Attachment 9

Erosion and Sediment Control Plan

EVERLEIGH PRECINCTS 8 & 10
BULK EARTHWORKS
TEVIOT ROAD, GREENBANK
FOR MIRVAC QLD PTY LTD

SHEET LIST TABLE	
SHEET NO.	SHEET TITLE
C001	COVER SHEET
C002	SAFETY IN DESIGN
C200	OVERALL EARTHWORKS LAYOUT PLAN
C201	BULK EARTHWORKS LAYOUT PLAN - SHEET 1
C202	BULK EARTHWORKS LAYOUT PLAN - SHEET 2
C203	BULK EARTHWORKS LAYOUT PLAN - SHEET 3
C204	BULK EARTHWORKS LAYOUT PLAN - SHEET 4
C205	BULK EARTHWORKS LAYOUT PLAN - SHEET 5
C206	BULK EARTHWORKS LAYOUT PLAN - SHEET 6
C207	BULK EARTHWORKS LAYOUT PLAN - SHEET 7
C208	BULK EARTHWORKS LAYOUT PLAN - SHEET 8
C209	EARTHWORKS PHASING PLAN
C210	BULK EARTHWORKS NOTES AND DETAILS
C250	VEGETATION CLEARING SECTIONS & NOTES
C700	EROSION AND SEDIMENT CONTROL - EXISTING CATCHMENTS PHASE 1
C701	EROSION AND SEDIMENT CONTROL - CLEAR AND GRUB PHASE 1
C702	EROSION AND SEDIMENT CONTROL - INTERIM CATCHMENT PHASE 2
C703	EROSION AND SEDIMENT CONTROL - CLEAR AND GRUB PHASE 2
C704	EROSION AND SEDIMENT CONTROL - FINISHED CATCHMENTS
C705	EROSION AND SEDIMENT CONTROL - BULK EARTHWORKS PHASE
C706	EROSION AND SEDIMENT CONTROL - STABILISATION PHASE
C710	EROSION AND SEDIMENT CONTROL - BASIN A DETAILS
C711	EROSION AND SEDIMENT CONTROL - BASIN B DETAILS
C712	EROSION AND SEDIMENT CONTROL - BASIN C DETAILS
C713	EROSION AND SEDIMENT CONTROL - BASIN D DETAILS
C720	EROSION AND SEDIMENT CONTROL - TYPICAL BASIN B DETAILS
C730	EROSION AND SEDIMENT CONTROL - DRAIN DETAILS
C740	EROSION AND SEDIMENT CONTROL - SPILLWAY DETAILS
C750	EROSION AND SEDIMENT CONTROL NOTES - SHEET 1
C751	EROSION AND SEDIMENT CONTROL NOTES - SHEET 2

INDEMNITY - EXISTING SERVICES

NOT WITHSTANDING THAT EXISTING SERVICES MAY OR MAY NOT BE SHOWN ON THESE DRAWINGS, NO RESPONSIBILITY IS TAKEN BY THE ENGINEER OR THE PRINCIPAL FOR THIS INFORMATION WHICH HAS BEEN SUPPLIED BY OTHERS. THE DETAILS ARE PROVIDED FOR INFORMATION ONLY. THE CONTRACTOR SHALL ASCERTAIN THE POSITION OF ALL UNDERGROUND SERVICES PRIOR TO EXCAVATION AND SHALL BE RESPONSIBLE FOR THE COST OF REPAIRS TO DAMAGES CAUSED AS A RESULT OF THE WORKS.

LEVEL DATUM: AHD (DERIVED)

ORIGIN - PM61308
RL OF ORIGIN - 54.660m A.H.D

ORIGIN OF COORDINATES: STATION C1 (PM 73506)

PROJECT COORDINATES - STN C1, 8792.646 E, 32093.723 N

FOR FURTHER DETAILS REFER TO DETAIL SURVEY DRAWING 7598 S 02 DT H PREPARED BY SAUNDERS HAVILL GROUP.

SITE AREA

39,399m²

REAL PROPERTY DESCRIPTION

LOT 2 on SP297192

GENERAL NOTES

1. ALL DIMENSIONS GIVEN ON THESE DRAWINGS ARE IN METRES UNLESS NOTED OTHERWISE.
2. ALL NEW WORK AND MATERIALS SHALL COMPLY CURRENT RELEVANT COUNCIL STANDARDS AND SPECIFICATIONS.
3. ALL WORK SHALL BE JOINED NEATLY TO EXISTING CONSTRUCTION.
4. THE CONTRACTOR IS TO LOCATE, IDENTIFY AND ESTABLISH THE CONNECTIVITY OF ALL EXISTING SERVICES WITHIN THE LIMITS OF PROPOSED WORKS AND CONFIRM THIS INFORMATION WITH THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MEASURING DEVICES, SAFETY EQUIPMENT AND MACHINERY REQUIRED TO CARRY OUT INSPECTIONS/MEETINGS AS SPECIFIED OR REQUESTED BY THE ENGINEER.
6. CONSTRUCTION CERTIFICATION REQUIREMENTS SUCH AS PAVEMENT PROOF ROLLS ETC. ARE TO BE AS PER THE LOGAN CITY COUNCIL SPECIFICATION.
7. THESE NOTES SHALL APPLY TO ALL PORTIONS OF WORK.
8. THE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATIONS. ANY POINT OF CONFLICT WILL BE RESOLVED BY THE SUPERINTENDENT.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A CONSTRUCTION MANAGEMENT PLAN FOR THE SITE TO BE ACCEPTED BY EDQ. THIS PLAN IS TO INCLUDE ALL ITEMS AS LISTED IN THE DECISION NOTICE AS A MINIMUM.

NOISE

1. ALL PLANT AND EQUIPMENT SHALL BE CONTROLLED TO MINIMISE NOISE EMISSION IN ACCORDANCE WITH AS2436 (GUIDE TO NOISE CONTROL ON CONSTRUCTION, MAINTENANCE AND DEMOLITION). THE SITE WORKING HOURS SHOULD BE IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS. WHERE NOT SPECIFIED THE HOURS SHALL BE:

MONDAY - SATURDAY 7:00am to 6:00pm
SUNDAY OR PUBLIC HOLIDAY NO WORK PERMITTED

PRE-CONSTRUCTION & APPROVALS

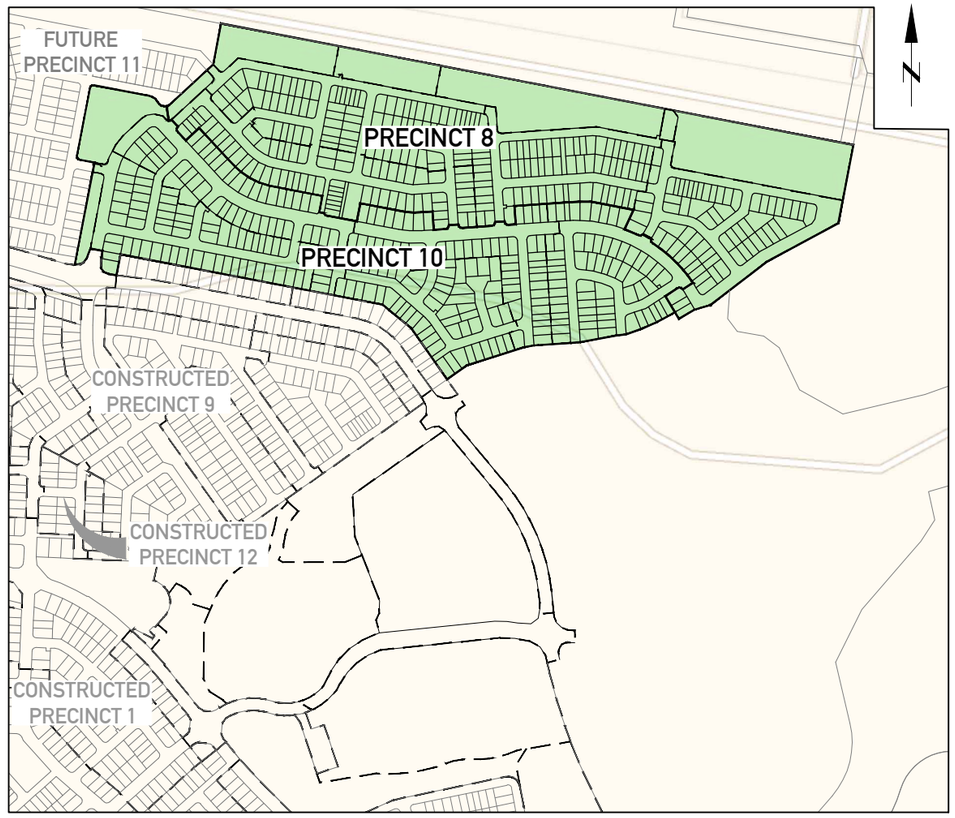
1. NO LOCATING/ POTHOLING OF EXISTING SERVICES HAS BEEN CARRIED OUT. THE CONTRACTOR IS TO DETERMINE THE LOCATION AND DEPTH OF ALL EXISTING SERVICES WHICH AFFECT THE WORKS AND REPORT ANY POTENTIAL CLASHES TO THE SUPERINTENDENT PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORKS.
2. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING WITH THE APPROPRIATE AUTHORITY FOR LOCATING EXISTING SERVICES AND FOR ANY MODIFICATIONS TO EXISTING SERVICES REQUIRED AS A RESULT OF THE WORKS.
3. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL EXISTING SERVICES FROM DAMAGE.
4. ANY WORKS DAMAGED AS A RESULT OF CONSTRUCTION ARE TO BE REINSTATED TO RELEVANT AUTHORITY'S REQUIREMENTS AT THE CONTRACTORS COST.
5. FINISHED SURFACE LEVELS ARE TO BE GRADED UNIFORMLY BETWEEN LEVELS INDICATED ON THE DRAWINGS.

WORKPLACE HEALTH & SAFETY

1. THE CONTRACTOR SHALL BE THE PRINCIPAL CONTRACTOR AS DESIGNATED BY THE WORK HEALTH AND SAFETY ACT (2011).
2. THE CONTRACTOR SHALL PREPARE AND IMPLEMENT A WORKPLACE HEALTH AND SAFETY PLAN AS REQUIRED BY THE WORK HEALTH AND SAFETY ACT (2011).

SETOUT NOTES

1. CO-ORDINATE SETOUT PROVIDED ON THESE DRAWINGS IS BASED ON A CO-ORDINATE BASE PROVIDED ON THE DETAIL SURVEY DRAWING 7598 S 02 DTH, PREPARED BY SAUNDERS HAVILL GROUP. REFERENCE MARKS AND CORRESPONDING CO-ORDINATES ARE PROVIDED ON DRAWING C002.
2. THE LEVEL DATUM FOR WORKS IS A.H.D (AUSTRALIAN HEIGHT DATUM).



LOCALITY PLAN
Scale 1:5000

Premise

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
05/12/2022	A	ORIGINAL ISSUE	KK	PB

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DESIGNED KLYNT KIWANG
CHECKED ANDREW LANGDON
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE
0 100 200 300m
SCALE 1:5000 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE COVER SHEET

JOB CODE MIR-1010
SHEET NUMBER C001
REV A

DESIGN HAZARD NOTES:

1. PREMISE, HAVING BEEN COMMISSIONED TO CARRY OUT DETAILED DESIGN AND DOCUMENTATION OF THESE WORKS, CONFIRM THAT THE PREMISE DRAWING SET HAS BEEN INTERNALLY REVIEWED FOR DESIGN SAFETY IN ACCORDANCE WITH SECTION 22 OF THE WORK HEALTH AND SAFETY ACT 2011 QLD.
2. THIS REPORT SUMMARISES AN INTERNAL REVIEW OF PREMISE'S DETAILED DESIGN DRAWINGS FOR DESIGN SAFETY.
3. THIS REPORT IN NO WAY RELIEVES THE PRINCIPAL, CONTRACTOR OR ANY OTHER PARTY OF THEIR OWN OBLIGATIONS AND RESPONSIBILITIES UNDER THE WORK HEALTH AND SAFETY ACT 2011 QLD, INCLUDING (BUT NOT LIMITED TO) CONSULTATION WITH THE DESIGNER UNDER SECTION 294 OF THE ACT, THE PREPARATION OF SATISFACTORY SAFE WORK METHOD STATEMENTS AND DUTIES OF CARE.
4. IT IS A REQUIREMENT UNDER SECTION 296 OF THE WORK HEALTH AND SAFETY ACT 2011 QLD, THAT A COPY OF THIS REPORT BE PROVIDED TO THE CONTRACTOR BY THE ENTITY COMMISSIONING THE WORK SHOWN OF THE PREMISE DRAWINGS.
5. AS PER THE DEPARTMENT OF JUSTICE AND THE ATTORNEY-GENERAL- WORKPLACE HEALTH AND SAFETY QUEENSLAND, A WRITTEN REPORT IS NOT REQUIRED FOR DESIGNS THAT HAVE TYPICAL FEATURES.

CONSEQUENCE TABLE

LEVEL	CONSEQUENCE	COST/TIME
5 - CATASTROPHIC	FATALITY OR MULTIPLE PERSONS ONSITE WITH LIFE THREATENING HEALTH EFFECT OR INABILITY TO CONTINUE	HUGE FINANCIAL OR TIME LOSS
4 - MAJOR	EXTENSIVE INJURIES, OR ONSET OF SEVERE OR LIFE THREATENING HEALTH EFFECT TO SINGLE PERSON ONSITE. MULTIPLE PERSONS WITH ONSET OF IRREVERSIBLE HEALTH EFFECTS. PREMANENT INJURT TO PERSON INSITE.	MAJOR FINANCIAL OR TIME LOSS
3 - MODERATE	MEDICAL TREATMENT REQUIRED. IRREVERSIBLE HEALTH EFFECT TO A SINGLE PERSON. MULTIPLE PERSONS ONSITE WITH REVERSIBLE HEALTH EFFECTS.	HIGH FINANCIAL OR TIME LOSS
2 - MINOR	FIRST AID, SINGLE OR MULTIPLE INJURIES AMONGST PERSONS ONSITE. SINGLE PERSON ONSITE WITH MODERATE SHORT TERM REVERSIBLE HEALTH EFFECTS.	MEDIUM FINANCIAL OR TIME LOSS
1 - INSIGNIFICANT	NO INJURIES. OVER EXPOSURE TO A SINGLE PERSON ONSITE, BUT NO REPORTED HEALTH EFFECTS.	LOW FINANCIAL OR TIME LOSS

CONSTRUCTION HAZARD NOTES:

1. UNDER THE QUEENSLAND WORK HEALTH AND SAFETY ACT 2011, THE WORK HEALTH AND SAFETY REGULATION 2011 AND OTHER LEGISLATION AND GUIDELINES, THE PRINCIPAL CONTRACTOR HAS SPECIFIC OBLIGATIONS IN RELATION TO THE SAFE OPERATION OF THE SITE AND OF THE WORKS.
   TO ASSIST THE PRINCIPAL CONTRACTOR IN COMPLYING WITH THESE OBLIGATIONS THE PROJECT DESIGNERS HAVE IDENTIFIED BY DRAWING NOTES, AREAS WHERE POTENTIAL HAZARDS MAY ARISE. THESE NOTES OR ADVICE, SHALL NOT NECESSARILY BE CONSIDERED COMPLETE AND ARE BASED UPON THE DESIGNERS' UNDERSTANDING OF THE SAFETY RISKS ASSOCIATED WITH THE WORKS.
   THESE NOTES OR ADVICE SHALL NOT RELIEVE THE PRINCIPAL CONTRACTOR OF ANY OBLIGATION UNDER THE RELEVANT LEGISLATION OR GUIDELINE. THE PRINCIPAL CONTRACTOR SHALL REMAIN RESPONSIBLE FOR THE PREPARATION OF AN APPROPRIATE WORK HEALTH SAFETY MANAGEMENT PLAN AND SAFE WORK METHOD STATEMENTS FOR THE SITE.
2. PURSUANT TO THE WORK HEALTH AND SAFETY ACT 2011 WE HEREBY ADVISE THAT OUR DESIGN SAFETY REVIEW HAS IDENTIFIED UNUSUAL OR ATYPICAL DESIGN FEATURES THAT MAY PRESENT ADDITIONAL HAZARDS OR RISKS DURING THE CONSTRUCTION PHASE AND THESE ARE LISTED IN THE CONSTRUCTION HAZARD SCHEDULE.

RISK ANALYSIS MATRIX

		1 - INSIGNIFICANT	2 - MINOR	3 - MODERATE	4 - MAJOR	5 - CATASTROPHIC
LIKELIHOOD	A - ALMOST CERTAIN	MODERATE	HIGH	EXTREME	EXTREME	EXTREME
	B - LIKELY	MODERATE	HIGH	HIGH	EXTREME	EXTREME
	C - POSSIBLE	LOW	MODERATE	HIGH	EXTREME	EXTREME
	D - UNLIKELY	LOW	LOW	MODERATE	HIGH	EXTREME
	E - RARE	LOW	LOW	MODERATE	HIGH	HIGH

RISK EVALUATION TABLE

RISK LEVEL	ACTION REQUIRED
EXTREME	UNACCEPTABLE RISK. RE-DESIGN REQUIRED. DO NOT PROCEED WITHOUT ADDITIONAL CONTROLS.
HIGH	UNACCEPTABLE RISK. ADDITIONAL CONTROLS NEEDED. CONSIDER FURTHER REVIEW AND CONSIDER RE-DESIGN
MODERATE	RISK MAY BE ACCEPTABLE. MANAGEMENT TO DETERMINE ACTIONS REQUIRED
LOW	ACCEPTABLE. MANAGE RISK THROUGH ROUTINE PROCEDURES AND OTHER ADMINISTRATIVE CONTROLS

LIKELIHOOD TABLE

LEVEL	DESCRIPTION	QUANTIFICATION GUIDE
A - ALMOST CERTAIN	THE EVENT IS EXPECTED TO OCCUR IN MOST CERTAIN CIRCUMSTANCES	MORE THAN ONCE PER YEAR
B - LIKELY	THE EVENT WILL PROBABLY OCCUR IN MOST CIRCUMSTANCES	AT LEAST ONCE IN 5 YEARS
C - POSSIBLE	THE EVEN T SHOULD OCCUR AT SOME TIME	AT LEAST ONCE IN 10 YEARS
D - UNLIKELY	THE EVENT COULD OCCUR AT SOME TIME	AT LEAST ONCE IN 30 YEARS
E - RARE	THE EVENT MAY OCCUR IN EXCEPTIONAL CIRCUMSTANCES	LESS THAN ONCE IN 30 YEARS

DESIGN HAZARD SCHEDULE

ITEM	DESIGN HAZARD	POTENTIAL HAZARD	RISK	ELIMINATION / MINIMISATION OF HAZARD / RISK	RESIDUAL RISK
D1	EXISTING UNDERGROUND / OVERHEAD SERVICES HAZARD	EXISTING UNDERGROUND AND/OR OVERHEAD SERVICES HAZARD EXIST ON SITE AND NEEDS TO BE REMOVED AND RELOCATED.	HIGH	THE DESIGN OF THE PROJECT HAS INCORPORATED THE RELOCATION OF THESE EXISTING SERVICES AND THE CONTRACTOR IS TO BE MADE AWARE OF THESE EXISTING SERVICES AND TAKE ALL ACTIONS NECESSARY TO MITIGATE THIS HAZARD DURING CONSTRUCTION.	MEDIUM
D2	WATER BODIES	PROPOSED CONSTRUCTION WATER DAMS WILL BE PRESENT ON SITE.	MEDIUM	PROPOSED WATER BODIES HAVE BEEN LOCATED AWAY FROM PUBLIC ACCESS AREAS. ACCESS TO THESE LOCATION WILL BE RESTRICTED FROM THE PUBLIC. CONTRACTOR WILL NEED TO TAKE ALL ACTIONS NECESSARY TO ADDRESS THIS HAZARD DURING CONSTRUCTION.	LOW

CONSTRUCTION HAZARD SCHEDULE

ITEM	POTENTIAL HAZARD	POSSIBLE PREVENTATIVE ACTION
C1	DEEP EXCAVATION HAZARD	ALL STEPS MUST BE TAKEN TO OBTAIN CURRENT UNDERGROUND SERVICES INFORMATION BEFORE EXCAVATION WORKS COMMENCE. EXCAVATION WORK MUST BE UNDERTAKEN BY APPROPRIATELY EXPERIENCED AND QUALIFIED PERSONNEL. EXCAVATIONS SHALL BE ADEQUATELY SHORED AND APPROPRIATE BARRICADES AND SIGNAGE ERECTED, IF REQUIRED.
C2	OVERHEAD POWER HAZARD	WARNING SIGNS AND MARKERS SHALL BE ERECTED ADVISING OF THE PRESENCE OF LIVE OVERHEAD CABLES. A REPRESENTATIVE OF THE SUPPLY AUTHORITY SHALL REMAIN ON SITE DURING EARTHWORKS AND ANY OTHER HIGH RISK WORKS, IF REQUIRED.
C3	UNDERGROUND ELECTRICAL, TELECOMMUNICATION, GAS AND WATER MAIN HAZARD	WARNING SIGNS AND MARKERS SHALL BE ERECTED ADVISING OF THE PRESENCE OF THE EXISTING SERVICE. THE SERVICE SHALL BE IDENTIFIED AND MARKED BY THE SUPPLY AUTHORITY PRIOR TO THE COMMENCEMENT OF EXCAVATION. A REPRESENTATIVE OF THE SUPPLY AUTHORITY SHALL REMAIN ON SITE DURING THE EXCAVATION WORK, IF REQUIRED.
C4	WORKS NEAR RAIL, AIRPORTS AND ROADS HAZARD	ALL REQUIRED PERMITS, APPROVALS AND SAFETY REQUIREMENTS FROM THE RELEVANT AUTHORITY SHOULD BE OBTAINED PRIOR TO COMMENCING WORK. A REPRESENTATIVE OF THE RELEVANT AUTHORITY SHALL REMAIN ON SITE DURING CONSTRUCTION WHILE THE HAZARD REMAINS.
C5	PEDESTRIAN ACCESS HAZARD	WORK WITHIN OR ADJACENT TO AREAS WHICH THE PUBLIC REQUIRES PEDESTRIAN ACCESS MUST HAVE APPROPRIATE BARRICADES AND SIGNAGE ERECTED AT ALL TIMES.
C6	POTENTIAL VEHICLE HAZARD	SITE PERSONNEL SHALL BE ADVISED OF THE POTENTIAL HAZARDS AND THE APPROPRIATE PROCEDURES FOR WORKING ADJACENT TO OPERATING PUBLIC ROADS. APPROPRIATE SAFETY CLOTHING SHALL BE WORN AND THE REQUIRED SIGNAGE SHALL BE ERECTED. THE WORKS SHALL BE UNDERTAKEN IN A MANNER WHICH DOES NOT COMPROMISE THE SAFETY OF THE VEHICLE OCCUPANTS OR THE SITE PERSONNEL.
C7	DEMOLITION AND CLEARING HAZARD	SUITABLE QUALIFIED AND EXPERIENCED PERSONNEL SHALL BE RESPONSIBLE FOR THE DEMOLITION AND CLEARING WORKS FOR THE PROJECT AT ALL TIMES. THE CONTRACTORS WORK METHOD STATEMENT SHALL ALSO GIVE CONSIDERATION TO FALLING DEBRIS, COLLAPSE AND DANGEROUS AIRBORNE AGENTS.
C8	TRAFFIC MANAGEMENT HAZARD	SUITABLE QUALIFIED AND EXPERIENCED PERSONNEL SHALL BE RESPONSIBLE FOR THE SAFE AND ORDERLY PASSAGE OF VEHICULAR AND PEDESTRIAN TRAFFIC THROUGH THE PROJECT AT ALL TIMES. THE CONTRACTOR SHALL DEVELOP A TRAFFIC MANAGEMENT PLAN (TMP) FOR THE PROJECT TO ESTABLISH APPROPRIATE CONTROLS IN ACCORDANCE WITH THE MANUAL FOR UNIFORM TRAFFIC CONTROL.
C9	ASBESTOS HAZARD	ALL PERSONNEL SHOULD BE ADVISED OF THE POTENTIAL PRESENCE OF ASBESTOS AND AN IDENTIFICATION AND ACTION PLAN SHALL BE PUT IN PLACE. SAMPLING AND IDENTIFICATION IS TO BE UNDERTAKEN IN ACCORDANCE WITH WORKPLACE HEALTH AND SAFETY REGULATIONS. IF SAMPLING CONFIRMS THE PRESENCE OF ASBESTOS THEN THE ACTION PLAN IS TO BE IMPLEMENTED TO REMEDIATE THE SITE.
C10	POTENTIAL ROCK FALL	LAND ABOVE THE SITE HAS BEEN CLEARED AND SOME EARTHWORKS HAS BEEN UNDERTAKEN CREATING A POTENTIAL ROCK FALL HAZARD. SUITABLE PERSONNEL SHALL BE RESPONSIBLE FOR IDENTIFYING ANY POTENTIAL HAZARD AND THE CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO ELIMINATE THE HAZARD.

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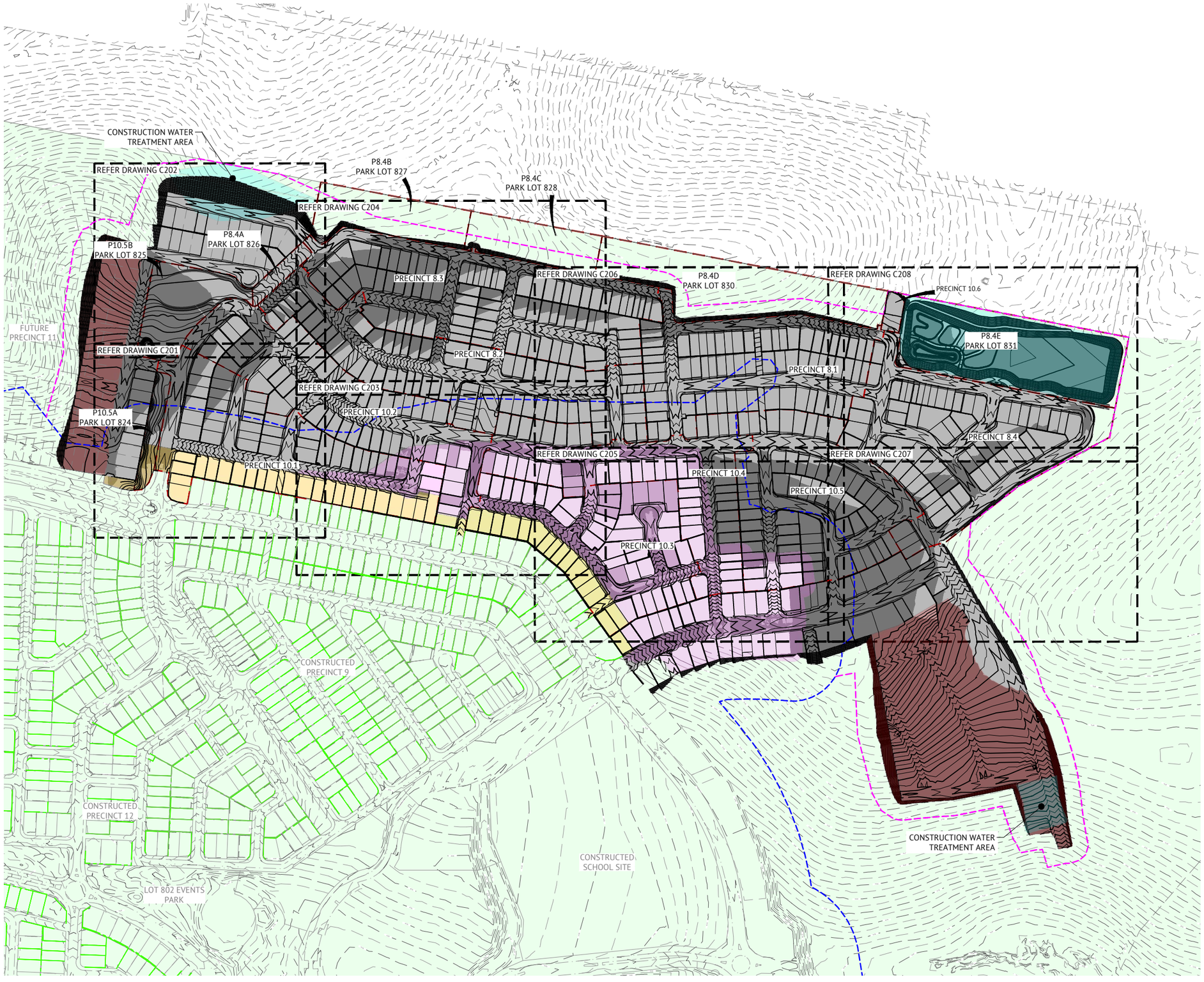
DESIGNED KLYNT KIWANG
CHECKED ANDREW LANGDON
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE SAFETY IN DESIGN

JOB CODE MIR-1010
SHEET NUMBER C002
REV A



N

LEGEND - PROPOSED

- EXTENT OF CUT
- EXTENT OF FILL
- BORROW AREA. EXTENT MAY VARY AS PER CHANGES TO FUTURE LOT LAYOUT
- CONSTRUCTION WATER TREATMENT AREA
- BORROW AREA EXTENT FOR PRECINCT 9 EARTHWORKS.
- 12.0 FINISHED MAJOR CONTOURS (0.50m)
- FINISHED MINOR CONTOURS (0.25m)
- VEGETATION CLEARING LINE
- PRECINCT BOUNDARY

LEGEND - EXISTING

- EARTHWORKS COMPLETED AS PART OF PRECINCT 9. REFER TO APPROVED DRAWINGS DEV2020/1160 DATED 26 AUGUST 2021
- 12.0 EXISTING CONTOURS (0.50m)
- RETAINING WALL
- EXISTING VEGETATION CLEARING LINE

APPROVAL ISSUE – NOT FOR CONSTRUCTION

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CHECKED ANDREW LANGDON
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE OVERALL EARTHWORKS LAYOUT PLAN

JOB CODE MIR-1010
SHEET NUMBER C200
REV A

JOINS SHEET 2

LEGEND - PROPOSED

- EXTENT OF CUT
- EXTENT OF FILL
- BORROW AREA
- BORROW AREA EXTENT FOR PRECINCT 9 EARTHWORKS. ADDITIONAL EARTHWORKS REQUIRED TO GET TO FINISHED SURFACE LEVEL
- 12.0 — FINISHED MAJOR CONTOURS (1.00m)
- FINISHED MINOR CONTOURS (0.25m)
- 51.65 — FINISHED SURFACE LEVEL
- 58.25 × — FOOTPATH SPOT LEVEL
- VEGETATION CLEARING EXTENT
- STAGE BOUNDARY

LEGEND - CONSTRUCTED

- EARTHWORKS COMPLETED AS PART OF PRECINCT 9. REFER TO APPROVED DRAWINGS DEV2020/1160 DATED 26 AUGUST 2021
- RETAINING WALL
- 12.0 — CONTOURS (0.50m)
- SW — STORMWATER
- S — SEWER
- W — WATER
- E — ELECTRICITY
- PRECINCT 9.3 VEGETATION CLEARING EXTENT

NOTES

1. REFER TO BULK EARTHWORKS NOTES & DETAILS DRAWINGS FOR:
   - EARTHWORKS NOTES AND DETAILS
   - RETAINING WALL NOTES AND DETAILS
2. PROPOSED SERVICES ARE WITHIN THE VICINITY OF RETAINING WALLS. REFER SERVICE DRAWINGS FOR SERVICE LOCATIONS AND DETAILS.
3. EXISTING DWELLINGS, FENCES ETC TO BE DEMOLISHED AND REMOVED OFF SITE BY OTHERS (UNLESS NOTED OTHERWISE)
4. FINAL RETAINING WALL TYPES AND FINISHES SHALL BE CONFIRMED WITH THE SUPERINTENDENT PRIOR TO CONSTRUCTION.

