 4 M

NOTE: Species highlighted have been identified within the 'Springfield Wildlife Corridor Management Requirements' list which have specified removal and/or treatment techniques for Class 1 or 2 weeds. Environmental weeds and weeds of National Significance (WONS) Class 3 are to be:

- Remove dumped garden weeds from urban interface. Liaise with ICC Supervisor regarding ongoing Compliance issues. Lantana controlled within 20m of track edges
- (ie walking, shared and service). Strategic treatment of gully infestations staged from head of gullies downstream utilising cut . stump method and chopping lantana into small (150mm) pieces. Areas to be determined by
- consultation with ICC. Assisted natural regeneration following • removal including direct seeding utilising endemic seed from site. Follow up weed control by spot spraying emerging weeds in cleared areas or hand removal.

_	N	AGEI	М		VI.	Т	Pl	AN -	W	'Ef	:D T	Rf	ΞΔ		Ī	IEN	T & F	?F	-M(OVAL	C	5T	R	Ά	TE	ΓY
								EAST QUEENSLAND	19 Fa		Neonotonia wightii (glycine)		16	4.7	H/A	N/A	Vines: CS&P (1:1.5) or spray G100 + MM or MM (ref 1)			Alternanthera philoxercides (alligator wood)		3	6		physical removal of	Terrerstrial plants use Metsulfuron methyl
nk f	Family Verbenaceae	Scientific and common names				Life for & Source	m Non-Chemical ce Control	and Alexandra and a second	Po	aceae	Panicum maximum (green panic and guinea grass)	8	78	4.6	H/A	Hand or mechanical removal of small	Spray: glyphosate @ 13mL/1L water (ref 2.)			(angao word)					attempted	(Brushoff@) + 1mL/L non juric weller @ 80 1mL/L non-jonic wette
		camara (lantana)					pul	Shrubs: blanket spray G100 or cut down and spray regrowth G100 or spatter gun using 1 part G to 9 parts water	21 Cil	careae	i (gustrum sinense (Chinese privet)	4	11	4.6	T/O	infestations Scedlings: Hand pull	Saplings: CS&P or C&P (G1.5); Trees: F/I (G1.5); Secolings: spray VM or C200									10g/100L water + 1m Ionic wetter Free flo plants Glyphosate (R Blactive®) 10 ml /l
	Asteraceae	Baccharis halimforia	10	168	1.8	S'D		 apply only when plant is attention, not doctman, litef 1) Shrubs, CS&P or F/I (G1). 									+ MM if other weeds such as Lantana or Camphor Laurd are present (ref 1).	10000000		Passitora suberosa (cork passionflower)	B	166	4.2	v/o	N/A	Stems: CS&P Seed Regrowth: spray G20 G200 + MM (ret 1)
(Grassulaceae	(groundse, bush) Drysphyllum delagoense (mother of millions)	8	UC	4.9	011	fowering I and removed an bacged or larger		22 CC	hnaccae	Ochna semilata (ochna)	7	33	45	5/0	N/A	Stems: CS&P or S&P or E/ (G1.5); Seedings and Regrowth: spray G200 + MM	100000	Poaceae	Melinis minutiflora (molassos grass)	5	17	4.5			Spray: Fluaz.fop-P : 2L(Ha, Glyphosate 1L/100L water (ref 2
·E	Bignon acece	Macfedyena unguis cati	5	36	4.9	V/O	infestations sprayed	Regrowth and tuberlinge:	23 As	paragacicae.	Asparagus acthiopicus cv	б	35	45	H/O	dig out unwanted	or MM. Inal basal bark I 100 or G200 + MM (ref 1). Spot spray -			Aristulochia elegans (Dutchman's pipe)	8	30 24	4.3		Fruit: Dag and remove.	Stems, CS&P (G1, Seedlings: spray G G200 + MM or MM
L	Jasellaceae	(cat's claw creeper) Anredera corditolia (madeira	6	16	4.9	V"D		spray C100 + MM or F100 (ref 1). Ascending Stems: S&P (GU);			Sprengeri (asparagus ground tem)					of at the appropriate counc	metsulfuronmethyl (600 g/L) (a) 10 g per 100 L water plus wetting agent or 100 g/ba	4.1	Convolvulaceae	ipomoca Indica (blue morning glory)	D	22	43	W.U		Vines and Runners (G1.5): Larger Sten and Nodes: spray (or I 150 (ret 1).
		vine)					Tubers, Hand pul Bag and dispose	 psint (GU): Ground infestations: spray G200 or G200 + MM (ref 1). 								entire crown of underground stem	plus wetting agent. Cut	41	Miniosaceae	Leucaena leucocephala (leucaena)	6	14	4.3	ST/A	ory. Small plants, Hand pull or mechanical removal	Herbicide Control application: thelopy pictoram 120g/L @
	Asparagaceae	Asparagus africanus (omamental asparagus, asparagus fem)	ť	26	4.9	CIV	dispose of at loca	I Furoxypyr (200 g/L) (2) 35 mL al pei 1 L te, diesel/kerosene	21 Po	aceae	Sporobolus pyramidalis and		72	4.8	H/U?	regrowth Seed heads cut	Small infestations: spray									diesel; C&P: trielo; + picloram 120g/L 60I. diesel; spray 1 300c/l + picloram
							crown and underground ster to prevent regrow				S. natalensis (giant rat's ta grasses)					and bagged, remaining leaves sprayed	glyphosate @ 15mL/L water, flupropanale @ 2mL/L water + ionic wetter @ 1mL/Lwater, Dense Infestations: blanket									350ml per 1001 w Combination of the mecha
	Jimaceae	Celtis sinensis (Chinese coltis)	8	19	49	T/0		all Stem injection, glyphosate (360 g/L) @ Undiluted at 1 mL per 2 cm of hole or	۸s	teraceae	Ageratina riparia	5	38	4.6	H/O		spraying glyphosate 31/ha, fluoropanate 2L/ha (ref 2) j Spray G100 or MM (ref 1).	42	Poaceae	Urachiana mutica (para grass)	6	18	4.4	Ha/A	Grazing	Herbicide Control application (Knaps glyphosate 350g/L
							seedlings, combi dozing, burning and controlled grazing for large	ine cut	26 As	clepiadaceae	(mistilower) Araujia sericifera (mothvine)	9	38	4.4	V/0		Vines, CS&P (G1.5), Seeclings: spray (5200 or G200 + MM or MM (ref 1),									200mL/15L water; glyphosate 360g/L Handgun: glyphos @ 1.3L/100L wate
	auraceae	Cinnamomum camphora (camphor laurel)	7	25	4.8	T/0	infestations	Saplings: CS&P (G1.5); Trocs: F/I (G1 or G1.5) or C&P (C1 5 or GU for stems	27 Ori	assulaceae	Biyophyllum daigremontianum x B	6	15	4.5	Н/О	Hand pull and dispose	Plantiels, spray G200 + MM or MM (ror 1)	43	Hydrochantacea e	Lgena densa (egena waterweed)	2	1	4.4	llan	hand pulling, cutting and digging with machines	N/A
	Anacard aceae	Schinus terebinthifolius	6	49	4.8	1/0	Seed ings: I and	up to 8 diameter); Geedlings: spray G200 or G200 + MM Gaplings: C38P (G1.5);	25 Co		delagoense (hybrid mother- of millions) Ipomoea cairica (mile-a- minute)	7	56	4.4	V/O		Vines and Runners: CS&P (G1.5), Larger Stems, Roots	44	Pinaceae	Pinus elliottii (slash pine)	4	22	4.3	TĩΛ	effective Seedlings Hand pull; Saplings and Tiees, cut close to	ensuring thick bar
