

EPBC Annual Compliance Report

18 November 2019 to 17 November 2020 – EPBC 2016/7817
Mirvac Greater Flagstone Project, Greenbank, Queensland
Mirvac Queensland Pty Ltd
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1. Introduction

Saunders Havill Group were engaged by Mirvac Queensland Pty Ltd to prepare an *Annual Compliance Report* for the Greater Flagstone Project – Master Planned Residential Community granted under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (ref EPBC 2016/7817), as specifically required by Condition 13 of the approval granted on 11 October 2019 (**Appendix A**). The project is referred to in this report as *Everleigh* which is the residential estate name.

The site is located approximately 10 kilometres (km) west of Logan Village within the suburb of Greenbank (refer to **Figure 1**). The site is located within the Greater Flagstone Priority Development Area (PDA) where Economic Development Queensland (EDQ) is the administering authority. The referral allotment area in which the action occurs is approximately 482 hectares (ha), approximately 410 ha of which is subject to the EPBC Act approval. Within this area, an impact to 230 ha of Matters of National Environmental Significance (MNES) habitat, being Koala and Grey-headed Flying-fox (GHFF) habitat, was permitted under the approval conditions. Further, the proposal includes the preservation and rehabilitation of an on-site Conservation area located to the east of the action site.

This report delivers the first annual overview of the project's progression and compliance with approval conditions under the EPBC Act. The project's progress and notable events during the reporting period are detailed in **Section 3**. The assessment of compliance with the approval conditions is presented in **Section 4**. This report is the first Annual Compliance Report for the approved action.

1.1. Approval summary


Department reference	EPBC 2016/7817
Approval holder	Mirvac Queensland Pty Ltd
ACN	060 411 207
Approval date	11 October 2019
Expiry date of approval	31 July 2040
Approved action	Development of a master planned residential community, on Lot 1 on SP297192 (formerly Lot 205 on RP845844, Lot 434 on RP845844 (part) and Lot 9 on S312355), within the Greater Flagstone Priority Development Area, Greenbank, Queensland.
Controlling provision	Approved - listed threatened species and communities (sections 18 & 18A)
Reporting period	18 November 2019 to 17 November 2020
Address	138-168 Teviot Road, 456-522 Greenbank Road & 96-102 Brightwell Street, Greenbank QLD 4124
Local government area	Logan City Council

Figure 1: Project area locality



2. Declaration of accuracy

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

Signed	
Full name	Andrew Davies
Position	Principal Environmental Scientist
Organisation	Saunders Havill Group (ABN 24 144 972 949)
Date	2 February 2021

3. Description of activities

Everleigh is a master planned residential community located in the suburb of Greenbank. The development encompasses a range of land uses including residential land parcels, neighbourhood centre, school, regional sport and recreational parks and conservation. The overarching vision for the development is to deliver:

'a connected masterplanned community providing easy access to local and surrounding amenity. Affordable quality homes, green open spaces and genuine community values will make this a proud neighbourhood.'

The action commenced on the 18 November 2019 with the clearing of Stage 1 School Site where construction of the State Primary School is expected to begin in 2021, within opening date forecast for January 2022. Works external to the approval area and not part of the controlling action commenced prior to the approved action with the development of residential and commercial precincts. Approximately 100 houses have been constructed since the approved action commenced, becoming homes to 100 families.

On-site works have proceeded in accordance with the stage specific Vegetation Clearing and Management Plans (VC&MP) and Fauna Management Plans (FMP) under the supervision of a qualified fauna spotter catcher. Phase 1 and 2 clearing for the Stage 1 School Site was undertaken in the approval area with the assistance of Tomewin Wildlife Consultancy. Tomewin Wildlife Consultancy reported on the clearing activities and these reports are provided to the Department as part of this Annual Compliance Report (refer **Appendix B**).

During this reporting period, the COVID-19 pandemic had a significant impact on the project progress and associated activities. As a result of the pandemic, government enforced restrictions were implemented and workplace health and safety systems were updated to include measures to mitigate the risk of infection and transmission. Measures included border closures, restrictions to travel distances and the number of people permitted within indoor and outdoor spaces including workplaces, contact tracing measures to record visitor information and people were encouraged to maintain a distance of 1.5 m from others. As such, the pandemic and resulting restrictions slowed and hampered works on-site across all fronts from March 2020 onwards.

Opportunities for community activities and events were limited, and have not yet returned to pre-pandemic levels. Despite the disruptions resulting from the pandemic, the following activities were initiated and/or completed during the first reporting period:

- Welcomed more than 71 new households to the Everleigh community.
- Extensive engagement with the local community to raise the profile of Everleigh, Mirvac and generally foster the community spirit in and around Everleigh.
- Connected with >100,000 people, including 22,000 attendees at 354 community events/activations.
- 465,000 people reached through social media.
- 3rd Annual Greenbank Community Hero Awards, publicly recognising local unsung heroes nominated and voted for by the local community.

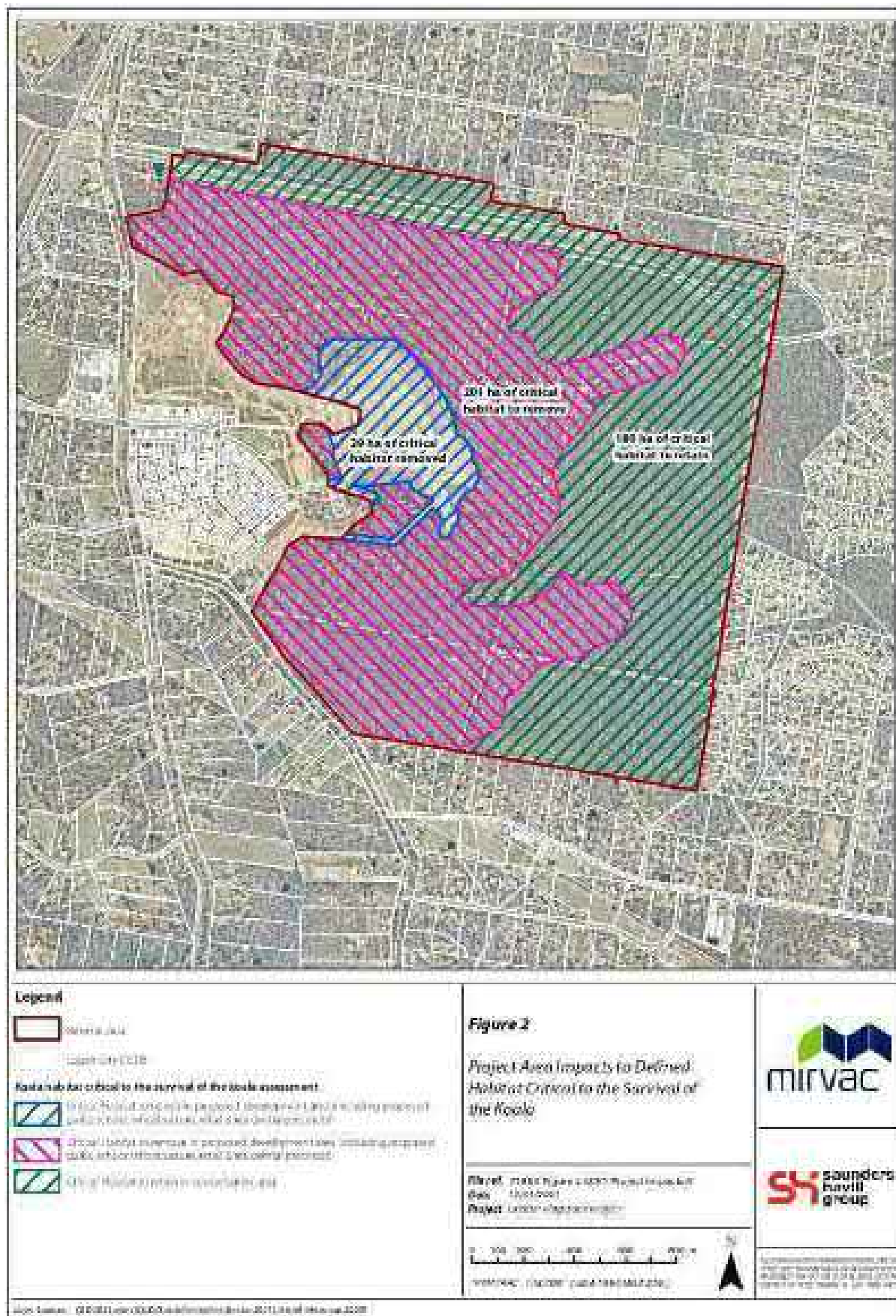
- 16 wider community collaborations.
- \$80,000 raised for charity.
- Local bus service commenced.
- Rapid implementation of strategies to respond to COVID-19 risks and HomeBuilder opportunities.
- Awards:
 - Best Landscape Feature (Entry Statement) - Landscape Construction Award; and
 - Parks and Open Space Landscape Architecture Award AILA.
- Estate Area Construction:
 - Opened the new Everleigh sales office;
 - Opened the 19-lot display village with 12 of Queensland's leading builders;
 - 3 land releases;
 - 10 display village activation events;
 - Completed civil works for 147 lots across 2 stages; and
 - Builders commenced work on 122 new homes.
- EPBC Approval area works:
 - Site preparation;
 - Pre-clearance surveys and reports;
 - Temporary management infrastructure (e.g. vegetation and fauna fencing, signage);
 - vegetation clearing;
 - earthworks;
 - Infrastructure installation; and
 - Completed School Site for Queensland Department of Education
- On-site Conservation area Works:
 - Ongoing management and monitoring of *Melaleuca irbyana* offset area including weed treatment, watering and replacement planting (as needed under State approvals).

Table 1 summarises the current status of the project in conjunction with **Section 4.2** below. **Figure 2** illustrates the impacts to habitat critical to the survival of the Koala as defined in the approval and listed in **Table 1**.

Table 1: Development details

Total residential lots	3450
Dwellings under construction/constructed	200
Total critical Koala habitat	410 ha
Approved total clearing of critical Koala habitat	230 ha
Total current clearing of critical Koala habitat	29 ha
Balance approved clearing not yet undertaken	201 ha

Figure 2: Project area impacts to defined critical habitat



4. Management of Impacts

Approvals relating to impacts on ecological matters were collated from Commonwealth, State and Local governments for the project and included several overarching environmental management plans. Each contractor was provided a copy of the approval documents within the Pre-Start Package prior to any clearing commencing. The environmental plans provided stipulate environmental management requirements pertinent to each stage of construction and measures for vegetation management (clearing and protection), protection of MNES fauna (Koala and GHFF) and other native wildlife, maintenance of safe wildlife movement opportunities, fauna habitat rehabilitation, threatened flora management and pest management.

As part of managing the smaller work areas of the project, a second supporting document was developed: Everleigh — Environmental Pre-Start Checklist (refer **Appendix C**). This checklist was integral to ensuring construction proceeded within the demarcated limits, suitable fencing was installed across the work area and the necessary checks for threatened fauna were completed prior to the clearing of any vegetation.

4.1. Pre and Post-clearing Reporting

Stage 1 clearing was undertaken in two phases; Phase 1 and Phase 2. Pre and post-clearing surveys and reporting were undertaken by a qualified and experienced fauna spotter catcher (Tomewin Wildlife Consultancy) for each phase to mitigate the potential for adverse impacts. To assist the detection of Koala, a detailed site assessment was conducted with a thermal sensor and Remotely Piloted Aircraft.

No Koalas or GHFF were located within the designated clearing zone during Phase 1. One Koala was located within the clearing zone during Phase 2 and was dispersed as per standard protocols (refer **Appendix B**).

4.2. Annual Reporting Site Audit

An inspection and audit of the approval area and on-site conversation area was conducted by two ecologists from Saunders Havill Group on 14 January 2021. To confirm the extent of works, the ecologists traversed the Stage 1 clearing boundaries and inspected the maintained tree protection fencing (refer **Photo Set 1**). The audit confirmed the extent of works carried out under Stage 1 (Phase 1 and Phase 2) were within the stage boundaries and ensured no works had occurred external to Stage 1 (refer **Figure 2**). No clearing of Koala or GHFF habitat for Stage 1 has occurred outside of Stage 1 site in accordance with Condition 1 of the approval. No clearing has occurred within Stage 2.



Photo Set 1: Site inspection and audit for EPBC annual compliance reporting (left). Maintained tree protection fencing and retained vegetation along Stage 1 boundary (right).

Additionally, the on-site Conservation area was inspected to confirm retention and protection of significant biodiversity values and progress of rehabilitation works. This is discussed further in **Section 5** of the report.

5. Offset actions

5.1. On-site Conservation area

The on-site Conservation area adjacent the action site, part Lot 9003 SP317644, requires ongoing management and rehabilitation. As such, a Natural Environment Site Strategy (NESS) has been developed and implemented to avoid degradation of the on-site Conservation area as a result of the action. The primary objectives recommended for the Conservation Area include:

- Retain significant floral species and vegetation communities
- Retain and enhance fauna habitat values
- Remove and manage processes potentially threatening the viability of existing habitats Increase the extent of vegetation communities and potential fauna habitat over time.

Rehabilitation works within the Conservation area and waterway corridors will include weed management and replanting with native species consistent with mapped Regional Ecosystems to augment ecological values and enhance connectivity.

5.1.1 *Melaleuca irbyana* Revegetation

Protected Plants Flora Surveys undertaken over the site in 2018 and 2020 recorded five isolated patches of *Melaleuca irbyana*; four of which are located within the development area and none of which met the thresholds to be classified as a Threatened Ecological Community under the EPBC Act (as per referral documentation). The species is listed as Endangered under the *Nature Conservation Act 1992* (NCA).

An Impact Management Plan *Impact Management Plan Melaleuca irbyana 43-520 Greenbank Road, Greenbank prepared for Mirvac QLD Pty Ltd, dated 3 July 2018* (IMP) then subsequent '*Impact Management Plan Melaleuca irbyana 43-520 Greenbank Road, Greenbank prepared for Mirvac QLD Pty Ltd, dated August 2020*' (IMP) were prepared to support Protected Plants Clearing Permit applications to the Department of Environment and Science (DES). A copy of the latest approved IMP is included at **Appendix D**.

A Protected Plants Clearing Permit was issued by the DES originally on 24 August 2018 (Permit No. WA0009354) then renewed on 23 August 2020 (Permit No. WA0026119) which allows for clearing of all *M. irbyana* over the entire Clearing Impact Area (i.e. 277 ha site). Conditions of the Permit (PPCM01) require all activities relating to the impact of EVNT plant species under the permit to be carried out in accordance with the procedures and actions in the approved IMP. This included rehabilitation planting of *M. irbyana* within future conservation land in the eastern portion of the site to ensure no significant residual impact on the species occurs as a result of the development.

In March 2019, rehabilitation planting by land care consultant Evolve commenced at the rehabilitation area in accordance with the IMP. This included weed treatment and tube-stock planting of *M. irbyana* within a 5,000 m² area within the on-site Conservation area. The establishment period for this specific location within the offset area is 24 months utilising adaptive management.

Progress to date includes:

- Inspection by contractor and establishment of photo monitoring locations;
- Commencement of weed treatment;
- Ground preparation and planting of *Melaleuca irbyana* of 625 specimens;
- Ongoing watering and weed management; and
- Replacement planting.

The site audit and photo monitoring report by Evolve Environmental issued in August 2020 identified that of the 625 specimens planted within the 5,000 m² area of the Conservation Area, 540 were considered healthy *M. irbyana* specimens, 19 were of questionable vigour and 66 dead. The failure rate is not unexpected considering the region experienced less than average rainfall and exceeded average temperature maxes between February 2020 to July 2020. Remedial plantings and management actions have been implemented.

Photos are taken at the four photo monitoring points established within the *M. irbyana* offset area at each audit (refer **Photo Set 2-5**).



Photo Set 2: Rehabilitation works within monitoring point 1 of *M. irbyana* extent of the on-site Conservation area



Photo Set 3: Rehabilitation works within monitoring point 2 of *M. irbyana* extent of the on-site Conservation area



Photo Set 4: Rehabilitation works within monitoring point 3 of *M. irbyana* extent of the on-site Conservation area



Photo Set 5: Rehabilitation works within monitoring point 4 of *M. irbyana* extent of the on-site Conservation area.

5.1.2 Conservation Area Inspection

An inspection of the approval area and on-site conversation area was conducted by two ecologists from Saunders Havill Group on 14 January 2021. The NESS specifies the retention of significant biodiversity values within the on-site Conservation area including confirmed areas of remnant vegetation containing endangered Regional Ecosystems (RE), native vegetation and fauna, Non-juvenile Koala Habitat Trees (NJKHT), Endangered, vulnerable, Near Threatened (EVNT) species and waterways. The inspection confirmed that clearing has not occurred external to the approved development area.

Additionally, the revegetation works across the *M. irbyana* offset area were inspected, confirming ongoing management of this area and the plant stock is required to establish specimens and increase the success rate. A relatively small number of specimens inspected were dead and others exhibited signs of stress although seemed to be recovering as a response to the recent rainfall (refer **Photo Set 6**). The inspection also noted a recent tree fall which has landed on top of some plantings (refer **Photo Set 7**).



Photo Set 6: Revegetation works inspection within *M. irbyana* offset area. Small number of inspected specimens were dead (left) and others exhibited signs of regrowth (right).



Photo Set 7: Damage to tree guards from fallen tree.

Additionally, within the conservation area significant biodiversity values have been retained as specified within the NESS. The waterways located within the conservation area were inspected to ensure that they had been retained, protected and buffered (refer **Photo Set 8 and 9**).



Photo Set 8: Retained waterway within on-site conversation area. Upstream (left) and downstream (right).



Photo Set 9: Retained waterway within on-site Conservation area. Upstream (left) and downstream (right).

5.2. Offset Area

The onsite conservation area is considered to contribute to the protection of MNES including habitat for the Koala and foraging habitat for the GHFF. Additional operational measures will be implemented in association with the clearing of each development stage including:

- Installation of fauna habitat components within the Conservation area (i.e. nest boxes)
- Fauna awareness signage along the Conservation area and Lifestyle Guidelines to new residents

- Roadway crossings over the Conservation area and eastern waterway corridors will be designed so as to be fauna friendly to promote continued fauna dispersal
- Building envelopes / vegetation protection/ covenants where adjoining the conservation area

Overall, the preservation and rehabilitation of the on-site Conservation area under the proposal is considered to provide a noteworthy environmental outcome for MNES that may infrequently utilise the site as part of a broader home range. Additionally, the approval of the Offset Strategy ensures progress towards legally securing offset land to compensate for the future loss of 230 ha of Koala and GHFF habitat.

In accordance with Condition 4 of the approval, an Offset Strategy was prepared to compensate for the loss of 230 ha of Koala and GHFF habitat. The Offset Strategy was approved by the Department on 8 October 2020. The Offset Strategy included the Offset Management Plan (OMP) prepared by Queensland Trust for Nature (QTFN) (QTFN, September 2020). Under this plan the offset will commence on the date the offset is legally secured by Voluntary Declaration (VDec) under the *Queensland Vegetation Management Act 1999* (VMA).

Given the extended management timeline for the offset land, it is not possible or intended that the OMP provides detailed prescription of management actions. The OMP was derived from the current state of knowledge of species ecology and best practice habitat management approaches for Koala and GHFF habitat.

It is anticipated that new techniques will become available over the course of the management period to monitor vegetation composition, Koala absence/presence and abundance, weed presence etc. To account for this, an adaptive management approach is to be adopted to ensure future research and practice development can be integrated into management and monitoring actions. This will ensure best practice techniques can be adopted contemporaneously in a way that ensures delivery and measurement of stated offset outcomes.

The OMP identifies outcomes focused management actions, which will fulfil a statutory requirement, pursuant to the EPBC Act, for the provision of Koala and GHFF habitat offset.

The outcomes sought by this plan will protect, restore, encourage the regeneration of habitat and conserve large, connected areas of koala and GHFF habitat, particularly populations that are genetically diverse and distinct and are free of disease or have very low incidence of disease.

As stated, the Offset Strategy for the approved action (EPBC2016/7817) was approved by the Department on 8 October 2020. The Offset Strategy included the OMP prepared by QTFN. Under this plan the offset will commence on the date the offset is legally secured by Voluntary Declaration (VDec) under the *Vegetation Management Act 1999* (Qld).

The offset area has not been legally secured under the VMA within the 2019-2020 reporting period (ending 18 November 2020). As such, management actions are expected to commence within the subsequent reporting period and will be discussed within the following annual compliance report.

6. EPBC approval conditions compliance table

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

Table 2: EPBC approval conditions compliance table.

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
1	The approval holder must ensure that no clearing of Koala or Grey-headed Flying-fox habitat for stage 1 occurs outside the stage 1 site.	Compliant	No clearing of Koala or GHFF habitat has occurred outside of Stage 1. A total of approximately 29 ha of koala habitat has been cleared within Stage 1 (refer to Figure 2 for the location).
2	The approval holder must ensure that no clearing of Koala or Grey-headed Flying-fox habitat for stage 2 occurs outside of stage 2.	Not Applicable	Works for Stage 2 have not commenced.
3	For the protection of the Koala and Grey-headed Flying-fox habitat, the approval holder must implement the Natural Environment Site Strategy to avoid degradation of the on-site Conservation area as a result of the action, until such time that Logan City Council has accepted management of the on-site Conservation area in writing, and the approval holder has provided evidence of this to the Department.	Compliant	<p>The approval holder has implemented the NESS to avoid degradation of the on-site Conservation area retaining significant biodiversity values. 180 ha of critical habitat within the on-site Conservation area is to be retained. Inspections confirmed no clearing has occurred outside of Stage 1.</p> <p>Rehabilitation planting by land care consultant Evolve commenced at the State <i>M. irbyana</i> offset area within the on-site Conservation area in accordance with the approved IMP. Works included weed treatment and tube-stock planting of <i>M. irbyana</i> across a 5,000 m2 area.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
			The approval holder will continue to manage and monitor the on-site Conservation area until such time that Logan City Council has accepted management of the area.
4	<p>Within three (3) months of the commencement of stage 1 of the action, the approval holder must submit, for approval by the Minister, an Offset Strategy to compensate for the loss of 230 ha of Koala and Grey-headed Flying-fox habitat. The approval holder must not commence stage 2 of the action until the Offset Strategy has been approved by the Minister in writing. The approved Offset Strategy must be implemented. The approved Offset Strategy must:</p> <ul style="list-style-type: none"> a. be prepared by a suitably qualified person b. be prepared in accordance with relevant approved conservation advices, recovery plans and threat abatement plans c. demonstrate that the proposed offset area(s) meets the principles of the EPBC Act Environmental Offsets Policy and Environmental Management Plan Guidelines d. include timelines and mechanisms for legally securing the offset area(s) e. provide a written description and map that clearly defines the location and boundaries of the proposed offset area(s) for Koala and Grey-headed Flying-fox habitat (must be accompanied by the offset attributes and shapefiles) 	Compliant	<p>The Offset Strategy was submitted within three (3) months of the commencement of the action and approved by the Department on 8 October 2020. The offset strategy contained an OMP prepared by QTFN. The approval confirmed the Offset Strategy and OMP met the requirements of Condition 4.</p> <p>Implementation of the OMP is described in section 7 of this report and Table 4.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	<p>f. demonstrate that there is a real potential for Koala and Grey-headed Flying-fox to utilise the offset area(s), including through (but not limited to):</p> <ul style="list-style-type: none"> i. habitat suitability ii. connectivity with other habitats including biodiversity corridors that contain Koala iii. proximity to known Grey-headed Flying-fox camps. <p>g. describe relevant baseline information regarding the offset area(s), based on surveys undertaken (prior to offset management commencing), including (but not limited to) quantification of the existing extent and quality of habitat for the Koala and Grey-headed Flying-fox present within the offset area(s) (the baseline condition)</p> <p>h. include time bound commitments to ecological outcomes and offset performance and completion criteria (including milestones) for achieving ecological outcomes for the Koala and Grey-headed Flying-fox</p> <p>i. detail the management actions and regeneration and revegetation strategies to be undertaken at the offset area(s) to achieve the ecological outcomes and offset performance and completion criteria, including:</p> <ul style="list-style-type: none"> i. the timing and frequency of these measures, and person(s) responsible 		

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	<ul style="list-style-type: none"> ii. a program to monitor and report on the effectiveness of these measures, including monitoring and reporting progress against the ecological outcomes and offset performance and completion criteria at an appropriate time and frequency iii. criteria for triggering adaptive management actions, contingency measures and corrective actions if the ecological outcomes and offset performance and completion criteria are not achieved, and the timing and frequency and person(s) responsible iv. details of the potential risks to the successful implementation of the plan and measures that will be implemented to mitigate against these risks, and v. the person(s) responsible for monitoring, reviewing and implementing the Offset Management Plan. 		
5	<p>For the protection of the Koala, the approval holder must ensure that any offset area(s) will provide and/or establish a robust and diverse ecosystem that:</p> <ul style="list-style-type: none"> a. contains habitat that provides both shelter and food resources relevant to the Koala, and b. has a real potential to promote Koala breeding. 	Compliant	<p>The Offset Strategy was approved by the Department on 8 October 2020. The offset strategy contained an OMP prepared by QTFN. The approval confirmed the Offset Strategy and OMP met the requirements of Condition 5.</p> <p>Implementation of the OMP is described in section 7 of this report and Table 4.</p>
6	The approval holder must ensure that the revegetation of Koala food trees at the offset area(s) will utilise seeds collected from Koala food trees found within the offset area(s), or directly adjacent to the offset area(s), and preferably that also have evidence of Koala utilising them for feeding.	Not Applicable	The Offset Strategy was approved by the Department on 8 October 2020. The offset strategy contained an OMP prepared by QTFN. At end of the 2019-2020 reporting period (18 November

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
			2020), the offset land had not yet been legally secured under the VMA, and so offset management activities have not yet commenced.
Notification of date of commencement of the action			
7	The approval holder must notify the Department in writing of the date of commencement of stage 1 and stage 2 of the action, within 10 business days after the date of commencement of stage 1 and stage 2 of the action	Compliant	<p>The Stage 1 of the action commenced on 18 November 2019. The department was notified in writing on the 19 November 2019 of commencement of the action.</p> <p>Stage 2 of the Action has not commenced.</p>
8	If the commencement of stage 1 or stage 2 does not occur within two (2) years from the date of this approval, then the approval holder must not commence the action without the prior written agreement of the Minister.	Compliant	<p>The Stage 1 of the action commenced on 18 November 2019 within the 2 years from the date of approval (11 October 2019).</p> <p>Stage 2 of the Action has not commenced.</p>
Compliance Records			
9	The approval holder must maintain accurate and complete compliance records.	Compliant	The Saunders Havill Group records and holds all relevant information for this EPBC approval on behalf of the approval holder. Electronic records of all material are held collectively by the Saunders Havill Group and approval holder and will be made available upon request in accordance with section 458 of the EPBC Act, or if required to verify compliance with the conditions of approval.

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
10	If the Department makes a request in writing, the approval holder must provide electronic copies of compliance records to the Department within the timeframe specified in the request.	Not applicable	The department has not requested to provide electronic copies of compliance records.
Preparation and publication of plans			
11	<p>The approval holder must:</p> <ul style="list-style-type: none"> a. submit plans electronically to the Department for approval by the Minister; b. publish each plan on the website within 20 business days of the date the plan is approved by the Minister or of the date a revised action management plan is submitted to the Minister or the Department, unless otherwise agreed to in writing by the Minister; c. exclude or redact sensitive ecological data from plans published on the website or provided to a member of the public; and d. keep plans published on the website until the end date of this approval. 	Compliant	The approval holder submitted the Offset Strategy and Offset Management Plan electronically to the Department. The Offset Strategy was approved by the Department on 8 October 2020. The EPBC Decision Notice, Approved Offset Strategy and Offset Strategy Approval have been published on the website.
12	The approval holder must ensure that any monitoring data (including sensitive ecological data), surveys, maps, and other spatial and metadata required under a plan, is prepared in accordance with the Department's Guidelines for biological survey and mapped data (2018) and submitted electronically to the Department in accordance with the requirements of the plan.	Compliant	Monitoring data collected under the Offset Management Plan is prepared in accordance with the Department's Guidelines. As the offset land had not been legally secured under the VMA by end of the 2019-2020 reporting period (18 November 2020), monitoring data for the offset site will be presented within the subsequent annual compliance report.
Annual compliance reporting			

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
13	<p>The approval holder must prepare a compliance report for each 12 month period following the date of commencement of the action, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must:</p> <ol style="list-style-type: none"> publish each compliance report on the website within 60 business days following the relevant 12 month period; notify the Department by email that a compliance report has been published on the website and provide the weblink for the compliance report within five business days of the date of publication; keep all compliance reports publicly available on the website until this approval expires; exclude or redact sensitive ecological data from compliance reports published on the website; and where any sensitive ecological data has been excluded from the version published, submit the full compliance report to the Department within 5 business days of publication. 	Compliant	<p>The anniversary of the commencement of the action is 18 November. The annual deadline for publishing the report addressing compliance with each of the conditions of the approval (i.e. this Annual Compliance Report) is 10 February 2021. Documentary evidence providing proof of the date of publication will be provided to the Department when the report is published. Where the annual deadline is not a business day in Brisbane, the following business day is taken to be the due date.</p>
14	<p>The approval holder must notify the Department in writing of any: incident; non-compliance with the conditions; or non-compliance with the commitments made in plans. The notification must be given as soon as practicable, and no later than two business days after becoming aware of the incident or non-compliance. The notification must specify:</p> <ol style="list-style-type: none"> any condition which is or may be in breach; a short description of the incident and/or non-compliance; and 	Compliant	<p>The approval holder and Saunders Havill Group are not aware of any potential or suspected non-compliance with the conditions during the reporting period.</p>

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	c. the location (including co-ordinates), date, and time of the incident and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.		
15	<p>The approval holder must provide to the Department the details of any incident or non-compliance with the conditions or commitments made in plans as soon as practicable and no later than 10 business days after becoming aware of the incident or non-compliance, specifying:</p> <ul style="list-style-type: none"> a. any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future; b. the potential impacts of the incident or non-compliance; and c. the method and timing of any remedial action that will be undertaken by the approval holder. 	Compliant	The approval holder and Saunders Havill Group are not aware of any potential or suspected non-compliance with the conditions during the reporting period.
Independent audit			
16	The approval holder must ensure that independent audits of compliance with the conditions are conducted every five (5) years following the date of the commencement of the action, or as otherwise requested in writing by the Minister.	Not Applicable	Independent audit is conducted every (5) years following the date of commencement, due 18 November 2024. The Minister has not directed the approval holder to conduct an independent audit of compliance with the conditions of the approval.
17	<p>For each independent audit, the approval holder must:</p> <ul style="list-style-type: none"> a. provide the name and qualifications of the independent auditor and the draft audit criteria to the Department; b. only commence the independent audit once the audit criteria have been approved in writing by the Department; and 	Not Applicable	Independent audit is conducted every (5) years following the date of commencement, due 18 November 2024. The Minister has not directed the approval holder to conduct an independent audit of compliance with the conditions of the approval.

Condition number / reference	Condition	Is the project compliant with this condition?	Evidence/comments
	c. submit an audit report to the Department within the timeframe specified in the approved audit criteria.		
18	The approval holder must publish the audit report on the website within 10 business days of receiving the Department's approval of the audit report and keep the audit report published on the website until the end date of this approval.	Not Applicable	Independent audit is conducted every (5) years following the date of commencement and scheduled for 18 November 2024. The Minister has not directed the approval holder to conduct an independent audit of compliance with the conditions of the approval.
Completion of the action			
19	Within 30 days after the completion of the action, the approval holder must notify the Department in writing and provide completion data.	Not Applicable	The action has not been completed.

7. Natural Environment Site Strategy

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

Table 3: Natural Environment Site Strategy implementation

No.	Commitment	Evidence/comments/status
NESS-1	Identify Significant Biodiversity Values within and adjoining the Development Land.	Significant Biodiversity Values within and adjoining the development land were identified during the EPBC Referral and Approval process. This included the identification of Threatened Ecological Communities (TECs), remnant vegetation, habitat for threatened flora and fauna, waterways and permanent ponds.
NESS-2	Retain and protect confirmed areas of remnant vegetation containing Endangered Regional Ecosystems.	<p>During the reporting period, 29 ha of the approval area was cleared, consisting predominantly of non-remnant vegetation. No endangered remnant vegetation was cleared.</p> <p>Areas of remnant vegetation have been retained through the masterplan design and individual staging process of the development. Endangered regional ecosystems have not been cleared during the reporting period.</p> <p>Weed management and rehabilitation within the On-site Conservation area seeks to achieve a net increase in the area of Confirmed Areas of Remnant Vegetation Containing Endangered Regional Ecosystems.</p>
NESS-3	Development protects and minimises impacts on native vegetation within and supporting Significant Biodiversity Values.	During the reporting period, a total of 29 ha of clearing activities were undertaken. Tomewin Wildlife Consultants supervised all vegetation clearing activities which included inspecting the demarcated boundary of the works area and ensuring clear paths for fauna to reach safe havens were provided. Their services reports are provided in Appendix B .

