

Everleigh



Environmental Pre-Start Checklist

Attachment 9

Erosion and Sediment Control Plan

EROSION RISK RATING
 BASED ON AVERAGE MONTHLY RAINFALL (SOURCE TABLE 4.4.2 IECA 2008)

MONTHLY DATA	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEPT.	OCT.	NOV.	DEC.
MEAN RAINFALL	101.00	79.50	130.90	535.50	33.50	67.80	19.80	24.50	23.40	35.80	109.10	75.500
EROSION RISK	HIGH	MODERATE	HIGH	MODERATE	LOW	MODERATE	VERY LOW	VERY LOW	VERY LOW	LOW	HIGH	MODERATE

VERY LOW RISK: 0 TO 30mm
 LOW RISK: 30+ TO 45mm
 MODERATE RISK: 45+ TO 100mm
 HIGH RISK: 100+ TO 225mm
 EXTREME RISK: >225mm

SOIL LOSS ESTIMATIONS

where:
 A = R * K * LS * C * P
 ANNUAL SOIL LOSS DUE TO EROSION (t/ha/yr)
 RAINFALL EROSIIVITY FACTOR
 SOIL ERODIBILITY FACTOR
 TOPOGRAPHIC SLOPE/LENGTH FACTOR
 EROSION CONTROL PRACTICE FACTOR
 COVER AND MANAGEMENT FACTOR

CONSTRUCTION AREA	EXPOSED AREA (ha)	R	K	EQUAL AREA SLOPE (%)	LS	P	C	A (t/ha/yr)	SOIL LOSS (t/yr)
CATCHMENT A	14.210	3262.000	0.043	6.000	1.470	1.300	1.000	268	3808
CATCHMENT B	1.040	3262.000	0.043	10.000	2.810	1.300	1.000	512	533
CATCHMENT C	2.360	3262.000	0.043	11.000	3.200	1.300	1.000	584	1378
CATCHMENT D	1.240	3262.000	0.043	11.000	3.200	1.300	1.000	584	724
CATCHMENT E	1.980	3262.000	0.043	4.000	0.650	1.300	1.000	119	235

APPLICABLE AREA ID	SOIL LOSS RATE (t/ha/year)	SEDIMENT CONTROL TECHNIQUE	DEFAULT SEDIMENT CONTROL TREATMENT MEASURE
0 TO 75	> 75	TYPE 3	SEDIMENT FENCE, SEDIMENT TRAP
75 TO 150	75 TO 150	TYPE 2	FILTER TUBE DAM, ROCK FILTER DAM, SEDIMENT TRENCH, SEDIMENT WEIR, COMPOST/MULCH BERM
CATCHMENT A, B, C & D	> 150	TYPE 1	SEDIMENT BASIN (SIZED IN ACCORDANCE WITH DESIGN STANDARD)



EXISTING CONSTRUCTION WATER HOLDING DAM. TO BE UTILISED TO TREAT DISTURBED CATCHMENT AREA RUN OFF. BASIN OPERATION AND MAINTENANCE TO BE UNDERTAKEN BY PRINCIPAL CONTRACTOR DURING CONTRACT PERIOD. REFER TO PREMISE DRAWINGS M1R001-01 FOR AS CONSTRUCTED DETAILS.

EXISTING BIORETENTION BASINS

EXISTING DETENTION BASIN BUND WALL

EXISTING SCHOOL SITE

FUTURE ATHLETICS FIELDS

EXISTING HES BASIN. TO BE UTILISED TO TREAT DISTURBED CATCHMENT AREA RUN OFF. BASIN OPERATION AND MAINTENANCE TO BE UNDERTAKEN BY PRINCIPAL CONTRACTOR DURING CONTRACT PERIOD. REFER TO PREMISE DRAWINGS M1R001-01 FOR AS CONSTRUCTED DETAILS.

I CERTIFY THAT THIS EROSION AND SEDIMENT CONTROL DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION GUIDELINES.

CHRIS HUTTON CPESC NO. 6241

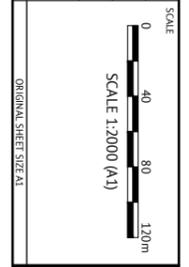
FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/10/2020	PRELIMINARY - NOT FOR CONSTRUCTION
2	12/10/2020	AMENDED ROAD NAMES
3	12/10/2020	APPROVAL ISSUE
4	12/10/2020	APPROVAL ISSUE
5	12/10/2020	APPROVAL ISSUE
6	12/10/2020	APPROVAL ISSUE
7	12/10/2020	APPROVAL ISSUE
8	12/10/2020	APPROVAL ISSUE

Premise

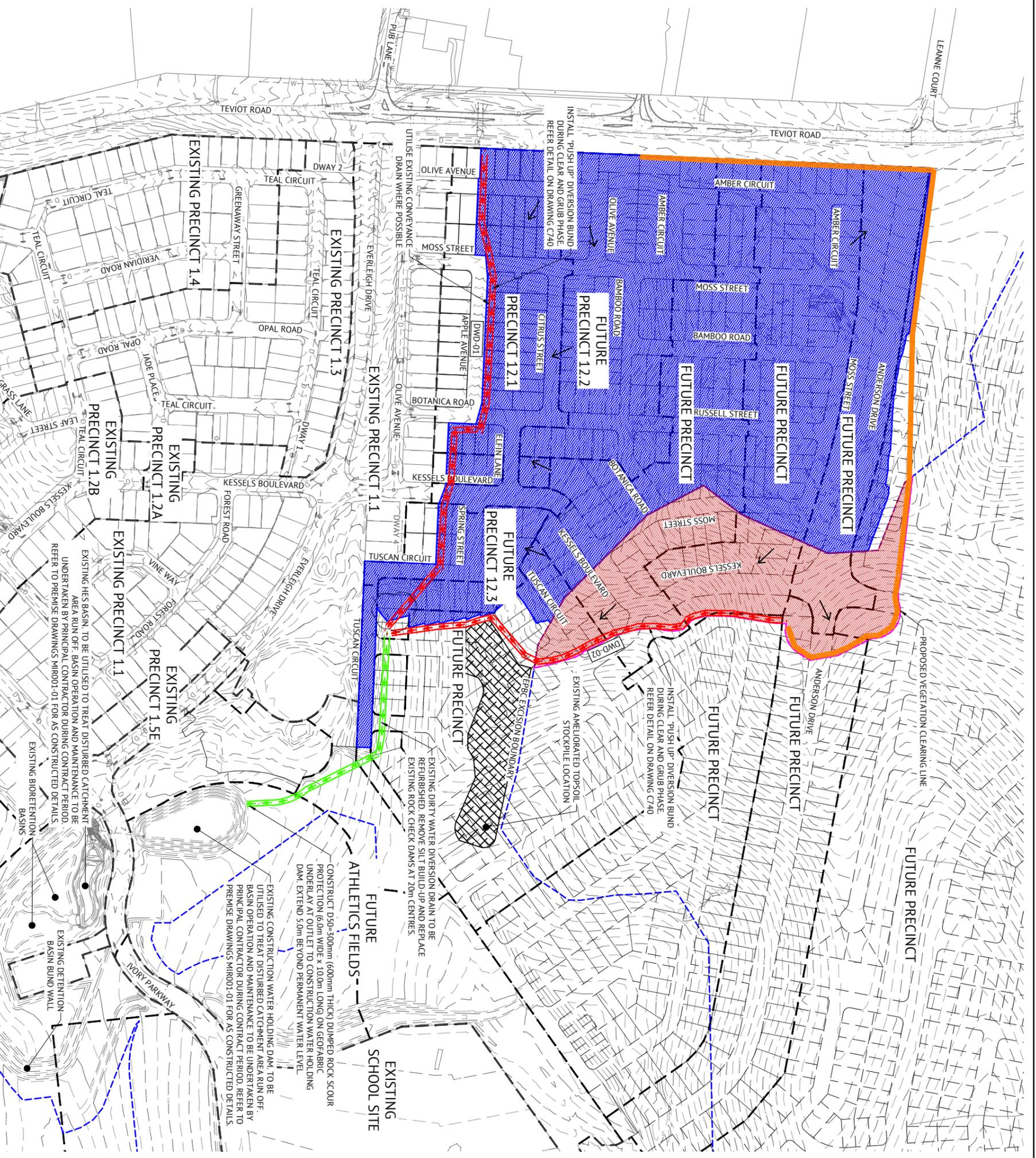
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DESIGNED: CH HUTTON
 CHECKED: M MAJNER
 PROJECT MANAGER: R LEWELYN
 PROJECT DIRECTOR: PAT BRADY
 RPEQ 7112



CLIENT: MIRVAC GROUP
 PROJECT: EVERLEIGH PRECINCT 12.1 SUBDIVISION DEVELOPMENT
 LOCATION: TEVIOT ROAD, GREENBANK
 SHEET TITLE: OVERALL EROSION & SEDIMENT CONTROL KEY PLAN

JOB CODE: MIR012-01
 SHEET NUMBER: C700
 REV: B



LEGEND - PROPOSED

- PREVIOUSLY CLEARED AREA, DISTURBANCE DUE TO MINOR VEGETATION CLEARING AND GRUBBING
- DISTURBED AREA, DISTURBANCE DUE TO NEW VEGETATION CLEARING AND GRUBBING
- MULCH BERM IN ACCORDANCE WITH IECA STD DRG MB-01
- CLEAN WATER DIVERSION BUND
- DIRTY WATER DIVERSION BUND
- FLOW DIRECTION ARROW

LEGEND - EXISTING

- MAJOR CONTOURS (1.00m)
- MINOR CONTOURS (0.50m)
- DIRTY WATER DIVERSION BUND

INSTALLATION SEQUENCE PRE-CLEARING AND PRE-BULK EARTHWORKS

- STEP 1**
- A. INSTALL ALL WEATHER ENTRANCE / EXIT POINT(S).
 - B. SET UP SITE OFFICE AND WASTE STORAGE AREAS/PARKING AREA FOR VEHICLES AND PLANT.
 - C. ERECT BARRIER FENCING FOR 'NO GO' AND VEGETATION PROTECTION AREAS AS DIRECTED BY THE SITE SUPERINTENDENT.
 - D. MARK OUT THE LIMITS OF DISTURBANCE WITHIN THE SITES BOUNDARIES.
- STEP 2**
- E. CLEAR AREAS FOR AND CLEAN/DIRTY WATER DIVERSION DRAINS ONLY.
 - F. CONSTRUCT 'DIRTY WATER' & CLEAN WATER CATCH DRAINS AND LINE AS PER DETAILS ON DRAWING C740.

PHASING NOTES:

PHASE 1 (PRE-CLEARING AND PRE BULK EARTHWORKS) UNDERTAKE ONLY WORKS RELATED TO THE PHASE 1 ESC INSTALLATION SEQUENCE.

NOTES

1. REFER EROSION AND SEDIMENT CONTROL NOTES AND DETAILS DRAWINGS.
2. ALL FOOTPATHS RELEVANT TO PROPOSED SUB-PRECINCT ARE TO BE FULLY TURFED AS SOON AS PRACTICAL.
3. ALL CLEAN AND DIRTY WATER CATCH DRAINS ARE TO HAVE ROCK CHECK DAMS PLACED IN ACCORDANCE WITH IECA STD DRG. RCD-01. THE CONSTRUCTION SITE ENTRANCE ROCK SHAKER PAD LOCATION TO BE DETERMINED BY THE SITE FOREMAN AND CONFERRED BY SITE SUPERINTENDENT. LOCATION TO BE MARKED UP ON ESC PLANS ONCE CONFIRMED.
4. EXISTING HES BASIN, TO BE UTILISED TO TREAT DISTURBED CATCHMENT AREA RUN OFF. BASIN OPERATION AND MAINTENANCE TO BE UNDERTAKEN BY PRINCIPAL CONTRACTOR DURING CONTRACT PERIOD. REFER TO PREMISE DRAWINGS MIR001-01 FOR AS CONSTRUCTED DETAILS.

I CERTIFY THAT THIS EROSION AND SEDIMENT CONTROL DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION GUIDELINES.

Chris Hutton
CHRIS HUTTON CPESC NO. 6241

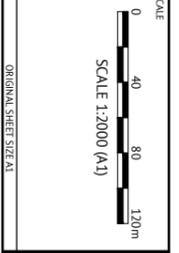
FOR CONSTRUCTION

12/10/2020	8	AMENDED DISTURBED AREA TO MATCH EARTHWORKS EXTENT AND ROAD NAMES
11/08/2020	A	APPROVAL ISSUE
00/00/0000	1	PRELIMINARY - NOT FOR CONSTRUCTION
DATE	REV.	DESCRIPTION
REGIONS	REC.	REV.

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PROJECT DIRECTOR	<i>R. Brady</i>
PAY	BRADY
	RPEQ 7112



CLIENT	MIRVAC GROUP
PROJECT	EVERLEIGH PRECINCT 12.1 SUBDIVISION DEVELOPMENT
LOCATION	TEVIOT ROAD, GREENBANK
SHEET TITLE	EROSION AND SEDIMENT CONTROL LAYOUT - CLEAR AND GRUB PHASE

JOB CODE	MIR012-01
SHEET NUMBER	C710
REV.	B

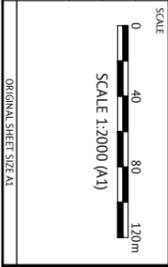


FOR CONSTRUCTION

12/10/2020	8	AMENDED ROAD NAMES
11/08/2020	A	APPROVAL ISSUE
00/00/0000	1	PRELIMINARY - NOT FOR CONSTRUCTION
DATE	REV	DESCRIPTION
	REV	DESCRIPTION

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PROJECT MANAGER	R. LEWELYN
PROJECT DIRECTOR	P. BRADY
PAY	RP02 7112



CLIENT
 EVERLEIGH PRECINCT 12.1 SUBDIVISION DEVELOPMENT

PROJECT LOCATION
 TEVIOT ROAD, GREENBANK
 EROSION AND SEDIMENT CONTROL LAYOUT - BULK EARTHWORKS PHASE

MIRVAC GROUP
 SHEET NUMBER
 C720

JOB CODE
 MIR012-01
 REV
 B

LEGEND - PROPOSED

- EXTENT OF CUT
- EXTENT OF FILL
- GULLY INLET PROTECTION. REFER DETAIL IECA DRAWING ESC-03 FOR DETAILS.
- FIELD INLET PROTECTION. REFER DETAIL IECA DRAWING ESC-02 FOR DETAILS.
- FLOW DIRECTION OR RUNOFF
- MULCH BERM
- CLEAN WATER DIVERSION BUND
- DIRTY WATER DIVERSION BUND
- FINISHED MAJOR CONTOURS (0.50m)
- FINISHED MINOR CONTOURS (0.25m)

LEGEND - EXISTING

- MAJOR CONTOURS (1.00m)
- MINOR CONTOURS (0.50m)
- EXISTING MULCH BUND.
- BUILT DURING CLEARING AND GRUBBING PHASE
- EXISTING DIRTY WATER DIVERSION BUND BUILT DURING CLEARING AND GRUBBING PHASE

INSTALLATION SEQUENCE CLEARING AND BULK EARTHWORKS

- STEP 1
 ONCE CATCH DRAINS ARE ESTABLISHED, STRIP TOPSOIL FROM SITE AND STOCKPILE AS DIRECTED BY THE SITE SUPERINTENDENT. ENSURE DOWNSTREAM MULCH BUNDS AND UPSTREAM DIVERSION BANKS ARE OPERATIONAL AROUND STOCKPILE AREAS.
- STEP 2
 PERFORM BULK EARTHWORKS ON LEADS CUT TO FILL ON SITE IN ACCORDANCE WITH THE CIVIL BULK EARTHWORKS DRAWINGS.
- STEP 3
 ONCE FINAL CUT AND FILL BATTER LEVELS HAVE BEEN ACHIEVED, REMOVE REQUIRED TOPSOIL FROM STOCKPILED AREAS AND PLACE ON BATTERS AND OTHER DISTURBED AREAS AS DIRECTED BY THE SITE SUPERINTENDENT.
- STEP 4
 AS SOON AS POSSIBLE AFTER TOPSOIL HAS BEEN PLACED ON BATTERS AND OTHER DISTURBED AREAS, THESE AREAS SHOULD BE SEEDED OR HYDROMULCHED TO STABILISE. IF A RAINFALL EVENT IS FORECAST WHICH IS LIKELY TO CAUSE RUNOFF PRIOR TO STRIPPED AREAS BEING STABILISED, A COMBINATION OF MULCH AND BIDUM IS TO BE USED TO COVER EXPOSED AREAS.
- STEP 5
 ALL SEDIMENT AND EROSION CONTROL MEASURES ARE TO REMAIN IN PLACE AND BE MONITORED UNTIL CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. ADDITIONAL EROSION CONTROLS ARE TO BE EFFECTED AS REQUIRED BY THE SUPERINTENDENT.

NOTES

1. REFER EROSION AND SEDIMENT CONTROL NOTES AND DETAILS DRAWINGS.
2. ALL FOOTPATHS RELEVANT TO PROPOSED SUB-PRECINCT ARE TO BE FULLY TURRED AS SOON AS PRACTICAL.
3. ALL CLEAN AND DIRTY WATER CATCH DRAINS ARE TO HAVE ROCK CHECK DAMS PLACED IN ACCORDANCE WITH IECA STD DWG RCD-01.

