



Inner West Light Rail Extension

Revegetation and Biodiversity Compensation and Monitoring Package- FINAL

Prepared for
Transport for NSW

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Contents

1	Introduction	1
1.1	Project Background	1
1.2	Condition of Approval	3
1.3	Status of Current Report.....	4
1.4	Project Habitat Impacts	4
1.4.1	Endangered Long-nosed Bandicoot Population of Inner Western Sydney	4
1.4.2	Eastern Bentwing-bat and Grey-headed Flying Fox	6
1.4.3	Native Bird Species	6
1.5	Project Objectives to Minimise Impacts on Biodiversity	7
1.6	Mitigation Measures	7
1.6.1	Design.....	7
1.6.2	Construction.....	8
2	Development of the Package.....	9
2.1	Consultation Conducted in the Preparation of this Package	10
2.2	Direct Compensation	13
2.2.1	Selection Technique	19
2.2.2	Sites not Feasible	19
2.2.3	In-corridor sites	20
2.2.4	Outside of corridor sites.....	20
2.2.5	Currently Preferred Sites	20
2.2.6	Construction of Bandicoot Shelter Sites	23
2.3	Indirect Compensation.....	23
2.4	Project Landscaping Works.....	23
3	Site Establishment, Management and Monitoring	24
3.1	Site Establishment Objectives	24
3.1.1	Site Management Plans	24
3.1.2	Contamination Testing.....	25
3.1.3	Site Infrastructure	25
3.1.4	Preliminary Weed Control.....	25
3.1.5	Provision of Native Species	25
3.1.6	Follow-up Maintenance Post Planting	27
3.2	On-going Maintenance and Management	27
3.3	Licensing of the In-corridor sites.....	27
3.4	Long Term Protection	28

3.4.1	Protection.....	28
3.4.2	Management.....	28
3.5	Monitoring and Reporting	28
3.5.1	Ecological Monitoring and Reporting.....	28
3.5.2	Works Reporting	29
4	Delivery and Implementation.....	30
4.1	Further Consultation	30
4.2	Proposed Timing of the Package	30
4.3	Conclusions	31
	References	32
	Appendix 1: Consultation Record	33
	Appendix 2: Site Analysis	34
	Appendix 3: Combination Options Email July 11th 2013.....	35
	Appendix 4: Management Plan Template	36
	Appendix 5 Reporting Template	43

List of Figures

Figure 1: Study Area	2
Figure 2: Dense Weed Growth between the Hawthorne Canal and the Rail Line	5
Figure 3: Dense Growth of Herbaceous and Grass Weeds within the Rail Corridor	6
Figure 4: Existing Bushcare Sites and considered Compensation Sites	18
Figure 5: Preferred Compensation Sites.....	22
Figure 7: Revegetation Works suited to Long-nosed Bandicoot within the Corridor	26

List of Tables

Table 1: Condition B18 and Section where Condition is addressed	3
Table 2: Impacts to Vegetation.....	5
Table 3: Package Summary	10
Table 4: Consultation Undertaken.....	11

Table 5: Stakeholder Issues and Package Response	12
Table 6: Existing Bushcare Sites and other considered Compensation Sites	15
Table 7: Species used to Revegetate Bushcare Sites	26

Abbreviations

ABBREVIATION	DESCRIPTION
DP&I	Department of Planning and Infrastructure
EA	Ecological Assessment
EEC	Endangered Ecological Community
ELA	Eco Logical Australia Pty Ltd
EP&A Act	Environmental Planning and Assessment Act
GSC	Greenway Steering Committee
GSP	Greenway Sustainability Project
IWEG	Inner West Environment Group
IWLRE	Inner West Light Rail Extension
LGA	Local Government Area
LNB	Long-nosed Bandicoot
MCoA	Minister's Condition of Approval
NPWS	National Parks and Wildlife Service (part of OEH)
OEH	NSW Office of Environment and Heritage
TfNSW	Transport for NSW
the Package	Revegetation and biodiversity compensation and monitoring package
WSUD	Water Sensitive Urban Design

1 Introduction

1.1 PROJECT BACKGROUND

The Inner West Light Rail Extension (the Project) is the first step in the NSW Government's plans to extend light rail in Sydney. It will connect to the existing light rail service, which operates from Central to Lilyfield, and will run along the former Rozelle freight rail corridor, through Sydney's inner west to Dulwich Hill (**Figure 1**). The extended service will begin operating in early 2014.

The Project involves the construction and operation of 5.6 km of light rail. The key features of the project include (Parsons Brinkerhoff 2010):

- Nine new light rail stops — Leichhardt North, Hawthorne, Marion, Taverners Hill, Lewisham West, Waratah Mills, Arlington, Dulwich Grove and Dulwich Hill Interchange;
- Minor modifications to the existing Lilyfield stop and surrounding track to tie-in new track and overhead wiring infrastructure with the existing light rail;
- Modifications to the existing space that is used for car parking in Bedford Crescent to accommodate the Dulwich Hill Interchange stop;
- Raising of the existing bridge over Parramatta Road, which would carry the light rail;
- Provision of pedestrian linkages (access pathways) to surrounding neighbourhoods to enable access to the light rail stops;
- Provision of overhead wiring, substation and utilities infrastructure; and
- Minor modifications to the existing light rail stabling and maintenance facility located at Pyrmont.

The Project will provide the following benefits (TfNSW 2012):

- Improve access to public transport and connections between where people live, work and visit;
- New connections to surrounding shopping and entertainment districts such as the Sydney Fish Markets, Star City, Paddy's Markets, Capitol Square and Leichhardt Marketplace;
- Better public transport integration – allowing passengers to transfer between light rail, bus, bike as well as heavy rail at Lewisham and Dulwich Hill;
- Enhance local access and amenity along the disused freight rail corridor; and
- Encourage sustainable and healthy travel options.

Project Approval was granted (under Section 75J of the Environmental Planning and Assessment Act 1979) on 16 February 2011. Early investigation and site establishment activities commenced in July 2012. Major works commenced on 5 November 2012.

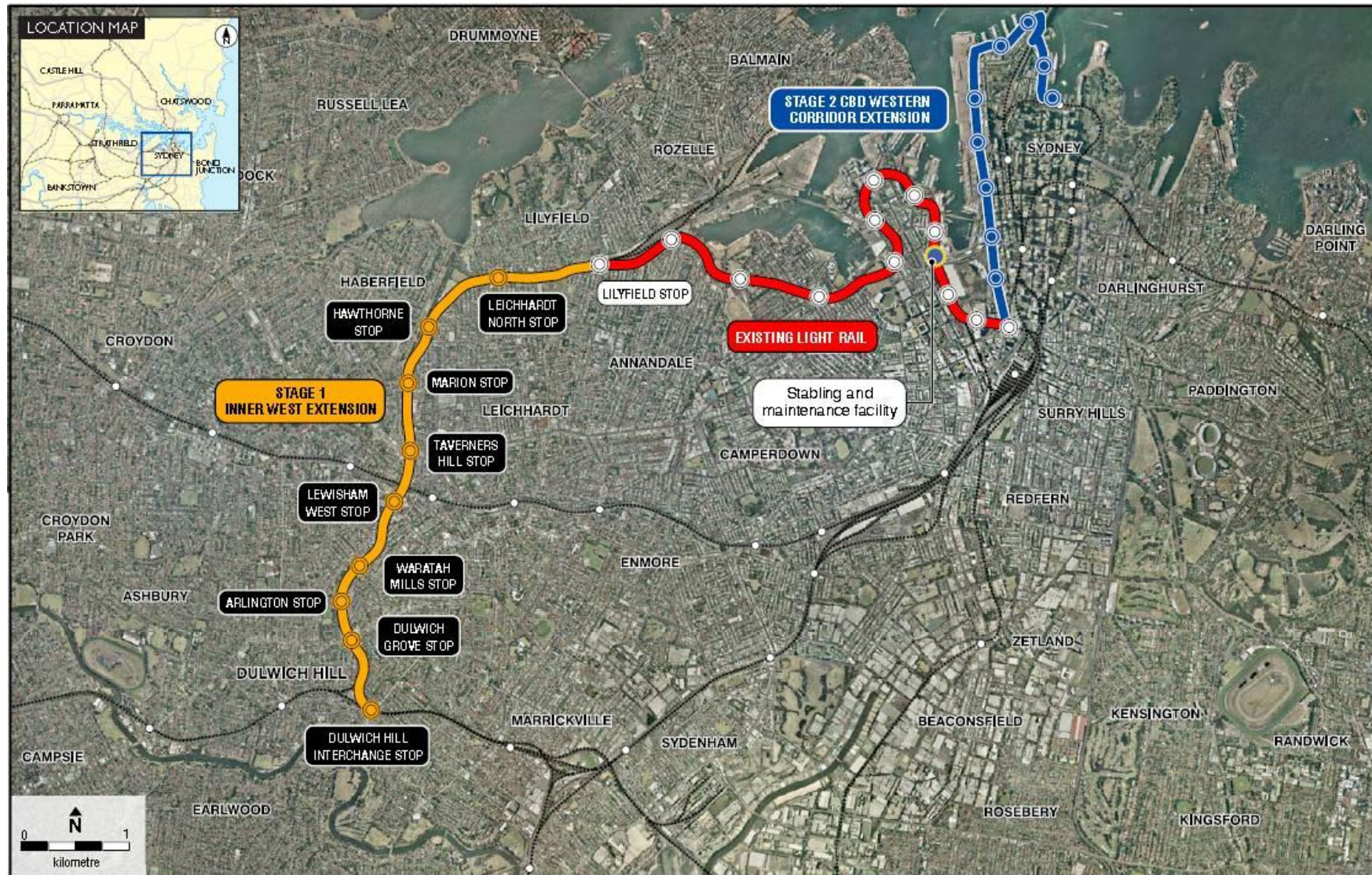


Figure 1: Study Area

(from Parsons Brinkerhoff 2010)

1.2 CONDITION OF APPROVAL

The Project Approval (issued on 16 February 2011) includes Condition B18 which relates specifically to the preparation of a Revegetation and Biodiversity Compensation and Monitoring Package (the Package) for the Project. The details of Condition B18 are shown in **Table 1**, including details relating to where in this report each component of the condition is addressed.

Table 1: Condition B18 and Section where Condition is addressed

CONDITION OF APPROVAL- B18	ADDRESSED IN THIS REPORT
<i>The Proponent shall develop and implement a Revegetation and Biodiversity Compensation and Monitoring Package to outline how ecological impacts will be compensated for and habitat monitored within the corridor, Bushcare and other appropriate sites.</i>	This Report
<i>The Package shall be prepared and submitted to the Director General for approval prior to construction, unless otherwise agreed by the Director-General, and in consultation with DECCW, relevant Councils, the GreenWay Sustainability Project and community groups including the GreenWay Steering Committee and the IWEG and have consideration of the Greenway Revegetation and Bushcare Plan.</i>	Section 2.1 & Appendix 1
<i>The Package should ensure that all vegetation loss, including native vegetation and weeds, is offset by an equivalent area of regeneration or replanting, and include:</i>	Section 2.1
<i>a. the identification of the extent and types of habitat impacts and habitat loss or degradation as a result of the final design of the project;</i>	Section 1.4
<i>b. the objectives and biodiversity outcomes to be achieved through impact mitigation and compensation measures;</i>	Section 1.5
<i>c. details of impact mitigation measures, including infrastructure designs that facilitate fauna movements;</i>	Section 1.6
<i>d. details of the offset measures selected to compensate for the loss of vegetation, including the identification of potential Bushcare sites;</i>	Table 3, Section 2.2 and Section 2.3
<i>e. measures for the management, protection and monitoring of the compensatory sites, including the:</i> <i>i. monitoring of the condition of fauna and flora species and ecological communities at offset locations;</i> <i>ii. the methodology for the monitoring program(s), including the number and location of monitoring sites, and the sampling frequency at these sites;</i> <i>iii. provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the DECCW; and</i>	Section 3.5, Appendix 4 & Appendix 5
<i>f. timing and responsibilities for the implementation of the provisions of the Package.</i>	Section 4
<i>Any land offset must be enduring and include a conservation mechanism which protects and manages the land in perpetuity.</i>	Section 3.4

CONDITION OF APPROVAL- B18	ADDRESSED IN THIS REPORT
<i>Where monitoring shows inadequate compensatory habitat results, remedial actions must be undertaken to ensure that the objectives of the Package are achieved.</i>	Section 3.5

1.3 STATUS OF CURRENT REPORT

The Project Approval (Condition B18) requires the Package to be prepared prior to construction to compensate for the impacts caused as a result of the project. As the exact extent of impacts were not known until the detailed design had been completed, which was programmed after the commencement of construction, Transport for NSW (TfNSW) requested, and was granted, an extension to the submission timeframe for the Package from the Department of Planning & Infrastructure (DP&I). DP&I extended the Package submission to 29 March 2013 with the requirement for a draft Package submission by 21 December 2012.

A draft Package was submitted to DP&I in accordance with the submission extension on 20 December 2012 which detailed the principles and strategy of the Package and consultation undertaken.

Following investigations of the sites and additional consultation with local stakeholders, TfNSW met with the DP&I and OEHL on 7 March 2013 to discuss an amended Package. Following this meeting another submission extension to 2 August 2013 was granted by DP&I.

This Report documents the development of the Package and consultation undertaken. It outlines the detail of the Package, delivery and implementation for approval by DP&I in accordance with Condition B18.

1.4 PROJECT HABITAT IMPACTS

Although significant avoidance and mitigation measures were implemented during the design of the Project, some impacts to vegetation, and therefore habitats, will occur during the construction. Impacts to native and exotic vegetation are the major direct impact to biodiversity from the Project (Parsons Brinkerhoff 2010).

Based on current estimates, the majority of the vegetation to be permanently impacted by the Project is comprised of 1.1 ha of exotic species with the exception of approximately 35 m² of vegetation at an existing Bushcare Site at Davis Street (see **Table 2** and **Figures 2** and **3**).

Sections 2 and 3 of this report provide the details how these impacts will be compensated in accordance with Condition B18.

1.4.1 Endangered Long-nosed Bandicoot Population of Inner Western Sydney

While the impacts of the Project comprise predominantly exotic vegetation, the Ecological Assessment identified these areas as potential habitat for the endangered population of the Long-nosed Bandicoot (*Perameles nasuta*) in Inner Western Sydney (Parsons Brinkerhoff 2010). Due to the absence of natural habitats in the study area, the Long-nosed Bandicoot (LNB) may use the dense weed growth for shelter, with the exotic vegetation likely to provide a resource able to be utilised by the species (Leary et al. 2010).

While not recently confirmed within the impact area of the Project, suitable habitat for the LNB within the Project area includes those areas listed as 'weeds' and 'Bushcare sites'. Based on records provided by

OEH during consultation (Minutes 7 March 2013), the core area of occupancy of the LNB population is south of Parramatta Road within the Marrickville Local Government Area. Of the vegetation impacted, 0.4988 ha occurs south of Parramatta Road within the core area of occupancy of the endangered LNB population. The remaining area of vegetation impacted, 0.611 ha occurs north of Parramatta Road outside the core area of occupancy.

Table 2: Impacts to Vegetation

IMPACT LOCATION	MAPPED VEGETATION TYPE	AREA IMPACTED (HA)	
		Within LNB core occupancy area	Outside LNB core occupancy area
Site Compounds at Hercules Street, Lilyfield, Lewisham West. Stop clearance at Leichhardt North, Hawthorne, Marion, Taverners Hill, Lewisham West Waratah Mills, Arlington, Dulwich Grove and Dulwich Hill. Embankment works behind Weston Street and at Taverners Hill stop near Short Street . Bridge works at Charles Street bridge, Marion Street bridge, Longport Street bridge, New Canterbury Road bridge, Constitution Road bridge, Hercules Street bridge. Services route throughout corridor	Weeds	0.4963	0.611
Davis Street Bushcare Site	Bushcare site	0.0035	0
Total Area Impacted within and outside LNB core occupancy area		0.4998	0.611
Total Area Impacted		1.1108	



Figure 2: Dense Weed Growth between the Hawthorne Canal and the Rail Line

(taken from Parsons Brinkerhoff 2010)



Figure 3: Dense Growth of Herbaceous and Grass Weeds within the Rail Corridor

(taken from Parsons Brinkerhoff 2010)

1.4.2 Eastern Bentwing-bat and Grey-headed Flying Fox

The EA (Parsons Brinkerhoff 2010), and subsequent work by Biosis (2012), confirmed the presence of the vulnerable Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*) within the corridor at Lilyfield, with three to four individuals observed foraging shortly after dusk during surveys (Biosis 2012). Juvenile fig trees along the alignment may also provide foraging resources for the vulnerable Grey-headed Flying-fox (*Pteropus poliocephalus*), however the species was not recorded within the corridor during surveys (Biosis 2012).

Due to the nature of the impacts on the exotic vegetation within the study area, the location of the species habitat and the mobile nature of both species, impacts to these species were not considered to be significant (Biosis 2012). For this reason the Package does not directly compensate for the loss of Eastern Bentwing-bat or Grey-headed Flying-fox habitat. It is anticipated, however, that the revegetation works completed on the selected compensation sites, landscaped areas at stops and other areas of revegetation will increase the foraging habitat available for both species as a result of the Project.

1.4.3 Native Bird Species

A number of native bird species have also been recorded in the study area, with 63 individual species recorded during works associated with the EA (Parsons Brinkerhoff 2010). As no threatened species were recorded, the Package does not directly compensate for the loss of habitat for the various bird species, however, as with the bat species listed above, the revegetation works completed on the selected compensation sites, landscaped areas at stops and other areas of revegetation will increase the foraging habitat available for bird species.

1.5 PROJECT OBJECTIVES TO MINIMISE IMPACTS ON BIODIVERSITY

The mitigation measures implemented during the design and construction of the Project (Section 1.6), and the compensation measures outlined in this Report, will result in a number of positive biodiversity outcomes within the study area. Impact mitigation will limit the impacts of the Project as much as possible, and will also provide some benefit to local biodiversity. The EA specified the following objectives and defined actions to be implemented throughout the Project (Parsons Brinkerhoff 2010):

- Limiting the clearing of vegetation to that required to construct the project;
- Minimising human interferences to flora and fauna;
- Minimising impact to threatened species, populations and communities;
- Minimising impacts to aquatic habitats and species;
- Management of vegetation and habitats surrounding the construction footprint including control of weeds and pest species;
- Actions to be undertaken to rehabilitate affected areas including revegetation of areas for conservation purposes; and
- Flora and fauna monitoring undertaken at regular intervals.

The compensation measures outlined in this Report propose the revegetation and management of several new habitat sites. The actions conducted on these sites will result in several positive outcomes for biodiversity in the local area. Positive outcomes to be achieved include:

- Revegetation of areas currently degraded and containing predominantly exotic vegetation with native species sourced locally;
- Establishment and maintenance of native habitat for the endangered population of the LNB;
- Establishment and maintenance of native habitat for other native species, such as local bird populations;
- Contribution towards the overall GreenWay vision of achieving an indigenous flora and fauna corridor which reflects the original vegetation of the area; and
- Education and involvement of the community in local biodiversity projects.

1.6 MITIGATION MEASURES

1.6.1 Design

The design has been progressed with the objective to minimise clearance of vegetation within the corridor.

To mitigate against habitat fragmentation, the corridor fencing is being designed to permit fauna to pass under the boundary fence through a 50-100mm gap from the ground. This will assist fauna movement, including LNB movement, through the corridor and in maintaining connectivity between habitats. Fencing will also be designed with consideration of bat habits.

Permanent lighting will be designed to minimise light spill on the surrounding vegetation habitat as far as practicable. Light is noted in the EA as potentially affecting the life cycle of nocturnal animals,

conversely light may also increase the abundance of prey (e.g. moths) for bat species, therefore having a positive impact.

Water Sensitive Urban Design (WSUD) is also being considered to avoid high water flows through the corridor as well as filtering contaminants that may run off into vegetated areas.

1.6.2 Construction

The EA (Parsons Brinkerhoff 2010) completed for the Project, and subsequent Construction Flora and Fauna Management Plan (John Holland 2012) prepared in response to the Conditions of Approval, contain a series of mitigation measures to be implemented throughout the construction of the Project. Vegetation clearance has been carefully tracked through a Vegetation Removal Permit procedure which includes pre-clearance surveys for LNB conducted by a qualified ecologist.

2 Development of the Package

Condition B18 requires all vegetation loss, including the clearing of native vegetation and weeds, be offset by an equivalent area of regeneration or replanting. TfNSW proposed to secure compensation sites at a 1:1 ratio, based on the amount of clearing occurring to 'weeds' and existing 'Bushcare sites'. This equivalent area (1:1) was agreed with Office of Environment & Heritage and Department Planning & Infrastructure through consultation.

TfNSW's delivery mechanism for the Package is through the provision of compensation sites along the Project alignment. The use of compensation sites to deliver the Package is specifically identified as an option in Condition B18, and is the preferred position of local stakeholders. Compensation sites have several benefits in delivering the Package, including:

- The ability to deliver sites in close proximity to the impact site;
- Utilising an established mechanism with an operating framework, Council support and existing volunteer base; and
- Having several potential sites previously identified through the GreenWay Revegetation and Bushcare Plan (Ashfield Council and Eco Logical Australia 2011) and the EA for the Project (Parsons Brinkerhoff 2010).

To achieve a good conservation outcome and meet the requirements of the Condition, TfNSW has included a research project to further expand the knowledge of the Inner West LNB population. A summary of the Package components is provided below. The following sections detail these components.

Table 3: Package Summary

	DIRECT COMPENSATION	AREA (HA)	COMMENTS
1	Habitat creation works at identified locations within LNB core area of occupancy (Little, Fred and Hercules Street (North) Sites and Johnson Park, <i>Marrickville LGA</i>)	0.51	LNB habitat creation would comprise a mixture of habitats, with a structurally rich and dense ground and shrub cover, and smaller more sparsely vegetated areas, which will provide adequate shelter and foraging habitat for the species protected from future development or inappropriate use.
2	Habitat creation works at identified locations outside of LNB range (Loftus St, Leichhardt Park <i>Leichhardt LGA</i>)	0.481	Habitat creation would comprise a mixture of habitats as above, which will provide adequate shelter and foraging habitat suitable for the species and also small birds and other species noted in the area.
3	Habitat enhancement with shelter sites (wood piles) along rail corridor within LNB range near Johnson and Hoskins Parks		Providing shelter sites may assist the transverse movement of bandicoots across the rail corridor and provide protection against predators. Fencing will be constructed in a manner to also assist this movement. This will occur where there is no conflict with light rail operations.
	INDIRECT COMPENSATION		
1	Research project by Sydney University of sightings in Dulwich Hill, and Sydney University areas		Funding of a local community survey program undertaken by a research student based on similar program being undertaken on the North Head LNB population in Manly

2.1 CONSULTATION CONDUCTED IN THE PREPARATION OF THIS PACKAGE

A series of consultation meetings have been completed with key stakeholders during the preparation of the Package, including:

- Department of Planning and Infrastructure (DP&I);
- Office of Environment and Heritage (OEH);
- Relevant local Councils (Marrickville, Leichhardt and Ashfield);
- Greenway Steering Committee (GSC);
- Inner West Environment Group (IWEG).

It should be noted that the Greenway Sustainability Project (GSP) is no longer functioning. However the former Biodiversity Officer for the GSP was included in the consultation as he is currently the Biodiversity Officer for Ashfield Council.

Meetings were held to inform stakeholders of the progress of the Package, obtain feedback on the approach and any potential improvements, and to gain an understanding of any preferred sites that would receive support from the local community and Councils.

In addition, community consultation on the detailed design, including landscaping, was held for the Project between 27 October and 7 November 2012. There was no feedback directly related to the preparation of the Package however a number of submissions requested native and local provenance planting generally for the Project.

Table 4 outlines the consultation undertaken for the Package. **Table 5** summarises the key issues raised by the stakeholder during the various consultation activities and how the Package addresses these. Copies of meeting minutes and submissions are provided in Appendix 1.