	SaMiniaceae	(broad-leaf pepper tree) Salvinia molesta (salvinia)	8	57	49	Ha/F	Pull Mechanical removal of small	Trees. F/I (G1.5), Seed ings. spray G200 (ref 1). Aquatic areas: calcium dodecylbeczene sulphanate	29 Sa	pindaceae	Cardiospermum	,	31	4.4	V/V	and hand up to dry Seedlings & Smal	and Nodes: spray G100 + MM (rcf 1) Stems: CS&P (G1.5);	45	Caesalpin aceae	Senna pendula var. glabrata (Fastor cassia)	7	33	4.2	ST/O	gmund or ring-bark Seedlings: Hand pull	Shrubs: CS&P or Scedlings: spray (
							intestations; Salvinia weevi (Biological contro	(AI -100) (& 1 part to 19 parts kerosene, diquat (vegetrof) 50- 100L/na or 4L/100L water, diquat (watrof) 50 100L/Ha or	20 40	cicpladaccae	granditorum (balloon vine) Cryptostegia granditora		10	44	V/0		Seedings or Small vines. spray G200 or G200 + MM (ref 1). Follar spray - Follow-up basal	49	Poaceae	Chions gayana (Rhodes grass)	9	55	4.3	II/A	Hand pulling and removal and	G200 + MM or MM and bag seeds (re Spray: glyphosate water
								41/1001 water; diquat (regione) 5-101/Ha or 400ml -1 160mL Agral / 100L water		a para a cara.	(rubber vine)					medium-density	bark/cut stump/foliar spray as necessary with Triclopyr (47	Crassulaceae	Bryophylium planatum	6	17	42	H/O	digging of larger clumps Hand pull and	Planflets: spray C
	Cabombacese	Cabomba caroliniana (cabomba, fanwot)	4	12	49	Ha/F	Mechanica removal of small	(see ref 2. 2, 4-D N-Bucyl Ester (Rubber Vine Spray) @ 12 5 //VI								stashing close to ground level is recommended.	(Gravon DS, Grass up, etc.) @ 0.35–0.5 L /100 L water	48	Asteraccae	(resurrection plant) Parthenium hysterophonus (parthenium weed)	6	14	42		dispose hand pulling of small areas is not recommended	or MM (ref 1). Spot spray 2,4-D : g/L @ 0.4 L/100 L
	Asteraceae	Chrysanthemoides moniifere suben intundate	3	23	4.9	S'OA	infesta <mark>tio</mark> ns N/A	water (see ref 2, for application guide). Stems: C&P or F/I (G1.5), Bushes: spray or cut down			Rivina humilis (baby pepper Sporobolus africanus	1	61 48			to dry) Spray G100 (ref 1). Small infestations: spray	49	Capitoliaceae	Lonicera japonica (Japanese honeysu <mark>c</mark> kle)	3	6	4.3		Vines and Runners, hand pull roll up and hang to	
	^J ontedenaceae		4	8	4.9	i la/Ol		and spray regrowth C100 or MV (ref 1) Waterways: 2, 4-D acid ('Al-			(Parramatta grass)				(2009)	mechanical removal of small infestations	glyphosate @ 15mi /I, water, flupropanate @ 2mL/L water + lonic wetter @ 1mi /I water,		Acanthacican	Thunbergia alata (black eyed susan)	5	22	42	H/0		or MM (ref 1). CS&P (C1.5); spr G200 + MM (ref 1)
		hyacinth)					removal of small infestations	300) @ 1.200 with water, Aquatic Areas, glyphosate @1 1.3L/100L water (see ref 2, for application guide).									Dense Intestations: blanket spraying glyphosate 31/ba, flupropanate 21/ba (ref 2).		Fabaceae Rosaceae	Macroptilium atropurpureum (siratro) Rubus etlipticus (yellowberry)	8	30 25	4.2 4.1	V/A S/O		Vines, CS&P (1, 1, G100 + MM or MM Grazon DS pictoram/frictopyr
	canthaceae	l lygrophila costata (Giush weed)	3	ť	5	l a/l	Fand put sma infestations. Can be controlled by planting	Glyphosate known to be effective.Species known to	33 Po	aceae	Sporobolus tertilis (giant Panamatta grass)	g	2/	4.5	H/U	mechanical removal of small	Small intestations: spray glyphosate @ 15mD/L water, ftupropanate @ 2mD/L water +								some control if plants are slashed before they seed	water + wetting ag
)leaceaa	Ligustrum lucidum (tree	5	9	4.8	1/0	competitive native spacies	e spraying (ref 4) Saplings: CSSP or C&P								infestations	ionic wetter @ 1mL/Lwater Dense Infestations: blanket spraying glyphosate 3D/ha, flupropanate 2D/ha (ret 2).	03	Colchicaceae	Gloricsa superba (glory-lily)	3	25	4.1	VIO	NYA	Young Shoots, sp G200 + MM, Best Oct-Nov and by us as surflicant (ref 1
		privel)					pull	(G1.5), Trees. F/ (G1 or G1.5) or C&P GU for stems up to 8cm diameter; Scedings: spray MM or C200 + MM if	34 Po	accae	Fragrostis cumila (African Iovegrass)	7	29	43	H/U	they flower. When	Cityphosate (360 g/l) (e.g. Weedmaster® Duo) @	54	Verbenaceae	Phylaiclanescens (lippia, Condamine couch)	3	4	4.2	Ha/O		Foliar spray 600 g Dichlorprop @ 5 m or 2,4-D amine (50
	Asteraceae	Sphagnaticola trilobata (Singapore daisy)	6	34	4.6	(ID	l and pull	other weeds such as Lantana or Camphor Laurel are present Hand pull and/or spray G200 + MM (ref 1).								chipping out the plant ensure that the tussock crowns are	10 ml/1 L waler								methods including chemical and mechanical with land management	crop of @ 2 4 D/r
	\storacese	Ageratina adenophora (crofton weed)	6	38	4.6	C'H	Hand pull and ha to dry.	ng Sproy MM or G200 or G200 + MV if other weeds such as Lentane or Camphor Laurel								removed, as this will prevent regrowth. (Fin		55	Solanaceae	Solanum seaforth anum	8	78	4		practices is most effective Hand pull	Spray G100 (ref 1)
•	Verbenacieae	Lantaria montevidensis (creeping lantaria)	8	62	4.8	3/0		are present (ref 1). Spray (march to may): of glyphosate 1L/100L water, motsulfuron mothyl 10g/100L	95 A-	teraceae	Gymnacoronis	q		47	Ha/F	seed, the stems must be cut and bagged first place plant	Glyphosate and metsulfuron-	56	Araceae	(Brazilian nightshade) Pistia stratiotes (water Ielluce)	3	8	<mark>4.1</mark>	Ha/OI	Mechanical removal of small intestations	Giyphosate 360g/L 1.3L/100L water or diquat 20g/L (a) 4L
								water; metsulfuren methyls + glyphosate 173g/1001 water; Basal bark (anytime): triclopyr 1⊑/60⊑ Diesel, picloram +	55 AS	UIBUCOC	symnocororis splanthoides (Senegal lea)	د	4	4.7	r:d/F	material in a sealed plastic bag leave in sunlight to	methyl @ 15mL/L water	57	Asparagaceae	As paragus plumosus	4	8	4.1	V/O	Rhizomes: crown	or 50-100L/Ha (see application guide) Rhizomes: gouge
								trickpyr @ 1L/60L Diesel, Glyphosate, neat application; Splatt								rot then burn or dispose of all a council-approved land fill tip				(asparagus liem)					and hang to dry.	(G1.5), Stems, wind spray or cut high ar spray regrowth G20 1 MM (ref 1)