I CERTIFY THAT THIS EROSION AND SEDIMENT CONTROL DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION GUIDELINES.
 CHRIS HUTTON CPESC NO. 6241



LEGEND - PROPOSED

- 0 — PROPOSED STORMWATER
- 100mm THICK TOPSOIL RESPREAD AND DRILL SEEDING
- 100mm THICK TOPSOIL AND TURF
- 50mm THICK TOPSOIL DRILL SEEDING
- NO TOPSOIL AND POLYMER SPRAY
- GEO-FABRIC LINING (TO BATTER)
- CLEARING AREA STABILISATION, CONTRACTOR TO ENSURE AREAS ADEQUATELY STABILISED FOLLOWING DISTURBANCE INCLUDING FILLING OF ROOT BALL DEPRESSIONS TO ELIMINATE WATER PONDING.
- FINISHED MAJOR CONTOURS (0.50m)
- FINISHED MINOR CONTOURS (0.25m)

LEGEND - EXISTING

- 120 — MAJOR CONTOURS (1.00m)
- MINOR CONTOURS (0.50m)

SERVICE TRENCH AND ROAD CONSTRUCTION SEQUENCE

- STEP 6 PAVEMENT CONSTRUCTION, MAINTAIN SILT FENCES, AND CATCH DRAINS WHICH CONTROL SEDIMENTATION AND EROSION DURING PAVEMENT CONSTRUCTION.
 - STEP 7 MAINTENANCE PERIOD MAINTAIN CONTROL AND ESC AND VEGETATIVE TREATMENTS WHICH CONTROL SEDIMENTATION AND EROSION PRIOR TO THE ESTABLISHMENT OF STABILIZED GRASS COVER.
 - STEP 8 ONCE STABILIZED GRASS COVER HAS OCCURRED REMOVE SEDIMENT BASIN IN ACCORDANCE WITH NOTES ON DRAWING C730.
 - STEP 9 REMOVE CONSTRUCTION ENTRANCES.
- ADDITIONAL EROSION CONTROLS ARE TO BE ERRECTED AND MONITORED AS REQUIRED BY THE SUPERINTENDENT

NOTES

1. REFER EROSION AND SEDIMENT CONTROL NOTES AND DETAILS DRAWINGS.
2. ALL FOOTPATHS RELEVANT TO PROPOSED SUB-PRECINCT ARE TO BE FULLY TURFED AS SOON AS PRACTICAL.
3. CONTRACTOR TO ENSURE THAT GRASS SEEDING AREAS SHOWN ON THIS PLAN ACHIEVE SUFFICIENT STRIKE AND COVERAGE IN ACCORDANCE WITH LOGAN CITY COUNCIL STANDARDS.

TURFING AND TOPSOIL NOTE

CONTRACTOR SHALL RESPREAD AMELIORATED TOPSOIL (AMELIORATION REQUIREMENTS AS DIRECTED BY SUPERINTENDENT) TO VEGES AT A THICKNESS OF 100mm. TURFING TO VEGES WITHIN PRECINCT 12.1 WORKS SHALL BE UNDERTAKEN BY THE CIVIL CONTRACTOR.

I CERTIFY THAT THIS EROSION AND SEDIMENT CONTROL DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION GUIDELINES.

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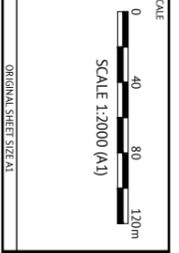
FOR CONSTRUCTION

12/10/2020	B	AMENDED STABILISATION HATCHES AND ROAD NAMES
11/08/2020	A	APPROVAL ISSUE
DDMMYYYY	1	PRELIMINARY - NOT FOR CONSTRUCTION
DATE	REV.	DESCRIPTION
	REGIONS	

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CHECKED	M MAIZNER
PROJECT MANAGER	R LEWELYN
PROJECT DIRECTOR	PAT BRADY
REF: RPEQ 7112	



CLIENT

PROJECT
EVERLEIGH PRECINCT 12.1 SUBDIVISION DEVELOPMENT
TEVIOT ROAD, GREENBANK
EROSION AND SEDIMENT CONTROL LAYOUT - STABILISATION PHASE

JOB CODE	MIRVAC GROUP
SHEET NUMBER	C730
REV	B
REV	

Everleigh



Environmental Pre-Start Checklist

Attachment 10

Site/Project Induction

Inductee Name	Project
Position	

Coronavirus COVID-19 Questions:	Y	N
I declare that I have not returned from any overseas country in the last 14 days.	<input type="checkbox"/>	<input type="checkbox"/>
I declare that in the last 14 days I have not been in contact with a confirmed case of Covid-19 and do not have any symptoms related to COVID-19.	<input type="checkbox"/>	<input type="checkbox"/>
I agree that Shadforth COVID -19 preventative measures have been explained to me and I will always adhere to these measures.	<input type="checkbox"/>	<input type="checkbox"/>

The Following site requirements have been explained to me:	Y	N	NA
Onsite Communication Procedures – UHF Channels on this site -	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daily Pre-start Meeting, Sign in Requirements, Toolbox Talks and Working Hours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VMP, Haul Roads and Parking procedures onsite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency and First Aid Procedures and Locations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Incident, Injury and Hazard procedures and reporting requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site Amenities (Office, Crib room, Toilets, Clean Water)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site Security Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safe Work Method Statements- Reviewing and Understanding prior to works	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PPE Requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High Risk Activities – Procedures and Permits (Confined Space, Hot Works, Excavation and Maintenance)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant, Vehicles, Equipment and Machinery (VOC, pre-starts, minimum requirements, maintenance procedure, mobile phones, seat-belts, quick-hitches, vehicle recovery)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site Specific Hazards and No-Go Zones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site Specific Environmental Issues, Waste and Stormwater Management and Erosion and Sediment Controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site Specific Cultural Heritage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Inductee Acknowledgment

I acknowledge that I have completed the Online General Workplace Induction and HIRAC training paper, along with having participated in the project specific induction and confirm that I understand the requirements, procedures and standards expected of me and agree to work safely and comply with the site's standards and procedures at all times and all information provided is true and correct.

Signature	Date
Employer	Phone Number

Shadforth Representative to Complete this Section

Shadforth Representative - Verifications	Y	N	NA
Online General Workplace induction and Construction Card- compliant and verified on Rapid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High Risk Licences, Tickets and VOC's uploaded and verified on Rapid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Person has the correct PPE for works being carried out	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Site Specific VOC completed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Shadforth Representative Acknowledgment

I confirm that I am authorised by Shadforth, to provide this induction and I have explained in detail, the items outlined above. I have checked/verified the inductee has completed the induction requirements to enter/work on this project site.

Name	Signature	Date

Everleigh



Environmental Pre-Start Checklist

Attachment II

Bushfire Hazard Assessment Management Plan

Bushfire Hazard Assessment and **Fire** Management Plan

Teviot Road, Greenbank

138-168 Teviot Road, 456-520 Greenbank Road & 96-102 Brightwell Street, Greenbank



Prepared for

Mirvac Qld

By

Rob Friend & Associates Pty Ltd

**PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL**

Approval no: DEV2016/768

Date: 2 June 2017



November 2016

Document Management

Quality Assurance Statement				
Revision No.	Author	Status	Approved for Issue	
			Name	Date
01	Rob Friend	Draft	Rob Friend, Director, RF&A Pty. Ltd.	3 November 2016
02	Rob Friend	FINAL	Rob Friend, Director, RF&A Pty. Ltd.	4 November 2016

This document has been prepared solely for the benefit of Mirvac Qld, its sub-consultants and Economic Development Queensland (EDQ) is issued in confidence for the purpose only for which it is supplied which is to provide information with regard to bushfire hazards, mitigation and management within the properties identified in this document. Unauthorised use of this document in any form whatsoever is prohibited. No liability is accepted by Rob Friend & Associates Pty Ltd or any employee, contractor or sub-consultant of this company with respect to its use by any other person.

This disclaimer shall apply notwithstanding that, the document may be made available to other persons for an application for permission or approval or to fulfil a legal obligation.

Photograph cover page – Photograph of a typical Acacia regrowth area covering much of the property.



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Introduction

This Bushfire Hazard Assessment and Fire Management Plan has been prepared for Mirvac Qld with respect to the development application over Area 1 and the immediate vicinity as identified in Figure 1 (see Appendix A). The footprint of Area 1 is located within Mirvac's Greenbank land holding as identified below:

- J 96-102 Brightwell Street, Greenbank described as Lot 205 on RP845844 (15.9284 ha.),
- J 138-168 Teviot Road, Greenbank, described as Lot 434 on RP845844 (400.8 ha), and
- J 456-520 Greenbank Road, Greenbank, described as Lot 9 on S312355 (64.75 ha).

This fire management plan seeks to provide a number of bushfire management actions with regard to Area 1 of the development.

Site description

General location

The property is located to the east of Teviot Road, and north of Greenbank Road, Greenbank. To the east is a Council managed bushland park, Wearing Park, along with rural residential allotments primarily accessible from Greenhill Road, Greenbank. To the north are rural and rural residential allotments around Brightwell Street and Campbell Road. Rural properties also abut the site along its southern boundary and to the west is Teviot Road.

The property has had a history of cattle use prior to the settlement and transfer of land to Mirvac Qld. It is noted that balance areas of the property awaiting future development will continue to be managed for rural residential/agricultural purposes including the grazing of cattle.

Area 1 is located in the south-western portion of the site abutting Teviot Road and Greenbank Road and within an area which has been previous cleared for cattle agistment and as such within an area of low bushfire hazard.

Access to the development will be via a new road from the existing Teviot Road / Pub Lane, Greenbank intersection.

Topography

The landform within this area generally slopes from west to east.

Existing Vegetation

Area 1 is located within a portion of the site that is predominantly clear pastoral land. Such pastoral land is defined as the area to the south and west of the EPBC excision boundary as shown on Figure 2 of Appendix A.

The pastoral areas within the EPBC excision boundary can be classed as grassland, however depending on rainfall and the commencement of bulk earth works within the property, this grassland may grow to become a hazard.

The hazards presented by this grassland, if it is permitted to grow, prior to being developed maybe sufficient to involve the adjacent open forests or other bushlands on neighbouring properties as well as produce significant quantities of

smoke which could be a safety hazard for vehicles on the surrounding road network. Notwithstanding the above, the re-stocking of the property with beef grazing cattle supplemented by slashing (where required) will assist in managing the abovementioned hazards.

Development proposal

The proposal is to undertake the development of an area identified on the proposal plans as "Area 1". Area 1 is located in the western portion of 138-168 Teviot Road, Greenbank (Lot 434 on RP845844 covering an area of 400.8 hectares) (see Figure 1 of Appendix A).

Area 1 consists of two types of residential uses, Residential – Standard and Residential – Interface Lots – South. In addition to the two residential areas, Area 1 will also see part of the Regional Open space/Recreation area established in the eastern and lower portions of this area.

It is noted that the proposal will also see the establishment of a 100-metre-wide maintained buffer around the perimeter of the Area 1 footprint and as such no residential lot will be within 100 metres of any area of mapped potential bushfire hazard area.

All hazardous vegetation within the EPBC excision boundary will be cleared on commencement of site works in Area 1. This clearing is addressed in technical reporting by Saunders Havill Group in support of the Area 1 development application.

Bushfire Hazard Assessment

Existing

The Natural Hazards Risks and Resilience - Bushfire hazard area mapping provided by the State Planning Policy of April 2016, maps areas of High and Medium potential bushfire intensity over some of the area over which Area 1 will be developed (see Figure 2).

Post Clearing

The post clearing area within the EPBC excision boundary can be classified as grassland. Therefore, this area is considered to be an area of low bushfire risk.

However, areas of medium and high potential bushfire intensity remain outside the EPBC excision area after the EPBC excision area has been cleared. A 100m potential hazard buffer is required from such medium and high potential bushfire intensity areas. The post clearing medium and high potential bushfire intensity areas and buffers are shown on Figure 3 of Appendix A.

Figure 3 shows that all residential allotments in Area 1 are outside the potential hazard buffer and are therefore classified as having a low bushfire risk, or not in a bushfire prone area.

Bushfire Management Plan

No residential allotments in Area 1 are in a bushfire prone area in the post clearing scenario. Therefore, no residential allotments within Area 1 will be required to be assessed against the Australian Standard Building in a Bushfire Prone Area, AS3959-2009 once such clearing works are complete.

The following land management specifications have been made to ensure the management of the area within the EPBC excision boundary is such that this area remains as an area of low bushfire hazard.

1. The 100-metre-wide buffer is to be maintained by slashing at regular intervals such that the vegetation within the buffer is maintained at all times, less than 200 mm in height.
2. A 6-metre-wide fire trail is to be established along the outer edge of the 100-metre-wide buffer and setback from that edge by a maximum of 10 metres. This space allows for effective zone within which to conduct any bushfire suppression operations by Emergency Services if and when required.
3. The fire trail is to have access for Emergency Service and maintenance contractors from: -
 - a. Teviot Road via a locked gate
 - b. Greenbank Road via a locked gate
 - c. At least four points from the internal road network including from the end of the main boulevard road. This point is to ensure access is directly available to the north and east of this dead end of the boulevard roadway.
4. In the event of a bushfire commencing within the properties owned by Mirvac Qld, the Property Caretaker is to ensure the locked gates which provide access from Teviot and Greenbank Roads are unlocked. However, a key is to be provided to the Greenbank Rural Fire Brigade for their purpose and to enable access at all times for any purpose involving the management of bushfire within the whole property.

Appendix A – Figures

Figure 1 – Overall Land use plan including Area 1



Legend

- SITE BOUNDARY
- CADASTRE BOUNDARIES
- - - AREA 1 BOUNDARY
- - - GREATER FLAGSTONE UDA BOUNDARY
- EXISTING EASEMENTS
- RAIL CORRIDOR
- POTENTIAL TRAIN STATION ¹
- TRUNK CONNECTOR ROAD NETWORK
- NEIGHBOURHOOD CONNECTOR ROAD NETWORK
- RESIDENTIAL ACCESS STREETS

Land Uses

- RESIDENTIAL - STANDARD LOTS
- RESIDENTIAL - INTERFACE LOTS - NORTH
- RESIDENTIAL - INTERFACE LOTS - SOUTH
- NEIGHBOURHOOD CENTRE
- DISTRICT CENTRE (EXTERNAL) ¹
- COMBINED REGIONAL RECREATION AND REGIONAL SPORTS PARK
- INDICATIVE LOCATIONS OF MAJOR LINEAR PARKS
- CONSERVATION PARKLAND
- POTENTIAL ECO LOT PRECINCT (SUBJECT TO FURTHER ASSESSMENT)
- INDICATIVE LOCATIONS OF NEIGHBOURHOOD PARKS
- INDICATIVE LOCATION OF STATE PRIMARY SCHOOL
- ✱ COMMUNITY FACILITY

¹ Location as nominated in the Greater Flagstone PDA Development Scheme. These items are outside the area controlled by the applicant and are subject to approval and delivery by others.

Note: Locations of Context Plan features are indicative and subject to detailed design.

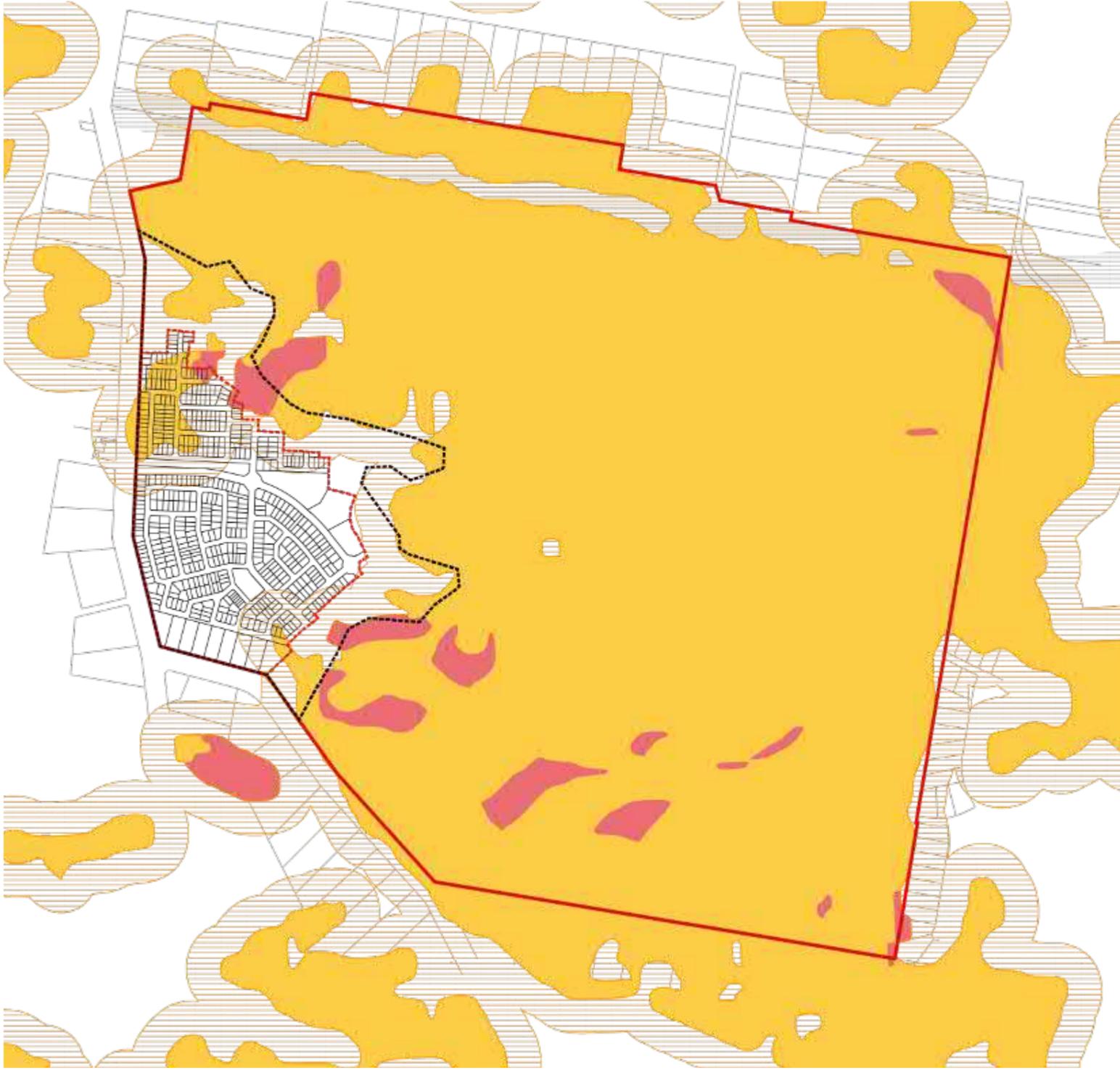


**GREENBANK
LAND USE PLAN WITH AREA 1**



DATE: 02.11.2016
 JOB NO: ND1309
 DWG NO: LU:02
 REV: 5

Figure 2 – Bushfire hazard plan – Area 1 – Pre-clearing



Legend

- SITE BOUNDARY
- CADASTRE BOUNDARIES
- AREA 1 BOUNDARY
- EPBC EXCISION BOUNDARY
- HIGH POTENTIAL BUSHFIRE INTENSITY
- MEDIUM POTENTIAL BUSHFIRE INTENSITY
- POTENTIAL IMPACT BUFFER (100M)