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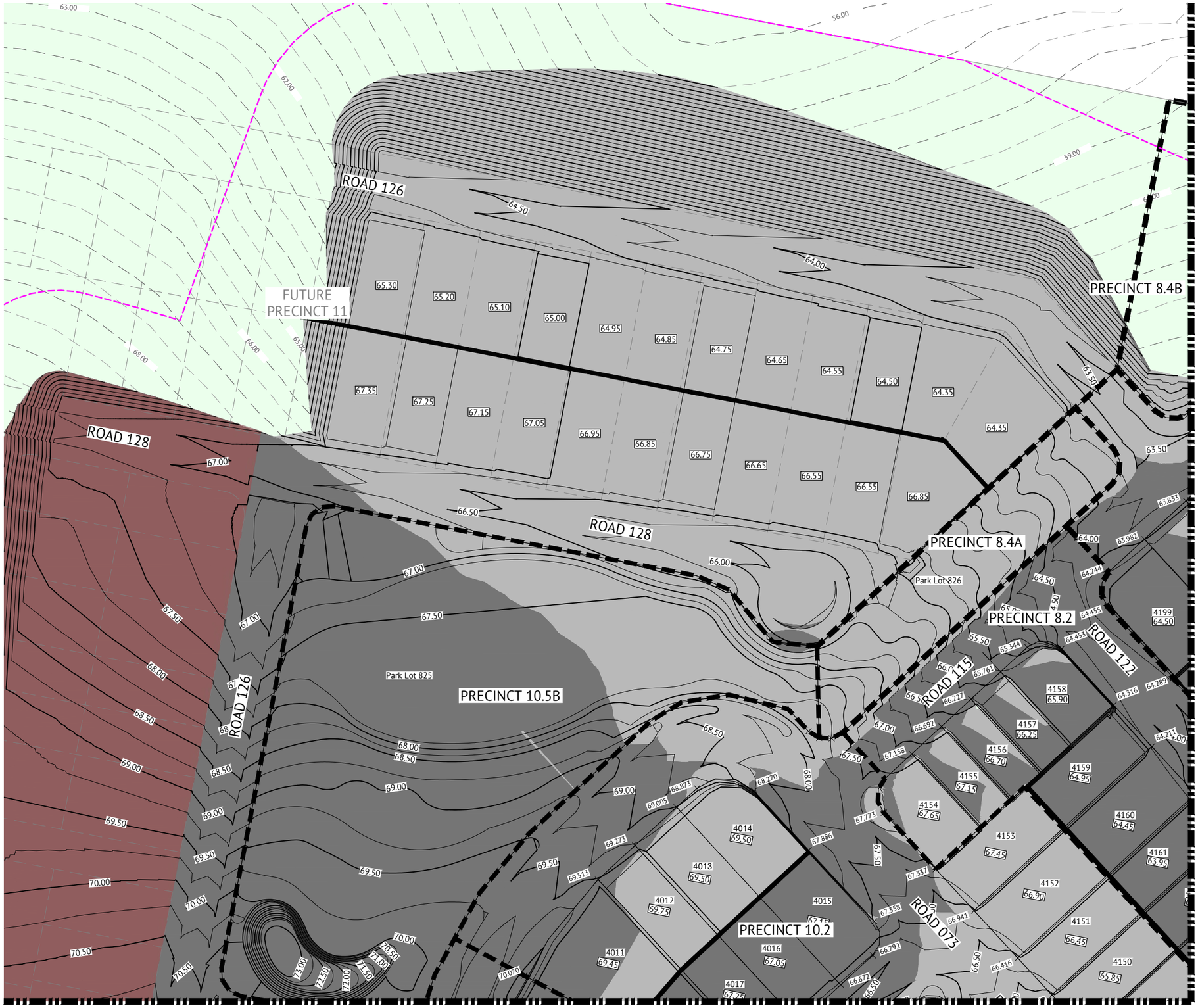
CHECKED ANDREW LANGDON
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE BULK EARTHWORKS LAYOUT PLAN - SHEET 1

JOB CODE MIR-1010
SHEET NUMBER C201
REV A



- FOR TYPICAL SECTIONS AND NOTES REFER TO EARTHWORKS NOTES AND DETAILS
- REFER TO DRAWING No. C201 FOR LEGEND.

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SCALE 0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE BULK EARTHWORKS LAYOUT PLAN - SHEET 2

JOB CODE MIR-1010
SHEET NUMBER C202
REV A

JOINS SHEET 4

JOINS SHEET 1

JOINS SHEET 5

PRECINCT 8.2

PRECINCT 10.2

PRECINCT 10.1

PRECINCT 10.4

PRECINCT 10.3

CONSTRUCTED PRECINCT 9.5

CONSTRUCTED PRECINCT 9.7

ROAD 124

ROAD 073

ROAD 123

ROAD 108

ROAD 110

DWAY 10

DWAY 12

DRIVEWAY 11

ANDERSON DRIVE

Park Lot 829

- FOR TYPICAL SECTIONS AND NOTES REFER TO EARTHWORKS NOTES AND DETAILS
- REFER TO DRAWING No. C201 FOR LEGEND.

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SCALE 0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE BULK EARTHWORKS LAYOUT PLAN - SHEET 3

JOB CODE MIR-1010
SHEET NUMBER C203
REV A

- FOR TYPICAL SECTIONS AND NOTES REFER TO EARTHWORKS NOTES AND DETAILS
- REFER TO DRAWING No. C201 FOR LEGEND.

N

PRECINCT 8.4B

PRECINCT 8.4C

PRECINCT 8.4D

PRECINCT 8.3

PRECINCT 8.2

PRECINCT 10.2

ROAD 115

ROAD 121

ROAD 120

ROAD 119

ROAD 117

ROAD 122

DWAY 10

Park Lot 829

JOINS SHEET 2

JOINS SHEET 6

JOINS SHEET 3

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
05/12/2022	A	ORIGINAL ISSUE	KK	PB

REVISIONS

Premise

BRISBANE OFFICE
LEVEL 11, 300 ADELAIDE STREET
BRISBANE, QLD 4000
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WEB: www.premise.com.au

DESIGNED: KLYNT KIWANG
CHECKED: ANDREW LANGDON
PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

SCALE
0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: BULK EARTHWORKS LAYOUT PLAN - SHEET 4

JOB CODE: MIR-1010
SHEET NUMBER: C204
REV: A

JOINS SHEET 6

JOINS SHEET 3

JOINS SHEET 7

PRECINCT 10.4

PRECINCT 10.3

PRECINCT 10.5

CONSTRUCTED PRECINCT 9.7

ROAD 110

ROAD 104

ROAD 105

ROAD 106

ROAD 109

ROAD 108

DRIVEWAY 14

ANDERSON DRIVE

- FOR TYPICAL SECTIONS AND NOTES REFER TO EARTHWORKS NOTES AND DETAILS
- REFER TO DRAWING No. C201 FOR LEGEND.

APPROVAL ISSUE – NOT FOR CONSTRUCTION

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05/12/2022	A	ORIGINAL ISSUE	KK	PB

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DESIGNED KLYNT KIWANG
CHECKED ANDREW LANGDON
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE
0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE BULK EARTHWORKS LAYOUT PLAN - SHEET 5

JOB CODE MIR-1010
SHEET NUMBER C205
REV A

- FOR TYPICAL SECTIONS AND NOTES REFER TO EARTHWORKS NOTES AND DETAILS
- REFER TO DRAWING No. C201 FOR LEGEND.

N

JOINS SHEET 4

JOINS SHEET 8

JOINS SHEET 5

PRECINCT 8.4D

PRECINCT 8.3

PRECINCT 8.2

PRECINCT 8.1

PRECINCT 10.4

PRECINCT 10.5

ROAD 115

ROAD 117

ROAD 113

ROAD 114

ROAD 122

APPROVAL ISSUE – NOT FOR CONSTRUCTION

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CHECKED: ANDREW LANGDON
PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

SCALE: 0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: BULK EARTHWORKS LAYOUT PLAN - SHEET 6

JOB CODE: MIR-1010
SHEET NUMBER: C206
REV: A

JOINS SHEET 8

JOINS SHEET 5

PRECINCT 8.4

PRECINCT 10.5

ROAD 118

ROAD 112

ROAD 107

ROAD 106

- FOR TYPICAL SECTIONS AND NOTES REFER TO EARTHWORKS NOTES AND DETAILS
- REFER TO DRAWING No. C201 FOR LEGEND.

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PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

SCALE
0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: BULK EARTHWORKS LAYOUT PLAN - SHEET 7

JOB CODE: MIR-1010
SHEET NUMBER: C207
REV: A

- FOR TYPICAL SECTIONS AND NOTES REFER TO EARTHWORKS NOTES AND DETAILS
- REFER TO DRAWING No. C201 FOR LEGEND.

N

JOINS SHEET 6

PRECINCT 8.4D

PRECINCT 8.1

PRECINCT 8.4

PRECINCT 8.4E

PRECINCT 10.5

PARK LOT 831

ROAD 113

ROAD 112

ROAD 118

ROAD 111

JOINS SHEET 7

APPROVAL ISSUE – NOT FOR CONSTRUCTION

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SCALE 0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE BULK EARTHWORKS LAYOUT PLAN - SHEET 8

JOB CODE MIR-1010
SHEET NUMBER C208
REV A

N

LEGEND

- PHASE 1
- PHASE 2
- STAGE BOUNDARY

APPROVAL ISSUE – NOT FOR CONSTRUCTION

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PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

SCALE
0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EARTHWORKS PHASING PLAN

JOB CODE: MIR-1010
SHEET NUMBER: C209
REV: A

NOTES

1. LOCATION & LEVELS OF ALL EXISTING SERVICES TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. EARTHWORKS DRAWINGS ARE TO BE READ IN CONJUNCTION WITH EROSION AND SEDIMENT CONTROL LAYOUT PLANS AND EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.
3. ALL EARTHWORKS TO BE CARRIED OUT UNDER 'LEVEL ONE' GEOTECHNICAL CONTROL IN ACCORDANCE WITH LOCAL AUTHORITIES AND AS3798.
4. EXCESS CUT TO BE STOCKPILED IN THE LOCATION SHOWN OR AS DIRECTED ON SITE.
5. ALL BATTERS ARE 1 IN 4 UNLESS SHOWN OTHERWISE.
6. CONTRACTOR TO INSTALL TEMPORARY CONSTRUCTION FENCING ALONG THE FULL PERIMETER BOUNDARY INCLUDING APPROPRIATE SIGNAGE.

TESTING

1. THE SUPERINTENDENT MAY ORDER ADDITIONAL TESTS. REFER TO THE LOCAL AUTHORITIES SPECIFICATION FOR STANDARDS OF COMPACTION AND MATERIAL STANDARDS. FAILED TESTS WILL BE AT THE CONTRACTOR'S EXPENSE.

EARTHWORKS TESTING

1. COMPACTION TESTS

LOCATION	AREA PER TEST
FINISHED LEVEL OR ROAD SUBGRADE (IN CUT OR FILL)	REFER TO THE LOCAL AUTHORITY SPECIFICATION
LOWEST TWO LEVELS OF EMBANKMENT (PER LAYER)	
OTHER LAYERS OF EMBANKMENT	
PREPARED NATURAL GROUND UNDER EMBANKMENT	

2. QUALITY TESTS
   QUALITY TESTS OF IMPORTED MATERIAL ARE REQUIRED AS SET OUT BY LOCAL AUTHORITY.
3. SUBGRADE TESTS
   THE NUMBER AND LOCATION OF PAVEMENT SUBGRADE TESTS SHALL BE IN ACCORDANCE WITH LOGAN CITY COUNCIL SPECIFICATION REQUIREMENTS.

DUST

1. NO VISIBLE DUST EMISSIONS MUST OCCUR AT THE BOUNDARIES OF THE SITE DURING EARTHWORKS AND CONSTRUCTION ACTIVITIES ON THE SITE. DUST CONTROL TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH AS/NZS3580.10.1:2003. DUST CONTROL SHALL COMPLY WITH THE NSW DEPARTMENT OF ENVIRONMENT AND CONSERVATION REPORT "APPROVED METHODS & GUIDANCE FOR THE MODELLNG AND ASSESSMENT OF AIR POLLUTANTS IN NSW."
2. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN CONTROLS TO ACHIEVE THE REQUIREMENTS OF ITEM 1 ABOVE.

FILL MANAGEMENT

1. ALL FILL MATERIAL WILL BE PLACED IN ACCORDANCE WITH THE FILL SPECIFICATION PROVIDED ON THIS SHEET, OR WHERE PROVIDED, THE REQUIREMENTS OF THE GEOTECHNICAL REPORT SPECIFIC TO THIS CONTRACT.
2. THE FILL MATERIAL WILL COMPRISE ONLY OF NATURAL EARTH AND ROCK AND SHALL BE FREE OF ALL CONTAMINATES, NOXIOUS, HAZARDOUS, DELETERIOUS AND ORGANIC MATERIAL.
3. ALL SITE PREPARATION WORK SHOULD GENERALLY BE CARRIED OUT IN ACCORDANCE WITH AS3798 'GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS'.
4. THE SITE SHOULD BE STRIPPED OF ANY TOPSOIL FROM CUT AND FILL AREAS, ROAD ALIGNMENTS AND CARPARKING AREAS, AND STOCKPILED FOR LATER USE.
5. PRIOR TO THE PLACEMENT OF ANY STRUCTURAL FILL THE SITE SHOULD BE PROOF ROLLED USING A MINIMUM 10 TONNE (STATIC WEIGHT) PADFOOT ROLLER. ANY LOOSE OR SOFT AREAS SHOULD BE REMOVED AND RECOMPACTED OR REPLACED USING A COMPACTED SELECT FILL.
6. DEPRESSIONS FORMED BY THE REMOVAL OR VEGETATION, EXISTING STRUCTURES, UNDERGROUND SERVICES ETC, SHOULD HAVE ALL DISTURBED SOIL CLEANED OUT AND BE BACKFILLED WITH COMPACTED SELECT FILL MATERIAL.
7. ALL COMPLIANCE TESTING SHALL BE CARRIED OUT BY THE GEOTECHNICAL ENGINEER WHO WILL BE ENGAGED BY THE PRINCIPAL CONTRACTOR. ANY/ALL TESTING NECESSARY FOR GUIDANCE OR RE-TESTS WILL BE AT THE COST OF THE CONTRACTOR.
8. THE PLACEMENT OF FILL TO BE EXECUTED SUCH THAT TO BE FREE DRAINING AT ALL TIMES AND NOT TO BE A NUISANCE OR PONDING TO ADJOINING PROPERTY OR ROADS.
9. NO DEMOLITION MATERIAL TO BE USED AS FILL MATERIAL.
10. WHERE UNSUITABLE MATERIAL IN AREAS OF FILL IS ENCOUNTERED, THIS WILL BE TREATED AS SET OUT IN THE EARTHWORK SPECIFICATION.
11. ALL VEHICLES EXITING FROM THE SITE TO BE CLEAN TO PREVENT MATERIAL BEING TRACKED OR DEPOSITED ON THE ADJOINING PUBLIC ROADS, REFER ENVIRONMENTAL MANAGEMENT NOTES ON THE EROSION AND SEDIMENT CONTROL DRAWINGS.
12. SITE ACCESS TO AND ACROSS THE SITE ARE SUBJECT TO SUPERINTENDENT APPROVAL.

TOPSOIL RESPREAD REQUIREMENTS

TOPSOIL RESPREAD THICKNESS SHALL BE AS SPECIFIED BELOW IN THE FOLLOWING AREAS:

- REFER TO EROSION & SEDIMENT CONTROL - STABILISATION PHASE DRAWING FOR TOPSOIL RESPREAD LOCATIONS AND THICKNESS.

TURF

CONTRACTOR SHALL SUPPLY AND LAY TURF AS SPECIFIED IN THE FOLLOWING AREAS:

- REFER TO EROSION & SEDIMENT CONTROL - STABILISATION PHASE DRAWING FOR TURF SUPPLY AND LAY AREAS.

TRENCH SPOIL

EXCESS TRENCH SPOIL MATERIAL GENERATED BY THIS CONTRACT SHALL BE PLACED EITHER WITHIN THE FILL ZONE NOMINATED ON THE EARTHWORKS DRAWINGS OR WITHIN A FILL ZONE NOMINATED BY THE SUPERINTENDENT THAT SHALL BE CONFIRMED PRIOR TO CONSTRUCTION COMMENCEMENT. FILL TO BE PLACED UNDER LEVEL 1 SUPERVISION AND IN ACCORDANCE WITH THE EARTHWORKS SPECIFICATION.

TRENCH BACKFILL

CBR15 STORMWATER TRENCH BACKFILL MATERIAL SHALL BE SOURCED FROM ON SITE EXCAVATED MATERIAL.

EXCAVATION IN ROCK

CONTRACT SHALL INCLUDE TREATING, SIZING, CONDITIONING AND PROCESSING ALL TYPES OF ROCK IN ALL EXCAVATIONS. PROCESSING TO BE COMPLETED TO ENSURE THAT FILL SPECIFICATION AND LEVEL ONE CERTIFICATION IS ACHIEVED.

EVERLEIGH EARTHWORKS TOLERANCE TABLE

ITEM	TOLERANCE
EARTHWORKS IN ALLOTMENTS AND VERGES[a]	EWL or FSL +/- 50mm
CUT BATTERS (OTHER THAN IN LOTS)	EWL or FSL +/- 150mm[b]
FILL BATTERS (OTHER THAN IN LOTS)	EWL or FSL +/- 300mm[b]
EARTHWORKS IN PARKS	EWL or FSL +/- 50mm

[a] TOLERANCE IS -0mm / +50mm WHERE ADJACENT DRAINAGE ELEMENT.
[b] MEASURED FROM THE AVERAGE SLOPE PLANE.

TOLERANCE NOTES

1. EARTHWORKS LEVEL (EWL) IS 100mm BELOW FINISHED SURFACE LEVEL (FSL) ON ALLOTMENTS (TOPSOIL RESPREAD THICKNESS).
2. FINISHED SURFACE LEVEL (FSL) IS TOP OF TURF / STABILISED TOPSOIL LEVEL.
3. ROADWORKS SUBGRADE, PAVEMENT, ASPHALT CONSTRUCTION LEVEL TOLERANCES AS PER LCC PSP No. 5.
4. STORMWATER DRAINAGE CONSTRUCTION LEVEL TOLERANCES AS PER LCC PSP No. 5.
5. SEWER AND WATER RETICULATION CONSTRUCTION LEVEL TOLERANCES AS PER SEQ D&C CODE.

DISPERSIVE SOILS MANAGEMENT NOTES

1. DISPERSIVE SOIL TREATMENT MEASURES IN THE FOLLOWING AREAS SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE EVERLEIGH DISPERSIVE SOIL MANAGEMENT:
   - WITHIN SERVICE TRENCHES
   - SURFACE AREAS SURROUNDING STORMWATER HEADWALLS
   - TURF/LANDSCAPED AREAS SUBJECT TO WATER FLOW
   - TURF/LANDSCAPED AREAS SUBJECT TO WATER PONDING
2. STABILISATION OF DISTURBED AREAS AND MANAGEMENT OF EROSION AND SEDIMENT SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS IN THIS DRAWING SET.
3. CONTRACTOR MUST CONSTRUCT AND ESTABLISH THE EROSION AND SEDIMENT CONTROL DEVICES, CONSTRUCTION WATER HOLDING DAM AND HES BASIN PRIOR TO COMMENCING EARTHWORKS OPERATION.
4. ALL DISTURBED AREAS SHALL BE STABILISED AS SOON AS PRACTICABLE (BUT NOT MORE THAN 10 DAYS) FOLLOWING FINALISATION OF LEVELS. STABILISATION TO BE IN ACCORDANCE WITH EROSION & SEDIMENT CONTROL - STABILISATION PHASE.

TOPSOIL AMELIORATION

ONSITE STRIPPED TOPSOIL SHALL BE AMELIORATED PRIOR TO RESPREAD. THE FOLLOWING AMELIORATION SPECIFICATIONS SHALL APPLY:

A-GRADE QUALITY TOPSOIL AMELIORATION:

- SCREEN STRIPPED TOPSOIL
- ON-SITE COMPOST INCORPORATION (0.15kg/m^3 OF TOPSOIL)
- DOLOMITE (15kg/m^3 OF TOPSOIL)
- GRANULAR WETTING AGENT (0.5kg/m^3 OF TOPSOIL)
- FERTILISER (0.4kg/m^3 OF TOPSOIL)

B-GRADE QUALITY TOPSOIL AMELIORATION:

- SCREEN STRIPPED TOPSOIL
- DOLOMITE (15kg/m^3 OF TOPSOIL)
- GRANULAR WETTING AGENT (0.5kg/m^3 OF TOPSOIL)
- FERTILISER (0.4kg/m^3 OF TOPSOIL)

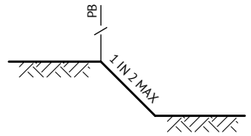
ROCK TREATMENT IN ALLOTMENTS

WHERE ALLOTMENTS ARE LOCATED IN CUT, THE CONTRACTOR SHALL OVER-EXCAVATE A MINIMUM 500mm DEPTH BELOW DESIGN EARTHWORKS LEVEL (EWL), AND RECOMPACT IN ACCORDANCE WITH THE EARTHWORKS SPECIFICATION AND LEVEL ONE SUPERVISION.

ALL CUT LOTS WHICH ARE NOT LOCATED IN ROCK MUST ACHIEVE 100kPa BEARING CAPACITY. WHERE THIS CAN'T BE ACHIEVED, THE CONTRACTOR SHALL RECTIFY THE SUBGRADE IN ACCORDANCE WITH THE EARTHWORKS SPECIFICATION TO ACHIEVE A 100kPa BEARING CAPACITY.

ROCK TREATMENT IN VERGES

WHERE ROAD RESERVES ARE LOCATED IN CUT, THE CONTRACTOR SHALL OVER-EXCAVATE A MINIMUM 1000mm DEPTH BELOW DESIGN EARTHWORKS LEVEL (EWL) AND RECOMPACT IN ACCORDANCE WITH THE EARTHWORKS SPECIFICATION AND LEVEL ONE SUPERVISION.



TYPICAL SECTION FOR BATTERS BETWEEN LOTS
SCALE 1:20

ALLOTMENT PREPARATION REQUIREMENT:

CONTRACTOR SHALL ENSURE THAT ALL ALLOTMENTS WHERE LOCATED IN CUT WITHIN ROCK, SHALL BE OVER-EXCAVATED A MINIMUM 500mm DEPTH BELOW DESIGN EARTHWORKS LEVEL AND RECOMPACTED TO LEVEL ONE CERTIFICATION.

EARTHWORKS SPECIFICATION

SPECIFICATION	DEPTH RANGE (m)				PAVEMENT SUBGRADE	TRENCH BACKFILL
	0.0 - 0.6	0.6 - 3.00	3.00 - 5.00	> 5.00		
CBR %	-	-	-	-	10	15
LAYER THICKNESS (mm)	300	300	300	300	BETWEEN SUBGRADE AND 0.3m BELOW	300
MAXIMUM PARTICLE SIZE (mm)	200	500	500	500	200	200
% PASSING 37.5mm	80% MIN	REFER NOTES AND KEY OUTCOMES	REFER NOTES AND KEY OUTCOMES	REFER NOTES AND KEY OUTCOMES	REFER NOTES AND KEY OUTCOMES	REFER NOTES AND KEY OUTCOMES
% PASSING 0.075mm	30% MIN	REFER NOTES	REFER NOTES	REFER NOTES	REFER NOTES	REFER NOTES AND AS3798
COMPACTION	95% STD	95% STD	95% STD	95% STD	100% STD	95% MOD IN ROADS AND 95% STD OUTSIDE ROADS
MOISTURE	+/- 2% OMC	+/- 2% OMC	+/- 2% OMC	+/- 2% OMC	60% - 90% OF OMC	+/- 2% OMC

NOTES:

1. OMC - OPTIMUM MOISTURE CONTENT
2. LAYER OF THICKNESS IS LIMITED TO 300mm TO ALLOW IDENTIFICATION OF LARGER PARTICLES AND ALLOW EVERY CHANCE OF BREAK DOWN IN FILLING OR REMOVAL.
3. TREATMENT OF ROCK TO SIZES ABOVE SHOULD BE CARRIED OUT IN CUT PRIOR TO LOADING TO FILL AREAS. TREATED ROCK TO BE APPROVED BY GITA PRIOR TO TRANSPORTING.
4. UPPER 0.6m, (PARTICULARLY IN AREAS OF DEEP FILL), OF THE FILL PROFILE TO BE RELATIVELY IMPERMEABLE HENCE INCREASE IN FINES COMPONENT.
5. PROOF ROLL TESTING ON EACH COMPACTED LAYER USING RUBBER WHEELED PLANT SUCH AS LOADED ADT'S OR LOADED SCRAPERS. UNFAVOURABLE DEFORMATION OF THE COMPACTED SURFACE UNDER LOAD OF ADT'S OR SCRAPERS WILL REQUIRE REPAIR PRIOR TO ADDITIONAL PLACEMENT.
6. MECHANICAL INTERLOCK METHODOLOGY IS NOT APPROPRIATE DUE TO POOR DURABILITY OF SITE WON SANDSTONE. FILL COMPOSITION IS REQUIRED TO INCLUDE AN APPROPRIATE SAND GRAVEL AND FINES COMPONENT CONFORMING TO THE REQUIREMENTS OF AS798.

KEY OUTCOMES FOR EARTHWORKS OPERATIONS

1. DELIVER RESIDENTIAL LOTS WITH FAVOURABLE LOT CLASSIFICATIONS - I.E - NO P CLASSIFICATIONS
2. FILL THICKNESS DOES NOT VARY MORE THAN 2m OVER A DISTANCE OF 10m
3. CONSTRUCT FILL AND LIMIT LONG TERM CREEP SETTLEMENTS TO WITHIN 0.5% TO 1.0% OF THE FILL THICKNESS
4. BUILDING PLATFORM THAT ALLOWS BUILDERS TO CONSTRUCT SLAB ON GROUND RAFTS USING LIGHT EARTHMOVING EQUIPMENT
5. MATERIAL WON FROM CUTS AND USED IN FILL WITH REQUIRE
   - CUTS IN ROCK AS WELL AS BLENDED WITH
   - CUTS IN FINER MATERIALS SUCH AS SANDS AND CLAYS
6. CREATING A FILL PLATFORM THAT IS ABLE TO BE TESTED IN ACCORDANCE WITH AS3798 AND AS1289

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
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PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 0.4 0.8 1.2m
SCALE 1:20 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE BULK EARTHWORKS NOTES AND DETAILS

JOB CODE MIR-1010
SHEET NUMBER C210
REV A

LEGEND

- PROPOSED CLEARING EXTENT (PHASE 1)
- PROPOSED CLEARING EXTENT (PHASE 2)
- CONSTRUCTED CLEARING EXTENT
- PROPOSED MINOR EARTHWORKS FOR FOOTPATH CONSTRUCTION. NOT PART OF THIS SCOPE
- PROPOSED EXTENT OF CUT
- PROPOSED EXTENT OF FILL
- PROPOSED VEGETATION CLEARING EXTENT BOUNDARY
- 12.00 — PROPOSED MAJOR CONTOURS (1.00m)
- PROPOSED MINOR CONTOURS (0.50m)
- EXISTING MAJOR CONTOURS (1.00m)
- 12.0 — EXISTING MINOR CONTOURS (0.50m)

N

NOTE:

IF THE ISLAND OF VEGETATION IS TO BE RETAINED, THE CONTRACTOR IS TO UNDERTAKE THE FOLLOWING:

1. A FAUNA SPOTTER CATCHER TO GO THROUGH THE RETAINED VEGETATION AREA PRIOR TO COMMENCEMENT OF CLEARING THE EASTERN SIDE OF KESSELS BOULEVARD.
2. ERECT TREE PROTECTION FENCING (STAR PICKET WITH HAZARD MESH) ALONG THE CLEARING BOUNDARY SHOULD DETER GROUND DWELLING SPECIES FROM RE-ENTERING THE RETAINED VEGETATION AREA WHILE CONSTRUCTION IS OCCURING.

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
30/01/2023	B	AMENDED VEGETATION CLEARING LINE AND VEGETATION CLEARING AREAS	KK	PB
05/12/2022	A	ORIGINAL ISSUE	KK	PB

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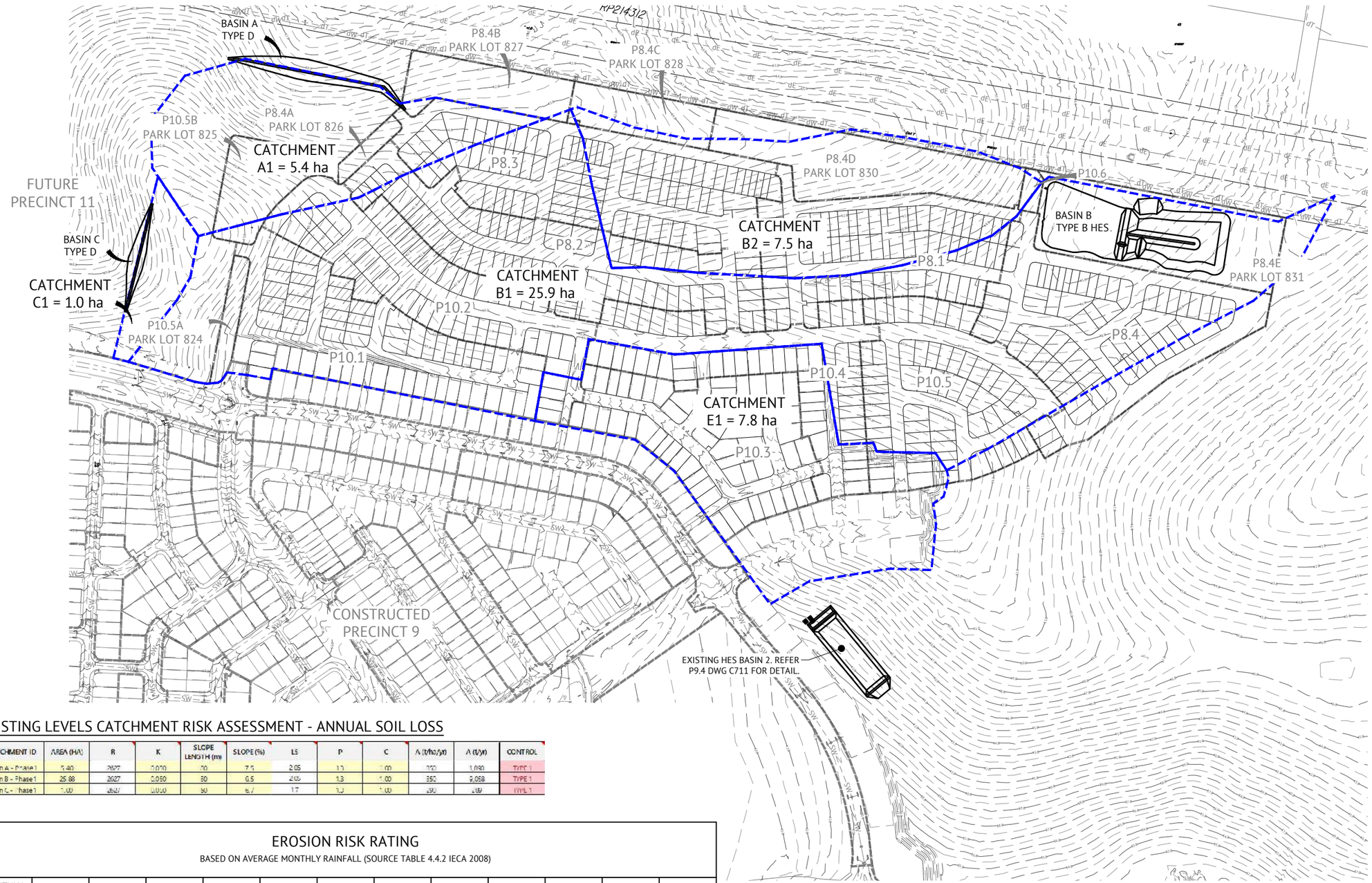
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE
0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: VEGETATION CLEARING SECTIONS & NOTES

JOB CODE: MIR-1010
SHEET NUMBER: C250
REV: B



LEGEND

- CATCHMENT BOUNDARY (EXISTING LEVELS)
- PRECINCT BOUNDARY
- MAJOR CONTOURS (1.00m)
- MINOR CONTOURS (0.50m)

EXISTING LEVELS CATCHMENT RISK ASSESSMENT - ANNUAL SOIL LOSS

CATCHMENT ID	AREA (HA)	R	K	SLOPE LENGTH (m)	SLOPE (%)	LS	P	C	A (t/ha/yr)	A (t/yr)	CONTROL
Basin A - Phase 1	5.40	2627	0.070	70	7.5	2.05	1.1	1.00	720	1,090	TYPE 1
Basin B - Phase 1	25.88	2627	0.050	80	6.5	2.05	1.3	1.00	350	9,058	TYPE 1
Basin C - Phase 1	1.00	2627	0.050	80	6.7	1.7	1.3	1.00	290	289	TYPE 1

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	134.9	152.2	128.3	77.5	71.7	65.8	46.7	35.9	34.3	78.9	97.8	125.7
EROSION RISK	HIGH	HIGH	HIGH	MODERATE	MODERATE	MODERATE	MODERATE	LOW	LOW	MODERATE	MODERATE	HIGH

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

EROSION RISK RATING

APPLICABLE MONTH	EROSION RISK RATING	ADVANCE LAND CLEARING ALLOWED (WEEKS WORK)	MAX DAYS TO STABILISATION	STAGED CONSTRUCTION AND STABILISATION OF EARTH BATTERS > 6H : 1V	STOCKPILES STABILISED
	VERY LOW	8	30 (60%)		
AUG. SEPT.	LOW	8	30 (70%)		
APR. MAY. JUN. JUL. OCT. NOV.	MODERATE	6	20 (70%)	X	
JAN. FEB. MAR. DEC..	HIGH	4	10 (75%)	X	X
	EXTREME	2	10 (80%)	X	X

NOTE:

PHASE 1 WORKS LIMITED TO CATCHMENT A1 AND B1. NO DISTURBANCE IS TO OCCUR OUTSIDE OF THESE NOMINATED CATCHMENTS, OTHERWISE A REVIEW AND REVISION OF THE PROPOSED CONTROLS ON DRAWING C701 WILL BE NECESSARY, INCLUDING BASIN SIZING.

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

J. Clark — TERRY CLARK (CPESC 6089)

NOTE:

FOR DISPERSIVE SOILS MANAGEMENT NOTES, REFER TO DRAWING C210.