AMEN Issue	IDMENTS: Date	Description	Checked	CLI
A	13/11/2017	Preliminary Issue	MS	
				PR
				SCA
				304



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🛢 surveying 🖲 town planning 🕖 urban design 🗊 environmental management 🖉 landscape architecture

havill

CLIENT:	Iandscape architecture						
ROJECT: Spring Mountain Precinct	DRAWING: Area 4 Weed Management Plan Weed Management Techniques						
opinig mountain roomot	DATE: November 17 CHECKED: MS						
	CLIENT REF.: 7243 DRAWN: TL						
AS NOTED	DRAWING No.: 7243 L 414 WMP A						

AREA

	Co <mark>mmelinacieae</mark>	Tradescantia Turninensis (Qld use T. albiflora)	5	9	1.1	H/O		Spray F150 (as per label) or G200 or G200 + MM: Collect	84 Asteraceas	Tithonia diversifolia (Miexican suntower)	5	11	3.9	HO	NA	Stems: CS&P (G1.5) or cut and spray regrowth and	114	Lamiaccae	Salvia caccinea (red salvia)	9	46	4 H/0	Fremove small area by hand or	s Aquatic areas (drains, channels, margins of
		(Wandering Jew)						and bag or roll and rake carefully. Dispose (ref 1).								seedings (G100 or MM) (ref 1).							by nano or machine	streams, lakes and dams) - calcium dodecylbenzene
59	Solanaceae	Cestrum parquí (green	6	36	3.9	S/C	Seedlings: Hand	Stems: CS&P (G1.5) or spray	85 Poaceae	Setaria sphacelata (South African piceon grass)	9	41	3.8	HIA	Hand pull or dig s	p Spray G100 (ref 1)								sulphonate (AF 100) @ 1 part in 19 parts kernsene
0	Caesalpiniaceae		6	25	4	S/C		G100 (ref 1). Shrubs, CS&P or F/I (G1.5),	86 Asdepiadadeae		10	132	3.7	S/CU	Stash in winter a burn cuttings.	nd Spray, glyphosate @ 1.1000 with water, in spring before	115	Asteraceae	Ageratum houstonianum	8	81	3.8 170	AVA C	Spray G100 or hand pull and
		(arsenic bush, was S floribunda)					pull	Seed ings: spray C200 or G200 + MM or MM: collect		cotton bush)					Wanderer Butterf	ly seeding (ref 3).	116	Myrtaceae	(blue billygoat weed) Paidium guajava and P	4	7	37 ST/4	O N/A	spray regrowth G100 (ref 1). Shruba: CS&P or F/I (C1.5) o
	Orlease				Ļ			and bag sceds (ref 1).	87 Poaceae	Digitaria didactyla	9	70	3.7	H/A	can also be used Hand pull or	Spot Spray: glyphosate or 2,2-			guineense (vellow guava and West Indas guava)					spray G200 + MM or MM. Trial basal bark F100 or G200
1	Solanaceae	Solanum mauritiacom (wild tobacco trae)	8	30	4			Shrubs: CS&P (C1.5) or F/L (G1:1.5); Seedings: spray	88 Caesalpiniaceae	(Qusensland blue couch) e Gleditsia triacanthos (honey	7	12	3.8	7/0	cultivation For the control of	DPA (ref 3) pastures								+ MM (rcf 1).
	Apocynaceae	Catharanthus roseus (pink		22	4	S/O		G200 (ref 1) Spray (3100 (ref 1).		locust)						 non agricultural land fluroxpy ril (Starane 2008) @ 1.5 L 	117	Rosaceae	Rubus bellobatus (kittatinny blackberry)	5	22	35 8/0	 slashing hinders, growth, giving 	Grazon DS picloram/triclopyr 1:200 parts
		periwinkie)	2	- 22							j				burning to lowed	by 75ml/100 L diesel			"				some control if	water + wetting agent
3	Passifloraceaa	Passiflora subpettata (white passion flower)	10	60	3.9	V/O		Stems: CS&P Seedlings & Regrowth: spray G200 or							spot spraying is a economical	an							plants are slashed before they seed	
	<u></u>				ļ, ļ.			G200 + MM (ref 1).	H9 Poaceae	L'aspalum notatum (tah a	4	10	3.0	TUA:	Control method	p Spray G100 (ret 1)	118	Myrtaceaa	Lugenia unifiora (Urazilian cherry)	4	19	3.5 \$17	D NVA	Stems: C&P or F/I (G1.5); Bushes: spray or cut down
-4	Fabacese	Desmodium uncinatum (silverles/ desmodium)	5	14	4			CSSP tuberous mots (G1.5); spray G200 or G200 + MM or	90 Cadaceas	grass) Opuntus monacenthe			4	590	Land removed	Spray: Basal Bark application:								and spray regrowth G100 or MM (ref 1)
								MM; collect and bag seeds (ref 1)		(drooping tree pear, syn. O				145.	stem injected, pr	Injection Tric opyrt .8L/60L	119	O eac∋ae	Olea europaea (olive)	2	6	4? 1//	Seedlings: Land	Saplings: CS8P (G1.5);
65	Роасеае	Melinis repens (red Natal	10	134	6.1	H/A		Spray, Fluazifop-P 212g/L @		vulgaris)					over sprayed will garlon	Triclopyr, 1L/60L			10.000				pull	Trees, F/I (G1.5), Seedlings, spray G200 or G200 + MM
		graas)						21 /Ha, Clyphosate 360g/1 @ 1L/100L water (ref 2).								diesel. Amiliote 1mL/3cm (ref 3).			Participation of the second se			35 10		(ref 1).
6	Nymphaeaceae	Nymphaea caerulea subap.	4	17	4		Hand pull small	Spray with or Diquat	01	Company of the second	ļ				Cut bala		120	Poaceae	Brachiaria decumbens (signal grass)	1		3.5 H//	Grazing	Herbicide Control - Foliar application (Knapsack):
		zanzibarensis (blue intus)						Glyphosate, Occurs in waterways, thus EPA should	91 Poaccae	Paspalum conjugatum (paspalum grass)	/	- 38				Spot Spray: glyphosate or 2,2 DFA (rof 3)								glyphosate 350g/1 @ 200mL/15L water; Foliar;
								be notified before any nerbicide use (ref 5).	92 Malcigniac cad	Histage benghalensis (hiptage)	3	5	4	S V/O	Hand pullismall Infestations.	Seedlings: Foliar spray of deamba, furokypyr, and								glyphosate 380g/L @ 9L/Ha,
67	Onagraceaa	Oenothera drummondii	3	17	4	H/C	Hand pull	Spray G100 (ref 1).							100.00000000000	triclopy t/picioram. Larger								Handgun: glyphosate 360g/L @ 1.3L/100L water (ref 2)
		subsp. drummondii (beach evening primrose)														of fluroxy pyr and	121	l abaceaa	Stylosanthes scabra (shrubby stylo)	4	۷	4.37 119	nva.	Vines: CS&P (1:1.5) or spray G100 + MM or MM (ref 1).
68	Til aceae	Triumfetta rhombuidea (Chinese burr)	7	44	4	H/U	Hand pull	Spray G100 (ref 1).								tric opy of pictors m with dissel, gly phosats with water and	122	Commelinace	ac Commelina benghalensis	4	7	3.5 H/C	Collect and Eag	Spray G200 or G200 + MM
59	Haloragaceae	Myriophyllum aquaticum	з	15	4	Ha/F	N/A	Spray, glyphosate 360g/L @	93 Solanaceae	Solarium Loivum (devil s fig)	6	39	3.9	S/O	Seedlings: Hand		123	Poaceae	(hairy wandering jew) Pannisetum purpuraum	Z	9	3.5 D/) Grazing or	(ref 1) N/A (ref 2).
10	Passifloraceaa	(parrot's feather) Passiflora foet da (stinking	,	50	J.9	V/O		100mL/10L water (ref 1). CS&P (G1.5); spray G200 or							pul	(G1.1.5), Seedings, spray G200 (ref 1),			(elephant grass)				mechanical removal	
		passion flower)	<u>.</u>		I			G200 + MM (ref 1).	94 Caesalpiniaceae	e Caesalpinta decapetala	4	20	3.9	s v/o	Seed-heads Bac	Stems: CS&P (G1.5),	124	<mark>Zingiberac</mark> eae		2	2	3.5 190) Small Plants: Han	d Small Plants: spray G200 or
1	Asteraceae	Verbesina encelloidea (crownbeard)	7	34	4			Stems: S&P (GU); Regrowth and seedlings: spray G200 or		(thomy poinctana)					and remove.	Seedlines, spray G200 or G200 + MM or MM (ref 1).			(wild ginger)				pull and dispose	G200 + MM, Large Plants, cr and spray regrowth, if
								G200 + MM (ref 1).	95 Poaccac	Pennisetum alopecursides (swamp toctar)	7	29	3.8	H/O	Hand Pull	Spot Spray: ptyphosate or 2,2 DPA (ref 1)								rhizomes are at ground level,
2	Poaceae	Paspalum mandiocanum	Э	6	4			Spray (3200 - resistant to	96 Verbenaceae	Uuranta erecta (duranta)	б	14	36	SEC	Shrips (25&P) (1:1-5)	Spray G100 (ref 1)								cut stem and gouge rhizoms fill hole with G1.5 with injecto
	Poaceae	(broad loaf paspalum) Paspalum dilatatum	10	30	3.9	H/A	Hand pull or dig up	weaker strength (ref 1). Spray G100 (ref 1)	97 Trass cacese	Nasturium officinale (Old	7	19	37	Ha/I U		d Spray G100 and replace with	125	Phyto accade	as Phytolacca octandra	10	50	34 H/0	Hand pull or crown	kit or sim lar (ref 1). CS&P (G1.5) or C&P (G1.5);