Table 4: Consultation Undertaken

DATE	STAKEHOLDERS	TYPE
15 November 2012	OEH	Meeting to present and agree on principles of the Package
29 November 2012	GSC, Councils	Meeting to present and agree on principles of the Package
6 December 2013	IWEG	Meeting to present and agree on principles of the Package
10 January 2013	Marrickville Council, IWEG	Joint submission received providing feedback on 6 December meeting
26 February 2013	GSC, Councils, IWEG	Meeting to discuss the constraints of the light rail corridor and potential opportunities for other sites.
7 March 2013	OEH, DP&I	Meeting to discuss the constraints of the light rail corridor and potential opportunities for other sites
22 May 2013	GSC, Councils	Meeting to present TfNSW's preferred Package
28 June 2013	GSC, Councils	Joint Submission received on TfNSW's preferred Package
5 July 2013	IWEG	Submission received on TfNSW's preferred Package
9 July 2013	GSC, Councils, IWEG	Meeting to discuss local stakeholder feedback on TfNSW's preferred Package and opportunity for local stakeholders to choose from TfNSW option for sites
19 July 2013	GSC, Councils, IWEG	Joint Submission received with local stakeholder's preferred combination of sites

Table 5: Stakeholder Issues and Package Response

STAKEHOLDER	SUMMARY OF KEY ISSUES	WHERE ADDRESSED IN PACKAGE
DP&I	<ul style="list-style-type: none"> All vegetation loss must be compensated 	Section 2.2 & 2.3
	<ul style="list-style-type: none"> Indirect offset acceptable and modification to the condition may be required. 	Section 2.3
	<ul style="list-style-type: none"> Long-term protection is to ensure that the sites are protected from future development or inappropriate use. 	Section 3.4
OEH	<ul style="list-style-type: none"> The focus of the Package to be on providing habitat for the Long-nosed Bandicoot using local flora species. 	Section 3.2
	<ul style="list-style-type: none"> OEH confirmed that an equivalent area should be revegetated or replanted. 	Section 2
	<ul style="list-style-type: none"> Indirect offsets is supported 	Section 2.3
	<ul style="list-style-type: none"> Long-term protection is to ensure that the sites are protected from future development or inappropriate use. 	Section 3.4
Councils / GSC	<ul style="list-style-type: none"> Councils are taking a joint approach to the Package 	Table 4
	<ul style="list-style-type: none"> Alternate sites to TfNSW's presented sites nominated by Councils should be investigated 	Section 2.2 & Appendix 2
	<ul style="list-style-type: none"> Compensation sites being in the corridor is first preference and external but in the GreenWay corridor is second preference. Sites which are not in the GreenWay corridor will not generally be supported by Council. 	Section 2.2.1
	<ul style="list-style-type: none"> Councils are disappointed that more land cannot be found within the corridor and TfNSW are proposing out of corridor sites. 	Section 2.2.2
	<ul style="list-style-type: none"> Loftus Street and Little Street sites already provide some habitat for LNB as they are currently being worked on (without licence) by members of the community. These sites are reluctantly accepted for the Package as otherwise access to these sites would be lost when the light rail becomes operational. 	Section 2.2.5
	<ul style="list-style-type: none"> Smith Street site should be included and will move the Package closer to achieving an equivalent offset area 	Section 2.2.5
	<ul style="list-style-type: none"> Park sites within Marrickville LGA would need to be subject to community consultation 	Section 2.2.5
	<ul style="list-style-type: none"> The GreenWay Bushcare and Revegetation Plan is the key document for decision making. 	Section 2.2
	<ul style="list-style-type: none"> Academic study on the LNB population is supported. Councils and the community would like to be involved. 	Section 2.3
	<ul style="list-style-type: none"> Site establishment of the compensation sites should be 	Section 3.1.4

STAKEHOLDER	SUMMARY OF KEY ISSUES	WHERE ADDRESSED IN PACKAGE
	staged to lessen any negative impacts. Habitat provision during the disruptive period should be provided such as the provision of weed, sandstone or timber (sleeper) piles.	
	<ul style="list-style-type: none"> Maintenance arrangement and funding is still to be negotiated as there is little advantage to local community and biodiversity in setting up sites that cannot be maintained adequately. 	Section 3.2 & 4.1
	<ul style="list-style-type: none"> Infrastructure required to service the compensation sites required consideration 	Section 3.1.3
	<ul style="list-style-type: none"> Site Management Plans should be developed to ensure that revegetation is undertaken using a staffed and sensitive process incorporating best practice methodology which will enhance biodiversity. 	Section 3.1.1
	<ul style="list-style-type: none"> Licenses that allow Councils' access to the corridor are crucial to making the compensation sites feasible. 	Section 3.1
IWEG	<ul style="list-style-type: none"> IWEG generally support Councils comments. Additional comments include: 	As above
	<ul style="list-style-type: none"> Alternate sites to TfNSW's presented sites nominated by Councils should be investigated 	Section 2.2 & Appendix 4
	<ul style="list-style-type: none"> The full amount of vegetation loss should be compensated even if this is partially made up of sites outside the corridor 	Section 2.2.5
	<ul style="list-style-type: none"> Any monitoring or studies should be in addition to the compensating for vegetation loss 	Section 3.5.1
	<ul style="list-style-type: none"> Little Street and Loftus Street sites are reluctantly supported in the interests of getting them formalized and protected for the future 	Section 2.2.5
	<ul style="list-style-type: none"> Site management plans should be developed with input from IWEG 	Section 3.1.1

2.2 DIRECT COMPENSATION

The creation of compensation sites to contribute to the Package is proposed as a direct compensation measure.

The basis for the selection of sites was the GreenWay Revegetation and Bushcare Plan (Ashfield Council and Eco Logical Australia 2011), and the Ecological Assessment within the Environmental Assessment for the Project (Parsons Brinkerhoff 2010)

Table 6 lists all the sites considered during the Package development, their source (recommended in the GreenWay Revegetation and Bushcare Plan, Ecological Assessment or in Stakeholder Consultation meetings); whether they are a council park or occur within the rail corridor and whether they are located within core area of occupancy for the endangered LNB population. Their locations are shown in **Figure 4**.

All sites were reviewed for their suitability for incorporation in the Package. The following sections identify the selection techniques, details relating to site selection and proposed sites.

Table 6: Existing Bushcare Sites and other considered Compensation Sites

CP: Council Park

RC: Rail Corridor

P: Private land

RMS: RMS owned

SITE NAME	RECOMMENDED SOURCE			SITE TYPE	OUTSIDE CORRIDOR	CORE LNB OCCUPANCY AREA
	GREENWAY RBP	EA	CONSULTATION			
Barker St	X			CP	X	Yes
Blackmore Park	X			RMS	X	No
Blackwood Avenue	X			RC		Yes
Darley Rd	X			CP	X	No
Denison Rd	X			RC		Yes
Dudley Street			X	RC		Yes
Cadigal Reserve ext.		X		CP	X	Yes
Church Street		X		CP	X	No
Dulwich Hill Cutting			X	RC		Yes
Ewart Lane			X	RC		Yes
Ewart St	X	X		RC		Yes
Fred St (Old Canterbury Road)	X	X		RC		Yes
Haig Ave	X			CP	X	Yes
Hawthorn Parade/Richard Murden Reserve	X			CP	X	No
Hercules St (Middle)	X	X		RC		Yes

SITE NAME	RECOMMENDED SOURCE			SITE TYPE	OUTSIDE CORRIDOR	CORE LNB OCCUPANCY AREA
	GREENWAY RBP	EA	CONSULTATION			
Hercules St, (North)	X	X		RC		Yes
Hercules St (West Fork)	X	X		RC		Yes
Hercules St (below Hercules St & New Canterbury Rd)	X			RC		Yes
Hoskins Park				CP	X	Yes
Jack Shanahan Park	X			CP	X	Yes
Johnson Park			X	CP	X	Yes
Leichhardt Park	X		X	CP	X	No
Little St Extension	X	X		RC		Yes
Little St	X	X		RC		Yes
Loftus St	X	X		RC		No
Longport St	X			RC		Yes
Lords Rd East	X			RC		No
McGill Street/ Lewisham West Stop	X			RC		Yes
Petersham Park				CP	X	Yes
Smith St	X			P / RC		Yes
Tennyson Street (Golf Course)	X			CP	X	Yes
The Parade	X			RC		Yes
Walter Street	X			RC		No
Weston Street		X		RC		No

SITE NAME	RECOMMENDED SOURCE			SITE TYPE	OUTSIDE CORRIDOR	CORE LNB OCCUPANCY AREA
	GREENWAY RBP	EA	CONSULTATION			
William St/ Darley Road	X			RC		No
Williams Pde	X	X		RC		Yes
Wills Ground, Earwood	X			P	X	Yes

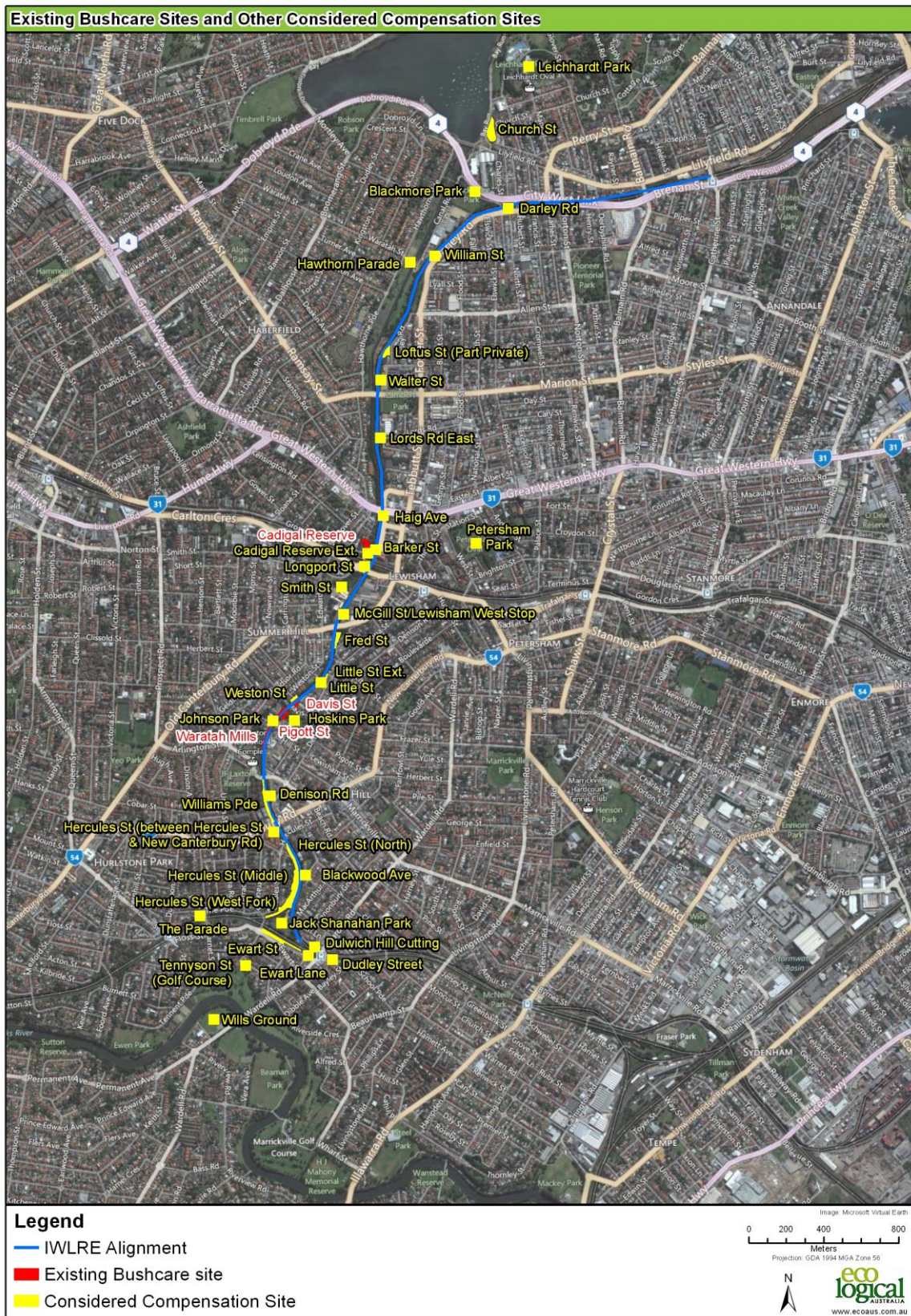


Figure 4: Existing Bushcare Sites and considered Compensation Sites

2.2.1 Selection Technique

A number of criteria were used to determine which sites are to be included in the Package. The criteria for the selection were presented and agreed with OEH and local stakeholders during the consultation sessions in November and December 2012. The selection criteria for the compensation sites are set out below:

1. The ability to safely access and work at the compensation site in a working rail corridor;

For compensation sites located along an operating rail corridor, the ability to access and work safely is the highest priority. The current corridor environment will change dramatically once the light rail service is in operation. TfNSW will fence all sites to separate them from the operating rail corridor and access to the sites must be available from surrounding streets. Other conditions such as locations near cuttings and steepness of slopes have been considered. Only sites that meet these safety criteria have been considered.

2. Operational constraints in a working rail corridor

Areas of land within the corridor that currently are disused have been earmarked for infrastructure and landscaping or are required to be kept clear for maintenance activities. For example, lay down areas will be required for materials used in maintenance and gates and access ways are required to remain clear for maintenance and emergency access. Access to the compensation sites must be segregated from operational and maintenance access points and ways to ensure the safety of the public accessing the sites (refer also to Criterion 1).

3. Support from local stakeholders

Support from local stakeholders such as IWEA or Councils is essential for a site to have long term success. Should a site be selected without the support of Council, it is likely that the site will not be maintained, and that the objectives of the Package will not be achieved. Local stakeholders were consulted to ensure support is available (Section 2.1). During consultation sessions, local stakeholders put forward a number of alternate compensation sites which have been considered in preparation of the Package.

4. Ecological Criteria

To facilitate the creation of habitat for LNB and other native fauna at the compensation sites, location and environment were considered in how ecologically successful a site would likely be. Aspects such as poor perimeter to area ratio which give rise to edge effects, patch size, connectivity and solar access have been taken into consideration.

5. Stakeholder Preference

During consultation local stakeholders confirmed that in-corridor sites are their first preference, with sites that are within the GreenWay Revegetation and Bushcare Plan outside of the corridor as a second preference (Meeting Minutes 22 May 2013).

2.2.2 Sites not Feasible

However when the above criteria were applied to the sites under consideration many of the original identified sites within the corridor were not feasible. Appendix 2 contains an analysis of all the sites considered throughout the development of the Package with their opportunities and constraints.

The Hercules Street (West Fork) site was not deemed reasonable and feasible due to the complexity of establishment of the site which is not within the current project scope. Approximately 3000 tonnes of ballast remains on the West Fork following removal of the track by ARTC. Substantial works would be required to the site to enable it to be suitable for establishment as a compensation site.

2.2.3 In-corridor sites

Following application of the criteria outlined in Section 2.3.3, sites available to be incorporated in the Package inside the light rail corridor are as follows:

- Loftus Street (0.21ha)
- Smith Street (0.06ha) (Note: this site as depicted in the GreenWay Revegetation and Bushcare Plan was shown to be on private property. Through consultation, TfNSW identified a small area within the corridor that could be considered.)
- Fred Street (0.1ha)
- Little Street (0.06ha)
- Hercules Street (North) (0.22ha)

2.2.4 Outside of corridor sites

TfNSW consulted with local stakeholders regarding the use of Council Park sites outside the corridor which may be suitable for revegetation in January and February 2013.. Sites identified included:

- Cadigal Reserve (extension);
- Leichhardt Park; and
- Darley Road.

Consultation with OEH in March 2013, noted that LNB records were concentrated within parks within the Marrickville LGA. OEH considered that providing habitat within the following parks would have a good conservation benefit for the LNB:

- Hoskins Park;
- Johnson Park; and
- Petersham Park.

2.2.5 Currently Preferred Sites

Following additional consultation sessions and feedback received in May 2013 (Minutes 22 May 2013), June 2013 (Joint submission 28 July 2013) and July 2013 (IWEG submission 5 July 2013; and Meeting Minutes 9 July 2013), TfNSW provided local stakeholders with a choice of combination options. The options were proposed as best balancing the need for a good conservation outcome, the intent of Condition B18 and a reasonable / feasible assessment by TfNSW (see email 11 July 2013, Appendix 3). Local stakeholders provided a joint submission (19 July 2013) in support of the option containing the six sites **Figure 5** listed below:

- Leichhardt Park (0.271 ha) – This site was proposed by Leichhardt Council and is also referenced in the GreenWay Revegetation and Bushcare Plan and Council's Native

Revegetation and Bushland Management Plan. It provides connectivity with native vegetation along the Iron Cove foreshore.

- Loftus St (0.21 ha) – This site has had some revegetation work completed by a resident group who have been accessing the rail corridor without permission from the landowner. As part of the Package, this site will be fenced and protected and revegetation work will be augmented.
- Fred St (0.1 ha) – This site has been recognised from the outset as having good conservation potential.
- Little Street Extended (0.06 ha) - This site has had some revegetation work completed by a resident who have been accessing the rail corridor without permission from the landowner. As part of the Package, this site will be fenced and protected and revegetation work will be augmented.
- Johnson Park (0.13 ha) – This site was proposed by OEH as a key area for LNB habitat and Marrickville Council has achieved internal support. This site is subject to community consultation to be undertaken by Council.
- Hercules St North (0.22 ha) – This is a large site within the corridor and has good conservation potential. This site is in the vicinity of a key maintenance area for the light rail operations and all the available land for compensation has been proposed.

The local stakeholder joint submission requested that the Smith Street site should also be included in the Package. TfNSW believes that the Package as proposed meets the conservation outcomes and compensation aims of Condition B18 without the inclusion of this site.

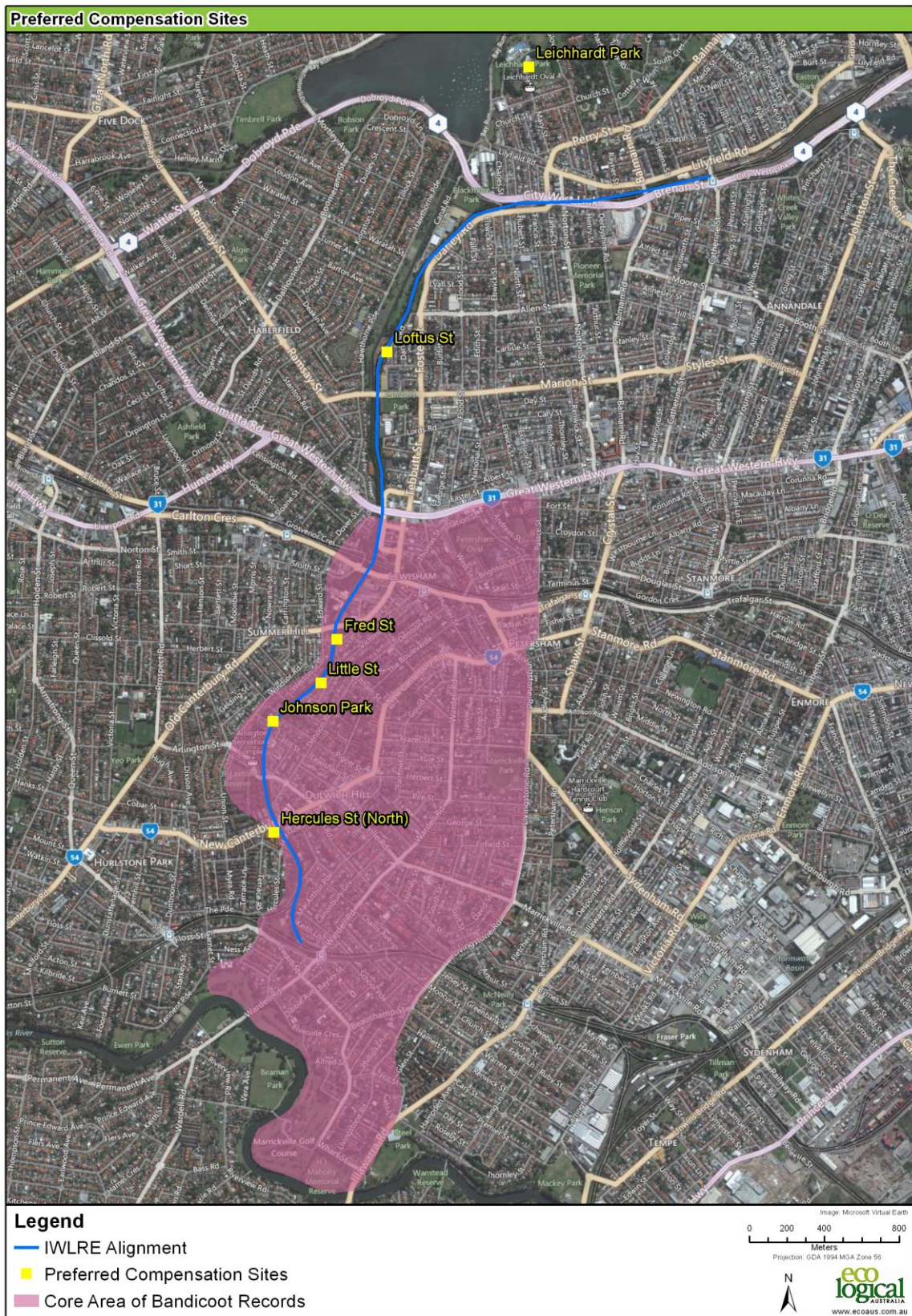


Figure 5: Preferred Compensation Sites

2.2.6 Construction of Bandicoot Shelter Sites

At three or four sites within the rail corridor piles of timber such as old railway sleepers will be placed in appropriate locations and allowed to become overgrown with vegetation to create habitat shelter sites for bandicoots traversing the corridor. These sites would provide protection from predators and contribute to the overall conservation aims of the Package.

2.3 INDIRECT COMPENSATION

The location and area of direct compensation proposed will provide a network of small habitat and shelter sites that will benefit LNB and other native fauna. As an additional measure, as agreed with OEH & DP&I, it is proposed that the creation of a research project targeted to the Inner West LNB population is undertaken as part of the Package.

Sydney University researchers are currently undertaking a community social study based in the urban area used by the endangered LNB population at North Head, Manly, which incorporates a community survey of residents who have observed bandicoots in their backyards and surrounding urban areas. It is proposed that a similar survey program is undertaken as part of this compensation Package to determine how the bandicoots are moving through and utilising habitat in residential areas for the inner west suburbs south of Parramatta Road within the core occupancy area of the LNB. The research could also include a program of monitoring using infra-red cameras at selected sites.

TfNSW will work with the School of Biological Sciences at Sydney University to develop a study.

2.4 PROJECT LANDSCAPING WORKS

As part of the Project, landscaping and revegetation works within the corridor are being undertaken. Landscaping around the nine stops, including embankments, has been designed to be consistent with the GreenWay Revegetation and Bushcare Plan and includes endemic species. The area of stop landscaping and revegetation is approximately 0.5 ha. In addition, revegetation of areas used for construction, such as compound areas, will be undertaken using the same principles of revegetation.

A planting palette of native vegetation responding to the Sydney Turpentine-Ironbark Forest and Sandstone vegetation communities has been proposed which would replace much of the weedy vegetation within the stop areas. All landscaping and revegetation has been designed with consideration of providing a suitable habitat structure for native fauna.

The Project landscaping works have not been included as compensation in the Package.

3 Site Establishment, Management and Monitoring

3.1 SITE ESTABLISHMENT OBJECTIVES

Revegetation works will aim to establish functioning habitats comprised of native species with stock sourced from local provenance. The impacts associated with the Project predominantly involve the clearing of exotic species, which provide potential habitat for the endangered LNB population. The establishment of native habitat suitable for use by the LNB will be the first priority. A mixture of habitats, with a structurally rich and dense ground and shrub cover, and smaller more sparsely vegetated areas, will provide adequate shelter and foraging habitat for LNB. As noted previously, it is expected that other native species will also benefit from providing this habitat.

If possible, the revegetation works will also attempt to establish, over a longer time-frame, the pre-European vegetation types previously present at each compensation site selected. Where the soil profile and land use history of the site is suitable, the mid-storey and over-storey species selected will be consistent with those species present within the Sydney Turpentine Ironbark or Shale-Sandstone Transition Forest vegetation communities. The species selected will be determined by the dominant soil type at each location, and other considerations, such as the potential size of each species and their safe use within the light rail corridor.

It is proposed that the site establishment tasks described in the following sections are funded by TfNSW, with local community group/Council involvement where appropriate.

Any compensation site will require an initial level of site establishment and rehabilitation work before maintenance activities can begin. In order to have sites established safely, and to ensure the appropriate level of weed removal and species establishment, TfNSW propose to undertake and fund a series of site establishment tasks during the first year, being:

- Preparation of a site management plan using the GreenWay Revegetation and Bushcare Site Management Plan Template (Ashfield Council and Eco Logical Australia 2011) (Appendix 4) with input from local stakeholders as appropriate;
- Contamination testing if the site is located within the corridor (in accordance with Condition B30);
- Construction of infrastructure for sites to ensure safety within the operational rail corridor;
- Preliminary weed control;
- Provision of local provenance species for revegetation works;
- Follow-up first year maintenance.

3.1.1 Site Management Plans

The first task for any new compensation site is the preparation of a Site Management Plan. The Plan will be prepared by ELA in consultation with local stakeholders using the GreenWay Revegetation and Bushcare Site Management Plan Template. The Plan will include details such as site location, access

details, topography and drainage, waste, health and safety considerations, flora and fauna habitat available, initial tasks and ongoing tasks required, weed treatment options and planting programs. Should the compensation site be within a Council park, existing Council plans of management can be utilised if preferred by Council.