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
05/12/2022	A	ISSUED FOR APPROVAL	NVT	PB

REVISIONS

Premise

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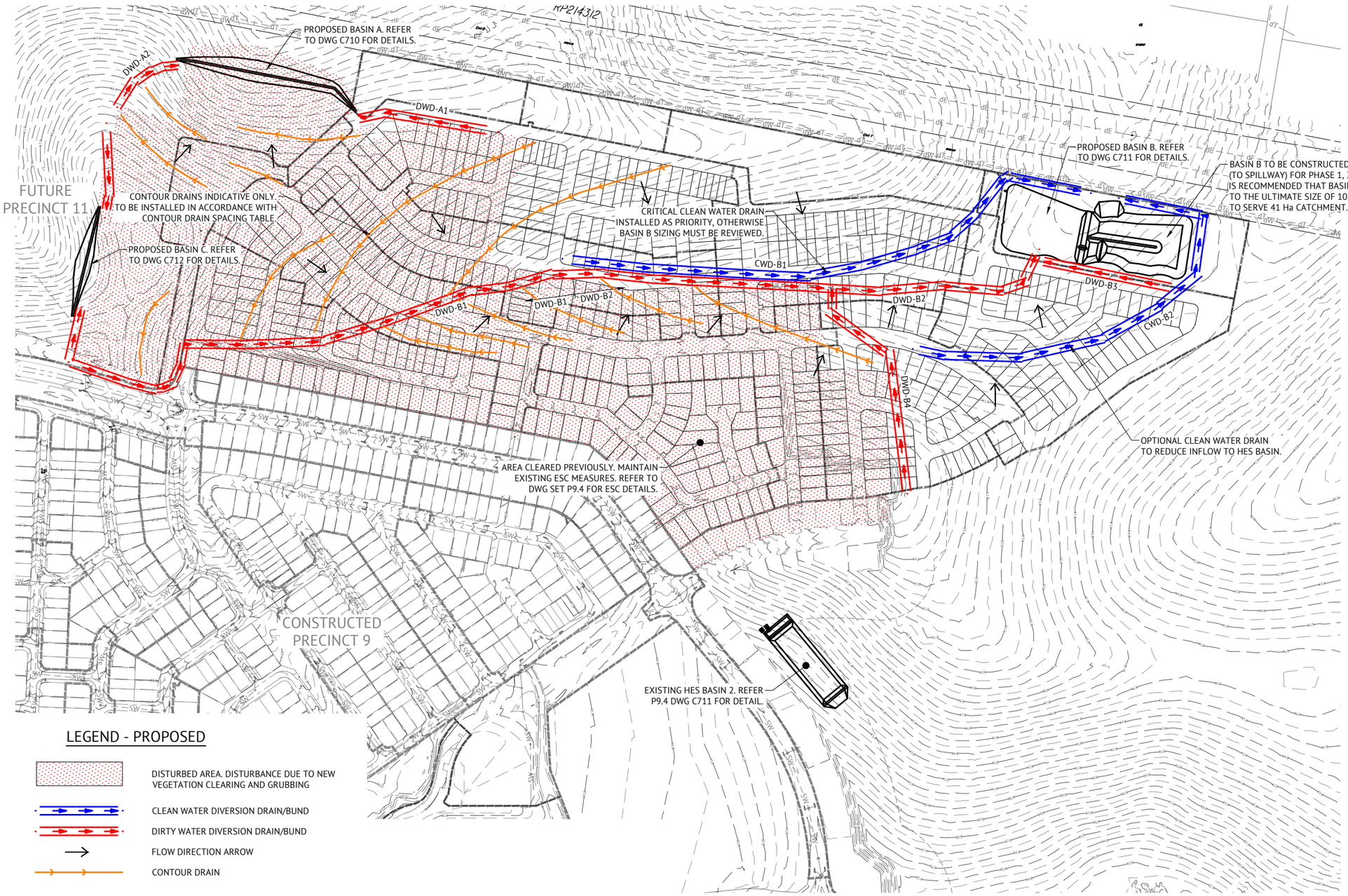
LEVEL 11, 300 ADELAIDE STREET
BRISBANE, QLD 4000
PH: (07) 3253 2222
WEB: www.premise.com.au

DESIGNED DONNY WANG
CHECKED MARK DAVIS
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL - EXISTING CATCHMENTS PHASE 1

JOB CODE: MIR-1010
SHEET NUMBER: C700
REV: A



CONTOUR DRAIN SPACING TABLE

SLOPE OF EXPOSED SURFACE	MAXIMUM SPACING
1%	80m
2%	60m
4%	40m
6%	32m
8%	28m
10%	25m
12%	22m
15%	19m
20%	16m
25%	14m
30%	12m
35%	10m
40%	9m
50%	6m

LEGEND - PROPOSED

- DISTURBED AREA. DISTURBANCE DUE TO NEW VEGETATION CLEARING AND GRUBBING
- CLEAN WATER DIVERSION DRAIN/BUND
- DIRTY WATER DIVERSION DRAIN/BUND
- FLOW DIRECTION ARROW
- CONTOUR DRAIN

LEGEND - EXISTING

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

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 C730.

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. THE CONSTRUCTION SITE ENTRANCE ROCK SHAKER PAD LOCATION TO BE DETERMINED BY THE SITE FOREMAN AND CONFIRMED BY SITE SUPERINTENDENT. LOCATION TO BE MARKED UP ON ESC PLANS ONCE CONFIRMED.

CONTOUR DRAIN NOTES:

FORM DRAIN WITH COMPACTED SUBSOIL (OR PINNED COIR LOGS) ALONG THE CONTOUR TO DIRECT SHEET FLOW TO DIRTY WATER DRAIN.

PHASING NOTES:

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

NOTE:

REFER TO DWG C730 FOR DRAIN SIZING AND DETAILS.

NOTE:

FOR DISPERSIVE SOILS MANAGEMENT NOTES, REFER TO DRAWING C210.

NOTE:

PHASE 1 WORKS LIMITED TO CATCHMENT A1 AND B1. NO DISTURBANCE IS TO OCCUR OUTSIDE OF THESE NOMINATED CATCHMENTS, OTHERWISE A REVIEW AND REVISION OF THE PROPOSED CONTROLS ON DRAWING C701 WILL BE NECESSARY, INCLUDING BASIN SIZING.

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

J. Clark TERRY CLARK (CPESC 6089)

APPROVAL ISSUE – NOT FOR CONSTRUCTION

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REVISIONS

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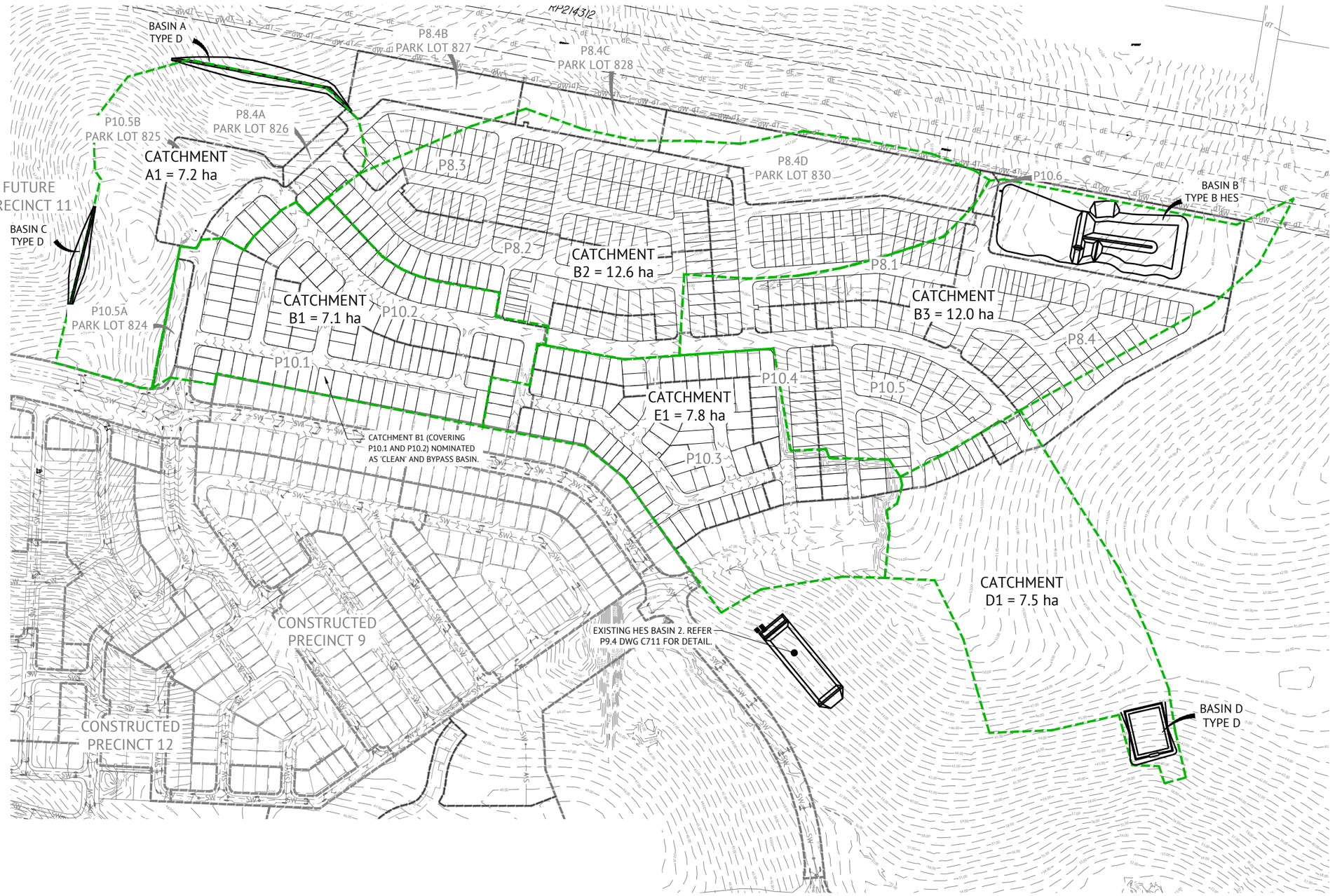
DESIGNED DONNY WANG
CHECKED MARK DAVIS
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE EROSION AND SEDIMENT CONTROL - CLEAR AND GRUB PHASE 1

JOB CODE MIR-1010
SHEET NUMBER C701
REV A



INTERIM LEVELS CATCHMENT RISK ASSESSMENT - ANNUAL SOIL LOSS

CATCHMENT ID	AREA (HA)	R	K	SLOPE LENGTH (m)	SLOPE (%)	LS	P	C	A (t/ha/yr)	A (t/yr)	CONTROL
Basin A - Phase 2	7.15	2627	0.050	80	7.5	2.05	1.3	1.00	350	2,502	TYPE 1
Basin B - Phase 2	21.72	2627	0.050	80	6.5	2.05	1.3	1.00	350	5,663	TYPE 1
Basin D - Phase 2	7.00	2627	0.050	80	4.2	1.19	1.3	1.00	203	1,344	TYPE 1

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

JERRY CLARK (CPESC 6089)

NOTE:

FOR DISPERSIVE SOILS MANAGEMENT NOTES, REFER TO DRAWING C210.

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
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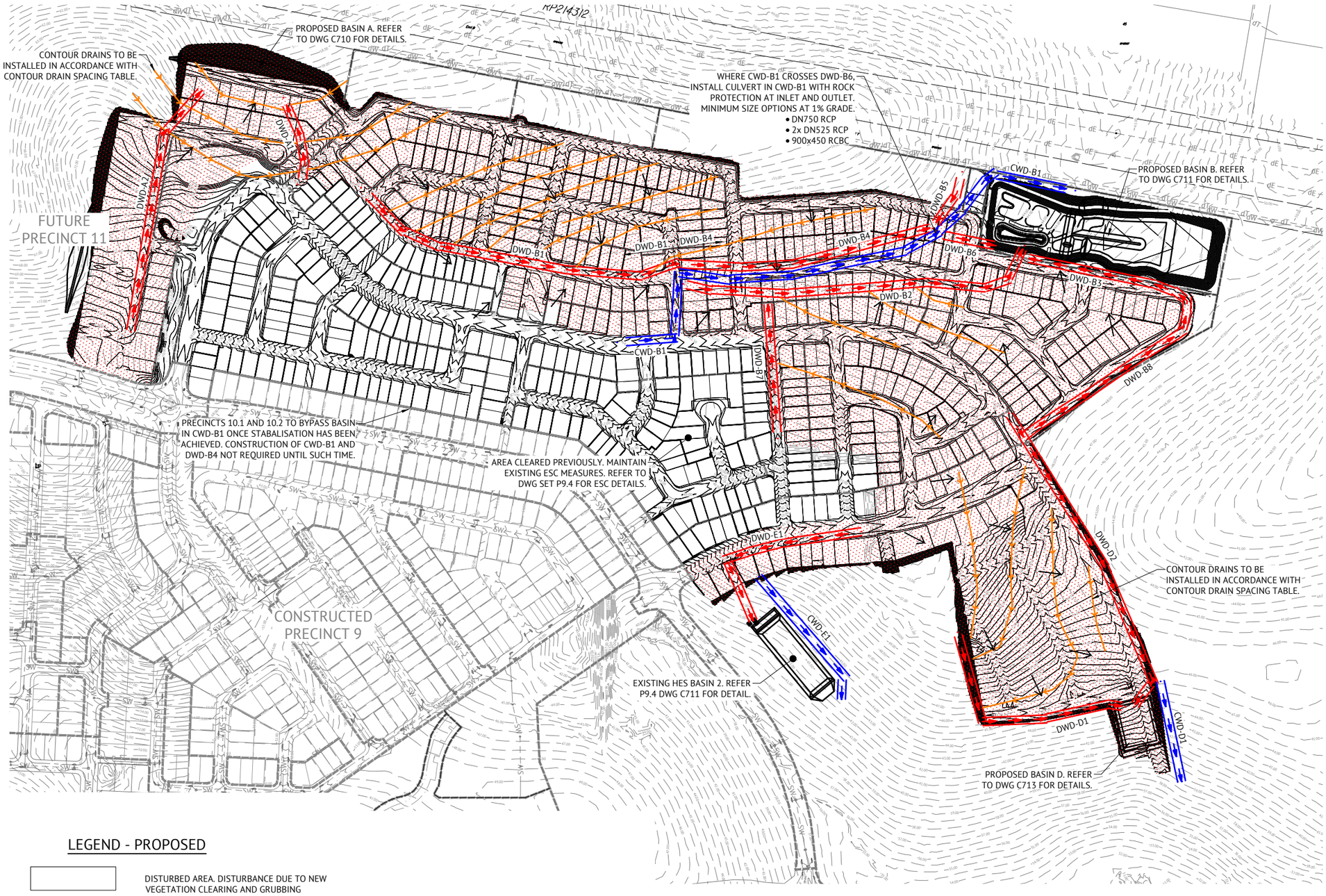
DESIGNED: DONNY WANG
CHECKED: MARK DAVIS
PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

SCALE: 0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL - INTERIM CATCHMENT PHASE 2

JOB CODE: MIR-1010
SHEET NUMBER: C702
REV: A



NOTE:

BASIN B HAS BEEN SIZED FOR A MAXIMUM CATCHMENT OF 26ha. CLEANWATER DIVERSIONS ARE TO BE USED ON STABLISED CATCHMENTS TO ENSURE THE MAXIMUM CATCHMENT SIZE IS NOT BREACHED. IT IS RECOMMENDED THAT BASIN B BE CONSTRUCTED TO THE ULTIMATE SIZE OF 10,300m³ (TO SPILLWAY) TO SERVE 41 HA CATCHMENT.

CONTOUR DRAIN SPACING TABLE

SLOPE OF EXPOSED SURFACE	MAXIMUM SPACING
1%	80m
2%	60m
4%	40m
6%	32m
8%	28m
10%	25m
12%	22m
15%	19m
20%	16m
25%	14m
30%	12m
35%	10m
40%	9m
50%	6m

LEGEND - PROPOSED

- DISTURBED AREA. DISTURBANCE DUE TO NEW VEGETATION CLEARING AND GRUBBING
- CLEAN WATER DIVERSION DRAIN/BUND
- DIRTY WATER DIVERSION DRAIN/BUND
- FLOW DIRECTION ARROW
- CONTOUR DRAIN

LEGEND - EXISTING

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

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 C730.

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. THE CONSTRUCTION SITE ENTRANCE ROCK SHAKER PAD LOCATION TO BE DETERMINED BY THE SITE FOREMAN AND CONFIRMED BY SITE SUPERINTENDENT. LOCATION TO BE MARKED UP ON ESC PLANS ONCE CONFIRMED.

CONTOUR DRAIN NOTES:

FORM DRAIN WITH COMPACTED SUBSOIL (OR PINNED COIR LOGS) ALONG THE CONTOUR TO DIRECT SHEET FLOW TO DIRTY WATER DRAIN.

PHASING NOTES:

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

NOTE:

REFER TO DWG C730 FOR DRAIN SIZING AND DETAILS.

NOTE:

FOR DISPERSIVE SOILS MANAGEMENT NOTES, REFER TO DRAWING C210.

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

TERRY CLARK (CPESC 6089)

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
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REVISIONS

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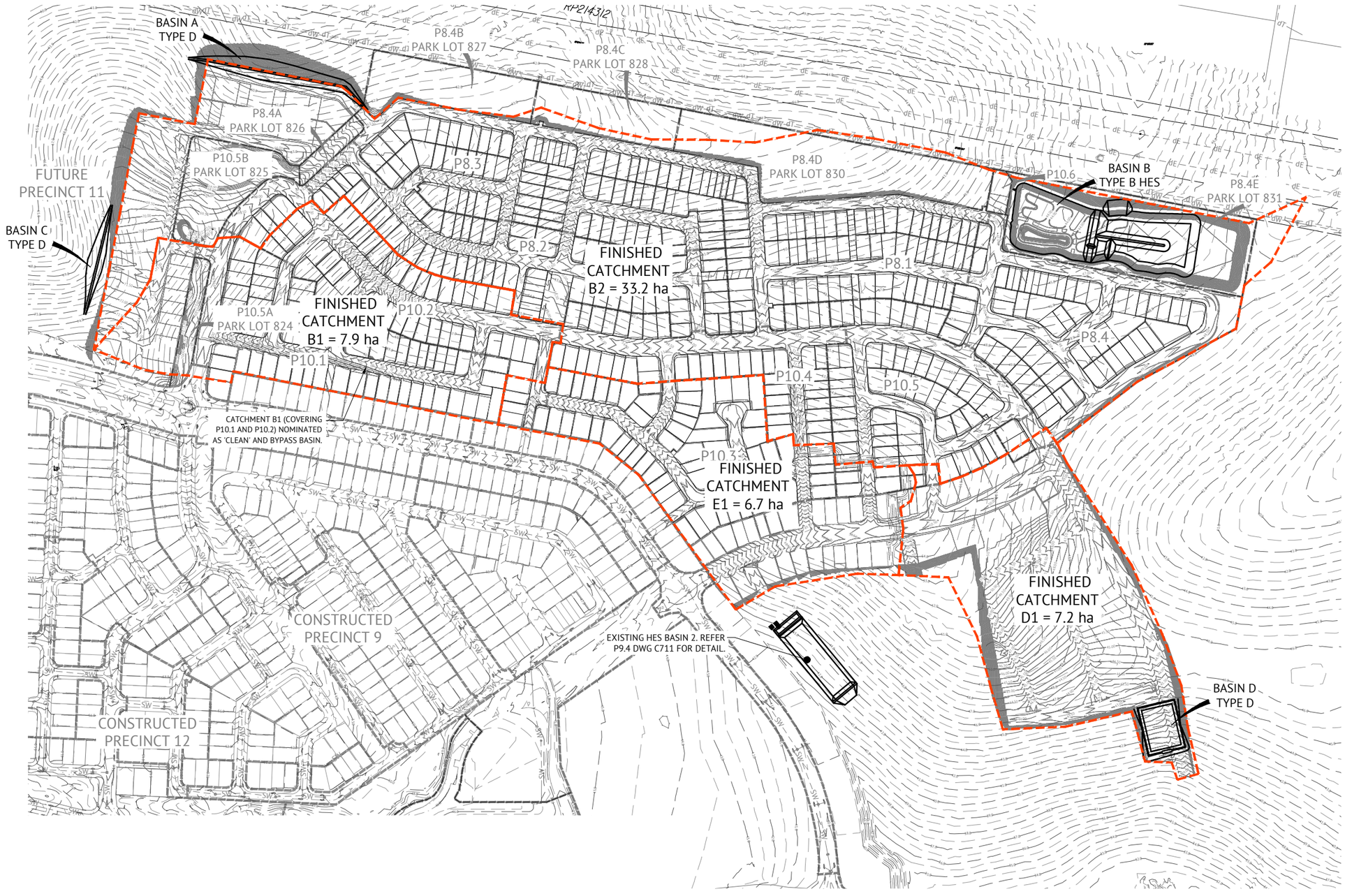
WEB: www.premise.com.au

DESIGNED DONNY WANG
CHECKED MARK DAVIS
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE EROSION AND SEDIMENT CONTROL - CLEAR AND GRUB PHASE 2

JOB CODE MIR-1010
SHEET NUMBER C703
REV A



FINAL LEVELS CATCHMENT RISK ASSESSMENT - ANNUAL SOIL LOSS

CATCHMENT ID	AREA (HA)	R	K	SLOPE LENGTH (m)	SLOPE (%)	LS	P	C	A (t/ha/yr)	A (t/yr)	CONTROL
Basin B - Phase 3	33.26	2627	0.050	80	6.5	2.05	1.3	1.00	350	11,642	TYPE 1
Basin B - MAX	26.00	2627	0.050	80	6.5	2.05	1.3	1.00	350	9,100	TYPE 1

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

J. Clark — TERRY CLARK (CPESC 6089)

NOTE:

FOR DISPERSIVE SOILS MANAGEMENT NOTES, REFER TO DRAWING C210.

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
05/12/2022	A	ISSUED FOR APPROVAL	NVT	PB

REVISIONS

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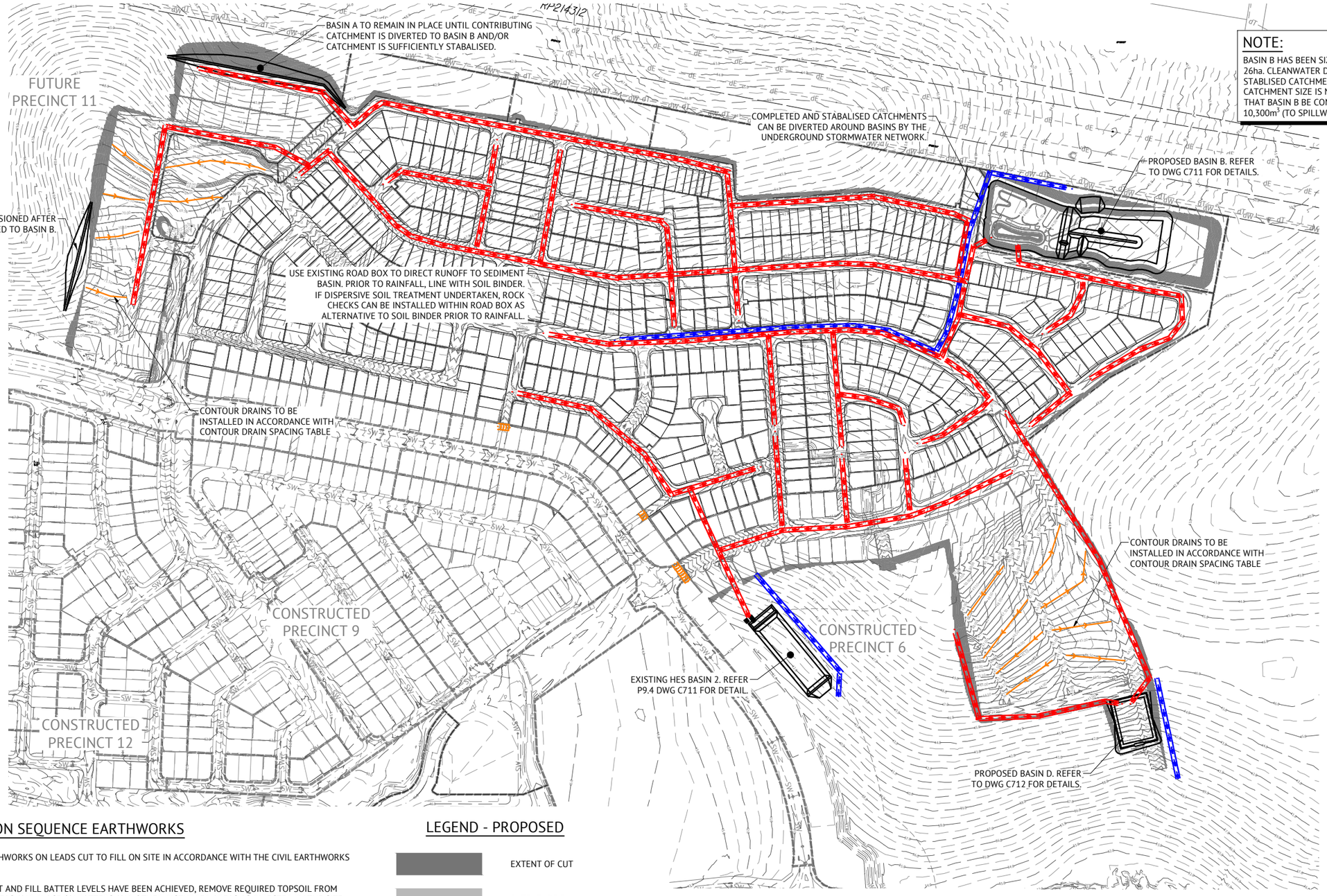
DESIGNED DONNY WANG
CHECKED MARK DAVIS
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE EROSION AND SEDIMENT CONTROL - FINISHED CATCHMENTS

JOB CODE MIR-1010
SHEET NUMBER C704
REV A



NOTE:

BASIN B HAS BEEN SIZED FOR A MAXIMUM CATCHMENT OF 26ha. CLEANWATER DIVERSIONS ARE TO BE USED ON STABLISED CATCHMENTS TO ENSURE THE MAXIMUM CATCHMENT SIZE IS NOT BREACHED. IT IS RECOMMENDED THAT BASIN B BE CONSTRUCTED TO THE ULTIMATE SIZE OF 10,300m^3 (TO SPILLWAY) TO SERVE 41 Ha CATCHMENT.

CONTOUR DRAIN SPACING TABLE

SLOPE OF EXPOSED SURFACE	MAXIMUM SPACING
1%	80m
2%	60m
4%	40m
6%	32m
8%	28m
10%	25m
12%	22m
15%	19m
20%	16m
25%	14m
30%	12m
35%	10m
40%	9m
50%	6m

ROCK CHECK DAM NOTE:

INSTALL ROCK CHECK DAM WITHIN ROAD BOX AT MAXIMUM 20m SPACING IN ACCORDANCE WITH IECA DWG RCD-01.

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 STORMWATER DRAINAGE IS COVERED AT ALL TIMES DURING EARTHWORKS PHASE.

NOTE:

FOR DISPERSIVE SOILS MANAGEMENT NOTES, REFER TO DRAWING C210.

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

J. Clark TERRY CLARK (CPESC 6089)

INSTALLATION SEQUENCE EARTHWORKS

STEP 1
PERFORM EARTHWORKS ON LEADS CUT TO FILL ON SITE IN ACCORDANCE WITH THE CIVIL EARTHWORKS DRAWINGS.

STEP 2
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 3
AS SOON AS POSSIBLE AFTER TOPSOIL HAS BEEN PLACED ON BATTERS AND OTHER DISTURBED AREAS, THESE AREAS SHOULD BE STABILISED PER FINAL DESIGN TREATMENT (REFER DRAWING C702) WITHIN TIMEFRAMES PER 'MAX DAYS TO STABILISATION' BASED ON EROSION RISK (REFER DRAWING C700). IF A RAINFALL EVENT IS FORECAST WHICH IS LIKELY TO CAUSE RUNOFF PRIOR TO DISTURBED OR EXPOSED AREAS BEING STABILISED, A COMBINATION OF MULCH, BINDER OR BIDUM IS TO BE USED TO COVER EXPOSED AREAS. INSTALLATION OF TEMPORARY EROSION CONTROL TO ACTIVE OR INACTIVE WORK AREAS, PRIOR TO RAINFALL EVENTS UNTIL FINAL DESIGN TREATMENT (STABILISATION PER DRAWING C701) IS CRITICAL FOR CATCHMENTS WHICH DO NOT DRAIN TO TYPE 1 CONTROLS.

STEP 4
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 ERECTED AS REQUIRED BY THE SUPERINTENDENT.

LEGEND - PROPOSED

- EXTENT OF CUT
- EXTENT OF FILL
- MULCH BERM
- SF — SEDIMENT FENCE REFER IECA DRAWING SF-01 & SF-02 FOR DETAILS.
- DIRTY WATER DIVERSION DRAIN/BUND
- CLEAN WATER DIVERSION DRAIN/BUND
- 12.0 — FINISHED MAJOR CONTOURS (0.50m)
- FINISHED MINOR CONTOURS (0.25m)
- CONTOUR DRAIN

LEGEND - EXISTING

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

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION		
05/12/2022	A	ISSUED FOR APPROVAL	NVT	PB
REVISIONS			REC	APP

Premise
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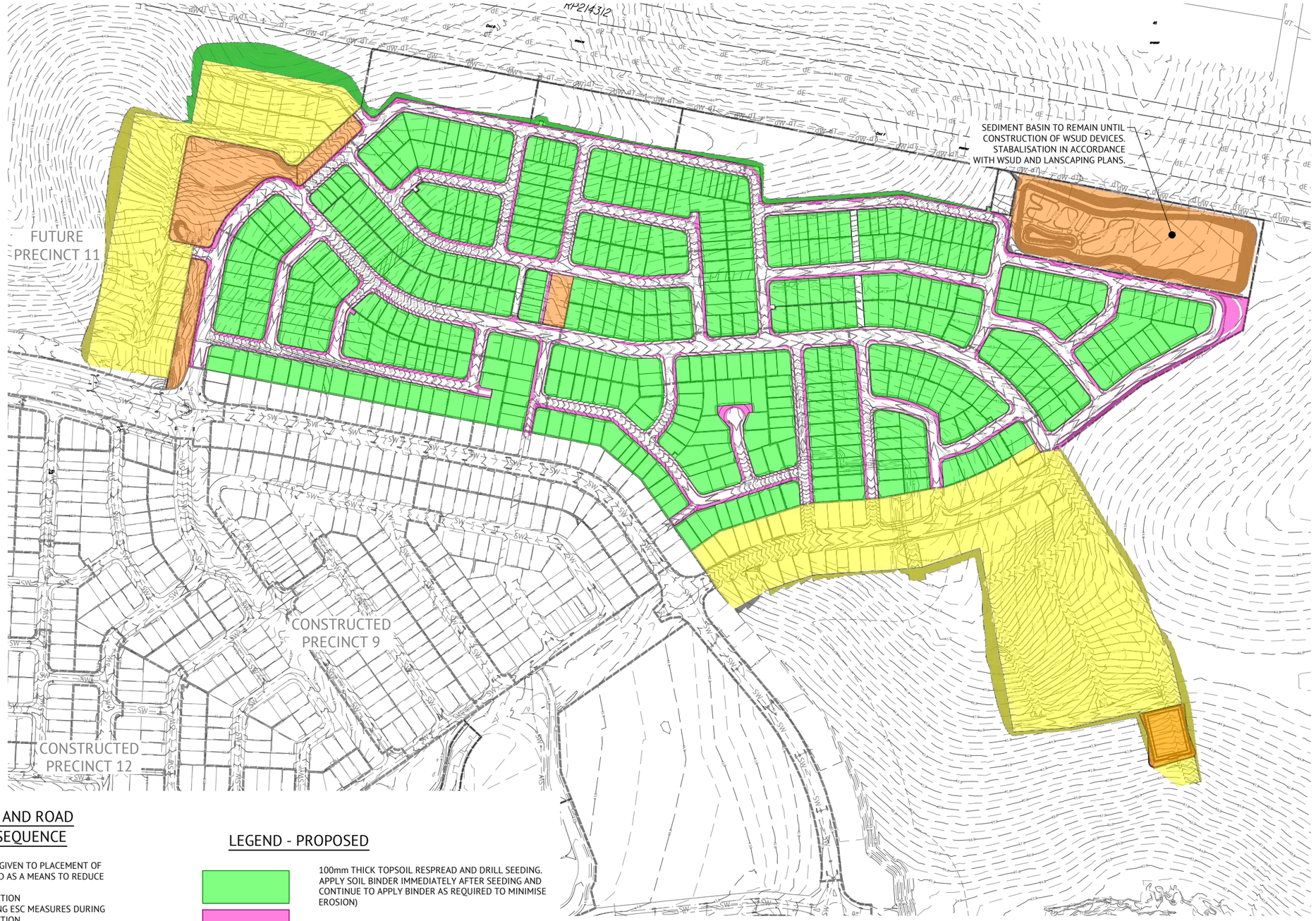
WEB: www.premise.com.au

DESIGNED DONNY WANG
CHECKED MARK DAVIS
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE EROSION AND SEDIMENT CONTROL - BULK EARTHWORKS PHASE

JOB CODE MIR-1010
SHEET NUMBER C705
REV A



SERVICE TRENCH AND ROAD CONSTRUCTION SEQUENCE

STEP 6
- A. PRIORITY SHOULD BE GIVEN TO PLACEMENT OF GRAVELS WITHIN ROAD AS A MEANS TO REDUCE EROSION RISK
- B. PAVEMENT CONSTRUCTION
- C. MAINTAIN ALL EXISTING ESC MEASURES DURING PAVEMENT CONSTRUCTION
- D. GULLY INLET CONTROLS TO BE REINSTATED DURING PAVEMENT AND STORMWATER CONSTRUCTION AND MAINTAINED UNTIL ENTIRE UPSLOPE CATCHMENT HAS BEEN STABILISED.