	<p>The action has to the greatest extent possible avoided the clearing of non-endangered remnant, regrowth and other native vegetation through design. A significant portion of the approval area includes non-juvenile koala habitat trees which is land designated for the on-site Conservation area. No clearing within the on-site Conservation area has occurred within the reporting period.</p> <p>The action has staged the clearing of trees and ensures pre and post clearing assessments are undertaken for areas designated under the plan of development as schools, future park, drainage and buffer until preliminary concepts for these areas have been prepared and clearing extents identified.</p> <p>Management and rehabilitation works within the on-site Conservation area have commenced.</p>
<p>NESS-4 Minimise clearing of Non-juvenile Koala Habitat Trees (NJKHT) and provide obligations in accordance with IG17 to achieve a net gain in koala habitat for the region.</p>	<p>The action has minimised clearing of NJKHT through design and designated conservation land. Management and rehabilitation of the on-site Conservation area seeks to increase volume of NJKHT.</p> <p>Clearing within the approval area has been staged and is undertaken sequentially to minimise impacts and avoid fragmenting or creating islands of NJKHT within clearing zones.</p>
<p>NESS-5 Minimise threats to existing local koala populations by avoiding conflicts with roads and dogs.</p>	<p>Design provides for minimal conflict with roads and vehicles, concentrating development within modified environments or adjacent developed areas and reducing roadways bisecting the on-site Conservation area. The staged development and sequential clearing ensure koalas can disperse and find refuge within the on-site Conservation area.</p> <p>Koala sensitive design measures have also been included (i.e. fencing, signage and landscape design). The design provides for dog off-leash facilities in recreation parkland and on lead control measures through the on-site Conservation area.</p>

NESS-6	Identify and avoid (to the greatest extent possible) any impacts on EVNT species.	<p>As discussed within Section 5, <i>M. irbyana</i> was identified within the clearing zone through Protected Plants Surveys.</p> <p>A Protected Plants Clearing Permit (Permit No. WA0009354) was issued by the DES on 24 August 2018 (and subsequently renewed) which allows for clearing of all <i>M. irbyana</i> over the entire Clearing Impact Area). Conditions of the Permit (PPCM01) require all activities relating to the impact of EVNT plant species under the permit to be carried out in accordance with the procedures and actions in the IMP. This included rehabilitation planting of <i>M. irbyana</i> within future conservation land in the eastern portion of the site to ensure no significant residual impact on the species occurs as a result of the development.</p> <p>Evolve commenced rehabilitation and offset works in accordance with the IMP in March 2019. This included weed treatment and tube-stock planting of <i>M. irbyana</i> within a 5,000 m² area within the on-site Conservation area. The initial managing and monitoring period for this specific location within the on-site Conservation area is 24 months utilising adaptive management.</p>
NESS-7	Minimise impacts on native fauna (not scheduled as Threatened).	<p>To avoid impacts where possible, all retained habitat for native fauna has been consolidated into non development portions of the site (i.e. the on-site Conservation area). Impacts have been minimised through the development land through staging and sequential clearing. Clearing has been undertaken in accordance with individual, site specific management plans.</p> <p>Tomewin Wildlife Consultants supervised all vegetation clearing activities which included inspecting the demarcated boundary of the works area and ensuring clear paths for fauna to reach safe havens were provided. Where specific habitat features have been identified (i.e. fallen logs, hollows, etc.), these are to be distributed within the on-site Conservation area. Tomewin Wildlife Consultants Post-clearing reports are provided in Appendix B.</p>

NESS-8	Retain, protect and buffer site watercourses forming part of the projects Significant Biodiversity Values.	<p>The design largely avoids mapped waterways and associated vegetation. Waterways within the on-site Conservation area are to be retained and managed.</p> <p>Further rehabilitation works are proposed to protect and buffer site watercourses and improve the quality of significant biodiversity values including planting of endemic species and weed management within the bed and banks of retained or modified watercourses and drainage features.</p>
NESS-9	Avoid and manage land degradation impacts caused through works within areas of dispersive and sodic soils.	<p>The design avoids clearing on steep terrain and (to the largest extent possible) within identified waterways forming part of the site's significant biodiversity values within the development land. The land designated within the on-site Conservation area is to be retained. No clearing occurred within the on-site Conservation area during the reporting period.</p> <p>Where possible, natural drainage features within the Development Land are included as part of open space, drainage channels, etc. Detailed erosion and sediment control plans are prepared for each development stage to mitigate the impacts.</p>
NESS-10	Expand and improve the quality of Significant Biodiversity Values and other retained natural features.	<p>Revegetation works within the on-site Conservation area have commenced through the State <i>M. irbyana</i> offset. Planting has been undertaken over 5,000 m². Actions within this zone include weed treatment and the ongoing management and monitoring of revegetation works.</p> <p>Where possible, cleared native vegetation is reused on site in accordance with site specific management plans.</p> <p>Further rehabilitation works are proposed for the on-site Conservation area to expand and improve the quality of significant biodiversity values and retained natural features including:</p> <ul style="list-style-type: none"> Planting of koala habitat trees;

- Targeted weed management across; and
- planting of endemic species and weed management within the bed and banks of retained or modified watercourses and drainage features.

NESS-11	Decrease in the volume and diversity of site weed and pest species.	<p>The on-site Conservation area is undisturbed and buffered from adjacent incompatible land uses. As such, the volume and diversity of site weed and pest species is relatively low. Given the extent of the on-site Conservation area, the rehabilitation will be staged.</p> <p>During the reporting period, rehabilitation works were concentrated within the 5,000 m² are for <i>M. irbyana</i>. Works have included planting, watering, monitoring and weed management.</p> <p>Rehabilitation works within the on-site Conservation area are ongoing and progress will be discussed within subsequent annual compliance reports.</p>
NESS-12	Ensure monitoring, management and reporting collect adequate information to contribute towards the avoid, minimise, restore and offset principles of the NESS.	Monitoring and reporting processes are implemented during each stage of development and rehabilitation/offset works in accordance with relevant management plans (VMP, FMP, IMP, OMP, etc.) including pre and post clearing assessments, photo monitoring, tree health, rehabilitation/offset work audits.

8. Offset Management Plan

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

Table 4: Offset Management Plan implementation

No.	Management Action	Actions	Status/comments
MA-1	Selective chemical / mechanical weed management	<ul style="list-style-type: none"> Develop and implement a weed strategy, with a particular focus on weeds with particularly ability to impact on koala movement and structural vegetation composition (mainly <i>Lantana camara</i> and <i>Schinus terebinthifolius</i>), and under the Biosecurity Act 2014, to reduce weed cover to target thresholds. Undertake weed management according principles outlined in section 7.1 of OMP. 	The Offset Strategy for the approved action (EPBC20167817) was approved by the Department on 8 October 2020. The Offset Strategy included the OMP prepared by QTFN. Under this plan the offset will commence on the date the offset is legally secured by Voluntary Declaration (VDec)
MA-2	Ecological Burns	<ul style="list-style-type: none"> Develop and implement a Fire Management Strategy with particular focus on Regional Ecosystem burning intervals and property fire history. Undertake ecological burns in accordance with principles outlined in this section. 	under the <i>Vegetation Management Act 1999</i> (Qld). The offset area has not been legally secured under the VMA within the 2019-2020 reporting period (up to 18 November 2020). As such, management actions are expected to commence within the subsequent reporting period and will be discussed within the following annual compliance report.
MA-3	Wildlife hazard reduction	<ul style="list-style-type: none"> Incorporate the offset area into the property Fire Management Plan within six (6) months of the offset being legally secured, for the purpose of protecting the offset area from high intensity wildfires as well as for conducting ecological burns with the aim to enhance biodiversity in line with the Regional Ecosystem Description Database fire management guideline. The property Fire Management Plan will be prepared by a suitably qualified professional and will detail: current vegetation condition and fire risk, locations of current and required firebreaks and fire control lines, current fuel loads, recommended actions and timeframes for maintenance of bushfire risk within the context of the adapted Regional 	

		<p>Ecosystem Description Database guidelines and biodiversity outcomes sought for the offset area.</p> <ul style="list-style-type: none"> • Hazard reduction action will take place to reduce fuel loads based on Overall Fuel Hazard Assessment (Hines et al 2010). Hazard reduction action to follow flowchart outlined in Section 7.3 • Install firebreaks and fire trails (access tracks). • 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.
MA-4	Direct seeding where natural regeneration is lacking	<ul style="list-style-type: none"> • Conduct direct seeding of native species in areas where natural regeneration not occurring. • Species mix to be representative of Preclear Regional Ecosystem
MA-5	Legal protection from incompatible land uses	<ul style="list-style-type: none"> • Legally secure the offset area by way of voluntary declaration under the Vegetation Management Act 1999 prior to commencement of Stage 2 of the action. • The voluntary declaration will be in place for the duration of the impact, or until such time as another enduring protection mechanism (such as a Nature Refuge under the Nature Conservation Act 1992) has been formally registered on title and evidence of this has been provided to the Department. Note that this commitment should also be clearly stated in the legal security documentation. • Note that any legal security mechanism must be in place for the duration of the impact and legal security documentation should include the following: <ul style="list-style-type: none"> ○ commitments that legal security of the offset area will be in place for the duration of the impact

<ul style="list-style-type: none"> ○ details of management activities to be undertaken to achieve and maintain the outcomes prescribed within the Offset Strategy for the koala and GHFF. 		
MA-6	Monitoring control introduced predators and of	<ul style="list-style-type: none"> • Conduct a baseline survey to establish introduced predator abundance and location on the property. This can be undertaken through the use of remote motion-activated cameras and/or identification of scats. • Establish a Relative Abundance Index and confidence intervals around associated population trends. • Implement introduced predator control program. The control program and techniques (trapping, baiting, shooting) will be informed based on the results of the abundance surveys. Where practical, and to increase the effectiveness of a control program, the landholder will seek to coordinate control programs with comparable activities being undertaken by neighbouring landholders. • Conduct follow-up monitoring and implement further control efforts if feral animals recur. Implement adaptive management techniques if initial control techniques are not working effectively. • Install appropriate hazard signage informing that the offset area is under introduced predator control. • Set-up a community engagement program including but not limited to interpretive signs, fact sheets and community presentations with the aim to raise community awareness and encourage responsible pet ownership. • Directly input into the Little Liverpool Range Strategy for controlling introduced predators across the Range.
MA-7	Revegetation	<ul style="list-style-type: none"> • Implement a revegetation program in cleared areas using best practice techniques with tree and shrub species representative of the pre-clearance Regional Ecosystem including koala and GHFF food and shelter trees.

			<ul style="list-style-type: none"> • Exclude livestock from areas undergoing revegetation activities • Legally secure the offset area
MA-8	Koala stocking survey	species rate	<ul style="list-style-type: none"> • Undertake koala density/occurrence surveys using SAT methodology (Phillips and Callaghan 2011) within the offset area • Repeated surveys to be undertaken at 5-year intervals. • Koala SAT surveys to be undertaken by a suitably qualified ecologist with extensive experience with koala surveys.
MA-9	Cattle grazing management		<ul style="list-style-type: none"> • 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. • Only permit grazing at the Aroona Offset Site for the purposes of bushfire hazard reduction. • 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 grey-headed flying-fox 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

9. Summary

Saunders Havill Group were engaged by Mirvac Queensland Pty Ltd to prepare an *Annual Compliance Report* for the Greater Flagstone Project – Master Planned Residential Community granted under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (ref EPBC 2016/7817), as specifically required by Condition 13 of the approval granted on 11 October 2019.

The action commenced on the 18 November 2019 with the clearing of Stage 1 School Site where construction of the State Primary School is expected to begin in 2021. On-site works have proceeded in accordance with the stage specific management plans (i.e. VC&MP and FMP) under the supervision of a qualified fauna spotter catcher, Tomewin Wildlife Consultancy.

An inspection and audit of the approval area and on-site conservation area confirmed the extent of works within the Stage 1 site and inspected the maintained tree protection fencing. The audit confirmed the extent of works carried out under Stage 1 (Phase 1 and Phase 2) were within the stage boundaries and ensured no works had occurred external to Stage 1. No clearing of Koala or GHFF habitat for Stage 1 has occurred outside of Stage 1 site in accordance with Condition 1 of the approval.

The on-site Conservation area has been retained and protected. Rehabilitation planting of *M. irbyana* within a 5,000 m² area within the on-site Conservation area a by land care consultant Evolve commenced in March 2019 in accordance with the IMP required under the NCA. Rehabilitation within this area are continuing with ongoing management and monitoring. The approval holder will continue to manage and monitor the on-site Conservation area until such time that Logan City Council has accepted management of the area.

The Offset Strategy was approved by the Department on 8 October 2020. The Offset Strategy included the OMP prepared by QTFN (September 2020) which specified the offset will commence on the date the offset is legally secured by Voluntary Declaration under the VMA. The offset area has not been legally secured under the VMA within the 2019-2020 reporting period (ending 18 November 2020). As such, management actions are expected to commence within the subsequent reporting period and will be discussed within the following annual compliance report.

Reviewing of the above, the works carried out by the approval holder as part of the Greater Flagstone Project-Master Planned Residential Community are considered to be compliant with the approval granted under the EPBC Act (ref EPBC2016/7817).

10. Appendices

Appendix A

EPBC approval and conditions granted 11 October 2019

Appendix B

Fauna Spotter Catcher Reports

Appendix C

Stage 1 Phase 1 and Phase 2 Environmental Pre-Start Package

Appendix D

Melaleuca irbyana Impact Management Plan (July 2020)

Appendix E

Evolve Environmental *Melaleuca irbyana* Assessment Audit Reports

Appendix A

EPBC approval and conditions granted
11 October 2019



APPROVAL

Mirvac Greater Flagstone Project, Greenbank, Queensland (EPBC 2016/7817)

This decision is made under sections 130(1) and 133(1) of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*. Note that section 134(1A) of the **EPBC Act** applies to this approval, which provides in general terms that if the approval holder authorises another person to undertake any part of the action, the approval holder must take all reasonable steps to ensure that the other person is informed of any conditions attached to this approval, and that the other person complies with any such condition.

Details

Person to whom the approval is granted (approval holder)	Mirvac Queensland Pty Limited
ACN of approval holder	060 411 207
Action	Development of a master planned residential community, on Lot 1 on SP297192 (formerly Lot 205 on RP845844, Lot 434 on RP845844 (part) and Lot 9 on S312355), within the Greater Flagstone Priority Development Area, Greenbank, Queensland.

Approval decision

My decision on whether or not to approve the taking of the action for the purposes of the controlling provision for the action is as follows.

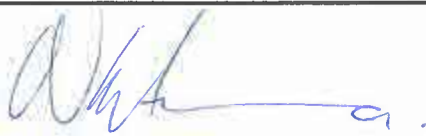
Controlling Provisions

Listed Threatened Species and Communities	
Section 18	Approve
Section 18A	Approve

Period for which the approval has effect

This approval has effect until 31 July 2040.

Decision-maker

Name and position	Nathan Hanna Acting Assistant Secretary, Assessments and Governance Branch Department of the Environment and Energy
Signature	
Date of decision	11/10/2019

Conditions of approval

This approval is subject to the conditions under the EPBC Act as set out in ANNEXURE A.



ANNEXURE A – CONDITIONS OF APPROVAL

Part A – Conditions specific to the action

1. The approval holder must ensure that no **clearing of Koala or Grey-headed Flying-fox habitat** for **stage 1** occurs outside the **stage 1 site**.
2. The approval holder must ensure that no **clearing of Koala or Grey-headed Flying-fox habitat** for **stage 2** occurs outside the **stage 2 site**.
3. For the protection of the **Koala and Grey-headed Flying-fox habitat**, the approval holder must implement the **Natural Environment Site Strategy** to avoid **degradation** of the **on-site conservation area** as a result of the action, until such time that **Logan City Council** has accepted management of the **on-site conservation area** in writing, and the approval holder has provided evidence of this to the **Department**.
4. Within three (3) months of the **commencement** of **stage 1** of the action, the approval holder must submit, for approval by the **Minister**, an Offset Strategy to compensate for the loss of 230 ha of **Koala and Grey-headed Flying-fox habitat**. The approval holder must not **commence stage 2** of the action until the Offset Strategy has been approved by the **Minister** in writing. The approved Offset Strategy must be implemented. The approved Offset Strategy must:
 - a. be prepared by a **suitably qualified person**
 - b. be prepared in accordance with relevant approved **conservation advices, recovery plans and threat abatement plans**
 - c. demonstrate that the proposed offset area(s) meets the principles of the **EPBC Act Environmental Offsets Policy** and **Environmental Management Plan Guidelines**
 - d. include timelines and mechanisms for **legally securing** the offset area(s)
 - e. provide a written description and map that clearly defines the location and boundaries of the proposed offset area(s) for **Koala and Grey-headed Flying-fox habitat** (must be accompanied by the **offset attributes** and **shapefiles**)
 - f. demonstrate that there is a real potential for **Koala and Grey-headed Flying-fox** to utilise the offset area(s), including through (but not limited to):
 - i. **habitat** suitability
 - ii. connectivity with other **habitats** including **biodiversity corridors** that contain **Koala**
 - iii. proximity to known **Grey-headed Flying-fox** camps.
 - g. describe relevant baseline information regarding the offset area(s), based on surveys undertaken (prior to offset management commencing), including (but not limited to) quantification of the existing extent and quality of **habitat** for the **Koala and Grey-headed Flying-fox** present within the offset area(s) (the baseline condition)
 - h. include time bound commitments to ecological outcomes and offset performance and completion criteria (including milestones) for achieving ecological outcomes for the **Koala and Grey-headed Flying-fox**
 - i. detail the management actions and regeneration and revegetation strategies to be undertaken at the offset area(s) to achieve the ecological outcomes and offset performance and completion criteria, including:
 - i. the timing and frequency of these measures, and person(s) responsible
 - ii. a program to monitor and report on the effectiveness of these measures, including monitoring and reporting progress against the ecological outcomes and offset performance and completion criteria at an appropriate time and frequency



- iii. criteria for triggering adaptive management actions, contingency measures and corrective actions if the ecological outcomes and offset performance and completion criteria are not achieved, and the timing and frequency and person(s) responsible
 - iv. details of the potential risks to the successful implementation of the plan and measures that will be implemented to mitigate against these risks, and
 - v. the person(s) responsible for monitoring, reviewing and implementing the Offset Management Plan.
5. For the protection of the **Koala**, the approval holder must ensure that any offset area(s) will provide and/or establish a robust and diverse ecosystem that:
- a. contains **habitat** that provides both shelter and food resources relevant to the **Koala**, and
 - b. has a real potential to promote **Koala** breeding.
6. The approval holder must ensure that the revegetation of **Koala food trees** at the offset area(s) will utilise seeds collected from **Koala food trees** found within the offset area(s), or directly adjacent to the offset area(s), and preferably that also have evidence of **Koala** utilising them for feeding.

Part B – Standard administrative conditions

Notification of date of commencement of the action

7. The approval holder must notify the **Department** in writing of the date of **commencement** of **stage 1** and **stage 2** of the action, within 10 **business days** after the date of **commencement** of **stage 1** and **stage 2** of the action.
8. If the **commencement** of **stage 1** or **stage 2** does not occur within two (2) years from the date of this approval, then the approval holder must not **commence the action** without the prior written agreement of the **Minister**.

Compliance records

9. The approval holder must maintain accurate and complete **compliance records**.
10. If the **Department** makes a request in writing, the approval holder must provide electronic copies of **compliance records** to the **Department** within the timeframe specified in the request.

Note: **Compliance records** may be subject to audit by the **Department** or an independent auditor in accordance with section 458 of the **EPBC Act**, and or used to verify compliance with the conditions. Summaries of the result of an audit may be published on the **Department's** website or through the general media.

Preparation and publication of plans

11. The approval holder must:
 - a. submit **plans** electronically to the **Department** for approval by the **Minister**;
 - b. publish each **plan** on the **website** within 20 **business days** of the date the **plan** is approved by the **Minister** or of the date a revised action management plan is submitted to the **Minister** or the **Department**, unless otherwise agreed to in writing by the **Minister**;
 - c. exclude or redact **sensitive ecological data** from **plans** published on the **website** or provided to a member of the public; and
 - d. keep **plans** published on the **website** until the end date of this approval.
12. The approval holder must ensure that any **monitoring data** (including **sensitive ecological data**), surveys, maps, and other spatial and metadata required under a **plan**, is prepared in accordance with the **Department's Guidelines for biological survey and mapped data** (2018) and submitted electronically to the **Department** in accordance with the requirements of the **plan**.



Annual compliance reporting

13. The approval holder must prepare a **compliance report** for each 12 month period following the date of **commencement of the action**, or otherwise in accordance with an annual date that has been agreed to in writing by the **Minister**. The approval holder must:
- publish each **compliance report** on the **website** within 60 **business days** following the relevant 12 month period;
 - notify the **Department** by email that a **compliance report** has been published on the **website** and provide the weblink for the **compliance report** within five **business days** of the date of publication;
 - keep all **compliance reports** publicly available on the **website** until this approval expires;
 - exclude or redact **sensitive ecological data** from **compliance reports** published on the **website**; and
 - where any **sensitive ecological data** has been excluded from the version published, submit the full **compliance report** to the **Department** within 5 **business days** of publication.

Note: Compliance reports may be published on the **Department's** website.

Reporting non-compliance

14. The approval holder must notify the **Department** in writing of any: **incident**; non-compliance with the conditions; or non-compliance with the commitments made in **plans**. The notification must be given as soon as practicable, and no later than two **business days** after becoming aware of the **incident** or non-compliance. The notification must specify:
- any condition which is or may be in breach;
 - a short description of the **incident** and/or non-compliance; and
 - the location (including co-ordinates), date, and time of the **incident** and/or non-compliance. In the event the exact information cannot be provided, provide the best information available.
15. The approval holder must provide to the **Department** the details of any **incident** or non-compliance with the conditions or commitments made in **plans** as soon as practicable and no later than 10 **business days** after becoming aware of the **incident** or non-compliance, specifying:
- any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;
 - the potential impacts of the **incident** or non-compliance; and
 - the method and timing of any remedial action that will be undertaken by the approval holder.

Independent audit

16. The approval holder must ensure that **independent audits** of compliance with the conditions are conducted every five (5) years following the date of the **commencement of the action**, or as otherwise requested in writing by the **Minister**.
17. For each **independent audit**, the approval holder must:
- provide the name and qualifications of the independent auditor and the draft audit criteria to the **Department**;
 - only commence the **independent audit** once the audit criteria have been approved in writing by the **Department**; and
 - submit an audit report to the **Department** within the timeframe specified in the approved audit criteria.



18. The approval holder must publish the audit report on the **website** within 10 **business days** of receiving the **Department's** approval of the audit report and keep the audit report published on the **website** until the end date of this approval.

Completion of the action

19. Within 30 days after the **completion of the action**, the approval holder must notify the **Department** in writing and provide **completion data**.

Part C - Definitions

In these conditions, except where contrary intention is expressed, the following definitions are used:

Biodiversity corridor means areas of vegetation that allow **protected matter(s)** to travel from one area of **habitat** to another.

Business day means a day that is not a Saturday, a Sunday or a public holiday in the state or territory of the action.

Clear/Clearing/Clearance means the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of vegetation (but not including weeds – see the *Australian weeds strategy 2017 to 2027* for further guidance).

Commencement/Commence/Commenced means the first instance of any specified activity associated with **stage 1** of the action, including **clearing** of vegetation and **construction** of any infrastructure. **Commencement/Commence /Commenced** does not include minor physical disturbance necessary to:

- i. undertake pre-clearance surveys or monitoring programs;
- ii. install signage and /or temporary fencing to prevent unapproved use of the project area;
- iii. protect environmental and property assets from fire, weeds and pests; and
- iv. install temporary site facilities for persons undertaking pre-commencement activities so long as these are located where they have no impact on the **protected matters**.

Completion data means an environmental report and spatial data clearly detailing how the conditions of this approval have been met, including (but not limited to) information detailing the date, location, approved **impact site** (including **stage 1** and **stage 2**), actual total area of **habitat** (including type and quality) for **Koala** and **Grey-headed Flying-fox** that was **cleared** within the **impact site** (including within both **stage 1** and **stage 2**), and actual total area of **habitat** (including type and quality) for **Koala** and **Grey-headed Flying-fox** within the **offset area(s)**. The **Department's** preferred spatial data format is **shapefile**.

Completion of the action means all specified activities associated with the action have permanently ceased.

Compliance records means all documentation or other material in whatever form required to demonstrate compliance with the conditions of approval in the approval holder's possession or that are within the approval holder's power to obtain lawfully.

Compliance reports means written reports:

- i. providing accurate and complete details of compliance, **incidents**, and non-compliance with the conditions and the **plans**;
- ii. consistent with the **Department's Annual Compliance Report Guidelines (2014)**;
- iii. include a **shapefile** of any clearance of any **protected matters**, or their **habitat**, undertaken within the relevant 12 month period; and



- iv. annexing a schedule of all **plans** prepared and in existence in relation to the conditions during the relevant 12 month period.

Conservation advices means a conservation advice approved by the **Minister** under the **EPBC Act**.

Construction means the erection of a building or structure that is or is to be fixed to the ground and wholly or partially fabricated on-site; the alteration, maintenance, repair or demolition of any building or structure; preliminary site preparation work which involves breaking of the ground (including pile driving); the laying of pipes and other prefabricated materials in the ground, and any associated excavation work; but excluding the installation of temporary fences and signage.

Degradation means any deterioration of the extent or quality of **habitat**, including from (but not limited to): **clearing**, weed introduction or increase, dumping, domestic and feral animals, startling noises, vehicle entry, erosion, pollution and altered water flow.

Department means the Australian Government agency responsible for administering the **EPBC Act**.

Environmental Management Plan Guidelines means the Department's *Environmental Management Plan Guidelines (2014)*.

EPBC Act means the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

EPBC Act Environmental Offsets Policy means the *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (October 2012)*.

Grey-headed Flying-fox means the Grey-headed Flying-fox (*Pteropus poliocephalus*) listed as a threatened species under the **EPBC Act**.

Habitat means the natural environment in which the relevant **protected matter(s)** has been identified to occur or is suitable for the **protected matter** to occur in, based upon field surveys and guidance contained in the relevant species or ecological communities' *listing advice*, **conservation advice**, **recovery plan** or *SPRAT profile*.

Impact site means the area designated as 'Impact Site' bounded by the solid red line on the map at [Appendix A](#).

Incident means any event which has the potential to, or does, impact on one or more **protected matter(s)**.

Independent audit means an audit conducted by an independent and **suitably qualified person** as detailed in the *Environment Protection and Biodiversity Conservation Act 1999 Independent Audit and Audit Report Guidelines (2015)*.

Koala means the Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) (*Phascolarctos cinereus* (combined populations of Qld, NSW and the ACT) listed as a threatened species under the **EPBC Act**.

Koala food tree(s) means a species of tree of genus *Angophora*, *Corymbia*, *Eucalyptus*, *Lophostemon* or *Melaleuca*, with a height of more than 4 metres or with a trunk circumference more than 31.5 centimetres at 1.3 metres above the ground, the leaves of which are known to be consumed by the **Koala**.

Legally securing means protect for conservation under a voluntary declaration under the *Vegetation Management Act 1999* (Qld) or as a nature refuge under the *Nature Conservation Act 1992* (Qld) or another enduring protection mechanism agreed to in writing by the **Department**.

Logan City Council means 'Logan City Council', the local government authority for the city of Logan in Queensland, Australia.

Monitoring data means the data required to be recorded under the conditions of this approval.



Minister means the Australian Government Minister administering the **EPBC Act** including any delegate thereof.

Natural Environment Site Strategy means the document with the title *Mirvac Greater Flagstone Project: Natural Environment Site Strategy* (18 April 2017), as approved by Economic Development Queensland on 2 June 2017.

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

On-site conservation area means the area designated as 'On-site Conservation Area' and shaded dark green within the **referral site** on the map at [Appendix A](#).

Plan(s) means any of the documents required to be prepared, approved by the **Minister**, and/or implemented by the approval holder and published on the **website** in accordance with these conditions (includes action management plans and/or strategies).

Protected matter(s) means a matter protected under a controlling provision in Part 3 of the **EPBC Act** for which this approval has effect.

Recovery plans means a recovery plan made or adopted by the **Minister** under the **EPBC Act**.

Referral site means the area designated as 'Referral Site' and bounded by the solid black line on the map at [Appendix A](#).

Sensitive ecological data means data as defined in the Australian Government Department of the Environment (2016) *Sensitive Ecological Data – Access and Management Policy V1.0*.

Shapefiles means location and attribute information of the action provided in an Esri shapefile format. Shapefiles must contain '.shp', '.shx', '.dbf' files and a '.prj' file that specifies the projection/geographic coordinate system used. Shapefiles must also include an '.xml' metadata file that describes the shapefile for discovery and identification purposes.

Stage 1 means any activity associated with the action that is approved to occur within the **stage 1 site**, specifically **construction** and **clearing** works required for the development of a new State Primary School.

Stage 1 site means the area designated as 'Stage 1 Site' within the yellow shading and bounded by the solid yellow line on the map at [Appendix A](#).

Stage 2 means any activity associated with the action that is approved to occur within the **stage 2 site**, including **construction** and **clearing** works.

Stage 2 site means the area designated as 'Stage 2 Site' within the light green shading and bounded by the solid green line on the map at [Appendix A](#).

Suitably qualified person means a person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.

Threat abatement plan means a threat abatement plan made or adopted by the **Minister** under the **EPBC Act**.

Website means a set of related web pages located under a single domain name attributed to the approval holder and available to the public.

An aerial photograph of a large, irregularly shaped land area, primarily green, which is outlined in black. The area is divided into three main sections. The top-left section is a smaller, irregularly shaped area outlined in red and labeled "Stage 1 Site". The bottom-left section is a larger, irregularly shaped area outlined in red and labeled "Stage 2 Site". The remaining area, which is the largest and most central, is outlined in black and labeled "Onsite Conservation Area". The map shows various features including roads, buildings, and vegetation. The "Onsite Conservation Area" is the largest and most central area, while the "Stage 1 Site" and "Stage 2 Site" are smaller, more irregularly shaped areas. The map is oriented with North at the top.

*This figure is an integral part of this plot/diagram. Reproduction of this plan or any part of it without this note being included is unlawful under the provisions of the Copyright Act of 1976. Reproduction of this plan or any part of it without this note being included is unlawful under the provisions of the Copyright Act of 1976.

Referral site
 Impact area
 Stage 1 site (29 ha)
 Stage 2 site (201 ha)
 Onsite conservation (180 ha)

Issue Date Description User(s) checked
(1) 1/13/2019 updates client R. Alf

0 50 100 500 500 m
1:11,000 scale

Transverse Mercator (GDA 1994 Zone 50)



Everleigh

Appendix B

Fauna Spotter Catcher Reports

Spotter-catcher report Fauna Management Plan Summary

1.0 Client / Site

Golding Contractors on behalf of the client for the Everleigh School project Phase 1.

2.0 Date of Spotter-catcher duties

- Monitoring of clearing process and fauna recovery commenced 18th of November to the 20th of November 2019

3.0 Spotter-catcher actions:

The following actions were performed in accordance with the Saunders Havill Fauna Management Plan November 2018

3.1 Pre-clearing fauna survey

The below techniques were applied to confirm the current fauna values

- Pre-clearing inspection of site to clearly identify all static fauna valued ground features and trees with high visibility tape.
- Daily surveys to confirm fauna value and actual fauna present on the site specific immediately prior to clearing using techniques defined below.
 - Specific searches for presence of Koalas and Grey-Headed Flying Fox within the designated clearing zone
 - Observation of canopy and under-story vegetation for active bird nests, possum drays and termite mounds
 - Observation of site to locate and identify actual wildlife present prior to clearing.

3.2 Liaison

- Attended pre-start, toolbox meetings with principal contractor confirming fauna issues
- Liaison with Saunders Haville staff to confirm Koala located outside of designated clearing zone.
- Daily liaison with clearing crew supervisors to confirm site specific issues and co-ordinate clearing / spotter inter-actions.

3.3 Spotter-Catcher actions undertaken

- One Koala and Joey located by SH staff with drone infrared technology, noted offsite within forty meters of designated clearing zone, due to the animals being offsite no need for exclusion or dispersal zone binocular examination of Koala noted female Koala in acceptable health (presumed weight 7kg) considering poor forage quality; Joey 10 months old approximately (presumed weight 1.5 -2kg). Koala response monitored by spotter-catcher during proximal clearing process; minimal stress noted (1-0 stress scale TWC WHIMP; 2.5.1 -11)
- Spotter-catcher conducted daily binocular search pre-clearing check for Koalas within 50m of peripheral retained vegetation; nil results.
- One Koala spotter / spotter-catcher per tree-felling machine conducted daily pre-clearing searches for Koalas, Grey headed Flying fox and was present for the duration of all tree-felling; **no Koalas located within designated clearing zone during clearing processes**
- Spotter-catcher monitored located termite arboretums for active breeding bird activity and/or entrance trace indicating occupation to late stage breeding activity(faecal flows from cavity)
- Spotter-catcher directed de-accelerated felling techniques to access all located termite mounds and checked prior access cavities for fauna.

- One spotter-catcher conducted two days ground search for track and trace and observation check of timber stacks for displaced fauna prior to shearing and monitored shearing of timber stacks proximal to retained habitat
- Two days post-clearing trapping program with 8 Elliot traps, 2 cage traps, five reptile tubes for small terrestrial fauna placed around felled vegetation stockpiles.
- Checking of ground features (drainage lines, fallen logs, tree stumps, burnt out tree stump cavities) for track and trace, reptiles, burrow entrances
- 24 hour exclusion of trees where dispersing fauna were noted to occupy.
- Confirmation of located fauna presence with clearing crew and direction of clearing process to allow fauna dispersal opportunity
- 24 hour exclusion zones applied to located dispersed fauna during clearing processes.
- Identification of dispersed wildlife.

3.3.1 Addressing of located static fauna shelter values

- Minor static fauna values – Six inactive stick nests, fourteen termite arboretums and nine stag trees with loose bark were addressed after de-accelerated felling. Techniques included access and examination of shelter values for small fauna to confirm absence or presence of wildlife.

4.0 Fauna Interactions

Fauna observed, encountered and identified during spotter-catcher actions throughout clearing processes are detailed as Dispersed, Capture/release, Capture/relocated or fauna mortality.

4.1 Dispersed Fauna

Common Name	Scientific name	Comments
1 Wedgetail Eagle	<i>Aquila audax</i>	present within site noted during morning pre-clearing inspection Dispersed from tree clearing
7 Yellow-tailed Black Cockatoo	<i>Calyptorhynchus funereus</i>	present within site noted during morning pre-clearing inspection Dispersed from tree clearing
5 Grey Kangaroos	<i>Macropus giganteus</i>	present within site noted during morning pre-clearing inspection
7 Unidentified insect bats	<i>Chalinolobus sps</i> <i>Scotorepens orion</i>	Dispersed from tree clearing or during clearing of loose bark stag trees into adjacent suitable habitat

4.1 Field notes

Fauna noted dispersing from clearing processes or during spotter-catcher actions. Spotter noted predatory encounter between Wedge-tail Eagle and Black Cockatoos. Grey Kangaroos noted in close proximity to existing water-body (dominant male + 3 females, one Joey). Insectivorous bats identified in-flight during dispersal

4.2 Capture / Released

Common Name	Scientific name	Release site
Nil fauna		

4.2 Field notes

No fauna was encountered during fauna recovery actions. The site excluding noted features contained minimal shelter values with no active breeding or roosting fauna located during clearing process.