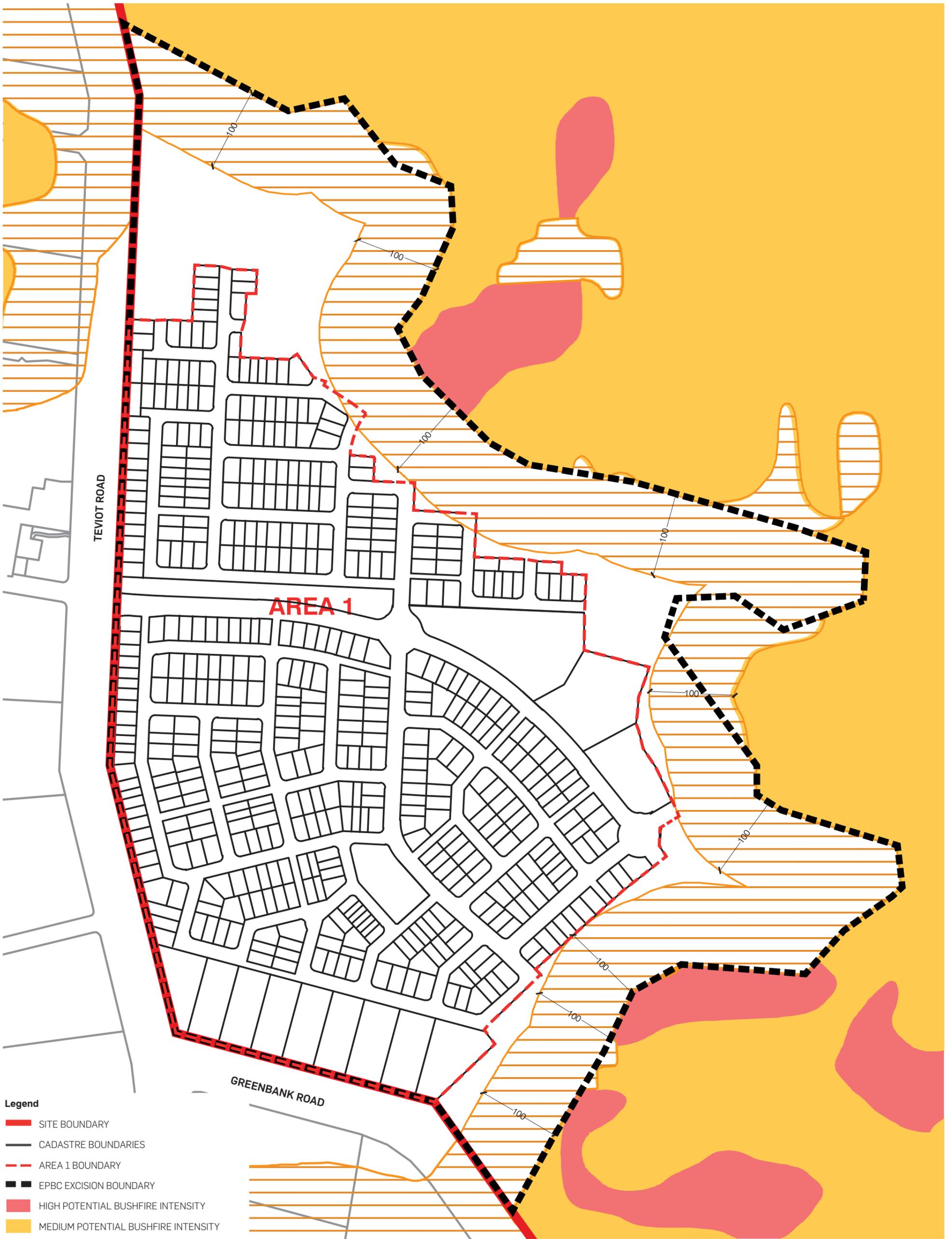
GREENBANK
BUSHFIRE HAZARD PLAN - AREA 1 - EXISTING



1:15,000 @ A3

DATE: 03.11.2016
 JOB NO: ND1309
 DWG NO: BF:01
 REV: -

Figure 3 - Bushfire hazard plan – Area 1 – Post-clearing land within the EPBC excision boundary



- Legend**
- SITE BOUNDARY
 - CADASTRE BOUNDARIES
 - AREA 1 BOUNDARY
 - EPBC EXCISION BOUNDARY
 - HIGH POTENTIAL BUSHFIRE INTENSITY
 - MEDIUM POTENTIAL BUSHFIRE INTENSITY
 - POTENTIAL IMPACT BUFFER (100M)



GREENBANK
BUSHFIRE HAZARD PLAN - AREA 1 - POST CLEARING

Environmental Pre-Start Checklist

Project Area: ROL 6.1 (sub-stage of ROL6)	Date: 19 October 2021
Contractor: Shadforth's	Scope of Works: Vegetation clearing associated with ROL6 (DEV2020/1131) and continuation of EPBC Stage 2 (EPBC2016/7817). Refer Attachment 1 for clearing extent and Attachment 2 for EPBC Stage context.
Date work is to start: 19 October 2021	
Date work is to cease: 12 November 2021	

		Compliance (✓ ✗ N/A)					
#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
1a	Has the environmental coordinator obtained approval for works located inside the <i>Environment Protection and Biodiversity Conservation Act 1999</i> referral area (EPBC 2016/7817)?					✓	<p>Yes. Refer Attachment 2 – for a copy of the EPBC Approval (EPBC2016/7817). Attachment 2 shows the extent of works within the EPBC Stages and is continuation of Stage 2.</p> <p>In accordance with condition 7 of the approval (ref. EPBC2016/7817) the approval holder notified the Department within 10 business days after the commencement of Stage 2 during clearing works for Precinct 12.</p> <p>As per EPBC conditions, all works must occur in accordance with the <i>Mirvac Greater Flagstone Project: Natural Environmental Strategy (18 April 2017)</i>, as approved by</p>

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
							<i>Economic Development Queensland on 2 June 2017 [NESS] (Refer Appendix C).</i>
1b	Has the environmental coordinator obtained approval for an Offset Strategy to compensate for the loss of 230ha of Koala and Grey-headed Flying-fox habitat in order to commence Stage 2 works in accordance with approval conditions 4 to 6 (EPBC 2016/7817)?					✓	Refer to Offset Strategy Approval Letter (Attachment 3), which determined the 'Offset Strategy – Mirvac Greater Flagstone Project, Greenbank, Queensland prepared by Saunders Havill Group, dated 23 September 2020' met the requirements of approval condition 4 to 6 of EPBC 2016/7817.
MANAGEMENT PLANS							
1b	Has a Vegetation Clearing Management Plan (VMP) been prepared, reviewed by the environmental coordinator and approved by Economic Development Queensland (EDQ)?					✓	Refer to Attachment 4 - 'Vegetation Clearing and Fauna Management Plan, ROL 6.1 (Sports & Recreation Park Lot 8004 & 805 – Bulk Earthworks, Everleigh Greenbank prepared by Saunders Havill Group, dated 5 October 2021 [VCFMP]'.
1c	Has Fauna Management Plan (FMP) been prepared, reviewed by the environmental coordinator and approved by EDQ?					✓	
1c	Has the environmental coordinator undertaken a Protected Plants flora survey for the clearing impact area and obtained an exemption / permit to clear from the Department of Environment and Science (DES) for protected species under the <i>Nature Conservation Act 1992</i> ?					✓	Refer to Attachment 5 for a copy of the DES Wildlife Authority Permit for clearing of protected plants (WA0026119) granted 23 August 2020 and approved clearing impact area.

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
							<p>No <i>M. irbyana</i> specimens are to be cleared under the VMP.</p> <p>All works must be undertaken in accordance with 'Impact Management Plan Melaleuca irbyana 432-520 Greenbank Road, Greenbank prepared for Mirvac QLD Pty Ltd 10 July 2020' [IMP], and associated appendices and supporting documentation.</p>
CONTRACTOR RESPONSIBILITIES							
2a	Has the contractor issued copies of the NESS and EDQ Approved VCFMP been issued to all site contractors and sub-construction and made these management plans available in the site construction office?			✓			Copies of the VCFMP have been provided to the contractor as attachments to this environmental pre-clearance package. Refer to Attachment 5.
2b	Have clearing extents provided by the site superintendent to the site contractor and environmental coordinator ?		✓	✓		✓	Clearing extents were provided to the environmental coordinator in preparation of the VCFMP. Tree protection fencing lines as shown on the VCFMP were provided to the contractor prior to the installation of tree protection fencing. Refer Attachment 4.

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
2c	Have clearing extents been marked out and fenced as per VCFMP requirements by the contractor and demarcation fencing signed off by the environmental coordinator ?		✓	✓		✓	Clearing extents were checked by the environmental coordinator on 5 October 2021. Refer to Attachment 6 for sign off by the environmental coordinator of demarcation fencing.
2d	Has the contractor appointed a fauna spotter catcher holding required DES permits (approved by the environmental coordinator) to be present during all clearing activities and made aware of their responsibilities under the FMP and VMP?			✓	✓	✓	Refer Attachments 7 & 8 for references of AWEC Environmental Consultants current licenses and operating permits as the appointed fauna spotter catcher in Section 3 of the <i>Wildlife Protection Management Plan Everleigh Central Park School, prepared by AWEC (WPMP)</i> and Section 2 of the <i>Wildlife and Habitat Impact Mitigation Plan, Everleigh, Central Park School, Prepared by AWEC (WHIMP)</i> .
2e	Has the appointed fauna spotter catcher completed pre-clearance surveys and reports and have these been reviewed by the environmental coordinator ?				✓	✓	Preclearance surveys were undertaken on the 22 September and 12 October 2021. Refer Att 7 for a copy of the WPMP and Att 8 for a copy of the WHIMP. Review of the WPMP and WHIMP was undertaken by the environmental coordinator on 5 October 2021. In addition to the preclearance surveys a Thermal Survey for Koalas was undertaken

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
					✓		prior to works commencing (Refer Attachment 7).
2f	If any threatened fauna species or habitat/breeding places have been identified by the fauna spotter catcher , have appropriate controls been implemented and discussed with the key personnel?			✓	✓	✓	Refer to Section 4.2 of WPMP (Attachment 7) for the location of significant habitat features identified by pre-clearance surveys. Appropriate mitigation measures have been provided in the WHIMP (Attachment 8). Appropriate controls will be discussed with key personnel at the pre-start meeting.
2g	Has an Erosion and Sediment Control Plan been prepared and self-certified by a RPEQ or accredited CPESC professional / site superintendent and supplied to the contractor ?		✓	✓			Refer to Attachment 9 for the construction issue Erosion and Sediment Control (ESC) Plans prepared by the site superintendent.
2h	Has the contractor put in place appropriate induction and management controls to ensure all contractors, subcontractors and associated personnel been instructed on environmental procedures and controls, including timing of clearing, stop-works procedures and non-compliance reporting requirements?			✓		✓	Refer to Attachment 10 for project/site induction supplied by the contractor demonstrating environmental awareness.
BIODIVERSITY VALUES							
3a	Will the works occur in an area of significant biodiversity values as shown by the NESS?		✓	✓		NA	Works will occur within confirmed waterways.

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
3b	Will the works occur in an area of other biodiversity values as shown by the NESS?		✓	✓		✓	Works will occur within areas of mapped remnant vegetation (Of Concern Regional Ecosystem), identified juvenile native vegetation and waterway buffer areas.
3c	Will the works occur in a Department of Agriculture and Fisheries (DAF) mapped waterway?		✓	✓		✓	Works will occur in a Department of Agriculture and Fisheries (DAF) mapped waterway.
3d	Will the works involve the clearing of Koala Habitat as mapped by Koala Habitat Values mapping and do offsets apply to the clearing?	✓		✓		✓	In accordance with the NESS offsets for the clearing of Koala habitat will be addressed through EPBC approval conditions, which take precedence over any State Government Offset or obligations for the same prescribed matter. In addition to the preclearance surveys a Thermal Survey for Koalas was undertaken prior to works commencing (Refer Attachment 7).
3e	Has a Bushfire Hazard Assessment and Management Plan been prepared for the stage of works and endorsed by EDQ?	✓	✓	✓		✓	Refer to Attachment 10 for a copy of the <i>Bushfire Hazard Management Plan prepared by Rob Friend and Associates, dated November 2016.</i>
PRESTART MEETING							

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
4	Has a pre-start been completed with all relevant parties?	✓	✓	✓	✓	✓	A pre-start meeting will be held with all relevant parties 6 October 2021.

NOTE: if the answer to any question above is NO then the clearing activity will not proceed.

Environmental Pre-Start Checklist

Additional Notes

Three listed threatened species occur on site, as protected under Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) and State *Nature Conservation Act 1992* (NCA) legislation, which include:

- Koala
- Grey-headed Flying-fox
- *Melaleuca irbyana*

Specific approval conditions relating to protected species and their habitat are applicable to works within the clearing area, including:

EPBC 2016/7818 approval conditions (Attachment 2):

- It is noted that a portion of clearing will occur external the Stage 2 site (refer to Attachment 2). **No** clearing of Koala or Grey-headed Flying-fox habitat must occur outside of the approved area and be minimised where practicable.
- The approval holder must implement the *Mirvac Greater Flagstone Project: Natural Environmental Strategy (18 April 2017)*, as approved by Economic Development Queensland on 2 June 2017 to avoid degradation of the onsite conservation area until such time as handover is accepted by Logan City Council.

DES Wildlife Authority Permit conditions (Attachment 5):

- All works must be undertaken in accordance with "*Impact Management Plan Melaleuca irbyana 432-520 Greenbank Road, Greenbank prepared for Mirvac QLD Pty Ltd 10 July 2020*", and associated appendices and supporting documentation.

All works must be undertaken in accordance with the following management plans:

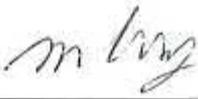
- NESS - *Mirvac Greater Flagstone Project: Natural Environmental Strategy (18 April 2017)*, as approved by Economic Development Queensland on 2 June 2017
- IMP - *Impact Management Plan Melaleuca irbyana 432-520 Greenbank Road, Greenbank prepared for Mirvac QLD Pty Ltd 10 July 2020*
- VCFMP – *Vegetation Clearing and Fauna Management Plan, ROL 6.1 (Sports & Recreation Park Lot 8004 & 805 – Bulk Earthworks, Everleigh Greenbank prepared by Saunders Havill Group, dated 5 October 2021*

Copies of these management plans has been supplied to all signatory parties as part of the Environmental Pre-clearance Package.

Environmental Pre-Start Checklist

Compliance Awareness

Signing below demonstrates acknowledgement of the environmental pre-start procedures and requirements listed in the checklist above and associated attachments.

Name	Company	Position	Signature	Date
Mark Clancy	Mirvac Queensland Pty Limited	Client Representative	Mark Clancy <small>Digitally signed by Mark Clancy DN: cn=Mark Clancy Date: 2021.10.18 16:23:29 +10'00'</small>	
Nick Somerville	Premise	Site Superintendent		19/10/2021
Callum Watts	Shadforth's Civil Contractor	Site Contractor		19/10/2021
Joel Keady	AWEC Environmental Consultants	Fauna Spotter Catcher		19/10/2021
Mark Vary	QLD Mulching	Project Arborist		19/10/2021
Laura Thorley	Saunders Havill Group	Environmental Coordinator		19/10/2021

Everleigh



Environmental Pre-Start Checklist

Appendix A

Environmental Awareness Acknowledgement

ENVIRONMENTAL AWARENESS

CONTRACTOR ACKNOWLEDGEMENT

I Callum Watts the Contractor (or the Contractor Representative), appointed by Mirvac Queensland Pty Ltd, acknowledge receipt and acceptance of the Mirvac Queensland rules and policies in the **ROL6.1 Sports and Recreation Park Environmental Pre-Clearance Package** which includes the **ROL6.1 Vegetation Clearing and Fauna Management Plan (VCFMP)**, prepared by SHG (October 2021) and the **Environmental Pre-clearance Checklist** and attachments. By signing below, I acknowledge that there are mechanisms in place to ensure all material provided within the **ROL6.1 VCFMP** will be read and understood by all site contractors and sub-contractors prior to commencing works on-site.

Shadforth Civil Pty Ltd

Company Name (Please print)



Signature (Contractor / Contractor Representative)

Callum Watts

Name (Please print)

Project Engineer

Title / Position

19/10/2021

Date

Everleigh



Environmental Pre-Start Checklist

Appendix B

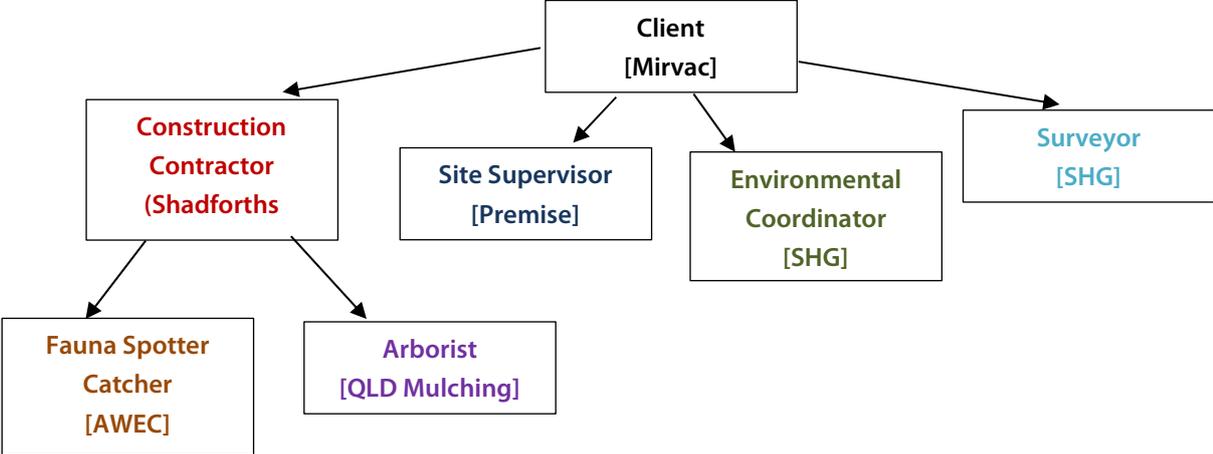
Environmental Responsibilities

Mirvac’s Everleigh Project

Environmental Responsibilities

This document sets out the environmental responsibilities for relevant parties appointed by Mirvac for the Everleigh project at Greenbank.