STEP 7
- A. MAINTENANCE PERIOD
- B. MAINTAIN CONTROL AND ESC AND VEGETATIVE TREATMENTS WHICH CONTROL SEDIMENTATION AND EROSION PRIOR TO THE ESTABLISHMENT OF STABILIZED GRASS COVER.

STEP 8
- A. REMOVE CONSTRUCTION ENTRANCES.
- B. ADDITIONAL EROSION CONTROLS ARE TO BE ERECTED AND MONITORED AS REQUIRED BY THE SUPERINTENDENT

LEGEND - PROPOSED

	100mm THICK TOPSOIL RESPREAD AND DRILL SEEDING. APPLY SOIL BINDER IMMEDIATELY AFTER SEEDING AND CONTINUE TO APPLY BINDER AS REQUIRED TO MINIMISE EROSION)
	100mm THICK TOPSOIL AND TURF
	50mm TOPSOIL AND GRASS SEEDING. APPLY SOIL BINDER IMMEDIATELY AFTER SEEDING AND CONTINUE TO APPLY BINDER AS REQUIRED TO MINIMISE EROSION. ALTERNATIVELY APPLY HYDROMULCH
	TOPSOIL AND STABILISATION DONE BY OTHERS (ESC CONTROLS TO BE REMAIN AND CONTINUE TO BE OPERATED AND MAINTAINED UNTIL AREA IS STABILIZED)
	FINISHED MAJOR CONTOURS (0.50m)
12.0	FINISHED MINOR CONTOURS (0.25m)

LEGEND - EXISTING

—12.0—	MAJOR CONTOURS (1.00m)
	MINOR CONTOURS (0.50m)
—SW— —SW—	STORMWATER

NOTES

1. REFER EROSION AND SEDIMENT CONTROL NOTES AND DETAILS DRAWINGS.
2. ALL FOOTPATHS ARE TO BE FULLY TURFED AS SOON AS PRACTICAL.
3. CONTRACTOR TO ENSURE THAT GRASS SEEDED AREAS SHOWN ON THIS PLAN ACHIEVE SUFFICIENT STRIKE AND COVERAGE IN ACCORDANCE WITH LOGAN CITY COUNCIL STANDARDS.
4. FOR STABILISATION MEASURES OF FUTURE PRECINCTS, REFER TO MIR-0904 - C703 EROSION AND SEDIMENT CONTROL LAYOUT - STABILISATION PHASE

TURFING AND TOPSOIL NOTE

CONTRACTOR SHALL RESPREAD AMELIORATED TOPSOIL (AMELIORATION REQUIREMENTS AS DIRECTED BY SUPERINTENDENT) TO VERGES AT A THICKNESS OF 100mm. TURFING TO VERGES WITHIN PRECINCT 9.5 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.

J. Clark — TERRY CLARK (CPESC 6089)

NOTE:

FOR DISPERSIVE SOILS MANAGEMENT NOTES, REFER TO DRAWING C210.

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
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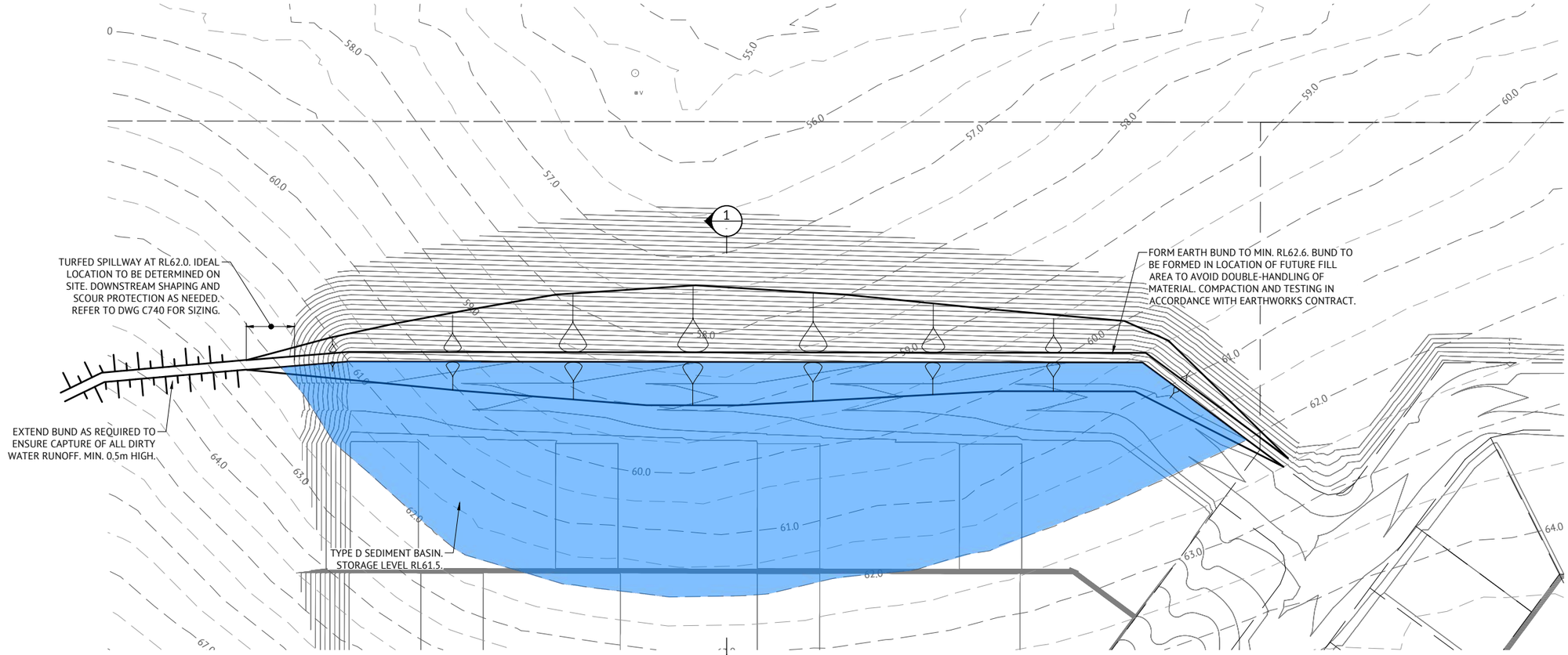
CHECKED: MARK DAVIS
PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

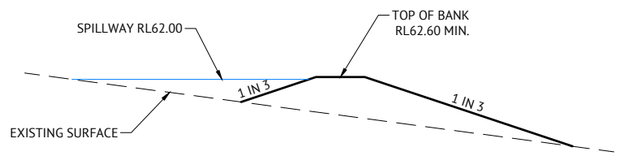
SCALE: 0 50 100 150m
SCALE 1:2500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL - STABILISATION PHASE

JOB CODE: MIR-1010
SHEET NUMBER: C706
REV: A



BASIN A PLAN VIEW
SCALE 1:500



SECTION 1
N.T.S.

BASIN ID	CATCHMENT AREA (ha)	MAIN CELL VOLUME (m^3)	SEDIMENT STORAGE DEPTH (m)
BASIN A	7.15	9100	0.2

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

TERRY CLARK (CPESC 6089)

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
05/12/2022	A	ISSUED FOR APPROVAL	NVT	PB

REVISIONS

Premise
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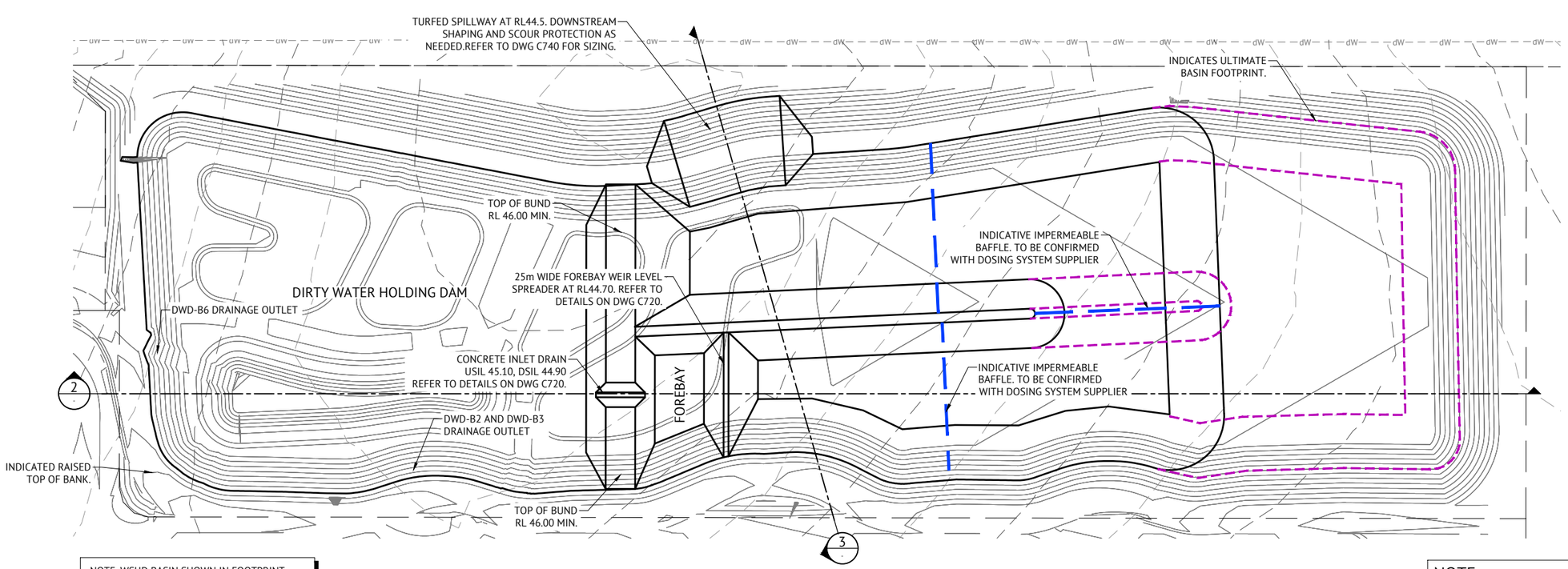
WEB: www.premise.com.au

DESIGNED: DONNY WANG
CHECKED: MARK DAVIS
PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

SCALE: 0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL - BASIN A DETAILS

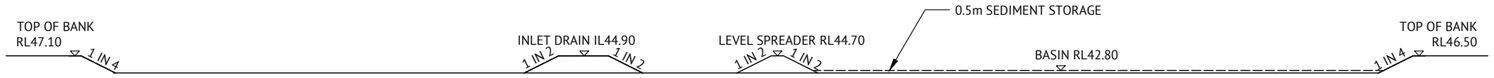
JOB CODE: MIR-1010
SHEET NUMBER: C710
REV: A



NOTE: WSUD BASIN SHOWN IN FOOTPRINT. CONTRACTOR TO USE DESIGN TOP OF BANK OF WSUD AS THE TOP OF BANK OF THE HES BASIN.

BASIN B PLAN VIEW
SCALE 1:500

NOTE:
BASIN B HAS BEEN SIZED FOR A MAXIMUM CATCHMENT OF 26ha. CLEANWATER DIVERSIONS ARE TO BE USED ON STABLISED CATCHMENTS TO ENSURE THE MAXIMUM CATCHMENT SIZE IS NOT BREACHED. IT IS RECOMMENDED THAT BASIN B BE CONSTRUCTED TO THE ULTIMATE SIZE OF 10,300m³ (TO SPILLWAY) TO SERVE 41 Ha CATCHMENT.



SECTION 2
N.T.S.

SECTION 3
N.T.S.

BASIN ID	CATCHMENT AREA (ha)	MAIN CELL VOLUME (m^3)	MAIN CELL LENGTH (m)	MAIN CELL WIDTH (m)	MAIN CELL DEPTH (m)	SEDIMENT STORAGE DEPTH (m)	FOREBAY LENGTH (m)	FOREBAY WIDTH (m)	FOREBAY DEPTH (m)
BASIN B - PHASE 1	26	6200	VARIES	VARIES	1.7	0.5	16.0	25.0	1.9
BASIN B - ULTIMATE	41	10300	VARIES	VARIES	1.7	0.5	16.0	25.0	1.9

NOTE:
1. SEDIMENT BASIN SIZED BASED ON A SETTLEMENT RATE OF 150mm IN 15 MINUTES. THIS SETTLEMENT RATE HAS BEEN ACHIEVED VIA JAR TESTS IN ADJACENT PRECINCT 9 CATCHMENT AREAS, HOWEVER SHALL BE VERIFIED PRIOR TO CONSTRUCTION OF SEDIMENT BASINS.
2. JAR TESTING USING REPRESENTATIVE SITE SOILS SHALL ALSO CONFIRM THE NOMINATED COAGULANT OR FLOCCULENT PRODUCT AND DOSE RATE PRIOR TO CONSTRUCTION. PRIOR JAR TESTING IN PRECINCT 9 HAS SHOWN ACH AT A DOSE RATE OF 100ppm IS CAPABLE OF ACHIEVING THE NOMINATED SETTLEMENT RATE.
3. SCOUR VELOCITY CALCULATED THROUGH BASINS MAY EXCEED NOMINAL 0.015m/s VELOCITY PER DESIGN PROCEDURE (OPTION 2B WITHIN IECA, 2018). RECOMMENDS THAT PERMEABLE BAFFLES BE INSTALLED IN BASIN AND REGULAR MONITORING BE UNDERTAKEN TO VERIFY PERFORMANCE.

I CERTIFY THAT THIS EROSION AND SEDIMENT CONTROL DRAWING HAS BEEN DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION GUIDELINES.
TERRY CLARK (CPESC 6089)

APPROVAL ISSUE – NOT FOR CONSTRUCTION

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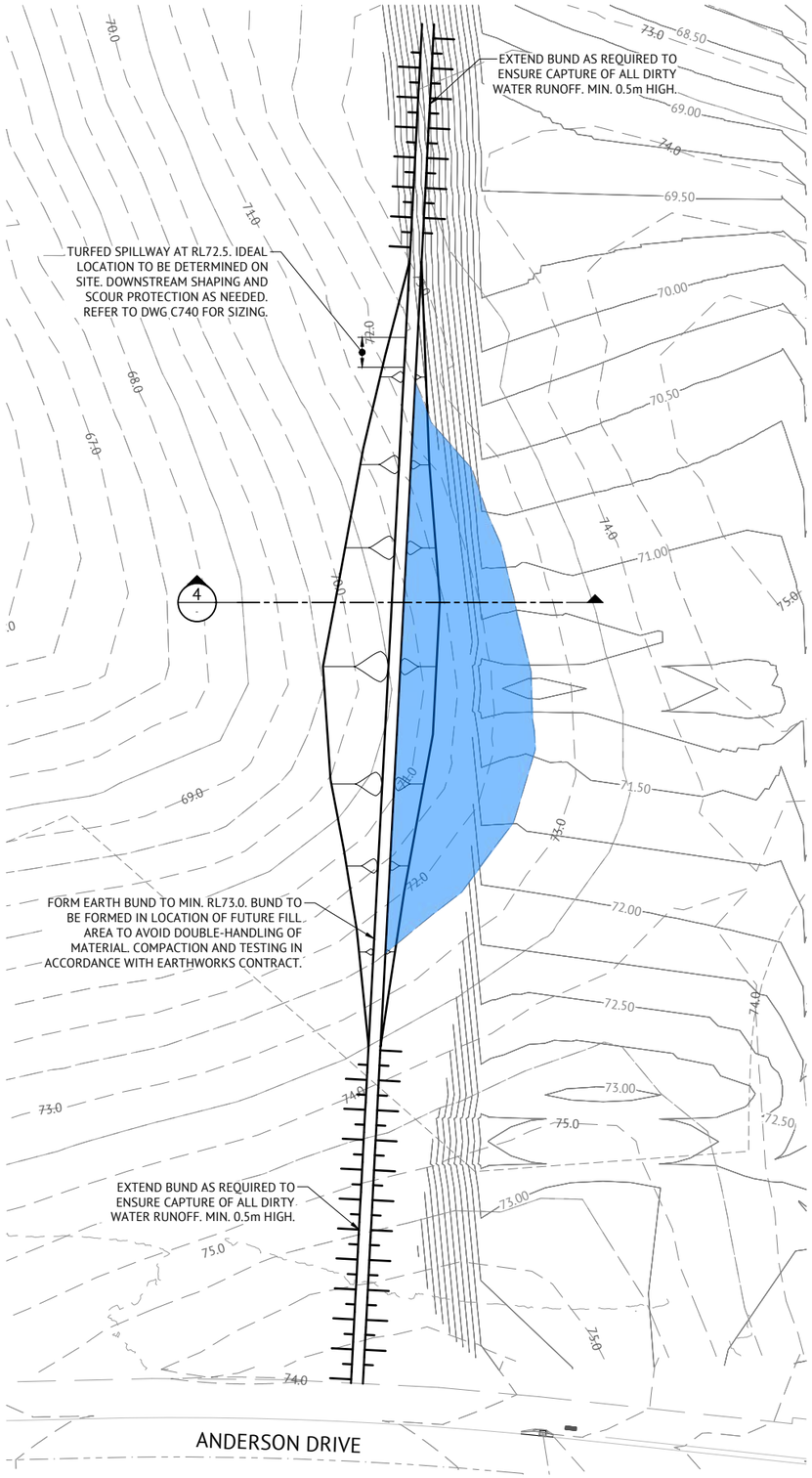
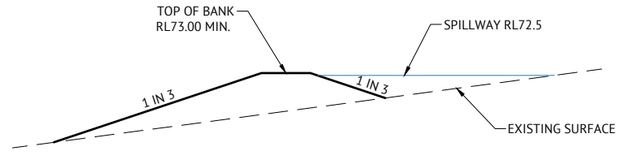
CHECKED: MARK DAVIS
PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112
SCALE: 0 10 20 30m — SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL - BASIN B DETAILS

JOB CODE: MIR-1010
SHEET NUMBER: C711
REV: A



BASIN C PLAN VIEW
SCALE 1:500



SECTION 4
N.T.S.

BASIN ID	CATCHMENT AREA (ha)	MAIN CELL VOLUME (m^3)	SEDIMENT STORAGE DEPTH (m)
BASIN C	1.00	1300	0.2

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

TERRY CLARK (CPESC 6089)

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
05/12/2022	A	ISSUED FOR APPROVAL	NVT	PB

REVISIONS

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CHECKED MARK DAVIS
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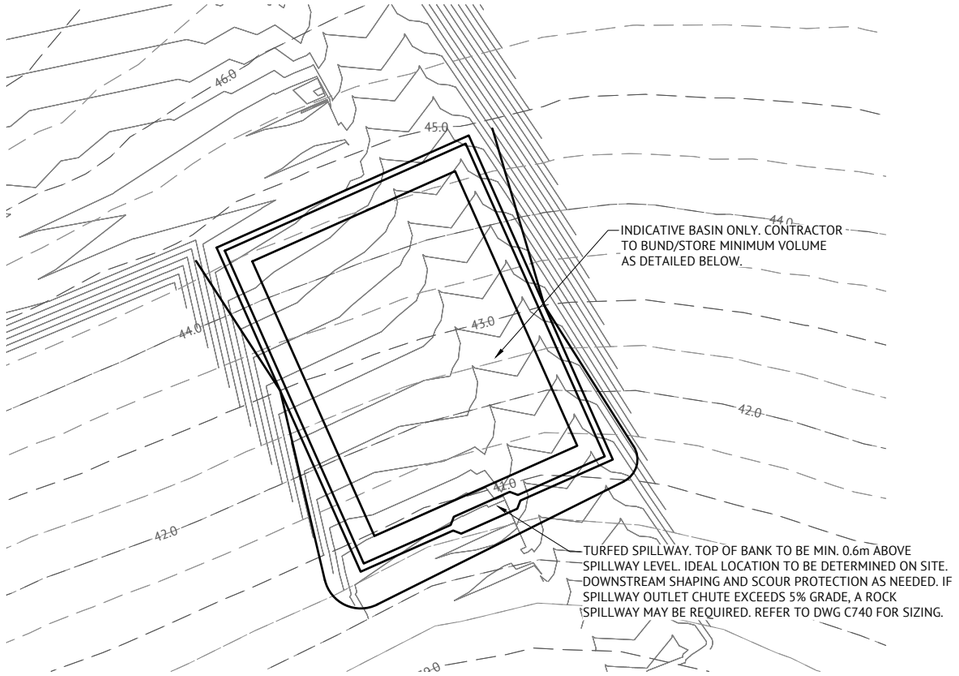
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112

SCALE 0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE EROSION AND SEDIMENT CONTROL - BASIN C DETAILS

JOB CODE MIR-1010
SHEET NUMBER C712
REV A



BASIN D PLAN VIEW

SCALE 1:500

BASIN ID	CATCHMENT AREA (ha)	MAIN CELL VOLUME (m^3)	SEDIMENT STORAGE DEPTH (m)
BASIN D	7.60	9500	0.1

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

TERRY CLARK (CPESC 6089)

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
05/12/2022	A	ISSUED FOR APPROVAL	NVT	PB

REVISIONS

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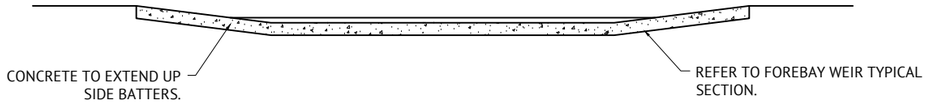
CHECKED: MARK DAVIS
PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

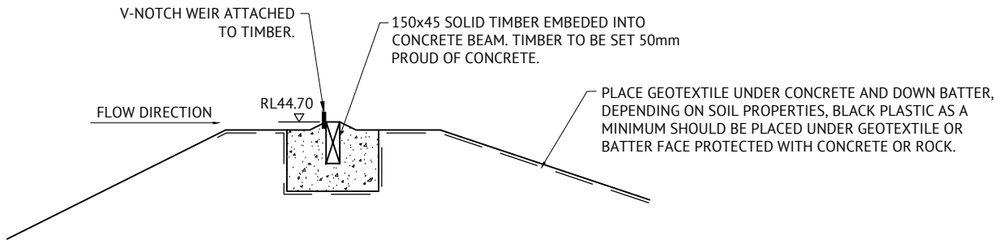
SCALE: 0 10 20 30m
SCALE 1:500 (A1)
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL - BASIN D DETAILS

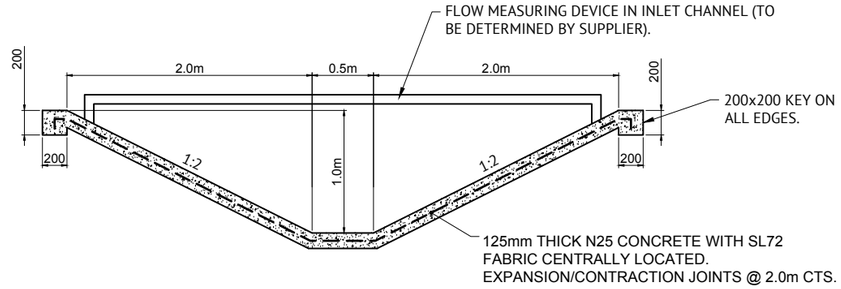
JOB CODE: MIR-1010
SHEET NUMBER: C713
REV: A



FOREBAY WEIR PROFILE
N.T.S.



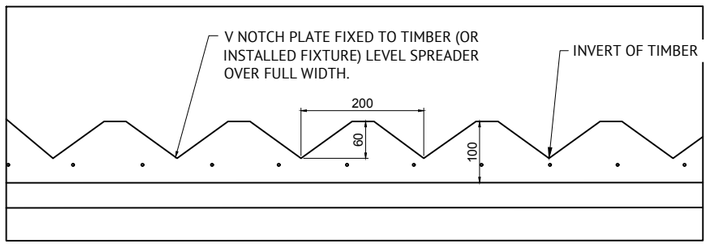
FOREBAY WEIR SECTION
N.T.S.



INLET DRAIN DETAIL SECTION

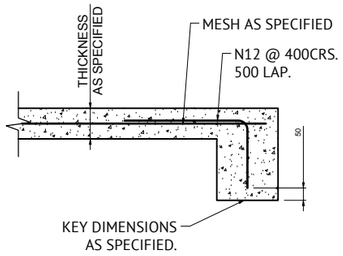
SCALE 1:25

NOTE: INLET DRAIN MUST BE CONSTRUCTED AS PER DESIGN WITH +/- 3mm TOLERANCE TO ENSURE ACCURACY OF FLOW-METER (BY TURBID) ON INLET CHANNEL.



TYPICAL SECTION - V NOTCH PLATE
N.T.S.

IT IS RECOMMENDED THAT A V NOTCH PLATE BE FIXED TO THE LEVEL SPREADER DUE TO THE WIDTH OF THE FOREBAY WALLS.



TYPICAL KEY DETAIL
N.T.S.

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

TERRY CLARK (CPESC 6089)

APPROVAL ISSUE – NOT FOR CONSTRUCTION

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CHECKED MARK DAVIS
PROJECT MANAGER LAURA CLIFFORD
PROJECT DIRECTOR PATRICK BRADY RPEQ 7112
SCALE NTS
ORIGINAL SHEET SIZE A1

CLIENT MIRVAC QLD PTY LTD
PROJECT EVERLEIGH PRECINCTS 8 & 10 BULK EARTHWORKS
LOCATION TEVIOT ROAD, GREENBANK
SHEET TITLE EROSION AND SEDIMENT CONTROL - TYPICAL BASIN B DETAILS

JOB CODE MIR-1010
SHEET NUMBER C720
REV A

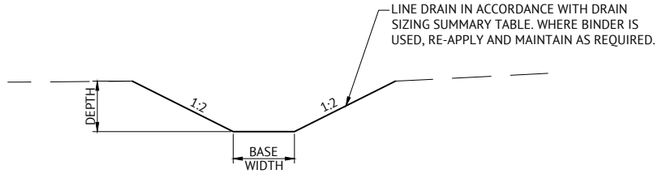
DRAIN CALCULATION TABLE

DRAIN ID	CATCH AREA (HA)	ARI	C_{AU}	TIME OF CONC (MINS)	I_{AU}	FLOW - Q (m^3/s)	LONG. SLOPE (m/m)	BASE WIDTH	SIDE SLOPE 1 (1 in x)	SIDE SLOPE 2 (1 in x)	LINING	MANNING ROUGH COEFF	MAX PERM VEL (m/s)	DESIGN VEL (m/s)	DEPTH OF FLOW (m)	DEPTH WITH F/BOARD (m)	DRAIN TOP WIDTH (m)
PHASE 1 - DWD A1	0.70	2	0.60	17	96	0.10	0.005	0.6	2	2	Vital HR - L/m2	0.02	1.5	0.78	0.14	0.29	1.78
PHASE 1 - DWD A2	2.06	2	0.60	15	91	0.31	0.100	1.7	2	2	Vital HR - 2L/m2	0.02	2.5	2.48	0.07	0.22	2.57
PHASE 1 - CWD B1	7.58	?	0.60	36	56	0.71	0.012	0.6	?	?	Turf	0.04	?	1.09	0.44	0.59	2.95
PHASE 1 - CWD B2	3.07	2	0.60	32	60	0.31	0.005	0.6	2	2	Turf	0.04	2	0.64	0.36	0.51	2.65
PHASE 1 - DWD B1	12.40	?	0.60	26	68	1.41	0.030	2.8	?	?	Vital HR - 2L/m2	0.02	2.5	2.48	0.18	0.33	4.12
PHASE 1 - DWD B2	21.52	2	0.60	60	40	1.43	0.012	0.6	2	2	Vital HR - 2L/m2	0.02	2.5	2.20	0.44	0.59	2.96
PHASE 1 - DWD B3	1.57	?	0.60	16	89	0.23	0.024	0.6	?	?	Vital HR - 2L/m2	0.02	2.5	1.73	0.15	0.30	1.80
PHASE 1 - DWD B4	1.64	2	0.60	12	101	0.28	0.057	0.6	2	2	Vital HR - 2L/m2	0.02	2.5	2.48	0.13	0.28	1.72
PHASE 2 - DWD A1	0.83	2	0.60	15	91	0.13	0.057	0.6	2	2	Vital HR - 2L/m2	0.02	2.5	1.96	0.08	0.23	1.54
PHASE 2 - DWD A2	3.90	2	0.60	22	75	0.49	0.042	0.9	2	2	Vital HR - 2L/m2	0.02	2.5	2.50	0.16	0.31	2.14
PHASE 2 - CWD B1	7.98	?	0.60	32	60	0.80	0.012	0.6	?	?	Turf	0.04	?	1.13	0.46	0.61	3.05
PHASE 2 - DWD B1	7.75	2	0.60	18	84	1.09	0.016	0.6	2	2	Vital HR - 2L/m2	0.02	2.5	2.27	0.36	0.51	2.64
PHASE 2 - DWD B2	8.02	?	0.60	29	64	0.86	0.012	0.6	?	?	Turf	0.04	?	1.15	0.48	0.63	3.11
PHASE 2 - DWD B2 WITH CLEAN WATER	16.00	2	0.60	29	64	1.71	0.012	1	2	2	Turf	0.04	2	1.36	0.58	0.73	3.92
PHASE 2 - DWD B3	1.57	?	0.60	16	89	0.23	0.024	0.6	?	?	Vital HR - 2L/m2	0.02	2.5	1.74	0.15	0.30	1.80
PHASE 2 - DWD B4	11.77	2	0.60	35	57	1.12	0.012	0.6	2	2	Vital HR - 2L/m2	0.02	2.5	2.00	0.39	0.54	2.77
PHASE 2 - DWD B5	0.83	?	0.60	17	86	0.12	0.005	0.6	?	?	Vital HR - L/m2	0.02	1.5	0.82	0.16	0.31	1.83
PHASE 2 - DWD B6	12.00	2	0.60	35	57	1.20	0.020	0.9	2	2	Vital HR - 2L/m2	0.02	2.5	2.49	0.31	0.46	2.76
PHASE 2 - DWD B7	1.89	2	0.60	21	77	0.24	0.033	0.6	2	2	Vital HR - 2L/m2	0.02	2.5	1.97	0.14	0.29	1.76
PHASE 2 - DWD B8	0.99	2	0.60	23	73	0.12	0.007	0.6	2	2	Vital HR - L/m2	0.02	1.5	0.93	0.15	0.30	1.78
PHASE 2 - CWD D1	0.65	2	0.60	11	104	0.11	0.057	0.6	2	2	Turf	0.04	2	1.17	0.12	0.27	1.66
PHASE 2 - DWD D1	2.01	?	0.60	24	73	0.24	0.005	0.6	?	?	Vital HR - 2L/m2	0.02	2.5	1.00	0.23	0.38	2.12
PHASE 2 - DWD D2	5.10	2	0.60	28	66	0.56	0.010	0.6	2	2	Vital HR - 2L/m2	0.02	2.5	1.61	0.29	0.44	2.38
PHASE 2 - CWD E1	1.58	?	0.60	13	97	0.25	0.005	0.6	?	?	Turf	0.04	?	0.60	0.33	0.48	2.50
PHASE 2 - DWD E1	7.80	2	0.60	22	75	0.98	0.030	3.2	2	2	Vital HR - 2L/m2	0.02	2.5	2.49	0.11	0.26	4.26
BASIN B INLET DRAIN	41.10	50	0.81	60	83	7.69	0.020	0.5	2	2	Concrete	0.015	7	5.03	0.76	0.91	4.13

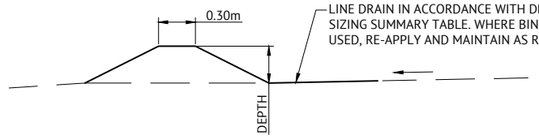
DRAIN SIZING SUMMARY TABLE

DRAIN ID	MINIMUM DEPTH (m)	BASE WIDTH (m)	BATTER SLOPE (1 IN ...)	DRAIN LINING
PHASE 1 - DWD A1	0.30	0.60	2.0	Vital HR - L/m2
PHASE 1 - DWD A2	0.30	1.70	2.0	Vital HR - 2L/m2
PHASE 1 - CWD B1	0.60	0.60	2.0	Turf
PHASE 1 - CWD B2	0.55	0.60	2.0	Turf
PHASE 1 - DWD B1	0.35	2.80	2.0	Vital HR - 2L/m2
PHASE 1 - DWD B2	0.60	0.60	2.0	Vital HR - 2L/m2
PHASE 1 - DWD B3	0.30	0.60	2.0	Vital HR - 2L/m2
PHASE 1 - DWD B4	0.30	0.60	2.0	Vital HR - 2L/m2
PHASE 2 - DWD A1	0.30	0.60	2.0	Vital HR - 2L/m2
PHASE 2 - DWD A2	0.35	0.90	2.0	Vital HR - 2L/m2
PHASE 2 - CWD D1	0.65	0.60	2.0	Turf
PHASE 2 - DWD B1	0.55	0.60	2.0	Vital HR - 2L/m2
PHASE 2 - DWD B2	0.65	0.60	2.0	Turf
PHASE 2 - DWD B2 WITH CLEAN WATER	0.75	1.00	2.0	Turf
PHASE 2 - DWD B3	0.30	0.60	2.0	Vital HR - 2L/m2
PHASE 2 - DWD B4	0.54	0.60	2.0	Vital HR - 2L/m2
PHASE 2 - DWD B5	0.35	0.60	2.0	Vital HR - L/m2
PHASE 2 - DWD B6	0.50	0.90	2.0	Vital HR - 2L/m2
PHASE 2 - DWD B7	0.30	0.60	2.0	Vital HR - 2L/m2
PHASE 2 - DWD B8	0.30	0.60	2.0	Vital HR - L/m2
PHASE 2 - CWD D1	0.30	0.60	2.0	Turf
PHASE 2 - DWD D1	0.40	0.60	2.0	Vital HR - 2L/m2
PHASE 2 - DWD D2	0.45	0.60	2.0	Vital HR - 2L/m2
PHASE 2 - CWD E1	0.50	0.60	2.0	Turf
PHASE 2 - DWD E1	0.30	3.20	2.0	Vital HR - 2L/m2

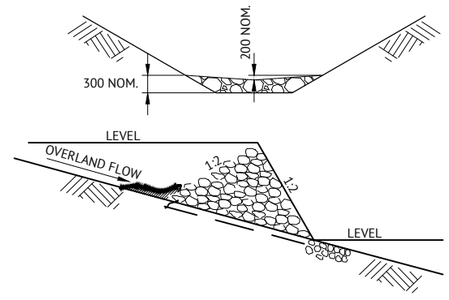
NOTE: DRAIN SIZING (INCLUDING DEPTH NOMINATED ABOVE) DOES NOT ACCOUNT FOR INSTALLATION OF CHECK DAMS. THE NOMINATED DRAIN LINING IS BASED ON CALCULATED VELOCITIES AND IS SUFFICIENT TO FUNCTION IN A NON-EROSIVE MANNER WITHOUT CHECK DAMS. IF CHECK DAMS ARE TO BE INSTALLED, DRAIN DIMENSIONS ARE TO BE INCREASED TO PROVIDE A MINIMUM ADDITIONAL 0.3m DEPTH.