4.3 Fauna Capture / Re-located / Mortality

Common Name	Scientific name	Comments
Nil fauna		

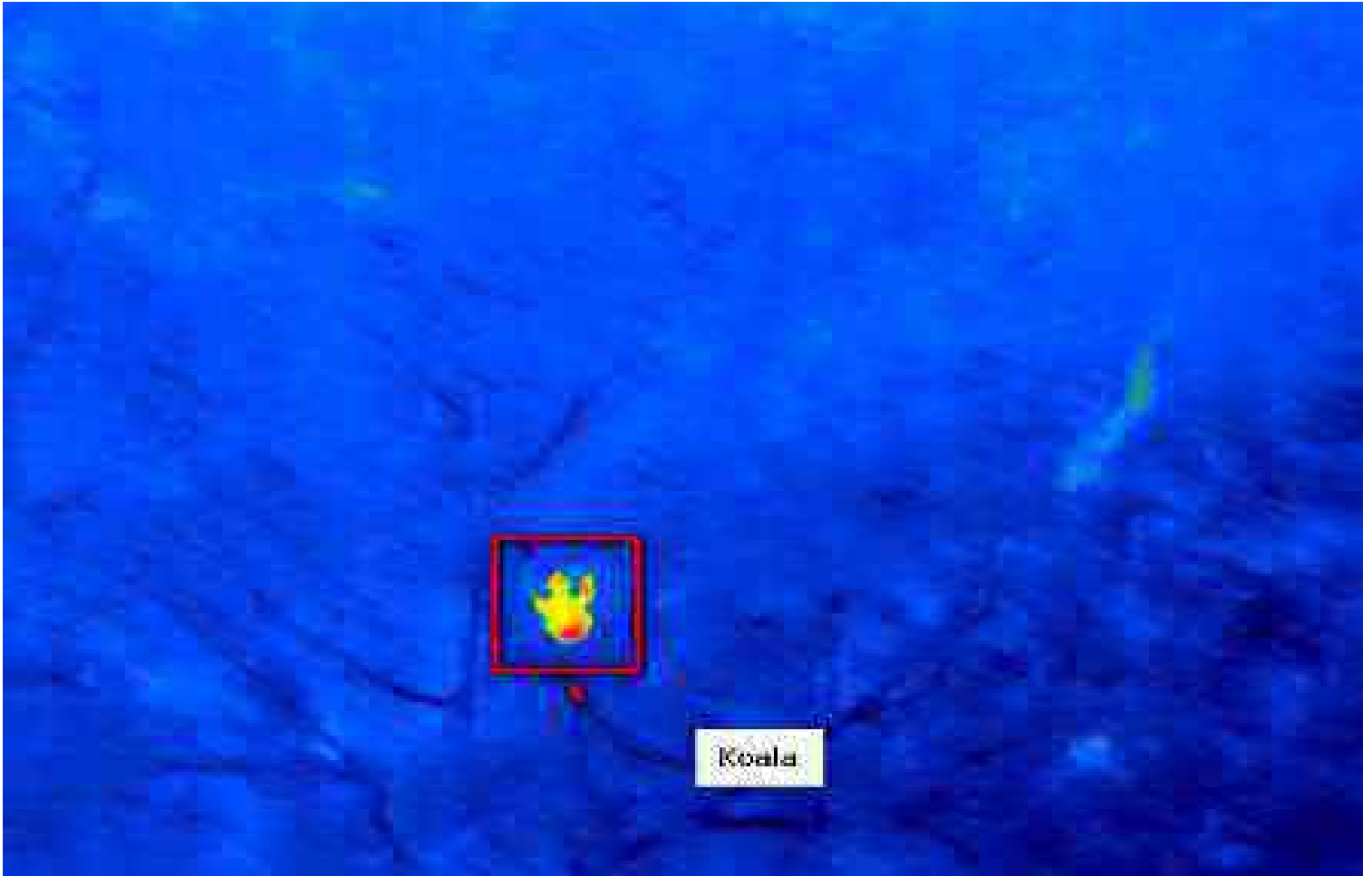
Field notes: No requirements to provide detail as per SH FMP 3.1.3 – 3.

5.0 Site Summary:

This document is the final post-clearing fauna summary report that collates spotter-catcher actions within the Everleigh school project Phase 1.

. All activities during the clearing process were in accordance with the conditions of Fauna Management Plan with good liaison with the clearing crews ensuring a minimal impact to fauna within the site.

Frank Court,
Spotter-catcher, November 2019
Tomewin Wildlife Consultancy
`Rehabilitation Permit no: **WA0014500**
Address: P.O. box 970, Murwillumbah, 2484
Phone: Home- 0266 725627 Mobile: 0402103629
E-mail: tomewinwildlife@aapt.net.au



Mirvac Limited / Golding – Everleigh

Prepared for Golding Contractors Pty Ltd
18 November 2019

Job 7598

Document Control

Title:	Mirvac – Everleigh School Phase 1
Address:	Everleigh Drive, Greenbank, QLD
Job Number:	7598
Client:	Golding Contractors

Prepared by

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ABN 24 144 972 949

www.saundershavill.com

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1. Introduction

Saunders Havill Group are tasked with spotting *Phascolarctos cinereus* (Koala), using RPA (remotely piloted aircraft) equipped with a DJI XTR thermal sensor.

1.1. Project summary

Table 1: Property Summary

Address	Everleigh Drive, Greenbank
Area	
Local Government Area	Logan City Council
Topography	Flat/Hilly
Land access by client	Granted, Golding/Mirvac
Land access by landholder	As above
Site manager/contractor	Golding Contractors Pty Ltd, Derek Hennessy
Site stage	Phase 1 School Pre Clearance survey
Species to be detected	<i>Phascolarctos cinereus</i> (Koala), other secondary species as spotted)
Area	90ha
Unique "one off survey"	NO
Time-series survey	Phase 2 thermal survey expected

2. Methodology

A detailed site assessment was conducted across the project area to identify suitability for *Phascolarctos cinereus* (Koala) thermal sensor spotting. Items include airspace, landfall and vegetation mass to determine suitability. Additional elements of influence regarding safe and successful flight also included risk management factors, CASA air law generally and RPA standard operating procedures that may influence outcomes. The following stages were undertaken:

1. Desktop Research
 - Existing environmental studies undertaken on the surrounding lots by Saunders Havill Group
 - Existing vegetation species identified
 - Watercourse and drainage areas of influence
2. Review of Historical Aerial Photography
3. Aerial survey
4. Report generation

3. Survey Results

Saunders Havill Group traversed the site 18/11/2019 (03:30-05:15) undertaking a fauna detection assessment. Weather conditions were stable throughout the detection process. Resultant standard thermal contrast observed during all flights. The area was flown with an RPA using a pre-determined route, which allowed the most efficient mission possible.

3.1. Flight information

Table 2: Flight Information

Flight line direction	NNW/SSE (adjusted to site specific heliotropic angle corrections)
Flight line overlap (side)	40%
Survey altitude (AGL)	60m AGL
Inspection altitude (AGL)	30m AGL
Detection method (a)	Hot spot alert
Detection method (b)	Shape detection
Detection method (c)	Characteristic trait
Total flight area (ha)	90ha
Total Koalas detected	1 Adult & Joey on back
Total Dogs detected	0
Flight date	18/11/2019
Total Flights	6

Figure 1: Flight Information including detection evidence



4. Detection evidence

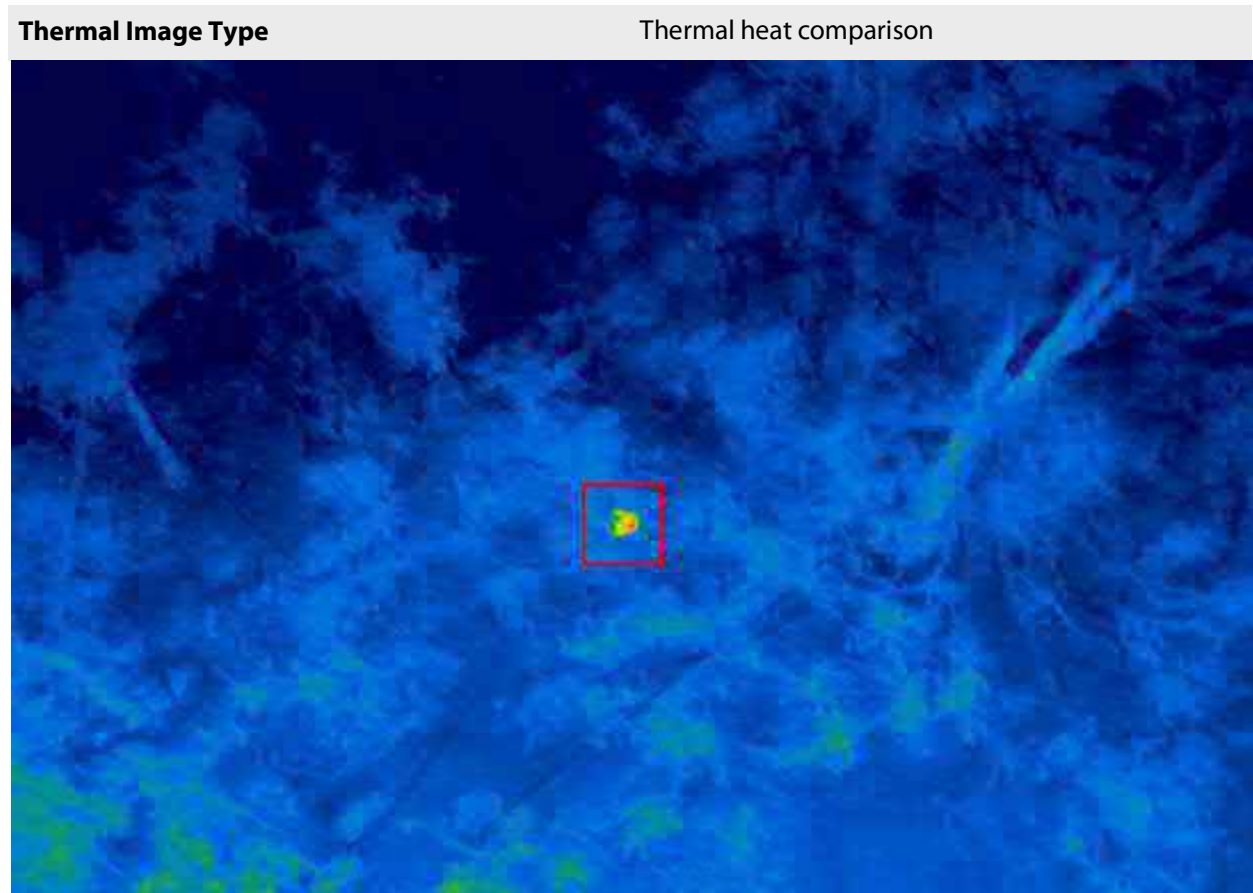
Table 3: Detection Evidence

Species	Koala
Identification:	Thermal Hot Spot Detection, visually identified in the field and joey on back discovered.
Date:	18/11/2019
Time:	0519 AEST
GPS	-27.7424046 S , 152.9949883 E

Thermal Image Type

Raw Jpeg – R Thermal





RGB Image Type

Field spotted



5. Conclusion

The aerial survey found 2 (Koalas) total over the survey area. Other species were detected, identified through site-based methods and post flight analysis using FLIR thermal investigation software. Connecting vegetation was also checked with no detections evident at the time of survey. Those areas may be provided upon request.

Thermal detection total:

Koala (within project area)	2
------------------------------------	----------

Location is confirmed whilst airborne using several techniques including statistical temperature evaluation/alert, characteristic behavioural traits and flora type investigation methods. Whilst every effort is made to confirm species and location, as will be noted Koalas can be difficult to identify due to position in vegetation and uncharacteristic behaviour.

Please use the below email addresses to obtain relevant google or shape-files (.shp) for use in this assessment.

Please use the following contact details in relation to further questions and/or site visit arrangements

Jamie Holyoak

Mapping Manager

Saunders Havill Group

Telephone: (07) 3251 9439

Facsimile: (07) 3251 9455

Mobile: 0419 723 436

Email: jamieholyoak@saundershavill.com

Information for SHG - Keira

Printed from Asana

☒ Information for SHG - Keira

Status: Closed

Can you please provide an update on the female koala and joey identified on site yesterday, including:

- Exclusion zone and controls implemented yesterday
- Location of the koalas today and how this is being managed



Clint Thorp created this task. 15 days ago

Clint Thorp added to [EV School Site Golding \(SP1 & SP2\)](#). 15 days ago

Clint Thorp assigned to you. 15 days ago

Clint Thorp changed the due date to 19 Nov. 15 days ago



Clint Thorp 15 days ago

[@Cameron McClure](#)

Can you please update Keira on the above mentioned please.

Thank you.



Cameron McClure 15 days ago

[@Clint Thorp](#) please find below response below

1. 18th November 2019 - Exclusion zones and controls

- As per Tomewin Wildlife Consultancy (TWC) VMP an exclusion zone was established of 2-3 times the tree height in horizontal distance. This coincided with the tree protection fence that was installed (slightly larger exclusion zone)
- The TWC spotter catcher continued to monitor the location of Koala and Joey throughout the day a regular intervals to ensure that it hadn't moved on

2. 19th November 2019 - Koala location

- Immediately after prestart the TWC spotter walked to the tree that the koala and joey had been the day and identified it wasn't present in that location
- The TWC spotter then walked the haul route to today's proposed clearing extent to confirm that the Koala and joey wasn't present.
- The TWC spotter then gave approval for clearing equipment to track to the proposed clearing area for today under escort
- Once TWC and the clearing operator reached today's proposed clearing area the TWC spotter checked all the clearing area to confirm no presence of Koalas.
- The TWC spotter then gave approval to commence clearing under the normal process as stipulated in TWC's VMP.

Cameron McClure changed Status to "Closed". 15 days ago

Madeleine Hartley-Davis unassigned from you. 9 days ago

Madeleine Hartley-Davis removed the due date. 9 days ago

Madeleine Hartley-Davis marked this task complete. Yesterday at 09:44

Spotter-catcher report Fauna Management Plan Summary

1.0 Client / Site

Golding Contractors on behalf of the client for the Everleigh School project Phase 2.

2.0 Date of Spotter-catcher duties

- Monitoring of clearing process and fauna recovery commenced 2nd of December to the 16th of December 2019

3.0 Spotter-catcher actions:

The following actions were performed in accordance with the Saunders Haville Fauna Management Plan November 2018

3.1 Pre-clearing fauna survey

The below techniques were applied to confirm the current fauna values

- Pre-clearing inspection of site to clearly identify all static fauna valued ground features and trees with high visibility tape.
- Daily surveys to confirm fauna value and actual fauna present on the site specific immediately prior to clearing using techniques defined below.
 - Specific searches for presence of Koalas and Grey-Headed Flying Fox within the designated clearing zone
 - Observation of canopy and under-story vegetation for active bird nests, possum drays and termite mounds
 - Observation of site to locate and identify actual wildlife present prior to clearing.

3.2 Liaison

- Attended pre-start, toolbox meetings with principal contractor confirming fauna issues
- Liaison with Saunders Haville staff to confirm Koala located outside of designated clearing zone.
- Daily liaison with clearing crew supervisors to confirm site specific issues and co-ordinate clearing / spotter inter-actions.

3.3 Spotter-Catcher actions undertaken

- One Koala and joey located by SHG staff (02.12.2019) with drone infrared technology prior to clearing, noted offsite within fifty meters of designated heavy vehicle access track and approximately 300m from designated clearing zone. No action taken due to the distance between noted animal and clearing zone.
- A second Koala was located in a large Blue Gum by TWC (04.12.2019) with pre-clearing binocular search within designated clearing zone; an exclusion zone was applied with modification of clearing direction due to site specifics to allow voluntary dispersal. Binocular assessment confirmed animal as older male Koala in moderate to poor condition. Following day survey of the site specific area including fifty meters outside of clearing zone was unsuccessful in locating the Koala
- One Koala located by SHG staff (09.12.2019) with drone infrared technology prior to clearing, noted offsite within fifty meters of designated heavy vehicle access track and approximately 300m from designated clearing zone. No action taken due to the distance between noted animal and clearing zone.
- Spotter-catcher conducted daily binocular search pre-clearing check for Koalas within 50m of peripheral retained vegetation; nil results.
- One Koala spotter / spotter-catcher per tree-felling machine conducted daily pre-clearing searches for Koalas, Grey headed Flying fox and was present for the duration of all tree-felling
- Spotter-catcher monitored located termite arboretums for active breeding bird activity and/or entrance trace indicating occupation to late stage breeding activity(faecal flows from cavity)
- Spotter-catcher directed de-accelerated felling techniques to access all located termite mounds and checked prior access cavities for fauna.

- One spotter-catcher conducted two days ground search for track and trace and observation check of timber stacks for displaced fauna prior to shearing and monitored shearing of timber stacks proximal to retained habitat
- Two days post-clearing trapping program with 8 Elliot traps, 2 cage traps, five reptile tubes for small terrestrial fauna placed around felled vegetation stockpiles.
- Checking of ground features (drainage lines, fallen logs, tree stumps, burnt out tree stump cavities) for track and trace, reptiles, burrow entrances
- 24 hour exclusion of trees where dispersing fauna were noted to occupy.
- Confirmation of located fauna presence with clearing crew and direction of clearing process to allow fauna dispersal opportunity
- 24 hour exclusion zones applied to located dispersed fauna during clearing processes.
- Identification of dispersed wildlife.
- EWP access fauna recovery actions on significant stature Habitat tree with multiple viable hollows; one Brush tail possum, one Carpet Snake located

3.3.1 Addressing of located static fauna shelter values

- Minor static fauna values – Nine inactive stick nests, forty six termite arboreturns and fourteen stag trees with loose bark were addressed after de-accelerated felling. Techniques included access and examination of shelter values for small fauna to confirm absence or presence of wildlife.

4.0 Fauna Interactions

Fauna observed, encountered and identified during spotter-catcher actions throughout clearing processes are detailed as Dispersed, Capture/release, Capture/relocated or fauna mortality.

4.1 Dispersed Fauna

Common Name	Scientific name	Comments
1 Koala	<i>Phascolarctus cinereus</i>	Located within and outside clearing zone; exclusion zone
3 Wedgetail Eagle	<i>Aquila audax</i>	present within site noted during morning pre-clearing inspection Breeding pair with sub-adult offspring
7 Yellow-tailed Black Cockatoo	<i>Calyptrorhynchus funereus</i>	present within site noted during morning pre-clearing inspection Dispersed from tree clearing
25 Grey Kangaroos	<i>Macropus giganteus</i>	present within site noted during morning pre-clearing inspection
3 Unidentified insect bats	<i>Chalinolobus sps</i>	Dispersed from tree clearing or during clearing of loose bark stag trees into adjacent suitable habitat

4.1 Field notes

Fauna noted dispersing from clearing processes or during spotter-catcher actions. Spotter noted unsuccessful predatory encounter between Wedge-tail Eagles and juvenile Kangaroos. Grey Kangaroos noted in close proximity to existing water-body, Insectivorous bats identified in-flight during dispersal.

4.2 Capture / Released

Common Name	Scientific name	Release site
1 Brush tail Possum – adult male	<i>Trichosurus vulpecula</i>	suitable offsite habitat within drainage line – EWP fauna recovery
1 Carpet snake	<i>Morelia spilota</i>	suitable offsite habitat within drainage line– EWP fauna recovery

1 Sugar glider – adult male	<i>Petaurus breviceps</i>	Released in refuge hollow within suitable offsite habitat within drainage line; dispersed overnight
2 Squirrel Gliders – independent sub-adults	<i>Petaurus norfolcensis</i>	Released in refuge hollow within suitable offsite habitat within drainage line; dispersed overnight

4.2 Field notes

Gliding Possums were encountered as single animals during fauna recovery actions addressing termite arboretums; no active breeding colonies were encountered during clearing. The site excluding noted features contained minimal shelter values with no active breeding or roosting fauna located during clearing process.

4.3 Fauna Capture / Re-located / Mortality

Common Name	Scientific name	Comments
Nil fauna		

Field notes: No requirements to provide detail as per SH FMP 3.1.3 – 3.

4.4 Encountered Fauna and release site location - also refer SHG reports attached



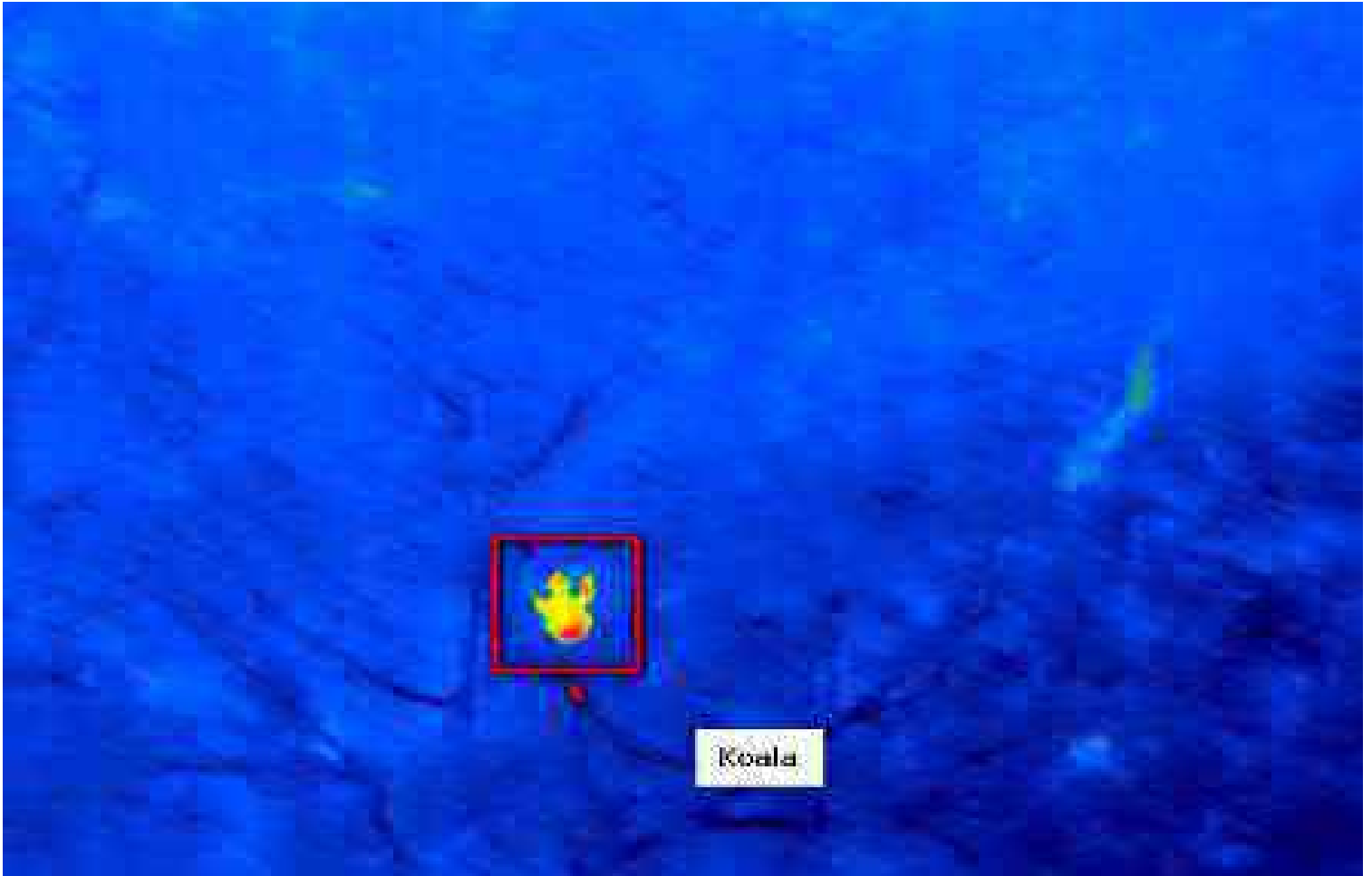
5.0 Site Summary:

This document is the final post-clearing fauna summary report that collates spotter-catcher actions within the Everleigh school project Phase 2. The clearing process has occurred within a pronounced drought period that was evident in the absence of active bird breeding, limited terrestrial fauna (excluding Kangaroos) and very low feed values for a large area.

. All activities during the clearing process were in accordance with the conditions of Fauna Management Plan with good liaison with the clearing crews ensuring a minimal impact to fauna within the site.

Frank Court,
Spotter-catcher, November 2019
Tomewin Wildlife Consultancy
Rehabilitation Permit no: **WA0014500**

Address: P.O. box 970, Murwillumbah, 2484
Phone: Home- 0266 725627 Mobile: 0402103629
E-mail: tomewinwildlife@aapt.net.au



Mirvac Limited / Golding – Everleigh

Prepared for Golding Contractors Pty Ltd
2 December 2019

Job 7598

Document Control

Title:	Mirvac – Everleigh School Phase 1
Address:	Everleigh Drive, Greenbank, QLD
Job Number:	7598
Client:	Golding Contractors

Prepared by

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1. Introduction

Saunders Havill Group are tasked with spotting *Phascolarctos cinereus* (Koala), using RPA (remotely piloted aircraft) equipped with a DJI XTR thermal sensor.

1.1. Project summary

Table 1: Property Summary

Address	Everleigh Drive, Greenbank
Area	
Local Government Area	Logan City Council
Topography	Flat/Hilly
Land access by client	Granted, Golding/Mirvac
Land access by landholder	As above
Site manager/contractor	Golding Contractors Pty Ltd, Derek Hennessy
Site stage	Phase 1 School Pre Clearance survey
Species to be detected	<i>Phascolarctos cinereus</i> (Koala), other secondary species as spotted)
Area	90ha
Unique "one off survey"	NO
Time-series survey	Phase 2 thermal survey expected

2. Methodology

A detailed site assessment was conducted across the project area to identify suitability for *Phascolarctos cinereus* (Koala) thermal sensor spotting. Items include airspace, landfall and vegetation mass to determine suitability. Additional elements of influence regarding safe and successful flight also included risk management factors, CASA air law generally and RPA standard operating procedures that may influence outcomes. The following stages were undertaken:

1. Desktop Research
 - Existing environmental studies undertaken on the surrounding lots by Saunders Havill Group
 - Existing vegetation species identified
 - Watercourse and drainage areas of influence
2. Review of Historical Aerial Photography
3. Aerial survey
4. Report generation

3. Survey Results

Saunders Havill Group traversed the site 02/12/2019 (03:30-05:15) undertaking a fauna detection assessment. Weather conditions were stable throughout the detection process. Resultant standard thermal contrast observed during all flights. The area was flown with an RPA using a pre-determined route, which allowed the most efficient mission possible.

3.1. Flight information

Table 2: Flight Information

Flight line direction	NNW/SSE (adjusted to site specific heliotropic angle corrections)
Flight line overlap (side)	40%
Survey altitude (AGL)	60m AGL
Inspection altitude (AGL)	30m AGL
Detection method (a)	Hot spot alert
Detection method (b)	Shape detection
Detection method (c)	Characteristic trait
Total flight area (ha)	90ha
Total Koalas detected	1 Adult & Joey on back
Total Dogs detected	0
Flight date	02/12/2019
Total Flights	6

Figure 1: Flight Information including detection evidence



4. Detection evidence

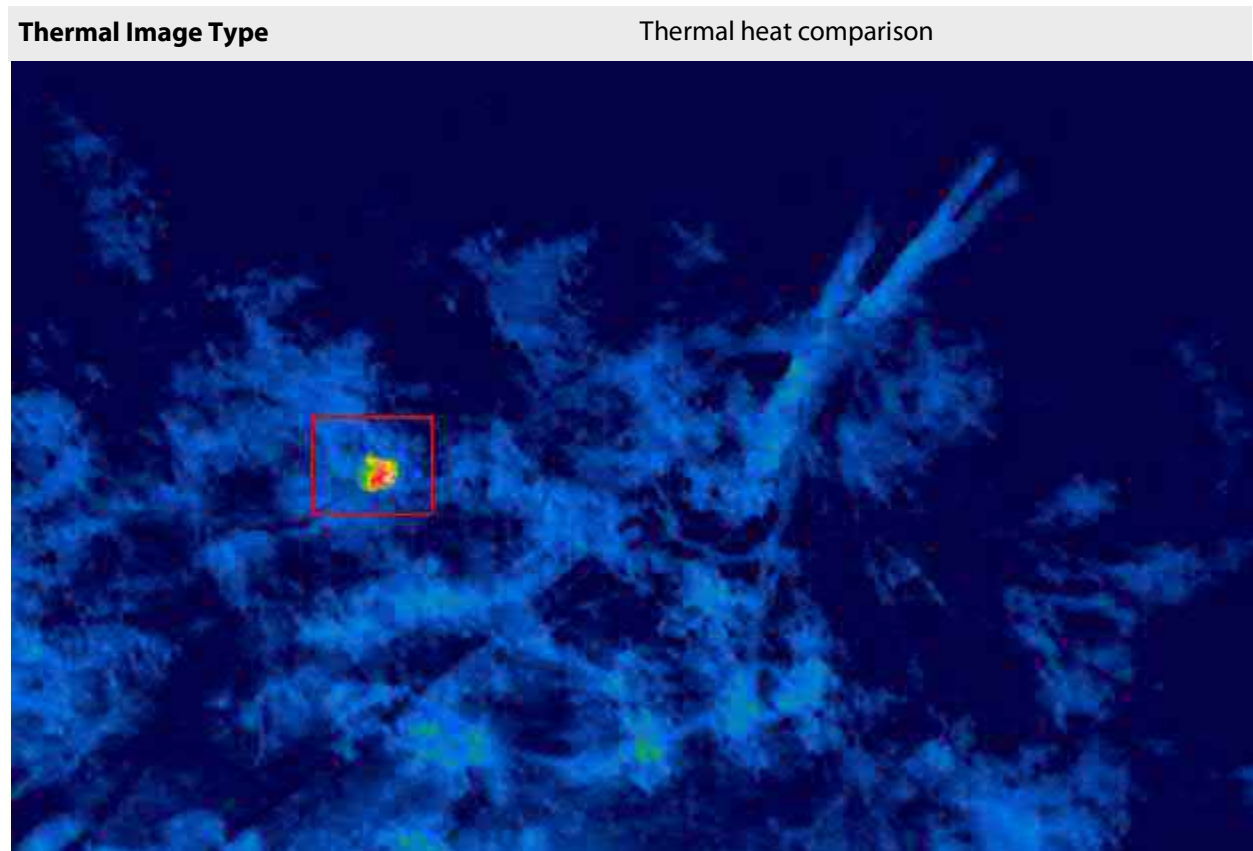
Table 3: Detection Evidence

Species	Koala
Identification:	Thermal Hot Spot Detection, visually identified in the field and joey on back discovered. Same Koala and Joey from previous inspection found once more near original location. Identified and located away from clearing to the South of original location spotted. Ground spotted with Golding staff and tree marked.
Date:	02/12/2019
Time:	0439 AEST
GPS	-27.7434008 S , 152.9941306 E

Thermal Image Type

Raw Jpeg – R Thermal





RGB Image Type

Field spotted



5. Conclusion

The aerial survey found 2 (Koalas) total over the survey area. Other species were detected, identified through site-based methods and post flight analysis using FLIR thermal investigation software. Connecting vegetation was also checked with no detections evident at the time of survey. Those areas may be provided upon request.

Thermal detection total:

Koala (within project area)	2
------------------------------------	----------

Location is confirmed whilst airborne using several techniques including statistical temperature evaluation/alert, characteristic behavioural traits and flora type investigation methods. Whilst every effort is made to confirm species and location, as will be noted Koalas can be difficult to identify due to position in vegetation and uncharacteristic behaviour.

Please use the below email addresses to obtain relevant google or shape-files (.shp) for use in this assessment.

Please use the following contact details in relation to further questions and/or site visit arrangements

Jamie Holyoak

Mapping Manager

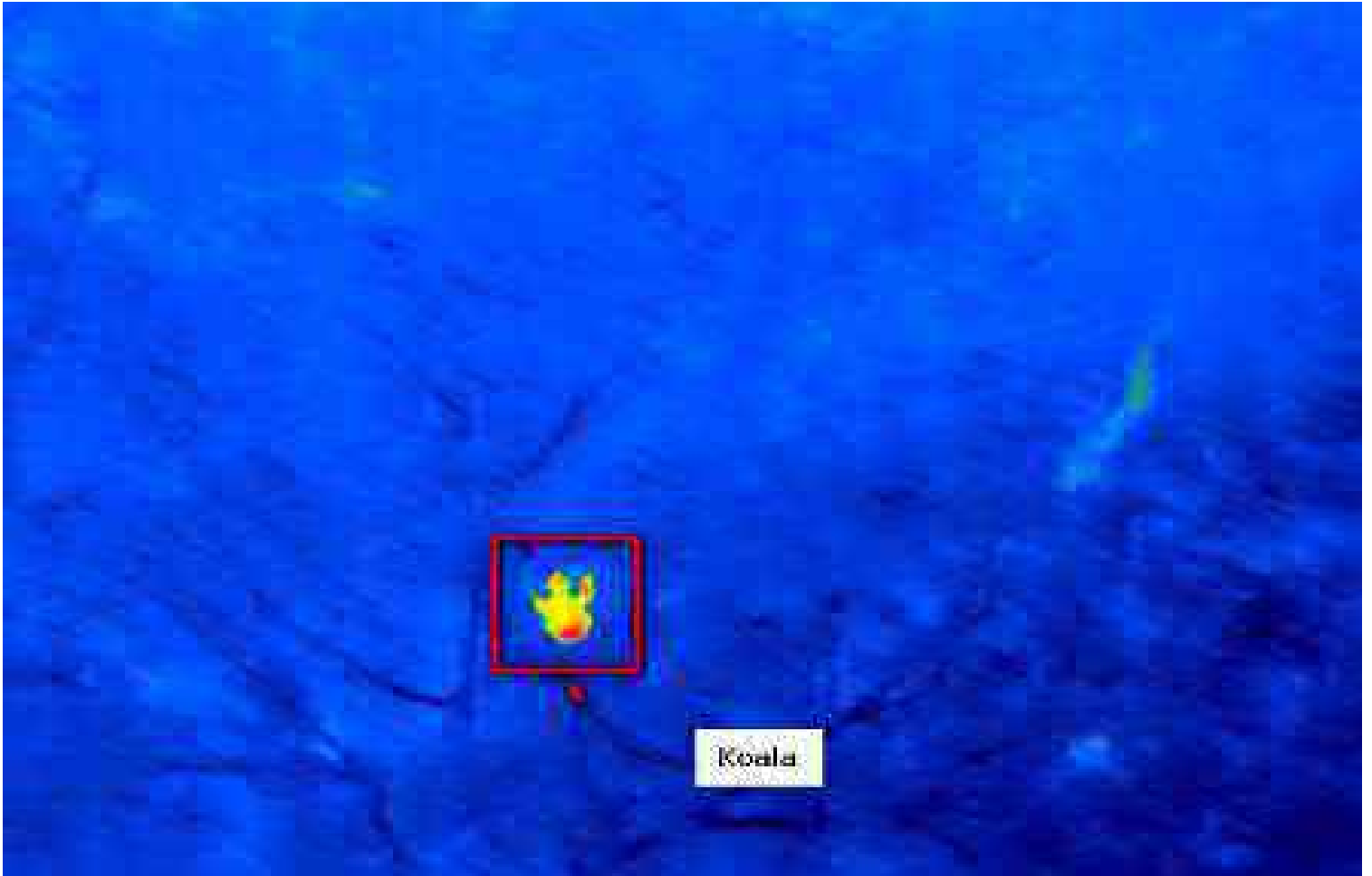
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Mirvac Limited / Golding – Everleigh

Prepared for Golding Contractors Pty Ltd
11 December 2019

Job 7598

Document Control

Title:	Mirvac – Everleigh School Phase 1
Address:	Everleigh Drive, Greenbank, QLD
Job Number:	7598
Client:	Golding Contractors

Prepared by

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1. Introduction

Saunders Havill Group are tasked with spotting *Phascolarctos cinereus* (Koala), using RPA (remotely piloted aircraft) equipped with a DJI XTR thermal sensor.