3.1.2 Contamination Testing

Contamination testing in accordance with Condition B30 is required for high risk sites. A suitably qualified consultant will be engaged to assess the sites and undertake sampling, as required, with consideration of the the outcomes of the Human Health Risk Assessment – Bushcare Sites” prepared by Environmental Risk Sciences (dated 31 May 2012; the HHRA).

3.1.3 Site Infrastructure

Fencing is required to ensure the in-corridor sites can be accessed and worked on safely in an operating rail corridor. The fencing of the site will also ensure the site can only be accessed by those who are working on the site, where appropriate, limiting the chance of vandalism. Where necessary, new gates, stairs or ramps from public areas will be installed.

3.1.4 Preliminary Weed Control

Preliminary weed control will involve the initial removal of weed species on site. The Site Management Plan will highlight the weeds to be removed and the techniques to be utilised. Some weed cover should be maintained until revegetation works are established, to ensure habitat remains available on site at all times.

3.1.5 Provision of Native Species

Planting and mulching of the site will be undertaken using ground cover and shrub species. Ground cover and shrub species suitable for habitat have been identified from the list contained in the GreenWay Revegetation and Bushcare Plan and are provided in **Table 7**. Where the species provided in **Table 7** are not commercially available, other grass or shrub species contained in the GreenWay Revegetation and Bushcare Plan (Ashfield Council and Eco Logical Australia 2011) will be substituted. An average of three plants per square metre will be planted and the site mulched to a minimum depth of 100 millimetres.

An example of successful revegetation work is provided in Figure 6 which is a photo taken of the existing Bushcare site at Pigott Street, Dulwich Hill. The photo demonstrates areas of dense ground and shrub cover with more open foraging habitat. The wood chips/mulch available at the site would also assist in the development of insects and the growth of mycorrhizal fungi.

Table 7: Species used to Revegetate Bushcare Sites

SPECIES NAME	COMMON NAME	STRATA
<i>Acacia longifolia</i>	Sydney Golden Wattle	Shrub
<i>Banksia oblongifolia</i>		Shrub
<i>Banksia spinulosa</i>	Hair-pin Banksia	Shrub
<i>Bursaria spinosa</i>	Blackthorn	Shrub
<i>Dianella caerulea</i>	Flax Lily	Grass
<i>Dianella longifolia</i> var. <i>longifolia</i>	Flax Lily	Grass
<i>Dianella revoluta</i>	Flax Lily	Grass
<i>Dodonaea triquetra</i>	Hop Bush	Shrub
<i>Einadia hastate</i>	Berry Saltbush	Grass
<i>Gahnia clarkei</i>	Sword Grass	Grass
<i>Goodenia ovata</i>		Shrub
<i>Kunzea ambigua</i>	Tick Bush	Shrub
<i>Lepidosperma laterale</i>	Sword-sedge	Grass
<i>Lomandra longifolia</i>	Mat-rush	Grass
<i>Melaleuca nodosa</i>		Shrub
<i>Notelaea longifolia</i>	Mock olive	Shrub
<i>Poa affinis</i>	Tussock Grass	Grass
<i>Pteridium esculentum</i>	Bracken Fern	Fern
<i>Themeda australis</i>	Kangaroo Grass	Grass

**Figure 6: Revegetation Works suited to Long-nosed Bandicoot within the Corridor**

3.1.6 Follow-up Maintenance Post Planting

Follow up maintenance works will be carried out for twelve months after the site planting and mulching. These works will include watering in the new plants as required and follow-up weeding incorporating herbicide spray application and hand removal. In accordance with weed control performance criteria (refer to Section 3.2), it is reasonable to expect that there will be no mature woody weeds present on site and no exotic vines growing within the shrub layer by the end of the follow-up maintenance period.

3.2 ON-GOING MAINTENANCE AND MANAGEMENT

It is intended that following the first year, on-going maintenance works will be the responsibility of Councils with community involvement as they deem appropriate to meet the requirements of the final Site Management Plan.

ELA has identified the following activities to be undertaken during the on-going maintenance period:

- Maintenance weeding entailing spot spraying with herbicide and hand removal where required;
- Watering plants as required;
- Supplementary or replacement planting to achieve an 80% survival rate
- Mulching as required;
- Rubbish removal.

After a period of five years the planted vegetation within the compensation sites should have attained a suitable structure for small bird, reptile and bandicoot habitat. Ideally 80% of the compensation site area should have a relatively dense vegetation coverage with a minimum of 50% foliage cover for ground cover species. Importantly, a staged approach for weed removal and subsequent revegetation must be applied to minimise disruption to any existing fauna habitat.

Weed control performance criteria for maintenance should specify a target of less than 15% exotic species cover within the re-vegetated and mulched areas of the sites and less than 10% cover in the longer term. Over time native plant cover should increase with a corresponding decrease in exotic plant cover. These targets may be locally exceeded (e.g. adjacent to turf or un-managed vegetation) and so performance of the sites compared to the targets should be measured over the site as a whole.

It is proposed that a Maintenance Payment is provided to Council to assist with the long-term management of the sites. ELA considered each site and their individual maintenance needs and calculated a Maintenance Payment to achieve the expected performance of the compensation sites for a five year period outlined above based on professional contractors visiting all the sites at least four times a year and more often during periods of rapid weed growth.

It is noted that Councils can use the payment at their discretion to assist in maintenance activities. For example, volunteer activities could supplement professional contractors, for example, therefore extending the funding for further years.

3.3 LICENSING OF THE IN-CORRIDOR SITES

For existing Bushcare sites within the light rail corridor, a license has been agreed between RailCorp (current landowner) and the relevant Council. This license allows access to the RailCorp land for "beautification and revegetation" purposes. Licenses for the compensation sites will need to be

developed and it is proposed that the licenses for the existing Bushcare sites, which are outdated be updated at the same time.

3.4 LONG TERM PROTECTION

Condition B18 requires that *'any land offset must be enduring and include a conservation mechanism which protects and manages the land in perpetuity.'* The 'in perpetuity' protection of the compensation sites selected is not considered feasible as the compensation sites are small, reducing the likelihood of establishing a funded conservation covenant (such as a Biobank site) on each site. Consultation with OEH confirmed they would not accept a Biobank site in an urban setting that is less than 1 ha in size.

It is therefore proposed that the sites will be protected and managed in the long-term by the following means:

3.4.1 Protection

- Compensation sites within the corridor will be surveyed, documented and provided to the light rail operator and RailCorp/landowner to ensure ongoing protection;
- If any of the sites within the corridor are required for infrastructure works in the future an equivalent area will be offset elsewhere;
- Compensation sites outside of the corridor will be protected by a mechanism to be confirmed with the landowner. For Leichhardt Park and Johnson Park, the landowner is the State of NSW and Crown land, respectively.

3.4.2 Management

- Site sites will be managed by the relevant Council and community groups in accordance with the final Site Management Plan. Council will be responsible for ongoing management;
- Should any 'Bushcare' areas inside the corridor fail to be managed on an ongoing basis by Council, the responsibility of management will fall back to the light rail operator to manage as part of their corridor management;
- Any areas outside the corridor will be managed by Council under a formal maintenance agreement with TfNSW.

3.5 MONITORING AND REPORTING

To ensure the works conducted meet the objectives of the site establishment and Site Management Plans, a monitoring and reporting process will be undertaken for each site created as part of the Package. The monitoring and reporting will be split into two main components, being:

- Ecological monitoring and reporting- monitoring and reporting on the ecological processes, quality of habitat and success of works on each of the sites;
- Works reporting- a report of the works completed at each site, including the species planted, weed control conducted and number of hours spent managing the site.

3.5.1 Ecological Monitoring and Reporting

Annual ecological monitoring and reporting will be conducted to:

- Confirm the success of works completed;

- Determine the condition and availability of flora and fauna habitat on site.

Suitable monitoring will be developed specific to the sites selected in the Package. Consideration will be given to the size of sites selected, the location and the condition and resilience of the site. Monitoring will be conducted by a qualified field ecologist and will include:

- Preparation of flora species lists, including the density of species plantings and the success of such planting;
- Preparation of fauna species lists;
- Assessment of habitat available on site, especially habitat for the LNB;
- Collection of photo point data at set locations;
- Assessment of the success of revegetation works on site, including an assessment of any plantings which have failed, the failed species and the location of failed plantings;
- The preparation of a brief report outlining findings and recommending any changes to the management currently applied to the site.

TfNSW will fund this monitoring for 3 years, with annual reports provided to OEH, DP&I and Councils.

Where the monitoring identifies that the site is in decline, and the habitat on the site is in poor condition or not available, recommended changes to management of the site will be applied.

3.5.2 Works Reporting

The relevant Council will be responsible for coordinating the delivery of works reports (see Section 2.5.2). The works report will use GreenWay Bushcare sites template contained in the GreenWay Revegetation and Bushcare Plan (Appendix 5). The works reporting will include:

- Name of the volunteer group
- Site name
- Date of work session
- Weather
- Location worked within the site
- Objectives of the work session
- Person hours on site
- Area weeded, pest animals removed, area revegetated, and kg rubbish removed
- OHS issues and incidents
- Site activities undertaken, and
- A species list of plants used for revegetation.

The reports are to be completed and compiled by the relevant supervisor within Council. All reports will be kept in Council's records.

4 Delivery and Implementation

4.1 FURTHER CONSULTATION

Once DP&I have approved the Package, a Maintenance Payment will need to be agreed with Councils. Consultation on the Maintenance Payment has commenced and TfNSW have received feedback on Council requirements.

Separate to this Package, TfNSW is working with Councils and IWEG to provide safe access to existing sites within the light rail corridor prior to the commencement of operations (first quarter 2014).

4.2 PROPOSED TIMING OF THE PACKAGE

Infrastructure requirements for the compensation sites within the corridor (Loftus Street, Fred Street, Little Street, Hercules Street (North)) must be completed prior to the commencement of operation of the light rail service (first quarter 2014). These activities include:

- Fencing for the Loftus Street, Little Street, Fred Street and Hercules Street (North) sites;
- Installation of stair or ramp access from Hercules Street overbridge to the Hercules Street (North) site;
- Installation of new pedestrian gates for the Loftus Street, Little Street, Fred Street and Hercules Street sites;
- Contamination testing of Fred Street and Hercules Street (North) sites. (Loftus and Little Street sites were included in previous contamination testing undertaken in May 2012 due to their expected inclusion in the Package);
- Where necessary, provision of crushed sandstone salvaged from the construction of the light rail, to sites identified as requiring improved ground conditions.

In order to commence establishment of all compensation sites, the following activities are required to be completed. These activities can be undertaken concurrently with the infrastructure works (above):

- Marrickville Council to undertake community consultation regarding the proposed change to Johnson Park. It is noted that if land is not available after this consultation process an alternative site would need to be identified;
- Preparation of the Site Management Plan by ELA in consultation with local stakeholders;
- Progression of the licenses to ensure access is available for existing and compensation sites;
- Scoping of the research project with Sydney University

Based on the final Site Management Plans and on completion of the infrastructure works, TfNSW will engage a suitably qualified contractor to undertake the staged establishment and maintenance for the first year.

It is anticipated that Council will take over management of the sites from approximately first quarter 2015. Formal agreements will be put into place between TfNSW and Council documenting Council's obligations to meet the requirements of the Site Management Plan as well as for the transfer of the agreed Maintenance Payment.

4.3 CONCLUSIONS

TfNSW and ELA believe the Package, as proposed, meets the requirements of Condition B18.

The Package comprises of the:

- The provision of 0.991 ha of native habitat within the vicinity of the Project consistent with the GreenWay Revegetation and Bushcare Plan;
- The provision of LNB shelter sites within areas along the Project alignment;
- Research project by Sydney University to provide a program targeted to the Inner West LNB population.

Additionally, 0.5 ha of landscaping within the corridor at stops and further revegetation of construction areas will be undertaken as part of the Project works. Total revegetation along the corridor is estimated at over 1.4 ha.

Extensive consultation has been undertaken with all stakeholders and substantial efforts have been made to balance expectations while providing a Package that provides a good conservation outcome for LNB and native fauna.

References

Ashfield Council and Eco Logical Australia 2011. GreenWay Revegetation and Bushcare Plan. Prepared as part of the GreenWay Sustainability Project – a partnership between Ashfield, Leichhardt, Marrickville and City of Canterbury Councils

Biosis 2012 Balmain Rock-Cutting: Terrestrial Flora and Fauna Assessment. Report prepared for: John Holland Group Pty. Ltd.

John Holland 2012. Inner West Light Rail Extension Construction Flora and Fauna Management Plan (SLR-GL-PLN-EN-008). Prepared by John Holland for TfNSW.

Leary, T, Kwok, A, Khan, B & Ibbetson, P 2010. 'Yuppie bandicoots of inner west Sydney - in hiding or urban renewal?' in *Natural History of Sydney* edited by Daniel Lunney, Pat Hutchings and Dieter Hochuli. Royal Zoological Society of NSW Mosman, NSW, Australia Pp 415 - 425

Parsons Brinkerhoff 2010. Sydney Light Rail Extension, Stage 1 – Inner West Extension. Volume 1 - Main Report. Report prepared by Parsons Brinckerhoff for TfNSW

TfNSW 2012. Inner West Light Rail Extension - Current works (website).

<http://www.transport.nsw.gov.au/lightrail-program/inner-west-light-rail-extension-current-works>

Appendix 1: Consultation Record



MINUTES

Inner West Light Rail Extension: Biodiversity Compensation Package

Date	Thursday, 15 November 2012		
Time	9:30am		
Venue	OEH Offices, 79 George St, Parramatta		
Chairperson	Tara Wilcoxon (TW), Environment & Planning Manager, Transport for NSW (TfNSW)		
Invitees	Tracy Reid Darren James Gus Porter Ray Giddins	TR DJ GP RG	Senior Manager, Environment, TfNSW Senior Environmental Consultant, Eco Logical Australia Biodiversity Conservation Officer, OEH Regional Biodiversity Conservation Officer, OEH
Apologies:	Lou Ewins		

		Responsible/ Due Date
1.	Project Status Update and Condition B18	
1.1	TW gave an introduction to the project and current status update. Further information can be found on TfNSW website: http://www.transport.nsw.gov.au/lightrail-program/inner-west-light-rail-extension	Note
2.	Biodiversity Compensation and Monitoring Package	
2.1	DJ ran through the presentation (slides attached to these minutes). Additional notes / discussion is outlined below:	Note
2.2	<u>Selection Criteria</u> RG queried how close the Potential Bushcare sites are to known or appropriate habitat areas for Long-nosed Bandicoots (LNB) e.g. retirement home near Petersham Oval. RG suggested that Marrickville Council may have the latest sighting information. Action: DJ to speak to the project ecologist to determine the most appropriate habitat areas and prioritise close Bushcare sites. These sites would be presented to the Councils / Bushcare groups as preferred options.	DJ
2.3	<u>Area of Compensation Package</u> TR queried whether planted trees in parks or street trees would need to be included in the habitat compensation as they are not suitable LNB habitat. RG suggested that it would be an amenity offset rather than habitat compensation.	Note

		Responsible/ Due Date
2.4	<p>Rehabilitation and Site Management</p> <p>DJ proposed to establish the Potential Bushcare sites with species of local provenance with dense understorey consistent with West Sydney Vegetation Mapping, the Greenway Revegetation and Bushcare Plan (attached to these minutes) and relevant EEC.</p> <p>RG suggested that focus should be on providing local species and creating suitable bandicoot habitat rather than recreating EEC, if site conditions are not suitable.</p> <p>It was also noted that fencing of the Potential Bushcare sites would be LNB "friendly".</p>	Note
2.5	<p>Monitoring</p> <p>RG queried whether remote camera could be used for the monitoring programme, pending the security of the camera.</p> <p>It was noted that remote cameras were used in fauna assessments for the EA.</p> <p>Action: DJ to consider in consultation with project ecologist.</p> <p><i>(Post meeting note – Remote camera surveys were conducted in 2010 did not locate any LNB. The most frequently recorded animal was the domestic cat. – EA Technical Paper 4 - Ecological Assessment: Sydney Light Rail)</i></p>	DJ
2.6	<p>Long-term Protection</p> <p>DL outlined the difficulties of providing protection in perpetuity as required by Condition B18.</p> <p>RG suggested that as the Condition does not reference OEH's approval, that this issue should be discussed with DP&I.</p>	Note
3.	Timing and Submissions	
3.1	<p>TW outlined the timing and submission of deliverables associated with Package, noting the extension of time granted by DP&I.</p> <p>Action: TW will notify GP & RG when the Final submission to OEH is planned (Feb/March 2013).</p>	TW
4.	Other	
4.1	<p>GP queried whether there would be any impact on bat habitat.</p> <p>TW explained that micro-bats were surveyed as present at the northern end of the alignment within the City West Link tunnel and the Balmain Cutting. There will be some stabilisation works required on the cutting but at present the methodology was still being developed by the geotechnical designer.</p> <p>RG stated that if cracks in the rock face which would be potential microbat habitat would be for impacted, example, if shot-creted, then appropriate methodology should be developed.</p>	Note
4.2	<p>GP queried some of the notation on the Vegetation Clearance mapping /table provided prior to the meeting (attached to these minutes). Note that these areas are based on 70% design.</p> <p>TW explained that the notation in question were strips cleared of understorey near the Taverner's Hill stop so that the geotechnical engineer could visually survey the embankment to inform the stabilisation design solution.</p> <p>TR explained that the brief to the designer was to minimise vegetation removal when designing the solution.</p>	Note

		Responsible/ Due Date
	It was noted that additional clearance would be added to the Vegetation Clearance mapping / table for embankment stabilisation in this area and any changes between the 70% and 100% design.	
4.2	RG offered to contact Tanya Leary at NPWS to provide up-to-date LNB sighting information.	RG

Inner West Light Rail Extension

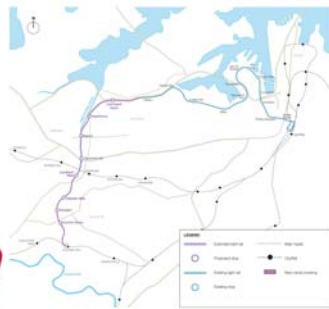
Revegetation and Biodiversity Compensation and Monitoring Package

Agenda

1. Introductions
2. Project Status Update and Condition B18
3. Biodiversity Compensation and Monitoring Package
 1. Potential Bushcare sites and selection technique
 2. Area of compensation package
 3. Site management and rehabilitation techniques
 4. Monitoring and reporting requirements
 5. Long-term site protection
4. Condition B18 timing and submission

2

Project Status Update



3

Project Status update

- Contractor: John Holland
- Management Plans approved by DP&I on 31 October 2012
- Site establishment, clearing & grubbing, bridge protection



Condition B18

The Proponent shall develop and implement a Revegetation and Biodiversity Compensation and Monitoring Package to outline how ecological impacts will be compensated for and habitat monitored within the corridor, Bushcare and other appropriate sites.

The Package shall be prepared and submitted to the Director General for approval prior to construction, unless otherwise agreed by the Director-General, and in consultation with DECCW, relevant Council's, the GreenWay Sustainability Project and community groups including the GreenWay Steering Committee and the IWEG and have consideration of the Greenway Revegetation and Bushcare Plan. The Package should ensure that all vegetation loss, including native vegetation and weeds, is offset by an equivalent area of regeneration or replanting, and include:

5

Condition B18

- a) *the identification of the extent and types of habitat impacts and habitat loss or degradation as a result of the final design of the project;*
- b) *the objectives and biodiversity outcomes to be achieved through impact mitigation and compensation measures;*
- c) *details of impact mitigation measures, including infrastructure designs that facilitate fauna movements;*
- d) *details of the offset measures selected to compensate for the loss of vegetation, including the identification of potential Bushcare sites;*

6

Condition B18

- e) measures for the management, protection and monitoring of the compensatory sites, including the:
 - e) monitoring of the condition of fauna and flora species and ecological communities at offset locations;
 - f) the methodology for the monitoring program(s), including the number and location of monitoring sites, and the sampling frequency at these sites;
 - g) provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the DECCW; and
 - f) timing and responsibilities for the implementation of the provisions of the Package.

7

Condition B18

Any land offset must be enduring and include a conservation mechanism which protects and manages the land in perpetuity.

Where monitoring shows inadequate compensatory habitat results, remedial actions must be undertaken to ensure that the objectives of the Package are achieved

8

Biodiversity Compensation and Monitoring Package

1. Potential Bushcare sites and selection technique
2. Area of compensation package
3. Site management and rehabilitation techniques
4. Monitoring and reporting requirements
5. Long-term site protection

Existing Bushcare Sites

- Existing sites along alignment
- Sites generally located mid-way along the IWLRE alignment
- Total ~0.55 ha
- Leased by Councils from RailCorp
- Managed by the Inner West Environment Group (IWEg)
- See map



10

Potential Bushcare Sites and Selection Technique (cont)

- Preferred mechanism for delivery of biodiversity compensation package
- Several advantages:
 - Proximity to impact site (IWLRE alignment)
 - Established mechanism with operating framework.
 - Several potential sites previously identified.