TYPICAL CROSS SECTION
SWALE DRAIN
N.T.S.



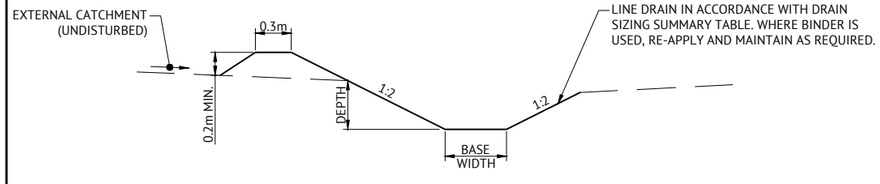
TYPICAL CROSS SECTION
BUND DRAIN
N.T.S.



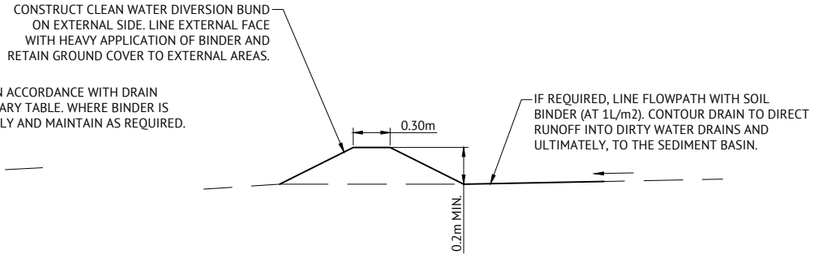
CHECK DAM - TYPICAL DETAIL
NTS

CHECK DAM SPACING - (WHERE ORDERED)

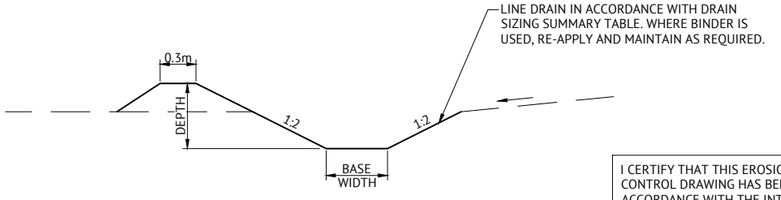
SWALE GRADE (%)	SPACING INTERVAL (m)				
	200mm HIGH	300mm HIGH	400mm HIGH	500mm HIGH	600mm HIGH
0.5	40	60	80	100	120
1.0	20	30	40	50	60
2.0	10	15	20	25	30
3.0	6.7	10	13	17	20
4.0	5.0	7.5	10	13	15
5.0	4.0	6.0	8.0	10	12
10.0	2.0	3.0	4.0	5.0	6.0
15.0	1.3	2.0	2.7	3.3	4.0



TYPICAL CROSS SECTION
SWALE DRAIN WITH EXTERNAL DIVERSION
N.T.S.



TYPICAL CROSS SECTION
CONTOUR DRAIN
N.T.S.



TYPICAL CROSS SECTION
COMBINATION DRAIN
N.T.S.

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TERRY CLARK (CPESC 6089)

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DATE	REV	DESCRIPTION		
05/12/2022	A	ORIGINAL ISSUE	NVT	PB

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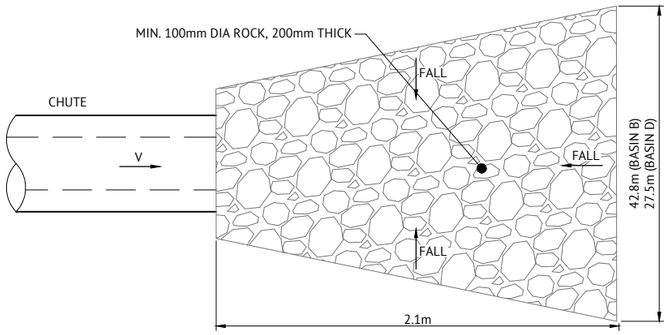
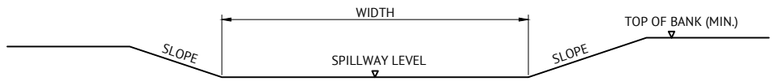
SCALE
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCT 8 & 10 SUBDIVISION DEVELOPMENT
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL - DRAIN DETAILS

JOB CODE: MIR-1010
SHEET NUMBER: C730
REV: A



OUTLET ENERGY DISSIPATER DETAILS
N.T.S.



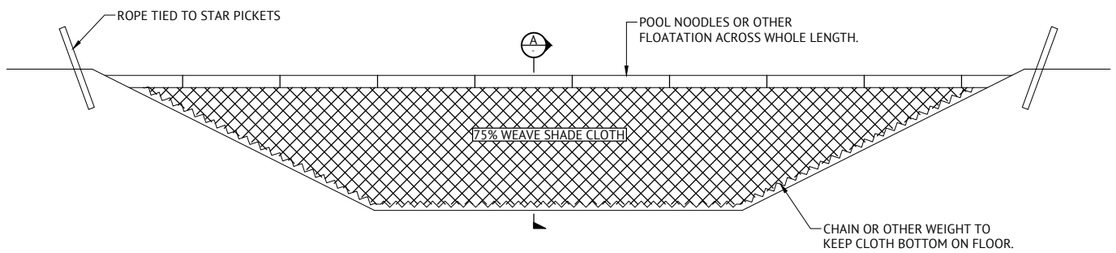
BASIN OUTLET SPILLWAY TYPICAL PROFILE
N.T.S.

SPILLWAY SIZING SUMMARY TABLE

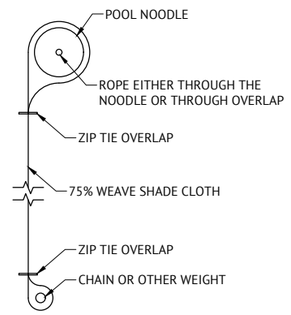
BASIN ID	WIDTH (m)	SLOPE (1 IN ...)	SPILLWAY LEVEL (R.L. m))	MIN. HEIGHT SPILLWAY TO TOB (m)	TOP OF BANK (R.L. m)	LINING
BASIN A	10.0	3.0	62.00	0.60	62.60	TURF
BASIN B	20.0	3.0	44.50	0.70	TBD	TURF
BASIN C	5.0	3.0	72.50	0.50	73.00	TURF
BASIN D	10.0	3.0	TBD	0.60	TBD	TURF

SPILLWAY SIZING CALCULATION TABLE

							WEIR						CHUTE								DISSIPATER			
BASIN ID	CATCH AREA (HA)	ARI	C_{ARI}	TIME OF CONC (MINS)	I_{ARI}	FLOW - Q (m^3/s)	BASE WIDTH	SIDE SLOPE 1 (1 in x)	U/S WATER LEVEL (m)	FREEBOARD (m)	MIN. HEIGHT SPILLWAY TO TOB (m)	TOP WIDTH (m)	LONG. SLOPE (m/m)	LINING	MANNING ROUGH COEFF	MANUAL MANNING ROUGH COEFF	MAX PERM VEL (m/s)	DESIGN VEL (m/s)	DEPTH OF FLOW (m)	DEPTH WITH F/BOARD (m)	OK / NOT OK	MEAN ROCK SIZE - D_{50} (mm)	WIDTH 1 (m)	WIDTH 2 (m)	LENGTH (m)
Basin A	7.15	20	0.74	14	159	2.34	10	3	0.26	0.3	0.56	13.36	0.05	Turf	0.04		2	1.51	0.15	0.45	OK	100	13.3	13.5	2.1
Basin B	41.16	50	0.81	60	83	7.69	20	3	0.36	0.3	0.66	23.99	0.02	Turf	0.04		3	1.41	0.26	0.56	OK	200	24.0	24.5	2.7
Basin C	1	20	0.74	10	182	0.37	5	3	0.12	0.3	0.42	7.53	0.03	Turf	0.04		2	0.90	0.07	0.37	OK	100	7.8	7.8	1.3
Basin D	7.6	20	0.74	22	128	2.00	10	3	0.23	0.3	0.53	13.21	0.05	Turf	0.04		2	1.42	0.18	0.43	OK	100	13.2	13.4	2.1
						0.00			0.04	0.3	0.34	0.00		Turf	0.04		2	0.00	0.01	0.31	OK	100	0.6	0.6	1



PERMEABLE BAFFLE SECTION
N.T.S.



A SECTION
SCALE N.T.S.

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SHEET TITLE EROSION AND SEDIMENT CONTROL - SPILLWAY DETAILS

JOB CODE MIR-1010
SHEET NUMBER C740
REV A

BASIN MATERIALS

1. EARTH FILL: CLEAN SOIL WITH EMERSON CLASS 2(1), 3, 4 OR 5 AND FREE OF ROOTS, WOODY VEGETATION, ROCKS AND OTHER UNSUITABLE MATERIAL. SOIL WITH EMERSION CLASS 4 AND 5 MAY NOT BE SUITABLE DEPENDING ON PARTICLE SIZE DISTRIBUTION AND DEGREE OF DISPERSION.
   1.1. CLASS 2(1) SHOULD ONLY BE USED UPON RECOMMENDATION FROM GEOTECHNICAL SPECIALIST.
2. SPILLWAY ROCK: HARD, ANGULAR, DURABLE WEATHER RESISTANT AND EVENLY GRADED ROCK WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL (d50) ROCK SIZE. LARGE ROCK SHOULD DOMINATE, WITH SUFFICIENT SMALL ROCK TO FILL THE VOIDS BETWEEN LARGER ROCK. THE DIAMETER OF THE LARGEST ROCK SHOULD BE NO LARGER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. THE SPECIFIED GRAVITY SHOULD BE AT LEAST 2.5.
3. GEOTEXTILE FABRIC: HEAVY DUTY, NEEDLE-PUNCHED, NON-WOVEN CLOTH, MINIMUM 'BIDIM' A24 OR EQUIVALENT.

BAISN CONSTRUCTION

1. NOTWITHSTANDING ANY DESCRIPTION CONTAINED WITH APPROVED PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SATISFYING THEMSELVES AS TO THE NATURE AND EXTENT OF THE SPECIFIED WORKS AND THE PHYSICAL AND LEGAL CONDITIONS UNDER WHICH THE WORKS WILL BE CARRIED OUT. THIS SHALL INCLUDE MEANS OF ACCESS, EXTENT OF CLEARING, NATURE OF THE MATERIALS TO BE EXCAVATED, TYPE AND SIZE OF MECHANICAL PLANT REQUIRED, LOCATION AND SUITABILITY OF WATER SUPPLY FOR CONSTRUCTION AND TESTING PURPOSES, AND ANY OTHER LIKELY MATTERS AFFECTING THE CONSTRUCTION OF THE WORKS.
2. REFER TO APPROVED PLANS FOR LOCATION, DIMENSIONS, AND CONSTRUCTION DETAILS. IF THERE ARE ANY QUESTIONS OR PROBLEMS WITH THE LOCATION, DIMENSIONS, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
3. BEFORE STARTING ANY CLEARING OR CONSTRUCTION, ENSURE ALL THE NEXESSARY MATERIALS AND COMPONENTS ARE ON THE SITE TO AVOID DELAYS IN COMPLETING THE SEDIMENT BASIN ONCE WORKS BEGIN.
4. INSTALL REQUIRES SHORT TERM SEDIMENT RUNOFF DURING CONSTRUCTION OF THE BASIN.
5. THE AREA TO BE COVERED BY THE EMBANKMENT, BORROW PITS AND INCIDENTAL WORKS, TOGETHER WITH AN AREA EXTENDING BEYOND THE LIMITS OF EACH FOR A DISTANCE NOT EXCEEDING 5m ALL AROUND MUST BE CLEARED OF ALL TREES, SCRUB, STUMPS, ROOTS, DEAD TIMBER AND RUBBISH AND DISPOSED OF IN A SUITABLE MANNER. DELAY CLEARING THE MAIN BASIN AREA UNTIL THE EMBANKMENT IS COMPLETE.
6. ENSURE ALL HOLES MADE BY GRUBBING WITHIN THE EMBANKMENT FOOTPRINT ARE FILLED WITH SOUND MATERIAL, ADEQUATELY COMPACTED, AND FINISHED FLUSH WITH THE NATURAL SURFACE.

AUTO DOSER

1. PROVIDED AS FLOW BASED AUTO DOSER TO MANUFACTURES SPECIFICATION.
2. DOSER AND SUPPLY OF FLOCCULANT TO BE PROVIDED ON LEVEL PAD 4m x 4m WITHIN 10m OF DOSING POINT.
3. ALL-WEATHER ACCESS TRACK TO BE PROVIDED TO DOSER.
4. FLOCCULANT PROVIDED AS TURBICLEAR (ahc). IF ALTERNATIVE FLOCCULANT USED THEN THE BASIN SIZE IS TO BE INCREASED ACCORDING TO JAR SETTLEMENT TEST (REFER TO TABLE BELOW).
5. JAR TESTING UNDERTAKEN BY TURBID WITH REPRESENTATIVE SOIL SAMPLES COMPOSITED OVER THE SUBJECT AREA USED. BASED ON JAR TESTING A DOSE RATE OF 100PPM (100L OF ACH PER 1ML OF BASIN STORAGE VOLUME) IS TO BE ADOPTED. NOMINATED ACH COAGULANT IS TURBICLEAR. IF ALTERNATIVE PRODUCT/S USED THAN JAR TESTING TO BE VERIFIED.
6. GIVEN THE CATCHMENT AREA AND DYNAMIC NATURE OF THE SITE IT IS RECOMMENDED THAT A FLOW BASED AUTOMATED DOSER BE INSTALLED AT THE INLET TO THE FOREBAY.
7. A WELL CONSTRUCTED AND DEFINED OPEN CHANNEL OR PIPE WILL BE REQUIRED TO ACHIEVE EFFECTIVE AND ACCURATE FLOW DEPTH RECORDING BY THE DOSE UNIT. A STILLING POND UPSLOPE OF THE INLET TO THE OPEN CHANNEL OR PIPE IS RECOMMENDED TO IMPROVE ACCURACY AND PERFORMANCE OF THE SYSTEM.
8. ALL WEATHER ACCESS TRACK TO BE PROVIDED TO DOSER.
9. THE DOSE UNIT SUPPLIER SHOULD BE CONTACTED TO DISCUSS SETUP AND INSTALLATION REQUIREMENTS.

NOTE: JAR TESTING RESULTS FROM ADJACENT SITE. ADDITIONAL ON SITE TESTING REQUIRED FOR CONFIRMATION OF BASIN SIZING PRIOR TO CONSTRUCTION.

EMBANKMENT

1. SCARIFY AREAS ON WHICH FILL IS TO BE PLACED BEFORE PLACING THE FILL.
2. ENSURE ALL FILL MATERIAL USED TO FORM THE EMBANKMENT MEETS THE SPECIFICATIONS CERTIFIED BY A SOIL SCIENTIST OF GEOTECHNICAL SPECIALIST.
3. THE FILL MATERIAL MUST CONTAIN SUFFICIENT MOISTURE SO IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION. PLACE FILL MATERIAL IN 150mm TO 200mm CONTINUOUS LAYERS OVER THE ENTIRE LENGTH OF THE FILL AREA AND THEN COMPACT BEFORE PLACEMENT OF FURTHER FILL.
4. UNLESS SPECIFIED ON THE APPROVED PLANS, COMPACT THE SOIL AT ABOUT % TO 2% WET OPTIMUM AND TO 95% MODIFIED OR 100% STANDARD COMPACTION. EMBANKMENT TO AN ELEVATION 10% HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLING.
5. WHERE BOTH DISPERSIVE AND NON-DISPERSIVE CLASSIFIED EARTH-FILL MATERIALS ARE AVAILABLE, NON-DISPERSIVE EARTH-FILL MUST BE USED IN THE CORE ZONE. THE REMAINING CLASSIFIED EARTH-FILL MATERIALS MUST ONLY BE USED AS DIRECTED BY THE SITE SUPERINTENDENT.
6. WHERE SPECIFIED, CONSTRUCT THE EMBANKMENT TO AN ELEVATION 10% HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLING; OTHERWISE FINISHED DIMENSION OF THE EMBANKMENT AFTER SPREADING OF TOPSOIL MUST CONFORM TO THE DRAWING WITH A TOLERANCE OF 75mm FROM SPECIFIED DIMENSIONS.
7. ENSURE DEBRIS AND OTHER UNSUITABLE BUILDING WASTE IS NOT PLACED WITHIN THE EARTH EMBANKMENT.
8. AFTER COMPLETION OF THE EMBANKMENT, ALL LOOSE UNCOMPACTED EARTH-FILLMATERIAL ON THE UPSTREAM AND DOWNSTREAM BATTER MUST BE REMOVED PRIOR TO SPREADING TOPSOIL.
9. TOPSOIL AND RE-VEGETATE/STABILISE ALL EXPOSED EARTH AS DIRECTED WITHIN THE APPROVED PLANS.

CUT-OFF TRENCH

1. BEFORE CONSTRUCTION OF THE CUT-OFF TRENCH OR ANY ANCILLARY WORKS WITHIN THE EMBANKMENT FOOTPRINT, ALL GRASS GROWTH AND TOPSOIL MUST BE REMOVED FROM THE AREA TO BE OCCUPIED BY THE EMBANKMENT AND MUST BE DEPOSITED CLEAR OF THIS AREA AND RESERVED FOR TOPDRESSING THE COMPLETED EMBANKMENT.
2. EXCAVATED A CUT-OFF TRENCH ALONG THE CENTRE LINE OF THE EARTH FILL EMBANKMENT. CUT THE TRENCH TO STABLE SOIL MATERIAL, BUT IN NO CASE MAKE IT LESS THAN 600mm DEEP. THE CUT-OFF TRENCH MUST EXTEND INTO BOTH ABUTMENTS TO AT LEAST THE ELEVATION OF THE OUTLET SPILLWAY CREST. MAKE THE MINIMUM BOTTOM WIDTH WIDE ENOUGH TO PERMIT OPERATION OF THE EXCAVATION AND COMPACTION EQUIPMENT, BUT IN NO CASE LESS THAN 600mm. MAKE THE SIDE SLOPES OF THE TRENCH NO STEEPER THAN 1:1 (H:V).
3. ENSURE ALL WATER, LOOSE SOIL, AND ROCK ARE REMOVED FROM THE TRENCH BEFORE BACKFILLING COMMENCES. THE CUT-OFF TRENCH MUST BE BACKFILLED WITH SELECT EARTH-FILL OF THE TYPE SPECIFIED FOR THE EMBANKMENT, AND THIS SOUL MUST HAVE A MOISTURE CONTENT AND DEGREE OF COMPACTION THE SAME AS SPECIFIED FOR THE CORE ZONE.
4. MATERIAL EXCAVATED FROM THE CUT-OFF TRENCH MAY BE USED IN THE CONSTRUCTION OF THE EMBANKMENT PROVIDED IT IS SUITABLE AND IT IS PLACED IN THE CORRECT ZONE ACCORDING TO ITS CLASSIFICATION.

SPILLWAY CONSTRUCTION

1. THE SPILLWAY MUST BE EXCAVATED AS SHOWN ON THE PLANS, AND THE EXCAVATED MATERIAL IF CLASSIFIED AS SUITABLE, MUST BE USED IN THE EMBANKMENT, AND IF NOT SUITABLE IT MUST BE DISPOSED OF INTO SPOIL HEAPS.
2. ENSURE EXCAVATED DIMENSIONS ALLOW ADEQUATE BOXING-OUT SUCH THAT THE SPECIFIED ELEVATIONS, GRADES, CHUTE WIDTH, AND ENTRANCE AND EXIT SLOPES FOR THE EMERGENCY SPILLWAY WILL BE ACHIEVED AFTER PLACEMENT OF THE ROCK OR OTHER SCOUR PROTECTION MEASURES AS SPECIFIED IN THE PLANS.
3. PLACE SPECIFIED SCOUR PROTECTION MEASURES ON THE EMERGENCY SPILLWAY. ENSURE THE FINISHED GRADE BLENDS WITH THE SURROUNDING AREA TO ALLOW A SMOOTH FLOW TRANSITION FROM SPILLWAY TO DOWNSTREAM CHANNEL.
4. IF A SYNTHETIC FILTER FABRIC UNDERLAY IS SPECIFIED, PLACE THE FABRIC DIRECTLY ON THE PREPARED FOUNDATION. IF MORE THAN 1 SHEET OF FILTER FABRIC IS REQUIRED, OVERLAP THE EDGES BY AT LEAST 300mm AND PLACE ANCHOR PINS AT MINIMUM 1m SPACING ALONG THE OVERLAP. BURY THE UPSTREAM END OF THE FILTER FABRIC A MINIMUM 300mm BELOW GROUND AND WHERE NECESSARY, BURY THE LOWER END OF THE FABRIC OR OVERLAP A MINIMUM 300mm OVER THE NEXT DOWNSTREAM SECTION AS REQUIRED. ENSURE THE FILTER FABRIC EXTENDS AT LEAST 1m UPSTREAM OF THE SPILLWAY CREST.
5. TAKE CARE NOT TO DAMAGE THE FABRIC DURING OR AFTER PLACEMENT. IF DAMAGE OCCURS, REMOVE THE ROCK AND REPAIR THE SHEET BY ADDING ANOTHER LATER OF FABRIC WITH A MINIMUM OVERLAP OF 300mm AROUND THE DAMAGED AREA. IF EXTENSIVE DAMAGE IS SUSPECTED, REMOVE AND REPLACE THE ENTIRE SHEET.
6. WHERE LARGE ROCK IS USED, OR MACHINE PLACEMENT IS DIFFICULT, A MINIMUM 100mm LATER OF FINE GRAVEL, AGGREGATE, OR SAND MAY BE NEEDED TO PROTECT THE FABRIC.
7. PLACEMENT OF ROCK SHOULD FOLLOW IMMEDIATELY AFTER PLACEMENT OF THE FILTER FABRIC. PLACE ROCK SO THAT IT FORMS A DENSE, WELL GRADED MASS O ROCK WITH A MINIMUM OF VOIDS. THE DESIRED DISTRIBUTION OF ROCK THROUGHOUT THE MASS MAYBE OBTAINED BY SELECTIVE LOADING AT THE QUARRY AND CONTROLLED DUMPING DURING FINAL PLACEMENT.
8. THE FINISHED SLOPE SHOULD BE FREE OF POCKETS OF SMALL ROCK OR CLUSTERS OF LARGE ROCKS. HAND PLACING MAY BE NECESSARY TO ACHIEVE THE PROPER DISTRIBUTION OF ROCK SIZES TO PRODUCE A RELATIVELY SMOOTH, UNIFORM SURFACE. THE FINISHED GRADE OF THE ROCK SHOULD BLEND WITH THE SURROUNDING AREA. NO OVERFALL OF PROTRUSION OF ROCK SHOULD BE APPARENT.
9. ENSURE THAT THE FINAL ARRANGEMENT OF THE SPILLWAY CREST WILL NOT PROMOTE EXCESSIVE FLOW THROUGH THE ROCK SUCH THAT THE WATER CAN BE RETAINED WITHIN THE SETTLING BASIN AT THE ELEVATION NO LESS THAN 50mm ABOVE OR BELOW THE NOMINATED SPILLWAY CREST ELEVATION.

ESTABLISHING THE SETTLING POND

1. THE AREA TO BE COVERED BY THE STORED WATER OUTSIDE OF THE LIMITS OF THE BORROW PITS MUST BE CLEARED RUBBISH. TREES MUST BE CUT DOWN STUMP HIGH AND REMOVED FROM THE IMMEDIATE VICINITY OF THE WORK.
2. ESTABLISH ALL REQUIRED INFLOW CHUTES AND INLET BAFFLES, IF SPECIFIED, TO ENABLE WATER TO DISCHARGE INTO THE BASIN IN A MANNER THAT WILL NOT CAUSE SOIL EROSION OR THE RE-SUSPENSION OF SETTLED SEDIMENT.
3. INSTALL A SEDIMENT STORAGE LEVEL MARKER POST WITH A CROSS MEMBER SET JUST BELOW THE TOP OF THE SEDIMENT STORAGE ZONE (AS SPECIFIED ON THE APPROVED PLANS). USE AT LEAST A 75mm WIDE POST FIRMLY SET INTO THE BASIN FLOOR.
4. IF SPECIFIED, INSTALL INTERNAL SETTLING POND BAFFLES. ENSURE THE CREST OF THESE BAFFLES IS SET LEVEL WITH, OR JUST BELOW, THE ELEVATION OF THE EMERGENCY SPILLWAY.
5. INSTALL ALL APPROPRIATE MEASURES TO MINIMISE SAFETY RISK TO ON-SITE PERSONNEL AND THE PUBLIC CAUSED BY THE PRESENCE OF THE SETTLING POND. AVOID STEEP, SMOOTH INTERNAL SLOPES. APPROPRIATELY FENCE THE SETTLING POND AND POST WARNING SIGNS IF UNSUPERVISED PUBLIC ACCESS IS LIKELY OR THERE IS CONSIDERED TO BE AN UNACCEPTABLE RISK TO THE PUBLIC.

EROSION & SEDIMENT CONTROL NOTES

1. LOCATION & LEVELS OF ALL EXISTING SERVICES TO BE CONFIRMED ON SITE BY CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. REFER EARTHWORKS DRAWINGS FOR ADDITIONAL NOTES.
3. ALL TRENCHES, FOOTPATH EXCAVATIONS & STOCKPILES TO BE PROTECTED BY TEMPORARY SEDIMENT FENCES UNTIL 80% GRASS COVERAGE IS ACHIEVED TO DISTURBED AREAS.
4. EVERY PRECAUTION IS TO BE TAKEN TO PREVENT THE TRANSPORT OF SILT INTO THE NEWLY LAID STORMWATER PIPES THAT ARE CONNECTED TO THE DOWNSTREAM PIPE SYSTEMS, AND ANY EXISTING OPEN CHANNELS.
5. THESE NOTES SHALL BE READ IN CONJUNCTION WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
6. THE EROSION AND SEDIMENT CONTROL WORKS SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL AUTHORITIES EROSION AND SEDIMENT CONTROL STANDARDS.
7. THE CONTRACTOR SHALL TAKE ALL REASONABLE AND PRACTICABLE MEASURES TO:
   - ALLOW STORMWATER TO PASS THROUGH THE SITE IN A CONTROLLED MANNER AND AT NON EROSIVE FLOW VELOCITIES;
   - MINIMISE SOIL EROSION FROM WATER AND WIND;
   - MINIMISE ADVERSE EFFECTS OF SEDIMENT RUN-OFF;
   - MINIMISE OR PREVENT ENVIRONMENTAL HARM ASSOCIATED WITH DISCHARGES FROM THE SITE (E.G. THE EFFECTS OF SEDIMENTATION ON THE ENVIRONMENTAL VALUES OF RECEIVING WATERS); AND
   - ENSURE THAT THE VALUE AND USE OF RESIDENTIAL PROPERTIES ADJACENT TO THE DEVELOPMENT (SUCH AS DRAINAGE AND ROADS) ARE NOT DIMINISHED AS A RESULT OF THE MIGRATION OF SEDIMENT FROM THE DEVELOPMENT.
4. THE CONTRACTOR SHALL APPOINT AN APPROPRIATELY EXPERIENCED PERSON TO BE MADE RESPONSIBLE FOR IMPLEMENTATION OF THE ESC.
5. ALL ESC MEASURES SHALL BE INSPECTED:
   - AT LEAST DAILY (WHEN WORK IS OCCURRING ON SITE).
   - AT LEAST WEEKLY (WHEN WORK IS NOT OCCURRING ON SITE).
   - WITHIN 24 HOURS OF EXPECTED RAINFALL.
   - WITHIN 18 HOURS OF RAINFALL OCCURRING.
6. MAINTENANCE OF ESC MEASURES SHALL OCCUR TO ENSURE THEY ARE OPERATING EFFICIENTLY AND IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

ESC MEASURES	MAINTENANCE TRIGGER	TIME FRAME FOR UNDERTAKING MAINTENANCE
ESC MEASURES	WHEN SETTLED SEDIMENT VOLUME EXCEEDS 25% OF THE CAPACITY OF THE ESC MEASURE	BY THE END OF THE DAY

7. INSTALL DIVERSION CATCH DRAINS UPSTREAM OF, AND SILT FENCE DOWNSTREAM OF, STOCKPILES.
8. STOCKPILES ARE TO BE LOCATED AWAY FROM EROSION HAZARD AREAS SUCH AS DRAINAGE LINES AND STEEP SLOPES.
9. STOCKPILES ARE TO BE PROTECTED FROM EROSION BY THE WIND.
10. ADEQUATE SUPPLIES OF EMERGENCY MAINTENANCE MATERIALS, INCLUDING (BUT NOT LIMITED TO) TIE WIRE, STAKES, FILTER CLOTH, WIRE MESH AND CLEAN GRAVEL SHOULD BE AVAILABLE ON-SITE.
11. ESC MAINTENANCE ACTIVITIES ARE TO BE RECORDED IN AN ON-SITE REGISTER. THE REGISTER IS TO BE MAINTAINED FOR THE DURATION OF THE WORKS AND IS TO BE MADE AVAILABLE TO THE SUPERINTENDENT.
12. DISTURBED AREA ARE TO BE STABILISED AS SOON AS POSSIBLE ON COMPLETION OF BULK EARTHWORKS. LOTS TO BE STABILISED FOLLOWING RESPREADING OF TOPSOIL.
13. SUPPLEMENTARY ESC MEASURES SHALL BE DIRECTED BY THE SUPERINTENDENT.

MAINTENANCE

1. INSPECT ALL CATCH DRAINS AT LEAST WEEKLY AND AFTER RUNOFF-PRODUCING STORM EVENTS AND REPAIR ANY SLUMPS, BANK DAMAGE. OR LOSS OF FREEBOARD.
2. CLOSELY INSPECT THE OUTER EDGES OF THE ROCK PROTECTION. ENSURE WATER ENTRY INTO THE ROCK -LINED AREA IS NOT CAUSING EROSION ALONG THE EDGE OF THE ROCK PROTECTION.
3. CAREFULLY CHECK THE STABILITY OF THE ROCK LOOKING FOR INDICATIONS OF PIPING, SCOUR HOLES, OR BANK FAILURES.
4. REPLACE OR REPOSITION THE SURFACE ROCK SUCH THAT THE DRAIN FUNCTIONS AS REQUIRED AND THE DRAIN'S REQUIRED HYDRAULIC CAPACITY IS NOT REDUCED.
5. REPLACE ANY DISPLACED ROCK WITH ROCK OF SIGNIFICANTLY (MINIMUM 110%) LARGER SIZE THAN THE DISPLACED ROCK.
6. ENSURE SEDIMENT IS NOT PARTIALLY BLOCKING THE DRAIN. WHERE NECESSARY, REMOVE ANY DEPOSITED MATERIAL TO ALLOW FREE DRAINAGE.
7. DISPOSE OD ANY SEDIMENT OF FILL IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

JAR TEST RESULTS (DOSING CHEMICAL: TURBICLEAR ACH)

DOSE RATE (ml/L)	0.00 CONTROL	0.04	0.06	0.08	0.10	0.12
CLARITY ACHIEVED AFTER 5 MINS	481	199	87.4	61.5	58.5	37.2
CLARITY ACHIEVED AFTER 15 MINS	458	84.8	65.5	54.5	39.8	34.2
CLARITY ACHIEVED AFTER 30 MINS	385	68.2	56.9	42.3	30.9	26.7
CLARITY ACHIEVED AFTER 60 MINS	307	53.0	41.1	26.5	17.3	15.6
FINAL pH	7.4	7.4	7.3	7.3	7.3	7.3
FINAL TURBIDITY	307	53	56	26	17	15
FINAL TEST RESULT						

NOTE: STARTING pH = 7.4 STARTING TURBIDITY = 930

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CHECKED: MARK DAVIS
PROJECT MANAGER: LAURA CLIFFORD
PROJECT DIRECTOR: PATRICK BRADY RPEQ 7112

SCALE

ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCT 8 & 10 SUBDIVISION DEVELOPMENT
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL NOTES - SHEET 1

JOB CODE: MIR-1010
SHEET NUMBER: C750
REV: A

ROLES AND RESPONSIBILITIES

ROLE	RESPONSIBILITY
PROJECT MANAGER	• OVERALL RESPONSIBILITY OF ESC IMPLEMENTATION • NOTIFY THE ENVIRONMENTAL MANAGER IMMEDIATELY OF ANY NON-COMPLIANCE WITH ESCP • ENSURE THE PROMPT IMPLEMENTATION OF MEASURES TO MITIGATE EROSION AND SEDIMENT GENERATION
SITE SUPERVISOR / FOREMEN	• MONITOR DAILY RAINFALL • NOTIFY ENVIRONMENTAL ADVISOR/CONSULTANT WHEN RUNOFF GENERATING RAINFALL OCCURS IN THE PREVIOUS 24 HOURS • MAINTAIN CURRENT RECORDS OF RAINFALL, STORAGE VOLUMES, WATER QUALITY, TREATMENT PRACTICES, DISCHARGE VOLUMES (AS APPROPRIATE) • INSTALLATION AND MAINTENANCE OF ESC
ENVIRONMENTAL MANAGER	• PROVIDE DESIGN INFORMATION AS REQUIRED • CONDUCT IN-SITU MONITORING (AS REQUIRED) • COLLECT AND SUBMIT SAMPLES TO LABORATORY (AS REQUIRED) • COLLATE RESULTS AND PREPARE REPORTS (AS REQUIRED) • CONDUCT SITE INSPECTIONS AN AUDITS (AS REQUIRED) • INSPECT ESC INSTALLATION AND MAINTENANCE • INSPECT OFFSITE IMPACTS AND MANAGEMENT • PROVIDE ADVICE REGARDING ESC SITE IMPROVEMENT (AS REQUIRED)
ALL PERSONNEL	• REPORT ANY DAMAGE TO ESC DEVICES AND ANY POTENTIAL OR ACTUAL ENVIRONMENTAL HARM IN LINE WITH DUTY TO NOTIFY UNDER THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION ACT 1994

CORRECTIVE AND PREVENTATIVE ACTION

AN ENVIRONMENTAL INCIDENT WITH RESPECT TO THE ESCP IS DEFINED AS ANY OCCURRENCE WHERE SEDIMENT IS RELEASED FROM THE SITE, WHETHER CONTROLLED OR UNCONTROLLED, OR WHERE STORM WATER IS RELEASED (CONTROLLED) FROM SITE WHICH DOES NOT MEET THE WATER QUALITY REQUIREMENTS.