For the Everleigh Project, the following management structure will be adopted:



Abbreviations

The following abbreviations have been adopted in this document:

- AQF Australian Qualifications Framework
- BHMP Bushfire Hazard Mitigation Plan
- ESCP Erosion and Sediment Control Plan
- DES Department of Environment and Science (Qld)
- NESS Natural Environment Site Strategy
- WPMP Wildlife Protection and Management Plan
- WHIMP Wildlife and Habitat Impact Mitigation Plan
- VCFMP Vegetation Clearing and Fauna Management Plan

1.1. Construction Contractor Responsibilities

The **Construction Contractor** is responsible for the following environmental controls on the project:

- Ensuring construction works (including pre-clearance checks (see Section 1.1.1), erosion and sediment control measures, clearing processes and post clearing requirements (see Section 1.1.2)) are undertaken in accordance with the Environmental Pre-Start Package for the Stage of Works and approved management plans (e.g. Vegetation Clearing and Fauna Management Plan (VCFMP) / Natural Environment Site Strategy (NESS) / Erosion and Sediment Control Plan (ESCP) / Bushfire Hazard Assessment Management Plan (BHAMP) / Wildlife Protection and Management Plan (WPMP) / Wildlife and Habitat Impact Mitigation Plan (WHIMP)).
 - In the event of a non-compliance, all works are halted immediately and non-compliances are reported to the **site supervisor** and **environmental coordinator**.
 - Weekly review and reporting on compliance with approved management plans (N.B. this can be shown as an item in a weekly review / report / checklist).
 - Monthly environmental compliance reports to the **environmental coordinator**.
- Engagement and management of an EHP approved **fauna spotter catcher** to undertake pre and post clearance checks, attend pre-start meetings and be present on site during all clearing activities.
 - The appointed **fauna spotter catcher** must hold a Rehabilitation Permit for native wildlife, including Koala, issued by the Department of Environment and Science (DES).
- Engagement and management of an **arborist** to attend pre-start meetings and be present on site during all clearing activities.
 - The appointed **arborist** must hold a Level 5 AFQ qualification
- Installation and maintenance of erosion and sediment controls as per approved management plans prepared by the **site supervisor**.
- Installation of demarcation fencing in associated with the appointed **surveyor**.
 - Fencing must be maintained during works and reinstated immediately if damaged or knocked down.
 - Temporary star picket fencing must be installed around the Stage of Works site, any open space areas and / or individual trees to be retained on the Stage of works VCFMP.
 - Fencing must be fauna friendly and provide a least a 30cm gap between the bottom of the fence and the ground.
 - Fencing must remain in place until completion of bulk earthworks and removed prior to on maintenance or as required as subsequent stages of the development occurs.
- Ensuring daily limits and volumes of vegetation clearing occur in accordance with approval allowances (e.g. EPBC Act Approval, EDQ Approval).
- Ensuring stockpiles and cleared vegetation is managed in accordance with approved management plans.
- Ensuring clearing occurs between the hours of 6am – 6pm.
- Ensuring clearing occurs in accordance with the direction of clearing plan as detailed in the VCFMP or as prepared by the **fauna spotter catcher**.
- Ensuring all contractors, subcontractors and associated personnel been instructed on environmental procedures and controls.
 - Environmental procedures and controls must form part of induction material (and evidence should be able to be provided to the **environmental coordinator** on request).

- o Copies of approved management plans are made available at the site office at all times and evidence should be able to be provided to the **environmental coordinator** on request).

1.1.1 Construction Contractor Pre-Clearance Procedure (for each Stage of Works)

This procedure is to be followed by the **contractor** prior to clearing for each Stage of Works.

1. Have all **contractors**, subcontractors and associated personnel been instructed on environmental procedures and controls as part of their site induction?
2. Do you have a copy of the approved management plans?
3. Have copies of the approved management plans been made available to all site **contractors** and subcontractors?
4. Has a copy of the approved management plans been made available in the site construction office?
5. Have clearing extents as per approved management plans been flagged by the **contractor** in association with the appointed **surveyor** and checked by the **environmental coordinator**? N.B Fencing must be installed prior to the pre-start meeting for the Stage of Works.
6. Have erosion and sediment controls been installed as per approved plans prepared by the **site supervisor**?
7. Have you engaged an EHP approved **fauna spotter catcher** to undertake necessary reporting requirements and be present during all clearing activities?
8. Has the appointed **fauna spotter catcher** undertaken pre-clearance checks and reporting, no more than 2 weeks prior to when clearing is to occur?
9. If any threatened fauna species or habitat/breeding places have been identified by the **fauna spotter catcher**, have appropriate controls been implemented and this information provided to the **environmental coordinator**?
10. Have you engaged an AQF Level 5 **arborist** to be present at the pre-start meeting and during all clearing activities?
11. Has a pre-start been completed with all relevant parties?
12. Have the requirements of the approved management plans been discussed a pre-start meeting?
13. Have all relevant parties reviewed the Environmental Pre-Start Package and signed the Environmental Pre-Start Checklist?

1.1.2 Construction Contractor During & Post-Clearance Checklist (for each Stage of Works)

This procedure is to be followed by the **contractor** during and post clearing for each Stage of Works.

1. Has the clearing occurred in accordance approved management plans? If not, have any non-compliances been reported to the **site supervisor** and **environmental coordinator**?
2. Have erosion and sediment controls been maintained as per approved plans prepared by the **site supervisor**?
3. Has compliance with environmental procedures and controls been reported on within the weekly site compliance checklist?
4. Has cleared vegetation been processed through an on or off-site wood-chipper and disposed of as firewood or landscape mulch or otherwise reused / relocated for future use or as per the approved VCFMP?
5. If vegetation has been stockpiled, has the **fauna spotter catcher** checked the stockpile prior to its removal?

6. Once clearing has ceased, has a post-clearance report been prepared by the **fauna spotter catcher** and provided to the **environmental coordinator**?
7. Once clearing has ceased, has a post-clearance report been prepared by the **arborist** and provided to the **environmental coordinator**?
8. Has a monthly environmental compliance report been prepared and provided to the **environmental coordinator**?

1.2. Fauna Spotter Catcher Responsibilities

The appointed fauna spotter catcher must hold a Rehabilitation Permit issued by EHP and is responsible for the following environmental controls on the project:

- Ensuring works are undertaken in accordance with the Environmental Pre-Start Package for the Stage of Works and approved management plans (e.g. VCFMP / NESS / ESCP / BHAMP / WPMP / WHIMP).
- Undertaking pre-clearance checks for the Stage of Works no more than 2 weeks prior to clearing.
- Preparing a Wildlife Protection Management Plan (WPMP) and Wildlife Habitat Impact Mitigation Plan (WHIMP) (as per the Draft Code for Fauna Spotter Catchers) for each stage of works. This includes identifying fauna habitat values, potential risks to fauna, and appropriate mitigation measures as well as identifying the direction and sequencing of clearing activities to ensure safe flushing of fauna. These are to be provided to the **contractor** and **environmental coordinator** for review.
- Attending the pre-start for each Stage of Works.
- Being present during all clearing activities.
- Implementing controls and procedures and controls in the WPMP and WHIMP.
- Preparing a post-clearing report to be provided to the **contractor** and **environmental coordinator**.
- Inspecting stockpiled vegetation for fauna prior to its removal.

1.3. Arborist Responsibilities

The appointed arborist must hold a Level 5 AFQ qualification and is responsible for the following environmental controls on the project:

- Attending pre-start meetings.
- Ground-truthing Koala Habitat mapping and endorsing koala habitat clearing / offset plans prepared by the **environmental coordinator**.
- Being present during all clearing activities.
- Preparing any necessary reports for trees marked 'subject to arborist assessment' on an approved VCFMP which have been removed during clearing works.

1.4. Site Supervisor Responsibilities

The Site Coordinator (Engineer) is responsible for the following environmental controls on the project:

- Ensuring construction works are undertaken in accordance with the Environmental Pre-Start Package for the Stage of Works and approved management plans (e.g. VCFMP / NESS / ESCP / BHAMP / WPMP / WHIMP).
- Ensuring the **contractor** receives copies of approved management plans for the Stage of Works.

- Ensuring required surveys and pre-clearance checks from the **fauna spotter catcher** and **environmental coordinator** have been conducted. (N.B. this includes any surveys i.e. tree plots, required to inform design stages or required for preparation of management plans and development applications).
- Providing the **environmental coordinator** with CAD copies of works extents (including clearing extents for bulk earthworks, access tracks, crossing etc.).
- Coordinating clearing extents to be demarcated with the **surveyor** and **contractor**, and checked by the **environmental coordinator**.
- Confirming works within waterways comply with *Water Act 2000* requirements for riverine protection and proceed under an applicable exemption or a riverine protection permit
- Confirming works within waterways comply with *Fisheries Act 1994* requirements for waterway barrier works and proceed under accepted development outcomes or a permit.
- Ensuring erosion and sediment controls have been installed and maintained as per approved ESCPs prepared by the **site supervisor**?
- Coordination of any pre-start meetings and signing of the Environmental Pre-Start Checklist.
- Ensuring no clearing occurs until sign off is received from the **environmental coordinator**.

1.5. Environmental Coordinator Responsibilities

The Environmental Coordinator is responsible for the following environmental controls on the project:

- Ensuring all Commonwealth and State environmental approvals are obtained for the Stage of Works.
 - Ensuring all notifications government authorities in accordance with approvals have been issued (i.e. notification to Department of Agriculture, Water and Environment of commencement of Stage 2 under the EPBC Approval (EPBC2016/7817)).
- Ensuring all required management plans have been prepared for the Stage of Works.
- Ensuring all required management plans have been review and approved for the Stage of Works.
- Ensuring all relevant parties receive copies of approved management plans for the Stage of Works.
- Preparing, managing and compiling the Environmental Pre-Start Package for the Stage of Works, including the Environmental Pre-Start Checklist.
- Undertaking checks of demarcation flagging installed by the **contractor** and **surveyor**.
- Reviewing **fauna spotter catcher** pre-clearance and post-clearance reporting.
- Ensuring works are undertaken in accordance with the Environmental Pre-Start Package for the Stage of Works and approved management plans (e.g. VCFMP / NESS / ESCP / BHAMP / WPMP / WHIMP).

Acknowledgement

No clearing works can occur until the Environmental Pre-Start Package, for the specific works site, is distributed by the Environmental Coordinator and written instruction is given by the Site Coordinator (Engineer).

By signing I agree that I have read and understood the Environmental Pre-Start Check Procedure and will comply with the procedure for all clearing works.

Name	Company	Position	Signature	Date
Mark Clancy	Mirvac	Client Representative	Mark Clancy <small>Digitally signed by Mark Clancy DN: cn=Mark Clancy Date: 2021.10.18 16:23:50 +1000'</small>	
Callum Watts	Shadforths	Contractor Coordinator		19/10/2021
Nick Somerville	Premise	Site Superintendent		19/10/2021
Laura Thorley	SHG	Environmental Coordinator		19/10/2021
Joel Keady	AWEC	Fauna Spotter Coordinator		19/10/2021
Mark Vary	QLD Mulching	Project Arborist		19/10/2021

Everleigh



Environmental Pre-Start Checklist

Appendix C

Natural Environment Site Strategy

environmental management



AMENDED IN RED

By: Brandon Bouda
Date: 27 April 2017



Mirvac

Greater Flagstone Project



Natural Environment Site Strategy

**PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL**

Approval no: DEV2016/768
Date: 2 June 2017



Mirvac
Greenbank project
18 April 2017
7598



Document Control

Title	Natural Environment Site Strategy
Job Number	7598
Client	Mirvac

Document Issue

Issue	Date	Prepared By	Checked By
Draft	29.02.2016	Keira Grundy	Murray Saunders
Client Draft	07.03.2016	Keira Grundy	Murray Saunders
Client Draft V2	17-03-2016	Keira Grundy	Murray Saunders
Client Draft V3	23-03-2016	Keira Grundy	Murray Saunders
EDQ Submission	01-04-2016	Keira Grundy	Murray Saunders
POST RFI Client Issue	02-11-2016	Murray Saunders / Keira Grundy	Murray Saunders
For Endorsement V1	08-11-2016	Keira Grundy	Murray Saunders
Post App	18-04-2017	Angela Little	Murray Saunders

Disclaimer

This report has been prepared for **Mirvac. Saunders Havill Group** cannot accept responsibility for any use of or reliance upon the contents of this report by any third party.

Reports and/or Plans by Others

Reports and/or plans by others may be included within this Natural Environment Site Strategy to support the document.



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Appendices

Appendix I

Plan 1:	Site Aerial
Plan 2:	Certified Property Map of Assessable Vegetation
Plan 3:	Property Map of Assessable Vegetation Awaiting Certification
Plan 4:	SEQ Koala Habitat Values Mapping
Plan 5:	Fisheries – Waterways for Waterway Barrier Works
Plan 6:	Indicative Development Interface to Retained Vegetation – Section AA
Plan 7:	Indicative Development Interface to Retained Vegetation – Section BB
Plan 8:	Natural Environment Site Strategy – Site Constraints Plan



I. Introduction

1.1. Requirements of site strategy

This Natural Environment Site Strategy (NESS) has been lodged with the initial application for **Mirvac's** Greenbank Project. While not in response to approval conditions (no approvals in place), this NESS has been prepared based on anticipated requirements with reference to a number of approvals issued in the area and based on feedback from **Economic Development Queensland**. The following components are included within this NESS:

- i. outline measures to conserve and enhance the site's biodiversity values (areas of ecological significance, waterways and vegetation management);
- ii. identify strategies to avoid, minimise and mitigate the clearing of remnant vegetation containing endangered regional ecosystems where proven by ground truthing to be viable;
- iii. identify management plans to be provided to address the clearing of non-viable remnant vegetation containing endangered regional ecosystems;
- iv. identify rehabilitation strategies for any corridors of native vegetation to improve habitat extent and wildlife movement;
- v. identify any buffering to areas of Significant Biodiversity Values and which have associated conservation, biodiversity, habitat or scenic amenity values;
- vi. identify strategies for fauna and flora management of the site, and determine corridors, proposed road crossing designs for expected fauna utilisation and rehabilitation areas (such as for koala habitat);
- vii. Detail the measures outlining how and when Koala habitat obligations for the Greater Flagstone PDA as detailed in the PDA Guideline No. 17 Remnant Vegetation and Koala Habitat Obligation in Greater Flagstone and Yarrabilba PDAs will be delivered;
- viii. identify strategies to prevent land degradation and the management of dispersive/sodic soils;
- ix. identify strategies to rehabilitate major watercourses;
- x. identify strategies for bushfire management;
- xi. identify strategies for pest and weed management;
- xii. identify strategies for monitoring vegetation rehabilitation; and
- xiii. identify strategies for rehabilitation of stream banks of major watercourse areas to create riparian stability for major corridors through the Potential Eco-Lot residential and Conservation Parkland Precincts.

1.2. This overarching site strategy, as amended from time to time, is intended to guide future development decisions in relation to the **Mirvac** Greenbank Site.



Administration Definitions

1.3. In this site strategy:

Developer	means an entity with effective control of the development of a parcel of land within the Application Area.
Application Area	Refer to Plan 1 in Appendix 1 .
Guideline 14	means PDA Guideline no. 14 for Environmental values and sustainable resource use (May 2015)
Guideline 17	means PDA Guideline no. 17 for Remnant vegetation and koala habitat obligations in Greater Flagstone and Yarrabilba PDAs (August 2014)
ICOP	means the Infrastructure Charging Offset Plan Greater Flagstone Urban Development Area (July 2013).
EDQ	means the Minister for Economic Development Queensland established under the Economic Development Act 2012, which supersedes the Urban Land Development Authority and repeals the Urban Land Development Authority Act 2007 (Qld)
PDA Development Scheme	means the Greater Flagstone Urban Development Area Development Scheme (October 2011)



2. Structure

2.1. This site strategy is to be read in conjunction with the reports, Whole of Site Strategies and Infrastructure Master Plans referenced in the Context Plan(s) over the relevant parts of the Application Area (and subsequent revisions and addendums to the same).

2.2. This Overarching Site Strategy for the management of the Natural Environment is set out in the following structure:





3. Guidelines and Relevant Information

3.1. This Natural Environment Site Strategy (NESS) is prepared within the parameters of Guideline 14 and Guideline 17. Site specific alterations or legislative departures from the above are outlined in **Section 3** and **Section 4** of this NESS.

3.2. The Application Area contains ground-truthed endangered regional ecosystems along the eastern portion of the land holdings. Refer to **Plan 2 (Appendix 1)** for the certified Property Map of Assessable Vegetation (PMAV) that shows the regional ecosystems rectified on-site. **Plan 3 (Appendix 1)** shows rectification of regional ecosystems mapping for a second PMAV which has been lodged with **NRM**.

3.3. The Application Area contains koala habitat areas, defined in Guideline 17 as:

An area mapped on State Planning Policy 2/10: Koala Conservation in South East Queensland, SEQ Koala Protection Area Koala Habitat Values maps as:

- *bushland habitat; or*
- *having high and medium value suitable for rehabilitation habitat types.*

Refer to **Plan 4 (Appendix 1)** for the current Koala Habitat Values Mapping.