11

Potential Bushcare Sites and Selection Technique (cont)

- 26 potential Bushcare sites identified in GreenWay Revegetation and Bushcare Plan
- IWLRE EA identified six of these sites as potential bushcare sites to compensate for impacts
- One site ruled out due to access issues (Weston St)
- Remaining five sites total ~2 ha
- Sites predominantly located at southern end of IWLRE
- See map

Potential Bushcare Sites and Selection Technique (cont)

- Propose to use a multi-criteria selection technique
- Sites to be selected based on:
 1. Ability to safely **access** the Bushcare site
 2. **Support** from IWEG/Council/Local community for the Bushcare site
 3. **Ecological criteria** based on GreenWay Revegetation and Bushcare Plan or other values (vegetation community, stepping stones, connectivity, area to width ratio, patch size etc)

Area of Compensation Package

- Condition B18 requires an 'equivalent area' of regeneration or replanting
- Propose to secure Bushcare sites at a 1:1 ratio
- Current impact less than estimate in EA (current estimate 1.02 ha)
- Clearing comprised of:
 - weeds (0.98 ha),
 - Bushcare sites (0.0075 ha) and
 - planted trees (0.03 ha)

Site Management and Rehabilitation

- Propose to establish Bushcare site(s), including:
 - Preliminary weed control
 - Provision of local provenance species
 - Fencing of sites to ensure safety and limit access
- On-going management by Councils / Bushcare groups

Site Management and Rehabilitation (cont)

- Rehabilitate sites consistent with:
 - Modeled vegetation community from NPWS 2002
 - Greenway Revegetation and Bushcare Plan species list
- Revegetation will generally be consistent with:
 - Sydney Turpentine-Ironbark Forest
 - Sandstone Forest/Woodland (Shale/Sandstone Transition Forest)

Site Management and Rehabilitation (cont)

- The GreenWay Revegetation and Bushcare Site Management Plan template will be used to document the management objectives for the site
- Revegetation techniques and species selected will aim to ensure an understorey cover suitable for the maintenance of habitat for Long-nosed Bandicoot

Monitoring and Reporting

- Ecological Monitoring
 - Annual monitoring to be conducted to:
 - Confirm success of works conducted
 - Determine condition of threatened flora and fauna
 - Monitoring program will be designed based on number and size of sites
 - On-going monitoring program for 3 years
 - Monitoring results reported annually to OEH

Monitoring and Reporting (cont)

- Works Reporting:
 - Reporting template for GreenWay Bushcare sites completed to document all activities completed
 - Compiled by relevant supervisor
 - Provided to OEH on an annual basis

Long-term site protection

- Difficulty in providing in perpetuity protection for Bushcare sites
- Sites are too small to be considered for Biobank site protection
- Unable to guarantee volunteer management

Condition B18 Timing and Submission

Activity	Timing
Consultation with Councils and Bushcare Groups	Nov – Dec 2012
Draft submission to DP&I and OEH	21 Dec 2012
Final submission to OEH	TBC
Final submission to DP&I	21 Mar 2013
Implementation	From Apr 2013

MINUTES

Inner West Light Rail Extension: Biodiversity Compensation Package

Date	Thursday, 29 November 2012		
Time	1:30pm		
Venue	Boardroom, Project Site Office, 2 Smith Street, Summer Hill		
Chair	Tara Wilcoxon (TW) Environment & Planning Manager, Transport for NSW (TfNSW)		
Invitees	Tracy Reid Darren James Diane Challenor Harley McNamara Ros Gibbons Damon Bassett Doug Anderson Cameron Newling	TR DJ DC HM RG DB DA CN	Senior Manager, Environment, TfNSW Senior Environmental Consultant, Eco Logical Australia Community Engagement Manager, TfNSW Community Engagement Officer, TfNSW Coordinator, GreenWay Steering Committee A/Team Leader – Biodiversity, Marrickville Council Biodiversity Officer, Leichhardt Council Environment Manager, John Holland
Apologies:	Nick Chapman Adam Ward Jeremy Kidd Nicola Abrahams	NC AW JK NA	GreenWay Sustainability Project, Place Manager Biodiversity Officer, Ashfield Council / GreenWay Sustainability Project Project Manager, TfNSW Project Manager, John Holland

		Responsible/ Due Date
1.	Introductions and Meeting Objectives	
1.1	TW introduced the meeting, noting the apologies. RG noted that she works closely with Nick Chapman and would inform him of the outcomes of the meeting. Action: TW to brief Adam Ward directly. Post meeting note: TW spoke to Adam Ward on 4 Dec 2012 to run through the items presented on 29 November 2012. AW will confirm via email any further queries on the presented material.	TW
1.2	It was noted that the objective of the meeting was to provide an overview of the work done to date and the proposed approach for establishment of new Bushcare sites. TfNSW is seeking feedback on this approach.	Note
2.	Project Status Update and Condition B18	
2.1	TW gave a brief project status update. Further information can be found on TfNSW website: http://www.transport.nsw.gov.au/lightrail-program/inner-west-light-rail-extension	Note

		Responsible/ Due Date
2.2	<p>The Condition B18 was explained, highlighting key aspects that influence the preparation of the Package.</p> <p>DB queried how TfNSW would meet the 'in perpetuity' clauses of the Condition. TW explained the difficulties with achieving protection in perpetuity and that this was discussed with the Office of Environment and Heritage (OEH). OEH understand the difficulties and have directed TfNSW to negotiate this clause with Department of Planning and Infrastructure (DP&I).</p>	
2.3	<p>RG mentioned that funding could be provided into a long term 'sinking fund' where the interest earned is spent annually on maintenance of the new Bushcare sites. RG also stated that with the GreenWay Place Manager role now filled, the GreenWay has the potential to become an entity, which could in the future manage the sites long term on behalf of the Government.</p>	Note
3.	Biodiversity Compensation and Monitoring Package	
3.1	<p>DJ ran through the presentation (slides attached to these minutes). Additional notes / discussion is outlined below:</p>	Note
3.2	<p><u>Existing and proposed Bushcare sites</u></p> <p>DJ presented a map showing existing Bushcare sites and those proposed either in the Environmental Assessment (EA) for the project or the Greenway Revegetation and Bushcare Plan. DJ queried whether there were any other sites that TfNSW should consider.</p> <p>DA stated that the map did not include existing Bushcare sites in Leichhardt Park on the Iron Cove foreshore. DJ explained however that the map only includes those sites that are within or close to the light rail alignment.</p> <p>RG queried whether extensions to existing sites could be considered as there would already be volunteers active in those areas. DJ explained that OEH would not accept existing Bushcare sites as part of the Compensation Package, however, extensions could be considered.</p> <p>RG asked whether the intention was to create a new site in each Local Government Area (LGA). DJ explained that LGAs were not part of the selection criteria but could be considered in the selection process.</p> <p>DA stated that the <i>Darley Rd site</i> (Site 4 in the GreenWay Revegetation Plan) should be up for consideration as its position in a park adjacent the light rail corridor would provide good access and be a positive amenity feature that volunteers / park users could enjoy. DA estimated that an area of approx 3000m² could be available.</p> <p>Post meeting note: DA clarified the area of the Darley Rd site is smaller than identified in the meeting. The area is actually 1300 m².</p> <p>DB referred to the <i>cutting at Dulwich Hill</i> which contains remnant species which may be a suitable offset site. The area was identified within the RailCorp mainline land adjacent to Bedford Crescent. DJ stated that this area could be considered against the selection criteria, however access may be an issue.</p> <p>RG suggested that for any sites south of Jack Shanahan Park in Dulwich Hill, the community group, the Cooks River Mudcrabs should be consulted.</p>	Note
3.3	<p><u>Selection technique</u></p> <p>DJ explained the multi-criteria selection technique which includes safe access to the sites, support from Councils and community groups and ecological criteria. It was mentioned that OEH requested that sites be prioritised based on known Long-nosed Bandicoot (LNB) populations.</p>	

		Responsible/ Due Date
	<p>It was asked whether there had been any recent LNB sightings. RG stated there was an unconfirmed sighting in Spencer Street, Summer Hill and also a carcass in the grounds of Sydney University.</p> <p>Action: TW to also check with Adam Ward and Ben Khan for LNB monitoring.</p> <p>DA queried the focus on LNB habitat when the corridor is also good habitat for small bush birds. DJ explained that the intent of the Condition was to compensate for threatened species impact (i.e. LNB) however he acknowledged the suitable habitats for small birds.</p> <p>Action: TW made a request to Councils to provide any monitoring information for LNB or birds to TfNSW as this would help inform the selection of Bushcare sites.</p>	<p>TW</p> <p>DA/ DB</p>
3.4	<p><u>Preferred sites</u></p> <p>DJ presented the current list of TfNSW preferred sites for comment, noting constraints and positive aspects to each one.</p> <p>Comments were made regarding the size of the <i>Hercules Street site</i> (approx 1.06ha) in that it may be too much for volunteers or alternatively there may be more value in one larger site than a few smaller ones. TW noted that while TfNSW identified the whole area on the mapping, it was unlikely that the total area would be available. Constraints at the Hercules Street site include John Holland's current compounds, allowing access for other authorities (RailCorp and Sydney Water) as well as other potential project uses.</p> <p>DC noted that the vision of the GreenWay was to establish more bushcare sites along the corridor to provide habitat all the way along. The <i>Fred Street site</i> has been mentioned by a member of IWEG in one of the regular monthly interface meetings with IWEG.</p>	Note
3.5	<p><u>Bushcare site establishment and management</u></p> <p>DJ explained that TfNSW would establish the sites by providing:</p> <ul style="list-style-type: none"> – Preliminary weed control – Provision of local provenance species – Fencing of sites to ensure safety and limit access <p>RG stated that previously the GreenWay Sustainability Project provided ongoing funding for certain works which volunteers could not necessarily undertake.</p> <p>TR queried what the typical annual budget for Contractors additional to the work done by volunteers would be. RG/ DB suggested that the work required depended on the site and volunteer numbers. However Contractor work would typically require up to 4 visits per year to undertake 'big ticket items' such as using chainsaws to remove dead trees or structural maintenance e.g. fencing.</p> <p>DA stated that if the <i>Darley Rd site</i> was established as part of this Package than Leichhardt Council could maintain it.</p> <p>DA also stated that it would be preferable to recreate a functional habitat for the LNB and birds rather than trying to replicate Sydney Turpentine Ironbark Forest, for example.</p>	Note
3.4	<p><u>Monitoring and Reporting</u></p> <p>DJ presented the ecological monitoring program for the new Bushcare sites.</p> <p>DA queried how the data would be interpreted and how the success of a</p>	Note

		Responsible/ Due Date
	<p>site would be determined. RG queried whether indicator species (eg. Invertebrates) would be surveyed. DJ stated that the details of the monitoring program were still being developed in consultation with specialist ecologists.</p> <p>RG suggested that the Cooks River Ecological Monitoring Program would be a good reference.</p> <p>DJ presented the proposal for reporting for works.</p> <p>DA stated that if there were any sites within the Leichhardt area then, he would prefer to use LMC's existing Bushcare Management Plan.</p>	
4.	Condition B18 timing and submissions	
4.1	<p>TW explained the submission requirements for OEH and DP&I. Once the preferred sites are confirmed, TfNSW will be in contact with the relevant Council officers to further progress the implementation of the Package. This would likely be in early 2013.</p>	Note

Inner West Light Rail Extension

Revegetation and Biodiversity Compensation and Monitoring Package

Agenda

1. Introductions & Meeting Objectives
2. Project Status Update and Condition B18
3. Biodiversity Compensation and Monitoring Package
 1. Potential Bushcare sites and selection technique
 2. Area of compensation package
 3. Site management and rehabilitation techniques
 4. Monitoring and reporting requirements
4. Condition B18 timing and submission

2

Meeting Objectives

- Provide project update and outline the requirements of the Condition of Approval
- Initial proposal on the structure and contents of the Biodiversity Compensation and Monitoring Package
- All material presented is for discussion
- No details have been finalised
- Looking for feedback and comments on how to improve the approach

3

Project Status Update



4

Project Status update

- Contractor: John Holland
- Management Plans approved by DP&I on 31 October 2012
- Site establishment, clearing & grubbing, bridge protection



Condition B18

The Proponent shall develop and implement a Revegetation and Biodiversity Compensation and Monitoring Package to outline how ecological impacts will be compensated for and habitat monitored within the corridor, Bushcare and other appropriate sites.

The Package shall be prepared and submitted to the Director General for approval prior to construction, unless otherwise agreed by the Director-General, and in consultation with DECCW, relevant Councils, the GreenWay Sustainability Project and community groups including the GreenWay Steering Committee and the IWEG and have consideration of the Greenway Revegetation and Bushcare Plan. The Package should ensure that all vegetation loss, including native vegetation and weeds, is offset by an equivalent area of regeneration or replanting, and include:

6

Condition B18

- the identification of the **extent and types of habitat impacts and habitat loss or degradation** as a result of the final design of the project;
- the **objectives and biodiversity outcomes to be achieved** through impact mitigation and compensation measures;
- details of impact mitigation measures, including infrastructure designs that facilitate fauna movements;
- details of the offset measures selected to compensate for the loss of vegetation, including the identification of potential Bushcare sites;
- measures for the management, protection and monitoring of the compensatory sites, including the:**
 - monitoring of the condition of fauna and flora species and ecological communities at offset locations;
 - the methodology for the monitoring program(s), including the number and location of monitoring sites, and the sampling frequency at these sites;
 - provisions for the annual reporting of the monitoring results for a set period of time as determined in consultation with the DECCW; and
- timing and responsibilities for the implementation of the provisions of the Package.

7

Condition B18

Any land offset must be enduring and include a conservation mechanism which protects and manages the land in perpetuity.

Where **monitoring shows inadequate compensatory habitat results, remedial actions** must be undertaken to ensure that the objectives of the Package are achieved.

8

Biodiversity Compensation and Monitoring Package

- Potential Bushcare sites and selection technique
- Area of compensation package
- Site management and rehabilitation techniques
- Monitoring and reporting requirements

Existing Bushcare Sites

- Existing sites along alignment
- Sites generally located mid-way along the IWLRE alignment
- Total ~0.55 ha
- Leased by Councils from RailCorp
- See map



QU: Have we missed any existing sites?

10

Potential Bushcare Sites and Selection Technique

- Preferred mechanism for delivery of biodiversity compensation package
- Several advantages:
 - Proximity to impact site (IWLRE alignment).
 - Established mechanism with operating framework.
 - Several potential sites previously identified.

Potential Bushcare Sites and Selection Technique (cont)

- 26 potential Bushcare sites identified in GreenWay Revegetation and Bushcare Plan
- IWLRE EA identified six of these sites as potential bushcare sites to compensate for impacts
- Remaining five sites total ~2 ha
- Sites predominantly located at southern end of IWLRE
- See map

QU: Are there other sites to consider?

Potential Bushcare Sites and Selection Technique (cont)

- Sites to be selected based on multi-criteria selection:
 1. Ability to safely **access** the Bushcare site
 2. **Support** from IWEG/Council/Local community for the Bushcare site
 3. **Ecological criteria** based on GreenWay Revegetation and Bushcare Plan or other values (vegetation community, stepping stones, connectivity, area to width ratio, patch size etc)
- Priority on areas near known as Long-nosed Bandicoot habitat (OEH)

QU: Do Councils have any recent LNB sighting info?

Potential Bushcare Sites and Selection Technique (cont)

- Current preferred options are:
 - Loftus St
 - Fred St
 - Little St
 - Hercules St
- Constraints and positive aspects to all options
- IWEG feedback

Area of Compensation Package

- Condition B18 requires an 'equivalent area' of regeneration or replanting
- Propose to secure Bushcare sites at a 1:1 ratio
- Current impact less than estimate in EA (current estimate 1.02 ha)
- Clearing comprised of:
 - weeds (0.98 ha),
 - Bushcare sites (0.0075 ha) and
 - planted trees (0.03 ha)

Site Management and Rehabilitation

- Propose to establish Bushcare site(s), including:
 - Preliminary weed control
 - Provision of local provenance species
 - Fencing of sites to ensure safety and limit access
- Licensed between landowner and Council
- On-going management by Bushcare groups, coordinated by Council
- TfNSW would have ultimate responsibility of ensuring the Condition of Approval is met

QU: Will this approach be supported by Bushcare groups?

Site Management and Rehabilitation (cont)

- Rehabilitate sites consistent with:
 - Modeled vegetation community from NPWS 2002
 - Greenway Revegetation and Bushcare Plan species list
- Revegetation will generally be consistent with:
 - Sydney Turpentine-Ironbark Forest
 - Sandstone Forest/Woodland (Shale/Sandstone Transition Forest)

Site Management and Rehabilitation (cont)

- Revegetation techniques and species selected will aim to ensure an understorey cover suitable for the maintenance of habitat for Long-nosed Bandicoot
- The GreenWay Revegetation and Bushcare Site Management Plan template will be used to document the management objectives for the site

Monitoring and Reporting

- Ecological Monitoring
 - Annual monitoring to be conducted by ecologist to:
 - Confirm success of works conducted
 - Determine condition of threatened flora and fauna
 - Monitoring program will be designed based on number and size of sites
 - On-going monitoring program for 3 years
 - Monitoring results reported annually to OEI & shared with Councils

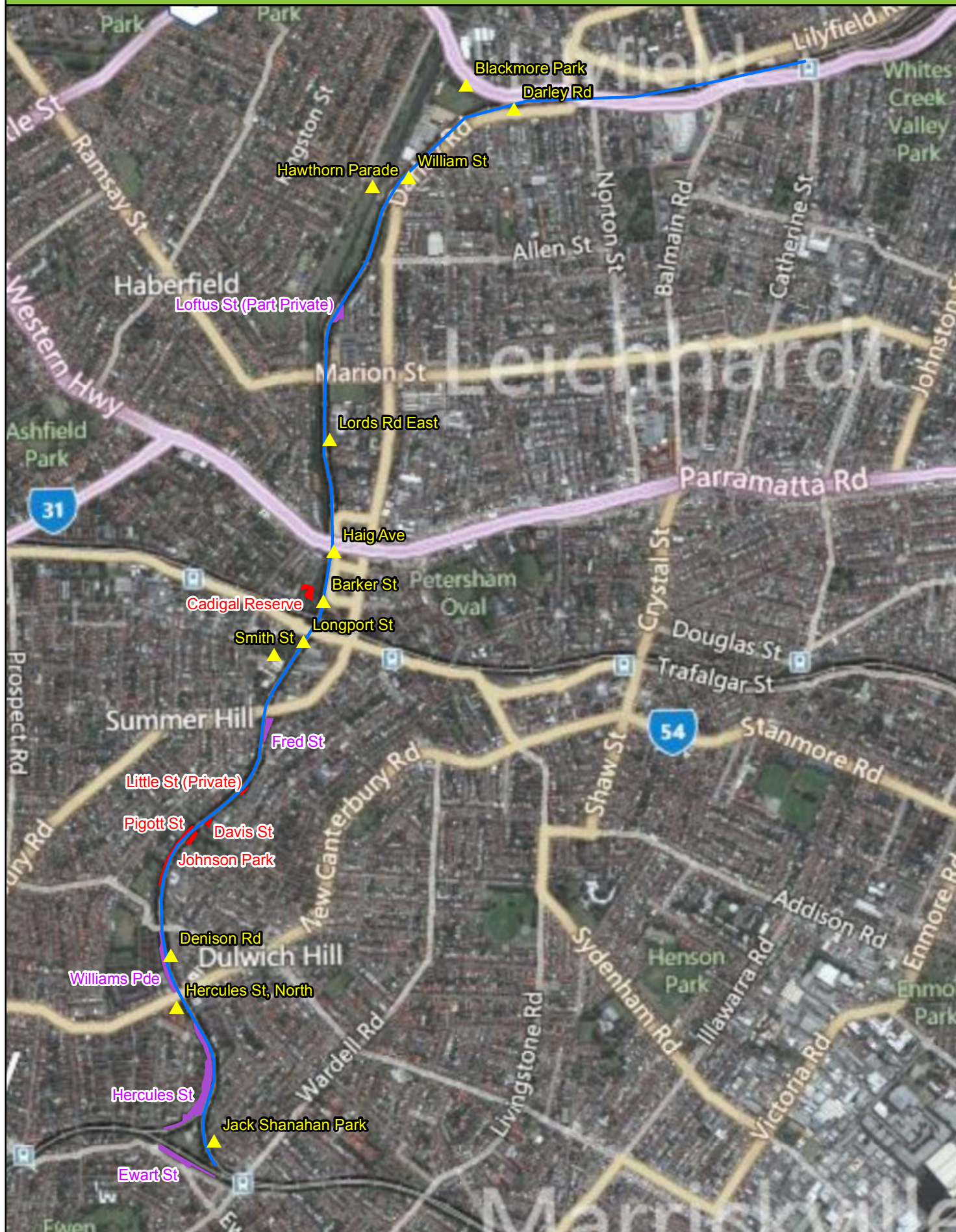
Monitoring and Reporting (cont)

- Works Reporting:
 - Reporting template for GreenWay Bushcare sites completed to document all activities completed
 - Propose to have works reports compiled by Council
 - Provided to OEI on an annual basis

Condition B18 Timing and Submission

Activity	Timing
Consultation with Councils, OEI and Bushcare Groups	Nov – Dec 2012
Draft submission to DP&I and OEI	21 Dec 2012
Final submission to OEI	TBC
Final submission to DP&I	29 Mar 2013
Implementation	From Apr 2013

Current and Potential Bushcare Sites



Legend

Bushcare Sites

Existing site

Potential future site- recommended in EA

Other Greenway Potential Sites

Not recommended in EA

Image: Microsoft Virtual Earth

0 95 190 380
Meters

Projection: GDA 1994 MGA Zone 56



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MINUTES

Inner West Environment Group – December 2012 monthly meeting

Date	06/12/2012		
Time	6.30pm – 7.30pm		
Venue	John Holland site office, 2 Smith Street, Summer Hill		
Chair	Coral Reynolds, John Holland, Acting Communications and Stakeholder Manager		
Attendees	Deborah Auchinachie Jo Blackman Chris King James Tremain Geoff Pollard Ros Gibbons Damon Bassett Darren James Tracy Reid Tara Wilcoxon Diane Challenor Harley McNamara Anthony McMahon Cameron Newling Coral Reynolds	DA JB CK CF GP RG DB DJ TR TW DC HM NA CN CR	Inner West Environment Group Inner West Environment Group Inner West Environment Group Inner West Environment Group Inner West Environment Group Greenway Coordinator Marrickville Council, Environment Officer - Biodiversity Ecological TfNSW, Senior Manager Environment TfNSW, Environment Manager TfNSW, Community Engagement Manager TfNSW, Community Engagement Officer John Holland, Construction Manager John Holland, Environment Manager John Holland, Communications and Stakeholder Manager
Apologies	Joe Pereira	JP	John Holland, Communications and Stakeholder Manager
Action Items			Person/Date
1.	Introductions CR welcomed attendees.		N/A
2.	Biodiversity Compensation Package TW advised that the proposal is yet to be completed and that TfNSW were looking for feedback as per the Project Condition of Approval B18. Consultation has been undertaken with the Office of Environment and Heritage, and Ashfield, Leichhardt and Marrickville Councils. Ecological were preparing the package which relates how the environment will be monitored, and provide measures which allow for remedial action where monitoring shows inadequate compensation of habitats. DJ provided an overview of the Biodiversity Compensation Package, specifically: <ul style="list-style-type: none"> Existing Bushcare sites including total area and leasing arrangements. Excluded sites due to distance from the railway line. Identification of 26 potential new Bushcare sites along the alignment which will be selected on a multi-criterion basis of ability to safely access site; support from IWEG, Councils and the community; and ecological parameters based on the Greenway Revegetation and Bushcare Plan. There will be a priority on areas known as Long-nosed Bandicoot habitat. Extension of existing Bushcare sites. TfNSW preferred options are Loftus, Fred, Little and Hercules Streets. 		Note

	<p>Leichhardt Council and Marrickville Council suggested including Darley Road and Dulwich Hill cutting respectively as potential sites.</p> <p>Maps were provided and meeting attendees reviewed these. The pros and cons of each site were discussed including access required by service providers, and Dulwich Hill Public School's possible involvement which was viewed as not feasible due to safety reasons.</p> <p>TfNSW advised they were investigating longer term funding options. Ongoing management by Bushcare groups would be coordinated by Marrickville Council with monitoring being undertaken annually for a 3 year period to monitor the success of sites.</p> <p>TW reviewed the timing of submissions as follows:</p> <ul style="list-style-type: none"> • Final submission to OEH – date to be confirmed • Final submission to DP&I – 29 March 2013 • Implementation – from April 2013 <p>DA asked if weeds at sites would be completely cleared. DJ advised that weeds would be selectively cleared on a site by site basis.</p> <p>GP advised that water supply on sites is an issue. DA discussed the difficulty of lack of storage of tools on sites and suggested a small storage facility on site at Jack Shanahan Park as part of the planned refurbishment.</p> <p>CK asked if RailCorp had done any work at Dulwich Hill Cutting. DB advised the bush regeneration work was possibly undertaken 10 years ago.</p> <p>DA requested a copy of the presentation with maps be provided to IWEГ.</p>	
3.	<p>IWEГ activities update</p> <p>DA advised the meeting that the Davis Street working bee was successful with the relocation of plants for the future Waratah Mills light rail stop.</p> <p>IWEГ expressed their appreciation for being informed about the high voltage cable running through the site.</p>	Note
4.	<p>John Holland – contractor update</p> <p>TM provided an overview of the scope and timing of works being undertaken along the entire alignment.</p>	Note
5.	<p>Davis Street Bushcare Site</p> <p>TM advised that additional clearing would be required for the Davis St site to enable more investigations to be undertaken on the bridge. A decision will be made in the next few weeks with a possible recommendation to keep a 3m area clear.</p> <p>The meeting discussed the possible use of groundcover for replanting to ensure roots would not grow deep under the structures.</p>	Note
6.	<p>Urban Design and Stop Access Plan – IWEГ Submission</p> <p>CR advised that JHG had received the IWEГ submission. The community feedback had been compiled and was currently being analysed. A review of the IWEГ submission by JHG would be undertaken and an update would be provided at the next meeting.</p>	JP 7/2

7.	<p>Other Business</p> <p>CN provided a list of species to be planted at light rail stops and that a planting palette for each stop was in the UDSAP. Native plants of local provenance would be made available at Marrickville Nursery. CN advised that quantities were still being determined and that there were some changes to species including rock orchids.</p> <p>DB advised he had reviewed the species list and has suggested alternatives.</p>	Note
8.	<p>Next Meeting</p> <p>It was agreed that the meeting would break over the holiday period and that the next meeting will be held on 7 February. JHG will maintain contact with IWEF over the holiday period.</p>	Note

Inner West Light Rail Extension

Revegetation and Biodiversity Compensation and Monitoring Package

Presentation Objectives

- Outline the requirements of the Condition of Approval
- Discuss initial proposal on the structure and contents of the Biodiversity Compensation and Monitoring Package
- Identify key potential Bushcare sites and discuss IWEG thoughts and preferences
- All material presented is for discussion
- No details have been finalised

2

Condition of Approval B18

- Condition of approval requires TfNSW to prepare a Revegetation and Biodiversity Compensation and Monitoring Package
- Package is currently being prepared
- Consultation has been conducted with OEH and Councils
- Conditions specifically refer to *'Bushcare or other appropriate sites'*

3

Condition of Approval B18

- The condition requires TfNSW to:
 - Provide details on how ecological impacts will be compensated and monitored
 - Replace all vegetation loss with an equivalent area of regeneration or replanting
 - Outline measures for the management, protection and monitoring of the compensatory sites
 - Provide measures which allow for remedial actions where monitoring shows inadequate compensatory habitat results

4

Proposal

- Bushcare sites are the preferred mechanism for delivery of biodiversity compensation package
- Several advantages:
 - Proximity to impact site (IWLRE alignment)
 - Established mechanism with operating framework
 - Several potential sites previously identified

Existing Bushcare Sites

- Existing sites along alignment
- Sites generally located mid-way along the IWLRE alignment
- Total ~0.55 ha
- Leased by Councils from RailCorp
- See map



QU: Have we missed any existing sites?