	Ruppiaceae	(paspalum grass)								use Rorippa nasturt um- aquaticum) (watercress)					destroy.	local species (ref 1).		Asclepiadace	(ink:we∋d)		43	3.4 S/(spray G100 (ref 1). Slash and/or spray G100 (ref
	e de la compresente en la	Ruppia martima (sea tassel)	2	8	4		Hand pull or dig up		98 Polygonaceae	Acetosa sagitata (rambling dock)	4	18	3.7	V/U	Tubers: Dig up, bag and remove.	Tubers: Spray G200 or G200 - M M or M M (ref 1).			cotton bush)		-199 			1).
	Arecaceae	Syagrus romanzoffana (queen palm)	4?	10	3.9			Trees: F/I (G1.5); Seedlings: apray G200 + MM (ref 1)	99 Poaceae	Cynoden dactylon (couch Biacama cruss introduciad	10	45	3.6	HCA	Hand pulls mal infestations,	Spray: glyphosate (2) 200mL/15L water, Follow up	127	Solanacese	l yolum ferociesimum (Atrican boxthorn)	12	5	4.4? E/() NVA	Stems: C&P (C1 5); Regrowth: spray G200 + MM
		Comment of the second s					Irees: cut below	1. A count man free of		Bahama glass introduced cultivais)					removinu al 1001s		120	Mimosaceae	Prosopis pallida (algoroba)	2	2	4 ST/	D When using	(ref 1). Basal bark triclopyr +
6	Poaceae	Hymenachne amplexicaulia	17	1	4		growing point a combined	360 g/L Clyphosate (includes							or smother with mulch			in nosdcede	(algeropa)	2	5	- 01/	mechanica contro	I picloram
		cv. Olive (hymenachne)						Roundup Biactive & Weedmaster Duo)	100 Bignonlaceae	Tecoma stans (yellow bells)	4	16	3.6	ST/C	NA	Stome: CS&P (C1.5) or seray G200, Seeds: collect, bag and							methode, it is important to	Access® @ 1L/60L diesel. Cut stump triclopyr +
							methods including	- 11/100	101 Idosapeae	Khapholegia indica (Indian	3	10	3.5	SDO	Seedlings:) land	remove (ret 1) Saplings: CSM (1031-5);							remove the bud zone of the root	picloram Access(3) (a) 1L/60L cless).
							chemical and	water or 10 L/ha delivered by boom		hawthorn)					pul	(ress: 17) (G1.5); Seedings: spray G200 or G200 - M.M. or							system	Overall spray - triclopyr +
							biological with land management		100		ļ					MM (ref 1).							(about 30 cm below the ground	picloram Grazon DS© මු 350ml/100l
							practices is most		102 Mimosaceae	Mimosa pudica (common sensitive plant)	4	12	3.7	SIA	NJA	Plastures - Fluroxy pyn/Starane 200 @ 1.5							surfac∌). If this is not	water plus a welting agent if plant is
7	Asteraceae	Senscio tamoides (Canary	3	8	4		effective Vines: Hand puil	Stems: S&P (GU); Regrowth								Uha Between cropping applications		1					removed, re	growing actively
		craeper)						and seedlings: spray G200 or G200 + MM / (a)								(conservation 11 age) Dicamba/Banvel 200 @ 0.8							shooting can occur.	
							and hang to dry.	2011 CONTRACTOR (CONTRACT)	102		ļ					1.4 L/ha	129	Juncaceae	Juncus articulatus (jointad	1	2	4 Ha/F	O Hand pul	Spot spray with Glyphospte.
8	Poaceae	Cenchrus cilians (buffel grass)	4	15	4.1		Fland or mechanical	Herbicide Control - Glyphosate 7mL/L water,	103 Commolinaceae	e Galiisia fragrans (purple succulent)	3	9	3.9	HO	1997	Spray F100 or G200 or G200 - MM; Collect and bag or rol			rush)					2,2-DPA or MCPA + dicamb
							removal of young	Dichloben I 600g/100m2; Huazifop 50-100mL/10L water								and rake carefully Utspose (ref 1)	130	Cactaceae	Opuntia aurantiaca (tigor	1	2	4 S/(Spray; Basal Bark applicatio
								(ref 2).	104 Storopoulariadea	as Paulownia tomentosa (paulownia)	3	5	4	IAO	Steedlings() land	Saplings: CSR (G1 5); (ress: 17: (G1 5); Seedings:			pear)					Injection: Triclopyr: 81/601 diasel. Picloram +
9	Acanthaceae	Thunbergia grandiflora (thunbergia, blue	2	J	57	V/O	N/A	CSSP (G1.5); spray G200 (ref 1).	105 0			ļ		11/2	NICA .	spray G200 (ref 1)							garlon	Triclopyr. 1L/60L dicsel. /umitrole: 1mL/3cm (re
	No.	thu nbe rgia)	10			17101	West Street Street Street Street		105 Commelinaceae	 Tradescantia zebiina (zebrina) 	3	12	3.7	H/C	INZA	Spray F100 or G200 or G200 - MM, Collect and bag prirol								3)
4	Cactaceae	Opuntia tomentosa (velvet tree pear)	U	46	3.5		stem injected, or	Spray; Jasal Bark application; njection: Tric opyr8L/60L								and rake carefully. Dispose (ref. 1).	131	Foaceae	Arondo donax (giant reed)	1	4	3.6 H/0	Physica removal o	fSpot spray or out stomp and
							over a prayed with garlon	diesel Pictoram I Triclopyr: 1L/60	106 Acanthaceae	Ruellia malacosperma (ruellia)	5	16	3.8	H/C	N/A	Spray G200 + MM (1611).								spray with Glyphosate (ref 5)
								diesel. Amitrole: 1mL/3cm (ref	107 Poaceae	Fernisetum clandestinum	4	12	3.8	Ηiλ	Hand Pull	Spot Spray: plyphosate or 2,2	132	Cactaceae	Opuntia imbricata (rope	1	1	4 170		Spray; Dasal Bark applicatio
								3)	108 Lillaccae	(kikoyu grasa) Lilium formasanum (Talwan	5	10	3.8	HO		DPA (rof 3) n Spray C100 + MM or MM (rof			pear)		-		ava lable. coctob astis	Injection, Triclopyr, .8L/60L dicsol, Picloram +
1	Euphorbiaceae	Ricinus communis (castor	7	20	3.9	S/C		Shrubs: S: CS&P or F/I (G1.5); SeedLogs: spray G200	109 Asteraceas	llly) Sigesbeckla priertalis	10	148	3.6	H/U	and dispose Hand pull or	1). Spray with 2,4 D amin: or							cactorum	Triclopyr: 11/601
		cil plant)						(ref 1).		(Indian weed)					cutivat on.	sodium, pr MCPA + dic amba							successtul. Mechanical contro	diesel. Amtrole: 1mL/Jom (re I 3).
5	Asteraceae	Senecio madagascatiensis (tre weed)	6	28	38	HAL.		Stems: S&P (GU); Regrowth and seedlings: spray G200 or	110 Asteraceas	Bidens pilosa (cobblar's	10	110	3.5	H/U	Hand pull or	over s). Spray with 2,4-D amin≘ or							difficult. Fire can be used.	
		and a second						G200 + MM (ref 1).		pegs)					cutivation.	sodium, pr MCPA + dicamba (ref 3).	133	Bignoniaceae	Pyrostegia venusta (flame	1	1	4 V/0		CS&P (G1.5); spray G200 (n
3	Gyperacese	Cyperus involucratus (African sedge)	6	15	3.8	Ha/CF	has to be dug out		111 Cadaceae	Opuntia stricta (common prickly pear)	7	67	3.6	S/C	Hand removed stem injected, or	Spray, Basal Bark application, Injection, Trictopyri, 3L/60_	134	Роасвае	vinc) Cortaderia se loana	2	1	37 H/		1). Stems: C&P (G1.5) or cut
							with a spade and	Land commercial/industrial, rights of way - Olyphosate-ipa,								dissel. Fictoram + Triclopyr. 12/60L			(pampas grass)				out by hand or machine	back and slash and spray regrowth G100 (ref 1).
							turned over,	ognis or way - cityphosare-ipa, glyphosate-mas, imazapyr							49.100	disse. Amitrole 1mL/3cm (ref	135	Solanaceae	Selanum hispidum (giant	8	23	3.6 \$/(Spray G100 (ref 1).
							exposing the root system while									3).		Agavaceae	devilis fig) I urcrasa tostida (Cuban	3	4	4.37 5/0	A Dig out by hand or	CS& Pinear ground or spray
							making		112 Inaceae	Lisusine indica (prowstoot grass)	н	55	3.5	LUA	Pull and chip. Replant with nate	Spray: glyphosate or 2,2-101A are inet 10	020050	Agavaccae	hemp) Furcraça selloa (hemp)	1	2		machine	MM (ref 1). CS& P near ground or spray
		4 C			(3)		sure al serial parts				2.5	1	5				131	in Same rac	in anonana on toa (citititip)		£ 1	- C/U	ing our by and of	poor nour ground or oplay
					1		of the plant are		113 Poaceae	Axonocus compressus (<u>.</u>	23			Couch Cut stems from	Spot spray with Glyphosate		Agavaceae	Agave americana (century	4	9		machine	MM (ref 1) CS& P near ground or spray