3.4. It is noted that the Koala Habitat Values Mapping covering the Application Area was completed at the GIS level. **Section 7** of this NESS includes a process and method for amendment of Koala Habitat Values Mapping that is generally consistent with the process and method for amendments to mapping under Division 9 of the South East Queensland Koala Conservation State Planning Regulatory Provisions (Queensland Government, May 2010) (Koala SPRP).

3.5. References (including references in Guideline 14 and Guideline 17) to an Act, policy, mapping or other document shall be applied as the Act, policy, mapping or document as at 17 March 2016 or as specified herein.

3.6. At the time of submission of the NESS an *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act) Controlled Action Status Referral was underway. If, through this proposal, an alternative offset outcome is conditioned for a prescribed matter of National Environmental Significance, this is considered to take



precedence over any State Government offset or obligation for the same prescribed matter (i.e. the State Government will not require an offset or obligation for the same prescribed matter).

- 3.7. No offsets are required for matters of local environmental significance.
- 3.8. Site and project specific Bushfire Hazard Assessments and Management Plans will be prepared and submitted for endorsement / approval. The outcomes and requirements of these plans will consider the strategies adopted in this NESS.
- 3.9. Notwithstanding any of the requirements of this NESS, the Developer will not be required to perform any rectification works to parts of the site which have been transferred / dedicated to other parties and accepted off maintenance.



4. Strategies

4.3 Natural Environment Site Strategies – Conservation Parkland and Development Land

Site strategies have been developed to manage environmental and development outcomes for all land included within this application area, excluding the Future Investigation Area which is subject to further assessment in future. It is intended that the NESS will be amended to include the Future Investigation Area in future (if required). The site strategies include 6 columns listed as Element, Overall Outcomes, Strategies / Actions, Design Standards / Resources, Timing (Indicative) and Achievement Criteria. Mirvac is responsible for the implementation, monitoring and reporting for all site strategies. For some elements (e.g. confirmed viable endangered remnant vegetation), strategy outcomes are identical for both land use areas. For other elements, strategies vary significantly.

For each element, the avoid, minimise, mitigate and restore or offset hierarchy has been adopted. It is noted that the Mirvac Greater Flagstone Project NESS is not preceded by a higher level approval and thus does not link each strategy back to an approval condition as per the majority of NESS operated in the PDA.

Conservation Parkland

The following Overall Outcomes and Design Standards apply to works within and adjoining the Conservation Parkland:

- Secure and dedicate/transfer to Council a robust and sustainable portion of the site retaining the highest quality ecological values for conservation parkland purposes.
- Consolidate the environmental area into Council's surrounding conservation assets.
- Undertake ecological restoration and waterway stability measures prior to dedication to Council.
- Allow for controlled passive nature based recreational uses as occurring and permissible within adjoining Council conservation parklands

Development Land

The Development Land is defined as the balance site area which is not included in the Conservation Parkland or Future Investigation Area. The majority of this area will be developed to a minimum net residential density of 15dw/ha, however there may be opportunities to retain environmental values in open space subject to earthworks and servicing requirements. It is noted that development at this density is generally prohibitive of the retention of major or functional areas of environmental values. Note, this whole of site strategy seeks to retain the highest ecological values in Conservation Parkland and the Future Investigation Area. The latter does not form part of this NESS or application.

The following Overall Outcomes and Design Standards apply to the Development Land:

- Ensure systems and processes for assessment, reporting, protection and management are based on leading practice ecological guidelines and relevant legislative frameworks.
- Explore and detail specific opportunities to retain ecological features throughout the site by incorporating detailed environmental data into the site design process.
- Outlines the legislative requirements for all potential or actual threatened plants and animals as scheduled at the State Government and Commonwealth Government Level.

Natural Environment Site Strategies



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
Survey, Identification & Reporting	1. Identify Significant Biodiversity Values within and adjoining the Development Land	<ul style="list-style-type: none"> • Robust field surveys (appropriately timed and conducted for expected biodiversity). • Desktop assessments using local, state and commonwealth environment databases and mapping. • Use the information surveyed and identified in the Significant Biodiversity Values assessment to prioritise environmental features. 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ Guideline 14 ▪ PDA Development Scheme ▪ State and Commonwealth survey guidelines including: <ul style="list-style-type: none"> ○ EPBC Significant Impact Guidelines, including specific guidelines for expected species ○ DSITIA Terrestrial Vertebrate Fauna Survey Guidelines ○ NCA Protected Plants Flora Survey Guidelines ▪ Database and mapping references including: <ul style="list-style-type: none"> ○ EPBC PMST Database ○ EHP Wildlife Online Database ○ EHP NCA Protected Plants Mapping ○ NRM Regulated Vegetation Management Mapping ○ Koala SPRP Mapping ○ SARA Mapping ○ SPP Biodiversity Values Mapping 	Context Plan or RoL application	Context Plan and RoL applications are accompanied by Significant Biodiversity Values Assessment Reports
Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems	1. Retain and protect Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems	<ul style="list-style-type: none"> ▪ Development and infrastructure avoids the clearing of Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems. ▪ Development minimises impacts on Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems by providing buffers, ideally inclusive of road, between the Development Areas and any retained Confirmed Areas of Remnant Vegetation containing Endangered Regional Ecosystems. ▪ Development enhances areas of Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems by providing for weed management and rehabilitation within the Conservation Parkland. 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ Guideline 14 ▪ Guideline 17 ▪ SDAP Module 8 ▪ DSDIP Significant Residual Impact Guideline ▪ Approved Site Property Map of Assessable Vegetation (PMAV) ▪ EOP ▪ EPBC Act permit ▪ NRM Self Assessable Guidelines for land management and exemption checklist ▪ Plans 6 & 7 (Appendix 1) – indicative buffer/setback cross sections 	Site design and continuing through stages of approved construction.	Areas of Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems are retained or increased at the completion of the project.



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<p>Stretch Target:</p> <p>Use weed management and rehabilitation of cleared and modified areas to achieve a net increase in the area of Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems within the Conservation Parkland.</p>			
Other Vegetation	1. Development protects and minimises impacts on native vegetation within and supporting Significant Biodiversity Values.	<ul style="list-style-type: none"> ▪ Avoid (to the greatest extent possible) the clearing of non-endangered remnant, regrowth and other native vegetation, including non-juvenile koala habitat trees within the land designated Conservation Parkland. ▪ Unavoidable clearing can only occur for essential community infrastructure within the Conservation Parkland, where this infrastructure cannot be reasonably located elsewhere. ▪ Where unavoidable clearing for essential community infrastructure is required within the Conservation Parkland rehabilitate impacted areas in accordance with SEQ restoration guidelines. ▪ Through site and earthworks, maximise the retention of non-endangered remnant vegetation, regrowth and healthy isolated native tree species within waterway corridors and future recreation / open space areas (where not in conflict with the purpose and use of the open space or other required infrastructure) within the development land. • Stage and minimise the clearing of trees for areas designated under the plan of development as schools, future park, drainage and buffer until preliminary concepts for these areas have been prepared and clearing extents identified. 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ Guideline 14 ▪ Guideline 17 ▪ EPBC Act permit ▪ DSDIP Significant Residual Impact Guideline ▪ Approved Site Property Map of Assessable Vegetation (PMAV) ▪ NRM Self Assessable Guidelines for land management and exemption checklist. ▪ SDAP Module 8 ▪ Easement rights ▪ Site Bushfire Management Plan. ▪ Plan 4 (Appendix 1) ▪ Draft Code of Practice for the Welfare of Wild Animals affected by Land Clearing ▪ SEQ Ecological Restoration Framework Code ▪ SEQ Ecological Restoration Framework Guide ▪ SEQ Ecological Restoration Framework Manual 	<p>Site design and continuing through stages of approved construction.</p> <p>Annual Report</p>	<p>An increase in the volume of vegetation to be included in the site's Significant Biodiversity Values at completion of the project.</p> <p>An increase in the Projective Foliage Cover (PFC) of canopy trees and quality condition of shrub and ground cover layers within the Conservation parkland by completion of the project (when measured against pre-commencement baseline surveys – reported on annually)</p>



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<ul style="list-style-type: none"> Prepare Management Plans in accordance with the Reporting and Management Section of this NESS to stage and manage the impacts of clearing. 			
Koala	<ol style="list-style-type: none"> Minimise clearing of Non-Juvenile Koala Habitat Trees (NJKHT) and provide obligations in accordance with IG17 to achieve a net gain in koala habitat for the region. Minimise threats to existing local koala populations by avoiding conflicts with roads and dogs. 	<ul style="list-style-type: none"> Avoid (to the greatest extent possible) the removal of NJKHT within the Conservation Parkland. <small>Unavoidable clearing of NJKHT within the Conservation Parkland can only occur for essential community infrastructure, where this infrastructure cannot be reasonably located elsewhere.</small> Where unavoidable clearing for essential community infrastructure is necessary within the Conservation Parkland, all works are managed in accordance with the Reporting and Management Section of this NESS. Ensure site design of open space and retained waterway areas within the Development Land minimises the clearing of NJKHT where they can be connected to the Conservation Parkland. Minimise impacts of the clearing of NJKHT through the Development Land by staging and sequencing works commencing in the western disturbed areas and flushing towards the eastern retained areas. Stage and manage the impacts of clearing NJKHT in accordance with the Reporting and Management Section of this NESS. Provide obligations in accordance with IG17 to achieve a net gain in koala habitat for the region for any removed NJKHT from the High and Medium Value – Suitable for Rehabilitation and all Bushland Habitat Mapping categories (or deliver any Approved Environmental Offsets conditioned by the Commonwealth Department of Environment under the EPBC Act) Ensure site design provides for safe koala linkage opportunities to surrounding off-site 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> EPBC Koala Referral Guidelines Nature Conservation (Koala) Conservation Plan 2006 and Management Program 2006-2016 (koala plan) EHP Koala Sensitive Design Guideline Main Roads Fauna Sensitive Design Manual Vol.2 Draft Code of Practice for the Welfare of Wild Animals affected by Land Clearing EPBC Act permit 	<p>Site design and continuing through stages of approved construction.</p> <p>Annual Report</p>	<p>Increase in the volume of NJKHT within the Conservation Parkland (Measured at the 5 and 10 year interval)</p> <p>No temporary fragments or islands of koala NJKHT within clearing zones for the life of the project (reported annually)</p>



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<p>habitat by discouraging Koala movement into built up areas through a range of Koala sensitive design measures (fencing, signage, road and landscape design).</p> <ul style="list-style-type: none"> ▪ Incorporate dog off-leash facilities in recreation parkland and on lead control measures through the Conservation Parkland. 			
EVNT Species	1. Identify and avoid (to the greatest extent possible) any impacts on EVNT species.	<ul style="list-style-type: none"> • Avoid clearing of EVNT plant species. • Ensure appropriate pre-clearance checks and fauna spotter reporting provides a contemporary and more detailed review of EVNT Species or potential habitat within each stage of clearing. <p>Stretch Target</p> <ul style="list-style-type: none"> • Where suitable within and adjoining the Conservation Parkland, waterway corridors or open space areas incorporate areas of <i>Melaleuca irbyana</i> and or other habitat reinstatement for EVNT Species. 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ NCA Protected Plants Exemption Process. ▪ Fauna Spotter Pre-Clearance and Post Works Reporting ▪ SEQ Ecological Restoration Framework Code ▪ SEQ Ecological Restoration Framework Guide ▪ SEQ Ecological Restoration Framework Manual 	<p>Site design and continuing through stages of approved construction.</p> <p>Annual reporting</p>	<p>Increase in volume of EVNT species within the Conservation Parkland at completion of the project.</p> <p>Increase in the availability of habitat and usage of the Conservation Parkland by fauna when compared with benchmark pre-commencement surveys.</p>
Native Fauna (non EVNT Species)	1. Minimise impacts on native fauna (not scheduled as Threatened)	<ul style="list-style-type: none"> ▪ Avoid negative impacts on native fauna species in areas designated Conservation Parkland. ▪ Consolidate habitat for all native fauna into non development portions of the site (i.e. Conservation Parkland and supporting areas). ▪ Minimise impacts of the clearing through the Development Land through staging and sequencing and Management Plans prepared in accordance with the Reporting and Management Section of this NESS to stage and manage the impacts of clearing. ▪ Where specific habitat features (such as mature habitat trees retaining hollows) need to be removed, complete an audit of lost 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ Fauna Management Plan prepared in accordance with the Draft Code of Practice for the Welfare of Wild Animals affected by Land Clearing ▪ SEQ Ecological Restoration Framework Code ▪ SEQ Ecological Restoration Framework Guide ▪ SEQ Ecological Restoration Framework Manual 	<p>Site design and continuing through stages of approved construction.</p> <p>Summarised through Annual Reporting</p>	<p>Fauna Spotter / Catcher pre, during and post clearing reports completed for each stage of clearing works.</p> <p>Evidence within the NESS annual report of adaptive management procedural change within Fauna Spotter / Catcher Reports for each stage of the project.</p>



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<p>habitat features. Use the audit to determine a strategy to harvest habitat features and/or design and implement a species specific nest box implementation plan as part of the FMP.</p> <ul style="list-style-type: none"> ▪ Engage a registered fauna spotter for a pre-clearance report and advice on clearing and sequencing methods within the Development Land. Stage and manage the impacts of clearing in accordance with the Reporting and Management Section of this NESS. 			
Waterways & drainage Features	1. Retain, protect and buffer site watercourses forming part of the projects Significant Biodiversity Values	<ul style="list-style-type: none"> ▪ Avoid (to the greatest extent possible) any clearing within mapped watercourses, drainage features, overland flow paths or other natural hydrological features within the Conservation Parkland Area. ▪ Avoid (to the greatest extent possible) any clearing within identified waterways forming part of the site's Significant Biodiversity Values within or adjoining the Development Land. (Plan 8) ▪ Where unavoidable clearing (e.g. access where no other alternative exists, essential community infrastructure and/or approved waterway stability measures) is required within: <ul style="list-style-type: none"> ○ mapped watercourses, drainage features, overland flow paths or other natural hydrological features within the Conservation Parkland; or ○ identified waterways forming part of the site's Significant Biodiversity Values within or adjoining the Development Land; <p>minimise the clearing footprint, mitigate impacts and compensate through ecological restoration measures.</p>	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ SDAP Module 8 ▪ DAF Mapping ▪ DAF WWBW Self Assessable Codes ▪ SEQ Ecological Restoration Framework Code ▪ SEQ Ecological Restoration Framework Guide ▪ SEQ Ecological Restoration Framework Manual ▪ CPTED Guidelines for Queensland 	<p>Site design and continuing through stages of approved construction.</p> <p>Within each specific Management Plan (Vegetation, Fauna and Weed)</p>	<p>Watercourses identified as Significant Biodiversity Values are retained through site design.</p> <p>Bio-condition of site watercourses retained as part of Significant Biodiversity Values are increased at completion of the project.</p>



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<ul style="list-style-type: none"> ▪ Where unavoidable clearing is necessary within: <ul style="list-style-type: none"> ○ mapped watercourses, drainage features, overland flow paths or other natural hydrological features within the Conservation Parkland; or ○ identified waterways forming part of the site's Significant Biodiversity Values within or adjoining the Development Land; ensure that all works are managed in accordance with the Reporting and Management Section of this NESS. ▪ Minimise impacts on identified waterways forming part of the site's Significant Biodiversity Values (Plan 7) through appropriately designed and located buffers. ▪ Explore infrastructure designed to incorporate existing vegetation with storm water solutions through modified drainage features throughout the development portions and recreational parklands. 			
Land Degradation	1. Avoid and manage land degradation impacts caused through works within areas of dispersive and sodic soils.	<ul style="list-style-type: none"> ▪ Avoid (to the greatest extent possible) any clearing within identified waterways forming part of the site's Significant Biodiversity Values within or adjoining the Development Land. (Plan 8) ▪ Avoid (to the greatest extent possible) clearing on steep terrain greater than 20%. Where clearing on steep terrain is unavoidable, employ machinery and clearing techniques which minimise disturbance to soils. ▪ Minimise clearing of any natural drainage features within the Development Land where 	Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome: <ul style="list-style-type: none"> ▪ SDAP Module 8 ▪ DAF WWBW Self Assessable Codes ▪ SEQ Ecological Restoration Framework Code ▪ SEQ Ecological Restoration Framework Guide ▪ SEQ Ecological Restoration Framework Manual ▪ CPTED Guidelines for Queensland ▪ Endorsed / approved site strategies and infrastructure master plans for: <ul style="list-style-type: none"> ○ Earthworks ○ Stormwater 	Site design and continuing through stages of approved construction.	No indirect impacts from soil deposition or erosion in the downstream Significant Biodiversity Values areas.



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<p>included as part of open space, drainage channels, or the future school.</p> <ul style="list-style-type: none"> ▪ Mitigate the impacts of clearing of any drainage features, overland flow paths or other natural hydrological features through inclusion of detailed erosion and sediment control plan for each stage of self-certified operational works submissions. ▪ Dispersive soil mitigation measures are to be implemented during detailed design if required (such as vegetation or protection of batters, minimising velocity of stormwater flows, flattening of grades, stormwater detention, stormwater discharge into erosion resistant areas, soil re-compaction, soil stabilisers (chemical polymers) and use of sandstone/barriers). ▪ Carry out water testing of site watercourses (where there are flows at the time). Testing will be for turbidity and total suspension solids to monitor any sediment deposits in the waterways. 			
Rehabilitation / Restoration	1. Expand and improve the quality of Significant Biodiversity Values and other retained natural features.	<ul style="list-style-type: none"> ▪ Revegetate and restore to remnant status all cleared, degraded and modified areas within the Conservation Parkland, where not in conflict with bushfire management requirements or passive based nature recreation infrastructure. ▪ Undertake rehabilitation (including planting of endemic species and weed management) within the bed and banks of retained or modified watercourses and drainage features. This rehabilitation may be utilised as part of the total site storm water management strategies, particularly with regard to stormwater quality and waterway stability. 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ SEQ Ecological Restoration Framework Code ▪ SEQ Ecological Restoration Framework Guide ▪ SEQ Ecological Restoration Framework Manual ▪ Endorsed / approved site strategies and infrastructure master plans for: <ul style="list-style-type: none"> ○ Open space ○ Stormwater 	Site design and continuing through stages of approved construction.	Increased quality in the condition of retained areas when measured against pre-commencement benchmarks.