6

Potential Bushcare Sites

- Sites to be selected based on multi-criteria selection:
 1. Ability to safely **access** the Bushcare site
 2. **Support** from IWEG/Council/Local community for the Bushcare site
 3. **Ecological criteria** based on GreenWay Revegetation and Bushcare Plan or other values (vegetation community, stepping stones, connectivity, area to width ratio, patch size etc)
- Priority on areas near known Long-nosed Bandicoot habitat (OEH)

Potential Bushcare Sites

- 26 potential Bushcare sites identified in GreenWay Revegetation and Bushcare Plan
- IWLRE EA identified six of these sites as potential Bushcare sites to compensate for impacts
- Sites total ~2 ha
- Sites predominantly located at southern end of IWLRE
- Possibility to extend existing sites
- See map

QU: Are there other sites to consider?

Potential Bushcare Sites

- TfNSW preferred options for discussion are:
 - Loftus St
 - Fred St
 - Little St (extension to Short Street)
 - Hercules St
- Council suggested sites are:
 - Darley Road
 - Dulwich Hill Cutting
- Constraints and positive aspects to all options
- See site plans

QU: Do IWEG have preferred sites to manage?

Other Details

- Propose to secure Bushcare sites at a 1:1 ratio
- Establishment of Bushcare site(s) will include:
 - Preliminary weed control
 - Provision of local provenance species
 - Fencing of sites to ensure safety and limit access
- Investigating any longer term funding
- Habitat to reflect that required by Long-nosed Bandicoot using native species of local provenance

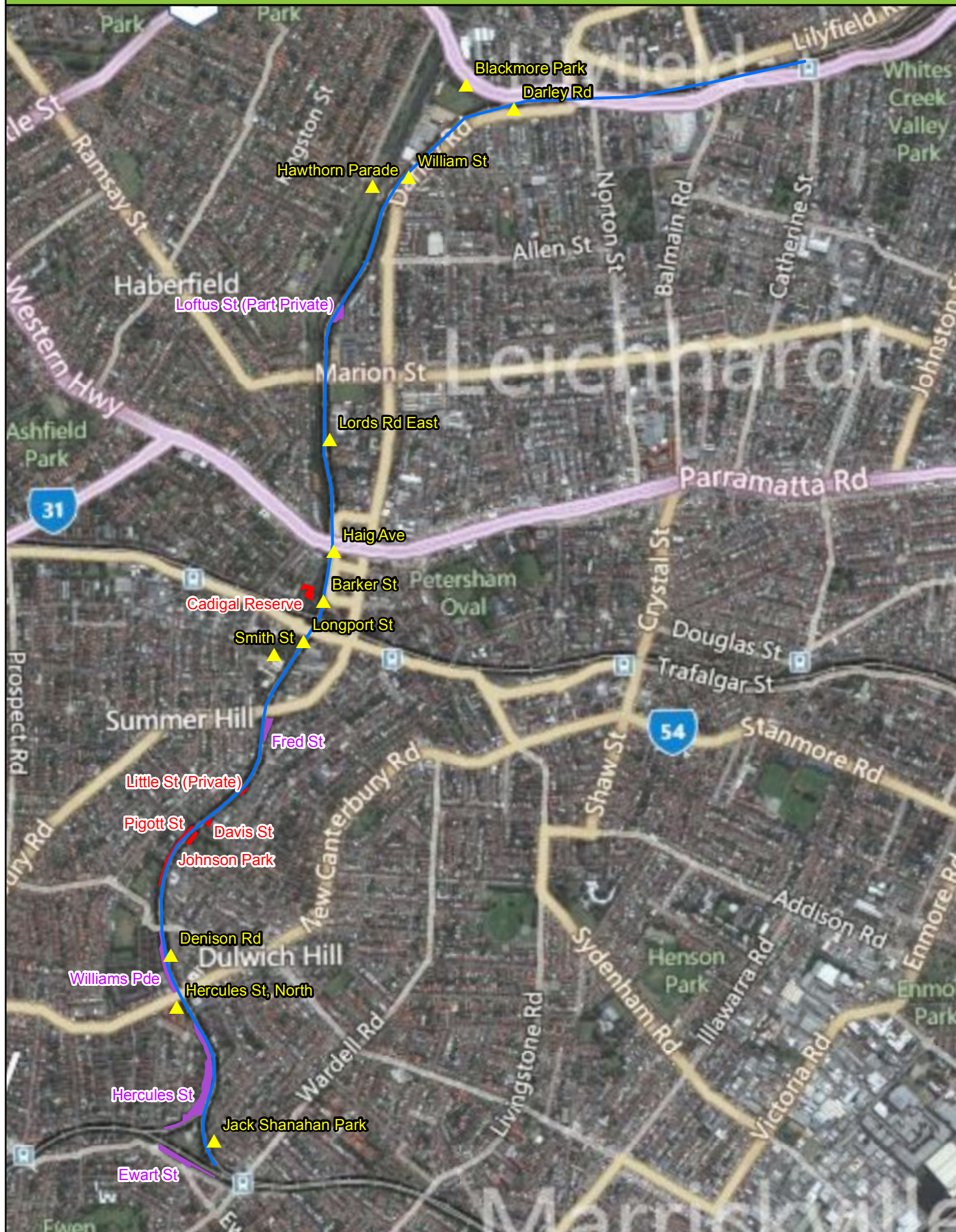
Ongoing Monitoring

- On-going management by Bushcare groups, coordinated by Council
- Reporting on works undertaken
- Annual ecological monitoring for 3 years to confirm success of works conducted and determine condition of threatened flora and fauna

Condition B18 Timing and Submission

Activity	Timing
Consultation with Councils, OEH and Bushcare Groups	Nov – Dec 2012
Draft submission to DP&I and OEH	21 Dec 2012
Liaison with Councils	Feb - Mar 2013
Final submission to OEH	TBC
Final submission to DP&I	29 Mar 2013
Implementation	From Apr 2013

Current and Potential Bushcare Sites



Legend

Bushcare Sites

Existing site

Potential future site- recommended in EA

Other Greenway Potential Sites

Not recommended in EA

Image: Microsoft Virtual Earth

0 95 190 380
Meters

Projection: GDA 1994 MGA Zone 56



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Light Rail Biodiversity Compensation Package

**Response to Transport for NSW (TfNSW) bushcare site
proposal from Inner West Environment Group (IWEG)
and Marrickville Council (MC)**



NEW BUSHCARE SITES: TfNSW preferred options

Loftus Street, Leichhardt

Not a feasible site for IWEG.

This site currently has a local residents group who regularly weed and plant. IWEG think it would be more appropriate for TfNSW and/or Leichhardt Council to engage with this group about the Loftus Street site which could also include an invitation to the monthly JH / TfNSW / IWEG meetings.

Fred Street, Lewisham

IWEG and MC agree that this is a good site for volunteers that provides connection to the Little Street site and proposed extension as well as good biodiversity connectivity to IWEG sites to the south and future biodiversity extension areas on council verges.

The site's dense weedy vegetation currently supports many small birds. There was a recent Long-nosed Bandicoot sighting in September 2012 on the western side of the rail line in this area. It is important that works on this site be staged to minimise potential impacts to biodiversity.

Little Street, Dulwich Hill

IWEG and MC agree that this is a good site for volunteers. It potentially provides connection to the proposed Fred Street site as well as good biodiversity connectivity to IWEG sites to the south.

As half of this site has been planted already, from Nelson Street halfway to Little Street IWEG feel it would be achievable to build on this work to extend the site to Little Street. It can potentially be linked to the Fred Street site, but some parts of the corridor are extremely narrow.

Hercules Street, Dulwich Hill

IWEG and MC agree it would only be feasible to take part of this site (the northern third section) with a view to potentially extending the site south in the future.

The site covers a large area (1.2 ha) with dense weed cover which is currently providing valuable habitat for small birds, reptiles, invertebrates and potentially Long-nosed Bandicoots. It is important that works on this site be staged over time to minimise potential impacts to biodiversity.

Whilst TfNSW will establish the bushcare sites (including preliminary weed control, provision of local provenance species and fencing for safety and access), an allowance for the future provision of the GreenWay shared access pathway should also be included in the planning of any works on this site.

Both MC and TfNSW will need to consider the provision of water on site at all the proposed Bushcare sites to ensure revegetation works have the best chance of succeeding.

NEW BUSHCARE SITES: Council suggested sites

Darley Road, Leichhardt

Not a feasible site for IWEG. This is currently a Leichardt Council park and is more appropriately converted to a bushcare site by Leichardt Council.

Dulwich Hill Cutting, Bedford Crescent, Dulwich Hill

IWEG and MC agree that the remnant grassy vegetation on this site, although degraded, has good potential for a bushcare site using natural/assisted regeneration techniques. The site offers volunteers a unique opportunity to work with local remnant vegetation as well as improving and extending into the streetscape and environment around the rail and light rail stations.

Although some of this site is hard to access due to the constraints of the sandstone cutting, the eastern part is flat and easily accessible. The remnant cutting areas would require periodical maintenance using bush regeneration contractors.

DULWICH HILL STATION - OTHER IMPORTANT REMNANT AREAS

IWEG and MC agree restoration of these remnant areas around the rail station are important for the community and valuable for local biodiversity. Within a highly urbanised landscape the sites are significant and the implementation of the light rail presents a renewed opportunity to assess these areas and how they can be restored and maintained going forward.

Fencing will be required to ensure adequate safety and workability of these sites as they are adjacent to rail cuttings.

Ewart Street, Dulwich Hill and Dudley Street, Dulwich Hill

The Ewart Street site (as recommended in the EA) and the Dudley Street site have easy access, are flat areas that have good potential for bushcare sites using natural/assisted regeneration techniques. They offer volunteers a unique opportunity to work with local remnant vegetation while also providing grassy understorey habitat for Long-nosed Bandicoots.

The Dulwich Hill station sites (Bedford Crescent, Dudley Street and Ewart Street) have the potential to be restored and maintained through a monthly rotating roster.

There is a valuable opportunity to restore and maintain the remnant vegetation on these sites collaboratively through bushcare and bush regeneration contractors. This could be negotiated as part of (or separate to) the Light Rail Biodiversity Compensation package.

The Parade, Dulwich Hill

In the process of looking at the remnant areas around Dulwich Hill station IWEG and MC considered The Parade as a potential bushcare/contractor site. However on closer inspection the site is narrow for the most part and hard to access for volunteers.

However, there is a valuable opportunity to restore and maintain the site's remnant vegetation through bush regeneration contractors which could be negotiated as part of (or separate to) the Light Rail Biodiversity Compensation package. The wide council verge along The Parade provides potential opportunity for future biodiversity extension areas.

NEXT STEPS

It should be noted that existing bushcare sites total approximately 0.55 ha and the proposed new areas total approximately 1.1 ha. Although most of the existing sites are now in maintenance, IWEG will need to look at a new model of working to accommodate any new sites identified in this proposal that are agreed and adopted. MC would look at the potential of establishing a bushcare group in the sites that IWEG are unable to commit to (selected sites outside the GreenWay corridor and within the Marrickville LGA). There will be financial implications for MC and IWEG in undertaking the restoration and maintenance (in perpetuity) of any proposed new sites. This will need to be addressed as part of the Light Rail Biodiversity Compensation package.

As next steps towards site selection IWEG and MC request:

- Further specific site details through on-ground site assessments with TfNSW;
- Details regarding land lease between MC and RailCorp;
- Long-term funding details as part of council and community managing the sites in perpetuity; and
- Details on monitoring framework and associated methodology for the selected sites.

Once sites have been selected, IWEG and MC recommend mechanisms to ensure positive outcomes for the sites over the long-term including:

- IWEG and MC have input on site preparation works before handover as well as provisions and requirements (water, tool sheds etc);
- Site management plans / work plans are developed with input from IWEG and MC for each bushcare site that can be easily used, implemented and updated by community groups.

CONTACTS

IWEG

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Marrickville Council

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MINUTES

Inner West Light Rail Extension – Biodiversity Compensation Package Update

Date	Tuesday 26 February 2013		
Time	11:30am		
Venue	Project Office (2 Smith Street, Summer Hill)		
Chairperson	Tara Wilcoxon, Environment & Planning Manager, Transport for NSW (TfNSW)		
Invitees	Tracy Reid Georgina Dorsett Jeremy Kidd Douglas Lindsay Ros Gibbons Adam Ward Doug Anderson Damon Bassett Chris King Geoff Pollard	TR GD JK DL RG AW DA DB CK GP	Senior Manager, Environment, TfNSW Principal Manager, Community Engagement, TfNSW Project Manager, TfNSW Community Engagement Officer, TfNSW Greenway Coordinator, Greenway Steering Committee Biodiversity Officer, Ashfield Council Biodiversity Officer, Leichhardt Council A/Team Leader Biodiversity, Marrickville Council IWEG Member IWEG Member

	The following minutes represent the Key Issues discussed and Actions arising from the meeting.
1.	Introductions
1.1	<p>This meeting was at the request of the Greenway Steering Committee and Councils for TfNSW to provide an update on the progress with the Compensation Package. TW stated that TfNSW is still working through the detail of the Package and meeting the Condition so there would be some aspects that are still unknown today.</p> <p>Condition B18 wording was included in the agenda as well as the items for discussion forwarded by the invitees prior to the meeting.</p>
2.	Condition B18 Update
2.1	<p>Reference was made to Condition B18 within the agenda and reminded the attendees that the project is compensating for the loss of potential Long-nosed Bandicoot (LNB) habitat. During consultation with Conservation Officers at Office of Environment and Heritage (OEH), it was stressed that TfNSW should focus on known bandicoot populations and habitats.</p>

3.	Site Selection
3.1	Councils are taking a joint approach to the Package. Ashfield Council's General Manager supports cross-corridor management of the Package. The Greenway Steering Committee has a preference for compensation sites within the corridor. RG requested an update on the issues.
3.2	<p>TfNSW is currently working through issues encountered with some of the sites identified within the Greenway Bushcare and Revegetation Plan and other suggested sites. Since the new year, detailed investigations have shown that due to operational or safety constraints the area within the corridor that was proposed at previous consultation was either not available or smaller than originally anticipated.</p> <p>In looking at options TW reported that she rang the Council officers asking whether there were any other appropriate sites outside the corridor as this is the usual mechanism of offsetting undertaken on TfNSW projects. However feedback was received from local stakeholders that these sites were not preferred.</p> <p>In addition TW stated that as another 'top-up' option TfNSW has been investigating the possibility of supporting Priority Actions (e.g. monitoring) for the LNB with the Threatened Species Unit of OEH.</p> <p>RG stated that supporting monitoring (Priority Actions) would be well received.</p>
3.3	<p>Sites inside corridor include:</p> <ul style="list-style-type: none"> • Loftus Street, Leichhardt • Fred Street (also known as Old Canterbury Road) • Extension of Little Street • Hercules Street North <p>Other sites outside the corridor being considered include:</p> <ul style="list-style-type: none"> • Leichhardt Park • Darley Road • Richard Murden Reserve • Cadigal Reserve (not in Greenway Bushcare and Revegetation Plan) • Petersham Park (not in Greenway Bushcare and Revegetation Plan) • Hoskins Park (not in Greenway Bushcare and Revegetation Plan) • Johnson Park (not in Greenway Bushcare and Revegetation Plan) <p>AW requested feedback from TfNSW on why other sites within the Greenway Bushcare and Revegetation Plan were not considered feasible.</p> <p>Action: TW to provide stakeholders with analysis on all considered sites.</p> <p>It was stressed that the Package is not just establishment and management but also protection of the sites. GD stated that without protection of the sites, it can not be guaranteed that in the future the land would not be used for operational purposes, sold or fenced off.</p>
3.4	<p>Discussions over the Hercules St (West Fork) site:</p> <ul style="list-style-type: none"> • Ballast removal is required on this site which is costly. In addition, the ballast and underlying soil is likely to be contaminated. • TfNSW must balance all the requirements of the Condition B18 which include improving habitat, offsetting vegetation clearing and finite budget. The requirements of OEH and DP&I need to be satisfied. • By focussing all efforts on the West Fork, this may not meet TfNSW's obligations. <p>Action: TfNSW to provide stakeholders information on remediation requirements (e.g capping) of the West Fork</p>

3.5	TfNSW can get local stakeholders involved when sites have been selected, as due to construction it is difficult to access the corridor. Next steps are to finalise proposal including sites and then look at conducting site visits as required.
3.6	Post Meeting Note: RG emailed TW and stated: <i>a motion went or is going up to all 3 councils supporting the compensation sites being in the corridor as a first preference and external but in the GreenWay corridor for the second preference. Sites which are not in the GreenWay corridor will not generally be supported by Council. The GreenWay Bushcare and Revegetation Plan is the key document for decision making.</i>
4.	Site Establishment
4.1	<p>Site establishment will require fencing and gates which TfNSW will undertake. Initial site preparation is likely to be done by a contractor engaged by TfNSW. TfNSW has included provision of plant species.</p> <p>RG stated that it would be beneficial for volunteers to be involved in the planting of species. This is also an opportunity to promote the sites with an awareness campaign. TfNSW will work with the groups to ensure there is good local ownership of the sites.</p>
4.2	There is no operational water in the corridor. John Holland brings its own water when working in the corridor. Bushcare groups will need to factor this into any agreement with Council.
5.	Management and Monitoring
5.1	<p>TfNSW is working on a proposal to provide for ongoing management of the compensation site, which is going through internal TfNSW signoff processes. This will include a fixed amount provided to Council for management, after which Councils will need to take responsibility for the ongoing management. This is consistent with packages on other projects prepared by TfNSW.</p> <p>Examples from previous TfNSW projects include purchasing and providing a parcel of land to National Parks to maintain in perpetuity or providing vegetation offsets to Council with a finite funding package..</p> <p>Once internal agreement has been reached within TfNSW and the proposal is accepted in principle by DP&I and OEH, TfNSW will approach the local stakeholders with an offer / proposal for the Package. This is likely to be within the next month to six weeks.</p> <p>Following this, a formal agreement will be put in place. This will be in the form of a Deed of Agreement or Memorandum of Understanding.</p>
5.2	<p>TfNSW will work with local stakeholders to prepare plan of management for the sites.</p> <p>Transport Projects is the delivery arm of TfNSW. When Transport Projects vest ('hand over') projects to the operator, included is all agreements, operational management requirements or land protections.</p>
5.3	<p>Licences would be required for access to the sites within the corridor. Licences would be between the land owner (RailCorp at present) and Council in the form of one year rolling licenses. Licences are separate to the plan of management and protections of the land. Any sites outside the corridor would not need a licence.</p> <p>DB requested whether longer term could be investigated for the licences. AW stated that timely agreement of the licences were crucial to making the sites work.</p>

5.4	<p>“In perpetuity” is mentioned in the condition. TfNSW is talking to DP&I and OEH about how this can practically work for this project. BioBanking is the only legal way to protect an offset in perpetuity and this isn’t appropriate for the size of land in the corridor.</p> <p>There are two parts to perpetuity – protection and management. As the Proponent, the requirement to meet the Condition will always come back to TfNSW.</p>



MINUTES

Inner West Light Rail Extension: Biodiversity Compensation Package Update

Date	Wednesday, 22 May 2013		
Time	1:00 – 2:30pm		
Venue	Project Office (2 Smith Street, Summer Hill)		
Chairperson	Tara Wilcoxon, Environment & Planning Manager, Transport for NSW (TfNSW)		
Invitees	Tracy Reid Julie Sundqvist Douglas Lindsay Ros Gibbons Adam Ward Jon Steibel Damon Bassett	TR JS DL RG AW JS DB	Senior Manager, Environment, TfNSW A/Principal Manager, Community Engagement, TfNSW Community Engagement Officer, TfNSW Coordinator; Greenway Steering Committee Biodiversity Officer, Ashfield Council Team Leader, Environmental Strategy, Leichhardt Council A/Team Leader Biodiversity, Marrickville Council.
Apologies:	Doug Anderson Diane Challenor	DA DC	Biodiversity Officer, Leichhardt Council Community Engagement Manager, TfNSW

1.	Introductions and Objectives
1.1	TW noted that Diane Challenor was unable to attend so Julie Sundqvist is her replacement. Also Doug Anderson was unavailable so Jon Steibel is his replacement.
2.	Previous Actions
2.1	<p>TW presented and tabled responses for the previous actions from the meeting on 26 February 2013.</p> <p>The table appended to the agenda (attached to these minutes) contains TfNSW's analysis of all the sites considered for the compensation Package. The table includes opportunities, issues and constraints.</p> <p>To remediate the West Fork, the requirement would be to remove all of the ballast. RailCorp have given TfNSW an estimate to remove, recycle and dispose (as necessary) the ballast, which is over \$100,000. This does not include any contamination testing or preparation works.</p> <p>RG asked if that means that the West Fork has been discounted from the Package. TR confirmed that yes it has been.</p>

3.	Consultation with other Agencies
3.1	<p><u>Office of Environment and Heritage (OEH)</u> OEH wanted TfNSW to focus on the Long-nosed Bandicoot areas of known habitat and provided TfNSW with a map of the OEH Bandicoot records near the corridor. TW tabled the map.</p> <p>RG stated these records are incomplete as there have been sightings in Canada Bay, near the Great North Road and around Callan Park. TW stated that OEH provided these records that they felt were relevant to the project.</p> <p>OEH suggested that rather than funding the Priority Actions for the LNB species, that TfNSW put funding into an academic study as it would provide a better conservation outcome.</p> <p>Action: TW to speak to OEH about any records from the northern section of the project.</p>
3.2	<p><u>Department of Planning and Infrastructure (DP&I)</u> While OEH's focus is only on habitat in the LNB range to be compensated, DP&I stated that the intention of the condition is that all habitat is compensated.</p>
3.3	<p>The Package that TfNSW presented at the meeting has been informally accepted by OEH and DP&I as meeting the intent/ requirements of the Condition.</p>
4.	The Package
4.1	<p><u>Package Development</u> TW talked through the slide on Package Development. All previous Council and GSC consultation has been incorporated into the formulation of the Package.</p> <p>Based on OEH advice, the areas of clearance were split between areas within the LNB range and areas outside of the LNB range. TW stated that from this split, analysis of the sites indicated that TfNSW could compensate all the area outside of the LNB range but not all within the LNB range.</p> <p>RG stated that the LNB population covers the entire Marrickville, Leichhardt, Ashfield and Canada Bay areas, therefore queried whether other sites could not be found in the greater LGAs?</p> <p>TW advised that TfNSW have previously been advised by Councils/ GSC that all sites to be considered needed to be within the Greenway Revegetation and Bushcare Plan (Greenway Plan). Further, RG had previously advised the hierarchy of offset sites and that planting in parks such as Petersham, Hoskins and Johnson Parks which were not in the Greenway Plan would not be acceptable.</p> <p>TW further advised that OEH's preference was for compensation to directly assist the LNB population identified in their map such as at Petersham Park, Hoskins Park and Johnson Park.</p> <p>RG queried whether more land within the corridor was not available.</p> <p>TW stated that for various operational and safety reasons, further land has been assessed as not feasible. In addition OEH did not think that multiple small sites provided a good conservation outcome for the LNB.</p> <p>RG stated that she is very disappointed that extra land within the corridor was not available and thinks Councillors will be too.</p>

4.2	<p><u>Package Detail</u></p> <p>TW presented the habitat creation sites on the Fact Sheet and showed the map of how they sit in relation to the corridor. General discussion of the sites / areas are outlined below:</p> <p><i>Leichhardt Park:</i> DB stated that this site jumps out as it is far away from the corridor. TW stated that Leichhardt Park was introduced as it is in the Greenway Plan and because park sites (Hoskins, Petersham and Johnson) were not supported by Councils. The site was suggested by Doug Anderson during previous consultation.</p> <p>JS stated that since the park sites were nominated by Doug (Leichhardt Park and Darley Road), Council had passed a recommendation in the March 2013 meeting for a preference for sites within the rail corridor.</p> <p>TW stated that TfNSW were working on a hierarchy of selection based on previous advice (26 February Meeting Minutes Item 3.6) which stated Councils had first preference for sites within the corridor; then if that couldn't be achieved, then look at sites outside the corridor in the Greenway using the GreenWay Plan. TW confirmed that TfNSW had not been made aware of this change.</p> <p>RG stated that if Council passed the recommendation then they won't support the site.</p> <p>TW noted that all nominated sites are in the GreenWay Plan.</p> <p><i>Loftus Street:</i> RG stated that using Loftus Street as a compensation site is a misnomer as it is an existing site.</p> <p>TW stated that it is not presently an official Bushcare site. Further, as part of the package, the site would be protected from future development such as operational infrastructure like a substation without any consultation. This Package will prevent that from happening.</p> <p>RG stated that they are aware that that may happen to any of the sites. This site hasn't been licenced yet as Leichhardt was finding the process difficult.</p> <p>AW stated that the reason that a licence wasn't progressed was that Jeremy Kidd (TfNSW Project Manager) had told AW that it would be fenced. They were waiting for that to happen before the licence was attained.</p> <p>TW explained that licensing and protection provide separate functions for the Bushcare sites. Licensing is an agreement with the landowner to access and undertake Bushcare activities on a site. The protection being offered by the Package is like providing zoning on the site so that no future development can occur.</p> <p>Post meeting note: TW discussed the fencing of Loftus Street with Jeremy Kidd. JK confirmed that the project was looking at opportunities to fence existing Bushcare sites early in the project to allow Bushcare activities to take place during construction. As the Loftus St site was identified in the Environmental Assessment as a 'potential Bushcare' site, as a goodwill gesture it was decided to include this site in the early fencing strategy to facilitate access prior to the Package being finalised. Unfortunately, due to the contamination issues of the Bushcare sites in February 2012, the early fencing strategy was put on hold.</p>