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) surveying 🟉 town planning 🟉 urban design 🗊 environmental management 🗊 landscape architecture





AMEN Issue	IDMENTS: Date 13/11/2017	Description Preliminary Issue	Checked MS	CLI
				PR
				SCA

	Iandscape architecture							
ROJECT: Spring Mountain Precinct	DRAWING: Area 4 Management Plan Weed Management Techniques							
opining modificant received	DATE: November 17 CHECKED: MS							
	CLIENT REF.: 7243 DRAWN: TL							
AS NOTED	DRAWING No.: 7243 L 415 WMP A							

A	4	MAI	NA	\C	ie	EN	1 E N	IT PL	AN -	WE	ED) T	R	EA ⁻	ΓΜΕΝ	ТЪ	REN	0	VA	4 L	ST	RATE
139 Ruta:		Munaya paniculata dv. Exofica (mu n aya)	6	26	3.6	S/O	Seedlings: Hand pull	Shrubs: CS&P or F/I (G1.5); Secolings: spray C200 (ref 1)	165 Buddlejaceae	Buddleja madagascariensis (buddleja)	5	6	3.4 S.V	V/0 N/A	Stems: CS&P (1.1.5). Vines: spray or cut down and spray regrowth G200 (ref 1).	188 Apocynaccae	Cascabola thevetia (syn. Thevetia peniviana) (yellow oleander)	5	9	3.1 ST/0	infestions	Basal bark application of fluroxypyr (35ml 11, Diesel)) Stem injection Glyphosate
140 Rosau		Rubus discolor (R. Initicosus complex, a	4	10	3.7	S/OA	slashing hinders growth, giving	Grazon DS pictoram/finctopyr 1:200 parts	166 Bignonlaccae	Tecoma capensis (Cape honeysuckie)	3	8	4 81	RO N/A	Stoms: CS&P (C1.5) or spray G200; Seeds: collect, bag and		ore since y				used but should followed up by	be (1L.2L Water), Cut stump application of floroxypyr
	t	blakberry)						water + wetting agent. A variety of berbleides may be	167 Cactaceae	l amsia martinii (hamsia	27	4	4 3	O The use of the	remove (ref 1) Inclopyr + pictoram at						herbicide application	(1L:56L Dicacl; Follar Spray of fluroxypyr 1:100 for larger plants, 1:200 for seed mos (ref.
141 Brass	caceae (Cakile ecentura (American	4	24	3.7	II/U	5	used to control this species including (ref.6) Spray G100 and replace with		cattus)				tiblogical mea bug agent is recommended	y 1.01.601 diesel, Dichiorprop 600 g/l at 1.01/60L water, metsulfuron methyl 600 g/l at	189 Rubieceae	Coffes arabica (coffee)	3	7	3.2 ST/	A Sapings Hand p	2). Shrubs: F/I (G1) between
142 Balsa	s	sea rockel) mpatiens walienana	2		37		destroy. N/A	local species (ref 1). Spray G100 (ref 1).	168 Acanthaceae	Thunbergia laurifolia (laurel	1	1	4 V		2 OL:100L water Ref 5). CS&P (G1.5), spray G200 (ref							flower and fruit set; Sapings: CSSP (G1); Seedlings: spray G200 or G200 + MM (rei 1).
143 Agava	reae A	itaisam) Agave sisalana (sisal)	2	٤	3.7	S/OA		C3& Pinear ground or spray	169 Fabaceae	clock vne) Erythrina crista-gaili	2?	4	3.5 🗖	/0 N/A	 F/I (G1.5) or C8 P stumps. Cut and stack branches above 	190 Bignoniaceae		17	1	3.4 T/C) NVA	Sapings: CS&P (C1.5);
144 Agava		Agave wypara var. wypara (sis al)	2	IJ.	3.7	S/OA	machine Lig out by hand of machine	MM (ref 1). CS& P near ground or spray MM (ref 1).		(COCKSPUT COTAL TITCE)					ground to dry to prevent resprouting. F/I sprouted	191 Fabsceae	(African fulip tree) Macrotyloma axillare	4	12	3.1 V.H/	a M/A	irees: I /I (G1.5); Seedings: spray G200 (ref 1). Vines: CS&P (1.1.5) or spray
145 Rosar	cac I	Pninus munsoniana (wild goose plum)	7	31	37	ST/A	Seedlings: Hand pull	Shnibs' CS&P or E/I (C1 5) Seedlings: spray G200 (ref 1)							branches (G1.5) or spray regrowth G200 + MM or MM.	192 Indacese	(perennial horse gram) Watson a meriana var	2) Dig up, bag and	G100 + MV or MM (ref 1) Spray C200 + MM (ref 1)
146 Poace		Lchinochloa crus-galii (tarnyard grass)	6	34	3.7	1/A		t Spot spraying with Glyphosate or 2,2 DPA (ref 3)	170 Sapindaceae	Koelreuteria elegans (Chinese rain free)	17	1	3.6? T	/O Seedlings: Hai	Trial Tordon (rof 1) nd Trees: F/I (G1.5) or C&P stumps (G1.5); Saplings	193 Passifloracea	bulbill fera (b. bil watsonia) e Passi lora edulis (passion fruit)	8	12	3.2 V/A	o Hand Pull	CS&P (G1.5), spray G200 or G200 + MM (ref 1).
147 Aster	ceae S	Solidago canadensis var	7	15	4?	H/O		g Spray MM or G200 or G200 +	-						CS&P (G1); stack out branches above ground to diy;	194 Asteraceae	Zincia peruviane (wild zincia)	5	33	3.1 HA	D Seedlings Hand pull	Shrubs: CS&P or F/I (G1); Seedings: CS&P (G1.5) or
		scabra (Canadian goldenrod)					to dry	MM if other weeds such as Lantana or Camphor Laurel are present (ref 1)	1/1 Zingiperaceae	Lecvchium gardnerianum	12	3	36 0	() Small Planter	Seedlings: spray (G200) (ref 1). Iand Smail Plants: spray G200 or	195 Dracaphacea	Sansovier a trifasciata (sansevieria)	2?	7			spray G200 (ref 1). up Spray G100 + MM (ref 1).
148 Fabao		Pueraria lobata (kudzu)	3	4			shading site	/ CS&P (G1.5); spray G200 or MM (ref 1)		(ginger lily)					 G200 + MM, Large Plants, cut and spray regrowth. If 	195 Poaceae 197 Rosaceae	Digitada eriantha (pangola grass) Enobodiya japonica (loquat	5	20	3.1 H/A 3.1 T/C	cultivation	Spot Spray: glyphosate or 2,2- UPA (ref 3) Saplings: CS&P (G1.5),
149 Alism	1	Sagittaria graminea var. platyphylia (sagittaria arrowhead)	3	7	3.5	Ha/FO		of Spot Spray with Glyphosate al 1.0L 100L water (ref 5).							frizomes are at ground level, out stom and gouge rhizome - fill hole with G1.5 with injector	101 Innograda	en over se laborirea (indrat			0.1 1/0	pull	Treas: F/I (G1.5); Seedings: spray G200 or G200 + MM or
150 Nymp	iaeaceae I	arrownead) Nymphaea mexicana Iyellow waterfilly)	2	4	3.7	Ha/OF	Hand pull small infestations	Spray with or Diqual Clyphosate Occurs In		Liypoestes phylicstachya	3	5	3.5 ()		kil or similar (ref 1). own Spray G200 or G200 + MM	198 Cactaceae	Acanthocereus tetragonus (sword pear)	1	1	3.3 S/O) Uiological contro available.	MM (ref 1). Is Spray, Jasal Bark application; Injection, Triclopyr, .8L/60L
								waterways, thus EPA should be notified before any herbicide use (ref 5).	173 Caprifoliaceae	(polka dot plant Sambucus canadensis (American elder)	3	7	34 51	and dispose I/O Vincs and Runners: hand	(ref 1). Vincs and Runners' CS&P pull. (G1.5): Larger Stems, Roots		and a second				cactoblastis cactorum	dicsel. Picloram + Inclopyr: 1L/60L
151 Poace		Phyllostachysaurea hishpole bamboo)	1	2	3.7	S/O	NVA	Stems, cut and fill segment (G1.5); Regrowth: spray G100	,					roll up and har dry.	g to and Nodes: spray G100 + MM or MM (ref 1).						successful. Mechanical cont difficult. Fire can	
152 Lupho		Jatropha gos sypiitolia icolton teaf physic nut.	1	1	٩Ľ	9/0	land pull	(ref 1) Spray G100 (ref 1)	174 Asteraccae	Conyzia sumatronsis (tall fleatiane)	9	45	33 H	/U Hand or met hanic al removal of sma	Seedlings: Altrazine or Chlorosulfuren in combination	199 Mimosaceae	Acacia nilotica subsp. indica (prickly acacia)	3	3	4.4? I/A	be used Mechanical or chain removal.	Basal Bark or cut stump application. Triclopyr 600g/L
159 Malva	t	bellyache bush) Sida rhombifolia (Faddy's	9	69	3.6	S/U	Hand pull or dig	Spray with 2,4-D amine or						intestations	species; Plants: Gyphosate and Tordon 75 D mix.		ind ou (prem) addemy				o din contrat,	at 1.0L120L diesel, Tridopyr 1 Fictoram 240 g/1 120 g/1 at
154 Poace	ae 1	uceme) Themeda quadrivalvis (grader grass)	8	25	3.6	H/A		fluoxypyr (ref 3) It Spot spraying with Clyphosate or 2.2-DPA (ref 3)							Glyphosate ration depends on other weeds present (ref 2).	200 Mimosaceae	Acacia famesiana (minicia	a 6	15	3.1 T/A	. Mechanical	1.0 60 diesel, Ficlorem 45 g/kg und luted (ref 5). Basal Bark or cut stump