1.1. Project summary

Table 1: Property Summary

Address	Everleigh Drive, Greenbank
Area	
Local Government Area	Logan City Council
Topography	Flat/Hilly
Land access by client	Granted, Golding/Mirvac
Land access by landholder	As above
Site manager/contractor	Golding Contractors Pty Ltd, Derek Hennessy
Site stage	Phase 1 School Pre Clearance survey
Species to be detected	<i>Phascolarctos cinereus</i> (Koala), other secondary species as spotted)
Area	90ha
Unique "one off survey"	NO
Time-series survey	Phase 2 thermal survey expected

2. Methodology

A detailed site assessment was conducted across the project area to identify suitability for *Phascolarctos cinereus* (Koala) thermal sensor spotting. Items include airspace, landfall and vegetation mass to determine suitability. Additional elements of influence regarding safe and successful flight also included risk management factors, CASA air law generally and RPA standard operating procedures that may influence outcomes. The following stages were undertaken:

1. Desktop Research
 - Existing environmental studies undertaken on the surrounding lots by Saunders Havill Group
 - Existing vegetation species identified
 - Watercourse and drainage areas of influence
2. Review of Historical Aerial Photography
3. Aerial survey
4. Report generation

3. Survey Results

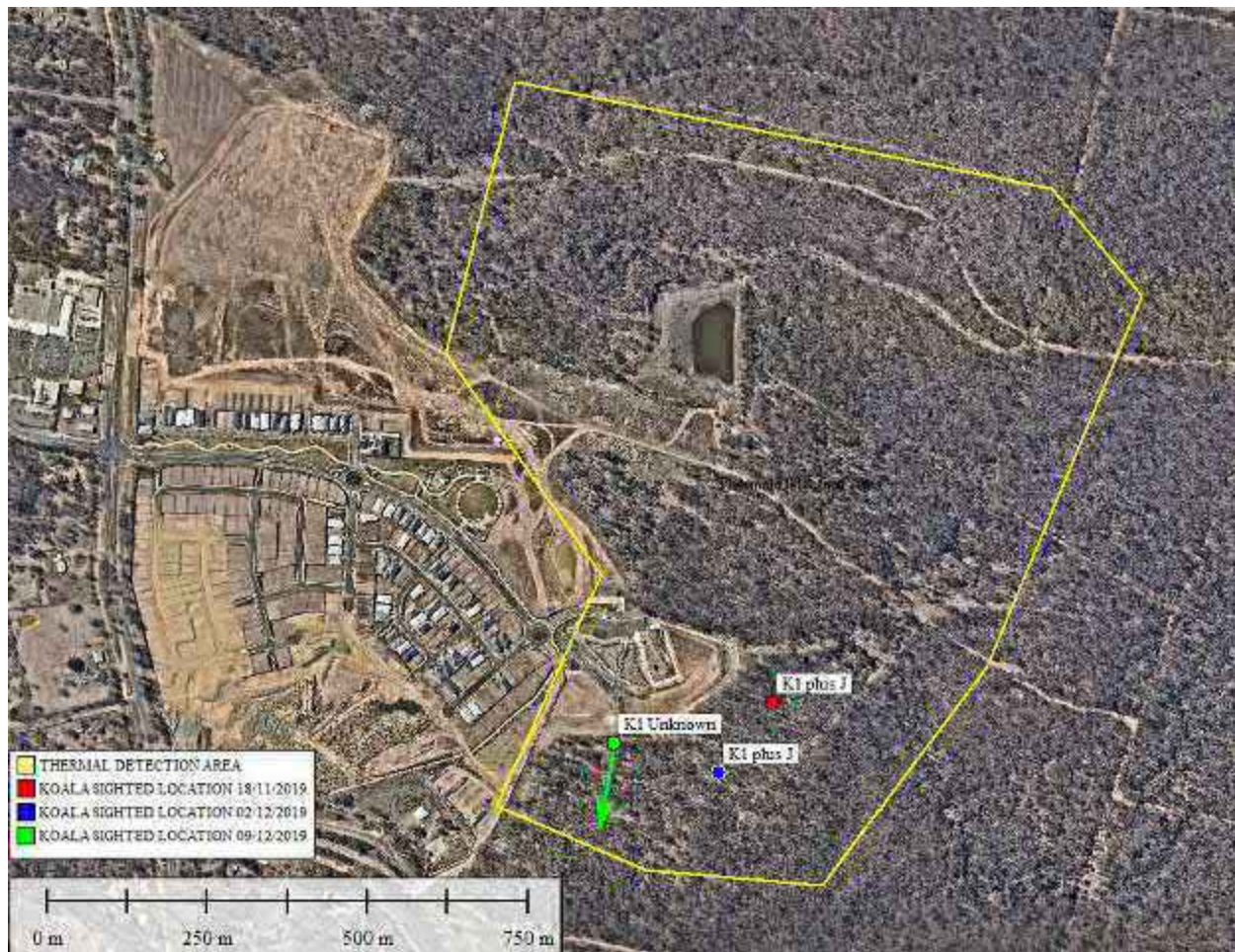
Saunders Havill Group traversed the site 09/12/2019 (03:30-05:15) undertaking a fauna detection assessment. Weather conditions were stable throughout the detection process. Resultant standard thermal contrast observed during all flights. The area was flown with an RPA using a pre-determined route, which allowed the most efficient mission possible.

3.1. Flight information

Table 2: Flight Information

Flight line direction	NNW/SSE (adjusted to site specific heliotropic angle corrections)
Flight line overlap (side)	40%
Survey altitude (AGL)	60m AGL
Inspection altitude (AGL)	30m AGL
Detection method (a)	Hot spot alert
Detection method (b)	Shape detection
Detection method (c)	Characteristic trait
Total flight area (ha)	90ha
Total Koalas detected	1 Koala
Total Dogs detected	0
Flight date	02/12/2019
Total Flights	6

Figure 1: Flight Information including detection evidence



4. Detection evidence

Table 3: Detection Evidence

Species	Koala
Identification:	Thermal Hot Spot Detection, identified Koala moving out of tree pictured below and in a southerly direction on ground. Unable to be located upon ground search later that morning. Fresh scatt and scratch marks observed on tree sighted during post flight search.
Date:	
Time:	Evidence during observation included, hot spot, shape, movement type and size observations. 09/12/2019 0435 AEST
GPS:	-27.7430948 S 152.9924552 E

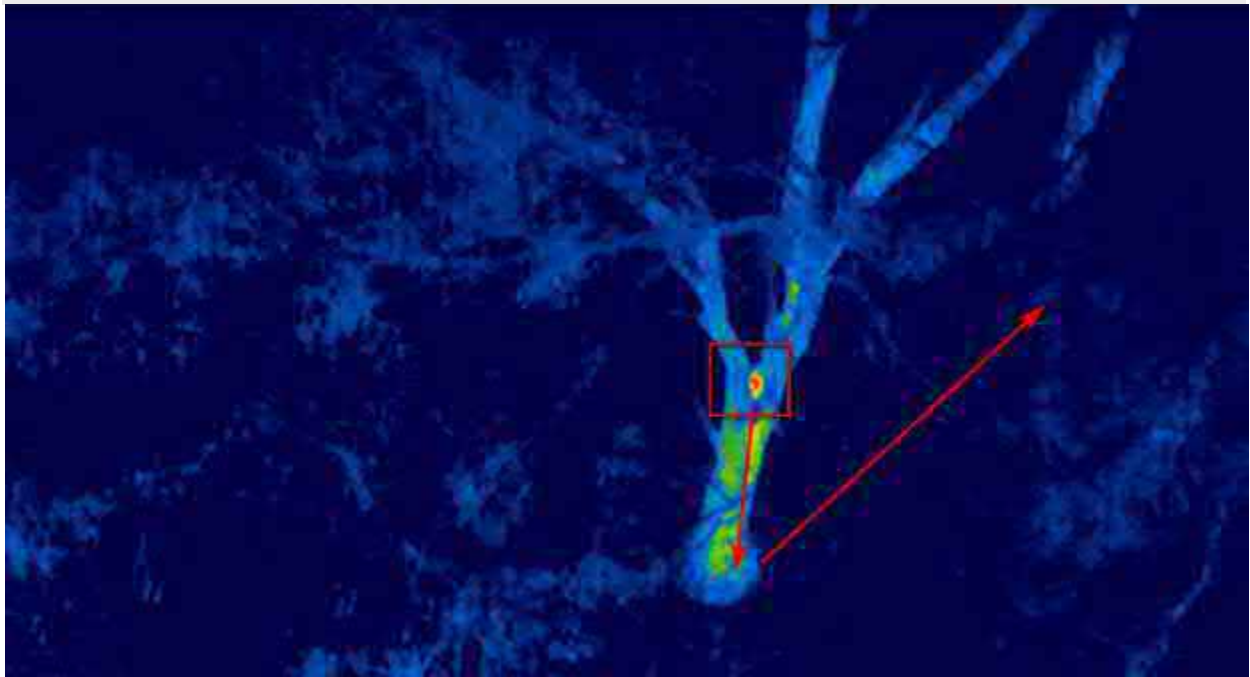
Thermal Image Type

Raw Jpeg – R Thermal



Thermal Image Type

Thermal heat comparison



RGB Image Type

Field spotted

None recorded

5. Conclusion

The aerial survey found 1 (Koalas) total over the survey area. Other species were detected, identified through site-based methods and post flight analysis using FLIR thermal investigation software. Connecting vegetation was also checked with no detections evident at the time of survey. Those areas may be provided upon request.

Thermal detection total:

Koala (within project area)	1
------------------------------------	----------

Location is confirmed whilst airborne using several techniques including statistical temperature evaluation/alert, characteristic behavioural traits and flora type investigation methods. Whilst every effort is made to confirm species and location, as will be noted Koalas can be difficult to identify due to position in vegetation and uncharacteristic behaviour.

Please use the below email addresses to obtain relevant google or shape-files (.shp) for use in this assessment.

Please use the following contact details in relation to further questions and/or site visit arrangements

Jamie Holyoak

Mapping Manager

Saunders Havill Group

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Mobile: 0419 723 436

Email: jamieholyoak@saundershavill.com

Appendix C

Stage 1 Phase 1 and Phase 2 Environmental Pre-Start Package

Environmental Pre-Start Checklist

Project Area: School Site – Phase 1

Contractor: Golding

Date work is to start: 18 November 2019

Date work is to cease:

Date: 15 November 2019

Scope of Works: Vegetation clearing associated with (DEV2016/768) Phase 1 for the School Site. Refer Attachment 1 for clearing extent.

		Compliance (✓ ✗ N/A)				
#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator
MANGEMENT PLANS						
1a	Has the environmental coordinator obtained approval for works located inside the <i>Environment Protection and Biodiversity Conservation Act 1999</i> referral area (EPBC 2016/7817)?					<p>✓</p> <p>Yes. Refer Attachment 2 – for a copy of the EPBC Approval. Appendix A shows the Stage 1 approval extent. The Stage 1–Phase 1 clearing extent (refer Attachment 1) is only part of the Stage 1 area.</p> <p>As per EPBC conditions, all works must occur in accordance with the <i>Mirvac Greater Flagstone Project: Natural Environmental Strategy (18 April 2017)</i>, as approved by <i>Economic Development Queensland</i> on 2 June 2017 [NESS] (Refer Attachment 3).</p>
1b	Has a Vegetation Clearing Management Plan (VMP) been prepared and self-certified by the environmental coordinator ?					<p>✓</p> <p>Refer to Attachment 3 – 'Vegetation Management Plan, Proposed School</p>

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
1c	Has Fauna Management Plan (FMP) been prepared and <u>self-certified</u> by the environmental coordinator ?					✓	<p>Development, prepared by Saunders Havill Group, dated Sept 2019 [VMP].</p> <p>Refer to Attachment 4 – 'Fauna Management Plan, School Site – Greenbank Road, Greenbank, prepared by Saunders Havill Group, dated July 2019 [FMP].</p>
1c	Has the environmental coordinator undertaken a Protected Plants flora survey for the clearing impact area and obtained an exemption / permit to clear from the Department of Environment and Science (DES) for protected species under the <i>Nature Conservation Act 1992</i> ?					✓	<p>Refer to Attachment 5 for a copy of the DES Wildlife Authority Permit for clearing of protected plants (WA0009354) dated 24 August 2018 and approved clearing impact area.</p> <p>No M. irbyana specimens are to be cleared under the VMP which shows Trees 1352 and 1351 to be retained.</p> <p>All works must be undertaken in accordance with 'Impact Management Plan Melaleuca irbyana 432-520 Greenbank Road, Greenbank prepared for Mirvac QLD Pty Ltd 3 July 2018' [IMP], and associated appendices and supporting documentation.</p>

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
CONTRACTOR RESPONSIBILITIES							
2a	Has the contractor issued copies of the NESS and <u>self-certified</u> VMP and FMP been issued to all site contractors and sub-construction and made these management plans available in the site construction office?			✓			Copies of the VMP and FMP have been provided to the contractor as attachments to this environmental pre-clearance package.
2b	Have clearing extents provided by the site superintendent to the site contractor and environmental coordinator ?		✓	✓		✓	Clearing extents were provided to the environmental coordinator in preparation of the VMP. Tree protection fencing lines as shown on the VMP were provided to the contractor prior to the installation of tree protection fencing.
2c	Have clearing extents been marked out and fenced as per VMP requirements by the contractor and demarcation fencing signed off by the environmental coordinator ?		✓	✓		✓	Clearing extents were checked by the environmental coordinator on 11 th November and again on the 14 th November. Refer to Attachment 6 for sign off by the environmental coordinator of demarcation fencing.
2d	Has the contractor appointed a fauna spotter catcher holding required DES permits (approved by the environmental coordinator) to be present during all clearing activities and made aware of their responsibilities under the FMP and VMP?			✓	✓	✓	Refer Attachment 7 for references of current licenses and operating permits for the appointed fauna spotter catcher in Section 1.3 of the <i>Wildlife Protection Management Plan</i>

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
2e	Has the appointed fauna spotter catcher completed pre-clearance surveys and reports and have these been reviewed by the environmental coordinator ?			✓	✓	✓	Everleigh Estate, School (Phase 1), prepared by TWC (WPMP) (refer Attachment 7). Preclearance surveys were undertaken on the 12 November 2019. Refer Attachment 7 for a copy of the WPMP and Attachment 8 for a copy of the <i>Wildlife Habitat Impact Mitigation Plan Everleigh Estate, School (Phase 1)</i> , prepared by TWC (WHIMP). Review of the WPMP and WHIMP was undertaken by the environmental coordinator on 15 th November 2019.
2f	If any threatened fauna species or habitat/breeding places have been identified by the fauna spotter catcher , have appropriate controls been implemented and discussed with the key personnel?			✓	✓	✓	Refer to WPMP (Attachment 7) for the location of significant habitat features identified by pre-clearance surveys. Appropriate mitigation measures have been provided in the WHIMP (Attachment 8). Appropriate controls will be discussed with key personnel at the pre-start meeting.
2g	Has an Erosion and Sediment Control Plan been prepared and self-certified by a RPEQ or accredited CPESC professional / site superintendent and supplied to the contractor ?		✓	✓			Refer to Attachment 9 for the construction issue ESCP plans prepared by the superintendent and CPESC.

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
2h	Has the contractor put in place appropriate induction and management controls to ensure all contractors, subcontractors and associated personnel been instructed on environmental procedures and controls, including timing of clearing, stop-works procedures and non-compliance reporting requirements?			✓		✓	Refer to Attachment 10 for evidence of environmental awareness supplied by the Contactor.
BIODIVERSITY VALUES							
3a	Will the works occur in an area of significant biodiversity values as shown by the NESS?		N/A	N/A		NA	No.
3b	Will the works occur in an area of other biodiversity values as shown by the NESS?		✓	✓		✓	A mapped drainage feature traverses the site. Impacts of clearing will be managed through the ESCP.
3c	Will the works occur in a Department of Agriculture and Fisheries (DAF) mapped waterway?		✓	✓		✓	The access road for Phase 1 traverses a Low Risk (green) DAF mapped waterway. A pre-works notification for waterway barrier works to occur in accordance with the Accepted Development Requirements for waterway barrier works, has been made by the Contractor. Refer Attachment 11.
3d	Will the works involve the clearing of Koala Habitat as mapped by Koala Habitat Values mapping and do offsets apply to the clearing?	✓		✓		✓	In accordance with the NESS offsets for the clearing of Koala habitat will be addressed through EPBC approval conditions, which take

Environmental Pre-Start Checklist

#	Control Measure	Client	Superintendent	Contractor	Fauna Spotter Catcher	Environmental Coordinator	Details
3e	Has a Bushfire Hazard Assessment and Management Plan been prepared for the stage of works and endorsed by EDQ?	✓	✓	✓		✓	precedence over any State Government Offset or obligations for the same prescribed matter. Refer to Attachment 12 for a copy of the <i>Bushfire Hazard Management Plan (State Primary School)</i> , prepared by Rob Friend and Associates, dated February 2019.
PRESTART MEETING							
4	Has a pre-start been completed with all relevant parties?	✓	✓	✓	✓		A pre-start meeting will be held with all relevant parties 18 th November 2019. Any

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

Environmental Pre-Start Checklist

Additional Notes

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

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

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

EPBC 2016/7818 approval conditions (Attachment 2):

- The approval holder must ensure that **no** clearing of Koala or Grey-headed Flying-fox habitat for Stage 1 occurs outside the Stage 1 site.
- The approval holder must implement the *Mirvac Greater Flagstone Project: Natural Environmental Strategy (18 April 2017)*, as approved by Economic Development Queensland on 2 June 2017 to avoid degradation of the onsite conservation area until such time as handover is accepted by Logan City Council.
- The approval holder must notify the Department of Environment and Energy in writing of the date of commencement of Stage 1, within 10 business days after the date of commencement.

DES Wildlife Authority Permit conditions (Attachment 4):

- All works must be undertaken in accordance with "*Impact Management Plan Melaleuca irbyana 432-520 Greenbank Road, Greenbank prepared for Mirvac QLD Pty Ltd 3 July 2018*", and associated appendices and supporting documentation.
- The permit holder is to notify DES in writing at least 48 hours in advance of clearing commencing.

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

- NESS - *Mirvac Greater Flagstone Project: Natural Environmental Strategy (18 April 2017)*, as approved by Economic Development Queensland on 2 June 2017
- IMP - *Impact Management Plan Melaleuca irbyana 432-520 Greenbank Road, Greenbank prepared for Mirvac QLD Pty Ltd 3 July 2018*
- FMP - *Fauna Management Plan, School Site – Greenbank Road, Greenbank, prepared by Saunders Havill Group, dated July 2019*
- VMP - *Vegetation Management Plan, Proposed School Development, prepared by Saunders Havill Group, dated Sept 2019 [7598 E 01 SCH VMP B]*

Environmental Pre-Start Checklist

Compliance Awareness

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

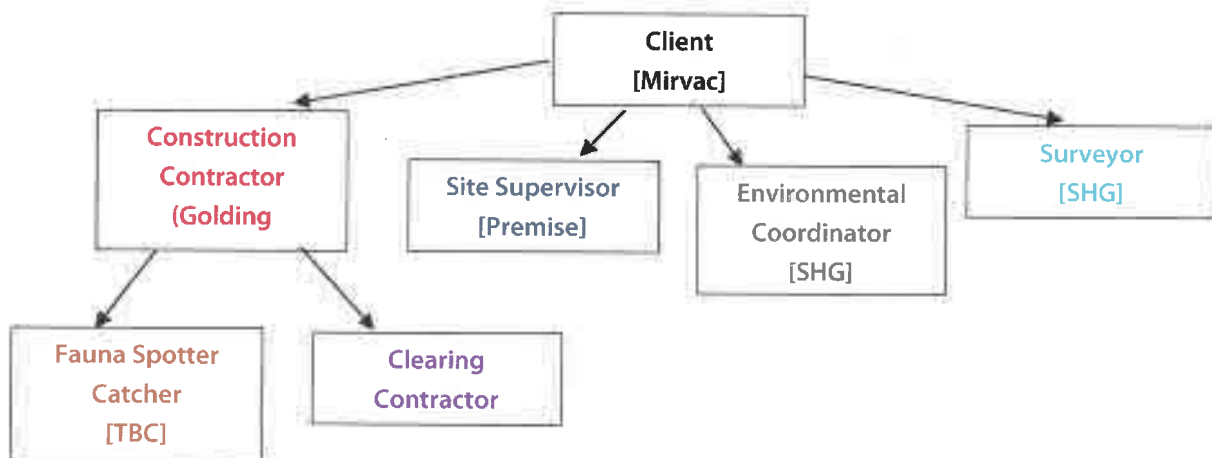
Name	Company	Position	Signature	Date
Jason Augustine	Mircac Queensland Pty Limited	Client Representative		12/11/19
Clint Thorp	Premise	Site Superintendent		15/11/19
CAMERON MELURE	CARDING	Site Contractor		14/11/19
FRANK COURT	TOMERWIN WILDLIFE CONSULTANCY	Fauna Spotter Catcher		12/11/19
Luke Davies	QLD Mulching	Clearing Contractor		14-11-19
Keira Grundy	Saunders Hill Group	Environmental Coordinator		15-11-19

Mirvac's Everleigh Project

Environmental Responsibilities

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

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



Abbreviations

The following abbreviations have been adopted in this document:

BHMP	Bushfire Hazard Mitigation Plan
DES	Department of Environment and Science (Qld)
FMP	Fauna Management Plan
NESS	Natural Environment Site Strategy
IMP	Impact Management Plan (Melaleuca irbyana)
VMP	Vegetation Management Plan

1.1. Construction Contractor Responsibilities

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

- Ensuring construction works (including pre-clearance checks (see Section 1.1.1), erosion and sediment control measures, clearing processes and post clearing requirements (see Section 1.1.2)) are undertaken in accordance with the Environmental Pre-Start Package for the Stage of Works and approved management plans (e.g. Vegetation Management Plans (VMP) / Fauna Management Plans (FMP) / Natural Environment Site Strategy (NESS) / Bushfire Hazard Assessment Management Plan (BHAMP) / Impact Management Plan (IMP))
 - In the event of a non-compliance, all works are halted immediately and non-compliances are reported to the **site supervisor** and **environmental coordinator**.
 - Weekly review and reporting on compliance with approved management plans (N.B. this can be shown as an item in a weekly review / report / checklist).
 - Monthly environmental compliance reports / checklist to the **environmental coordinator**.
- Engagement and management of **fauna spotter catcher** to undertake pre and post clearance checks, attend pre-start meetings and be present on site during all clearing activities.
 - The appointed **fauna spotter catcher** must hold a Damage Mitigation Permit and a Rehabilitation Permit for native wildlife, including Koala, issued from Department of Environment and Science (DES).
- Installation and maintenance of erosion and sediment controls as per approved management plans prepared by the **site supervisor**.
- Installation of demarcation fencing as detailed on the Stage of works VMP in associated with the appointed **surveyor**.
 - Fencing must be maintained during works and reinstated immediately if damaged or knocked down.
 - Temporary star picket fencing must be installed around the Stage of Works site, any open space areas and / or individual trees to be retained on the Stage of works VMP.
 - Fencing must be fauna friendly and provide a least a 30cm gap between the bottom of the fence and the ground.
 - Fencing shall be erected prior to the commencement of clearing activities and shall be removed in accordance with the WPMP to enable animals to safely move to refuge areas.
 - Once terrestrial fauna has safely moved out of the area, temporary fauna exclusion fencing will then be erected for the two polygons of retained vegetation (identified as future sports ovals) to ensure animals do not re-enter these areas and become trapped.
 - Fencing shall be reinstated immediately if damaged or knocked down.
 - Fencing must remain in place until completion of bulk earthworks and removed prior to on maintenance or as required as subsequent stages of the development occurs.
- Ensuring daily limits and volumes of vegetation clearing occur in accordance with approval allowances (e.g. EPBC Act Approval, EDQ Approval).
- Ensuring stockpiles and cleared vegetation is managed in accordance with approved management plans.
- Ensuring clearing occurs between the hours of 6am – 6pm.

- Ensuring no dogs are permitted on site.
- Ensuring cleared vegetation free of weeds is to be reused on site, in accordance with the VMP.
- Ensuring clearing occurs in accordance with the direction of clearing plan as detailed in the VMP / FMP or as prepared by the **fauna spotter catcher**.
- Ensuring all contractors, subcontractors and associated personnel been instructed on environmental procedures and controls.
 - Environmental procedures and controls must form part of induction material (and evidence should be able to be provided to the **environmental coordinator** on request).
 - Copies of approved management plans are made available at the site office at all times and evidence should be able to be provided to the **environmental coordinator** on request).
 - General education and awareness notification of contractors and sub-contractors involved in activities potentially impacting native animals as part of site induction – contractors must know the location of the FMP, key phone numbers including the nominated Fauna Spotter Catcher and DES, and who to report to if potential breaches of the FMP occur.
 - A list of relevant contact numbers as listed in the VMP and FMP kept in a visible and accessible location in the site office.

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

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

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

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

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

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

1.2. Fauna Spotter Catcher Responsibilities

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

- Ensuring works are undertaken in accordance with the Environmental Pre-Start Package for the Stage of Works and approved management plans (e.g. VMP / FMP / NESS / BHAMP).
- Undertaking pre-clearance fauna checks for the Stage of Works no more than 2 weeks prior to clearing.
- Preparing a Wildlife Protection Management Plan (WPMP) and Wildlife Habitat Impact Mitigation Plan (WHIMP) (as per the Draft Code for Fauna Spotter Catchers) for each stage of works. This includes identifying fauna habitat values, potential risks to fauna, and appropriate mitigation measures as well as identifying the direction and sequencing of clearing activities to ensure safe flushing of fauna. These are to be provided to the **contractor** and **environmental coordinator** for review.
- Attending the pre-start for each Stage of Works.
- Implementing controls and procedures and controls in the WPMP and WHIMP, which includes being present during all clearing activities, and:
 - Immediately prior to the commencement of clearing of native vegetation undertaking a daily visual inspection of the area must be carried out.
 - Being present during all clearing activities and inspect trees continuously ahead of clearing for Koalas.

- In the event of an animal being located, an area within a minimum 5 m radius should be established excluding machinery from the area until the animal has relocated (usually overnight). The no go zone should be determined by the **fauna spotter catcher** dependant on the species.
- If any used hollows or nests are identified from inspection by the **fauna spotter catcher**, the hollows and nest must be removed by an experienced machinery operator and carefully lowered for inspection and fauna removal by the **fauna spotter catcher**
- Translocation of threatened fauna is not permitted and fauna must move off at its own accord. There is no approval to translocate threatened fauna as part of operational works onsite.
- Any native fauna orphaned or injured by the development process must be immediately reported to DES, RSPCA and the **environmental coordinator** and the **client**.
- Inspecting stockpiled vegetation for fauna prior to its removal.
- Preparing a post-clearing report to be provided to the **contractor** and **environmental coordinator** no more than 2 weeks after clearing has finished, specifying the following:
 - Length and time of clearing;
 - Details of any fauna that were caught and/or released and the placement of any release/s
 - Inventory of species encountered during tree removal;
 - Brief summary of any fauna handling, mortalities or other relevant fauna related
 - incidents that may have occurring during tree removal

1.3. Site Supervisor Responsibilities

The **site supervisor** is responsible for the following environmental controls on the project:

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

1.4. Environmental Coordinator Responsibilities








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

- Ensuring all Commonwealth and State environmental approvals are obtained for the Stage of Works.
- Ensuring all required management plans have been prepared for the Stage of Works.
- Ensuring all required management plans have been approved / self-certified for the Stage of Works.
- Ensuring all relevant parties receive copies of approved / self-certified management plans for the Stage of Works.
- Preparing, managing and compiling the Environmental Pre-Start Package for the Stage of Works, including the Environmental Pre-Start Checklist.
- Undertaking checks of demarcation flagging installed by the **contractor** and **surveyor**.
- Reviewing **fauna spotter catcher** pre-clearance and post-clearance reporting.
- Ensuring works are undertaken in accordance with the Environmental Pre-Start Package for the Stage of Works and approved management plans (e.g. VMP / FMP / NESS / SBMP / BHAMP / IMP).

Acknowledgement

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

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

Name	Company	Position	Signature	Date
Jason Augustine	Mirvac	Client Representative		12/11/19
Cameron McElwre	Landmark	Contractor Coordinator		14/11/19
Clint Thorp	Premise	Site Supervisor		15/11/19
Keira Grundy	SHG	Environmental Coordinator		15/11/19
Frank Court	Tombwin Wildlife	Fauna Spotter		12/11/19
Luke Davies	Old Mulching	Clearing Contractor		14-11-19
Gavin Wheatley	Hutch	Project Surveyor		14/11/19

environmental management



AMENDED IN RED

By: Brandon Bouda

Date: 27 April 2017



Queensland
Government

Mirvac

Greater Flagstone Project



Natural Environment Site Strategy

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

Approval no: DEV2016/768

Date: 2 June 2017



Queensland
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Mirvac

Greenbank project

18 April 2017

7598



Document Control

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Post App	18-04-2017	Angela Little	Murray Saunders

Disclaimer

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

Reports and/or Plans by Others

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



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Appendices

Appendix I

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



I. Introduction

1.1. Requirements of site strategy

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

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

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



Administration Definitions

1.3. In this site strategy:

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



2. Structure

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

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





3. Guidelines and Relevant Information

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

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

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

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

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

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

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

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

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



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

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



4. Strategies

4.3 Natural Environment Site Strategies – Conservation Parkland and Development Land

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

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

Conservation Parkland

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

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

Development Land

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

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

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

Natural Environment Site Strategies



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



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



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



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



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



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



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



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



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



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



5. Natural Environmental Features

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

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

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

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

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

- b) Low Order Remnant Vegetation

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

- c) Confirmed Waterway Areas

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

- d) Waterway Buffer Area

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

- e) Site Farm Dams

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



f) Areas of Juvenile Native Regeneration

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

6. Ongoing Monitoring and Reporting

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



7. Koala Habitat Values Mapping

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

Determination of koala habitat type for certain land

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



8. Definitions / References / Acronyms

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



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



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



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



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



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



				Environment and Heritage Protection)
Koala SPRP Mapping	means	South East Queensland Koala Conservation State Planning Regulatory Provisions - Koala planning area version 1-2 spatial layer (QSpatial)	2 Jun 2010	State of Queensland
LCC	means	Logan City Council		
LPA	means	<i>Land Protection (Pest and Stock Route Management) Act 2002</i>	01 Oct2014	State of Queensland
Main Roads Fauna Sensitive Design Manual Vol.2	means	Fauna Sensitive Road Design Manual - Volume 2: Preferred Practices (Chapter 6 - Measures to achieve fauna sensitive roads, and Chapter 7 - Target Species Design Considerations)	Jun 2010	State of Queensland (Department of Transport and Main Roads)
MNES	means	Matters of National Environmental Significance		
MSES	means	Matters of State Environmental Significance		
MLES	means	Matters of Local Environmental Significance		
Nature Conservation (Koala) Conservation Plan 2006 and Management Program 2006-2016 (koala plan)	means	<i>Nature Conservation (Koala) Conservation Plan 2006</i>	27 Sep 2013	State of Queensland (Department of Environment and Heritage Protection)
NCA	means	<i>Nature Conservation Act 1992</i>	02 Jul 2015	State of Queensland (Department of Natural Resources and Mines)



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



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



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



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



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



Legislation and Guidelines referenced within this strategy

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

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



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



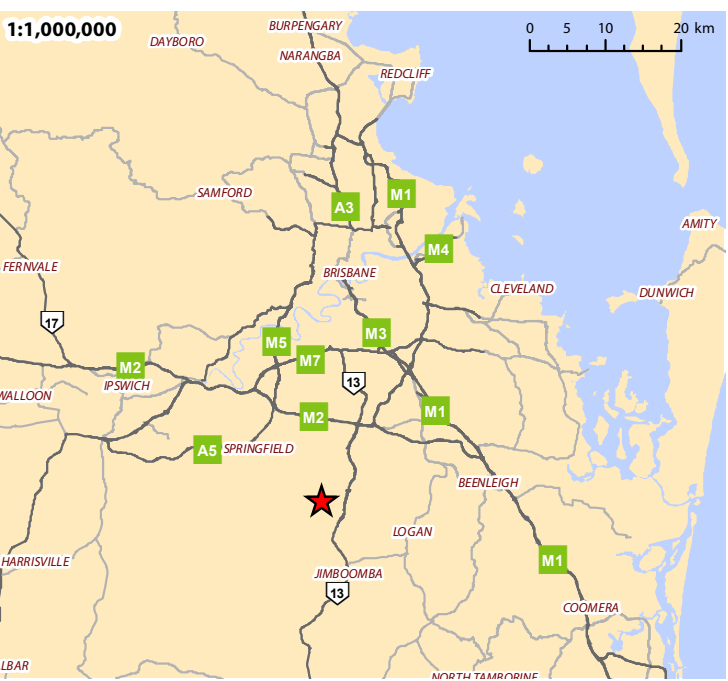
<i>Queensland Environmental Offsets Policy (Version 1.1)</i>	Dec 2014	State of Queensland
<i>Significant Residual Impact Guideline - For matters of state environmental significance and prescribed activities assessable under the Sustainable Planning Act 2009 - Queensland Environmental Offsets Policy</i>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



Appendix I

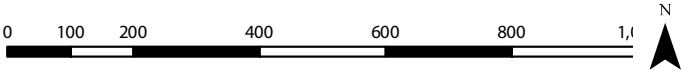
Plans

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



Legend

- Project site DCDB
- Easement



APPROVED COMPANY
ISO 9001
Quality Management System
QMS

APPROVED COMPANY
ISO 14001
Environmental Management System
QMS

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

THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF THE CLIENT. SAUNDERS HAVILL GROUP CANNOT ACCEPT RESPONSIBILITY FOR ANY USE OF OR RELIANCE UPON THE CONTENTS OF THESE DRAWINGS BY ANY THIRD PARTY.