4.2 cont.	<p><i>Fred Street:</i> AW thought this was a great site with good access and potential.</p> <p><i>Hercules Street:</i> RG stated that since the last meeting, that it has become apparent that Marrickville holds a 'sleeping licence' for the Hercules Street site and the West Fork areas. This means that if Council established the licence then they could access these sites without it being part of the package.</p> <p>TR stated that the Council would still need agreement from the landowner.</p> <p>TW stated that when TfNSW are talking about accessing the sites, it means the physical access to the sites and separation from the operating light rail. For volunteers to physically get into these sites, with or without a licence, TfNSW would need to construct fences. For the Hercules Street North site, TfNSW are proposing to build a ramp down from the Hercules Street bridge.</p> <p>RG stated that for occasional access really good steps are not required, for example. RG also queried the flat section adjacent to the residents.</p> <p>TW advised that the central section of the Hercules Street site had been discounted because access is required to maintain the light rail infrastructure in this area. Also this area is identified to be used for storage of materials and equipment when larger scale maintenance of the light rail corridor is proposed. TR added that the GreenWay shared path could not be precluded in this area as well.</p> <p>Post Meeting Note: There is a small portion of the central section of Hercules Street site that is not being used for operations. This area is located nearest to residents on Hercules Street and separated from the operational area by a steep embankment which is in some places >25°. At the base of the embankment adjacent to residents on Hercules Street, the area is thin and has a drainage line running through sections.</p> <p><i>Overall:</i> There was general consensus that the southern sites were well selected.</p> <p>JS queried what the main constraints were for sites within the corridor in Leichhardt. TW stated that within Leichhardt the rail line is on a high ballasted embankment within a thin corridor. The steepness of the embankment makes it unsafe. The flat areas within the corridor are narrow and long which would not give a good edge to area ratio. For example, a site could be is up to 40 metres long but only 3-4 metres wide.</p> <p>RG noted that there is a lot of talk on LNB but they are not mentioned in the condition. TR responded that from TfNSW's consultation with OEH, this was their focus and the intent of the approval condition.</p> <p>RG stated that there are some real issues with the sites selected. If TfNSW want council and community to manage them, it has to work for them. If it doesn't fit with what they are doing then it won't be sustainable. If its part of the bigger picture of the corridor they can make it work.</p> <p>TR agreed and confirmed TfNSW's support of GSC's position. However reiterated that there are many constraints within the corridor and putting a package together that meets competing stakeholder requirements and the condition of approval has been very difficult. TfNSW has taken on board all Council and GSC feedback to date and appreciates that there may be some elements that local stakeholders may not be completely happy with, however TfNSW is trying to reach a middle ground which satisfies as many stakeholder requirements as possible. TfNSW would appreciate Council and GSC's understanding of this position.</p>

	<p>DB queried the Habitat Enhancement sites as the Fact Sheet notes the locations are TBC. TW stated that the intention was to use old rail sleepers and stack them in agreed positions within the corridor to provide shelter for LNB. This was a suggestion from Tanya Leary at OEH. TW stated this does not count toward our compensation offset but it has been included in the package as an extra as TfNSW thought it would be good to do.</p>
4.3	<p><u>Compensation Sites Inclusions and Funding</u> TW referred to the Fact Sheet and discussed each of the inclusions. General discussions are outlined below:</p> <p><i>Contamination testing</i> – no comments</p> <p><i>Site Management Plans</i> – TfNSW has allowed for a qualified bush revegetation specialist to assist in the preparation of Site Management Plans. From previous consultation with Councils, it was acknowledged that to get good ownership of the sites, the volunteers / Councils would need involvement. Plans would use the GreenWay Plan as a template. TR stated that TfNSW's intent is to provide specialist support if IWEG or Councils require it.</p> <p>AW noted that the Fact Sheet refers to a bush regeneration advisor which may not be the right person. TfNSW should ensure that the right professional is engaged and thought a bush revegetation advisor would be better suited to this work.</p> <p><i>Hard Establishment</i> – no comment</p> <p><i>Soft Establishment and first year maintenance</i>– TfNSW has allowed for a contractor to undertake the entire soft establishment for budgetary purposes. TW stated that TfNSW does want to work out an arrangement where it can get volunteers involved or in the case of out of corridor works, allow Council crews to do the work if preferred by Councils/ GSC.</p> <p><i>Ongoing maintenance</i> – The Fact Sheet shows how TfNSW came up with the figure. It was discussed that the funding would be provided to Council as a lump sum and providing the funding was being used for management of the sites, TfNSW will not dictate how that money is spent. Council can spend the money as they see fit and the funding is the same within or outside of the corridor.</p> <p>DB and AW stated that what was missing from the offer was funding for reporting by Council on how the funding has been spent and also management time of Contractors.</p> <p>AW stated that from experience there is not enough hours estimated for a contractor to do this work and maintain the sites after the first year maintenance.</p>
	<p><i>Ecologist Monitoring</i> – Under the Condition ecological monitoring is required. TfNSW will contract an ecologist to visit the sites twice a year to report back to OEH.</p> <p><i>General</i> – DB queried the value of the research to put the payments into perspective. TW stated that the exact value with need to be worked out with Sydney Uni but it would be based on the study program on the North Head LNB and may include infra-red / remote cameras. This study was valued at \$50,000 over 9 months.</p>
5.	Protections and Licensing
5.1	<p><u>Protections</u> TW explained that all new sites within the corridor would be protected from future development. If for any reason Council can not manage the sites, the management will fall back to the light rail operator.</p>

	<p>JS asked whether that if after 5 years the maintenance money was spent, the management could fall back to the operator.</p> <p>TR stated that TfNSW would be very disappointed if this occurred and hoped it would not be the case. The Bushcare sites have been requested by Council/ GSC throughout the consultation process from the project development/ Environmental Assessment stage. Therefore it is expected that Councils would buy-in to the concept and would facilitate the ongoing management.</p> <p>DB stated that 5 years is a good amount of time to build support.</p> <p>TW stated that outside the corridor sites would be required to be managed by Councils. DA stated in previous consultation that this could be accommodated.</p> <p>TR confirmed that the process of initial funding with ongoing management by Councils had been implemented in other similar initiatives instigated by TfNSW and was not unique to this project.</p>
5.2	<p><u>Licensing</u></p> <p>Standard license template would be agreed between Councils and RailCorp. TfNSW will assist with this negotiation. Once the template is agreed, the site management plans and maps would be attached to the template and signed off. Due to timing, it is likely that the existing sites and new sites will be licensed at the same time.</p>
6.	Moving forward...
6.1	<p>Due to TfNSW's reporting requirements back to OEH and DP&I, the latest formal response from Council / GSC should be forwarded by 28 June 2013. Any informal responses or queries in the meantime should be sent to TW.</p>

Tara Wilcoxon

From: Tara Wilcoxon
Sent: Monday, May 27, 2013 3:44 PM
To: 'GreenWay Coordinator: Ros Gibbons'
Cc: Diane Challenor; Douglas Lindsay; Tracy Reid
Subject: RE: Inner West Light Rail Extension - Biodiversity Compensation Package Meeting 22 May - draft Minutes

Hi Ros,

Thanks for your email.

TfNSW believes this compensation package provides the best balance to meet the requirements of the Condition of Approval and the needs of our stakeholders. It is important to TfNSW that Councils and the GreenWay Steering Committee fully support and feel confident in their capacity to deliver the package. For this reason we are offering you the opportunity to provide feedback before we make our submission to the Department of Planning and Infrastructure. The rationale for site selection and funding arrangements was provided to assist you.

In answer to your first point, our analysis shows that the nominated compensation sites *within the corridor* are the only feasible sites. TfNSW notes your concerns regarding Leichhardt Park and Darley Road, therefore if these sites are no longer feasible, please advise of any alternative sites outside of the corridor that Councils/ GSC would support. If you have concerns about managing any of the nominated sites then we would appreciate site specific feedback. As noted at the meeting, if we can't reach agreement on the compensation sites, then TfNSW will need to look at options other than compensation sites e.g. further funding of research.

In answer to your second point, feedback on maintenance funding will be considered. However we would be unlikely to secure significant changes to funding without a strong financial justification. As such, can you please include cost estimates and any budget assumptions with your feedback on this aspect of the Package

Hope that clarifies,
 Tara

Tara Wilcoxon
 Environment & Planning Manager
 Planning & Environment Services
 Transport Projects
Transport for NSW

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From: GreenWay Coordinator: Ros Gibbons [<mailto:anythingearthly@bigpond.com>]
Sent: Monday, May 27, 2013 9:44 AM
To: Tara Wilcoxon
Subject: Re: Inner West Light Rail Extension - Biodiversity Compensation Package Meeting 22 May - draft Minutes

Hello Tara

I want to be clear before we start talking to the councils where exactly we stand with the biodiversity compensation package So would you mind confirming:

6/4/2013

The nominated bush care sites are the only sites that will be considered. (i.e. take it or leave it)

And

Feedback from the Councils on the other aspects of the package e.g.: maintenance of sites and \$\$ allocated etc will be considered.

Thanks for that

Ros



Ros Gibbons
GreenWay Coordinator (Thursday & Friday)
GreenWay Steering Committee

M: 0431 844 752
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www.greenway.org.au

From: Tara Wilcoxon <Tara.Wilcoxon@projects.transport.nsw.gov.au>

Date: Friday, 24 May 2013 3:26 PM

To: Ros Gibbons <anythingearthly@bigpond.com>, Victoria Currie <biocoord@marrickville.nsw.gov.au>, Adam Ward <AdamW@ashfield.nsw.gov.au>, Jon Stiebel <jons@lmc.nsw.gov.au>, Douglas Lindsay <Douglas.Lindsay@projects.transport.nsw.gov.au>, Tracy Reid <Tracy.Reid@projects.transport.nsw.gov.au>, Julie Sundqvist <Julie.Sundqvist@projects.transport.nsw.gov.au>

Cc: "Anderson, Doug" <DougA@lmc.nsw.gov.au>, Diane Challenor <Diane.Challenor@projects.transport.nsw.gov.au>

Subject: Inner West Light Rail Extension - Biodiversity Compensation Package Meeting 22 May - draft Minutes

Dear all,

Thank you for your attendance on Wednesday and input into our Package. Please find attached the draft Minutes (including slides and maps) and Attachments from the meeting to assist you when presenting the Package internally.

As discussed at the meeting, the Package proposed by TfNSW includes six potential compensation sites and a funding agreement. These sites presented have been selected as best meeting the criteria provided by you and other stakeholders during our previous consultations.

At the meeting attendees raised potential concerns with financial feasibility of the Package and with the selection criteria for sites. Please provide any feedback you may have on these aspects of the package no later than 28 June 2013. Your feedback will be considered before TfNSW has any further discussions with Department of Planning and Infrastructure.

As advised at the presentation, TfNSW understands that the package represents a compromise between stakeholder priorities. However, the nominated sites are those that best meet stakeholder requirements while still satisfying the Conditions of Approval. TfNSW has been unable to identify any further sites in the corridor that meet this criteria. If TfNSW is unable to secure sufficient land for the offset package, the next step will be to look at further indirect compensation such as additional research and monitoring.

I've included a couple of Post Meeting Notes in the minutes that I sought to clarify from yesterday. In particular, I spoke to Jeremy about the fencing of Loftus Street. The note reads:

Post meeting note: TW discussed the fencing of Loftus Street with Jeremy Kidd. JK confirmed that the project was looking at opportunities to fence existing Bushcare sites early in the project to allow bushcare activities to take place concurrently during construction. As the Loftus St site was identified in the Environmental Assessment as a 'potential bushcare' site, as a goodwill gesture it was decided to include this site in the early fencing strategy to facilitate access prior to the Package being finalised.

Unfortunately, due to the contamination issues of the Bushcare sites in February 2012, the

early fencing strategy was put on hold

Please do not hesitate to contact me at any time for further clarification or to provide any informal feedback on the Package before 28 June 2013.

If you have any comments or corrections on the draft Minutes, please email me by 31 May 2013, when I will send them out as final.

Ros – I will send the presentation slides as powerpoint separately.

Many thanks
Tara

Tara Wilcoxon
Environment & Planning Manager
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Tara Wilcoxon

From: Tara Wilcoxon
Sent: Wednesday, May 29, 2013 9:05 AM
To: 'GreenWay Coordinator: Ros Gibbons'
Cc: Tracy Reid; Douglas Lindsay; Diane Challenor
Subject: RE: bush care sites for comp package

Hi Ros,

Please find below the areas in hectares of the proposed compensation sites. The rail corridor sites (RC) were measured by GPS by our consultants. The park site (CP) areas were nominated by Leichhardt Council either in our previous consultation or nominated as available in their Native Revegetation and Biodiversity Management Plan.

For the Little St site, the habitat creation works would be focused on the extension. Under the Package, TfNSW intend to fence and protect the entire site (Private site plus extension). Management payment has been calculated based on the entire site.

Are you providing this information to all our stakeholders? I will forward our recent email exchanges so that everyone is on the same page.

Thanks
 Tara

Site Name	Rail Corridor (RC) / Council Park (CP)	North of Parra Rd (N) / South of Parra Rd (S)	Field Adjusted Area (ha)
Darley Rd	CP	N	0.13*
Leichhardt Park	CP	N	0.271*
Loftus St	RC	N	0.21
Fred St	RC	S	0.1
Hercules St (North)	RC	S	0.22
Little St (Private - extension)	RC	S	0.02
Little St (Private)	RC	S	0.04

* As nominated by Leichhardt Council.

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From: GreenWay Coordinator: Ros Gibbons [<mailto:anythingearthly@bigpond.com>]
Sent: Tuesday, May 28, 2013 11:18 AM
To: Tara Wilcoxon
Subject: bush care sites for comp package

Hello Tara

6/4/2013

Can you let us know the individual areas of the bush care sites nominated in the package please? Also with the Little Street site – does it include the existing site or just the extension?

Thanks for that

Ros



Ros Gibbons

GreenWay Coordinator (Thursday & Friday)

GreenWay Steering Committee

M: 0431 844 752

anythingearthly@bigpond.com

www.greenway.org.au

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GreenWay Councils' response to the draft Biodiversity Compensation Package developed by Transport for NSW.

This is joint response from Ashfield, Leichhardt and Marrickville Councils (The councils) with the GreenWay Steering Committee (GSC).

Overview

Thank you for the opportunity to review the Draft Biodiversity Compensation package. The Biodiversity and Bushcare Officers have carefully reviewed each of the proposed sites in consideration of:

- Appropriateness as habitat for biodiversity and in particular bandicoots
- Management considerations and issues
- The goals of the Biodiversity Compensation Package
- Ongoing management costs.

This document lays out our joint response to the package put forward by TfNSW with proposed amendments regarding sites, ongoing maintenance of those sites, the monitoring package and habitat provision.

With the support of the Councils, we would like to meet and discuss these comments and work with you to finalise the Biodiversity Compensation Package to mutual satisfaction.

Site Selection

We have reviewed the proposed sites and offer specific feedback below. Whilst we understand that site selection has been challenging, unfortunately we cannot support some of the sites suggested. We do offer alternative sites with reason for selection along with the reasons for not supporting certain sites proposed by TfNSW.

We would like to come to a mutually acceptable agreement on sites so that the Biodiversity Compensation Package can be delivered successfully in a joint Council/TfNSW partnership.

A review of the sites proposed by TfNSW (north to south):

Leichhardt Park: (0.271ha)

Although this site not in the light rail corridor, it is a very large site with good connectivity to the bushland remnant at Callan Park and is crucial to creating a viable corridor of native vegetation along the Iron Cove foreshore. The Iron Cove foreshore is recognised in the Greenway Revegetation and Bushcare Plan as a major element in the Cook's River to Iron Cove Greenway, and as a result the Leichhardt Park site has been included in that plan.

This site is supported by the councils as part of the package.

Darley Road (0.13ha)

Leichhardt Council is now considering a proposal for a childcare centre on this site. It is also an access point to the off leash dog park. As such this site can no

longer be used for bushcare. **This site is not supported by the councils as part of the package..**

Loftus and Little Street (0.25ha)

These sites already exist and therefore including them will not provide *new* bushcare sites or any *new* bandicoot habitat as is required in the conditions of consent . The councils believe these sites are not appropriate for compensation.

These sites are not supported by the councils as part of the package..

Fred Street (0.1ha)

This site has good potential as a bushcare site (given it's size and shape) and for creating habitat. **This site is supported by the councils as part of the package.**

Little Street Extension (0.04ha)

Since this site was proposed, infrastructure (cable conduits etc) for the light rail has taken up some of this land. This leaves a very narrow strip for bushcare, potentially causing maintenance issues and reducing its habitat value for bandicoots and other biodiversity. **We would like to a site visit to assess its viability and how much of the site remains before making a decision regarding this site.**

Hercules Street North

This site has good potential as a bushcare site (given it's size and shape) and for creating habitat. **This site is supported by the councils as part of the package.**

Proposed alternative Sites

Hercules Street North Extension

We propose that this site is further explored to find options for extending the site. We recognise that most of the Hercules Street site that was originally proposed is required for access and maintenance. However we suggest that there are still opportunities for extending the area for bushcare that have not yet been fully explored. We propose that TfNSW makes a map of the site available that shows the intended access/maintenance use and that we do a joint site visit to understand the constraints, parameters and possibilities.

Smith Street, Ashfield (0.1ha)

Whilst acknowledging that the Eco-Logical consultants considered this site a low priority, the Ashfield Bushcare Officer has carried out some preliminary investigations of this site and he believes it could be viable as a compensation site.

- It is at the centre of bandicoot activity
- New Holland honey eaters are found on this site
- It is surrounded by land that is about to under go major redevelopment on which bandicoots are likely to reside
- It is fenced and has a tap
- It requires steps but wooden steps are easy to install by bushcare contractors. There is a large flat area at the bottom

- It connects under the bridge to the existing Cadigal Reserve bush care site
- We are confirming ownership of the land but it is likely to be Council
- It provides a bushcare site in the package that is located within the Ashfield Council LGA.

Johnson Park (approx. 0.13ha) Hoskins Park (0.07ha) – see map attached

Marrickville Council has taken another look at Johnson Park and Hoskins Park. There is potential for

- a bushcare site in the northern part of Johnson Park adjacent to the established IWEGBushcare site in the light rail corridor.
- and a site in Hoskins Park adjacent to the established IWEGBushcare site.

Both these park areas have been identified and suggested as important bandicoot habitat enhancement by DECCW/OEH, NPWS, Australian Museum Business Services, Marrickville Council (Biodiversity Strategy 2011-21) and the GreenWay Biodiversity Strategy, prior to the approval for the light rail extension and linked requirement for the biodiversity compensation package.

They offer good connectivity to other bushcare sites (bio- linking) as well as good access for volunteers for maintenance.

Whilst the sites have internal support, council would need to undertake further consultation with community and therefore a longer time frame would need to be negotiated for these sites.

Other sites

As well as the proposed sites above, we would also like to look at the sites that met most of the criteria but didn't make the initial list of preferred sites. We would like to see if there is anything that can be done or changed which could make them suitable sites for inclusion should any of the above proposals not meet stakeholder approval.

Ongoing Maintenance of the Sites

The councils will be able to maintain the sites with community input provided that the appropriate resources are allocated.

The councils have considerable experience in managing bushcare sites and consider that the figures proposed in the package are unrealistic. We suggest that this error may have come about by the consultant considering *regeneration* of large sites as opposed to *revegetation* of small sites. Revegetation is very different to regeneration. The proposed sites have no seed or very little native seed bank therefore the focus is on planting, maintenance and weeding rather than regeneration. Additionally there is a large weed seed bank and sites are surrounded by uncontrolled non native species that invade the bushcare sites. Bushcare professionals also have to work in pairs for WH&S reasons and therefore costing on one person per day is unrealistic.

To support this we provide the actual maintenance costs borne currently by the Councils:

Cost for maintaining bushcare sites in the Inner West

GreenWay Bushcare (grant funded) cost \$6.18 per msq

Leichhardt Council cost estimate \$4 per msq

Ashfield Council Bushcare cost \$5.03 per sqm

Proposed TfNSW funding \$1.52 per sqm

Notes regarding these costs:

- The GreenWay project bushcare costing includes volunteer training and a promotion budget.
- Ashfield Council has calculated maintenance cost for revegetated bushcare sites based on Cadigal Reserve. This site has been under bushcare for more than 10 years. The cost of tool kits for volunteers is included
- Leichhardt Council bushcare costs are based on a range of sites from 200msq to 2ha. Larger sites are usually cheaper to maintain.

With these actual costs we propose therefore that the financial package proposed by TfNSW needs to be revised to reflect the true cost of maintenance, with CPI over the five year period.

Monitoring

Councils support the proposal for monitoring the bandicoot population by Sydney University. We need, however to see more detail of the proposal, including the time period over which it is to take place, to better understand and evaluate the package and its value.

Councils along with community would want to be part of the monitoring program to continue data collection and observations. This ongoing information source would lead to better understanding and management of the Bandicoot population across the GreenWay catchment. For example; infra red cameras provided as part of the package for councils and community to use long-term could potentially provide essential information as part of the package.

Provision of ongoing habitat during the works

The clearance of significant areas of the rail corridor for light rail infrastructure and the subsequent clearing for the development of bushcare sites will create a temporary paucity of habitat for a large variety of local species including bandicoots, small birds and reptiles. We therefore propose that the package includes a requirement for staged removal to lessen the negative impacts from the clearing process. For maintenance of biodiversity, it is essential that as much habitat as possible, is provided during this disruptive period. Habitat provision could be as simple as provision of weed, sandstone or timber (sleeper) piles.

In summary

Councils are keen to finalise the Biodiversity Compensation Package to mutual satisfaction. The final package must ensure best biodiversity outcomes and reflect true and realistic maintenance funding for Councils.

INNER WEST ENVIRONMENT GROUP
69 Pigott St
Dulwich Hill

NSW 2203



5 July 2013

Transport for NSW
Sydney Light Rail Project

Attention: Diane Challenor and Tara Wilcoxon

Via email

Dear Diane and Tara,

BIODIVERSITY COMPENSATION PACKAGE – INNER WEST LIGHT RAIL

Ros Gibbons of the GreenWay Steering Committee has kindly passed on the powerpoint presentation, a list of site areas and two maps, as well as some brief comments on behalf of the Greenway Steering Committee. It was not until much later that we received the fact sheet and the site assessment table. Furthermore, Damon Bassett of Marrickville Council was not available to meet with us until Thursday 27 June to explain aspects of the package.

Consultation

We note the Planning Minister's project approval requires TfNSW to prepare the package "in consultation with DECCW, relevant Councils, the GreenWay Sustainability Project, the GreenWay Steering Committee and the IWE G" and that the completed package was presented directly to Council and GreenWay representatives but not to IWE G. With TfNSW advising us on 21 June 2013 that it had no intention of briefing IWE G directly, but rather that we would be briefed by the GreenWay Co-ordinator and Marrickville Council's biodiversity officer, this has meant that IWE G has had one week to prepare a response to the package. Consultation means a meeting to consult, and consult means to refer to someone for advice or opinion. While IWE G was able to provide input at the beginning of the site selection process, it would appear that recently there has been a breakdown in communication.

While we acknowledge and appreciate the information provided at last night's meeting, we expect that we will be directly consulted at future stages of the package and the project generally, and given sufficient time to respond.

IWEG has seen the GreenWay Councils' response to the package and agrees with the majority of its contents. However, there are a few points of difference set out below.

Offset requirements

We note the conditions of approval require that the package ensure "that all vegetation loss, including native vegetation and weeds, is offset by **"an equivalent area of regeneration or replanting"**". The proposal in the powerpoint presentation is to replace 1.1 hectare of weedy fauna habitat removed from the rail corridor with 0.991 hectares, which represents a **shortfall of 0.109 hectares**. IWEG believes that this does not comply with the Dept of Planning approval and that the full 1.1 hectares should be compensated, particularly in light of recent information that environmental offsets are more typically at ratios of 3:1 to 5:1.

This is a rare opportunity to establish enduring outcomes for the Iron Cove to Cooks River biodiversity corridor, and therefore IWEG prefers that all sites should be within the rail corridor.