155 Poace		Andropogen virginicus	6	14	3.6	H/A		at Spot spraying with	175 Fabaceae	Tipuana tipu (tipuana)	2	5	3.4 7	/O Seedings:Hai pul	nd Saplings: CS&P (G1.5); Trees: F/I (G1.5); Seedlings:		bush)				removal of small plants	application of Triclopyr + Frictorem 240 g/L + 120 g/Let 1.0L:60L dieset. Foliar
156 Bigno		whisky grass) lacaranda mimosifolia	4	12	3.4	70		Glyphosate or 2,2-DPA (ref 3) Saplings: CS&P (C1.5)	176 Asteraceae	Tagetes minuta (stinking roger)	8	32	3.3 H	/U Hand pull and to dry	spray G200 (ref 1) rang Spray MM or G200 or G200 + MM if other weeds such as							application of Clopyralid 300g/L at 500mL:1L water ref
, in the second s	0	ija: aranda)	-	12	514	1952	pull	Trees: F/I (G1.5); Seedings: spray G200 (ref 1).		(alger)					Lantana or Camphor Laurei are present (ret 1).							5)
157 Acant		Justicia betonica (squimettali)	2	1	4	\$/O	Hand pull small infestations. Can be controlled by	Glyphosiate known to be offective Species known to occur in waterways, DERM	177 Caesalpiniaceae	Chamaecrista rotundifotia (round-loat cassia)	6	14	3.3 ST	T/A Seedlings. Hai pul	Id Shrubs: CS&P or F/I (G1.5), Seedlings: spray G200 or G200 + MM or MM; collect	Explanatory notes.			1 10 3	A/ 11	D'1 14000 11	
							planting	should be contacted before spraying in waterways (ret 4).	178 Poaceae	Cenchrus echinatus	8	40	3.3 1	/A Land or	and bag seeds (ref 1) Herbic ide Control -	Rec no.: Total number	the ten sub-regions of the Sout of records for species within stu el data of invasiveness, 5 (highe	udy area, Que	constand Hert	oarium CORVE	G and HERBRECS d	
158 Mima		Acacla bollvlana (Bollvan wattle)	1	1	4	T/O	species. Mechanical or chain removal.	Basal Bark or cut stump application. Triclopyr 600g/L		(Mossman river grass)				mechanical removal of you plants	Glyphosate 7mL/L water, ng Dichlobenil 600g/100m2; Fluazifop 50-100mL/10L water		dy plant >5m), ST-small tree (2- O-ornamental and landscaping,					
								at 1 0L 120L diesel, Trielopyr + Picloram 240 g/l + 120 g/l a	t 179 Asteraceae	Conyza canadensis	10	55	3.3 H	/U Hand or	(mf.2) Seedlings: Altrazine or	Abbreviations: Cont						
150 Simor	100.60L diesel, Pictoarn 45 orkg undikted (rets). Imaroubaccac, Allanthus attissima (troc of 12 3 3.5 TxO Socialings Hand Socialings CSAP (c) 16).								(Canadian fleabane)				mechanical removal of sma infestations	cal Chlorosulfuron in combination of small with competitive native	S&P = scrape and paint							
	r	heaven)					pull	Irees: 1 /1 (G1.5); Seedings: spray G200 or MM (ref 1).							and fordon 754D mix. Glyphosate ration depends on	F/I = trill or inject sten Abbreviations: Herb						
160 Poace		Lehinochioa eolona (awnless barnyard grass)	9	44	3.3	IZA	liand or mechanical removal of small	Spray: glyphosate @ 13mL/1 water (ref 2.)		Euphorbia cyathophora	8	21	33 4	O Fend pull	other weeds present (ref 2). Spray C100 (ref 1)	G = Glyphosate, eg. F MM = Metsulfuron me	eundup Elactive, Weedmaster I hyl, eg. Brushoff	Duo				
161 Cyper		Cyperus previolius	8	53	34	H/O	infestations Fach	Aquatic areas - Glyphosate-	181 Poaccae	(painted spuge) Sciaita paimithila (paimilicat	r 5	13			jup Spray C100 (mf 1)	F = Hurocypyr, eg. St Abbreviations: Herbi	arane cide Dilution Rates for High (Concentration	n Applicatio	115		
	0	(Mullumbimby couch)					has to be dug out with a spade and the entire plant	ipa Land commercia/industrial, nghts of way - Glyphosate-pa	182 Euphorbiaceae	setana) Euphorbia heterophylla (milk weed)	5	12	3.4 H/	O? Hand pull	Spray G100 (ref 1).	GU = Glyphosate und G1 = 1 part water to 1	luted part glyhphosate		120			
							turned over, exposing the root	glyphosate-mas, imazapyr	189 Fabaceae	Desmodium intortum (green cat desmodium)	4	11	3.3 H	/A Hand pull or cr and dispose	own CS&P tuberous roots (G1.5); spray G200 or G200 1 MM or	G1.5 = 1:5 parts wate G4 = 4 parts water to	1 part giyphosate					
							system while making sure all aerial part	s							MM; collect and bag seeds. Monifor regrowth over 2 - 3 years (ret 1).	G100 = 100m_ glypho G200 - 200m_ glypho	cide Spray Concentrations sate per 10L of water + surfucta sate per 10L of water + surfucta	nt, eg 50mL L	LI 700 per 10L	- 2		
							of the plant are completely		184 Poaceae	Permiselum selaceum (tountain grass)	3			VO Hand Pull	Spot Spray, glyphosate or 2,2 DPA (ref 3)	G100 + MM = 100mL G200 + MM = 200ml	glyphosate + 1.5g motsulfuron r glyphosate + 1.5g metsulfuron r	nothy per 10. nethy per 10	L of water + v of water 1 v	vetting agent, o vetting agent, e	eg. 2mL Agral per 10L eg. 2ml Agral per 10L	water
162 Miorae	eae I	Morus alba (white mulberry)) ປ	10	3.4	17O	covered. N/A	Trees: 171 (G1.5), stack out branches above the ground to	185 Asteraceae	Conyza bonatiensis (llax leatiteabane)	()	35	3.3 H	/U Hand or mechanical removal of sma	Seedlings, Altrazine or Chlorosulturon in combination al with competitive native	MM = 1.5g metsulturo F100 = 100mL fluroxy F150 = 150mL fluroxy	n methyl per 10L water + wetting ovriper 10L water ovriper 10L water	y agent, eg. 2	anic Agra per	UL Water		
								cry; Saplings: CS&P (G1.5); Seedlings: spray G200 (ref 1)						infestations	species; Plants: Glyphosate and Tordon 75-D mix.	Other Abbreviations # = Locally non-indige						
169 Areca	ieae C	Colocasia esculenta (taro)	3	đ	3.4	H/AO	Hand pull:	Cut at base and apply glyphosate or metsulfuror							Clyphosate ration depends on other weeds present (ret 2).	Ref. 1. Eig Scrub Rai	forest Landcare Group (2008), "	Common Wes	eds of Subtro	pical Rainfores	ts of Eastern Australi	a. A practical manual on their
								methyl. Plant often occurs in waterways so consult DE RM	186 Solanaceae	Solanum enanthum (a lobac co bush)	/	1		VO Frand pull	Spray G100 (ret 1).	Ref. 3. 1 Iol and et al. Ref.4. Fort Stephens	Primary Industries and Fisherie 1996), 'Suburban Weeds', DPI & Council (NSW), 'Weed Busters'	ald.	an a			
164 Canna	ceae C	Canna Indica (canna fily)	3	0	3.8	H/O	Dig out entire plan	prior to application (ref 6). Cul/Slash and spay regrowth G200 or G200 + MM; Collect		Stenotaphnim secundatum (buffalo grass)		23	32 HA	AO Hand or met hanic al removal of sma	Spray: glyphosate @ 13ml /11 water (ref 2.)	Ref 5 Department of Ref 6 Department of	Primary Industries (N#3Vv), "Noxi Environment and Conservation,"	Forabase', (D	DEC- WA)			the Free Play and Andrea - Andrea
								and bad seeds. Resistant to horbiolde (ref 1)				1	l	intestations			Macigan, B.A. and Van Haaren negement, 9 (1) pp. 54-52	, P.E. and So	eater, S. and	Logan, P. (200	ey Control of the invas	sive Lana, Hiptage benghalensis.
								DISCLAIMER								AMENDMENTS:		CLIE	ENT:			Ølandso
nders	5 Saun	ders Havill Group Pl	ty Ltd AB	3N 24 14	14 972	949		Designs documented on th are not authorised for repr These plans have been pr	is drawing are the property of Saunders Havill Gr aduction or use in whole or part without written pe epared for the exclusive use of the client. Saunde	rmission. rs Havill Group						Issue Date A 13/11/2017		cked //S		LendL	ease	DRAWING: Area 4
1		Brisba	ane 🏉 E	merald 🛾 Bowen H				do not accept responsibilit by any third party. Confirm construction.	of for any use of or reliance upon the contents of all dimensions on site and clarify any discrepance	nese drawings les prior to												Area 4 Weed Mai