ALL INCIDENTS AND NON-CONFORMANCES ARE TO BE REPORTED, INVESTIGATED AND CORRECTED IN ACCORDANCE WITH THE ESCP TO ENSURE EFFECTIVE SOIL AND WATER QUALITY MANAGEMENT PRACTICES AT ALL TIMES.

BEST PRACTICE SITE MANAGEMENT REQUIRES ALL ESC MEASURES TO BE INSPECTED BY THE CONTRACTORS NOMINATED REPRESENTATIVE AT LEAST DAILY WHEN RAIN IS OCCURRING, WITHIN 24 HOURS PRIOR TO EXPECTED RAINFALL, AND WITHIN 18 HOURS OF A RAINFALL EVENT OF SUFFICIENT INTENSITY AND DURATION TO CAUSE ONSITE RUNOFF (IECA, 2008). SUCH INSPECTIONS MUST CHECK:

- DAILY SITE INSPECTIONS (DURING PERIODS OF RUNOFF PRODUCING RAINFALL)
  - ALL DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES
  - OCCURRENCES OF EXCESSIVE SEDIMENT DEPOSITION (WHETHER ON-SITE OR OFF-SITE)
  - ALL SITE DISCHARGE POINTS (INCLUDING DEWATERING ACTIVITIES AS APPROPRIATE)
- WEEKLY SITE INSPECTIONS (EVEN IF WORK IS NOT OCCURRING ON-SITE)
  - ALL DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES
  - OCCURRENCES OF EXCESSIVE SEDIMENT DEPOSITION (WHETHER ON-SITE OR OFF-SITE)
  - OCCURRENCES OF CONSTRUCTION MATERIALS, LITTER OR SEDIMENT PLACED, DEPOSITED, WASHED OR BLOWN FROM THE SITE, INCLUDING DEPOSITION BY VEHICULAR MOVEMENTS.
  - LITTER AND WASTE RECEPTORS
  - OIL, FUEL AND CHEMICALS STORAGE FACILITIES
- PRIOR TO ANTICIPATED RUNOFF PRODUCING RAINFALL
  - ALL DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES
  - ALL TEMPORARY FLOW DIVERSION AND DRAINAGE WORKS
- FOLLOWING RUNOFF PRODUCING RAINFALL
  - ALL DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES
  - OCCURRENCES OF EXCESSIVE SEDIMENT DEPOSITION (WHETHER ON-SITE OR OFF-SITE)
  - OCCURRENCES OF CONSTRUCTION MATERIALS, LITTER OR SEDIMENT PLACED, DEPOSITED, WASHED OR BLOWN FORM THE SITE, INCLUDING DEPOSITION BY VEHICULAR MOVEMENTS.

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

J. Clark — TERRY CLARK (CPESC 6089)

APPROVAL ISSUE – NOT FOR CONSTRUCTION

DATE	REV	DESCRIPTION	REC	APP
05/12/2022	A	ORIGINAL ISSUE	NVT	PB

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SCALE
ORIGINAL SHEET SIZE A1

CLIENT: MIRVAC QLD PTY LTD
PROJECT: EVERLEIGH PRECINCT 8 & 10 SUBDIVISION DEVELOPMENT
LOCATION: TEVIOT ROAD, GREENBANK
SHEET TITLE: EROSION AND SEDIMENT CONTROL NOTES - SHEET 2

JOB CODE: MIR-1010
SHEET NUMBER: C751
REV: A

Attachment 10

Site/Project Induction

Project Induction Form

Inductee Name		Project	
Position			

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

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 ShadConnect	☐	☐	☐
High Risk Licences, Tickets and VOC's uploaded and verified on ShadConnect	☐	☐	☐
Person has the correct PPE for works being carried out	☐	☐	☐
Site Specific VOC completed	☐	☐	☐

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	

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

Queensland Government

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

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

Table of Contents

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:

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

URBIS

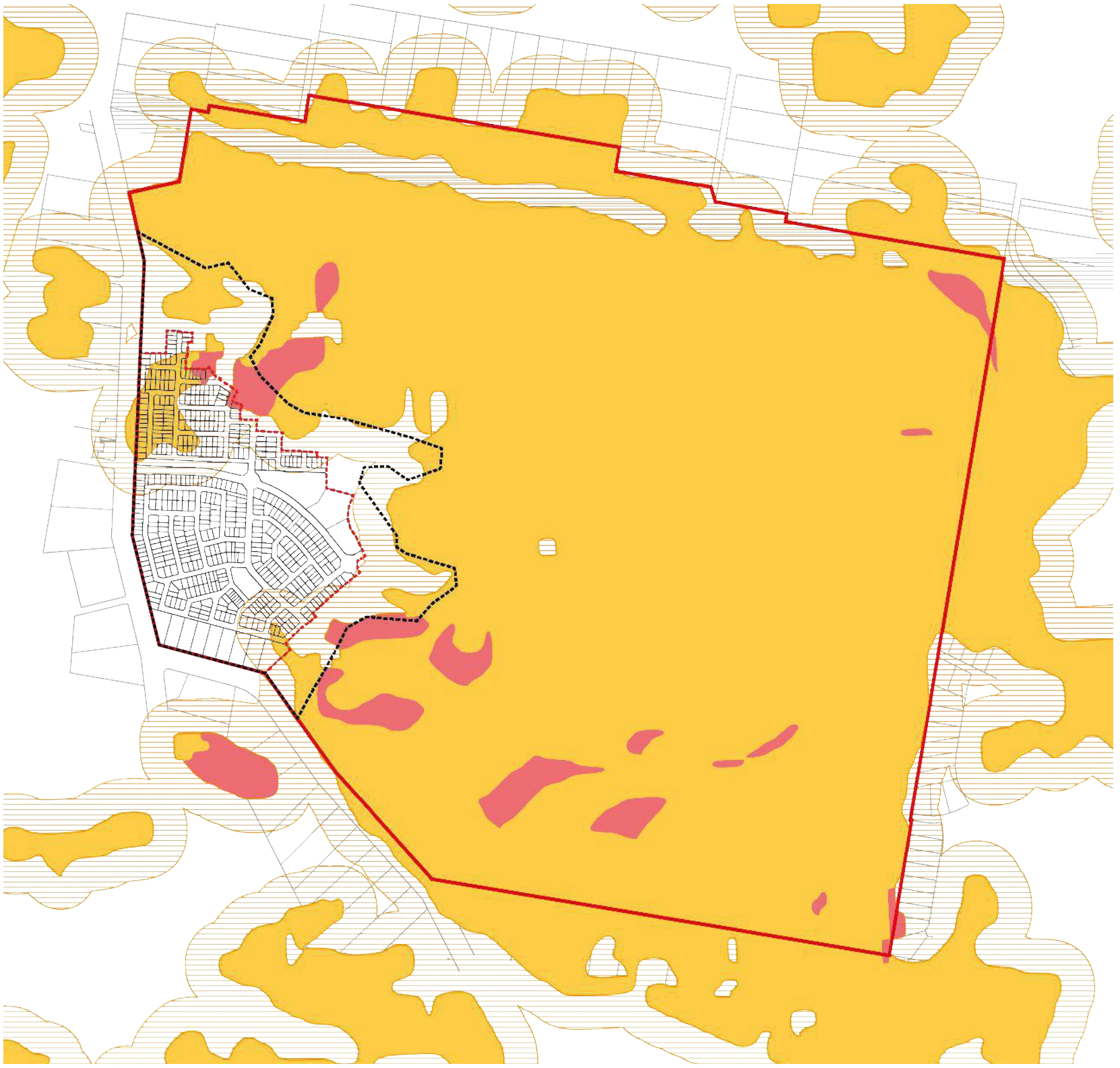
GREENBANK
LAND USE PLAN WITH AREA 1

1:15,000 @ A3

0 200 400 600 800

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)

URBIS

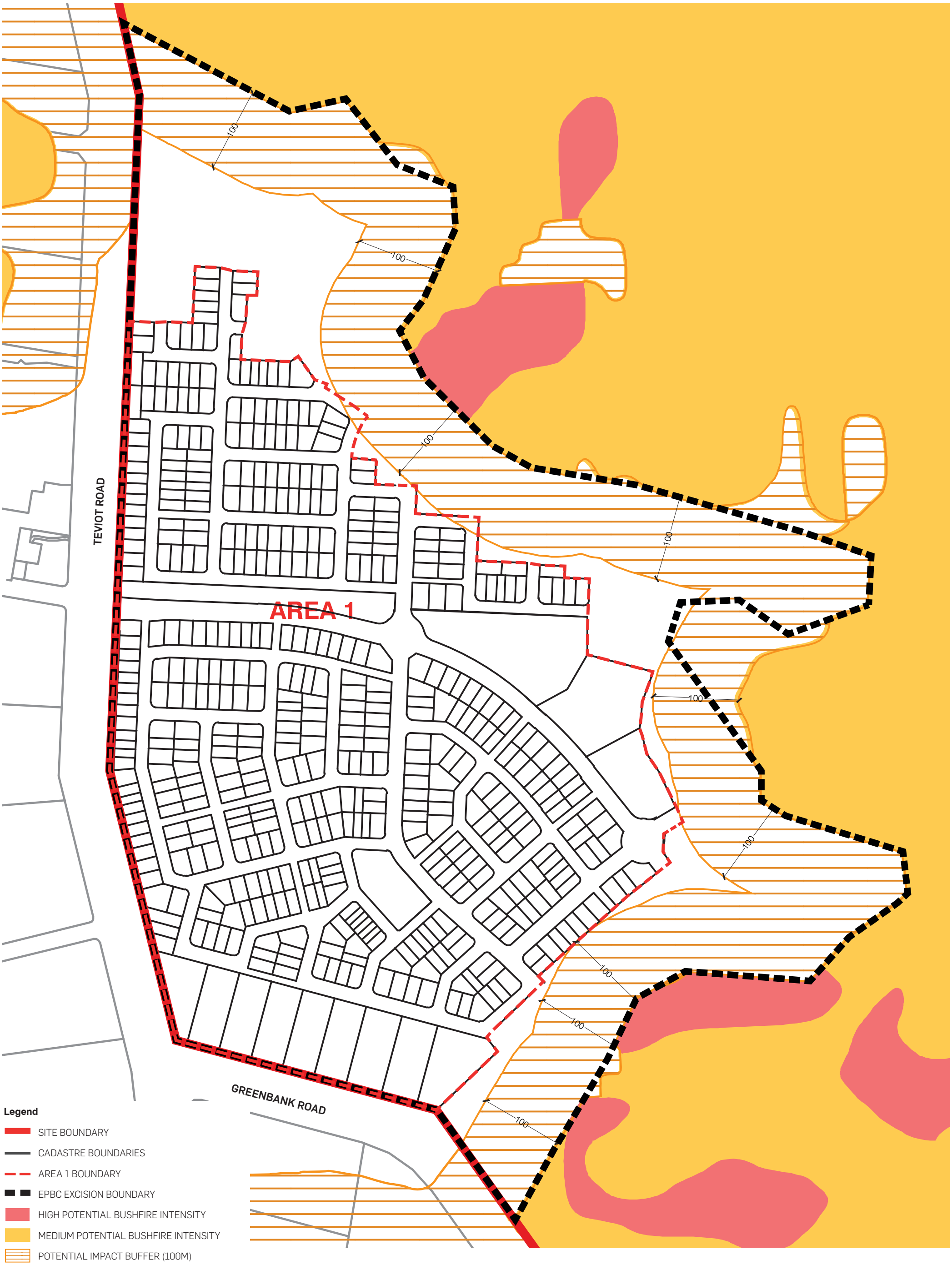
GREENBANK
BUSHFIRE HAZARD PLAN - AREA 1 - EXISTING

1:15,000 @ A3

0 200 400 600 800

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



URBIS

GREENBANK

BUSHFIRE HAZARD PLAN - AREA 1 - POST CLEARING

1:4,000 @ A3

0 50 100 150 200

DATE: 03.11.2016
JOB NO: ND1309
DWG NO: BF:03
REV: 1

Appendix C

Post Wildlife Management Report – Precincts 8 and 10 – Phase 2

510-SC2311-D

FAUNA POST-CLEARANCE REPORT

EVERLEIGH PRECINCTS 8 & 10, PHASE 2, GREENBANK, QLD

Prepared for:
Shadforth Civil Contractors

Delivered:
November 2024

AWEC ENVIRONMENTAL CONSULTANTS

Document Prepared by:

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Document Control Information

Report Title:	Post-Clearance Report
Prepared For:	Shadforth
Report Reference:	510-SCC2311-D
Project Address:	Precincts 8 and 10, Everleigh, Greenbank, Queensland, 4300

Document Review and Distribution

Document Version	Issued to	Author	Reviewed/Approved	Date
Rev 0	Shadforth Civil Contractors	AE	YV	28/11/24

Document Approval

Approvals	Title	Signature
Yolande Venter	Company Director/Senior Ecologist	

Authority

This report has been prepared for use in managing staff and subcontractors relevant to the management and protection of the environment during the project works. Its application is authorised as part of the client undertaking works. The issue and revision of this report are made under the authority of the Project Manager.

Reports and/or Plans

Assessment reports and drawings provided by the client have been used to develop this report and support the document.

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1. Introduction

1.1 Background

Australia Wide Environmental Consultants (AWEC) were commissioned by Shadforth Civil Contractors ('the Client') to prepare a post-clearance report and provide a Department of Environment and Science (DES) licensed fauna spotter catcher (FSC) to supervise vegetation clearing related to development works located at Precincts 8 and 10, Everleigh, Phase 2, Greenbank, Queensland, 4300, hereafter referred to as the Project.

It is understood that the clearing activities were undertaken within an area of the Project on Lots 9004 SP327213 and 9003 SP331503, referred to as the 'survey area' as shown in **Figure 1** below.

This report details the results of the vegetation-clearing activities and wildlife interactions undertaken on January 1, February 5, 6, 13, 14, 15, April 16, 17, 18 and 19, 2024, as well as management actions undertaken prior to and during vegetation-clearing activities.

1.2 Scope of Fauna Management

Prior to vegetation clearing, the DES-licensed FSC conducted searches of habitat features for potential or active breeding places and of conservation significant fauna species. During clearing, machines were closely supervised to mitigate impacts and ensure the safe capture and relocation of any fauna encountered.

AWEC implemented a process methodology for the management of fauna and habitat in accordance with the following legislation, guidelines, and project-specific documents (**Table 1.2.1**).

Table 1.2.1 Legislations, Guidelines, and Project-Specific Documents

Document Title	Purpose of Legislation
Animal Care and Protection Act 2001	The Queensland Animal Care and Protection Act 2001 (the Act) promotes the responsible care and use of animals.
Biosecurity Act (2014)	The Biosecurity Act 2014 provides a framework for an effective biosecurity system for Queensland, to ensure the safety and quality of agricultural inputs, and to align responses to biosecurity risks in the state with national and international obligations.
Environmental Offsets Act (2014)	The main purpose of this Act is to counterbalance the significant residual impacts of particular activities on prescribed environmental matters through the use of environmental offsets.
Environmental Protection Act (1994)	The Environmental Protection Act 1994 (EP Act) lists obligations and duties to prevent environmental harm, nuisances and contamination.
Environment Protection and Biodiversity Conservation Act (1999)	The EPBC Act 1999 focuses on Australian Government interests in the protection of matters of national environmental significance, with the states and territories having responsibility for matters of state and local significance.
Nature Conservation Act 1992 (NC Act)	The Nature Conservation Act 1992 (the Act) provides the legislative basis for the conservation of nature through the dedication, declaration and management of protected areas and the protection of native wildlife and its habitat.

Table 1.2.1 Legislations, Guidelines, and Project-Specific Documents	
Document Title	Purpose of Legislation
Nature Conservation (Animals) Regulation (2020)	The Nature Conservation (Animals) Regulation 2020 (Animals Regulation) introduces a new wildlife licensing framework but incorporates and streamlines existing provisions from the regulations that it replaces.
Nature Conservation (Koala) Conservation Plan (2017)	The main purposes of this plan are— (a) to promote the continued existence of viable koala populations in the wild, and (b) to prevent the decline of koala habitats.
Nature Conservation (Plants) Regulation 2020	The regulatory framework captures clearing and harvesting activities that pose a significant risk to plant biodiversity.
Vegetation Management Act 1999 (VMA)	The Vegetation Management Act 1999 regulates the clearing of vegetation in Queensland in a way that conserves remnant vegetation, ensures clearing does not cause land degradation, prevents loss of biodiversity, maintains ecological processes, reduces greenhouse gas emissions, and allows for sustainable land use.
Water Act 2000 (Qld)	The Water Act 2000 (Qld) (Water Act) provides a framework for the planning, allocation and use of surface water and groundwater in Queensland.
Project documents	Any documents and requirements supplied by the client to abide by.

2. Permits and Reporting

AWEC currently holds and operates under a DES Rehabilitation Permit for Spotter Catcher Activity, Permit No. WA0055123 and a Damage Mitigation Permit (removal and relocation of wildlife), Permit no. WA0054928 is licensed in the State of Queensland.

Clearing activities that are likely to tamper with breeding places of least concern species (excluding special least concern) are to be undertaken in accordance with the Project specific endorsed Species management program (SMP) for tampering with animal breeding places (Low risk of impacts).

The following information relates to data to be collected regarding the relocation of fauna which will be submitted to the Department of Environment and Science (DES) as part of the animal breeding places register returns:

- Fauna species relocated.
- Location of animal breeding place.
- Location of release.
- Date of relocation.

A breeding place register is included in Appendix A for provision to the principal contractor, where four (4) Sacred Kingfisher eggs (*Todiramphus sanctus*) (taken into care) were removed from a breeding place (nest) during clearing activities and recorded for this reporting period.

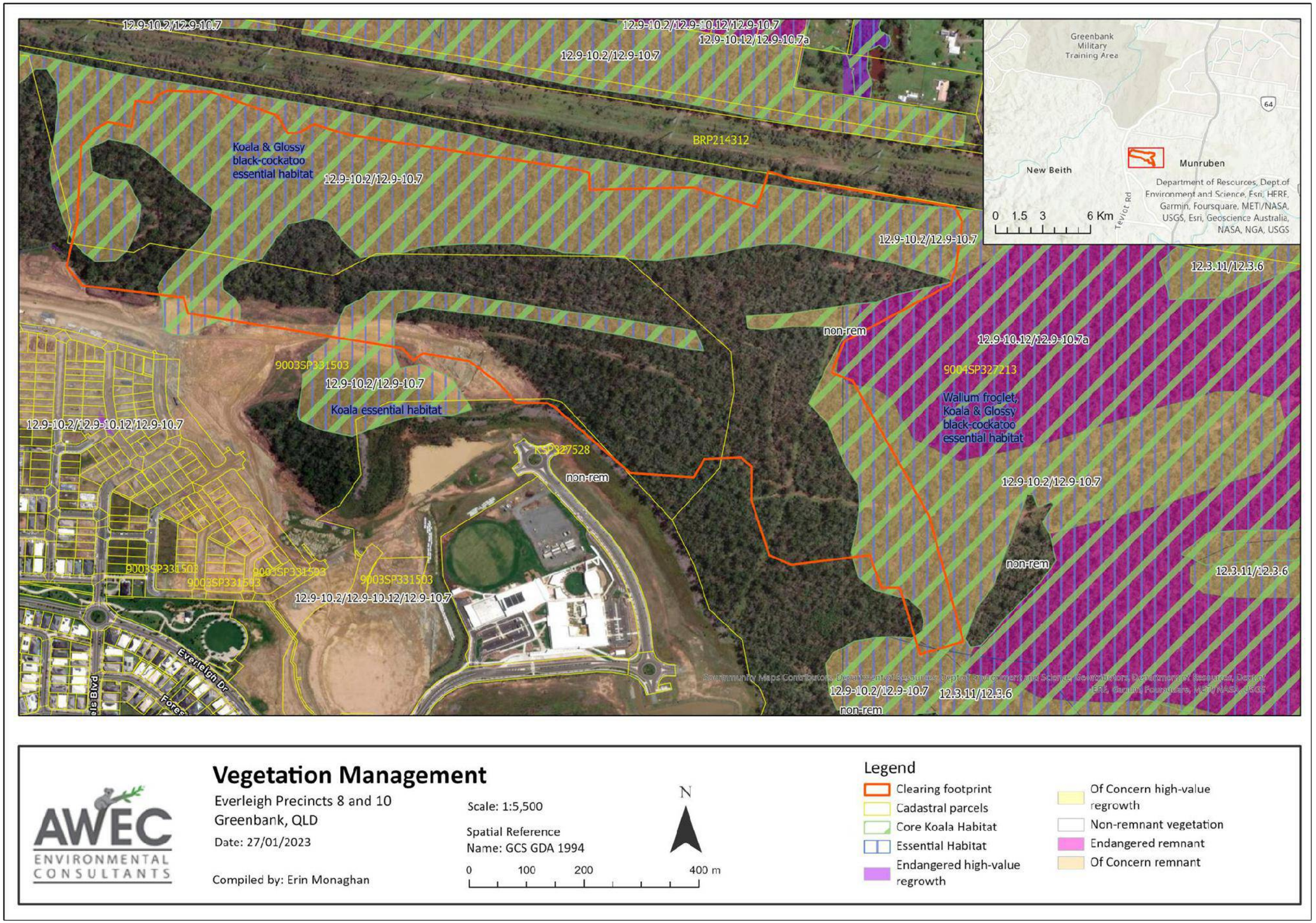

Figure 1. Survey Area Displaying Limits of Clearing and Vegetation Management (Indicative Only).

3. Vegetation Clearing and Fauna Management

3.1 Pre-Clearance Field Survey

The pre-clearance field survey was carried out by a Suitably Qualified and Experienced Person (fauna) on January 24 and 30, 2023.

The survey was completed on foot, employing observational techniques during thorough traverses of the survey area within the Project. Habitat features identified during the survey were marked and recorded using the identification means outlined in the previous pre-clearance report.

Refer (510_SCC2311_D_PRE_WPMP_Everleigh_P8_P10_Phase2_Rev0) and (510_SCC2311_D_PRE_WHIMP_Everleigh_P8_P10_Phase2_Rev0) for the pre-clearance field survey methodology and results, as well as fauna management requirements and strategies to be adopted during vegetation clearing activities.

3.2 Vegetation Clearing Activities

Prior to the commencement of vegetation clearing, the DES-licensed FSC conducted searches of habitat features including thick vegetation, ground debris and burrows for potential or active breeding places of fauna and conservation significant fauna species. All GPS locations and representative photographs were taken and stored for reference purposes.

Machines used for vegetation clearing were supervised by a DES-licensed FSC at a ratio of one FSC per machine, with constant positive communication upheld between the FSC and the operator. This ensured any fauna sighted during the clearing activities was able to be safely captured and relocated.

Management strategies included directional and controlled felling, utilised as a mitigation measure to reduce impacts on arboreal fauna and to allow opportunistic terrestrial fauna to disperse into suitable areas and away from road hazards.

Before larger vegetation was removed it was gently rustled with machinery to see if any fauna would disperse from the vegetation to minimise fatality from cutting it down. Felled trees were inspected on the ground by the FSC prior to mulching, which was conducted immediately on-site.

General photographs of vegetation clearing activities conducted are displayed in **Figures 2 - 5.**

Figure 2. During Clearing Works

Figure 3. During Clearing Works:

Figure 4. Post Clearing Works:

Figure 5. Post Clearing Works:

3.3 Fauna Interactions

No (0) signs of conservation significant fauna species were observed within the survey area during clearing activities.

One (1) fauna interaction were recorded throughout clearing activities and are listed in **Table 3.3.1**, with fauna interaction photographs displayed in **Figures 6 - 7.**

Table 3.3.1 Fauna Interaction Details

#	Scientific Name	Common Name	Capture Lat / Long	Release Lat / Long	Condition, Incidents, Treatment
1	*Morelia spilota*	Carpet Python	-27.73356, 152.99819	-27.73101, 152.99842	Healthy/Released
TOTAL	1 Fauna Interactions				

Figure 6. Carpet Python captured during clearing.

Figure 7. Carpet Python released.

3.4 Breeding places

One (1) breeding place (birds' nest in termite mound) was identified and tampered with during clearing activities. A breeding place register is included in **Appendix A** for provision to the principal contractor, where four (4) Sacred Kingfisher (*Todiramphus sanctus*) eggs were removed from a breeding place (nest) during clearing activities and taken into care and recorded for this reporting period.

Active breeding places identified during clearing activities are listed below in **Table 3.4.1**.

Table 3.4.1 Breeding Place

Date	#	Type	Species	Capture Location Lat / Long	Release Location Lat / Long	Comments
14/02/24	4	Arboreal Termite Mound	Sacred Kingfisher (*Todiramphus sanctus*) eggs	-27.73461, 153.00012	N/A	Taken to carer
TOTAL	**1 Active Breeding Places**					

4. Conclusion

One (1) fauna interaction occurred during the clearing process with no (0) fatalities.

One (1) breeding place was tampered with during clearing activities and has been accurately recorded in the breeding register provided in Attachment A.

Fauna management throughout the course of vegetation clearing activities on January 1, February 5, 6, 13, 14, 15, April 16, 17, 18 and 19, 2024 was considered to be effective in reducing the risk of native fauna fatality.

AWEC can confirm all activities, including vegetation clearing and fauna spotter-catching, were carried out in accordance with the relevant environmental legislation, Project conditions, Project-specific environmental management plans, and the recommendations of in-field ecologists and fauna specialists.

Appendix D

Offset Area Management Report prepared by QTFN – Year 4

Aroona Station Offset Area Management Report –Year 4

EPBC 2016/7817

V1 | January 2025

QTFN acknowledges the Traditional Custodians of Country throughout Australia and their diverse and continuing connections to land, sea and community. We acknowledge they were the first conservationists and scientists and have cared for this land for future generations. We pay our respect to their Elders past, present and emerging and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

This report was prepared on the Traditional Lands of the Jagera and Turrbal Peoples.

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List of Tables

List of Maps

List of Figures

List of Appendices

Document Control

Current document	
Title	Aroona Station Offset Area Management Report Baseline Year 4 EPBC 2016/7817
Date	29/01/2025
Prepared by	Chagi Weerasena

Document Issue

Issue	***Date***	***Prepared by***	***Checked by***
Draft	16/01/2025	Chagi Weerasena	Kayleen Campbell
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CHAPTER 1: INTRODUCTION

The purpose of this document is to report on the management actions and outcomes required for the provision of koala (*Phascolarctos cinereus*) habitat and grey-headed flying fox (GHFF) (*Pteropus poliocephalus*) foraging habitat offset, by Approval EPBC 2016/7817 issued pursuant to sections 130 and 133 of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC 1999). The focus of the plan is on the protection and enhancement of the koala habitat and GHFF foraging habitat associated with the offset secured for Mirvac Queensland Pty Ltd (Mirvac) (EPBC 2016/7817) (herein referred to as the offset area). By way of Deed, Mirvac secured delivery of an Offset Area Management Plan (OAMP) and registration of a Voluntary Declaration under the *Vegetation Management Act 1999* (VM Act) (Qld) of an offset area imposed by EPBC Approval 2016/7817 as part of the offset for the Greenbank development. The voluntary declaration was secured on 4 December 2020. This document will report in accordance with stipulations and requirements laid out in the OAMP.

The structure of this document reflects the requirements from the Department of Climate Change, Energy, the Environment and Water (DCCEEW) and details the key threatening processes which could impact on the existing koala habitat and GHFF foraging habitat. This report documents on the overall health of the koala population, GHFF foraging habitat availability, vegetation composition, and actions to minimise threats to koalas and GHFF foraging habitat. The management regime put in place by the Queensland Trust for Nature (QTFN) will enhance existing koala habitat and GHFF foraging habitat through the exclusion of land practices detrimental to the site and will track improvements and progress in the annual offset report over the active management period.

This report is the fourth submitted to date since the approval date for the offset (EPBC 2016/7817) on 11 October 2019 and commencement of the action on 18 November 2020. This reporting period includes data from 18 November 2023 to 17 November 2024 (herein referred to as the reporting period) and is considered as the 'Year 4' report. Past and future reporting requirements are listed below in Table 1.

Table 1 – EPBC 2016/7817 reporting requirements

Milestone	Due Date	Status
Approval of EPBC 2016/7817	11 October 2019	Completed
Commencement of Action	18 November 2020	Completed
Legal Security	4 December 2020	Completed
Year 1 Annual Report & Baseline	4 December 2021 + 3 months	Submitted January 2022
Year 2 Annual Report	18 November 2022 + 3 months	Submitted January 2023
Year 3 Annual Report	18 November 2023 + 3 months	Submitted January 2024
Year 4 Annual Report	18 November 2024 + 3 months	Current report
Year 5 – Intensive Review		
Year 6 -9 Annual Report		
Year 10 – Intensive Review		
Year 11 -14 Annual Report		
Year 15 – Intensive Review		
Year 16 -19 Annual Report		
Year 20 – Intensive Review		

1.1 SUMMARY OF COMPLIANCE

This document stands as a compliance report for the agreed upon Approval Conditions outlined in the EPBC 2016/7817 OAMP (Table 2) and final Approval Conditions. An intensive review will be conducted in Year 5 to assess the progress towards the Approval Conditions.

This document reports on monitoring and works between 18 November 2023 and 17 November 2024.

It is acknowledged that any non-compliance with the conditions must be reported by no later than two business days after becoming aware.