Pre-existing sites

IWEG also believes that counting existing bushcare sites (Loftus St and Little St), which only require fencing and licensing, in the offset package is not providing an equivalent area of regeneration or replanting as these sites pre-existed the clearing work by approximately 20 years. The area of the pre-existing sites is 0.25 hectares, which is approximately 25% of the total 1.1 hectares to be compensated. While it is necessary and appropriate to formalise these sites, we believe they should not be counted as offsets because they are not replacing habitat that was removed for the light rail project.

From last night's meeting we note Geoff Wicks' concerns that if the Loftus Street site is not included in the package, Geoff has serious concerns about the future of that site given Leichhardt Council's lack of interest to date. Geoff also expressed a desire to receive the fencing and planting on offer for that site.

It was made clear to us at last night's meeting that these sites would not be fenced, planted or protected if they were not included as part of the package. We therefore reluctantly support their inclusion.

North of Parramatta Road

From last night's meeting we now understand the proportional representation of sites north and south of Parramatta Road.

We now also understand from the GreenWay Councils' response that Darley Road may no longer be viable due to other plans Leichhardt Council has for that park.

If that is the case, we strongly recommend that the allocation for the Darley Rd offset be allocated south of Parramatta Road. This would still leave 0.481 hectares north of Parramatta Road.

We also note that 0.271 hectares of this reduced offset area is proposed for Leichhardt Park which is nowhere near the rail corridor. While this is very disappointing, as it will not directly offset the habitat removed from the corridor, we acknowledge the reasoning behind this selection.

South of Parramatta Road

We understand from previous meetings that some of the sites have been excluded on the grounds of difficulty of access and safety for volunteers. While we believe all offset sites should be within the rail corridor to properly compensate for lost habitat and that contractors could be used to maintain sites that are unsafe or inaccessible for volunteers, we support the Councils' recommendation that parts of Hoskins Park and Johnson Park be included in the package. They are immediately adjacent to the rail corridor and existing bushcare sites, and would increase the mass of those sites thereby reducing edge effects.

We also support Council's other recommendations of alternative sites, especially Smith Street which would provide good connectivity between Cadigal Reserve and Fred St.

Maintenance costs

We note the Councils' response on this point. It appears that the maintenance budget is grossly inadequate. Over IWEG's 13 year existence caring for up to 6 sites, we have had to use contractors to assist with removal of invasive weeds on many occasions despite having regular working bees. There are other associated costs such as access to water, tools, a place to store them, insurance, etc. which appear not to have been costed or included.

Volunteer base

There appears to be an underlying assumption that there is a bottomless pit of volunteers out there with the appropriate skills to enduringly care for the sites. This is not the case. Aside from the sheer and sustained effort involved, recruiting volunteers also costs money to publicise opportunities through mail-outs and other means. Further, volunteers require training in the recognition of the appropriate flora and weeds and how to work safely and use tools etc. The proposed budget of \$76,000 over 5 years does not appear to allow for either of these important costs.

Enduring protection of the bushcare sites

We note from last night's meeting that there are apparently no enduring legal mechanisms to protect small sites less than 1 hectare, which is the minimum are required for "Biobanking".

We also note that there appears to be a plan to impose contractual obligations on the light rail operator to ensure the bushcare sites are not interfered with, and with the operator ultimately assuming responsibility for the sites if the

Councils are unable to do so. We are concerned that the fallback position of the operator being responsible will not amount to adequate protection for the future.

IWEG would like to be directly consulted about the Plan of Management for the light rail corridor as it pertains to the bushcare sites to ensure they are adequately protected at least to that limited extent.

Fencing

Fencing of existing sites has now been delayed until after construction finishes. IWEG can understand the necessity for this, however, we remain concerned that if it is delayed until the offset sites are licensed, which seems unlikely to occur prior to the commissioning and commencement of the light rail, new safety restrictions could be imposed which may limit our ability to establish working groups for current sites to provide capacity for working bees on the new sites.

While we note Cameron's comments at last night's meeting that fencing of existing sites will be commenced in the next 6 to 8 weeks, it is not clear when fencing of the offset sites will occur.

We also note Geoff Wicks' concerns about fencing of the Loftus St site (see attached letter to Jeremy Kidd dated 17 February 2012).

We would appreciate being consulted about fencing design and placement when these plans are available.

Indirect compensation

Our understanding of the Planning approval is that monitoring should be in addition to, not instead of providing equivalent areas of regeneration or replanting.

While we have no object in principle to further bandicoot studies, from the history of sightings to date, it appears that bandicoots prefer a built environment.

What is urgently needed is a survey of all fauna in the corridor prior to the commencement of the light rail, so that impacts can be assessed.

For example, there is a large population of small birds such as the white plumed honeyeater, the New Holland honeyeater, silvereyes, fairy wrens, spotted pardalote and wagtails living in and around the corridor near the Fred St site. IWEG believes that if it is impossible to find sufficient sites within the rail corridor to truly compensate for loss of habitat, this money would be better spent surveying this small bird population to assist in determining how to preserve this vulnerable population and how to establish the Fred St site without causing it any harm.

It may be that the proposed approach to establishing the offset sites could cause irreparable damage to this small bird colony, and that a staged approach would be preferable. Without a proper survey we will never know.

Conclusion

In summary:

- We believe the full 1.1 hectares should be compensated as per the planning approval, even if this is partially made up of sites outside the rail corridor;
- We believe any monitoring or studies should be in addition to the 1.1 hectares of offset sites, as per the planning approval;
- We reluctantly support the inclusion of the pre-existing sites Little St and Loftus St in the interests of getting them formalised and protected for the future;
- We support the inclusion of the Little St extension;
- We support the Councils' recommendations of alternative sites, particularly Smith St, Summer Hill.

While IWEG still has serious concerns about the adequacy of the current package proposal, we look forward to working with you further to achieve the best biodiversity outcomes for this project. To this end we expect to be directly consulted at future stages of the offset package.

Yours sincerely,



Deborah Auchinachie
Secretary
Inner West Environment Group Committee

INNER WEST ENVIRONMENT GROUP
69 Pigott St
Dulwich Hill

NSW 2203



17 February 2012

Jeremy Kidd
Project Manager | Transport Projects
Transport for NSW
Level 2, 18 Lee Street, Chippendale NSW 2008
Jeremy.Kidd@transport.nsw.gov.au
Re: Fencing of Loftus Street Leichardt bushcare site

Dear Jeremy

I refer to recent discussions between yourself and IWEg committee members Deb Auchinachie and Geoff Pollard and Geoff and Karen Wicks who live at 12 Loftus Street.

In discussions about fencing this unofficial bushcare site, it was stated that the light rail fence would be erected at the base of the embankment that makes up the majority of the site maintained for bushcare and that a fence at the top of the embankment near the rail corridor would be too close to the rail line. A fence at the base of the embankment will effectively lock out anyone from maintaining that part of the site. The existing plantings were planted by contractors for RailCorp in 2006 and local provenance plants were used. While the embankment still looks very good, and provides good habitat for birds and reptiles, there is significant incursion of invasive weeds including vines, which threaten the quality of the plantings. It was to RailCorp's credit that they funded the initial plantings and used appropriate plants, but it is distressing to local residents and to IWEg that Transport are not planning for the ongoing maintenance of this important community asset. It is an important key in the creation of the GreenWay habitat corridor.

Loftus St residents have requested access via an access key to a locked gate into the fencing at the base of the embankment, and to the locked gate into the flat area off Loftus St.

The flat area adjacent to the embankment has been kept mown by local residents but it provides a good site for expansion of the existing plantings and we would like to make some arrangement for residents and/or IWEg to be enabled to do this.

We would very much appreciate discussing this further with you or your staff. As the site is complex to describe, perhaps we could arrange a site inspection together to discuss?

Deb Auchinachie
Secretary
Inner West Environment Group (IWEg)

MINUTES

Inner West Light Rail Extension: Biodiversity Compensation Package Update

Date	Tuesday, 9 July 2013		
Time	3:30 – 4:45pm		
Venue	Project Office (2 Smith Street, Summer Hill)		
Chairperson	Tara Wilcoxon, Environment & Planning Manager, Transport for NSW (TfNSW)		
Invitees	Tracy Reid Julie Sundqvist Douglas Lindsay Ros Gibbons Adam Ward Doug Anderson Damon Bassett Geoff Pollard Jeremy Kidd Simon Hussey Jennie Powell	TR JS DL RG AW DA DB GP JK SH JP	Senior Manager, Environment, TfNSW A/Principal Manager, Community Engagement, TfNSW Community Engagement Officer, TfNSW Coordinator; Greenway Steering Committee Biodiversity Officer, Ashfield Council Biodiversity Officer, Leichhardt Council A/Team Leader Biodiversity, Marrickville Council. IWEG Representative Project Manager, TfNSW Project Director, TfNSW Senior Consultant, Eco Logical Australia
Apologies:	Jon Steibel Diane Challenor	JS DC	Team Leader, Environmental Strategy, Leichhardt Council Community Engagement Manager, TfNSW

1	Introduction
	<p>TW introduced the meeting as responding to Council / Greenway Steering Committee's request to discuss their feedback on the draft Compensation Package presented by TfNSW on 22 May 2013. Council / GSC feedback was received by TfNSW on 28 June 2013.</p> <p>RG stated that considering the IWEG meeting (4 July 2013) and their submission (received by TfNSW on 5 July 2013), some of the Council/GSC comments may change.</p> <p>RG also stated that she is personally not across all the site and requested a site visit for an informed decision.</p> <p>TR suggested that the meeting goes through the sites one by one today. There may only be a couple of sites that may have issues with them.</p>
2.	Site Selection
2.1	<p>TW took the meeting through the sites and Council / GSC feedback:</p> <p>Leichhardt Park is supported. TfNSW will include Leichhardt Park in the Package.</p> <p>Darley Road is not supported. TfNSW will not include Darley Road in the Package.</p>

	<p>Fred Street is supported. TfNSW will include Fred Street in the Package.</p> <p>Hercules Street North is supported. TfNSW will include Hercules Street North in the Package.</p>
2.2	<p><u>Hercules Street North</u></p> <p>TW noted that Council / GSC feedback on the Hercules Street North site suggested that there were still opportunities at this site for expansion of the proposed site. TW tabled a map and explained that TfNSW's approach to the large Hercules Street site from the EA was to break the entire site into thirds; the West Fork, the central section and the northern section. The northern section was proposed. The West Fork has been excluded as per previous discussions.</p> <p>JK explained the central section of the site is required for operation of the light rail. This includes access to the track, high voltage poles and services. This area is also required for emergency (Fire and Rescue) access to the corridor.</p> <p>TW noted that the northern section (proposed site) was revisited to see if any additional area could be identified. The only extension possible (due to operational constraints) would be to the east onto the disused tracks and ballast which would require removal. These disused tracks are not proposed to be removed as part of the project. Extending the Hercules Street North site would require the tracks and ballast to be removed which would be cost prohibitive.</p> <p>TR stated that in response to the Council/GSC feedback TfNSW did look at the site in detail and confirmed that only the northern section (proposed site) is available.</p> <p>RG asked about the flat section at the bottom of the West Fork. TW replied that this is not RailCorp land therefore TfNSW can not propose this area.</p> <p>GP asked about the small flat area near the existing gates where the security guards currently park. TW stated that this area is very small and also TfNSW can not allow shared access gates between operational uses and bushcare activities. Access to the compensation sites used for bushcare must be separated from all operational uses of the corridor.</p> <p>AW asked about the green hatched area on the plan. TW stated that this was just part of the topographic survey that was dense with vegetation. AW asked why the proposed site could not be extended into this area. TW stated access to the proposed site must be from Hercules Street bridge and by avoiding the HV poles, the area to which AW referred would be connected to the proposed site by a thin area.</p> <p>JK stated that once the light rail is operational the safety risks that are currently on site completely change. Under the Rail Safety Act, TfNSW has a duty to ensure that the operations are segregated from the general public.</p> <p>GP stated that it is disappointing that Hercules Street is such a large area and only part is available.</p>
2.3	<p><u>Smith Street</u></p> <p>Noting Council / GSC comment regarding the option of Smith Street, TW tabled a plan and stated that this site has been revisited.</p> <p>TfNSW has confirmed the land ownership. The majority of this area is private ownership and earmarked for development. The private ownership includes the entire area surrounding the Canal. The RailCorp property which could be offered is a straight line from a point west of the Longport Street bridge.</p> <p>AW stated that Ashfield Council records show that the private property is RailCorp land. TW tabled a map showing the proposed development of the Allied Mills site with housing indicated where AW believed it was RailCorp.</p> <p>In this area between the Longport Street bridge and the Lewisham West stop, there are some heritage sidings in this area that are intended to be left insitu. Working around these</p>

	<p>sidings, TfNSW estimate an area of 0.06ha could be provided for habitat creation. TfNSW would provide fencing from the light rail running lines and stairs from the Longport Street Bridge. JK mentioned there are some constraints in this area with regard to flooding.</p> <p>It should be noted that the Local Government Area boundary at this point is the canal – west is Ashfield, east is Marrickville. Also there is no access under the Longport Street bridge once the light rail is in operation.</p> <p>DB stated he was not familiar with the site but it is a shame that the proposed site would be in Marrickville rather than Ashfield.</p>
2.4	<p><u>Johnson and Hoskins Parks</u></p> <p>TfNSW is pleased that Johnson and Hoskins Parks have been reconsidered and has internal support from Council. These parks were specifically mentioned by OEH for LNB habitat creation in TfNSW's consultation with Conservation Officers.</p> <p>TfNSW will include these sites within the Package, subject to Council's community consultation process. TfNSW can work with Council to design the best way to integrate the habitat creation into the park. TfNSW can also provide support materials to Council in the community consultation as required.</p> <p>DB stated that Marrickville Council has a process of community consultation to undergo and would be happy to partner with TfNSW.</p>
2.5	<p><u>Loftus and Little Streets</u></p> <p>Following the IWEG meeting TW noted the email received from RG with regard to the Loftus and Little Street sites. Council / GSC proposal was to fence the entire site but only the areas in need of revegetation would count for compensation.</p> <p>TR stated that TfNSW's position on this proposal is that sites will not be split. The whole site must be considered part of the Package or the site is not included in the Package. Council could chose to fence the sites separately working with the landowner and operator.</p> <p>RG queried whether if costs could be raised by GSC, could fencing be paid for by GSC and installed by TfNSW at Loftus and Little Street. SH stated that an indicative price could be provided and TfNSW could consider this option.</p> <p>Action – TW to send RG rates for fencing.</p>
2.6	<p>There was much discussion regarding the combination of sites. TR stressed that TfNSW put the Package together based on previous consultation and feedback and we need to look at a holistic balanced approach.</p> <p>RG queried why this project had an only offset an equivalent area and not a higher ratio such as 3:1 as is done on other projects. TR responded that the higher ratios are undertaken to offset for loss of Endangered Ecological Community. For this project, OEH has agreed to an equivalent (1:1) area to be compensated which is as stated in Condition B18.</p> <p>It was resolved that TfNSW would provide Councils, GSC and IWEG with options to chose from. Councils, GSC and IWEG agreed to respond within the required timeframe for TfNSW to meet the submission deadlines to DP&I.</p> <p>Post meeting note – TW sent email on 11 July with 4 options for Councils, GSC and IWEG response by 19 July 2013.</p>
3.	<p>Other Councils / GSC comments</p>
3.1	<p>TW stated in response to Councils/GSC comments on monitoring, TfNSW believe that funding an academic study would provide significant value to the research for the inner western Sydney population of the LNB. This proposal is supported by OEH and DP&I. The</p>

	scope of the study or timeframes has not yet been agreed with Sydney University. The premise of the study will be based on a similar program to that already being undertaken at North Head LNB population. The North Head study included a component of community survey. Once this is finalised, the scope can be made available to Councils for information.
3.2	TfNSW stated in response to Councils/GSC comments on provision of ongoing habitat during the works, TfNSW's proposal has always been to stage the site establishment works as required for the sites within the first year. It is part of the Project Approval to undertake 'sequential revegetation and rehabilitation works and the strategic placement of alternative shelter and the enhancement of existing shelter suitable for use by Long-nosed Bandicoot preceeding any proposed clearing.' (Condition of Approval B20).
4.	Moving forward
4.1	TfNSW to send out options for Council, GSC and IWEA consensus. Refer to item 2.6 above. TfNSW will be responding separately to IWEA's submission received on 5 July 2013. Meeting on sites ended at 4:45pm and was followed by commercial in confidence discussion regarding the Maintenance Payment. Refer to separate Minutes.



MINUTES

Inner West Light Rail Extension: Biodiversity Compensation Package Update

Date	Thursday, 7 March 2013		
Time	1:30 – 2:30pm		
Venue	DP&I Offices, Bridge St, Sydney		
Invitees	Tara Wilcoxon Tracy Reid Robert Humphries Glenn Snow Nick Hall Ray Giddins Gus Porter	TW TR RH GS NH RG GP	Environment & Planning Manager, TfNSW Senior Manager, Environment, TfNSW Manager Biobanking & Offset Programs, Eco Logical Australia Manager Rail and Ports, Infrastructure Projects, DP&I Senior Planner, Infrastructure Projects, DP&I Regional Biodiversity Conservation Officer, OEH Biodiversity Conservation Officer, OEH.

1.	Introductions
1.1	TW introduced the meeting as an opportunity to get both DP&I and OEH together to discuss the constraints and achieving a good conservation outcome for the potential compensation sites to meet the intention of the Condition B18, whilst also meeting the expectations of the local stakeholders.
2.	TfNSW Update since submission of Draft Package
2.1	TW stated that since TfNSW submitted the draft Package in December 2012, TfNSW has undertaken detailed site investigations of the proposed compensation sites within the corridor and as detailed in the Greenway Revegetation and Bushcare Plan. The detailed investigations including site visits and GPS mapping has resulted in the proposed compensation sites being either not suitable (due to operational or physical constraints) or the area has been reduced.
2.2	TW also described that since the draft submission, additional consultation with local stakeholders (Ashfield, Leichhardt and Marrickville Councils, Greenway Steering Committee and Inner West Environment Group) has shown a preference for sites within the corridor or outside the corridor but within the 'Greenway Revegetation and Bushcare Plan'.
2.3	RH introduced himself and his role as TfNSW's consultant. RH explained that as a result of the detailed investigations we are left with multiple small sites within the light rail corridor that may or may not provide habitat for the long-nosed bandicoot (LNB) as the condition and EA intended.
2.4	TW stated that at present TfNSW has approximately half the area of vegetation loss for the project covered by the multiple small sites.

3.	Composition of the Package
3.1	RG tabled a map of LNB records showing the population in groups south of Parramatta Road. Compensation sites should be related to the LNB records. Sites outside these areas (in particular Leichhardt local government area) may not be acceptable to OEH as LNB habitat.
3.2	TW explained that TfNSW has also approached Councils regarding parks outside the corridor for potential compensation sites. While it seems there is feasibility in the parks particularly Petersham Park, Hoskins Park and Johnson Park, Councils do not support these options due to competing requirements of the parks (recreation, sports etc) and personal safety and security issues of vegetated open spaces.
3.3	TW also explained that TfNSW considered providing an indirect offset through funding OEH's Priority Actions for the LNB population. RG stated that it would be better to fund someone independent of OEH / Threatened Species Unit to undertake studies or monitoring. RH suggested approaching Peter Banks at Sydney University to enquire whether TfNSW could provide a scholarship.
3.4	GS noted that Condition B18 requires all vegetation loss to be compensated. If a portion of the offset is provided indirectly, a modification to the condition may be required.
3.5	RH queried the monitoring requirements of the compensation sites. RG suggested that photos, planting density, work undertaken, evidence of LNB and other species would be sufficient.
4.	Long-term management and protection in perpetuity of the Package
4.1	TW explained the difficulty in achieving perpetuity protection for the small sites within the corridor. It is proposed that TfNSW would protect the sites from future development by fencing and identifying the areas. Council or volunteer base would manage the sites. If they could no longer manage the sites, then the land will revert to the management of the Light Rail operator. Once construction is completed, the land and all assets (including any land protections) will be vested to the Light Rail operator.
4.2	RG agreed that the best way to ensure long-term protection is to ensure that the sites are protected from future development or inappropriate use.
5.	Submission of Final Package
5.1	All attendees agreed that TfNSW should provide OEH and DP&I with a Package that will work based on the discussions in the meeting. The Package should list all the constraints of the sites investigated and consultation undertaken. GS stated that a modification will depend on the composition of the Package and exhibition of the proposed modification may be required. TfNSW should also write to DP&I to request an extension to the submission timeframe of the Package.



Response to the TfNSW proposal for the Biodiversity Compensation Package

This is joint response from Ashfield, Leichhardt and Marrickville Councils (The Councils), the Inner West Environment Group (IWEG) and the GreenWay Steering Committee (GSC).

Selection of sites:

On consideration of the sites put forward by TfNSW our preference is option C with the addition of Smith Street.

Site	Area ha	Comments
Leichhardt Park	0.271	Public park
Fred Street	0.1	
Hercules North	0.22	
Johnson Park	0.13	Public park
Loftus	0.21	Approx. 0.1 ha pre-existing
Little plus Extension	0.06	0.04 ha pre-existing
Smith Street	0.06	
Total: North of Parramatta Road	0.481	
Total : South of Parramatta Road	0.57	
Grand Total	1.051 ha	

Of the sites nominated:

0.401ha is on council parkland that will not require fencing

0.14 ha is existing bushcare that just requires fencing, but not planting

Site selection

1. Our position was and remains that compensation sites are within the rail corridor as a first preference.
2. The total area proposed in Options A to D is still short of the one-to-one compensation of 1.1 hectare mandated in the Consent Condition.
3. We note that of the sites included in option C:
 - i. two are Council park sites.
 - ii. two are pre-existing and established Bushcare sites.
 - iii. two are in-corridor sites.



These sites will have very different costs associated with them. Park and existing sites will have low costs compared to in-corridor sites. Given Councils, GSC and IWEA have all stated a consistent position to in-corridor sites (of which there are only 2 new ones) and that the 1:1 compensation ratio is not met, we believe the Smith Street site should also be included.

The Smith Street site is an in-corridor site and adjacent to, long-nosed bandicoot records from the area. This area is undergoing major urban renewal, with considerable loss of habitat on old industrial sites. This is an important site and we feel should be in the Biodiversity Compensation Package. Including this site will move closer to the 1:1 compensation ratio as set out in the consent condition

4. This process has identified sites that are not included in options A to D proposed by TfNSW such as the western fork at Jack Shanahan Reserve.
5. TfNSW have been made aware by Marrickville Council that the inclusion of Johnson Park is subject to community consultation.
6. We reluctantly accept the inclusion of the pre-existing sites of Loftus and Little Street in the Biodiversity Compensation Package because without their inclusion the community will lose access to areas that have been worked on for many years. This would be unacceptable and lead to the reduction in the quality of the habitat in the corridor. However the use of these as compensation sites is still contentious. Our position is that these sites should be fenced along with the other existing bushcare sites in accordance with TfNSW's commitment to the continuous GreenWay Biodiversity Corridor stated in the 2021 Eastern Sydney and Inner West Regional Action Plan.
7. Only the areas of the Loftus Street site and the Little Street extension that have not been planted will offer new compensatory habitat.
8. The western fork at Jack Shanahan Reserve has excellent potential for biodiversity, landscape connectivity and bushcare. Rehabilitation of the site through the removing of the ballast is required but should not be cost prohibitive.

It is the opinion of Council's, GSC and IWEA that through our negotiations with TfNSW, the budget allocated for the Biodiversity Compensation Package will not be adequate to meet their obligations under the Condition of Consent. The inclusion of existing bushcare sites and sites on



council land which do not require fencing appears to be a cost cutting measure.

9. We are assuming that the Department of Planning has amended 'in perpetuity' to be a five year period as advised by TfNSW. Our experience shows that sites such as these require ongoing maintenance into the future. Five years is not adequate.

Funding the Package

Up until the recent disclosure of the financial arrangements for the Biodiversity Compensation Package we have taken it in good faith that the maintenance arrangements for the compensation sites would be adequate. It's clear now that the proposed maintenance frequency (two site visits per year) is seriously inadequate.

Unless a realistic maintenance arrangement can be negotiated, we will have to withdraw from the compensation package, as there is little advantage to biodiversity and the local community in setting up poorly managed (in and out of corridor) sites, .

The minimum cost that would be acceptable for the maintenance of these sites is \$4.50 per m² per year.

Maintenance of the sites: 1.051ha total area

TfNSW's offer of \$76,000 for maintenance of the revegetation sites was grossly inadequate. The additional offer of \$40,000 is an improvement, but is still a long way from the actual maintenance cost of bushcare projects. We dispute the proposed costing from your consultant EcoLogical Australia and also strongly disagree with their proposed methods for maintaining these high profile sites in an inner city area.

It's clear that the proposed maintenance frequency (two site visits per year) is seriously inadequate. Many of our most common and problematic weeds (e.g. asthma weed, bidens pilosa, erhartia erecta etc) are capable of completing a reproductive cycle multiple times during a six month period. Bushcare sites maintained under Leichhardt Council's bushcare program receive 6 - 8 maintenance visits per year. IWEG sites are visited 4 to 6 times a year by volunteers and contractors visit 1 to 2 times a year.