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

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

Greenbank

Natural Environment Site Strategy

Site Aerial

Date | 8/03/2016

Scale | 1:12,000 @ A3

Coordinate System | GDA 1994 MGA Zone 56

Projection | Transverse Mercator

Client | MIRVAC

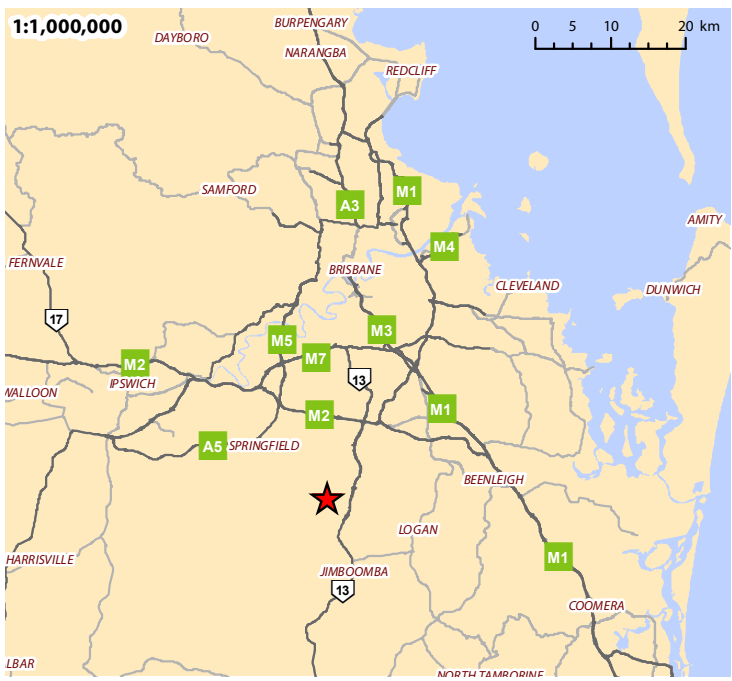
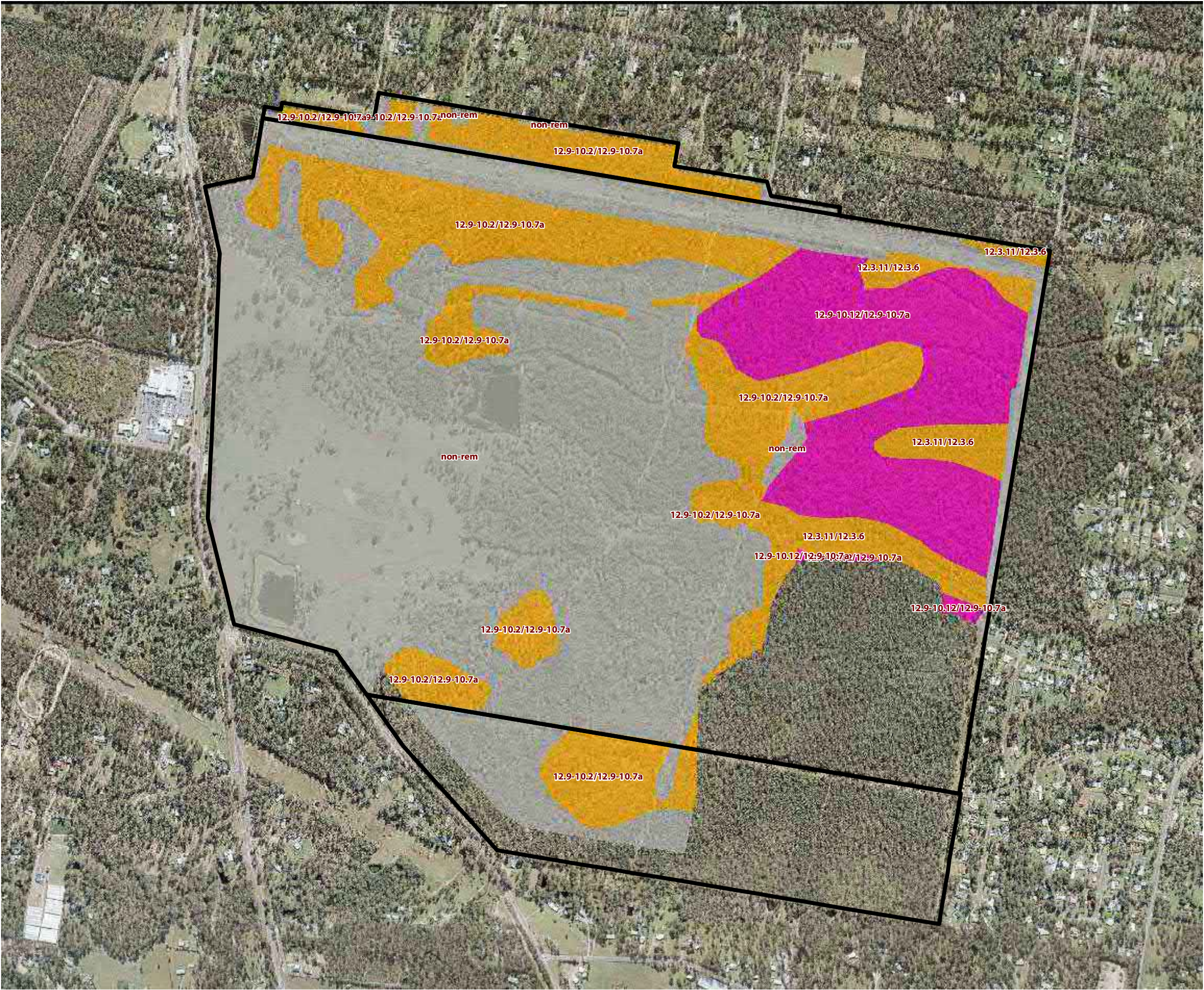
Project | Greenbank

Address/RPD | Lot 434 on RP845844


Sources | QLD GIS Layers (QLD Gov. Info Services 2015), Structure Plan (URBIS, 2015)

Plan 1


SHG File
7598 E 01 Site Aerial A





Legend

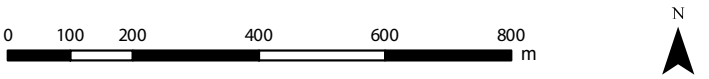
 Project site DCDB


Certified PMAV 2015/004538

 Category B - Containing Endangered REs

 Category B - Containing Of Concern REs

 Category X - Non-remnant






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



APPROVED COMPANY
ISO 9001
Quality Management System
QMS



APPROVED COMPANY
ISO 14001
Environmental Management System
QMS

Greenbank

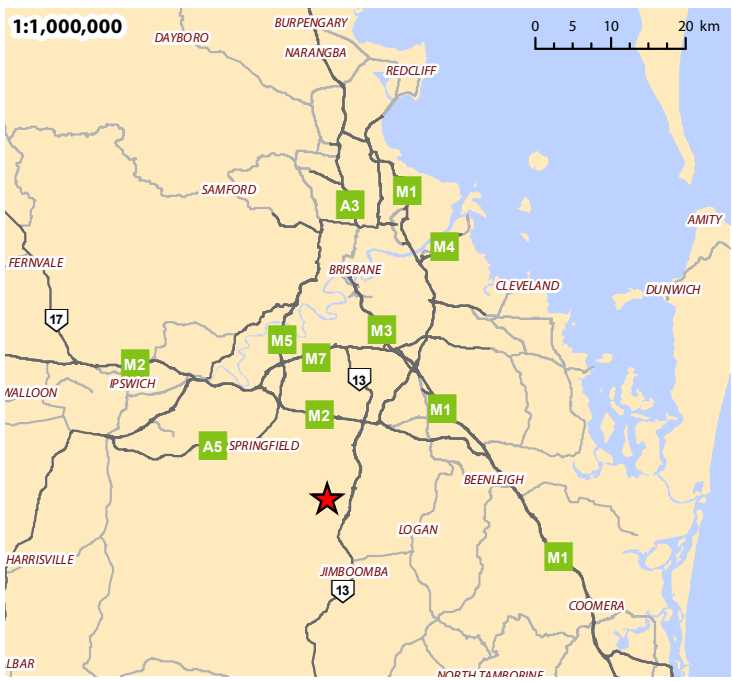
Natural Environment Site Strategy

Certified Property Map of Assessable Vegetation

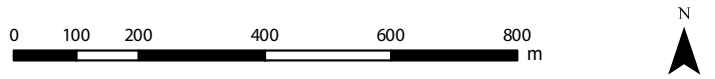
Date | 8/03/2016
Scale | 1:12,000 @ A3
Coordinate System | GDA 1994 MGA Zone 56
Projection | Transverse Mercator
Client | MIRVAC
Project | Greenbank
Address/RPD | Lot 434 on RP845844
Sources | QLD GIS Layers (QLD Gov. Info Services 2015), Structure Plan (URBIS, 2015)

Plan 2

SHG File
7598 E 02 Certified PMAV A



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



ISSUES:

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

APPROVED COMPANY
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Quality Management System
QMS

APPROVED COMPANY
ISO 14001
Environmental Management System
QMS

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Natural Environment Site Strategy

Property Map of Assessable Vegetation For Lodgement

Date | 18/03/2016

Scale | 1:1,200 @ A3

Coordinate System | GDA 1994 MGA Zone 56

Projection | Transverse Mercator

Client | MIRVAC

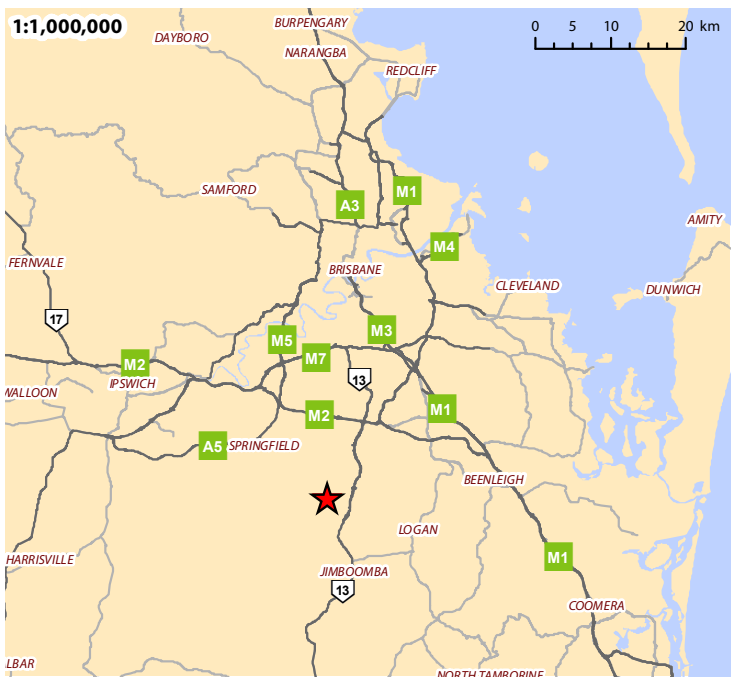
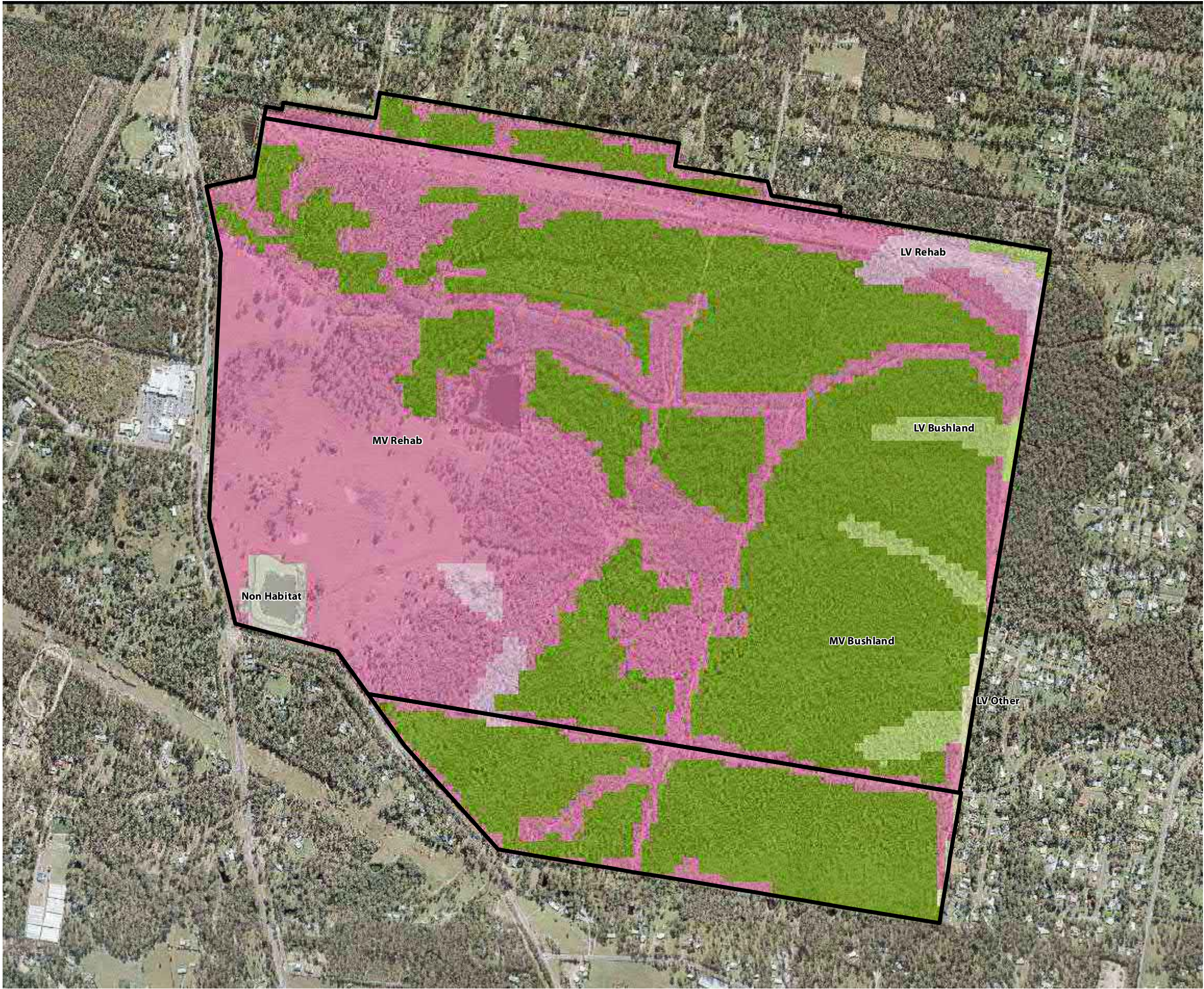
Project | Greenbank

Address/RPD | Lot 434 on RP845844

Sources | QLD GIS Layers (QLD Gov. Info Services 2015), Structure Plan (URBIS, 2015)

Plan 3

SHG File
7598 E 03 Lodgement PMAV A_



Legend

Project site DCDB

Koala Habitat Values Mapping

Bushland Habitat

High Value Bushland

Medium Value Bushland

Low Value Bushland

Suitable for Rehabilitation

High Value Rehabilitation

Medium Value Rehabilitation

Low Value Rehabilitation

Other Areas of Value

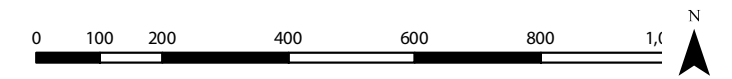
High Value Other

Medium Value Other

Low Value Other

Non-habitat

Water



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A	18/03/2016	Prelim Draft	TC	MS

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ISO 9001

Quality Management System

QMS

APPROVED COMPANY

ISO 14001

Environmental Management System

QMS

Greenbank

Natural Environment Site Strategy

SEQ Koala Habitat Values Mapping

Date18/03/2016

Scale1:1,2,000 @ A3

Coordinate SystemGDA 1994 MGA Zone 56

ProjectionTransverse Mercator

ClientMIRVAC

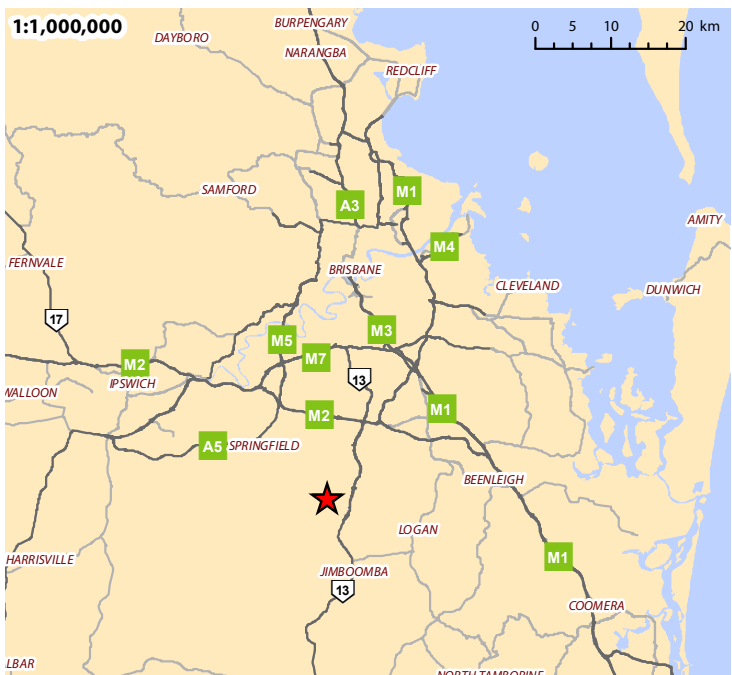
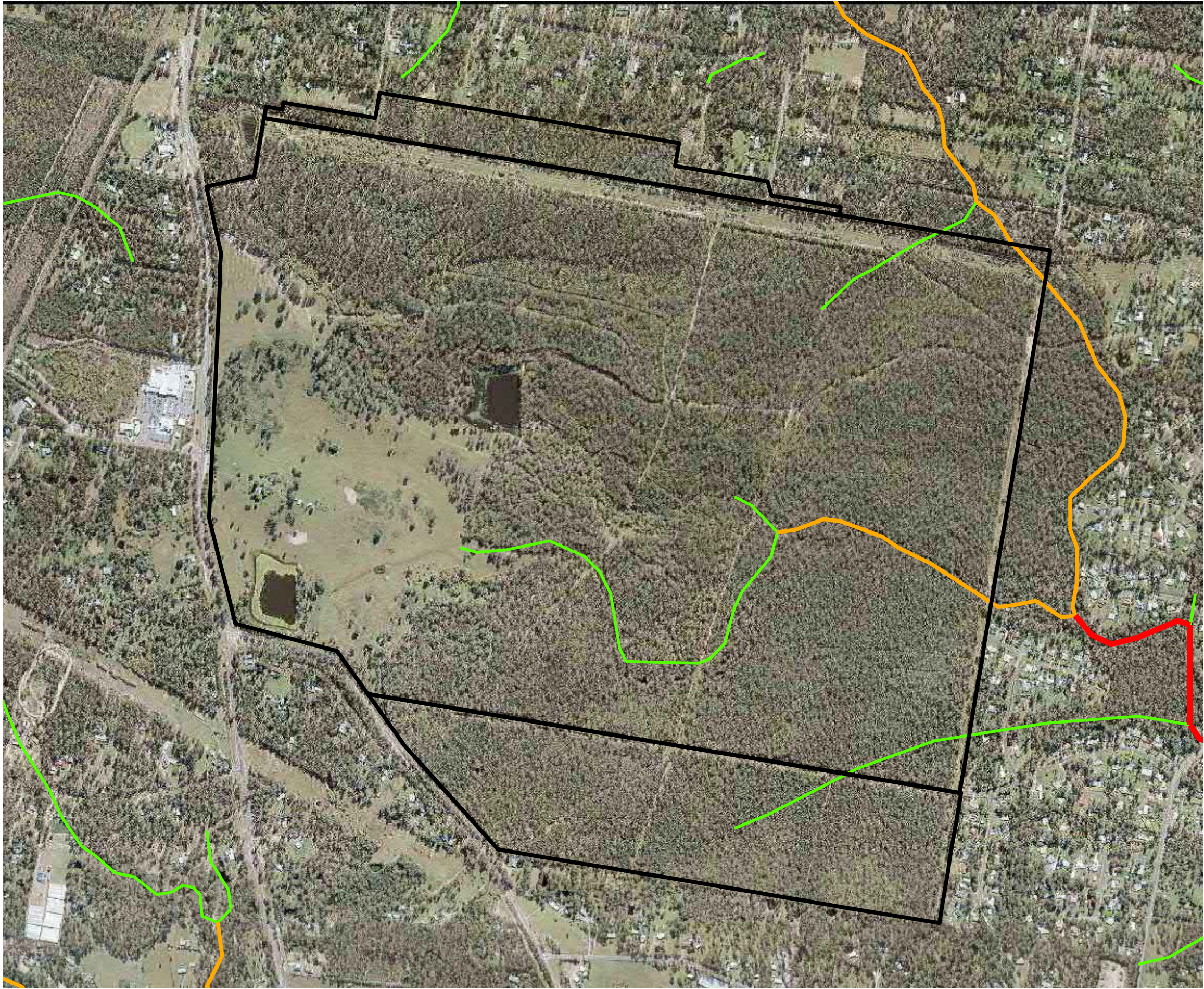
ProjectGreenbank

Address/ RPD Lot 434 on RP845844

SourcesQLD GIS Layers (QLD Gov. Info Services 2015), Structure Plan (URBIS, 2015)

Plan 4

SHG File7598 E 04 Koala Habitat Values A




Legend

 Project site DCDB

Waterways

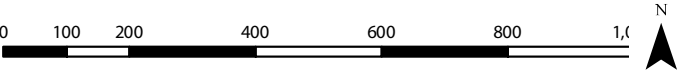
Risk of Impact

 1 - Low

 2 - Moderate

 3 - High

 4 - Major





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



APPROVED COMPANY

ISO 9001

Quality Management System

QMS



APPROVED COMPANY

ISO 14001

Environmental Management System

QMS

Greenbank

Natural Environment Site Strategy

Fisheries - Waterways for Waterway Barrier Works

Date | 18/03/2016

Scale | 1:12,000 @ A3

Coordinate System | GDA 1994 MGA Zone 56

Projection | Transverse Mercator

Client | MIRVAC

Project | Greenbank

Address/RPD | Lot 434 on RP845844

Sources | QLD GIS Layers (QLD Gov. Info Services 2015), Structure Plan (URBIS, 2015)

Plan 5

SHG File
7598 E 05 Fisheries A

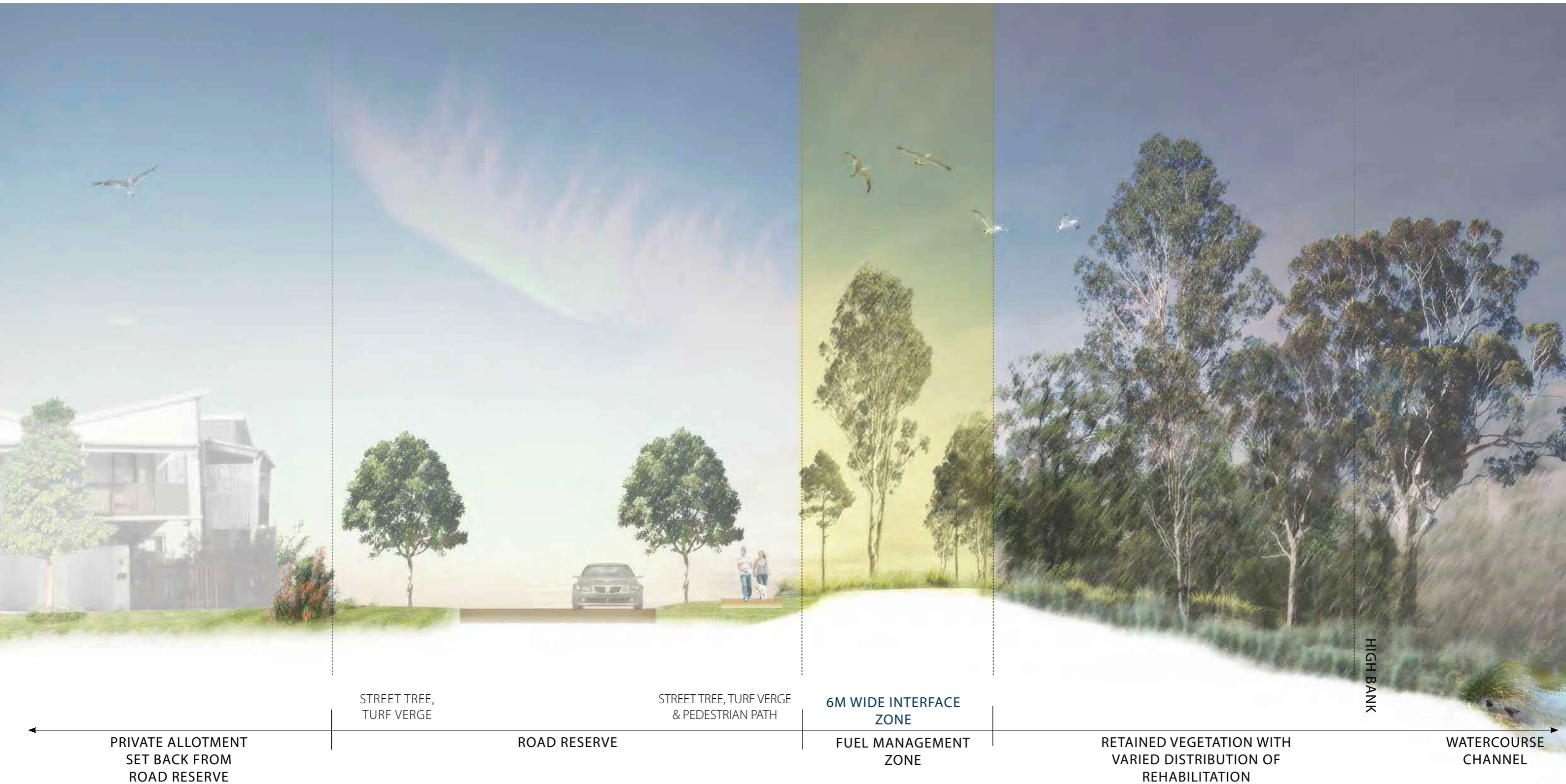
GREENBANK ROAD - TECHNICAL ECOLOGICAL ASSESSMENT REPORT

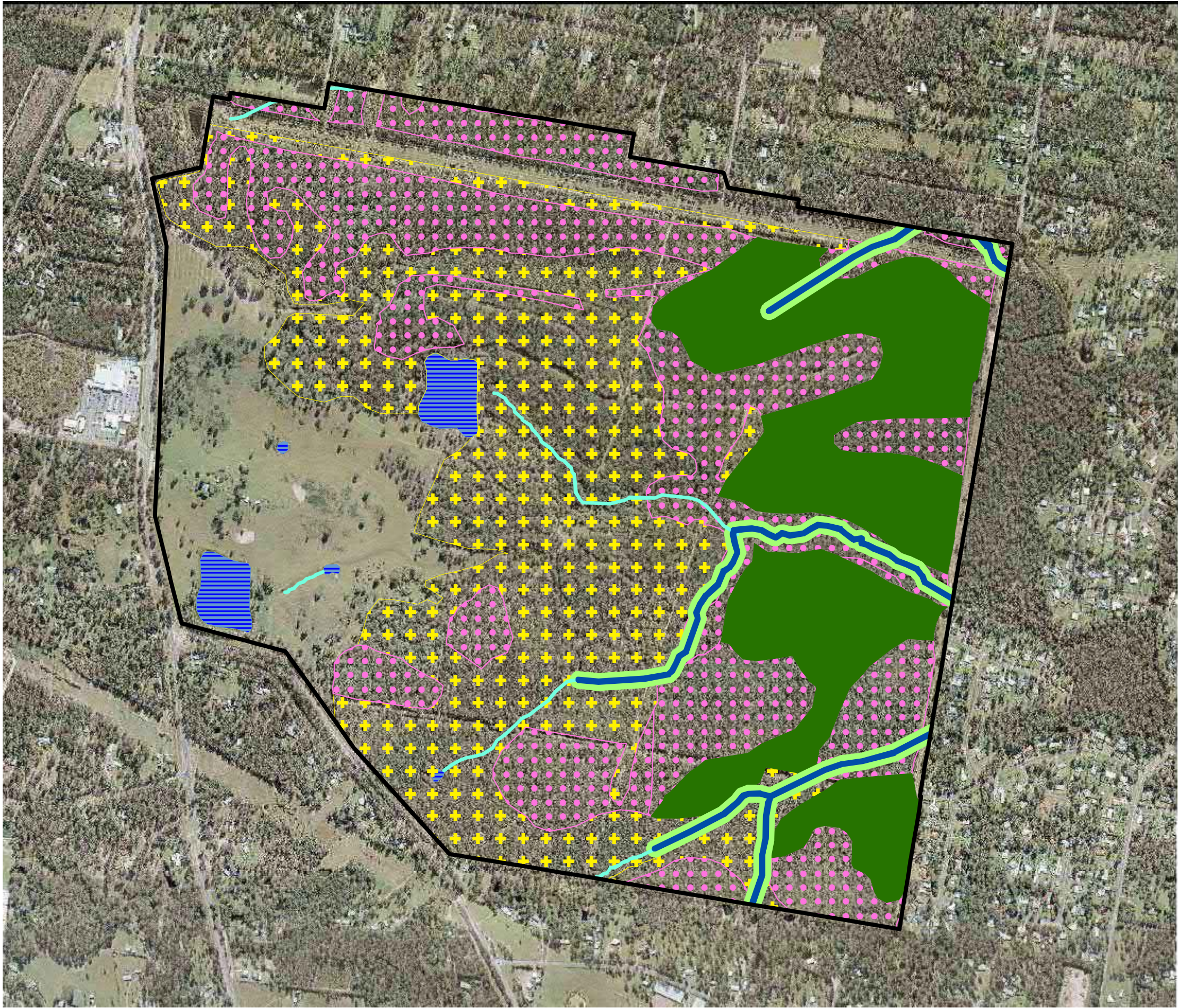
INDICATIVE DEVELOPMENT INTERFACE TO RETAINED VEGETATION - SECTION AA



GREENBANK ROAD - TECHNICAL ECOLOGICAL ASSESSMENT REPORT

INDICATIVE DEVELOPMENT INTERFACE TO RETAINED VEGETATION - SECTION BB





Legend

Project site boundary

Significant Biodiversity Values

Confirmed Areas of Remnant Vegetation
Containing Endangered Regional Ecosystems

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

Confirmed Waterway Areas

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

Other Biodiversity Values

Low Order Remnant Vegetation

Of Concern and Least Concern Regional Ecosystem type areas

Waterway Buffer Areas

Areas of preferred buffer extent to Project Site watercourses

Other Drainage Features & Watercourses

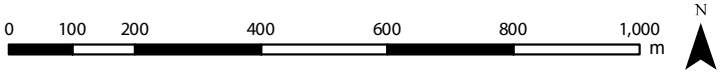
Areas within the site conveying current hydrology flow paths – *varying quality*.

Project Site Farm Dams

Locations of artificially created farm dams

Areas of Juvenile Native Vegetation

Areas of Project Site retaining varying degrees of native regeneration vegetation



Greenbank
Natural Environment Site Strategy

Site Constraints Plan

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

Plan 8

SHG File
7598 E 08 Site Constraints C

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

ATTACHMENT 1 - Phase 1 Clearing Extent



NOTES
This plan was prepared as a desktop assessment tool.
The information on this plan is not suitable for any other purpose.
Property dimensions, areas, numbers of lots and contours and other physical features shown have been compiled from existing information and may not have been verified by field survey. These may need verification if the development application is approved and development proceeds, and may change when a full survey is undertaken or in order to comply with development approval conditions. No reliance should be placed on the information on this plan for detailed design or for any financial dealings involving the land. Saunders Havill Group therefore disclaims any liability for any loss or damage whatsoever or howsoever incurred, arising from any party using or relying upon this plan for any purpose other than as a document prepared for the sole purpose of accompanying a development application and which may be subject to alteration beyond the control of the Saunders Havill Group. Unless a development approval states otherwise, this is not an approved plan.