Table 2 – Compliance summary and checklist for all conditions relevant to this reporting period under the OAMP

Key Actions and Monitoring Requirements	Performance Indicators	Compliance
Management Action 1 – selective chemical/mechanical management		
• Annual surveys of non-native plant cover to ensure reduction across offset area. • Surveys in-line with weed strategy.	*Lantana camara* and *Schinus terebinthifolius* cover is reduced across the offset area, and weeds are not impacting on the movement of koalas across the site and not negatively impacting on recruitment of koala and GHFF food and shelter trees.	Compliant Ongoing
Management Action 2 – ecological burns		
• Undertake ecological burns.	Surveys conducted pre and post ecological burn to determine recovery gains. Fuel hazard assessment to be conducted on a twice-yearly basis by a suitably qualified environmental manager.	Compliant Ongoing
Management Action 3 – wildfire hazard reduction		
• Hazard reduction action will take place to reduce fuel loads based on Overall Fuel Hazard Assessment. • Prescribed burning will be undertaken in consultation with, and under the guidance of the Queensland Rural Fire Brigade and in compliance with the *Fire and Emergency Services Act 1990*. • Inspect firebreaks and access tracks, undertake any maintenance required to achieve compliance with Fire Management Plan.	No recorded high-intensity fires in the offset area. No recorded injury or death from fire. Implementation of Fire Management Plan reduces fuel levels. Vegetation composition not negatively affected by fire regime. Minimise the risk of koala and GHFF mortality within the offset area due to prescribed burning.	Compliant Ongoing
Management Action 4 – direct seeding where natural regeneration is lacking		
• Conduct direct seeding of native species in areas where natural regeneration not occurring. • Species mix to be representative of Preclear Regional Ecosystem.	Livestock are excluded from offset area other than for the purposes of hazard reduction actions.	Compliant Ongoing
Management Action 5 – legal protection from incompatible land uses		
• Details of management activities to be undertaken to achieve and maintain the outcomes prescribed within the Offset Strategy for the koala and GHFF. • Presence and recruitment of koala and GHFF food and shelter trees.	Large offset areas for koala and GHFF habitat protected for the duration of the impact.	Compliant Ongoing

Management Action 6 – monitoring and control of introduced predators		
• Monitoring of the presence of introduced predators through the use of remote motion-activated cameras. • Survey the site to record the presence/absence of signs of introduced predator (sightings, killings and/or scats and tracks). • Establishment and maintenance of register documenting injured/killed koalas and any observed koala/ introduced predator interactions.	Management and reduction in abundance of introduced predators. No increase in relative introduced predator abundance index from baseline. No recorded injury or death from introduced predator attacks within the offset area.	Compliant Ongoing
Management Action 7 – revegetation		
• Annual surveys of revegetation area to ensure plant survival. • Repeated surveys of baseline data including 5 yearly modified habitat quality assessment (MHQA) monitoring data and annual observational data as part of the OAMP.	80% survival of seedlings. Livestock are excluded from offset area other than for the purposes of hazard reduction actions (hazard reduction using livestock only to occur when OMU3 areas reach a height able to withstand the introduction of cattle).	Compliant Ongoing
Management Action 8 – koala species stocking rate survey		
• Record opportunistic koala sightings inclusive of scat findings (location and date).	N/A	Compliant Ongoing
Management Action 9 – cattle grazing management		
• Cattle grazing to be used only as a wildfire hazard fuel reduction tool in accordance with Management Action 3 – Wildfire hazard reduction. • Exclude cattle from revegetation areas (e.g. by fencing) until, in the opinion of an environmental management specialist, cattle grazing is assessed as unlikely to negatively affect vegetation composition. • Ensure that all livestock are excluded from planting/revegetation area for a minimum of 5 years, or until a suitably qualified independent expert has determined that planted koala and GHFF feed trees are of sufficient size to withstand impact from cattle. • Provide the Department with a report from the suitably qualified independent expert verifying that planted koala and grey-headed flying-fox feed trees are of sufficient size to withstand impact from cattle. • Ensure that any grazing is managed so as to prevent the risk of injury or mortality of Koalas.	No material adverse impacts to target habitat quality improvement outcomes. Vegetation composition not negatively affected by cattle grazing.	Compliant Ongoing

1.2 SETTING AND LOCALITY

The offset area pertaining to EPBC 2016/7817 is managed as part of a larger conservation property, Aroona Station, located on Alpers Road, Mount Mort, Queensland. It is comprised of multiple lots; Part of lot 54 on CC1018, part of lots 44 and 45 on CC32, part of Lot 6 on RP21558, part of lot 13 on RP21558, part of lot 31 on CH312311, part lot 216/CH311631, part of 218 on CH311734, part of lot 222/CH311798, part of lot 30/CH312310, and part lot 64/CC552, totalling 686.44 ha. Aroona Station was gifted to QTFN in 2015 with the wish to see the property managed for both its agricultural production and conservation value under a variety of income initiatives.

The tenure of the site is freehold, wholly owned by QTFN. It is included within the Ipswich City Council and Lockyer Valley Regional Council Local Government Areas. On a regional scale, the site is part of the Little Liverpool Range, providing connectivity to Main Range National Park and the Great Eastern Ranges (Map 1). The Range stretches for 90 km from Laidley, through Mount Mort to Thornton and Mulgowie, and encompasses 20,400 ha of land. It is an important wildlife corridor, providing habitat for several threatened species including the glossy black-cockatoo (*Calyptorhynchus lathami*), powerful owl (*Ninox strenua*), GHFF, spotted-tailed quoll (*Dasyurus maculatus maculatus*), brush-tailed rock-wallaby (*Petrogale penicillata*) and koala.

Climate data for the area gives an average maximum and minimum temperature of 27°C and 13°C respectively for 2024 (weather station 40082) (BOM, 2024). The average annual rainfall for 2024 was 65.2 mm (weather station 40912), with the wettest month in January (128.8 mm) and the driest month in August (25.2 mm) (BOM, 2024).

The site contains seven Regional Ecosystems (REs) listed below in Table 3.

Table 3 – Regional Ecosystems within Aroona Station

RE code	VM Act status	Description
12.3.3	Endangered	*Eucalyptus tereticornis* woodland on Quaternary alluvium
12.3.7	Least Concern	*Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana* +/- *Melaleuca spp*. fringing woodland
12.8.9	Least Concern	*Lophostemon confertus* open forest on Cainozoic igneous rocks
12.8.16	Least Concern	*Eucalyptus crebra* +/- *E. melliodora, E. tereticornis* woodland on Cainozoic igneous rocks
12.8.17	Least Concern	*Eucalyptus melanophloia* +/- *E. crebra, E. tereticornis, Corymbia tessellaris* woodland on Cainozoic igneous rocks
12.9-10.7	Of Concern	*Eucalyptus crebra* +/- *E. tereticornis*, *Corymbia tessellaris*, *Angophora spp*, *E. melanophloia* woodland on sedimentary rocks
12.9-10.17a	Least Concern	*Lophostemon confertus* or *L. suaveolens* dominated open forest usually with emergent *Eucalyptus* and/or *Corymbia* species on sedimentary rocks

The highest point of the site is 670 m above sea level on the northern block, close to the border of lot 45 on CC32, and is one of the two peaks of Mount Beau Brummel. The Geological Survey of Queensland 1:100,000 Ipswich Geological Map (DME, 2008) lists the geology as:

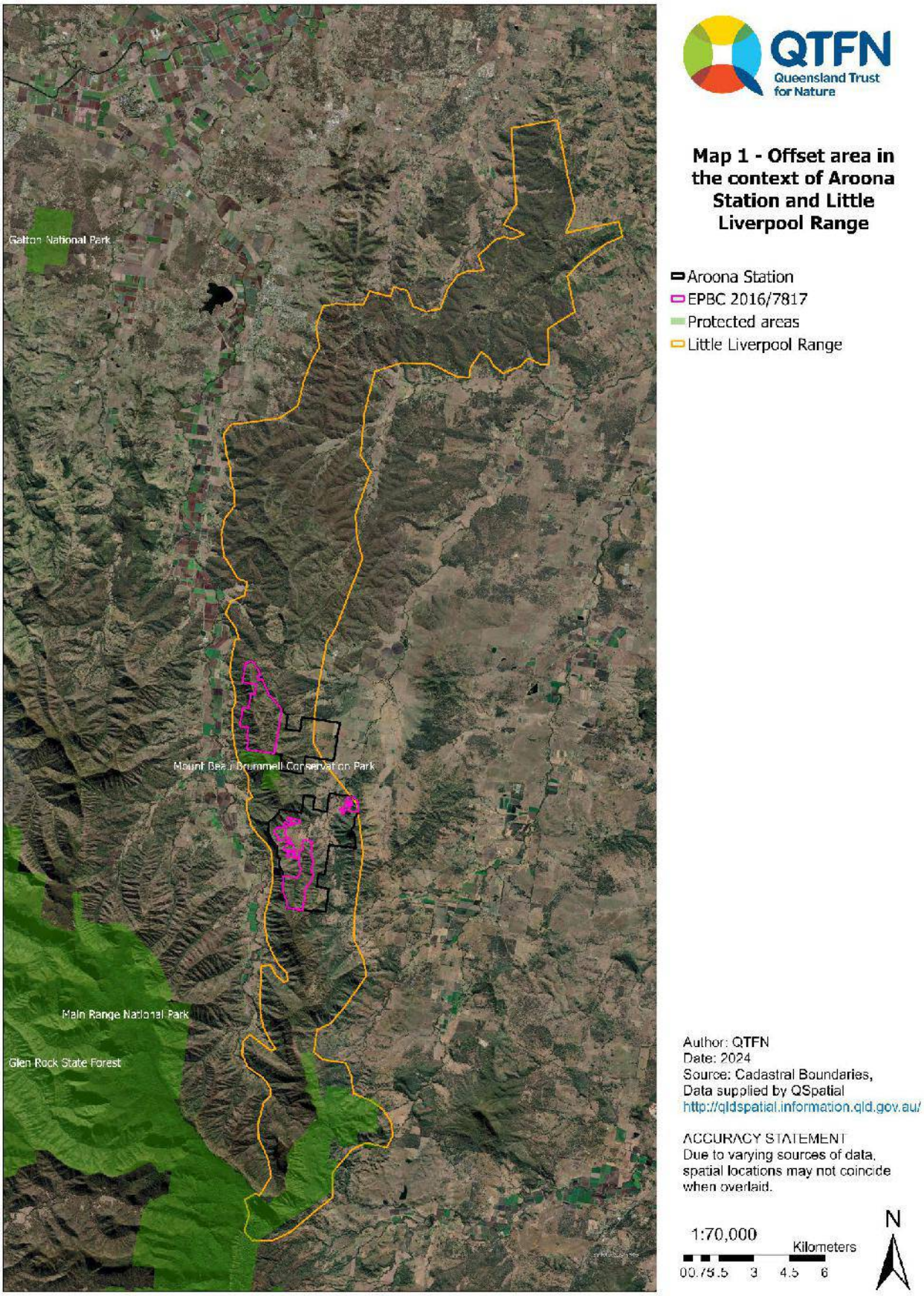
- Qa SEQ: Quaternary; clay, silt, sand, gravel, flood plain alluvium
- Tit SEQ: Tertiary: trachyte (anorthoclase and riebeckite trachyte)
- Jbmk: Jurassic; lithofeldspathic labile and sublabile to quartzose sandstone, siltstone, shale, minor coal, ferruginous oolite marker
- Jbmg: Jurassic; lithic labile and feldspathic labile sandstone

1.2.1 OFFSET AREA ATTRIBUTES

The offset area contains multiple parcels within the northern and southern land parcels of Aroona Station (Map 1). The vegetation composition and land use history vary across the property.

The offset area contains remnant vegetation typical of eucalypt forest and dry sclerophyll (RE12.8.9). Surrounding vegetation is consistent with varying ages of mature eucalypt regrowth forest (RE12.8.16/RE12.9-10.7), previously cleared for cattle grazing purposes. The lowland offset areas are typical of alluvial blue gum and melaleuca flats (RE12.3.3/12.3.7). Vegetation remains along creek lines providing important dispersal pathways. The flats have been historically cleared for cattle grazing and benefit from revegetation activities.

Map 1 – Offset area in the context of Aroona Station and the Little Liverpool Range



CHAPTER 2: OFFSET MANAGEMENT REPORT

This chapter outlines the annual survey data and methodology in line with the OAMP and the final Approval Conditions. Management actions and reporting relevant to each condition will be discussed in each section.

2.1 HABITAT CREATION AND QUALITY IMPROVEMENT

Management Action 4 and 7

An ecological assessment was conducted at Aroona Station in 2021 by Ausecology. The surveys were carried out using the methodology outlined in OAMP, where permanent BioCondition plots were established and data relating to the habitat quality of the land-based offset was collected, in line with the modified version of the Queensland State Government's *Guide to determining terrestrial habitat quality: Methods for assessing habitat quality under the Queensland Environmental Offsets Policy* (DES, 2020). These plots, herein referred to as 'Habitat Quality Transects', allowed for the assessment of the offset area and were designed to determine the condition of the vegetation and its suitability as an offset for the koala and GHFF.

For the purposes of managing the offset, the land was categorised into three Operational Management Units (OMU) relating to the REs and vegetation classes within the offset area. These include remnant (OMU-1), regrowth (OMU-2) and cleared (OMU-3) (Map 2). Broadly, condition and management actions required are similar for all REs in remnant status, all REs in regrowth status and all cleared areas. As a result, habitat quality and potential improvements are assessed based on OMUs. OMUs are used to demonstrate management actions and impacts across vegetation groups.

2.1.1 Monitoring during this period

OMU-1 AND OMU-2 – Habitat Quality Improvement

All actions outlined in this document contribute to the management of OMU-1 and OMU-2 to improve habitat quality.

Rehabilitation actions are conducted in line with the Aroona Station Weed Management Strategy and the Aroona Station Fire Management Plan, detailed in sections 2.4, and 2.7, respectively.

Permanent Habitat Quality Transects were established to monitor conditions over time (Appendix 1).

OMU-3 – Habitat Creation

Revegetation actions within the offset area are complete and are now undergoing a maintenance phase. This includes all tree planting and direct seeding events, totalling 29 ha and 23.5 ha, respectively (Map 2). Photo monitoring points have been established and are presented in Appendix 2.

A cattle and revegetation assessment was conducted in revegetation within OMU-2 and OMU-3 by Crossroads Rural & Environment Consultancy on 4 December 2024. Sites 1 and 10 (Map 2) were included as part of this assessment. An above average rainfall season has proven beneficial for the tree plantings. At site 1, plantings ranged between 3-5 m in height, with many above 5 m. The diameter at breast height (DBH) averaged between 5-7 cm, with most exhibiting a DBH of greater than 5 cm (Photo 1). The average sapling health is considered 'excellent' at this site. Site 10 displayed 'excellent' average sapling health, with plantings up to 3 m in height and less than 5 cm DBH (Photo 2).

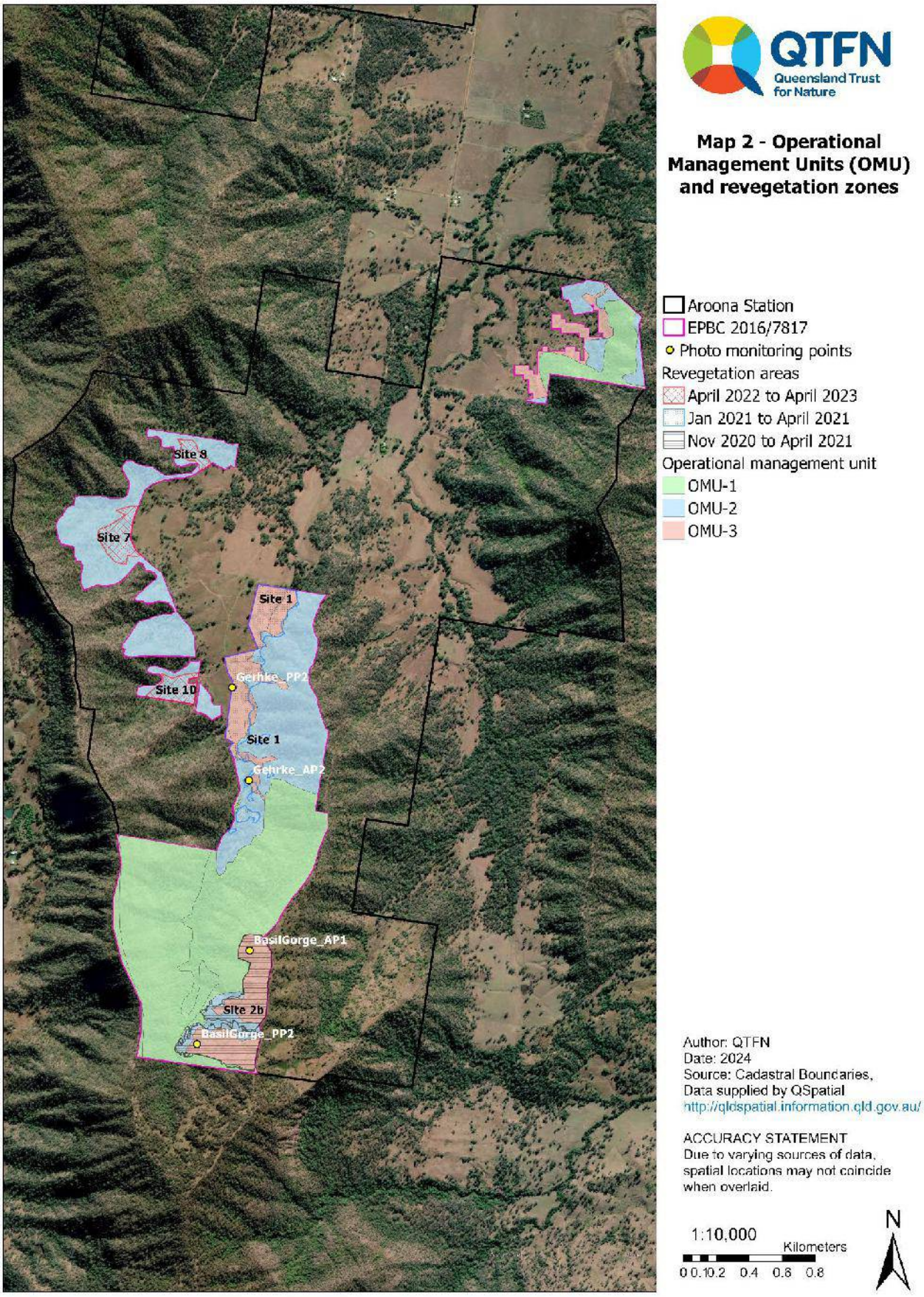
Photo 1 - Site 1 plantings

Photo 2 - Site 10 plantings

2.1.2 Management outcomes

Full ecological assessments will be conducted throughout Aroona Station, including the offset area, in 2025 for the year five milestone, as per Management Action 4.

Map 2 – Operational Management Units (OMU) and revegetation zones



2.2 GREY-HEADED FLYING FOX FORAGE HABITAT

MANAGEMENT ACTION 5

Proximity of GHFF colonies to the offset area were determined through a desktop analysis using the National Flying-fox monitoring viewer (DCCEEW, 2024) and cross checked using the State mapping for flying fox roost sites (Queensland Government, 2022). The three GHFF camps within 30 km of the offset area, Boonah, Laidley and Gatton, have not been occupied since 2014, 2021 and 2019 respectively.

GHFF feed primarily on blossoms and fruit in canopy vegetation and supplements this diet with leaves. Major food plants include the fruit and blossom of rainforest species, especially *Ficus spp*., and blossoms of myrtaceous species such as *Eucalyptus, Corymbia* and *Angophora*, melaleucas, banksias and the fruit and flowers of *Syzygium spp*. (DAWE, 2021). Most myrtaceous plants in the diet of the GHFF flower within a defined season but are not annually reliable and the locations of productive foraging habitat provided by these plants vary (DAWE, 2021).

The majority of eucalypts have regular seasonal flowering events, but do not flower every year and there are few areas within the GHFF's range where nectar is available continuously (DAWE, 2021). Food shortages for GHFF have been recorded in winter and spring (Eby & Law, 2008). The limitation of suitable flowering habitat during winter and spring stresses the importance of the protection and enhancement of winter and spring flowering vegetation for the survival of this species.

2.2.1 Management actions and species occurrence

Flowering GHFF forage trees were recorded opportunistically throughout the reporting period (Map 3). This allowed for a spatial and seasonal representation of food availability in between the five-yearly milestone reporting years. GHFF individuals were not observed during the reporting period. They were last observed on the property in September 2023.

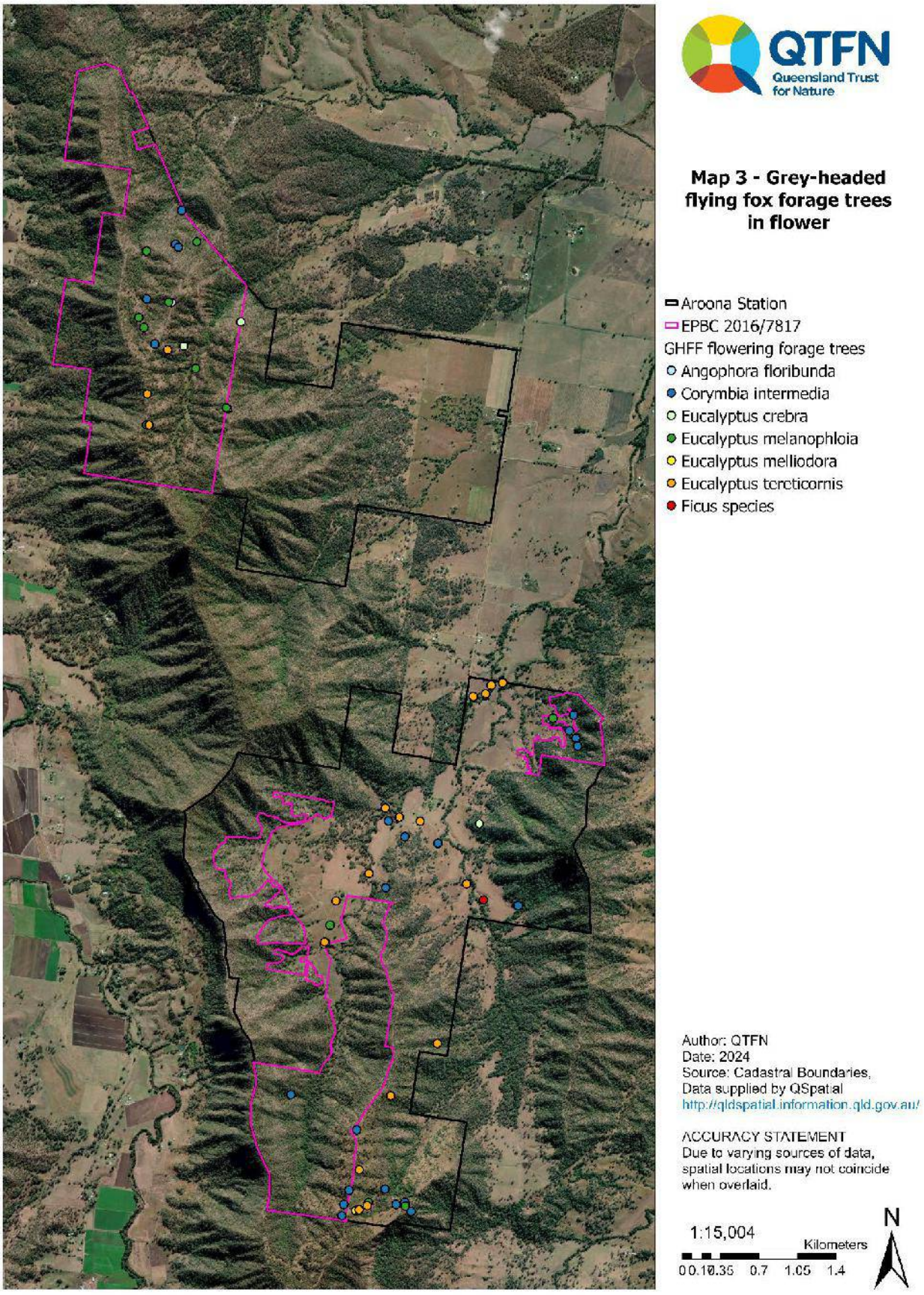
The abundance and coverage of flowering trees appeared lower than the previous year, perhaps related to climatic or seasonal variations. However, forage was observed in all months, excluding June, July and December (Table 4). Pink bloodwood (*Corymbia intermedia*) and Queensland blue gum (*Eucalyptus tereticornis*) were the most dominant flowering forage tree, consistent with previous years. A subspecies of *E. tereticornis, E. tereticornis basaltica* was observed flowering in the high country during late winter (Table 4).

Table 4 – Grey-headed Flying-fox forage tree species calendar

Species	OMU 1	OMU 2	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Angophora floribunda	Y	Y	X											
Corymbia intermedia	Y	-	X	X	X	X	X			X				
Corymbia tessellaris	Y	Y												
Eucalyptus crebra	Y	Y				X				X	X	X	X	
Eucalyptus melanophloia	Y	Y	X							X	X			
Eucalyptus melliodora	-	Y	X							X				
Eucalyptus tereticornis	Y	Y	X			X				X	X	X	X	
Ficus coronata	-	Y	X											
Ficus opposita	Y	Y												
Grevillea robusta											X			
Lophostemon confertus	Y	Y											X	
Melia azedarach	Y	Y												

Note: Blue boxes denote literature-based flowering periods (Eby & Law, 2008). Winter and spring flowering period is displayed within the red lines. **X** denotes observed flowering periods.

Map 3– Grey-headed flying fox forage trees in flower throughout Aroona Station



2.3 KOALA OCCURRENCE

MANAGEMENT ACTION 8

Baseline data was collected across the offset area using multiple survey methodologies, summarised in Table 5. These surveys will be carried out across the offset area though the lifetime of the offset to report on the effectiveness of management actions and the increase in koala activity. Opportunistic observations were also made during this reporting period.

Table 5 – Koala monitoring methods

Methodology	Frequency	Characteristic monitored	Result
Opportunistic observations	Annually	Scat monitoring, camera trapping observations, and opportunistic searches.	Demonstrating presence and usage of koalas across the offset area.
Spot Assessment Technique (SAT) surveys	5-yearly, at years 5, 10, 15 and 20	SAT monitoring, recording the presence of koala scats under food and habitat trees. Survey will record activity and abundance of koalas.	Demonstrating increase in koala density and abundance through an increase in scats recorded during SAT.
Intensive population surveys	5-yearly, at years 5, 10, 15 and 20	Surveys are designed to detect koala breeding within the offset area. Data collected will show evidence of breeding through back/pouch young, used pouches and male bellowing records.	Demonstrating use of the offset site for breeding purposes.

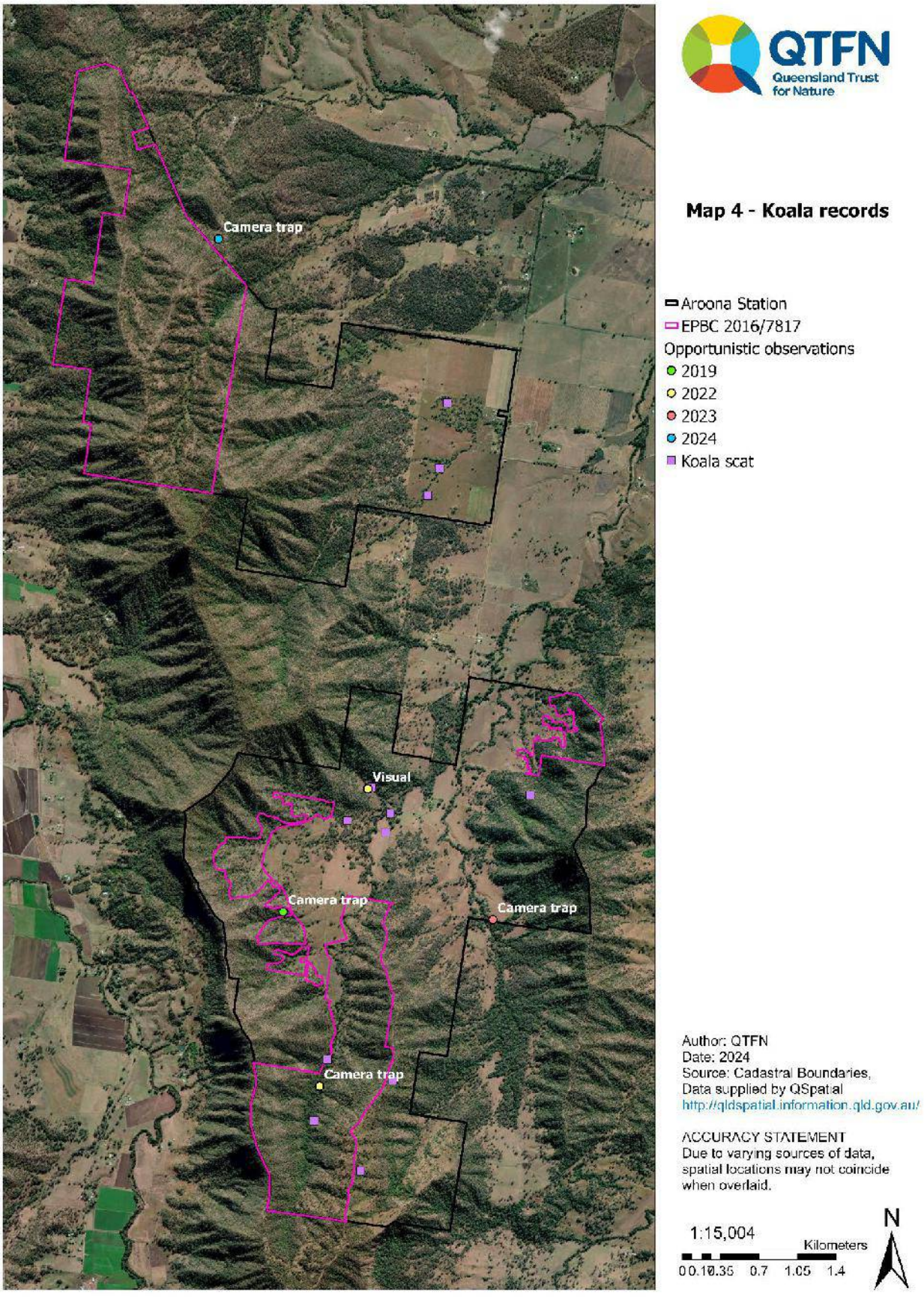
2.3.1 Management actions and species occurrence

Koala scat was not identified opportunistically within the offset area, or within Aroona Station, during the reporting period.

No koalas were observed within the offset area during the summer 2023 or winter 2024 camera trapping sessions. However, one koala was captured outside of the trapping session period, at camera H on 24 September 2024 at 1:55 am (Photo 3). Koalas have been recorded throughout Aroona Station in the past (Map 4).

Photo 3 – Koala at camera H

Map 4 – Koala records



2.4 EXTENT OF WEED COVER

MANAGEMENT ACTION 1

At the commencement of site management, the extent of weed cover was mapped across the property. This formed the basis for the treatment targeted areas. Monitoring occurs on an annual basis and the extent and abundance of weed cover in OMU-01, OMU-02 and OMU-03 was measured through the improvement in non-native plant cover through quadrats in Habitat Quality Transects assessments. Milestone surveys in the form of Habitat Quality Transects assessments measures the success of the weed treatment every five years.

Baseline weed assessments were conducted in 2021 and are conducted annually for the duration of the OAMP.

2.4.1 Monitoring during this period

Surveys were conducted from 16 to 18 April 2024 by QTFN ecologists. Twenty-four permanently marked transects throughout Aroona Station were surveyed for non-native plant cover in a 100 m transect, with 21 points within each transect at 5 m intervals. Eleven weed transects are located within the offset area (Map 5). Photo points were recorded at each transect to ensure that the progress of the site could be monitored (Appendix 1).

Target weed species identified in the OAMP as a threatening process to koalas are lantana (*Lantana camara*) and broad-leaved pepper (*Schinus terebinthifolius*), Chinese celtis (*Celtis sinensis*) and cat's claw creeper (*Dolichandra unguis-cati*). Whilst other weeds were measured for overall ecological health, the focus of the weed management is the control and eradication of these woody weeds, as they have the capacity to prevent koala movement and access to food and shelter trees, particularly in riparian corridors.

2.4.2 Results

Property wide trends

Lantana camara was present in 25 of 26 transects, showing a decrease to 96% occupancy (i.e. percentage of transects where *L. camara* is present). This is down from 100% in 2023, reflective of targeted treatment conducted throughout the year in 1 ha grids across Aroona Station (Map 5). The mean transect coverage of 72% (i.e. on average, 72% of sampling points in each transect are occupied by *L. camara*) in 2024 did not change.

Schinus terebinthifolius mean transect coverage remains low at 7% however, this is a slight increase from 4% in 2023. Mean transect coverages of *C. sinensis* and *D. unguis-cati* both decreased in 2024 to 11% and 4%, respectively.

Offset specific trends

Since 2021, *L. camara* and *S. terebinthifolius* have been observed within the offset area. No changes in mean transect coverage for *L. camara* occurred in 2024, while a complete reduction to 0% mean transect coverage of *S. terebinthifolius* was observed (Figure 3). Mean transect coverage of *C. sinensis* decreased from 13% to 12% in 2024, while *D. unguis-cati* mean transect coverage increased slightly from 6% to 9% in 2024.

La Niña conditions between 2020 and 2023 (Huang, Gillett, & Taschetto, 2024) had a strong influence on the growth rate of *L. camara* (Raghu, Osunkoya, Perrett, & Pichancourt, 2014) likely causing an increase in mean transect coverage over these years. An ecological burn was conducted outside the offset area (see Section 2.7 for further details) to target *L. camara* however, it was conducted after weed transects had been surveyed.