The Councils and IWEG have significant experience in managing weedy urban bush revegetation and bushcare sites. This includes established as well as new sites. Staff and volunteers have industry training and qualifications. We have calculated a per m² cost for this work and also have obtained a costing from an independent bush revegetation company.

Cost Comparisons:

The NSW Environmental Trust costs community bushcare at \$4.50 per m² per year for its grant programs. This is considered the benchmark for costs.

\$76,000 Initial proposed maintenance TfNSW \$1.81 per m² per year for 4 years

\$40,000 Increased offer TfNSW \$2.75 per m² per year for 4 years

GreenWay Bushcare (grant funded) cost \$6.18 per m²

Leichhardt Council cost estimate \$4 per m²

Ashfield Council Bushcare cost \$5.03 per m²

Notes regarding these costs:

- The GreenWay project bushcare costing includes capacity building:- volunteer training, equipment and a promotion budget to establish new bushcare groups
- Ashfield Council has calculated maintenance cost for revegetated bushcare sites based on Cadigal Reserve. This site has been under bushcare for more than 10 years. The cost of tool kits for volunteers is included and some training.
- Leichhardt Council bushcare costs are based on a range of sites from 200msq to 2ha. This does not include volunteer training and the establishment of new volunteer groups. Larger sites are usually cheaper to maintain.

Australian Association of Bush Regenerators:

"The cost depends on the quality of the works however as a general indicator a cost of between \$3.50-\$4.50per m² per year is a reasonable target for maintenance works".

This cost is for bushcare professionals and does not include community capacity building.

With these actual costs we propose therefore that the financial package proposed by TfNSW needs to be revised to reflect the true cost of maintenance, with CPI over the minimum 4 year period.



Monitoring

Councils and IWEГ support the proposal for monitoring the endangered long-nosed bandicoot population by Sydney University. We need, however to see more detail of the proposal, including the time period over which it is to take place, and how it would relate to research already undertaken, to better understand and evaluate the package and its value.

Councils and IWEГ along with community would want to be part of the monitoring program to continue data collection and observations. This ongoing information source would lead to better understanding and management of the long-nosed bandicoot population across the GreenWay catchment. For example; infra-red cameras provided as part of the package for councils, IWEГ and community to use long-term could potentially provide essential information as part of the package.

Provision of ongoing habitat during the works

The clearance of significant areas of the rail corridor for light rail infrastructure and the subsequent clearing for the development of bushcare sites will create a temporary paucity of habitat for a large variety of local species including bandicoots, small birds and reptiles. We therefore propose that the package includes a requirement for staged removal to lessen the negative impacts from the clearing process. For maintenance of biodiversity, it is essential that as much habitat as possible, is provided during this disruptive period. Habitat provision could be as simple as provision of weed, sandstone or timber (sleeper) piles.

Next Steps

After the selection of sites Councils, GSC and IWEГ look forward to working with TfNSW to:

- negotiate the provision of appropriate and realistic maintenance funding for Councils; and
- develop site management plans that will ensure that restoration is undertaken using a staged and sensitive process, incorporating best practice methodology which will enhance local biodiversity.

The infrastructure required to enable us to service these bushcare sites effectively also requires consideration.

Councils, GSC and IWEГ are keen to finalise the Biodiversity Compensation Package to mutual satisfaction. The final package must ensure best biodiversity outcomes and reflect true and realistic maintenance funding for Councils.

Appendix 2: Site Analysis

Compensation Site Analysis

Acronyms: RC - rail corridor; P - private land; RMS - land owned by Roads and Maritime Services; CP - Council Park; GreenWay RBP - GreenWay Revegetation and Bushcare Plan, CSR - combined services route (light rail utilities); HV - High voltage, OWH - overhead wiring

Notes: Grey cells indicate sites included in the Package

Bold text in the Selection Criteria columns indicates which criterion has resulted in the site not being feasible. See also Feasibility columns

In Corridor Sites					Recommended Source					Selection Criteria Considerations (bold text indicates limiting criterion)				Feasible Site based on Selection Criteria	Comments
Site Name	Type	EA	Greenway RBP Site (Rank)	Consultation	Safety & Access	Operations and Maintenance (Infrastrucutre, access and utilities)	Ecological	Within LNB Core Area	Other						
Blackwood Ave	RC		Site 21(2)		Gate from Blackwood Avenue required	CSR Service / Emergency Access gate	Close to Bandicoot sightings Poor area to width ratio	Y	Close to Bandicoot sightings	N				N	Not feasible due to operational and maintenance constraints.
Denison Road	RC		Site 17		Narrow area atop cutting > 5m Gate from Denison Rd required	CSR	Poor area to width ratio	Y		N				N	Not feasible due to safety concerns
Dudley Street	RC			Y	Gate from Duldley Street required.	Railcorp Access requirements HV, high pressure gas main		Y	Outside of light rail corridor. Potential development of DH Station	N				N	Not feasible due to operational and maintenance constraints.
Dulwich Hill Cutting	RC			Y	Vertical embankment > 5m Adjacent to Freight / Main line Gate from Bedford Crescent required.	Railcorp Access requirements Drainage channel, CSR, Aerial HV	Remnant grasses (Council surveys)	Y	Outside of light rail corridor. Potential development of DH Station	N				N	Not feasible due to operational and maintenance constraints and safety concerns
Ewart Lane	RC			Y	Gate from Wardell Road	Railcorp Access requirements / Preclude RailCorp expansion HV, high pressure gas main		Y	Outside of light rail corridor Potential development of DH Station	N				N	Not feasible due to operational and maintenance constraints.
Ewart St	RC	Y	Site 23 (3)		Ewart St Flat land likely to be used for possessions	Railcorp Access requirements / Preclude RailCorp expansion HV, OHW, high pressure gas main		Y	Outside of light rail corridor.	N				N	Not feasible due to operational and maintenance constraints.
Fred St (Old Canterbury Road)	RC	Y	Site 15 (3)		Gate adjacent to Old Canterbury Rd required Hawthorne Canal is fenced	CSR route Adjacent to Hawthorne Canal		Y		Y				Y	Included in the Package
Hercules St (Middle)	RC	Y	Site 20		Gate from Hercules Street would need to be segregated.	Access for HV Access for Service / Emergency Vehicles Light rail Infrastructure / maintenance area		Y	Must not preclude future shared path	N				N	Not feasible due to operational and maintenance constraints.
Hercules St (North)	RC	Y	Site 20		Would require stairs or ramp built from south-western abutment of Hercules St Bridge	Aerial HV	Close to Bandicoot sightings	Y	Must not preclude future shared path - ramp / stairs can be designed to accomodate	Y				Y	Included in the Package
Hercules St (West Fork)	RC	Y	Site 20		New gate from Jack Shanahan Park Steep embankment on western side to open channel adjacent to Hercules Street	Aerial HV	Close to Bandicoot sightings	Y	Must not preclude future shared path Ballast top required to be removed. Potential expansion of JS Park	Y				Y	Not selected due to complexity of establishing a compensation site outside of Project scope.
Hercules Street (b/w Hercules St & New Canterbury Rd)	RC		Site 19		Area to be open to the public as part of the project.	Dulwich Grove stop shared path and landscaping Aerial HV		Y		N				N	Not feasible due to operational and maintenance constraints.
Little St extension	RC	Y	Site 16		Gate from Little St required	CSR route	Close to Bandicoot sightings	Y		Y				Y	Included in the Package
Little St	RC	Y	Site 16		Gate from Little St required	CSR route	Close to Bandicoot sightings	Y	Private resident managing	Y				Y	Included in the Package
Loftus St	RC	Y	Site 07 (2)		Gate from Loftus St required	Aerial HV & CSR route		N	Fence to be at top of embankment. Resident group managing.	Y				Y	Included in the Package
Longport St	RC		Site 12		Access via Cadigal Reserve	Adjacent to Hawthorne Canal	Small area Heavily shaded area under Main West Line -> poor growing potential	Y	Potentially Part of Cadigal Reserve Extension	N				N	Not selected due to poor ecological potential
Lords Road East	RC		Site 09		Access via shared path	Adjacent to Hawthorne Canal	Poor area to width ratio	N	Shared path managed by LC Some work already undertaken	N				N	Not selected due to poor ecological potential
McGill Street / Lewisham West Stop	RC		Site 14		Hudson Street	Project revegetation planting throughout area Integration / conflict with LW Stop landscaping CSR Proposed Service / Emergency Access gate		Y	Private ownership	N				N	Not feasible due to operational and maintenance constraints.
Smith Street	P / RC		Site 13 (2)		Access from Smith Street / Longport Street would require stairs or ramp Steep & uneven	Adjacent to Hawthorne Canal		Y	Private ownership- Allied Mills Some land in RC potentially available	Y				Y	Not selected as conservation aims of the Package had been met.
The Parade	RC		Site 22		Gate from The Parade required	Railcorp Access requirements / Preclude RailCorp expansion Flat land to be used for possessions Drainage channel, sewer stack, OHW		Y	Outside of light rail corridor.	N				N	Not feasible due to operational and maintenance constraints.
Walter Street	RC		Site 08		Gate from Marion Street required	CSR Proposed Service / Emergency Access gate		N		N				N	Not feasible due to operational and maintenance constraints.
Weston Street	RC	Y			No access from public area					N				N	Not feasible due to safety concerns
William Street / Darley Road	RC		Site 05		Gate from Darley Road required Steep embankment	CSR	Narrow site - poor area to width ratio	N		N				N	Not selected due to poor ecological potential
Williams Parade	RC		Site 18 (3)		Narrow area atop cutting > 5m Gate from New Canterbury or Constitution Road required	Aerial HV	Poor area to width ratio	Y		N				N	Not feasible due to safety concerns

Outside Corridor sites		Recommended Source			Selection Criteria				
Site Name	Type	EA	Greenway Plan?	Consultation	Safety & Access	Operations and Maintenance (Infrastrucutre, access and utilities)	Ecological	Within LNB Core Area	Other
Blackmore Park	RMS		Site 03 (3)		Access via park			N	RMS property
Wills Ground, Earlwood	P		Site 26 (2)		Access through sports field.			Y	Distance from project
Barker St	CP		Site 11		Access from dog park area. Corridor area small embankment	Adjacent to Hawthorne Canal Sydney Water viaduct	Poor area to width ratio within the corridor. Corridor areas already heavily vegetated	Y	Ashfield's only offleash dog park
Cadigal Reserve (extension to existing Bushcare)	CP	Y			Access via park	Adjacent to Hawthorne Canal Sydney Water viaduct		Y	Not in Greenway Plan
Church Street	CP		Site 02		Access via park			N	Distance from project.
Darley Rd	CP		Site 04	Y	Access via park	Aerial High Volatge (HV) Integration with Hawthorne stop landscaping		N	Nominated by by LC Potential future development by LC? Sheilds Playground Plan of Management?
Haig Ave	CP		Site 10 (2)		Access via shared path / Cadigal Reserve	Adjacent to Hawthorne Canal		Y	Some work already done by Ashfield
Hawthorne Parade / Richard Murden Reserve	CP		Site 06		Access via park	Adjacent to Hawthorne Canal		N	
Hoskins Park	CP				Access via park	Potentially reducing parkland space, security / heritage concerns (Council)	Bandicoot sightings OEH preference	Y	
Jack Shanahan Park	CP		Site 24 (1)		Access via park		Bandicoot sightings	Y	Marrickville Council redevelopment
Johnson Park	CP			Y	Access via park	Potentially reducing parkland space, security / heritage concerns (Council)	Bandicoot sightings OEH preference	Y	Subject to Marrickville Council consultation
Leichhardt Park	CP		Site 01 (2)	Y	Access via park		Connectivitiy with Callan Park etc.	N	Distance from project. Nominated by LC
Petersham Park	CP				Access via park	Potentially reducing parkland space, security / heritage concerns (Council)	Known Bandicoot population OEH preference	Y	
Tennyson St (Golf Course)	CP		Site 25 (1)		Access via golf course / playground			Y	Distance from Project Golf Course

Appendix 3: Combination Options Email July 11th 2013

Tara Wilcoxon

From: Tara Wilcoxon
Sent: Thursday, July 11, 2013 9:24 AM
To: 'Damon Bassett'; 'AdamW@ashfield.nsw.gov.au'; 'Jon Stiebel'; 'Doug Anderson (DougA@lmc.nsw.gov.au)'; GreenWay Coordinator: Ros Gibbons; 'Geoff Pollard'
Cc: 'Auchinachie.Deborah@abc.net.au'; Tracy Reid; Douglas Lindsay; Julie Sundqvist; Simon Hussey; Jeremy Kidd; Diane Challenor
Subject: Inner West Light Rail Extension - Compensation Site Combination Options - response by 19 July
Importance: High

All,

It was resolved at Tuesday's meeting and as result of feedback received from Councils / Greenway Steering Committee and IWEГ on TfNSW's draft Package that combination options for compensation sites be circulated for consensus. Please find below Options A to D. TfNSW's draft Package proposal is provided for comparison, however it is noted that this combination is no longer supported.

The table shows the site, its proposed area and the text colour (blue or black) represents whether it is north of Parramatta Road or south of Parramatta Road. I have tried to line up sites with similar areas (rather than simply list them north to south), to show how the sites compare. It is understood that Leichhardt Park, Fred and Hercules North are agreed and therefore appear in **bold** in each option. The options provided have been included based on TfNSW's budgetary constraints. At this stage, no other compensation site combinations will be considered.

TfNSW believe that any of these options will meet the requirements of OEH and DP&I and will include an indirect offset component of an academic study as part of the Package.

We would require a combined response (Councils, GSC and IWEГ) selecting one of the below options by Friday 19 July 2013 for TfNSW to meet our submission requirements to OEH and DP&I. The submission document will be made available to Councils, Greenway Steering Committee and IWEГ for information.

TfNSW will discuss separately with Councils with regard to the Maintenance Payment. TfNSW will not be proceeding on any implementation of the Package until the Maintenance Payment is agreed and approval from OEH / DP&I is granted.

Minutes from Tuesday's meeting and a response to IWEГ's submission will be distributed in the coming days.

Regards
Tara

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8/5/2013

(TfNSW draft Proposal 22 May 2013)		B		C		D	
Leichhardt Park	0.271	Leichhardt Park	0.271	Leichhardt Park	0.271	Leichhardt Park	0.271
Fred	0.1	Fred	0.1	Fred	0.1	Fred	0.1
Hercules North	0.22	Hercules North	0.22	Hercules North	0.22	Hercules North	0.22
Darley Road	0.13	Johnson*	0.13	Johnson*	0.13	Johnson*	0.13
Loftus	0.21	Smith	0.06	Loftus	0.21	Loftus	0.21
Little + Extension	0.06	Hoskins*	0.07	Little + Extension	0.06	Hoskins*	0.07

* Subject to community consultation

North of Parra Rd	0.611	North of Parra Rd	0.271	North of Parra Rd	0.481	North of Parra Rd	0.481
South of Parra Rd	0.38	South of Parra Rd	0.58	South of Parra Rd	0.51	South of Parra Rd	0.52
Total	0.991	Total	0.851	Total	0.991	Total	1.001

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Appendix 4: Management Plan Template

MANAGEMENT PLAN TEMPLATE FOR BUSHCARE SITES (FROM ASHFIELD COUNCIL AND ECO LOGICAL AUSTRALIA 2011)

A Site Management Plan will clarify the goals and objectives of management and revegetation of the site and clearly set out the proposed actions and their general sequence. A Management Plan will act as a mechanism for agreement among stakeholders and ensures appropriate direction of practice and its continuity across the different personnel involved in restoration work and the organisation of restoration work.

Please complete a Site Management Plan for any new bushcare or revegetation site using this template as a guide. The titles included within this template provide a recommended basis for a best practise based site management plan. Some subject fields may not be relevant to some sites and certain information may not be obtainable for some fields

1. Site Assessment

Conduct an initial assessment of the site prior to the commencement of works to determine the current status of the site and the specific constraints and potential opportunities afforded by the site.

1.1 General Site Details and Description

Site Name:	
Volunteer Group Name:	
Site location (Street Name, Suburb):	
Site Description (i.e. approximate perimeter length and total area of site):	
Date of management plan completion:	
Proposed date of implementation:	

1.2 Site Access

Provide details of:

Licence, lease or land use agreement:	
Site access for volunteers:	
Site access for vehicles:	
Relevant considerations included within any existing plans of management or other reports affecting the site:	

1.3 Site Map

Prepare a site diagram showing site boundaries. Clearly show vegetation and natural features to be retained. Include a description of the topography and land use within and adjacent to the site. Include the location, type and extent of weed species present and in what density.

Show subterranean infrastructure or 'Dial Before you Dig' results.

Tip: *You may wish to contact the local Council or landholder for a base map; alternatively you could generate a map on Google Maps or a similar program.*

1.3 Topography

Aspect:

Slope:

Potential and actual erosion and/or deposition of substrate:

Potential safety risk:

1.4 Substrate

Underlying Geology:

Topsoil/Litter layer quality condition:

Soil structure, texture and type:

1.5 Hydrology

Possibility of flooding:

Surface water runoff/drainage and velocities:

Consideration of Water table height and potential sea level rise if applicable:

1.6 Drainage

Groundwater:

Surface water:

Sedimentation, erosion control and/or stabilisation works required:

1.7 Site Contaminants

Document the presence or history of Acid sulphate soils; salinity, roads and pathways, railways, airfields, service infrastructure (water, sewerage, gas, electricity, communications); (If contaminants have been previously removed from site prior to the completion of the management plan provide details of removal and remediation techniques)

1.8 Existing infrastructure	
Fencing:	
Lawn or pathway borders:	
Taps / Access gate:	
1.9 Health and safety considerations	
Identify potential public safety issues and actions taken too mitigate these risks:	
Identify actual public safety issues and actions taken too mitigate these risks:	
1.10 Waste currently on site	
Household waste:	
Industrial waste:	
Contaminated waste:	
1.11 Flora	
Vegetation history of this site:	
Conduct a baseline flora survey noting existing remnant native vegetation species present (note abundance and condition)	
Describe existing vegetation structure:	
Proximity of closest vegetation remnant (if applicable):	
Proposed vegetation community to be established at this site:	
Species names of weeds currently on site:	
Presence or evidence of endangered species &/ or ecological communities/existing vegetation communities, etc:	
1.12 Fauna	
Native fauna access:	
Herbivores and pest species access (rabbits, hares, ducks, foxes etc.):	
1.13 Critical habitat considerations	
Does the potential exist of the activities proposed within this management plan to adversely affect habitat that may be deemed critical under <i>The NSW Threatened Species Conservation Act 1995</i> ?	
Are there any signs of habitat utilisation from the Long-nosed Bandicoot or other significant fauna (Surveys for conical diggings, observations etc)?	
List the existing habitat infrastructure on site (logs, rocks etc)	

Natural:									
Artificial:									
1.14 Habitat and corridor values									
Does this site currently possess or have the potential to provide habitat linkage on a broader landscape scale?									
<h2>2. Description of project tasks</h2> <p><i>Describe each task necessary for the implementation of the plan, how each task will be done, time in hours to complete tasks and the duration of each task, the priority order for each task and who will be responsible for undertaking each task.</i></p> <h3>2.1 Aims and objectives</h3> <table border="1"> <tr> <td>Outline the aims and objectives for the bushcare site:</td> <td></td> </tr> </table> <h3>2.2 Initial tasks</h3> <ul style="list-style-type: none"> • Obtain or secure a Licence, lease or land use agreement • Review relevant existing Plans of management; All activities need to be in accordance with Council's Management Plan and any plans of management or other plan applying to the reserve. • Site assessment • Education and training strategy for site manager and volunteers • Prepare a plant species lists (existing vegetation) • Prepare a plant species lists (vegetation to be planted) <h3>2.3 Seed Collection and Propagation</h3> <table border="1"> <tr> <td>Identify local native seed sources, check on any licences required:</td> <td></td> </tr> <tr> <td>Identify who will collect and propagate seed stock:</td> <td></td> </tr> <tr> <td>Provide details on local provenance plant suppliers if tube stock etc. is to be used:</td> <td></td> </tr> </table>		Outline the aims and objectives for the bushcare site:		Identify local native seed sources, check on any licences required:		Identify who will collect and propagate seed stock:		Provide details on local provenance plant suppliers if tube stock etc. is to be used:	
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Identify local native seed sources, check on any licences required:									
Identify who will collect and propagate seed stock:									
Provide details on local provenance plant suppliers if tube stock etc. is to be used:									

2.4 Site Preparation:

- Soil testing and remediation
- Mapping
- Protection of plants to be retained
- Installation of sediment and erosion control devices
- Completion of any site works (if any)
- Application of herbicides
- Topsoil/litter layer storage

- Surface preparation (levelling, deep ripping, scarifying, mulching, etc.)
- Surface stabilisation - (needs to be suitable for the site/vegetation - erosion matting, mulch, brush matting, sterile cover crops, binding sprays, etc.)
- Site drainage preparation

2.5 Weed treatment program

Area of Weed Infestation to be cleared/
managed:
Weed infestation sources /pathways:
Prioritisation of weed treatment actions:

Primary Weed Control works (i.e. species,
work undertaken by volunteers or contractors,
weed control technique, proposed timing)
Secondary Weed Control Works (i.e. weed
species required to be controlled, techniques)
Techniques to increase the weed resistance of
the site

**An important consideration of the site
strategies is to ensure that vegetation is not
cleared beyond the group's maintenance
capacity.*

3.Site Implementation

3.1 Planting program

Describe the planting program and method:
provide a species list as well as details
explaining staging priorities and approach and
also consider the installation of weed mats,
mulch, stakes & ties, tree guards and the use
of fertiliser types (justify their need).

3.2 Plant stock

Plant stock: (Tubestock/virocells/long stems/direct seeding, etc.),
Proposed vegetation (species/communities)
Constraints (unavailable species)

3.3 Planting details

Source:

Provenance:

Plant community:

4. Documentation, Monitoring and Evaluation

Describe the monitoring and review process: include a method of performance evaluation, assessing the need for replacing plant losses, addressing deficiencies and six-monthly reporting.

Documentation needs to be sufficient to monitor progress and change, assess the effectiveness of approaches and techniques. Summarise the intended methods of evaluation that will be used in this project. For example: Comparison with baseline data established in the planning phase.

You may choose to keep daily work records, monthly, half yearly and/or annual reports, 'before and after' photographs and/or maps or vegetation quadrat descriptions.

5. Other considerations

Below is a list of considerations that could be relevant to the project. Please include details of these where appropriate

Risk of vandalism:

Signage:

Relevant legislation:

Planning instruments/ guidelines:

Frost areas:

Fire issues:

Community involvement and liaison with land owners and managers.	
How can other parts of the site and adjacent areas be managed to complement the vegetation strategy (eg weed control, drainage).	

6. Works Program /Action Plan

Complete a program detailing remediation work to be undertaken and the scheduling of activities. The work schedules should take into account volunteer numbers, the number of working hours available to the group, and the potential loss of volunteers over time. Consideration should be given to maintenance of existing areas and future ongoing maintenance of new areas prior to any recommendation about new primary work.

6.1 Timeline

Prepare a time frame to address all tasks in the project.

7. Site Maintenance

Please include details of a maintenance approach for the site. For example a proposed maintenance programme or bushcare roster that demonstrates how the condition of the site will be maintained in the future. (Note: A minimum of five years maintenance is recommended after last plantings completed).

This could include:

Weed followup treatment:	
Sediment and erosion control:	
Watering:	
Replacement of plant losses:	
Disease and insect control:	
Replenishment of mulch:	

References

Buchanan, R.A., 2009. *Restoring Natural Areas in Australia*. AABR, NSW Government Industry and Investment.

Department of Infrastructure, Planning and Natural Resources, 2003 *Bringing the Bush Back to Western Sydney Best Practice Guidelines for Bush Regeneration on the Cumberland Plain* Department of Infrastructure, DIPNR 2003. Click Media Penrith NSW.

The National Trust of Australia (NSW) 2010. *Bush Regenerator's handbook*, Third Edition 2010, The National Trust of Australia.

Walters, M 2010, Ryde College, TAFE NSW email, 22 November 2010.

Appendix 5 Reporting Template

WORKS REPORTING TEMPLATE FOR BUSHCARE SITES (FROM ASHFIELD COUNCIL AND ECO

details :	
Materials Used:	
Comments:	

<p>Figure 1.</p>	<p>Figure 2.</p>
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Planting List

Species	Provenance	Supplier*	No. Supplied	No. Planted	Comments
	TOTAL				

*GCN= Gladesville Nursery; MCN = Murrumbidgee Community Nursery; IOWEG = InnerWest Environment Group; RMR = Richard Morden Reserve

Report Prepared by: _____

Date: _____

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