AMEN	DMENTS:			CLIENT
Issue	Date	Description	Checked	
А	13/11/2017	Preliminary Issue	MS	
				PROJE
				SCALE:
				SUALE.



AREA 4 MANAGEMENT PLAN - MONITORING & REPORTING

MONITORING & REPORTING

MONITORING AND REPORTING PROCEDURES

Monitoring and maintenance of the weed management and vegetation, both adjacent to proposed works and within the management area, is a vital component to the success of this research the action of the success of th

this management plan set. An ongoing maintenance schedule, detailing the monitoring program, management intervals, methodologies, and corrective actions for contractors undertaking rehabilitation works within the ecological area is provided below. It is the responsibility of the rehabilitation landscape contractor to ensure the ongoing maintenance and monitoring schedule is actioned. Monitoring of the parkland weed management and revegetation works allows for

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

Monitoring is required for weed eradication, revegetation and assisted regeneration.

MAINTENANCE ACTIONS AND METHODOLOGIES

- Tree Retention Construction Phase
- · Ecologist / Arborist to assess tree exclusion zones are adhered to; · Trees assessed for signs of stress or die back; and
- · Implementation of VMP if retained tree roots Critical Root Zone (CRZ) is impacted
- Initial Establishment Rehabilitation Planting Initial 12 week establishment period applies to all rehabilitation planting works. During this period weekly maintenance is to occur that involves the following: Watering; Watering;

- Vratering,
 Ongoing weed control;
 Fertilising; and
 Replacement of dead or damaged stock.

Ongoing Maintenance - Rehabilitation Planting After this period, it is recommended that the ecological planting site be maintained on a monthly basis over a 5 year period to ensure that the planting has been successful. The following is to occur:

- · Conduct weed spraying, plant watering, plant replacement of losses as necessary to maintain >95% survival rate: All other areas of non-use / limited access or steep terrain areas are to be hydro
- seeded to maintain a minimum 90% ground cover;
 All planting species will be disease free and supplied from an accredited nursery
- supplier; Assess condition of sediment control devices and replace if necessary; and Removal of excess sediment from erosion control devices as required.

MONITORING TIME FRAMES

For weed removal and revegetation three (3) Council determined timeframes form the anchor of the monitoring process. These include:

<u>Council Pre-Start</u> - On-site meeting prior to the initial commencement of work within each stage of weed management. Will involve Consultant, Contractor and Council to work through weed treatment areas and clarify works approved and appointed.

<u>On-Maintenance</u> - At the completion of the Primary Weed Removal Stage and Secondary weeding an On-Maintenance meeting will be held with Council to inspect the works on-site in relation to the approved plans and previously agreed on-maintenance criteria.

Off-Maintenance - At the completion of all site weeding works and the agreed maintenance timeframe a final inspection will be held by Council to determine if works have been completed to the required level for Council hand over.

REPORTING

Reporting to Ipswich City Council will occur on a yearly interval during the total period. Reporting to **Ipswich City Council** will occur on a yearly interval during the total period. Council will physically attend the Pre-Start, On-maintenance and Off-maintenance meetings. For this project it is recommended reporting include a short memo styled report responding to agreed criteria. As part of the monitoring a number of pre-determined transect and quadrant sampling sites have been allocated. At these locations a number of baseline studies have been completed and will be repeated post weed removal and busine status restriction and the success of the programmed works. It is also recommended this include a visual diary of imagery from selected locations at each inspection (Including the pre-start and monthly inspections). The imagery for the each period will be included with the creater to Course! with the report to Council.