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<ul style="list-style-type: none"> ▪ Reuse cleared native vegetation (e.g. as site mulch in future revegetation works in and adjoining the Conservation Parkland). ▪ Explore the harvesting of the A-horizon of healthy bushland areas within the development precinct for assisted natural regeneration within degraded land through and surrounding the Conservation Parkland. <p>Stretch Target:</p> <ul style="list-style-type: none"> ▪ Wherever practical, research and incorporate EVNT Species (plants) and TECs into site revegetation. 			
Weed and Pest Species	1. Decrease in the volume and diversity of site weed and pest species.	<ul style="list-style-type: none"> ▪ Identify and map major infestations of environmental and declared weeds which will be targeted for removal through the Conservation Parkland. ▪ Prepare detailed weed management and rehabilitation plans for areas of Conservation Parkland (including re-vegetation using existing native species and pre-clear regional ecosystem communities) to strengthen the riparian vegetation cover and diversity through retained creek tributaries and gully lines. ▪ Manage weeds and pests in accordance with the requirements of the LPA. ▪ Prepare detailed weed management and rehabilitation plans for all portions of open space and waterways relative to the stage in which they are proposed to be created. ▪ Explore methods to minimise impacts of domestic animals on core environmental features surrounding the community (such as by implementing educational and control measures for areas of the project adjoining or 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ Guideline 14 ▪ LPA declared weeds and pests ▪ SEQ Ecological Restoration Framework Code ▪ SEQ Ecological Restoration Framework Guide ▪ SEQ Ecological Restoration Framework Manual 	<p>Pre-Construction Certification and / or Self Certification.</p> <p>Reporting as per purpose specific management or rehabilitation plan.</p> <p>Summary reporting as part of annual report.</p>	Decrease in the extent and diversity of site weed species on-site (measured annually for the life of the project)



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<p>with the potential to influence the Conservation Parkland).</p>			
<p>Monitoring, Management Plans & Reporting</p>	<ul style="list-style-type: none"> ▪ Ensure monitoring, management and reporting collect adequate information to contribute towards the avoid, minimise, restore and offset principles of this NESS. 	<ul style="list-style-type: none"> ▪ Monitoring/reporting to occur as per requirements of each VMP (e.g. photo monitoring, tree health, assessment post works). ▪ Monitoring and reporting to occur as per the requirements of each specific weed management and rehabilitation plan (e.g. photo monitoring, quadrant and transect surveys etc.) showing reductions in site weed cover and expanded vegetation area. ▪ Monitoring and reporting to occur as per the requirement of each specific FMP, incorporating the reporting requirements of the engaged fauna spotter. ▪ Prepare Vegetation Management Plans (VMPs) for each phase of clearing works incorporating requirements of AS 4970-2009. ▪ VMPs are to be approved by: <ol style="list-style-type: none"> 1. self-certification where prepared in accordance with AS 4970 -2009 and external to Significant Biodiversity Values areas; or 2. compliance assessment for unavoidable clearing within Significant Biodiversity Values areas. ▪ Prepare Fauna Management Plans (FMPs) for each stage of development involving vegetation clearing works. FMPs are to mandate the use of EHP registered fauna spotters. ▪ FMPs are to be approved by self-certification where prepared in accordance with the Draft Code of Practice for the Welfare of Wild Animals affected by Land-Clearing. 	<p>Where suitable, parts of the following documents and standards will assist in measuring the Overall Outcome:</p> <ul style="list-style-type: none"> ▪ Guideline 14 ▪ Regulated Vegetation Management Mapping, PMAV and Pre-Clear Mapping ▪ Management plan specific monitoring and reporting requirements. ▪ Draft Code of Practice for the Welfare of Wild Animals affected by Land Clearing ▪ Australian Standard (AS) 4970 -2009 Protection of trees on development sites. ▪ DSDIP Significant Residual Impact Guideline ▪ EOP ▪ EPBC Act permit. ▪ SEQ Ecological Restoration Framework Code ▪ SEQ Ecological Restoration Framework Guide ▪ SEQ Ecological Restoration Framework Manual 	<p>All stages – reported annually (until project completion)</p>	<p>Annual evidence monitoring, management and reporting measures have used findings to contribute to the adaptive management of all other NESS site procedures.</p>



Element	Overall Outcomes	Strategies / Actions	Design Standards / Resources	Timing (Indicative)	Achievement Criteria
		<ul style="list-style-type: none"> ▪ Prepare and implement Weed Management and Rehabilitation Plans for retained vegetation areas, drainage tributaries and other existing or reinstated vegetation areas. ▪ Create a data repository of all environmental surveys, reports, management plans and monitoring data to inform future government and non-government decision making in the Greater Flagstone and broader areas. 			



5. Natural Environmental Features

5.1. At the whole of site scale, core natural environment features include:

- Confirmed Remnant Vegetation Containing Endangered Regional Ecosystems
- Low Order Remnant Vegetation
- Confirmed Waterway Areas
- Other Drainage Features and Watercourses
- Waterway buffer areas
- Site farm dams
- Areas of juvenile native vegetation

5.2. Each of these core features is detailed on **Plan 8 (Appendix 1)** and briefly described below.

- a) Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems

A certified Property Map of Vegetation (PMAV) has been provided from the **Queensland Department of Natural Resources and Mines (NRM)** which substantially alters the previous Remnant Regional Ecosystem Mapping for the site.

- b) Low Order Remnant Vegetation

As part of the PMAV process, areas of Of Concern and Least Concern (Non Endangered) Remnant Vegetation have been expanded on site. These areas primarily occur within the development zone with the exception of areas in the eastern third of the property. While not being protected specifically by Guideline 14 and Guideline 17 these vegetated areas escalate in importance when combined with other constraints (e.g. – on a Confirmed Waterway Area).

- c) Confirmed Waterway Areas

Confirmed Waterway Areas reflect drainage features on-site which recorded consistent features and values to be defined as a waterway under the *Fisheries Act 1994*. These areas displayed more evidence of conveying run-off and areas of greater diversity through mesic variants to the broader habitats in which they are contained.

- d) Waterway Buffer Area

A 25m nominal buffer has been applied to Confirmed Waterway Areas identified during site survey. **This is measured as 25m either side of the centreline of the Confirmed Waterway Area.**

- e) Site Farm Dams

Two large and a number of smaller farm dams have been constructed over the site. Generally, site dams occur in the western and more disturbed and active portions of the project site.



f) Areas of Juvenile Native Regeneration

A number of Category X areas retain dense immature native regrowth. These areas vary diversely in health and value.

6. Ongoing Monitoring and Reporting

- 6.1 Ongoing monitoring of achievement of the Natural Environment Site Strategies will occur in accordance with specific management plans (e.g. as specified in VMPs, FMPs, Rehabilitation Plans, etc.).
- 6.2 The Developer undertakes to complete monitoring and reporting in accordance with each approved management plan.
- 6.3 Further specific methods for monitoring and reporting will be developed where required in conjunction with Context Plans, Plans of Development, and Compliance Submissions.
- 6.4 This document has been prepared with consideration of adaptive management principles being adopted into each report and management plan prepared over the project. This NESS sets the overarching outcome and achievement metric for measurement in stage or works specific documents.



7. Koala Habitat Values Mapping

7.1 Koala Habitat Values Mapping can be amended through the use of the following methods which are generally consistent with the Koala SPRP and the accompanying Koala SPRP Guideline:

Determination of koala habitat type for certain land

1. As part of or prior to the lodgement of a development application, an applicant may request the assessment manager to make a determination that land, which is part of that development application, is of a different koala habitat type than the koala habitat type shown for the land on the Map of Assessable Development Area Koala Habitat Values.
2. An applicant who makes a request must provide sufficient information, and (if requested) as part of the response to the information request, for the assessment manager to make the determination.
3. Sufficient information includes, but is not limited to, a report by a suitably-qualified and experienced professional in respect of the habitat located on, and in connection with, the land for which the determination is requested.
4. An assessment manager who receives a request may determine, as part of its decision, that any part of the land the subject of the request is:
 - a. of a koala habitat type different to that shown on a Map of Assessable Development Area Koala Habitat Values; or
 - b. an area where koalas are generally not present.
5. The assessment manager may only make the determination where it is reasonably satisfied that the koala habitat type associated with the relevant land is identified on the Map of Assessable Development Area Koala Habitat Values incorrectly.
6. A determination is determinative of the koala habitat type, which applies to the land the subject of the determination for the purpose of applying any rules, guidelines, offsets or other considerations relating to the koala species.
7. Further guidance on the technical information and considerations to be incorporated into an application for a redetermination of the koala habitat values maps can be drawn from the Koala SPRP Guideline.



8. Definitions / References / Acronyms

Term / Acronym		Definition	Date	Author / Organisation
Application Area	means	the land parcels identified in Plan 1 (Appendix 1)		
AS 4970-2009	means	<i>Australian Standard AS4970-2009 Protection of trees on development sites (incorporating Amendment No. 1)</i>	Mar 2010	Standards Australia
AS	means	Australian Standards		
ASRIS	means	Australian Soil Resource Information System		
Category B Vegetation	means	as defined by the <i>Vegetation Management Act 1999</i> , section 20A.		
Category X Vegetation	means	as defined by the <i>Vegetation Management Act 1999</i> , section 20A.		
Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems	means	Remnant Vegetation containing Endangered Regional Ecosystems mapped and as annotated on Plan 8 (Appendix 1) and as defined in Guideline 14 (Appendix 1) as areas of viable remnant vegetation containing endangered regional ecosystems as shown on the regional ecosystem map prepared under the <i>Vegetation Management Act 1999</i> and confirmed by on-site investigations using a methodology accepted by the MEDQ.		
Confirmed Waterway Areas	means	Confirmed Waterway Areas as shown on Plan 8 (Appendix 1)		
Conservation Parkland	means	land designated as Conservation Parkland on an endorsed / approved Context Plan for the Application Area		



Context Plan	means	a context plan as contemplated under Section 3.2.8 of the PDA Development Scheme		
CPTED	means	Crime Prevention through Environmental Design		
CPTED Guidelines for Queensland	means	Crime Prevention through Environmental Design- Guidelines for Queensland - Part B: Implementation Guide	Oct 2007	State of Queensland
DAF	means	Department of Agriculture and Fisheries (Qld)		
DAF Mapping	means	<i>Fisheries Act 1994</i> Queensland waterways for waterway barrier works spatial layer (QSpatial)	15 Jan 2013	State of Queensland
DAF WWBW Self Assessable Codes	means	Self- assessable codes for waterway barrier works by DAF including: WWBW01-P1: Construction of minor dams and weirs, WWBW01-P2: Replacement of existing floodgates, WWBW01-P3: Construction and maintenance of culverts, WWBW01-P4: Construction and maintenance of bed level crossings, WWBW02: Temporary waterway barrier works, WWBW03: Regularly constructed temporary waterway barrier works		State of Queensland (Department of Agriculture and Fisheries)
Defining Bank	means	as defined in State Development Assessment Provisions Module 8: Native Vegetation Clearing (version 1.7) as meaning: the bank which confines seasonal flows by may be inundated by flooding from time to time. This can be either: 1. The bank of terrace that confines the water before the point of flooding, or 2. Where there is no bank the seasonal high water line which represents the point of flooding."		
Development Land	means	The part of the Application Area occupied by land uses other than Conservation Parkland and the Potential Residential – Eco Lot precinct Future Investigation Area.		



DILGP	means	Department of Infrastructure, Local Government and Planning (Qld)		
DoE	means	Department of the Environment (Cth)		
Draft Code of Practice for the Welfare of Wild Animals affected by Land-Clearing	means	Queensland Code of Practice for the welfare of wild animals affected by land-clearing and other habitat impacts and wildlife spotter / catchers (Draft)	2009	Jon Hanger & Ben Nottidge - Australian Wildlife Hospital
Drainage feature	means	<p>as defined in State Development Assessment Provisions Module 8: Native Vegetation Clearing (version 1.7) as meaning:</p> <p>“is a natural landscape feature, including a gully, drain, drainage depression or other erosion feature that –</p> <p>9 Is formed by the concentration of, or operates to confine or concentrate, overland flow during water and immediately after rainfall events; and</p> <p>10 Flows for only a short duration after a rainfall event, regardless of the frequency of flow events; and</p> <p>11 Commonly does not have enough continuing flow to create a riverine environment, and</p> <p>12 Is shown on the vegetation management watercourse and drainage feature map</p> <p>12.1 At a scale of 1:25000 on the vegetation management watercourse and drainage feature map for the local government areas of Brisbane, Moreton Bay, Gold Coast, Sunshine Coast, Logan and Redlands, excluding applications to clear vegetation for extractive industries.”</p>		
DSDIP	means	Department of State Development Infrastructure and Planning (Qld) (now Department of Local Government, Infrastructure and Planning)		
DSDIP Significant Residual Impact Guideline	means	Significant Residual Impact Guideline - For matters of state environmental significance and prescribed activities assessable under the Sustainable Planning Act 2009 - Queensland Environmental Offsets Policy	Dec 2014	State of Queensland (Department of State Development,



				Infrastructure and Planning)
DSITIA	means	Department of Science, Information Technology, Innovation and the Arts (Qld)		
DSITIA Terrestrial Vertebrate Fauna Survey Guidelines	means	Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (v 2.0)	Nov 2014	State of Queensland (Department of Science, Information Technology, Innovation and the Arts)
EDQ	means	the Minister for Economic Development Queensland established under the <i>Economic Development Act 2012</i> , which supersedes the <i>Urban Land Development Authority and repeals the Urban Land Development Authority Act 2007</i> (Qld)		
EHP	means	Department of Environment and Heritage Protection (Qld)		
EHP Koala Sensitive Design Guideline	means	Koala-sensitive Design Guideline- A guide to koala-sensitive design measures for planning and development activities	Nov 2012	State of Queensland (Department of Environment and Heritage Protection)
EHP NCA Protected Plants Mapping	means	<i>Nature Conservation Act 1992</i> protected plants flora survey trigger map spatial layer (QSpatial)		State of Queensland (Department of Environment and Heritage Protection)
EHP Wildlife Online Database	means	Queensland Government's WildNet data species profile search (version 1.0) database		State of Queensland (Department of Environment and Heritage Protection)
Endangered Vegetation	means	as mapped by Regulated Vegetation Management Mapping under the <i>Vegetation Management Act 1999</i> or by a certified Property Map of Assessable Vegetation.		



EOA	means	<i>Environmental Offsets Act 2014 (Qld)</i>	02 July 2015	State of Queensland
Environmental Offsets Act 2014	means	<i>Environmental Offsets Act 2014 (Qld)</i>	02 July 2015	State of Queensland
Environmental Offsets Policy 2014	means	<i>Queensland Environmental Offsets Policy (Version 1.1)</i>	December 2014	State of Queensland
EOP	means	<i>Queensland Environmental Offsets Policy (Version 1.1)</i>	December 2014	State of Queensland
EPBC	means	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>	01 July 2015	Commonwealth of Australia
EPBC Act	means	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>	01 July 2015	Commonwealth of Australia
EPBC Koala Referral Guidelines	means	EPBC Act referral guidelines for the vulnerable koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)	2014	Commonwealth of Australia
EPBC PMST Database	means	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> Protected Matters Search Tool database interactive mapping	2015	Commonwealth of Australia
EPBC Significant Impact Guidelines	means	Matters of National Environmental Significance: Significant Impact Guidelines 1.1 <i>Environment Protection and Biodiversity Conservation Act 1999</i>	2013	Commonwealth of Australia
ESCP	means	Erosion and Sediment Control Plan		
Essential Habitat	means	as defined in the <i>Vegetation Management Act 1999</i> , section 20AC.		
Essential Management	means	as defined in the <i>Sustainable Planning Regulation 2000</i> , schedule 26.		