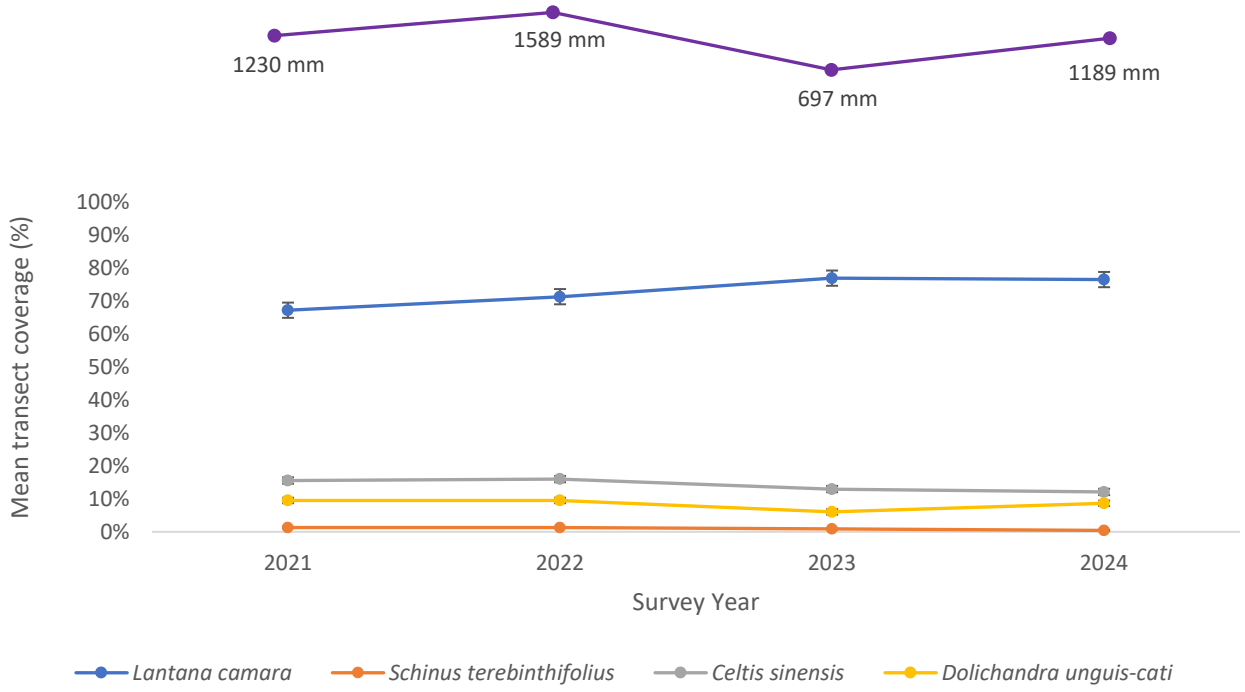


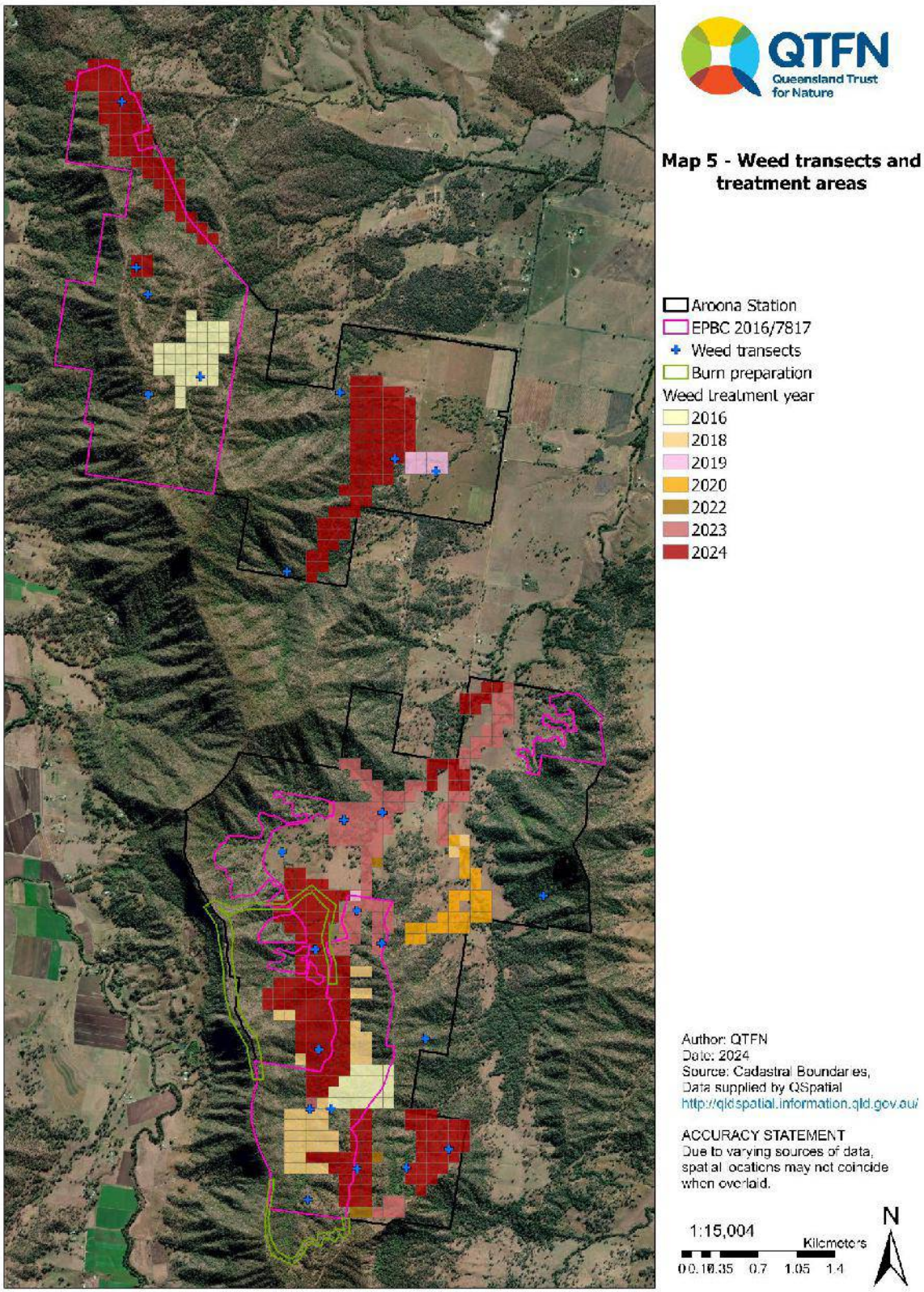
Figure 1 – Mean transect coverage (%) of targeted weeds in transects within the offset area (n = 11) (with standard error) with total annual rainfall (above)

2.4.3 Management outcomes

The Weed Strategy 2020-2025 outlines the principles and approach to weed management at a property-wide scale. Results from this survey have informed the approach for five years. A full review of vegetation composition and weed management will be conducted at year five to assess the progress towards the relevant Approval Conditions.

A long-term contract agreement has been executed with a contractor, Ecosure, to complete weed control in coordination with ecological burns across Aroona Station, including the offset area, to ensure progress is made to achieve compliance for five-yearly milestones. The equivalent of 102 three-person team days was completed to treat the target weeds across 166 ha.

Map 5 – Weed transects and treatment areas



2.5 NON-NATIVE PREDATORS AND HERBIVORES

MANAGEMENT ACTION 6

Wild dogs (*Canis familiaris*), foxes (*Vulpes vulpes*), feral cats (*Felis catus*) and feral pigs (*Sus scrofa*) are restricted invasive animals under the *Biosecurity Act 2014* (Qld), and do not require specific control measures. It states, "The Act requires everyone to take all reasonable and practical steps to minimise the risks associated with invasive animals under their control". The adaptive predator control measures, rigorous monitoring and coordinated landscape approach that QTFN implemented in the offset area go far beyond the minimal requirement of reducing the risks associated with invasive animals.

As part of the management program, baseline monitoring was undertaken on the property and a relative abundance index (RAI) was calculated for wild dogs, foxes, feral pigs and feral cats. Where post control surveys indicate that there has been a recurrence of wild dogs and foxes on the site, control measures have been actioned using methods (e.g. controlled shooting and/or trapping) as determined by a pest control professional in consideration of these monitoring results.

Predator management on Aroona has occurred since 2018. To date, wild dogs, foxes, feral pigs and feral cats have all been recorded on-site through camera trapping and from the opportunistic collection of scats.

2.5.1 Monitoring during this period

Feral predator abundance has been monitored using two methods: camera trapping and opportunistic scat collection.

Camera trapping is performed biannually, in winter and summer, to account for seasonal variation in predator behaviour. To demonstrate a significant reduction in non-native predator numbers over time within the offset area, the response variables able to be used are discussed below.

Metric 1: **RELATIVE ABUNDANCE INDEX** – a relative measure of abundance based on the frequency and duration of time each predator species is recorded on camera (i.e. how many are there relative to survey time).

Metric 2: **OCCUPANCY** – the proportion of camera trapping stations at which a predator was detected (i.e. how many camera trapping locations that had evidence of predators in the area).

Fourteen camera trapping stations (using Reconyx Hyperfire HC600 remote-sensing cameras) were deployed across Aroona Station (Map 6), with six cameras located in the offset area. RAI for non-native predators and herbivores are calculated using a standardised set of 40 trapping days, with an independence threshold of 10 minutes (i.e. each observation of an animal 10 minutes after the first observation is considered a new observation) analysed using the software Camelot.

Predator scat was collected opportunistically across the property. Scats are GPS located and collected for laboratory dietary analysis. Scat identification and dietary analysis gives an indication of species and predation trends over time, however, is not considered a metric in relation to accurately monitoring predator abundance.

2.5.2 Results

2.5.2.1 Property-wide trends

Wild dogs, foxes, feral pigs and feral cats were recorded within Aroona Station during the reporting period. The summer 2023 camera trapping session captured data between 8 November 2023 and 18 December 2023, and the winter 2024 camera trapping session captured data between 25 June 2024 and 4 August 2024 for all cameras except H and K, which were between 25 July 2024 and 3 September 2024.

Across Aroona Station, wild dog abundance and occupancy decreased from winter 2023 to winter 2024. The spike in RAI in winter 2023 for wild dog, foxes, and feral pigs may be attributed to bottom-up factors such as weather, climate, prey abundance, or top-down factors relating to behavioural response to lethal control actions (Geary, et al., 2022). Fox and feral pig abundances also decreased from winter 2023 to winter 2024. Abundance of feral cats increased, as food resources generally increase in response to wet seasons (Geary, et al., 2022). Due to this, the occupancy of feral cats also

increased from summer 2023. Occupancy of foxes also increased (Figure 2). Actions have been taken to control feral animal numbers (see Management Actions).

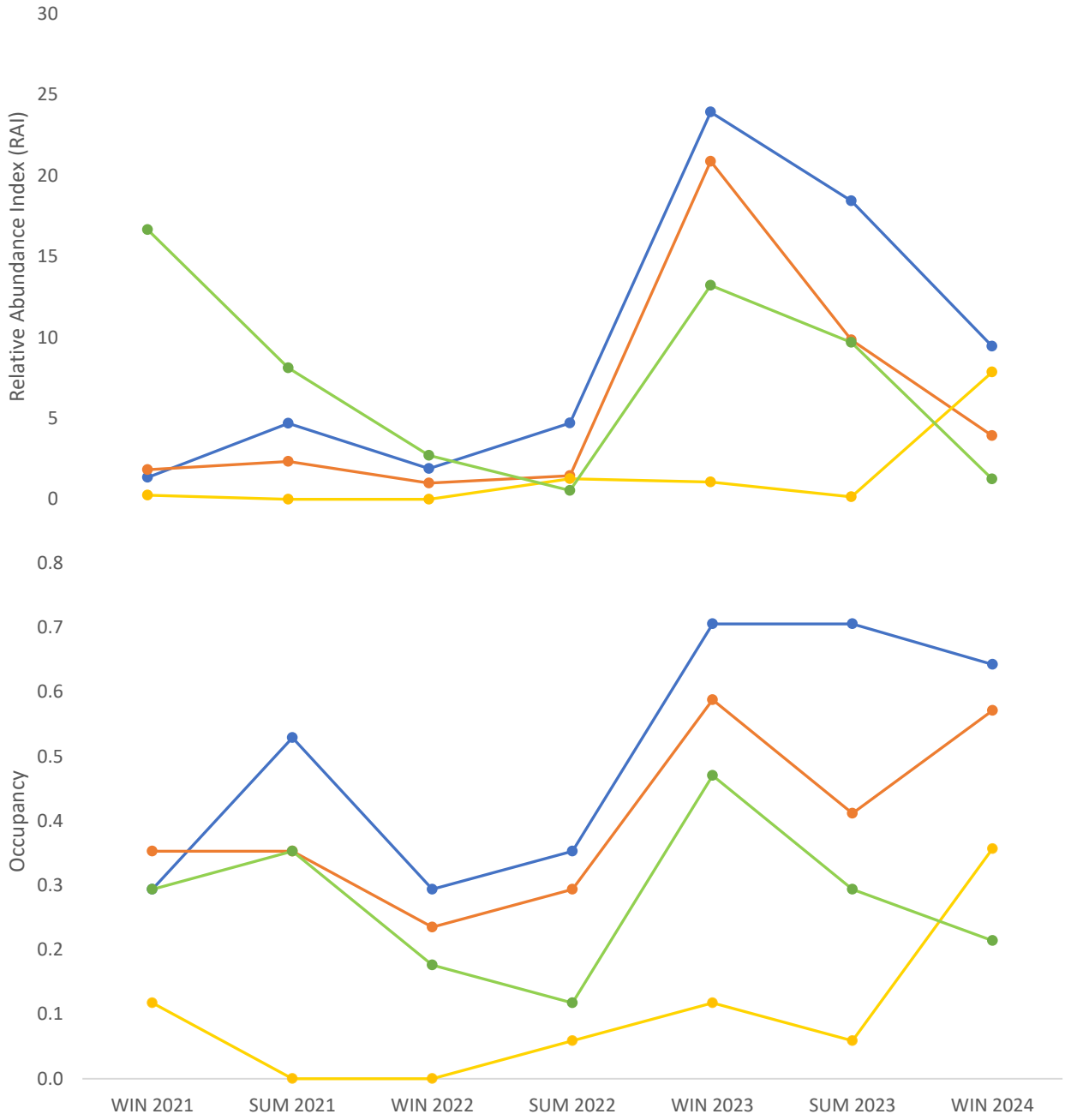


Figure 2 - Relative Abundance Index (top) and occupancy (bottom) of wild dogs (blue), foxes (orange), feral pigs (green) and feral cats (yellow) within Aroona Station

2.5.2.2 Offset-specific trends

Fourteen camera trapping stations were deployed across Aroona Station, with six cameras located in offset area. Wild dogs, foxes, feral pigs and feral cats were captured on camera traps within the offset area during this reporting period (Table 6) (Appendix 3).

Table 6 – Non-native predators and herbivores captured on cameras within the offset area

	Wild dog	Fox	Feral cat	Feral pig
Winter 2021	3	4	1	4
Summer 2021	5	2	0	2
Winter 2022	2	1	0	2
Summer 2022	4	4	1	2
Winter 2023	8	6	1	5
Summer 2023	9	5	1	4
Winter 2024	6	5	1	3

2.5.2.3 Scat searches

No predator scat was collected during the reporting period. To date, analysis of predator scat has revealed no evidence of koalas in the diet of any feral predators on Aroona Station. No koala mortalities caused by non-native predators were recorded during the reporting period.

In the past, macropods were the most common fauna group identified in predator scat, followed by small native mammals. Non-native mammals, such as goat (*Capra aegagrus hircus*) and cattle (*Bos taurus*), have also been found in scat previously (Figure 3). Locations of scat collected in 2023 are displayed in Map 6.

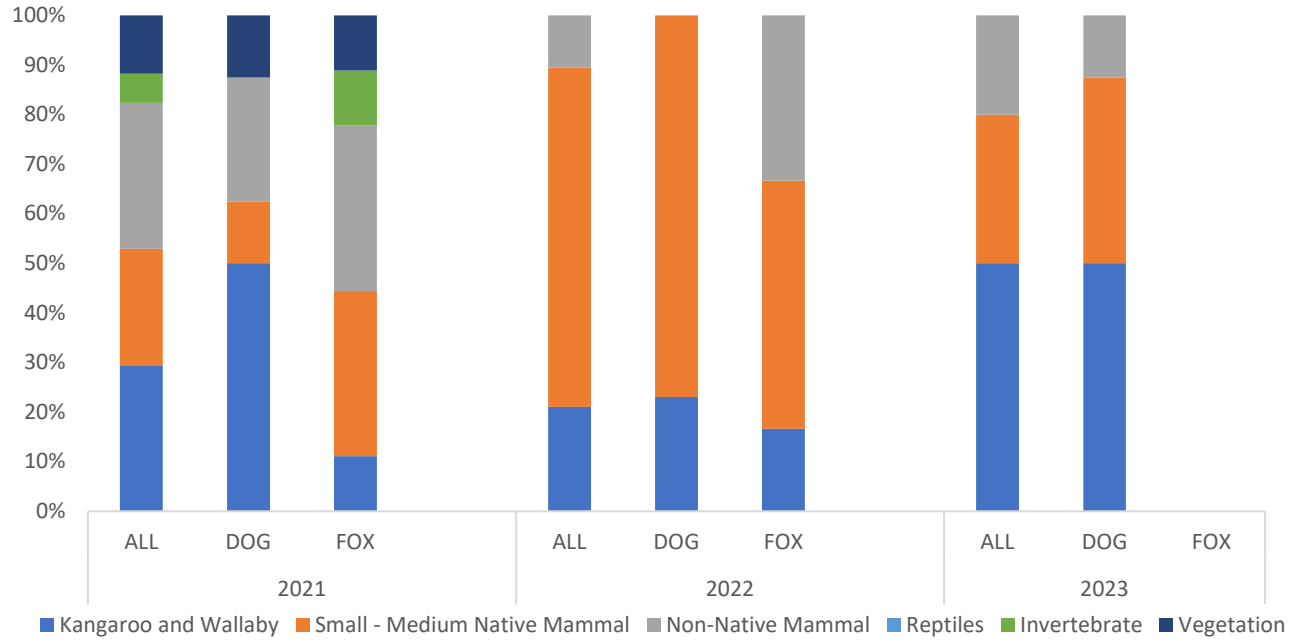


Figure 3 – Percentage of prey type found in dog and fox scat from scat analysis

2.5.3 Management outcomes

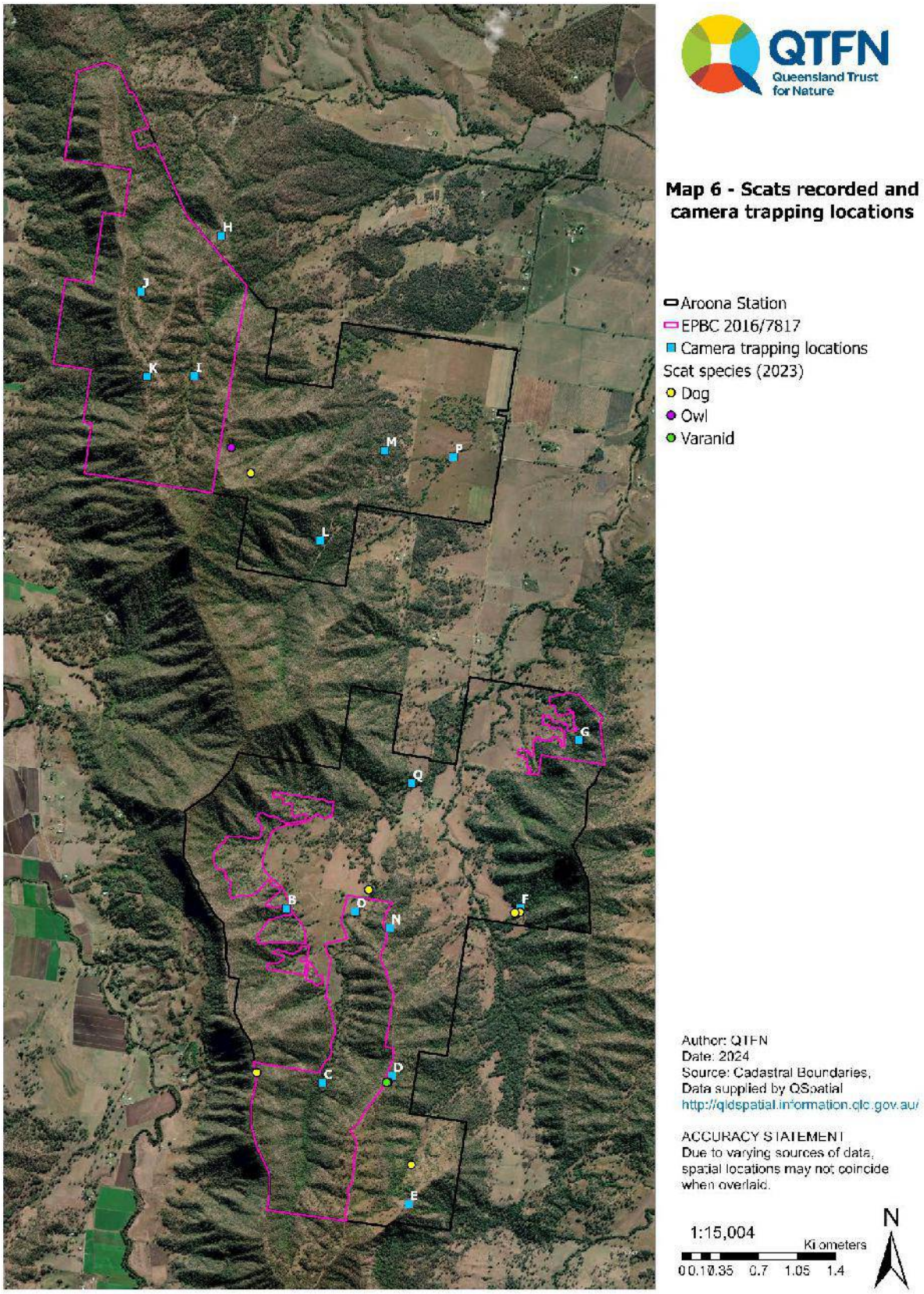
A pest fauna management contractor is currently engaged with a primary focus on reducing the number of wild dogs, foxes, feral cats and feral pigs. Biannual camera trap monitoring will continue to inform pest fauna management.

During the reporting period, two dogs, one fox and nine feral pigs were dispatched.

It should be noted that controlling feral predators on sites without exclusion fencing can result in periodic increases in predator numbers from the surrounding area despite control measures.

An inventory is kept for any incidences relating to koala mortalities attributable to non-native predators.

Map 6 – Scats recorded and camera trapping locations



2.6 STOCK MANAGEMENT

MANAGEMENT ACTION 9

2.6.1 Monitoring during this period

Cattle grazing, for the purpose of fuel hazard management, was conducted in line with the decision matrix provided in the OAMP.

Fuel hazard assessments (FHA) demonstrated that the near surface (grass) fuel layer contributed the greatest to the high and very high overall ratings. The biomass in this layer is a significant food source for cattle before it cures and contributes further to fuel loads. When managed correctly, it can be reduced without impact on native vegetation recruitment.

2.6.1.1 Frequency, duration and location of grazing, and stock density for each grazing period

Where fuel hazard assessments scored high and very high, cattle were moved into offset areas until the fuel hazard was reduced. Only one grazing period was conducted between fuel hazard assessments. Some paddocks are large areas and grazed with open gates between adjacent paddocks (Map 7). Consequently, grazing pressure is often dispersed across a large area for a longer grazing period. Grazing during the winter season provided beneficial in reducing fuel loads before pasture cured.

Cattle are currently excluded from revegetation areas. An assessment of revegetation areas for suitability for grazing was conducted on 4 December 2024 and results will be included in the Year 5 report.

A summary of cattle management throughout Aroona Station is provided in Table 7.

2.6.1.2 Timing and frequency of monitoring

Fuel hazard assessments were conducted bi-annually, in winter and summer (Table 7). Higher fuel hazard ratings are attributed to growth in the near surface fuel layer. Grazing is monitored using Ceres Tags, which uses GPS to virtually monitor the location of cattle, and is monitored consistently between hazard assessments. Cattle are removed when the fuel hazard is sufficiently reduced.

2.6.1.3 Injury or mortality of individual koalas

No evidence of koala injury or mortality caused by cattle grazing was recorded.

2.6.1.4 Corrective actions

In the event that corrective action is triggered due to injury or mortality of individual koalas as a result of grazing, and/or if monitoring demonstrates the outcomes under Management Action 9 are not achievable, cattle will be removed from the offset area and the cause of interaction will be investigated.

If target vegetation composition is negatively affected by cattle grazing, adaptive management actions such as additional cattle exclusion areas, additional revegetation/rehabilitation, and reduction in intensity of grazing for fuel reduction purposes, will be implemented.

2.6.2 Management outcomes

Fauna friendly stock exclusion fencing installed around OMU-3 areas are monitored and maintained. No wildlife incidents or mortalities have been recorded since the installation of the fences.

Fuel hazard assessments will continue to be conducted.

Table 7 – Cattle management summary

Paddock	FHA	Cattle Hazard Reduction Triggered	Cattle Moved In	Cattle Moved Out	Head of Cattle	Days grazing	FHA	Cattle Hazard Reduction Triggered	Cattle Moved In	Cattle Moved Out	Head of Cattle	Days grazing
Basils Gorge	H	No grazing permitted in OMU3					VH	No grazing permitted in OMU3				
Desjardin	H	No grazing permitted in OMU3					H	No grazing permitted in OMU3				
Meiers	H	No grazing permitted in OMU3					VH	No grazing permitted in OMU3				
Gehrke	H	Yes	25/11/2023	11/03/2024	107	106.6	H	Yes	11/04/2024	04/09/2024	106	146.1
Mountain	H	Yes	23/08/2024	31/08/2024	119	7.3	VH	Yes	03/09/2024	12/11/2024	143	69.6
Spring	H	Yes	22/01/2024	29/02/2024	5	37.1	H	Yes	08/08/2024	06/10/2024	43	56.9
Wensley	H	Yes	04/10/2024	17/01/2025	43	105	VH	Yes	12/11/2024	18/01/2025	2	66.1

2.7 FIRE MANAGEMENT

MANAGEMENT ACTION 2 and 3

The threats to koalas from fire were addressed in accordance with OAMP by referring to the 'Aroona Station Fire Management Plan'.

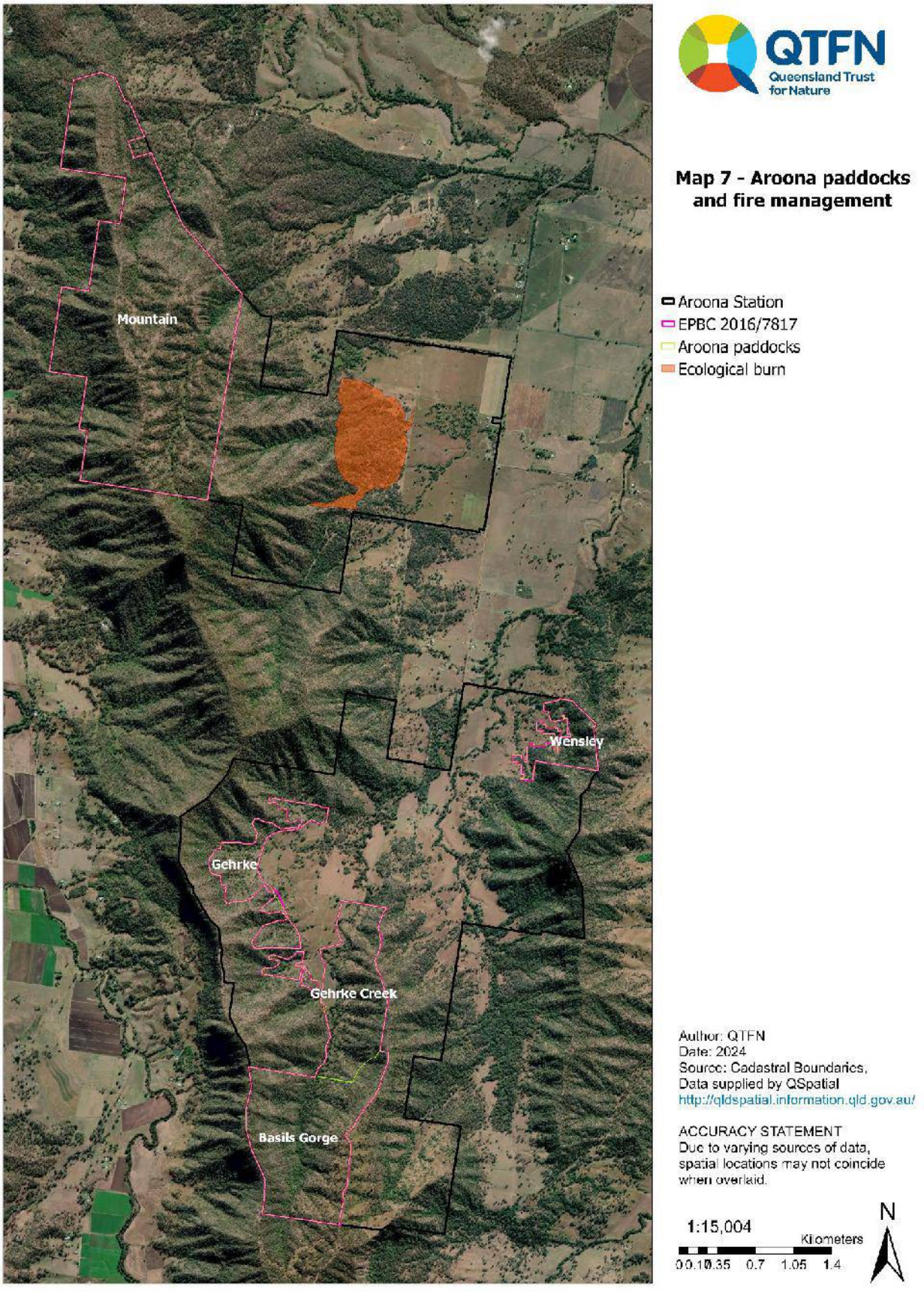
The Aroona Station Fire Management Plan divides the property into Fire Management Zones, which includes Land Management Zones, Exclusion Zones and Asset Protection Zones. Within the Land Management Zones, the landscape is broken up into Fire Management Area (FMA) subzones according to practicable containment lines. The Fire Management Plan details burning intervals recommended for these FMAs.

2.7.1 Management outcomes

One low to moderate intensity burn occurred during this reporting period between 1 and 2 August 2024. The 39.83-ha controlled ecological burn conducted by Fireland Consultancy in Spring paddock was used to reduce fuel loads and reduce woody weed cover. Available surface and near surface fuel loads reduced across approximately 80% of the burn area. The burn was outside of the offset area and was implemented successfully. Another ecological burn was planned for October/November 2024 across the Gehrke and Basils Gorge paddocks however, weather conditions were not suitable for the burn to proceed.

Fuel hazard assessments demonstrate high to very high fuel loads, with most displaying a 'high' hazard score (Table 7). Ratings were variable within and across offset management areas. This is attributed to high surface fuel loads caused by increased grass growth during the wet season. Fuel loads remain high in areas of revegetation due to extensive grass growth. These areas cannot be managed with grazing or ecological burns; therefore, the surrounding areas are actively managed to reduce risk. Fire break trails were inspected and maintained at regular intervals.

Map 7– Aroona paddocks and fire management



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APPENDICES

Appendix 1 – Habitat quality transects photo monitoring points

2023	2024
Transect 4	
	
Transect 6	
	
Transect 7	
	
Transect 8	
	

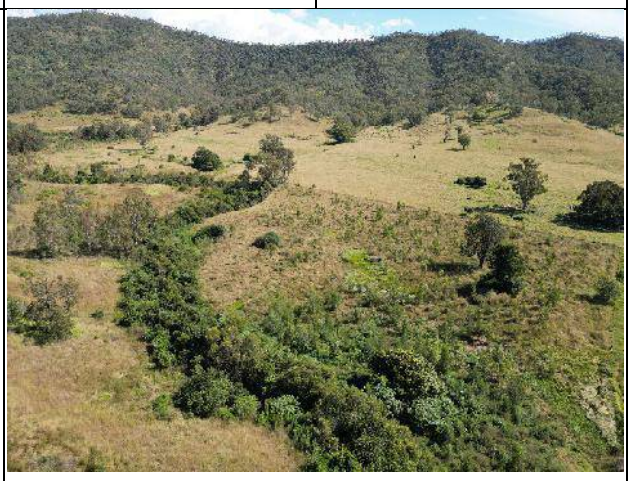
2023	2024
Transect BC03	
	
Transect BC04	
	
Transect BC06	
	
Transect BC13	
	
Transect BC20	

2023	2024
	
Transect BC22	
	

Appendix 2 – Revegetation photo monitoring points

See Map 2 for photo point locations

ID	Latitude	Longitude
Site 1 – Gehrke		
Gehrke photo point 1	**-27.837921**	**152.410891**
2023	**2024**	
		
Gehrke photo point 2	**-27.843501**	**152.408309**
		
Gehrke photo point 3	**-27.837935**	**152.405464**
		

Gehrke photo point 4	**-27.853073°**	**152.413571°**
		
Gehrke aerial photo 1	**-27.837921**	**152.410891**
		
Gehrke aerial photo 2	**-27.848592**	**152.409315**
		
Gehrke aerial photo 3	**-27.830591**	**152.412327**

		
Gehrke aerial photo 4	**-27.843218**	**152.408263**
		
Site 2 – Basils Gorge		
Basils Gorge photo point 3	**-27.857305**	**152.410207**
2023	**2024**	
		
Basils Gorge photo point 4	**-27.857305**	**152.410207**

	
Site 7 – Middle Gehrke	
Middle Gehrke photo point 1	**-27.835259** / **152.402102**
2023	**2024**
	
Middle Gehrke aerial photo 1	**-27.835259** / **152.402102**
	
Site 8 – Upper Gehrke	
Upper Gehrke photo point 1	**-27.83133471000** / **152.40722426000**
2023	**2024**

 		
Upper Gehrke photo point 2	**-27.83133471000**	**152.40722426000**
 		
Upper Gehrke aerial photo 1	**-27.83133471000**	**152.40722426000**
 		
Site 9 – Lower Gehrke		
Lower Gehrke photo point 1	**-27.8429224**	**152.4064424**
2023	**2024**	

		
Lower Gehrke aerial photo 1	**-27.8429224**	**152.4064424**
		

Appendix 3 – Camera trapping images

Wild dog (*Canis lupus*)	
	
Summer 2023 (camera G)	Winter 2024 (camera C)
Fox (*Vulpes vulpes*)	
	
Summer 2023 (camera K)	Winter 2024 (not recorded)
Pig (*Sus scrofa*)	
	
Summer 2023 (camera O)	Winter 2024 (camera K)
Cat (*Felis catus*)	
	
Summer 2023 (camera K)	Winter 2024 (camera O)