In addition to the photo monitoring the biannual report to Council should include sufficient

- information on: Date, time and whether conditions at time of inspection
 Changes in weed extent populations (spreading / contracting)
- Changes in weed densities

- Changes in weed densities
 Health of existing vegetation protected by NRM provisions
 Rate of success for revegetation plantings
 Growth and PFC rate of assisted regeneration areas
 Occurrences of new weed infestations or species outbreaks
 Comments on any indirect changes to the area as a result of weed management (ie
- erosion / change in weed footprints / death to natives) Annual reporting is required to be sent to the Department of the Environment (DOE).

MONITORING PARAMETERS

NOTES

- The monitoring should address the following issues: Maintained health and vigour of retained Remnant Trees adjacent to the corridor; Plant growth, percentage cover and survival rates; Plant losses through herbivores, disease, vandalism, storm damage or other factors;
- Weed re-growth and control measures; Plant replacement:
- Maintenance watering regime; and Erosion prevention.

It is also essential to keep an accurate photo record of the retained trees and progress of the rehabilitation planting by setting fixed photo monitoring points across the site. Photos should be taken by a digital camera and recorded in the project file by date and discrete photo monitoring point number. Photo monitoring point locations should be clearly marked on site and mapped by a surveyor or by GPS.

Corrective Actions

- Heres adjacent to the sewer alignment disturbance are dying or impacted upon:
 Monitor construction activity;
 Educated construction team on tree retention measures;
 Review and / or respond to tree retention mitigation measures ie. exclusion zones;
- Review VMP for particular trees;
- Remove if necessary unsafe tree;
- Compensation by planting: If soil erosion is still occurring in planting zones the following is to occur:

- Review rehabilitation techniques conducted by contractor; Assess the potential for disturbance to occur; Assess the potential for disturbance to occur; Assess of disturbances of disturbances to occur; and Maintain planting regimes to a minimum of 95% survival rate.

If weed infestations occur in planting zones or in disturbed construction area, the following

Assess other potential sources or causes of weeds to occur

If there is poor regeneration of plants occurring in ecological areas, the following is to

- Assess the appropriate use and amounts of herbicides are being used in planting
- Assess the potential for weeds to occur in ecological areas; and Assess other potential sources or causes of weeds or limited re-growth of native plants to occur, ie. plant pests and disease monitoring.

RESOURCES / ROLES & RESPONSIBILITIES

All resources required to implement this plan will be provided by the proponent

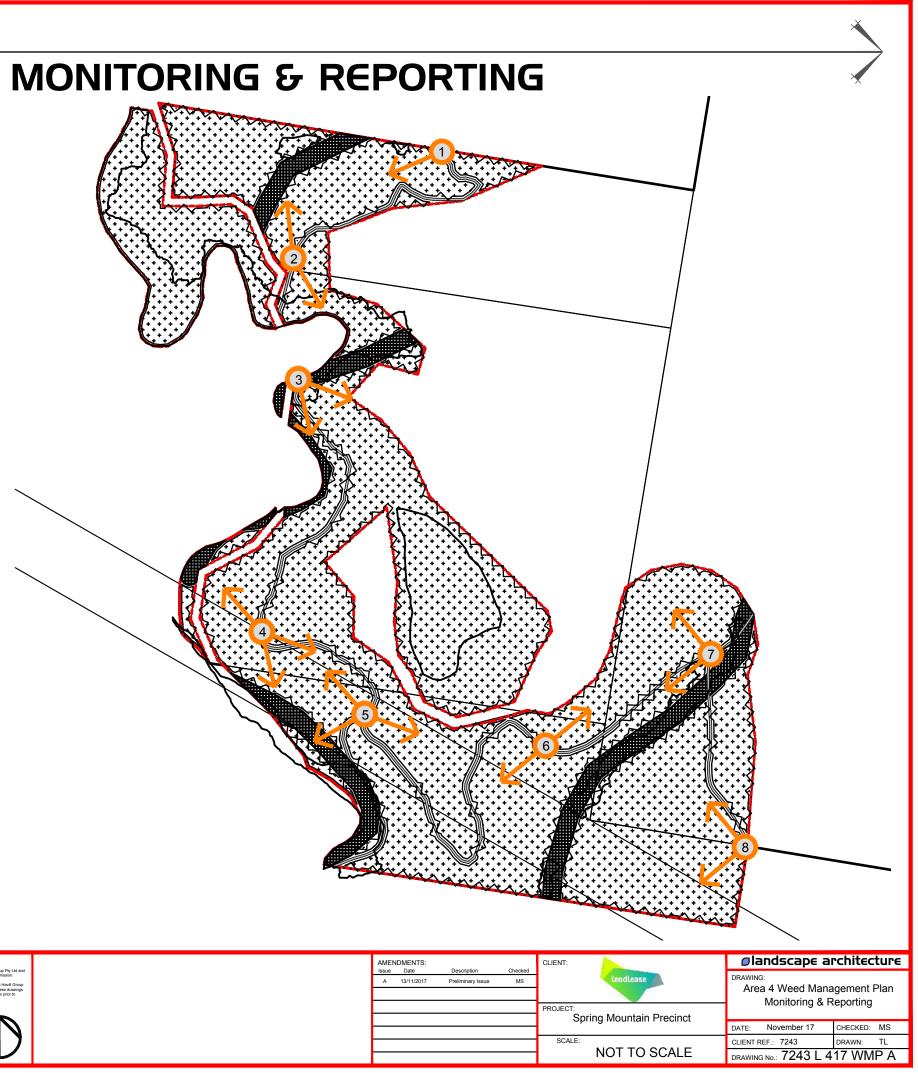
- Cover the costs of all necessary resources to ensure works are completed as per the approved documents.

CONSULTANTS

- Brief the proponent on their requirements in implementing and maintaining works as per the <u>Weed Management Plan</u>.
 Attend pre start, on maintenance and off maintenance meetings.
 Undertake monitoring and reporting to **Ipswich City Council** as set up by this
- document. · Be available to respond to technical gueries or departures to the approved
- documentation when on-site conditions require changes. Liaise with Council throughout all stages of approval, initial works and maintenance of works

- COUNCIL Provide technical expertise via commentary on the approval of documentation.
- Attend pre-start, on and off maintenance inspections.
 Undertake random inspections through the Secondary weed management and
- Maintenance weed management phases Accept and review biannual reports as dictated in this document
- CONTRACTOR

- Complete works in strict accordance with the documentation.
 Recommend changes to the documentation when specific experience or on-site
 working and a strict accordance with the documentation.
- conditions require so.Attend pre-start, on and off maintenance inspections.



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 is to occur:
 Review weed removal and weed management techniques conducted by contractor; Assess the appropriate use and amounts of herbicides are being used; Assess the potential for weeds to occur; and

- Review planting and direct seeding management techniques conducted by contractor

(Lendlease). The following roles are applicable

PROPONENT

- Ensure all consultants, contractors, sub contractors or others utilizing the area are aware of the <u>Weed Management Plan</u>.
 Appoint appropriate consultants and contractors to undertake works as prescribed on the drawings and conditioned by **Jpswich City Council**.

Appendix I Securement Point Review 2024



Securement Point 1

Address: Sundown Park, Twilight Drive



Notes:

Sandstone blocks have been replaced with a secure vehicle access bollard.

Securement Point 2

Address: Peter Tullett Memorial Park



Notes:

Vehicle access bollard is locked with ICC key, signage and pathway is in okay condition, minor erosion present along gravel track.

Securement Point 3

Address: Cul-de-sac of Barbara Plant Court



Notes:

Vehicle access gate locked with ICC key, pedestrian access unlocked, no signs of forced entry.

Securement Point 4

Address: Grech Park, Silvertop Crescent



Notes:

Vehicle and pedestrian access gate locked with ICC key, pathway is in good, maintained condition.

Securement Point 5

Address: Wild Iris Terrace



Notes:

Pedestrian Access only, signage is present and in good condition

Securement Point 6

Address: Springfield Greenbank Arterial (South)



Notes:

Locked fauna fence gate and vehicle access bollards with ICC Key (outside of EPBC 2013/7057 Conservation Area)

Securement Point 7

Address: Springfield Greenbank Arterial (north)



Notes:

Locked vehicle access gate and fauna fence gate (further in) with ICC Key (outside of EPBC 2013/7057 Conservation Area)