EVNT Species	means	Endangered, Vulnerable, Near Threatened and presumed Extinct species listed by name in schedules 1-5 of the <i>Nature Conservation Wildlife Regulation 2006</i> and least concern wildlife, not listed by name but identified as indigenous to Australia listed in Schedule 6.		
FMP	means	Fauna Management Plan		
GFPDA	means	Greater Flagstone Priority Development Area (formerly Greater Flagstone UDA)		
Guideline 14	means	PDA guideline no. 14 - Environmental values and sustainable resource use	May 2015	State of Queensland
Guideline 17	means	PDA guideline no. 17 - Remnant vegetation and koala habitat obligations in Greater Flagstone and Yarrabilba PDAs	Aug 2014	State of Queensland (Department of State Development, Infrastructure and Planning)
ICOP	means	Infrastructure Charging Offset Plan - Greater Flagstone Priority Development Area	Jul 2013	State of Queensland
Koala Habitat Areas	means	as defined in Guideline 17, an area mapped on State Planning Policy 2/10: Koala Conservation in South East Queensland, SEQ Koala Protection Area Koala Habitat Values maps as: - bushland habitat - having high and medium value suitable for rehabilitation habitat types.		
Koala Habitat Values Mapping	means	the plan of Koala Habitat Areas enclosed at Plan 4 (Appendix 1) , or as amended in accordance with Section 7 of the NESS.		
Koala SPRP	means	South East Queensland Koala Conservation State Planning Regulatory Provisions	May 2010	State of Queensland
Koala SPRP Guideline	means	Guideline- South East Queensland Koala Conservation - State Planning Regulatory Provisions	Jul 2014	State of Queensland (Department of



				Environment and Heritage Protection)
Koala SPRP Mapping	means	South East Queensland Koala Conservation State Planning Regulatory Provisions - Koala planning area version 1-2 spatial layer (QSpatial)	2 Jun 2010	State of Queensland
LCC	means	Logan City Council		
LPA	means	<i>Land Protection (Pest and Stock Route Management) Act 2002</i>	01 Oct 2014	State of Queensland
Main Roads Fauna Sensitive Design Manual Vol.2	means	Fauna Sensitive Road Design Manual - Volume 2: Preferred Practices (Chapter 6 - Measures to achieve fauna sensitive roads, and Chapter 7 - Target Species Design Considerations)	Jun 2010	State of Queensland (Department of Transport and Main Roads)
MNES	means	Matters of National Environmental Significance		
MSES	means	Matters of State Environmental Significance		
MLES	means	Matters of Local Environmental Significance		
Nature Conservation (Koala) Conservation Plan 2006 and Management Program 2006-2016 (koala plan)	means	<i>Nature Conservation (Koala) Conservation Plan 2006</i>	27 Sep 2013	State of Queensland (Department of Environment and Heritage Protection)
NCA	means	<i>Nature Conservation Act 1992</i>	02 Jul 2015	State of Queensland (Department of Natural Resources and Mines)



NCA Protected Plants Exemption Process	means	where clearing is to be undertaken within a High Risk Area, as mapped by EHP Protected Plants Flora Survey Trigger Map, a flora survey will be undertaken in accordance with the Protected Plants Flora Survey Trigger Guidelines - Nature Conservation Act 1992 and where applicable, an Exempt Clearing Notification Form will be issued to EHP		State of Queensland (Department of Natural Resources and Mines)
NCA Protected Plants Flora Survey Guidelines	means	Flora Survey Guidelines - Protected Plants - Nature Conservation Act 1992	2014	State of Queensland (Department of Natural Resources and Mines)
NCWR	means	<i>Nature Conservation (Wildlife) Regulation 1994 (Reprint No. 2A)</i>	22 Dec 1999	State of Queensland (Department of Natural Resources and Mines)
NESS	means	Natural Environment Site Strategy		
NJKHT	means	Non-Juvenile Koala Habitat Trees		
NRM	means	Department of Natural Resources and Mines (Qld)		
NRM Covenant Control measures and Guidelines	means	as defined within the NRM Land Title Practice Manual (Qld), specifically Part 31 - Covenants, and NRM policy 'Covenants providing for non separate transfers PUX/952/066 version 4.05'	Apr 2009	State of Queensland (Department of Natural Resources and Mines)
NRM Regulated Vegetation Management Mapping	means	<i>Vegetation Management Act 1999</i> Regulated Vegetation Management Map - version 1.27 spatial layer (QSpatial)	7 Mar 2016	
NRM Self Assessable Guidelines for land management and exemption checklist	means	NRM self assessable clearing codes, specifically for Managing Encroachment, Managing Fodder Harvesting, Necessary Environmental Clearing, Property Infrastructure and Weed Control	02 Dec 2013	State of Queensland



OSS	means	Overarching Site Strategy		
PDA	means	Priority Development Area (formerly UDA)		
PDA Development Scheme	means	the <i>Greater Flagstone Urban Development Area Development Scheme</i>	Oct 2011	State of Queensland
PMAV	means	Property Map of Assessable Vegetation		
Future Investigation Area	means	land designated as Future Investigation Area on an endorsed / approved Context Plan for the Application Area		
Pre-clear Mapping	means	Draft pre-clearing regional ecosystems mapping data spatial layer (QSpatial)	8 May 2015	State of Queensland
Prescribed Matter	means	as defined by the <i>Environmental Offsets Act 2014</i>		
Property Map of Assessable Vegetation (PMAV)	means	as defined by the <i>Vegetation Management Act 1999</i>		
RE	means	Regional Ecosystems		
Regional Ecosystems	means	as defined by the <i>Vegetation Management Act 1999</i> .		
SARA	means	State Assessment Referral Agency (Qld)		
SARA Mapping	means	QSpatial layers applicable under SARA DA mapping tool		
SAT	means	Spot Assessment Technique Survey		
SDAP	means	State Development Assessment Provisions		
SDAP Module 8	means	Module 8 of the State Development Assessment Provisions (version 1.7)	23 Nov 2015	State of Queensland



SEQ Ecological Restoration Framework Code	means	South East Queensland Ecological Restoration Framework: Code of Practice	2012	Chenoweth EPLA and Bushland Restoration Services. Prepared on behalf of SEQ Catchments and South East Queensland Local Governments, Brisbane.
SEQ Ecological Restoration Framework Guide	means	South East Queensland Ecological Restoration Framework: Guideline	2012	Chenoweth EPLA and Bushland Restoration Services. Prepared on behalf of SEQ Catchments and South East Queensland Local Governments, Brisbane.
SEQ Ecological Restoration Framework Manual	means	South East Queensland Ecological Restoration Framework: Manual	2012	Chenoweth EPLA and Bushland Restoration Services. Prepared on behalf of SEQ Catchments and South East Queensland Local Governments, Brisbane.
SEQRP	means	South East Queensland Regional Plan 2009-2031		
WWTP	means	wastewater treatment plant		



Significant Biodiversity Values	means	Significant Biodiversity Values are as mapped and annotated on Plan 8 (Appendix 1) , or as otherwise defined as: <ul style="list-style-type: none"> - Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems - Confirmed Waterway Areas 		
Significant Residual Impact	means	as defined by the Environmental Offsets Act 2014, as meaning: “an adverse impact, whether direct or indirect, of a prescribed activity on all or part of a prescribed environmental matter that – <ol style="list-style-type: none"> 1. Remains, or will or is likely to remain, (whether temporarily or permanently) despite onsite mitigation measures of the prescribed activity; and 2. Is, or will or is likely to be, significant. 		
SPA	means	<i>Sustainable Planning Act 2009</i>	20 Nov 2015	State of Queensland
SPP	means	State Planning Policy		
SPP Biodiversity Values Mapping	means	<i>State Planning Policy 2014 Matters of State Environmental Significance spatial layer series, specifically for MSES Biodiversity</i>	17 Dec 2013	State of Queensland
SPP 07/14	means	<i>State Planning Policy July 2014</i>	July 2014	State of Queensland (Department of State Development, Infrastructure and Planning)
SPRP	means	State Regulatory Planning Provisions		
SRI	means	Significant Residual Impact		
TEC	means	Threatened Ecological Community		



TMR	means	Department of Transport and Main Roads (Qld)		
UDA	means	Urban Development Area (now known as PDA)		
ULDA	means	Urban Land Development Authority (now known as EDQ)		
VMA	means	<i>Vegetation Management Act 1999</i>	11 Sep 2015	Queensland Government
VMP	means	Vegetation Management Plan		
Watercourse	means	is a watercourse as defined under the <i>Water Act 2000</i> , as meaning: “a river, creek or other stream, including a stream in the form of an anabrach or tributary, in which water flows permanently or intermittently, regardless of the frequency of flow events – a. In a natural channel, whether artificially modified or not, or b. In an artificial channel that has changed the course of the stream”.		
Waterway	means	as defined by DAF Mapping for WWBW and ground-truthed by field survey		
Waterway Barrier Works (WWBW)	means	as defined in the <i>Fisheries Act 1994</i>		
WWBW	means	Waterway Barrier Works		



Legislation and Guidelines referenced within this strategy

The following legislation (i.e. Acts, Guidelines and Polices) are referenced within this strategy and remain in effect for the purpose of this NESS:

Act / Policy /Guideline	Date of Publication	Author/Organisation
<i>Australian Standard AS4970-2009 Protection of trees on development sites (incorporating Amendment No. 1)</i>	Mar 2010	Standards Australia
<i>Code for Self-assessable development, Minor Waterway Barrier Works, Part 1: Low Impact Dams and Weirs (WWBW01)</i>	Apr 2013	State of Queensland (Department of Agriculture and Fisheries)
<i>Code for Self-assessable development, Minor Waterway Barrier Works, Part 2: Replacement of Existing Floodgates (WWBW01)</i>	Oct 2011	State of Queensland (Department of Agriculture and Fisheries)
<i>Code for Self-assessable development, Minor Waterway Barrier Works, Part 3: Culvert Crossings (WWBW01)</i>	Apr 2013	State of Queensland (Department of Agriculture and Fisheries)
<i>Code for Self-assessable development, Minor Waterway Barrier Works, Part 4: Construction and Maintenance of Bed Level Crossings (WWBW01)</i>	Apr 2013	State of Queensland (Department of Agriculture and Fisheries)
<i>Code for Self-assessable development, Temporary Waterway Barrier Works (WWBW02)</i>	Apr 2013	State of Queensland (Department of Agriculture and Fisheries)
<i>Code for Self-assessable development, Regularly Constructed Waterway Barrier Works (WWBW03)</i>	Oct 2011	State of Queensland (Department of Agriculture and Fisheries)
<i>Crime Prevention through Environmental Design- Guidelines for Queensland - Part B: Implementation Guide</i>	Oct 2007	State of Queensland
<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>	Jul 2015	Commonwealth of Australia
<i>Environmental Offsets Act 2014</i>	Jul 2015	State of Queensland
<i>EPBC Act Administrative Guidelines on Significance – Supplement for the Grey-headed Flying-fox</i>	2003	Commonwealth of Australia



<i>EPBC Act referral guidelines for the vulnerable koala (combined populations of Queensland, New South Wales and the Australian Capital Territory)</i>	2014	Commonwealth of Australia
<i>Fauna Sensitive Road Design Manual - Volume 2: Preferred Practices</i>	Jun 2010	State of Queensland (Department of Transport and Main Roads)
<i>Flora Survey Guidelines - Protected Plants - Nature Conservation Act 1992</i>	2014	State of Queensland (Department of Environment and Heritage Protection)
<i>Greater Flagstone Urban Development Area Development Scheme</i>	Oct 2011	State of Queensland
<i>Guideline- South East Queensland Koala Conservation - State Planning Regulatory Provisions</i>	Jul 2014	State of Queensland (Department of Environment and Heritage Protection)
<i>Infrastructure Charging Offset Plan - Greater Flagstone Priority Development Area</i>	Jul 2013	State of Queensland
<i>Koala-sensitive Design Guideline- A guide to koala-sensitive design measures for planning and development activities</i>	Nov 2012	State of Queensland (Department of Environment and Heritage Protection)
<i>Land Protection (Pest and Stock Route Management) Act 2002</i>	01 Oct 2014	State of Queensland
<i>List of Vegetation Clearing Exemptions</i>	2013	State of Queensland (Department of Natural Resources and Mines)
<i>Matters of National Environmental Significance: Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999</i>	2013	Commonwealth of Australia
<i>Nature Conservation (Koala) Conservation Plan 2006</i>	27 Sep 2013	State of Queensland (Department of Environment and Heritage Protection)
<i>Nature Conservation (Wildlife) Regulation 1994 (Reprint No. 2A)</i>	22 Dec 1999	State of Queensland
<i>Nature Conservation Act 1992</i>	02 Jul 2015	Queensland Government
<i>PDA guideline no. 14 - Environmental values and sustainable resource use</i>	May 2015	State of Queensland
<i>PDA guideline no. 17 - Remnant vegetation and koala habitat obligations in Greater Flagstone and Yarrabilba PDAs</i>	Aug 2014	State of Queensland, Department of State Development, Infrastructure and Planning
<i>Queensland Code of Practice for the welfare of wild animals affected by land-clearing and other habitat impacts and wildlife spotter / catchers (Draft)</i>	2009	Jon Hanger & Ben Nottidge - Australian Wildlife Hospital



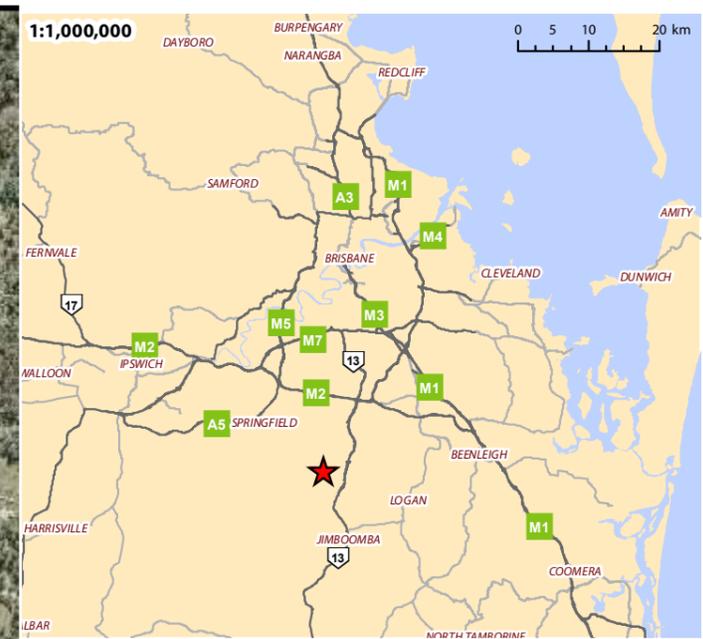
<i>Queensland Environmental Offsets Policy (Version 1.1)</i>	Dec 2014	State of Queensland
<i>Significant Residual Impact Guideline - For matters of state environmental significance and prescribed activities assessable under the Sustainable Planning Act 2009 - Queensland Environmental Offsets Policy</i>	Dec 2014	State of Queensland, Department of State Development, Infrastructure and Planning
<i>South East Queensland Ecological Restoration Framework: Code of Practice</i>	2012	Chenoweth EPLA and Bushland Restoration Services. Prepared on behalf of SEQ Catchments and South East Queensland Local Governments, Brisbane.
<i>South East Queensland Ecological Restoration Framework: Guideline</i>	2012	Chenoweth EPLA and Bushland Restoration Services. Prepared on behalf of SEQ Catchments and South East Queensland Local Governments, Brisbane.
<i>South East Queensland Ecological Restoration Framework: Manual</i>	2012	Chenoweth EPLA and Bushland Restoration Services. Prepared on behalf of SEQ Catchments and South East Queensland Local Governments, Brisbane.
<i>South East Queensland Koala Conservation State Planning Regulatory Provisions</i>	May 2010	Queensland Government
<i>State Planning Policy July 2014</i>	Jul 2014	State of Queensland (Department of State Development, Infrastructure and Planning)
<i>Sustainable Planning Act 2009</i>	Nov 2015	State of Queensland
<i>Terrestrial Vertebrate Fauna Survey Guidelines for Queensland (v 2.0)</i>	Nov 2014	The State of Queensland (Department of Science, Information Technology, Innovation and the Arts)
<i>Vegetation Management Act 1999</i>	Sep 2015	State of Queensland
<i>Water Act 2000</i>	Oct 2015	State of Queensland



Appendix I

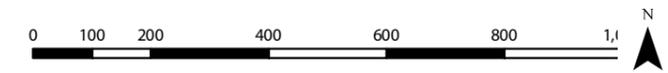
Plans

- Plan 1:** Site Aerial
- Plan 2:** Certified Property Map of Assessable Vegetation
- Plan 3:** Property Map of Assessable Vegetation Awaiting Certification
- Plan 4:** SEQ Koala Habitat Values Mapping
- Plan 5:** Fisheries – Waterways for Waterway Barrier Works
- Plan 6:** Indicative Development Interface to Retained Vegetation – Section AA
- Plan 7:** Indicative Development Interface to Retained Vegetation – Section BB
- Plan 8:** Natural Environment Site Strategy – Site Constraints Plan



Legend

-  Project site DCDB
-  Easement



SH saunders havill group

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CONFIRM ALL DIMENSIONS ON SITE PRIOR TO CONSTRUCTION AND DO NOT SCALE FROM THE DRAWINGS. ALL DIMENSIONS ARE IN MILLIMETRES. ANY DISCREPANCIES SHOULD BE CLARIFIED IN WRITING WITH SAUNDERS HAVILL GROUP PRIOR TO THE COMMENCEMENT OF WORK.

PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER UNDER-GROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.

mirvac

Issue	Date	Description	Drawn	Checked
A	8/03/2016	Prelim Draft	TC	MS

APPROVED COMPANY

ISO 9001
Quality Management Systems

QMS

APPROVED COMPANY

ISO 14001
Environmental Management Systems

QMS

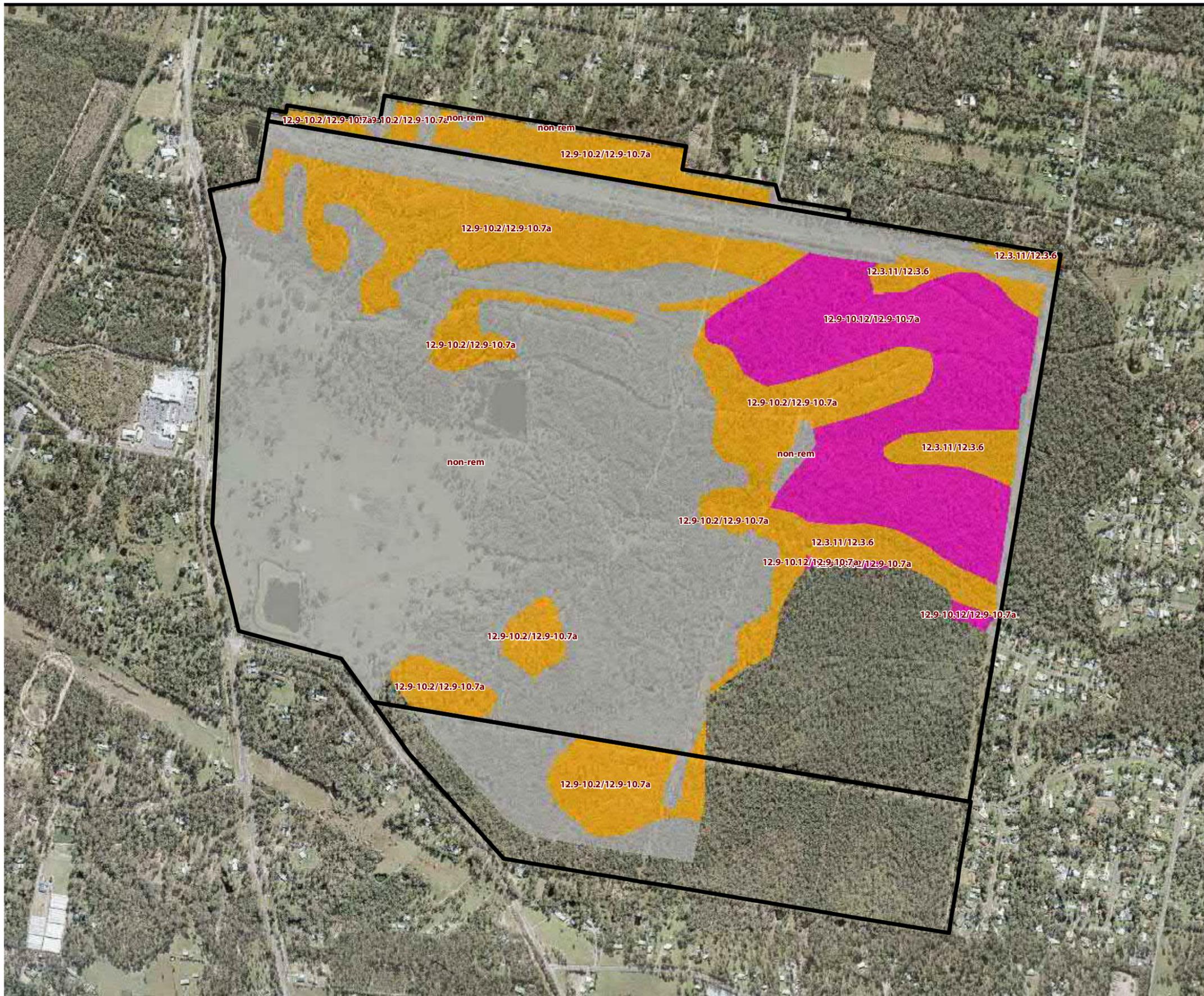
Greenbank Natural Environment Site Strategy

Site Aerial

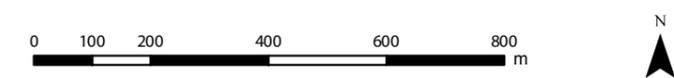
Date | 8/03/2016
 Scale | 1:12,000 @ A3
 Coordinate System | GDA 1994 MGA Zone 56
 Projection | Transverse Mercator
 Client | MIRVAC
 Project | Greenbank
 Address/RPD | Lot 434 on RP845844
 Sources | QLD GIS Layers (QLD Gov. Info Services 2015),
 Structure Plan (URBIS, 2015)

Plan 1

SHG File
7598 E 01 Site Aerial A



- Legend**
- Project site DCDB
 - Certified PMAV 2015/004538**
 - Category B - Containing Endangered REs
 - Category B - Containing Of Concern REs
 - Category X - Non-remnant



ISSUES:

Issue	Date	Description	Drawn	Checked
A	8/03/2016	Prelim Draft	TC	MS

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Greenbank

Natural Environment Site Strategy

Certified Property Map of Assessable Vegetation

Date | 8/03/2016
 Scale | 1:12,000 @ A3
 Coordinate System | GDA 1994 MGA Zone 56
 Projection | Transverse Mercator
 Client | MIRVAC
 Project | Greenbank
 Address/RPD | Lot 434 on RP845844
 Sources | QLD GIS Layers (QLD Gov. Info Services 2015), Structure Plan (URBIS, 2015)

Plan 2

SHG File
7598 E 02 Certified PMAV A



Legend

- Project site DCDB
- Extent of PMAV area for lodgement
- PMAV area for Lodgement**
 - Category B - Containing Endangered REs
 - Category B - Containing Of Concern REs
 - Category X - Non-remnant
- Certified PMAV 2015/004538**
 - Category B - Containing Endangered REs
 - Category B - Containing Of Concern REs
 - Category X - Non-remnant



Greenbank Natural Environment Site Strategy

Property Map of Assessable Vegetation For Lodgement

ISSUES:				
Issue	Date	Description	Drawn	Checked
A	18/03/2016	Prelim Draft	TC	MS

Date | 18/03/2016
 Scale | 1:1,200 @ A3
 Coordinate System | GDA 1994 MGA Zone 56
 Projection | Transverse Mercator
 Client | MIRVAC
 Project | Greenbank
 Address/RPD | Lot 434 on RP845844
 Sources | QLD GIS Layers (QLD Gov. Info Services 2015),
 Structure Plan (URBIS, 2015)

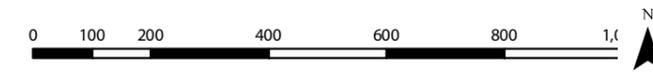
Plan 3

SHG File
 7598 E 03 Lodgement PMAV A_

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 PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER UNDER-GROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.



- Legend**
- Project site DCDB
 - Koala Habitat Values Mapping**
 - Bushland Habitat*
 - High Value Bushland
 - Medium Value Bushland
 - Low Value Bushland
 - Suitable for Rehabilitation*
 - High Value Rehabilitation
 - Medium Value Rehabilitation
 - Low Value Rehabilitation
 - Other Areas of Value*
 - High Value Other
 - Medium Value Other
 - Low Value Other
 - Non-habitat
 - Water



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PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER UNDER-GROUND SERVICES AND DETAIL LOCATIONS OF ALL SERVICES.

mirvac

Issue	Date	Description	Drawn	Checked
A	18/03/2016	Prelim Draft	TC	MS

APPROVED COMPANY

ISO 9001
Quality Management Systems

QMS

APPROVED COMPANY

ISO 14001
Environmental Management Systems

QMS

Greenbank

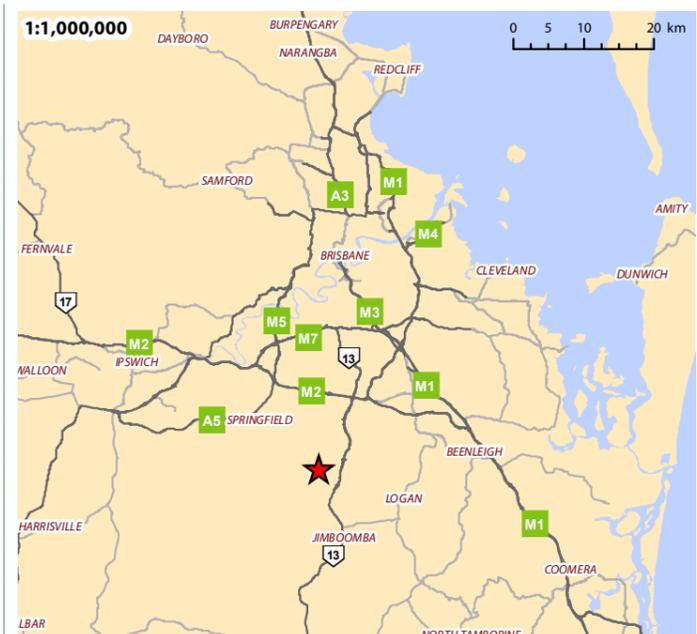
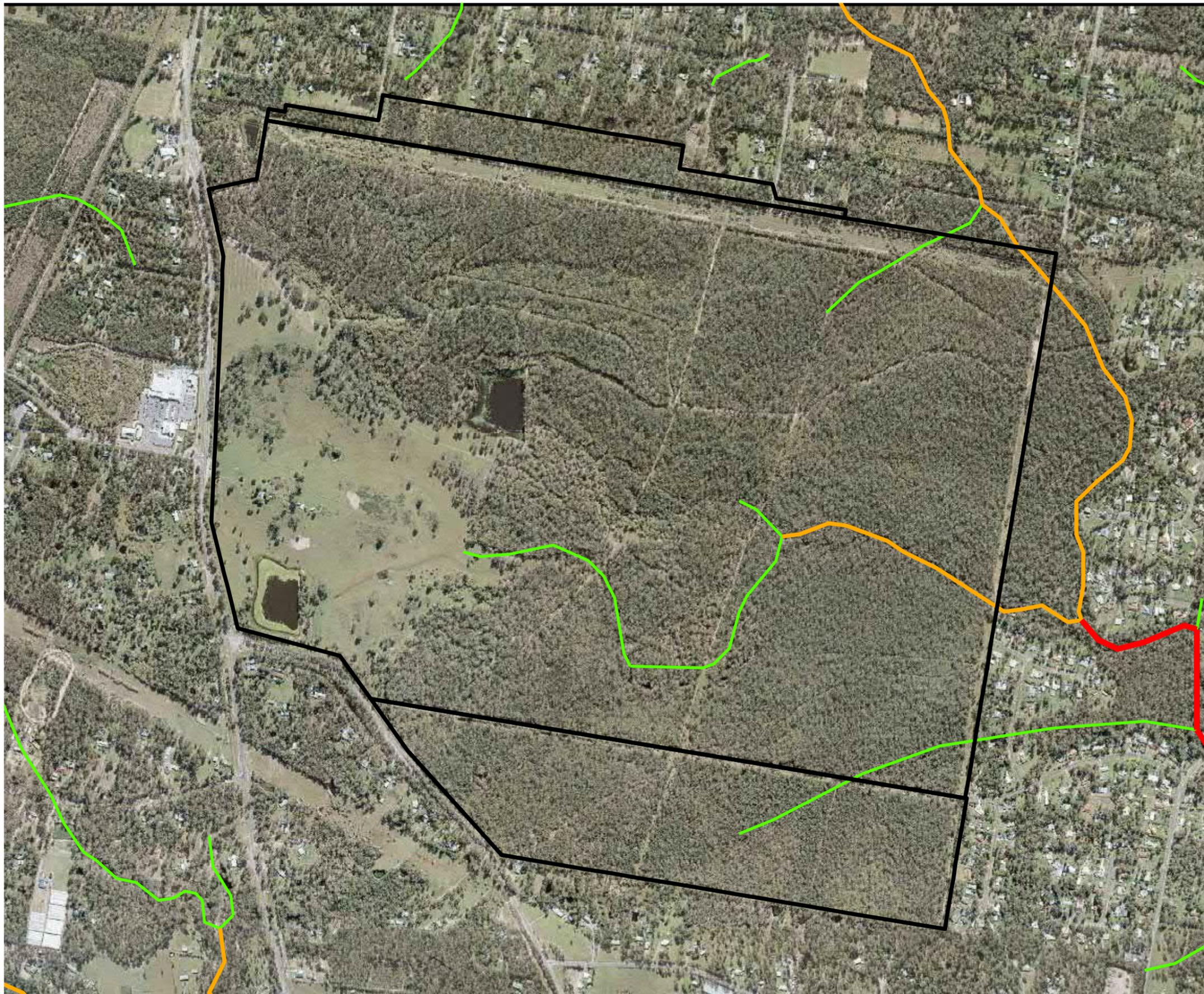
Natural Environment Site Strategy

SEQ Koala Habitat Values Mapping

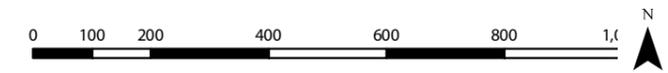
Date | 18/03/2016
 Scale | 1:1,200 @ A3
 Coordinate System | GDA 1994 MGA Zone 56
 Projection | Transverse Mercator
 Client | MIRVAC
 Project | Greenbank
 Address/RPD | Lot 434 on RP845844
 Sources | QLD GIS Layers (QLD Gov. Info Services 2015), Structure Plan (URBIS, 2015)

Plan 4

SHG File
7598 E 04 Koala Habitat Values A



- Legend**
- Project site DCDB
 - Waterways**
 - Risk of Impact*
 - 1 - Low
 - 2 - Moderate
 - 3 - High
 - 4 - Major



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mirvac

ISSUES:

Issue	Date	Description	Drawn	Checked
A	18/03/2016	Prelim Draft	TC	MS

APPROVED COMPANY

ISO 9001
Quality Management Systems

QMS

APPROVED COMPANY

ISO 14001
Environmental Management Systems

QMS

Greenbank

Natural Environment Site Strategy

Fisheries - Waterways for Waterway Barrier Works

Date | 18/03/2016
 Scale | 1:1,200 @ A3
 Coordinate System | GDA 1994 MGA Zone 56
 Projection | Transverse Mercator
 Client | MIRVAC
 Project | Greenbank
 Address/RPD | Lot 434 on RP845844
 Sources | QLD GIS Layers (QLD Gov. Info Services 2015), Structure Plan (URBIS, 2015)

Plan 5

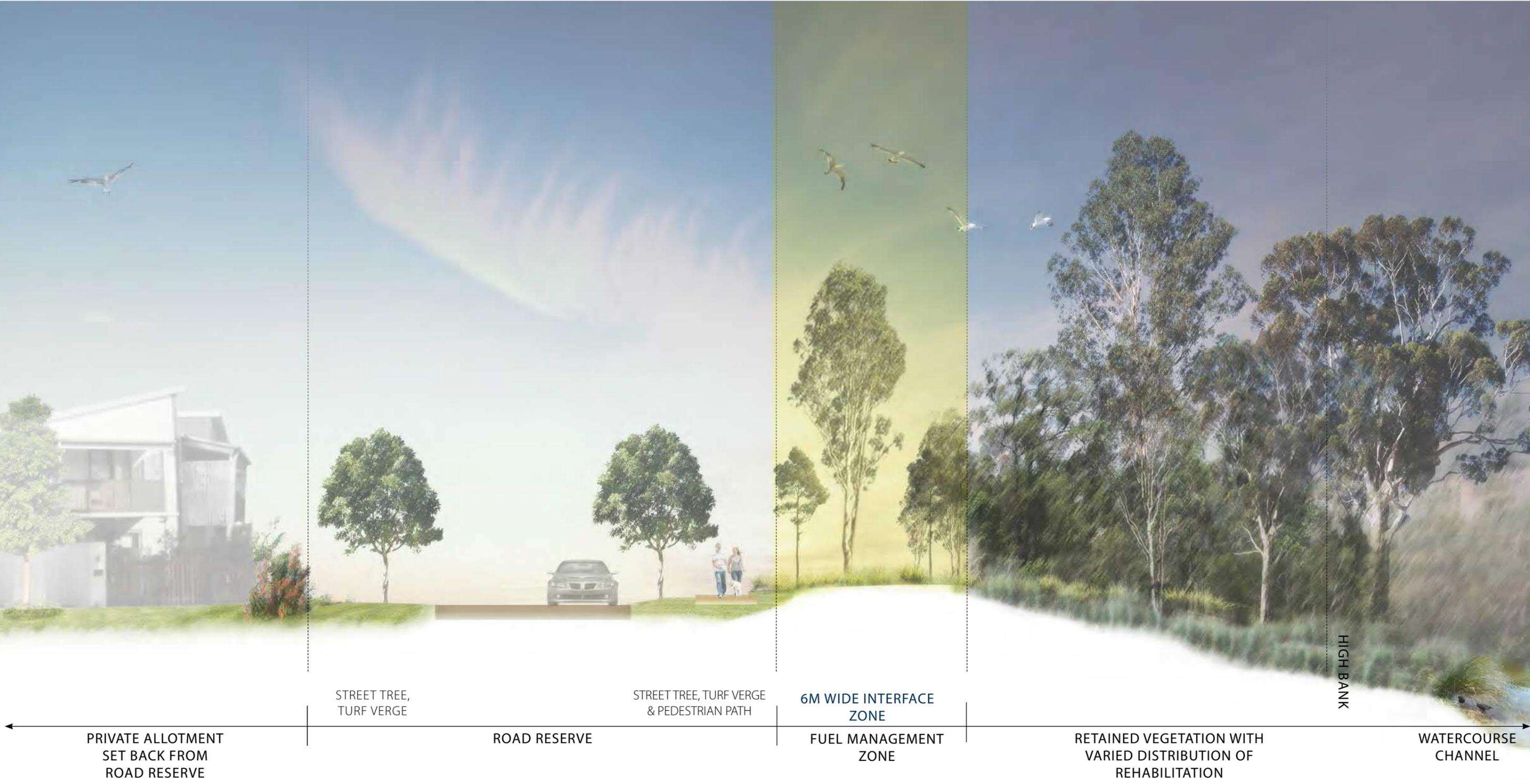
SHG File
7598 E 05 Fisheries A

GREENBANK ROAD - TECHNICAL ECOLOGICAL ASSESSMENT REPORT

INDICATIVE DEVELOPMENT INTERFACE TO RETAINED VEGETATION - SECTION AA



GREENBANK ROAD - TECHNICAL ECOLOGICAL ASSESSMENT REPORT INDICATIVE DEVELOPMENT INTERFACE TO RETAINED VEGETATION - SECTION BB





Legend

Project site boundary

Significant Biodiversity Values

Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems

Areas proposed and confirmed through Property Map of Assessable Vegetation application as retaining remnant vegetation of an Endangered Regional Ecosystem type

Confirmed Waterway Areas

Areas confirmed through field survey. As retaining features consistent with a watercourse within the extent of the Project Site

Other Biodiversity Values

Low Order Remnant Vegetation

Of Concern and Least Concern Regional Ecosystem type areas

Waterway Buffer Areas

Areas of preferred buffer extent to Project Site watercourses

Other Drainage Features & Watercourses

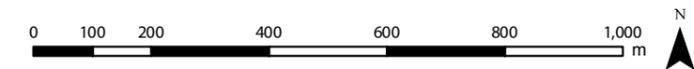
Areas within the site conveying current hydrology flow paths – *varying quality*.

Project Site Farm Dams

Locations of artificially created farm dams

Areas of Juvenile Native Vegetation

Areas of Project Site retaining varying degrees of native regeneration vegetation



**Greenbank
Natural Environment Site Strategy
Site Constraints Plan**

Date | 31/03/2016
 Scale | 1:12,000 @ A3
 Coordinate System | GDA 1994 MGA Zone 56
 Projection | Transverse Mercator
 Client | MIRVAC
 Project | Greenbank
 Address/RPD | Lot 434 on RP845844
 Sources | QLD GIS Layers (QLD Gov. Info Services 2015),
 Structure Plan (URBIS, 2015)

Plan 8

SHG File
7598 E 08 Site Constraints C

ISSUES:

Issue	Date	Description	Drawn	Checked
A	18/03/2016	Prelim Draft	TC	MS
B	23/03/2016	Client Amendments	TC	KG
C	31/03/2016	Internal Amendments	TC	KG

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