Layer Sources
Qld State Cadastre and Mapping layers © State of Queensland (Department of Natural Resources and Mines) 2019. Updated data available at <http://qldspatial.information.qld.gov.au/catalogue/>
Aerial Imagery © Nearmap, 2019

* This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

Legend

- Impact area
- Stage 1 site (29 ha)
- Stage 1 Phase 1 fence location (Survey data)
- Stage 2 site (201 ha)

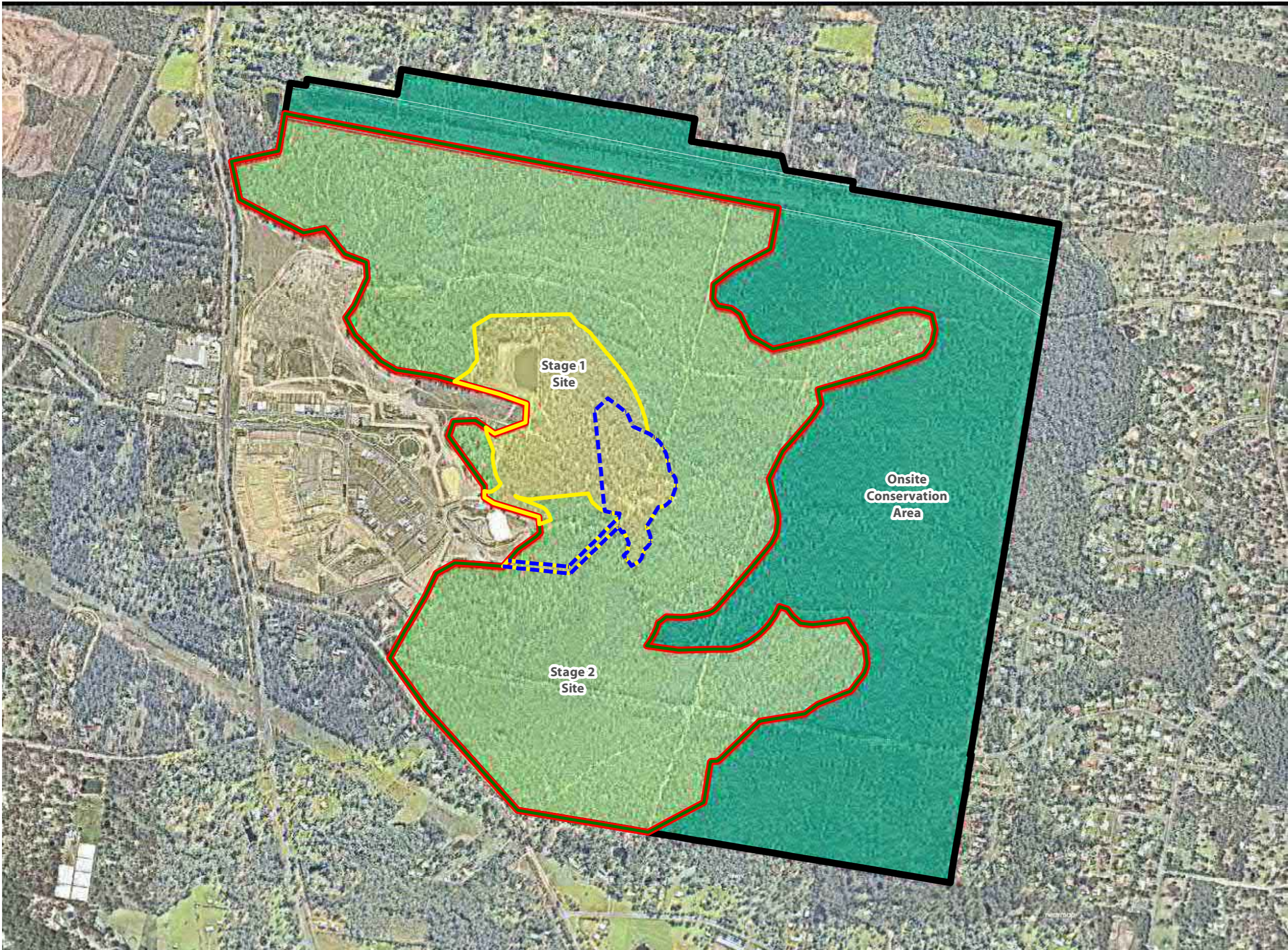
Issue	Date	Description	Drawn	Checked
A	14/11/2019	Preliminary	MC	KG

0 10 20 40 60 80 100 m

1:2,500 @ A3

Transverse Mercator | GDA 1994 | Zone 56 |






ATTACHMENT 2 - EPBC Stage 1 Approval Extent



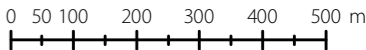
NOTES
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Layer Sources
Qld State Cadastre and Mapping layers © State of Queensland (Department of Natural Resources and Mines) 2019. Updated data available at <http://qldspatialinformation.qld.gov.au/catalogue/>
Aerial Imagery © Nearmap, 2019

* This note is an integral part of this plan/data. Reproduction of this plan or any part of it without this note being included in full will render the information shown on such reproduction invalid and not suitable for use.

- Legend**
-  Impact area
 -  Stage 1 site (29 ha)
 -  Stage 1 Phase 1 fence location (Survey data)
 -  Stage 2 site (201 ha)
 -  Onsite conservation (180 ha)

Issue	Date	Description	Drawn	Checked
A	14/11/2019	Preliminary	MC	KG



1:12,000 @ A3

Transverse Mercator | GDA 1994 | Zone 56 |



Vegetation Management Plan

Proposed School Development
Phase 1 & 2



Greenbank, Qld

*Economic Development
Queensland (EDQ)*

CONTENTS

7598 E 02 E SCH VMP B -- Vegetation Clearing Notes

7598 E 03 E SCH VMP B -- Detail Sheet Context

7598 E 04-55 E SCH VMP B -- Detail Sheets

7598 E 56 E SCH VMP B -- Clearing Direction

Appendix A -- Tree Schedule

SHG Contact

Dr Andrew Davies

Phone: (07) 3251 9444

Email: andrewdavies@saundershavill.com



Vegetation Management Plan - Notes

INTRODUCTION

The Environmental Management Division of the **Saunders Havill Group (SHG)** was engaged by **MIRVAC Ltd** to prepare a Vegetation Management Plan (VMP) for the proposed school located in the Everleigh Project.

The purpose of this plan is to manage the vegetation removal process within the clearing area. The clearing area will be staged in two Phases, Phase 1 being for construction of the School only with the balance of the site's development area as Phase 2 to reflect the requirements of the EPBC Act approval as issued in draft by the Commonwealth **Department of Environment Energy**. This VCFMP has been conditioned by **EDQ** under the approval package *DEV2016/768*, and is required to be submitted to **EDQ** prior to clearing works commencing. The clearing works will follow general principles for vegetation clearing documented on this sheet and all **EDQ** specific requirements.

This VCFMP has been produced by overlaying the following site datasets to determine impacts and disturbance on existing vegetation:

- 1. GPS/survey accurate tree data including specimen details & features (SHG)
- 2. Project Inspection of Existing Vegetation (SHG)
- 3. Project Layout Plans (URBIS)
- 4. Project engineering (Premise)

PROJECT MANAGEMENT

Vegetation management and its processes is an integral part of the construction and operational phase. The site supervisor is responsible for all onsite works including overseeing vegetation clearing, health and safety of fauna and adhering to both **EDQ's** conditions and Australian Standards - Protection of Trees on Development Sites AS4970-2009 and Pruning of Amenity Trees AS4373-1996.

The site arborist's responsibilities include: prior to the commencement of any earthworks on the site, undertake all appropriate arboricultural measures to ensure the survival and long term health of the existing trees to be retained. Supervise all works within TPZs and perform any required arboricultural care required to retain trees identified for retention and provide advice and direction on undertaking works within TPZs.

SITE CONTACTS

Site and consulting contacts for queries relating to vegetation clearing include:

Client Contact:	Environmental Contact:
MIRVAC Ltd	Saunders Havill Group
Mr Jason Augustine	Dr Andrew Davies
Ph (07) 3959 5960	Ph (07) 3251 9444

Site Contractor:	Site Arborist:
<i>To be advised</i>	<i>To be advised</i>

Site Fauna spotter-catcher:	Site Bushfire Consultant:
<i>To be advised</i>	<i>To be advised</i>
(Refer to <i>Fauna Management Plan</i>)	

CLEARING PHASES AND PROCESS

PHASE 1 - Tree Protection Fencing to be installed

Fencing to be installed prior to the commencement of any clearing works on the site. Tree protection fencing to be located at or beyond 12 x diameter at breast height (DBH) (AS4970-2009 Protection of trees on development sites)—unless approved by the appointed arborist.

PHASE 2 - Pre-start Meeting
Fencing shall be in place at the time of the pre-start meeting for inspection and sign off by the Environmental Coordinator.

PHASE 3 - Fauna Inspections and Management
Undertake necessary fauna management requirements prior to clearing works – refer to the *Fauna Management Plan* for details.

PHASE 4 - Undertake Bulk Clearing
Undertake wholesale removal of vegetation once approved for removal by a qualified fauna spotter. Clearing will occur in the direction outlined in *sheet 56* of this VCFMP, and managed by the appointed fauna spotter to allow all fauna unimpeded movement east towards the bushland areas remaining on site.

Vegetation clearing techniques:

- i. By utilising the most appropriate machinery and equipment during vegetation clearing, the probability of injury or death of wildlife during clearing can be significantly reduced or eliminated while still maintaining an efficient vegetation removal process.
- ii. Suggested techniques are as follows: (a) a vertical tree grab attachment on an excavator (30 tonne) can be used to pull entire trees in size up to 30-40cm diameter at a height measured at 1.3 metres above ground level and lay them down in a steady controlled fashion, allowing inspection by a fauna spotter-catcher (b) where large trees are too large for a vertical tree grab and have been identified, an elevated work platform or where practical, cherry picker should be used in conjunction with a chainsaw operator and fauna spotter-catcher. Alternatively, careful removal of hollow section from habitat tree and gentle lowering for inspection by fauna spotter-catcher (c) the use of bulldozers to clear vegetation is limited to vegetation that has been thoroughly inspected by a fauna spotter-catcher and is found to contain no fauna or potential habitat. Bulldozers are not to be used to push over large trees that contain hollows or other habitat features.

NOTE: Dogs are not permitted onsite at all times during construction. Construction works including clearing must occur between the hours of 6.30am and 6.30pm.

ACCESS AND STOCKPILING

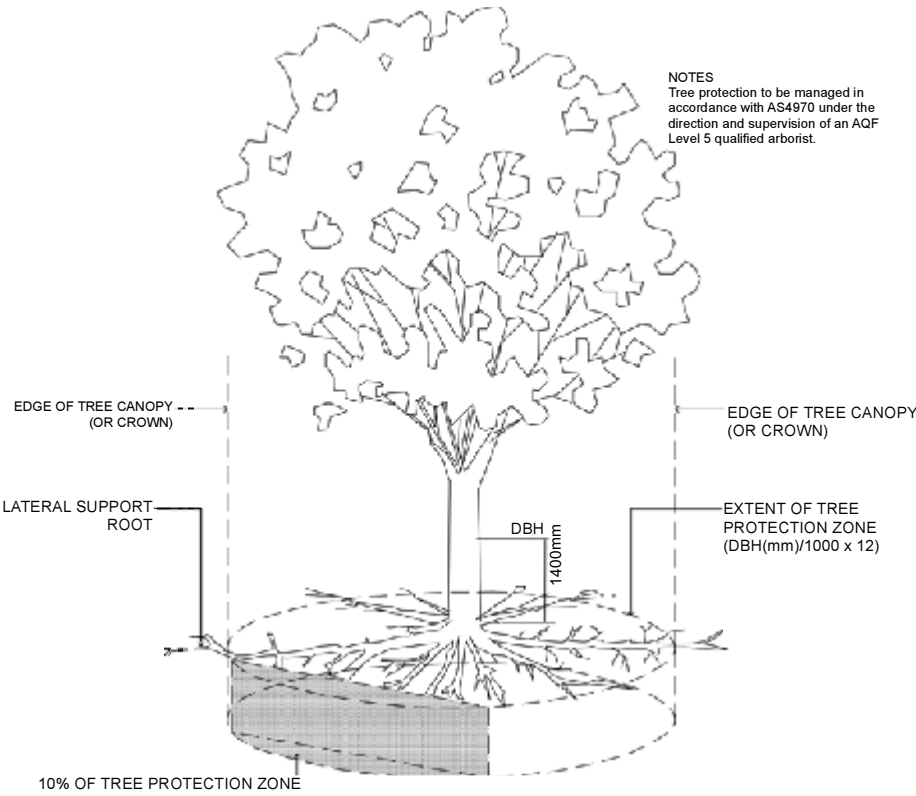
The vegetation stockpiling locations are to be designated in an easily accessible area outside of TPZs. Indicative Vegetation stockpiling locations have been allocated near existing tracks allowing for felled vegetation to be accessible during the clearing works. These locations are subject to minor changes according to clearing direction changes determined during works.

Cleared vegetation free of weeds is to be reused on or off the project site. Recycling techniques include mulching, tub-grinding, wood chipping and salvage (e.g. custom milling). Trees with identified hollows should have the hollow section preserved and should be suitably mounted on nearby or adjacent suitable trees.

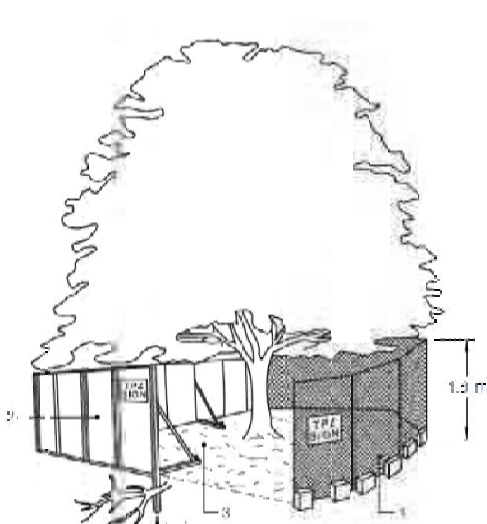
MAINTENANCE

After the completion of each of the 2 clearing phases, a check of the protection fencing is required to ensure any damaged or knocked over sections are repaired and reinstated. Furthermore, where possible, barrier fencing to replace fauna friendly fencing to prevent fauna accessing the school site during construction.

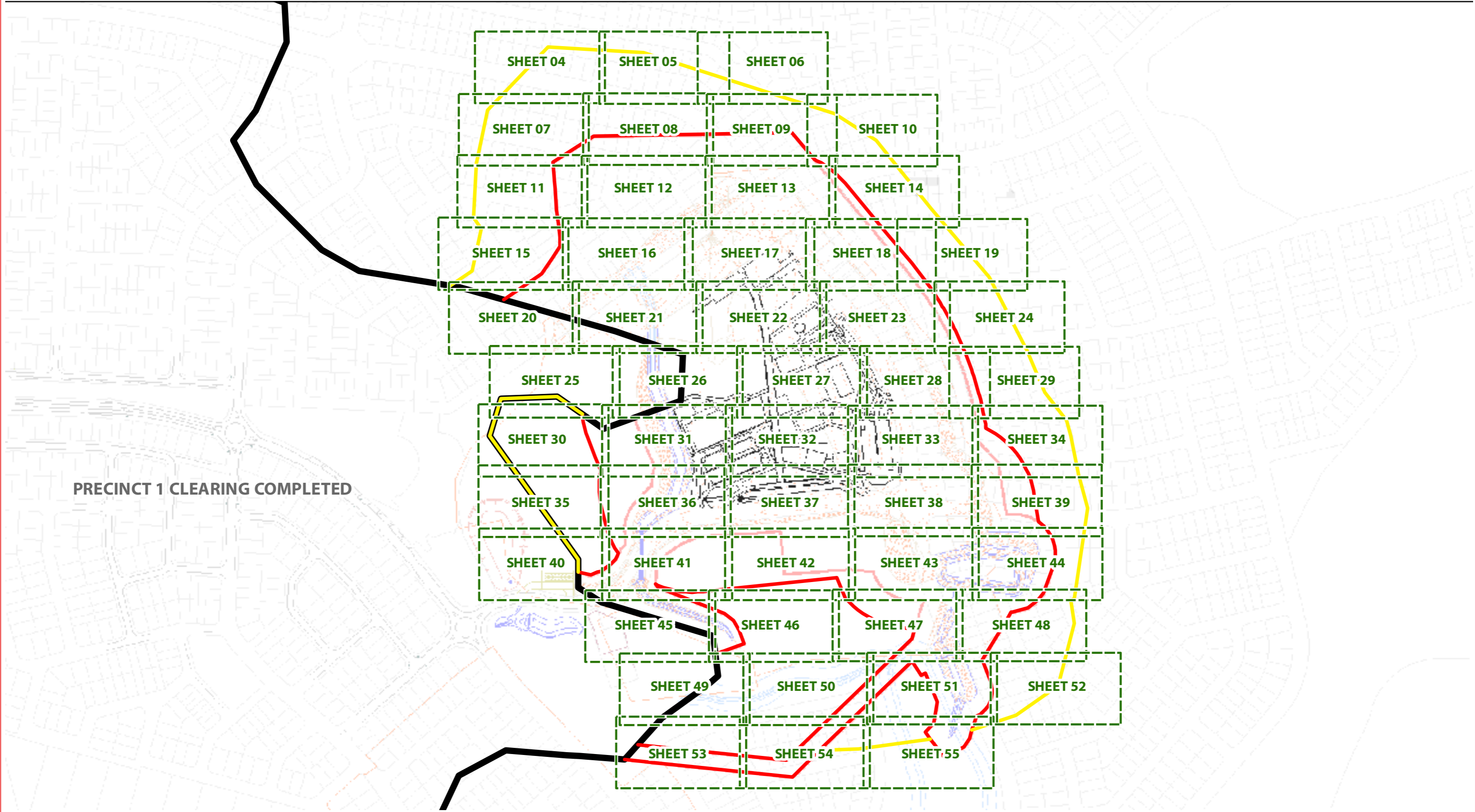
Tree Protection Zone - Detail (not to scale)



AS 4970 Tree Protection Fencing - Detail (not to scale)



- LEGEND
- 1. Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
 - 2. Alternative plywood or wooden paling fence. This fencing option also prevents building materials or soil entering the TPZ.
 - 3. Mulch installation across surface of TPZ (at the discretion of the Project Arborist). No Excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted with the TPZ.
 - 4. Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.



Legend

Project layout

Approved clearing area

Phase 1 clearing boundary

Phase 2 clearing boundary

Proposed school design

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No: DEV2016/768

AMENDMENTS:

Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

0 100 200 300 m

1:4,500 @ A3

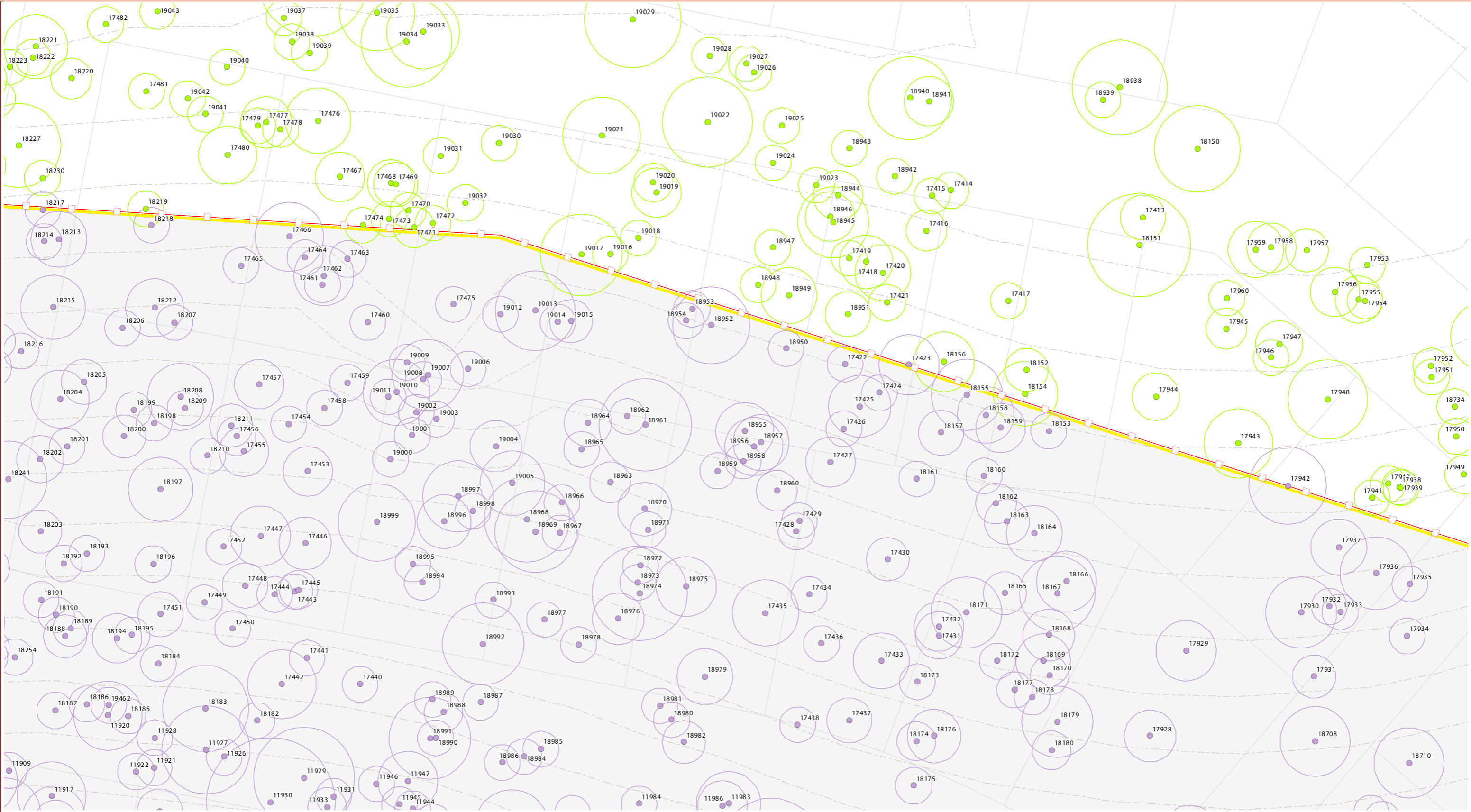
Vegetation Management Plan - *Detail sheet context*

environmental management

PLAN OF: Vegetation Management Plan

DATE: 17/09/2019	CHECKED: AD
CLIENT REF: JOB NO. 7598	DRAWN: TC
DRAWING No: 7598 E 03 SCH VMP B	

PROJECT: Everleigh School Site Greenbank Rd, Greenbank Qld



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

Stormwater/basin devices

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation Management Plan - *Detail sheet 05*



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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

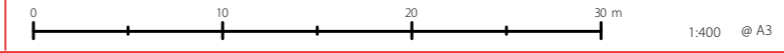
EDQ Development application No: **DEV2016/768**

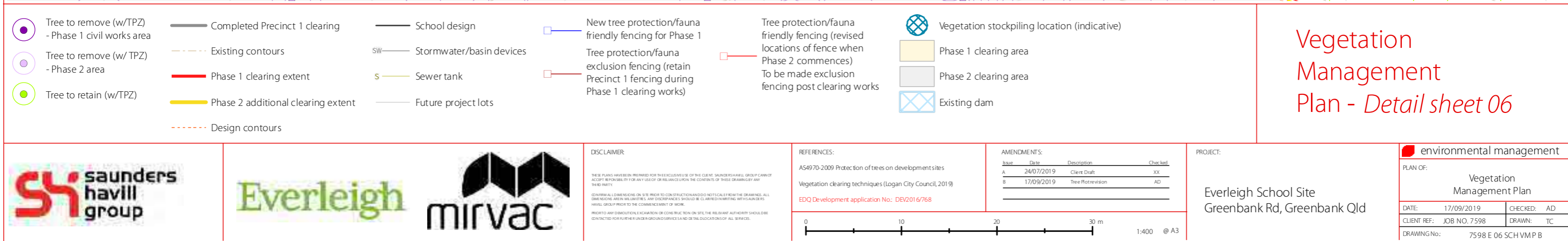
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Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

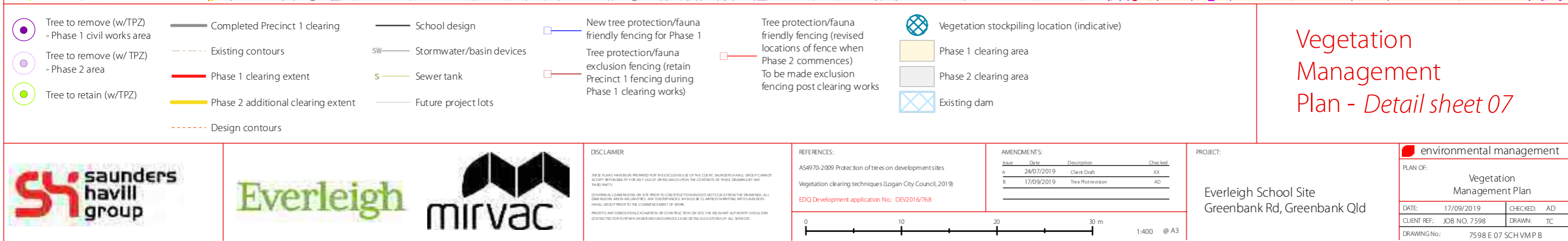
PROJECT:

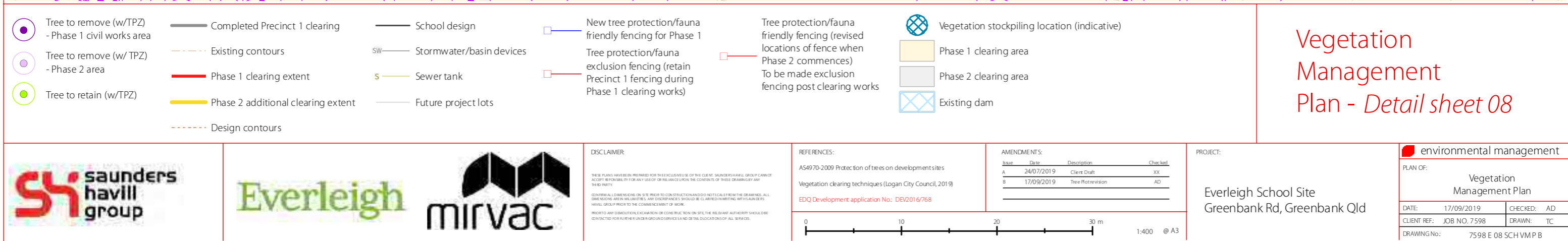
Everleigh School Site
Greenbank Rd, Greenbank Qld

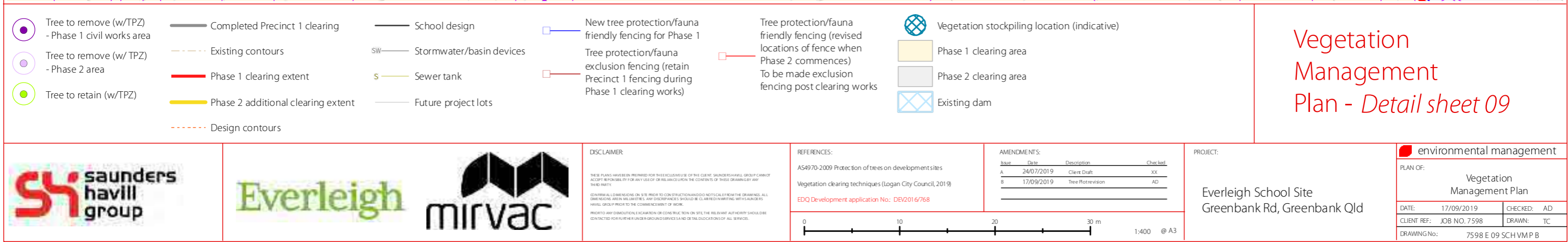
environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 05 SCH VMP B		

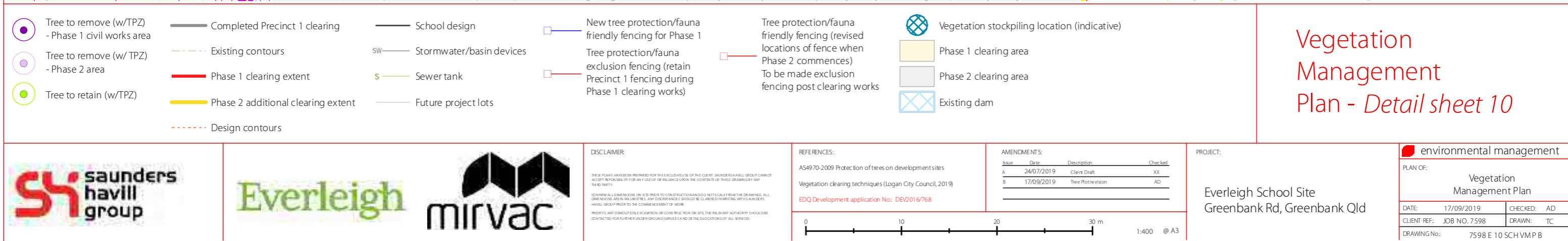


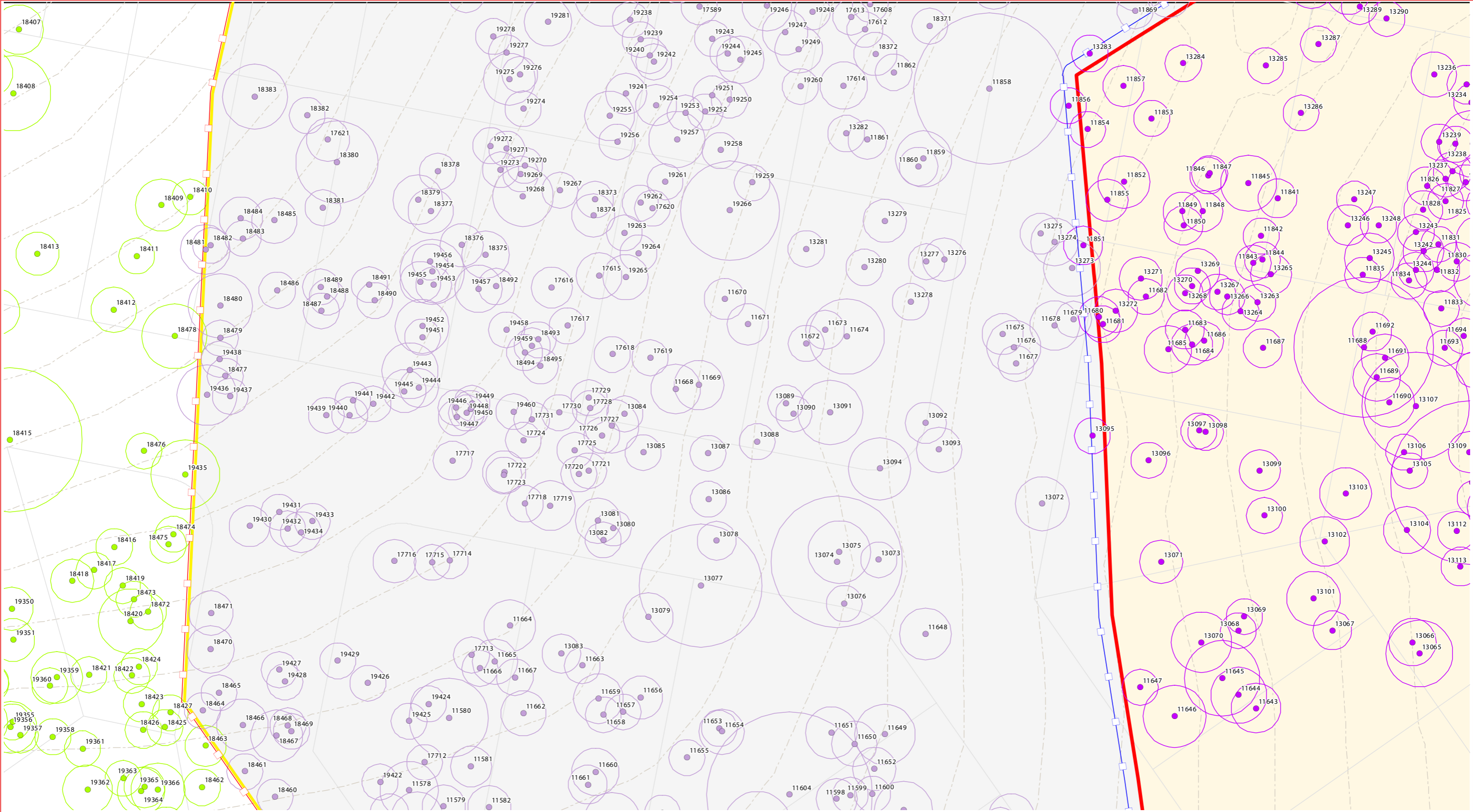












Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna
friendly fencing for Phase 1

Tree protection/fauna
exclusion fencing (retain
Precinct 1 fencing during
Phase 1 clearing works)

Tree protection/fauna
friendly fencing (revised
locations of fence when
Phase 2 commences)
To be made exclusion
fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 11*

DISCLAIMER

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PRIOR TO ANY CONSULTATION, EXCAVATION OR CONSTRUCTION ON SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR FURTHER UNDERGROUND SERVICES AND THE LOCATIONS OF ALL SERVICES.

REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

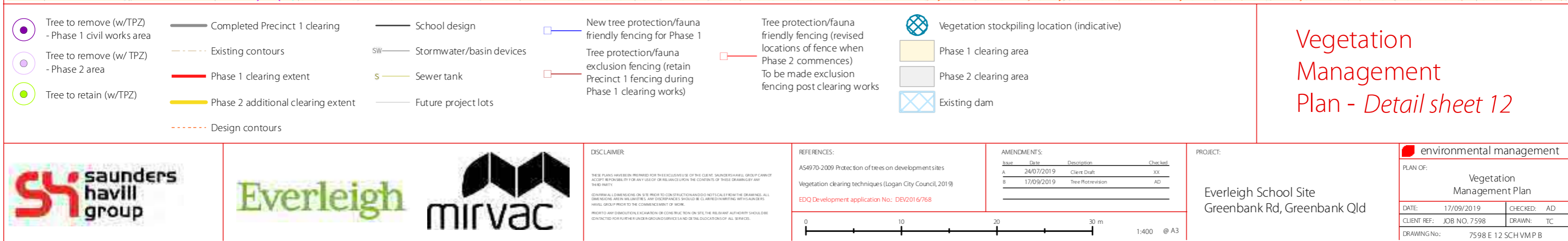
EDQ Development application No: DEV2016/768

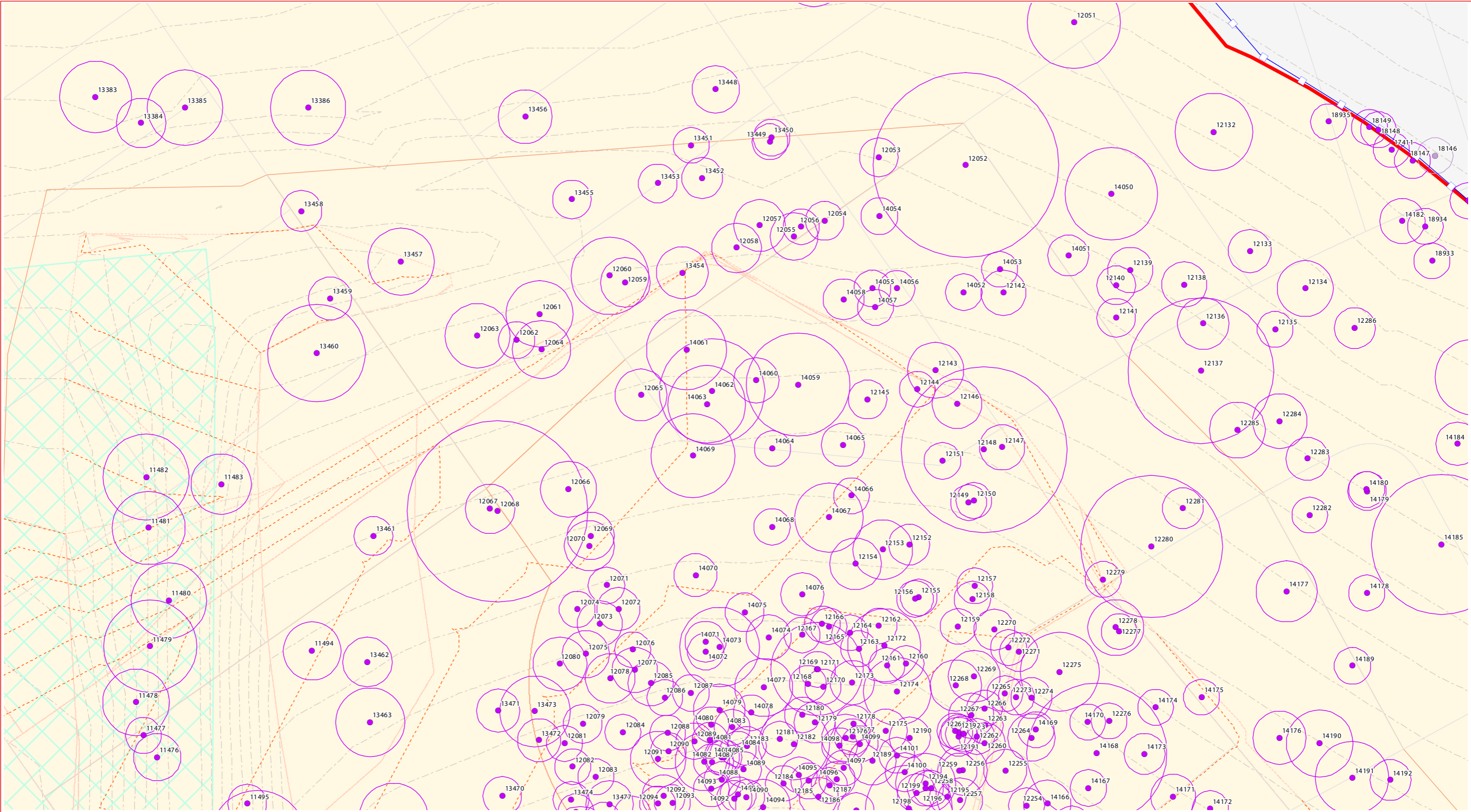
AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 11 SCH VMP B		





- Tree to remove (w/TPZ) - Phase 1 civil works area
- Tree to remove (w/ TPZ) - Phase 2 area
- Tree to retain (w/TPZ)

- Completed Precinct 1 clearing
- Existing contours
- Phase 1 clearing extent
- Phase 2 additional clearing extent
- Design contours

- School design
- Stormwater/basin devices
- Sewer tank
- Future project lots

- New tree protection/fauna friendly fencing for Phase 1
- Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

- Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
- To be made exclusion fencing post clearing works

- Vegetation stockpiling location (indicative)
- Phase 1 clearing area
- Phase 2 clearing area
- Existing dam

Vegetation Management Plan - *Detail sheet 13*



DISCLAIMER

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

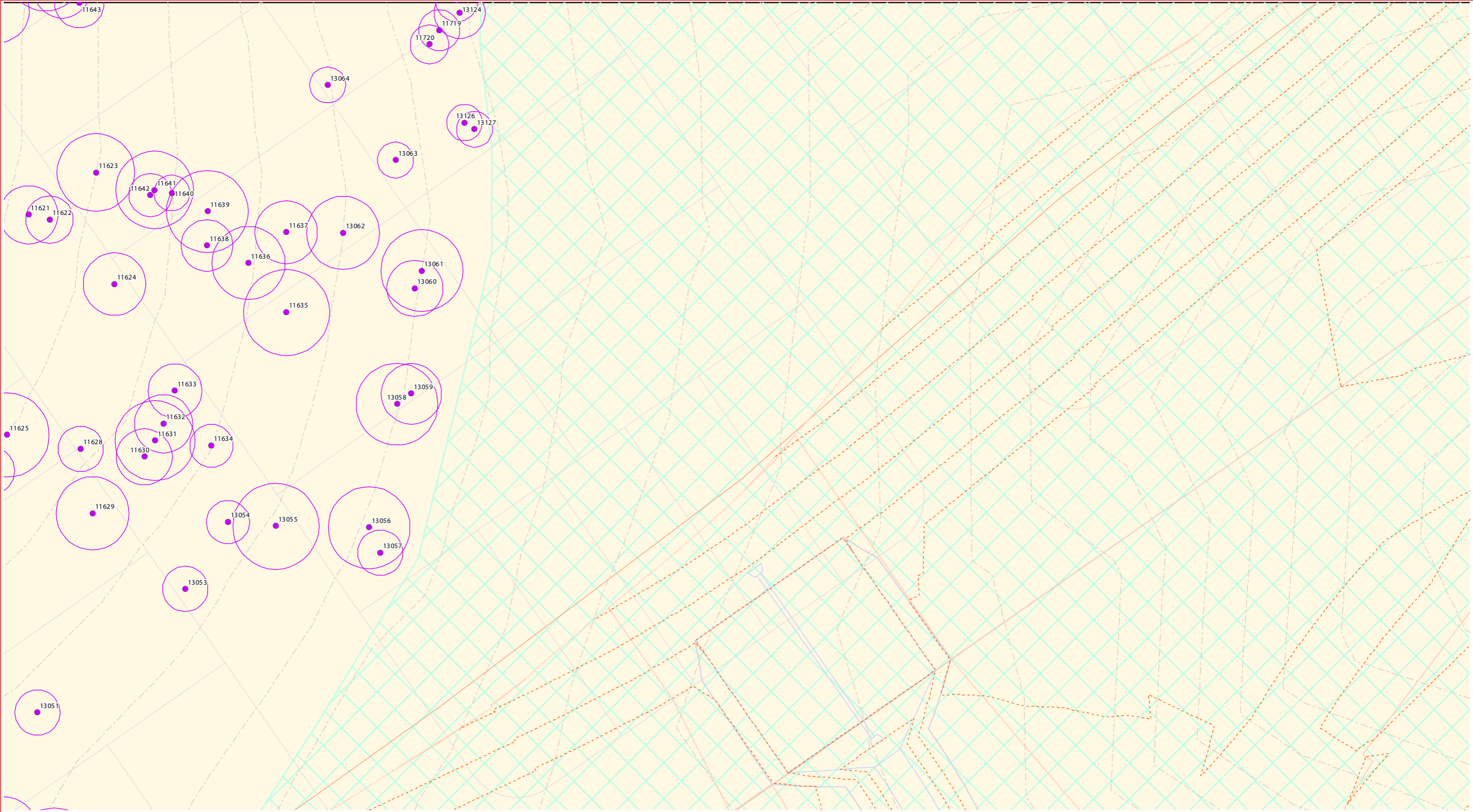
EDQ Development application No: DEV2016/768

AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Retention	AD

0 10 20 30 m

1:400 @ A3

PROJECT:			
Everleigh School Site Greenbank Rd, Greenbank Qld			
environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 13 SCH VMP B		



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Vegetation stockpiling location (indicative)



Phase 1 clearing area

Phase 2 clearing area

Existing dam

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation Management Plan - *Detail sheet 16*



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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No: DEV2016/768

AMENDMENTS:

Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Plan revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management

PLAN OF: Vegetation Management Plan

DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 16 SCH VMP B		

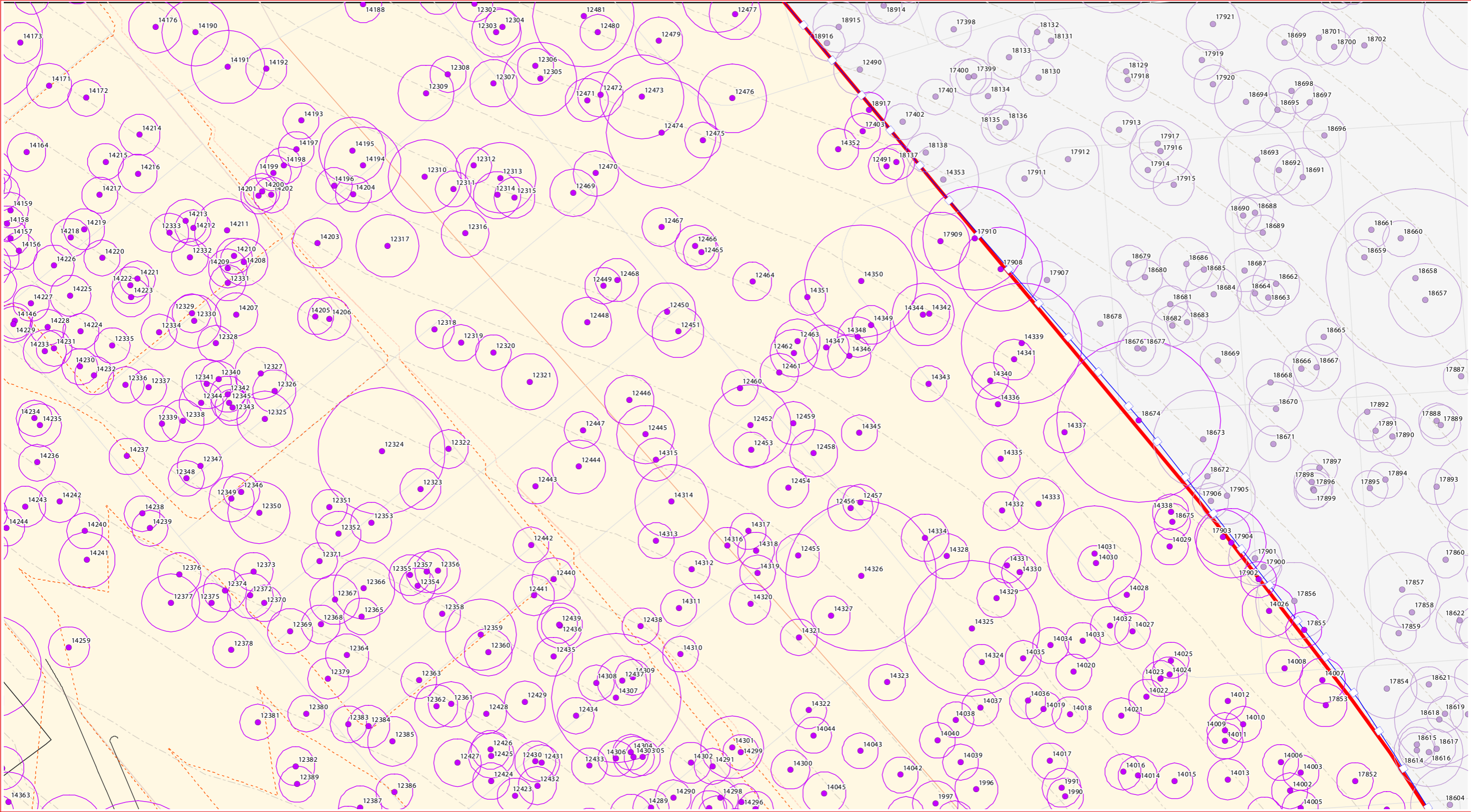
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10

20

30 m

1:400 @ A3



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 18*

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REFERENCES:

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Vegetation clearing techniques (Logan City Council, 2019)

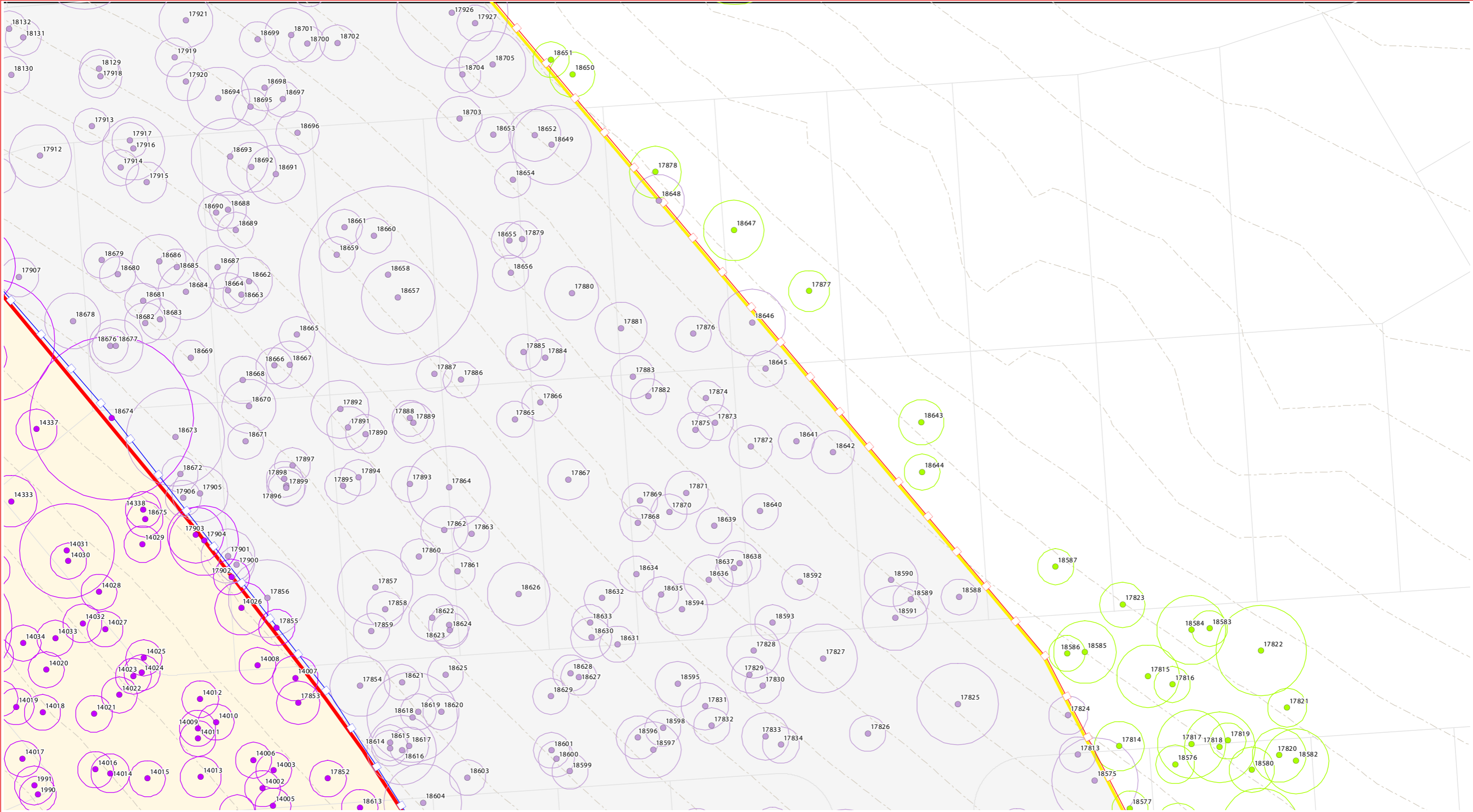
EDQ Development application No.: DEV2016/768

AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No.:	7598 E 18 SCH VMP B		



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 19*

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

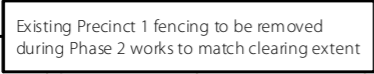
EDQ Development application No: DEV2016/768





AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 19 SCH VMP B		



-  Vegetation stockpiling location (indicative)
 Phase 1 clearing area
 Phase 2 clearing area
 Existing dam

 environmental management

DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7.598	DRAWN:	TC
DRAWING No:		7598 E 20 SCH VMP B	



REFERENCES:

AS4970-2009 Protection of trees on development sites

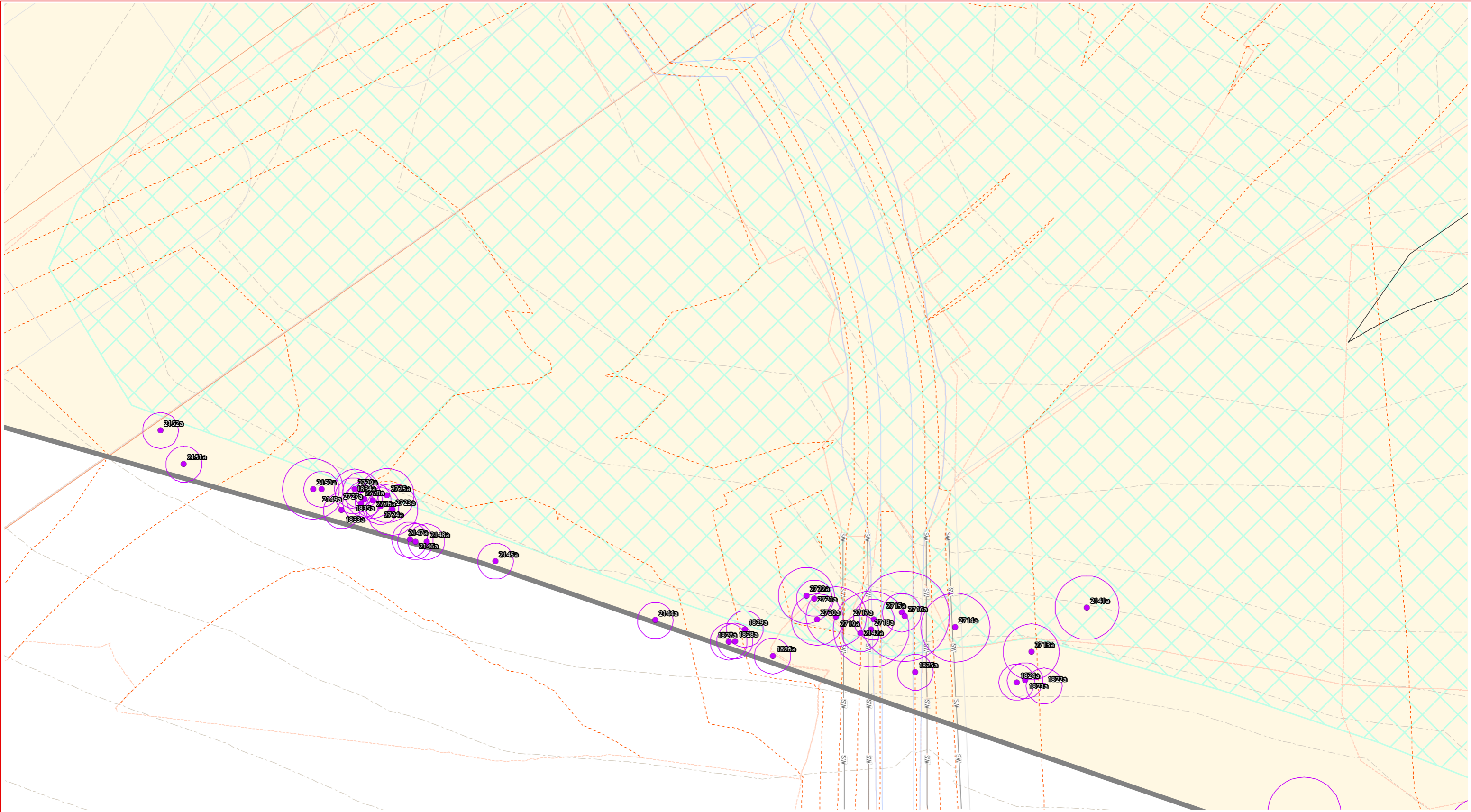
Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No.: DEV2016/768

0 10 20 30 m

1:400 @ A3

Everleigh School Site
Greenbank Rd, Greenbank Qld



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

Stormwater/basin devices

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 21*

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No: DEV2016/768

AMENDMENTS:

Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

PLAN OF:

Vegetation Management Plan

DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 21 SCH VMP B		

0

10

20

30 m

1:400 @ A3



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

Stormwater/basin devices

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works




Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 22*



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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No: DEV2016/768

AMENDMENTS:

Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management

PLAN OF:

Vegetation Management Plan

DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 22 SCH VMP B		

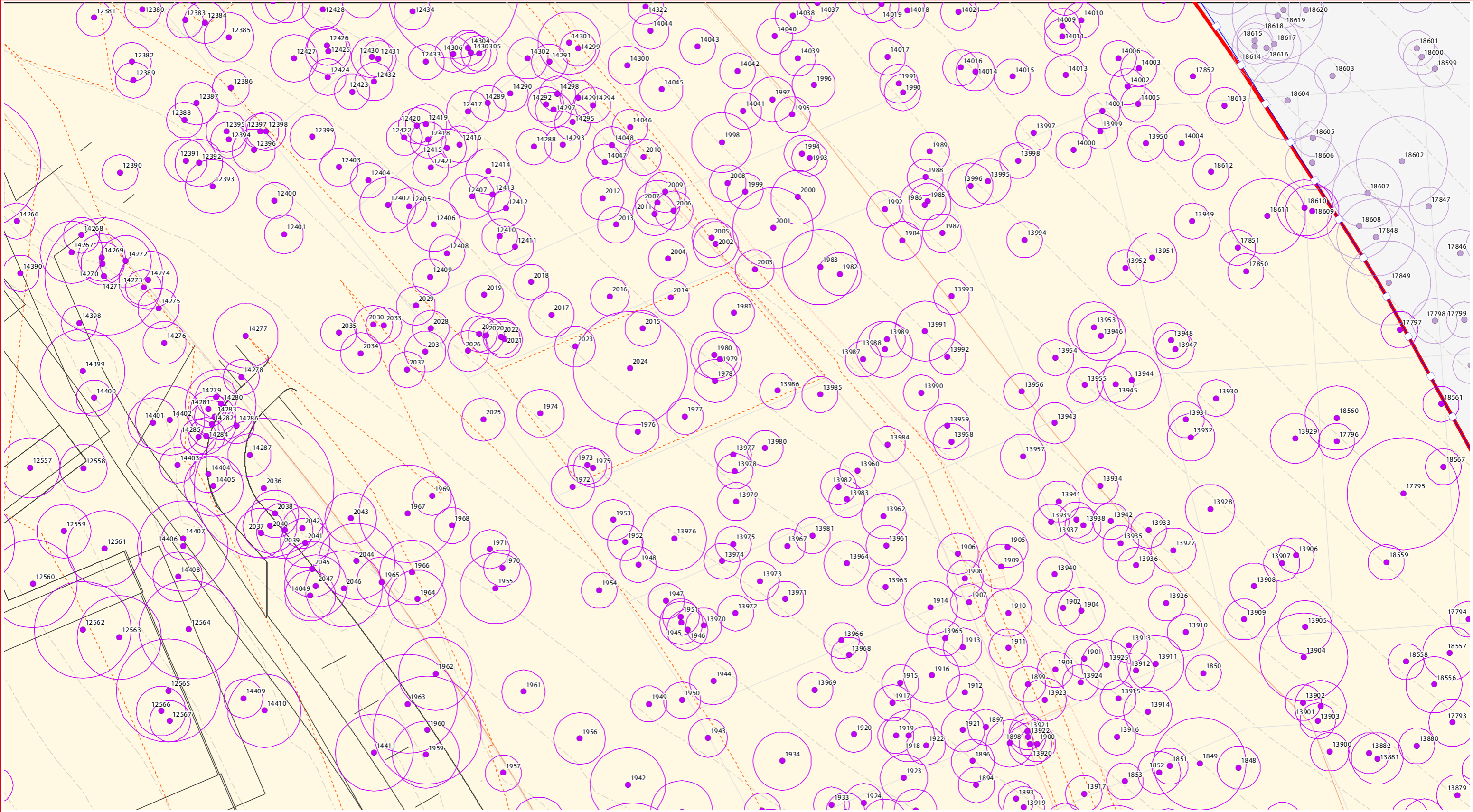
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10

20

30 m

1:400 @ A3



Tree to remove (w/TPZ)

- Phase 1 civil works area

Tree to remove (w/ TPZ)

- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)

To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 23*

DISCLAIMER

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No.: DEV2016/768

AMENDMENTS:

Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Retention	AD

PROJECT:

Everleigh School Site

Greenbank Rd, Greenbank Qld

environmental management

PLAN OF:

Vegetation Management Plan

DATE: 17/09/2019

CHECKED: AD

CLIENT REF: JOB NO. 7598

DRAWN: TC

DRAWING No.: 7598 E 23 SCH VMP B

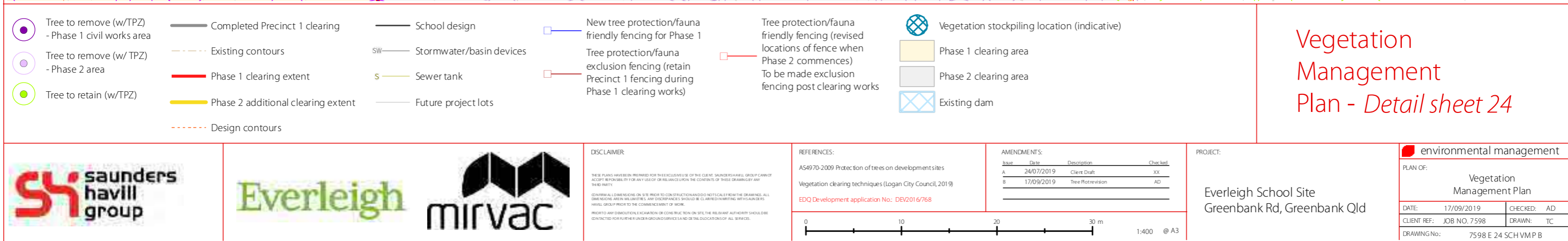
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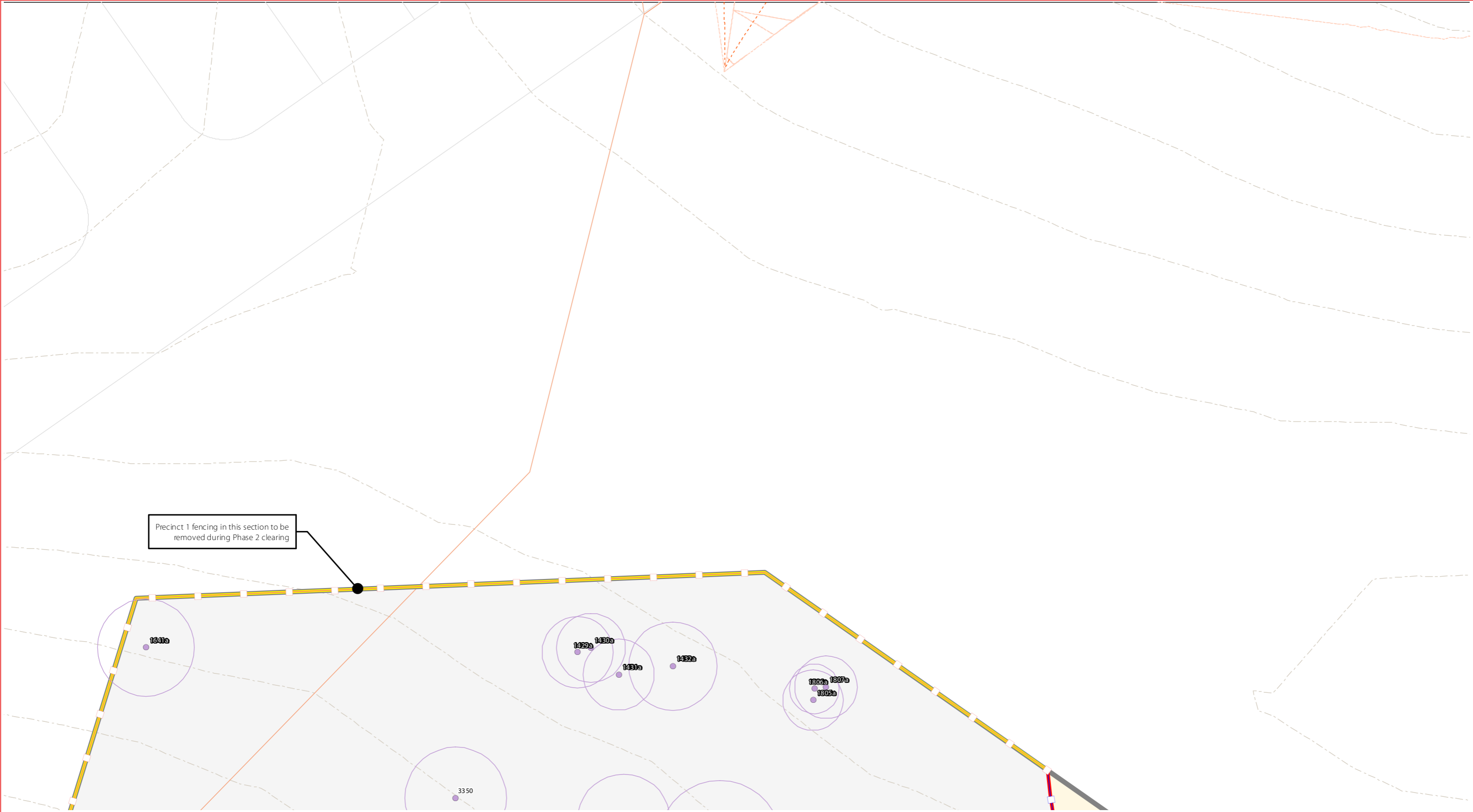
10

20

30 m

1:400 @ A3





Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 25*

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

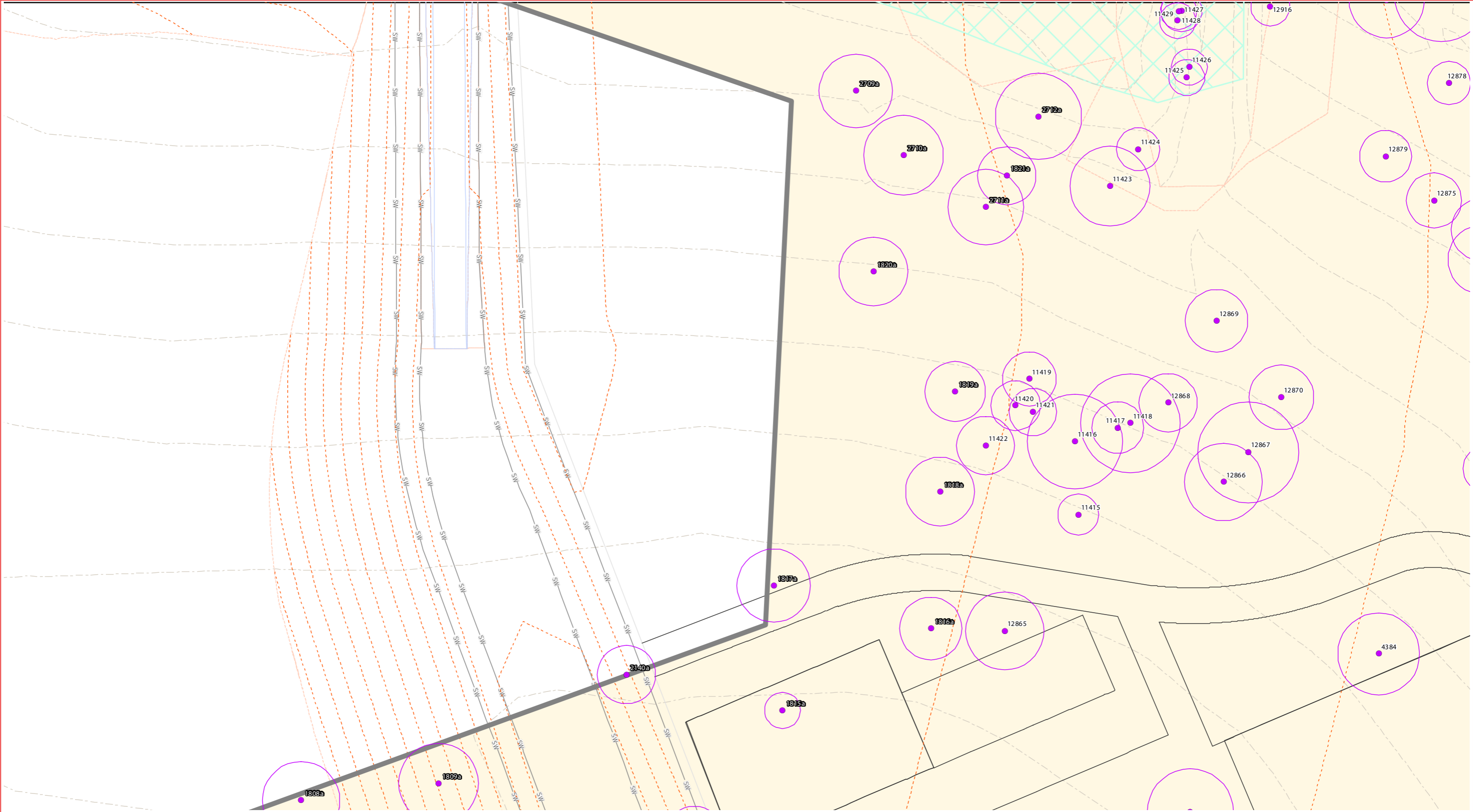
EDQ Development application No: DEV2016/768

AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Plot revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 25 SCH VMP B		



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

Stormwater/basin devices

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

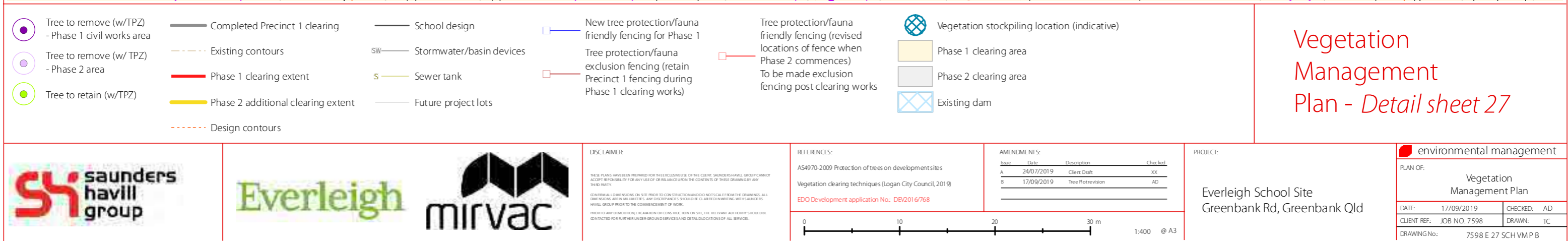
Vegetation stockpiling location (indicative)

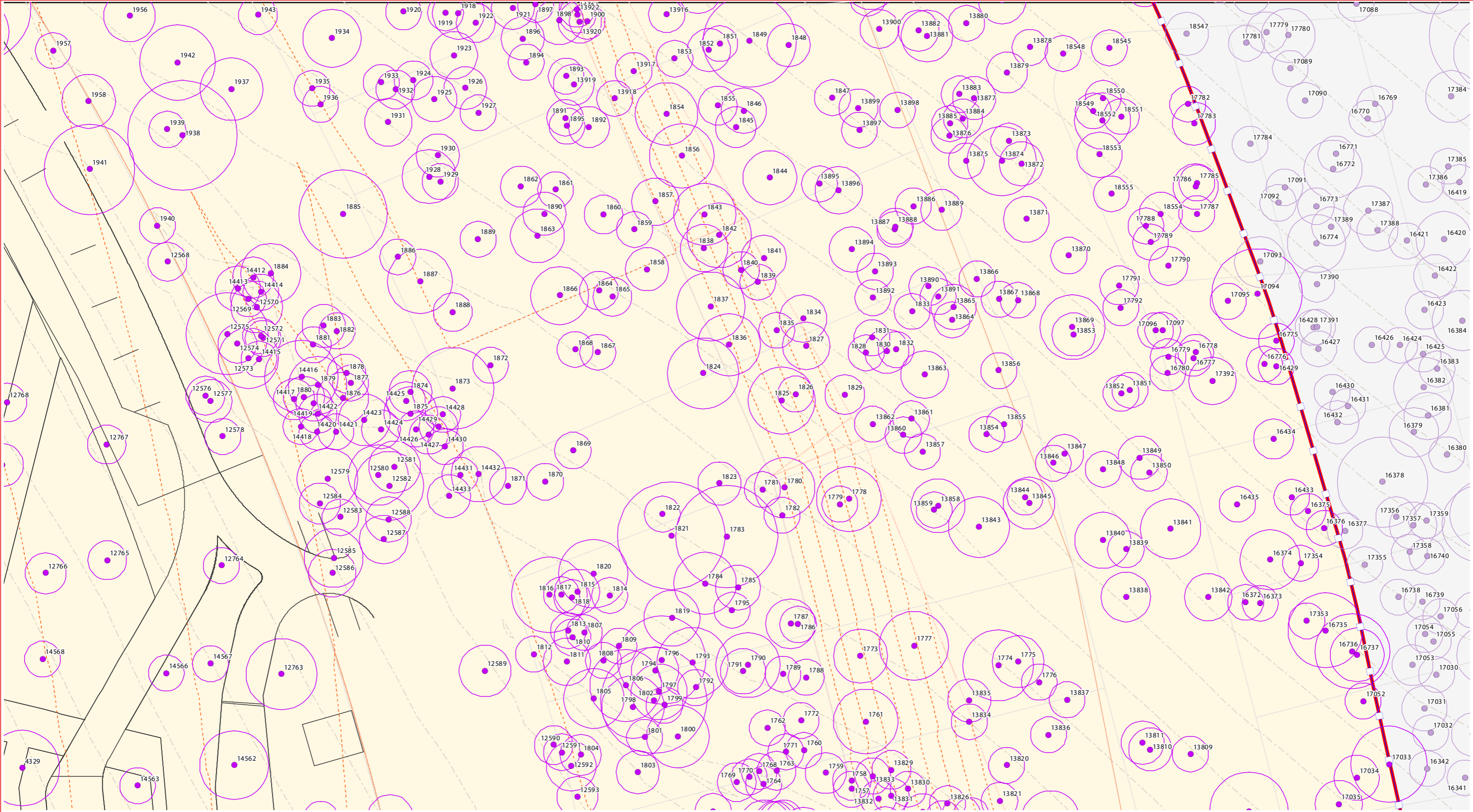
Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 26*





Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 28*

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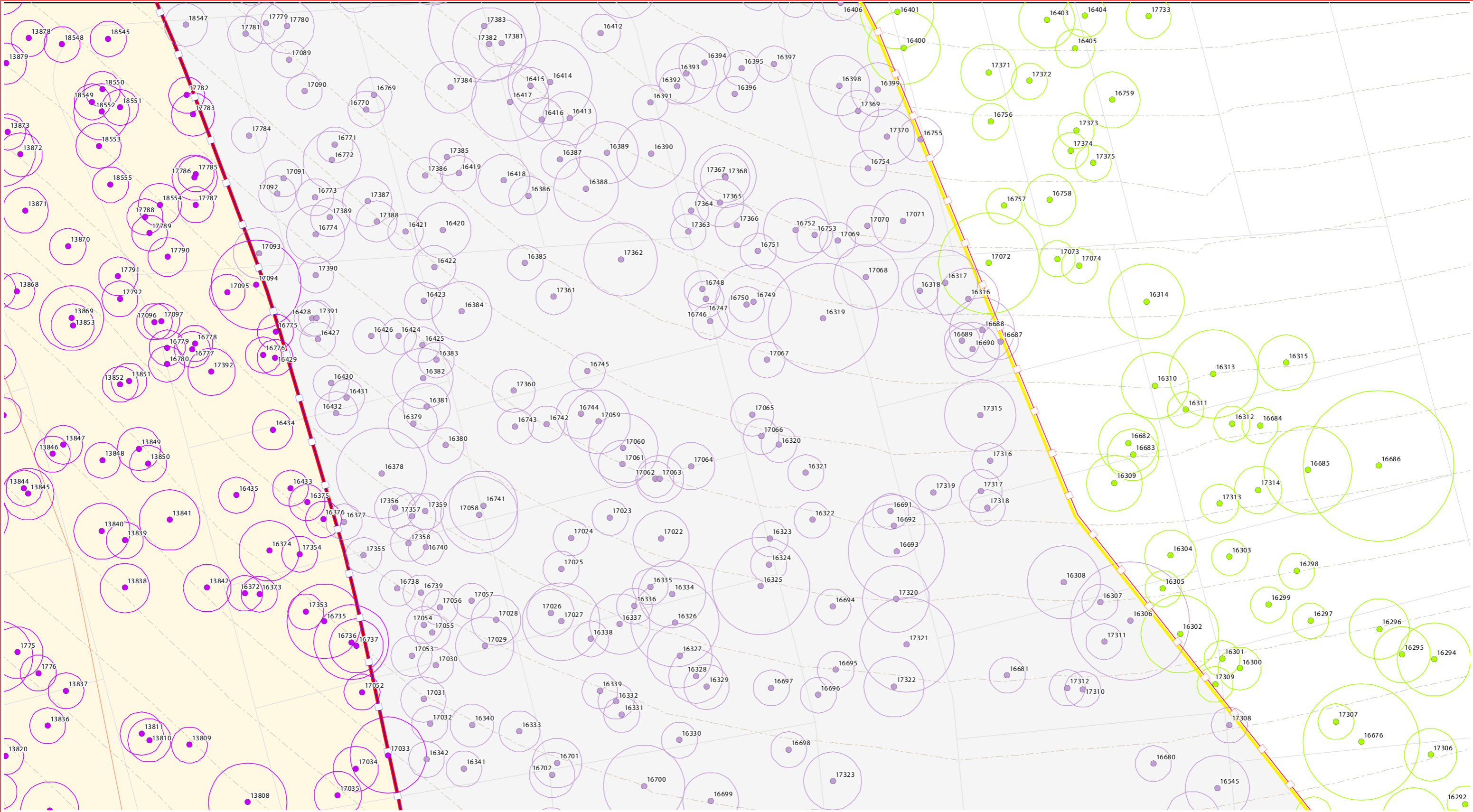
EDQ Development application No.: DEV2016/768

AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF:			
Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No.:	7598 E 28 SCH VMP B		



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 29*

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No.: DEV2016/768

AMENDMENTS:

Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management

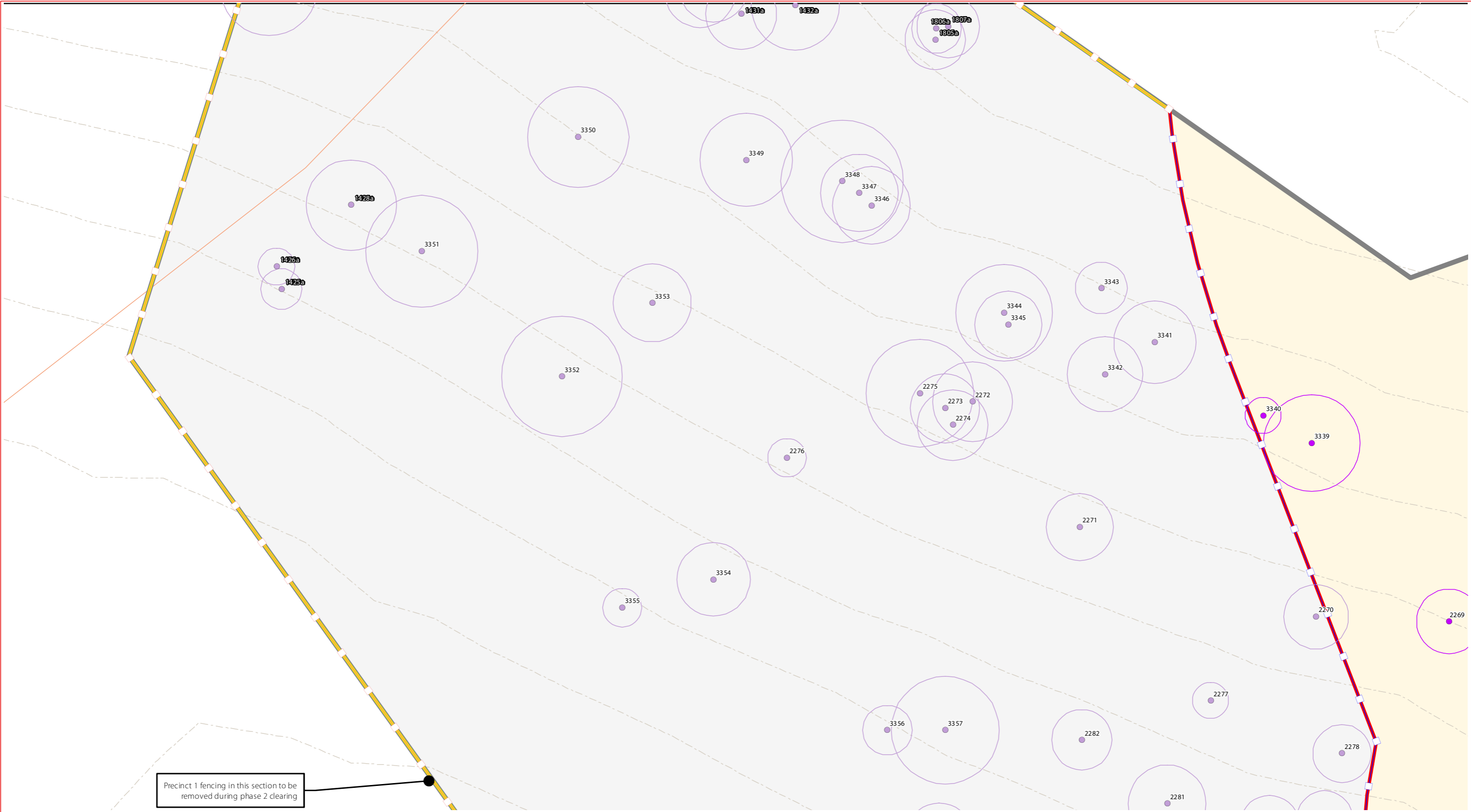
PLAN OF:

Vegetation Management Plan

DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No.:	7598 E 29 SCH VMP B		

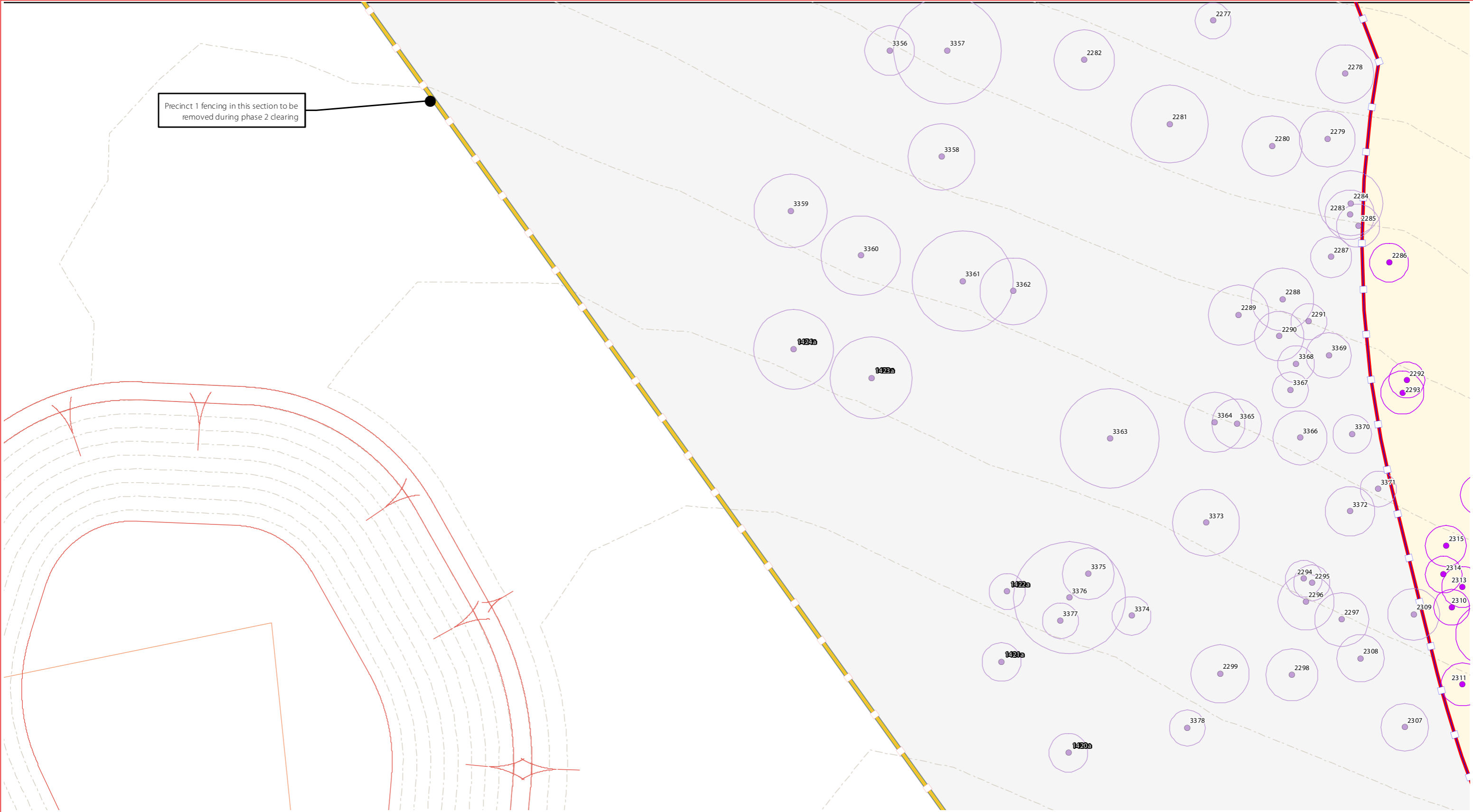
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- Tree to remove (w/TPZ) - Phase 1 civil works area
- Tree to remove (w/ TPZ) - Phase 2 area
- Tree to retain (w/TPZ)
- Completed Precinct 1 clearing
- Existing contours
- Phase 1 clearing extent
- Phase 2 additional clearing extent
- Design contours
- School design
- Stormwater/basin devices
- Sewer tank
- Future project lots
- New tree protection/fauna friendly fencing for Phase 1
- Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)
- Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
- To be made exclusion fencing post clearing works
- Vegetation stockpiling location (indicative)
- Phase 1 clearing area
- Phase 2 clearing area
- Existing dam

Vegetation Management Plan - *Detail sheet 30*



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

Stormwater/basin devices

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 35*

DISCLAIMER

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REFERENCES:

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Vegetation clearing techniques (Logan City Council, 2019)

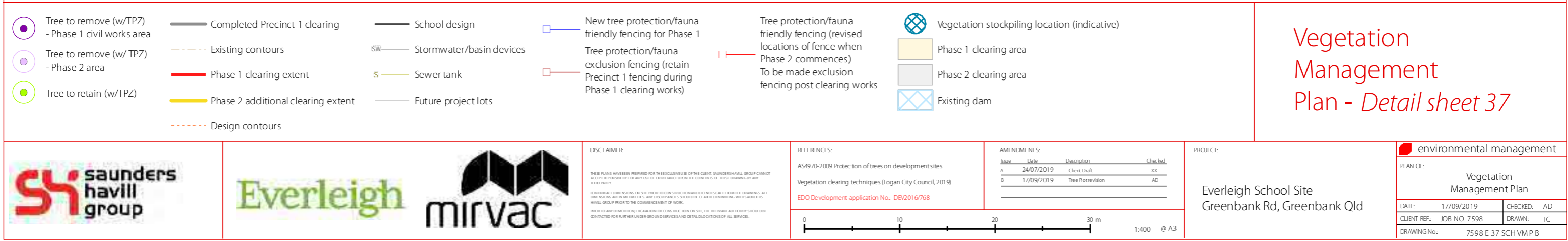
EDQ Development application No: DEV2016/768

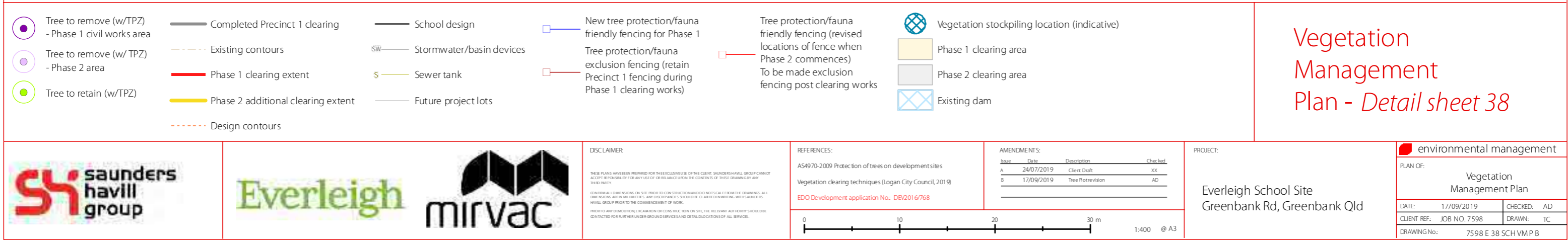
AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

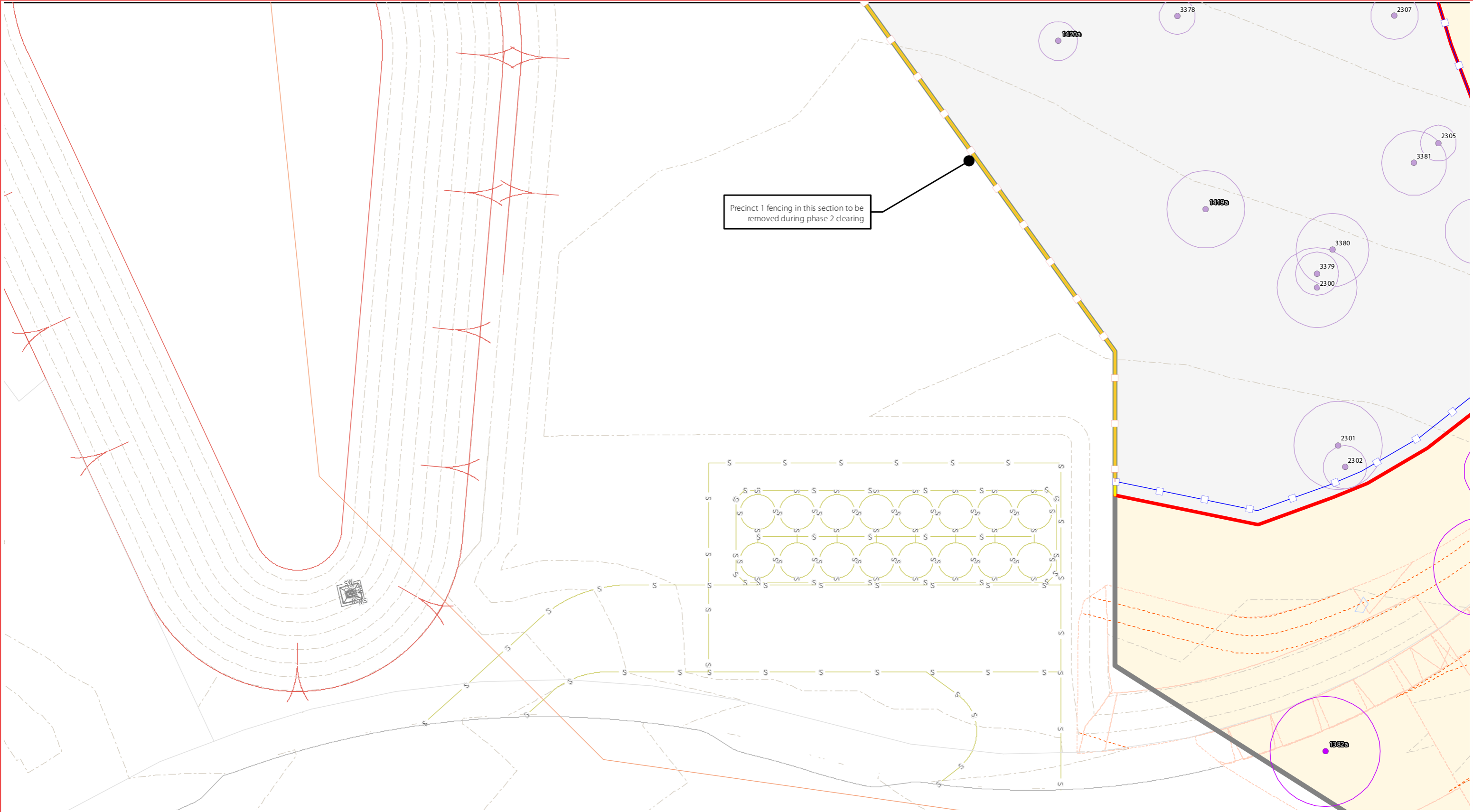
PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 35 SCH VMP B		

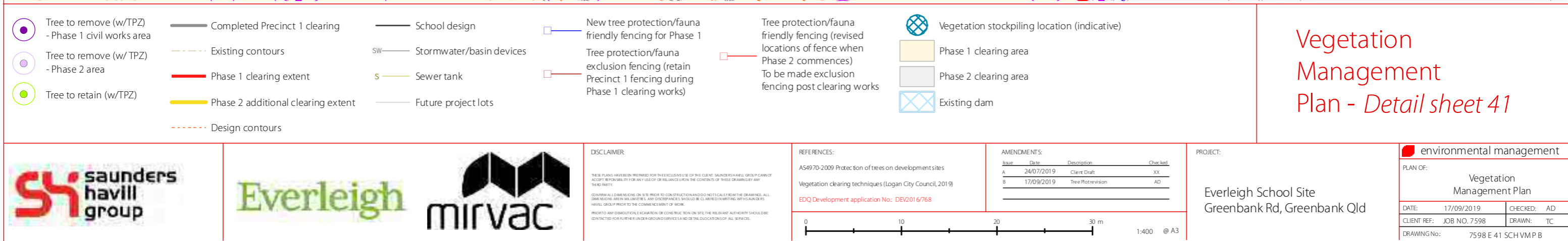


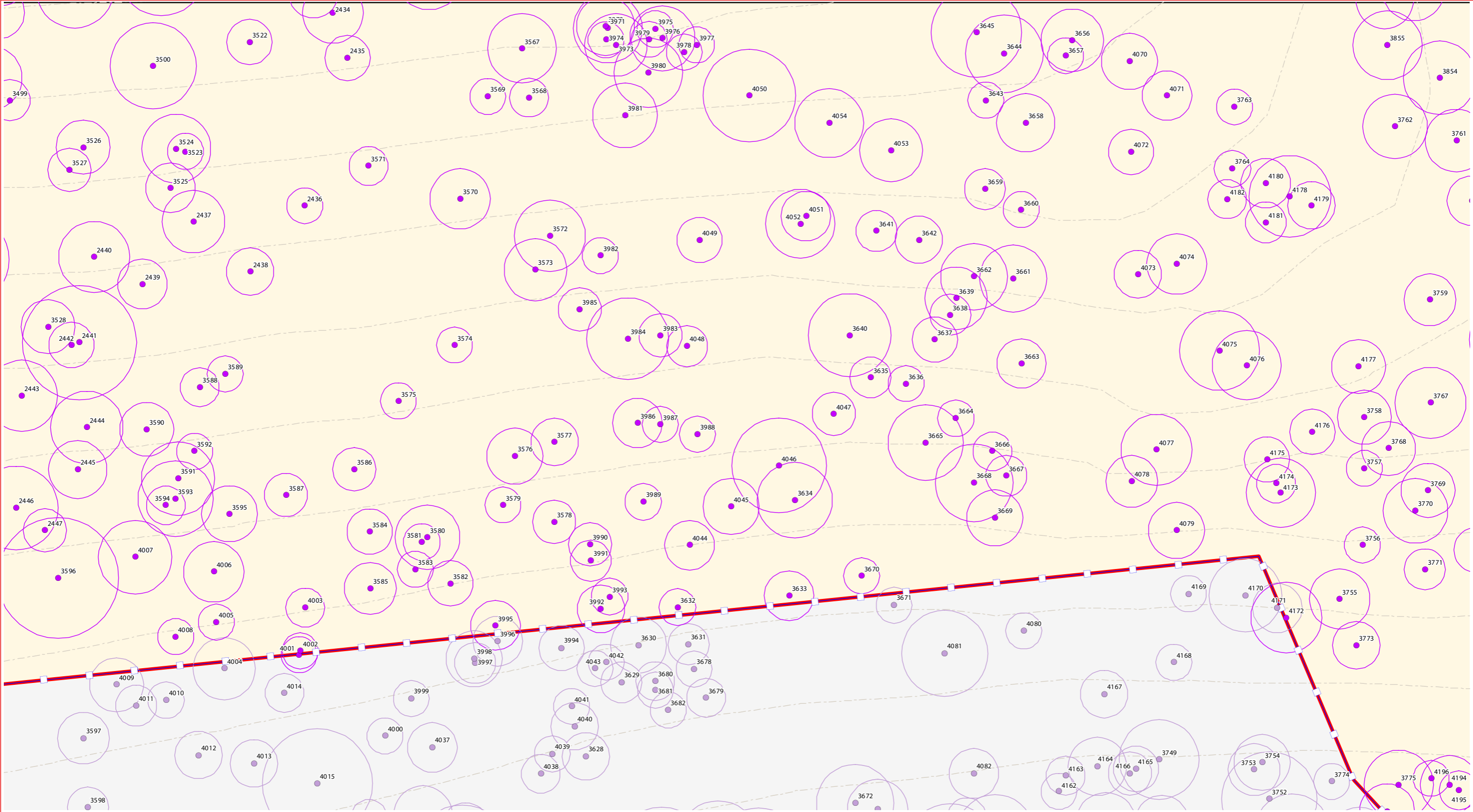




- Tree to remove (w/TPZ) - Phase 1 civil works area
- Tree to remove (w/ TPZ) - Phase 2 area
- Tree to retain (w/TPZ)
- Completed Precinct 1 clearing
- Existing contours
- Phase 1 clearing extent
- Phase 2 additional clearing extent
- Design contours
- School design
- Stormwater/basin devices
- Sewer tank
- Future project lots
- New tree protection/fauna friendly fencing for Phase 1
- Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)
- Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
- To be made exclusion fencing post clearing works
- Vegetation stockpiling location (indicative)
- Phase 1 clearing area
- Phase 2 clearing area
- Existing dam

Vegetation Management Plan - *Detail sheet 40*





Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

Stormwater/basin devices

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 42*

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Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No: DEV2016/768

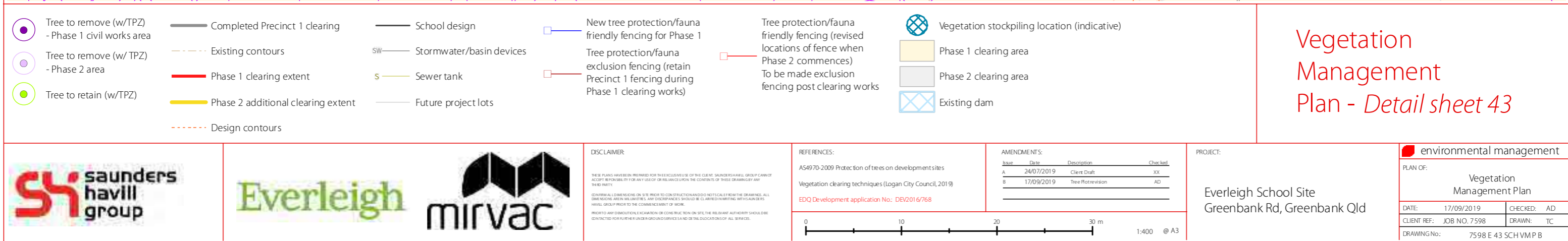
AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

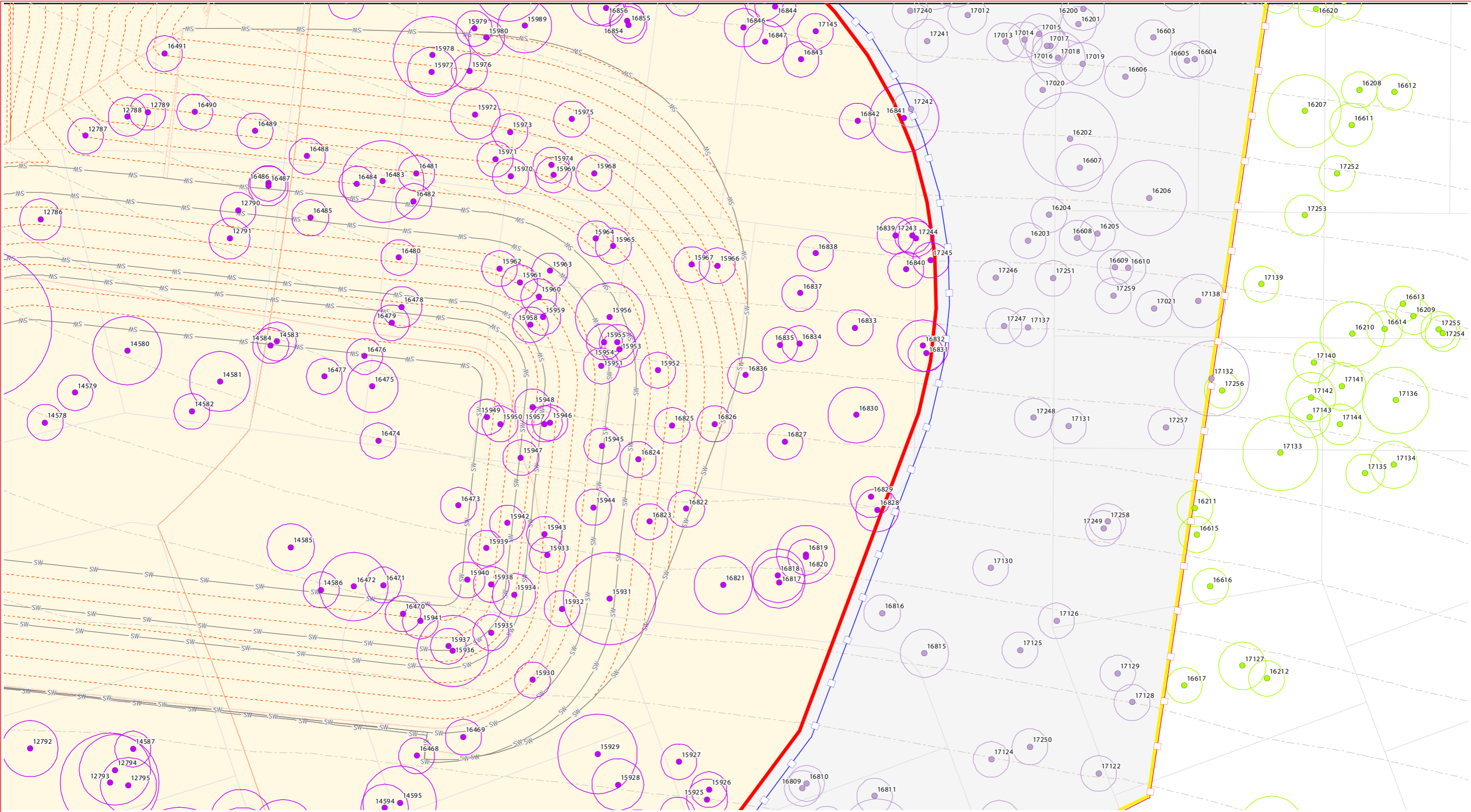
PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 42 SCH VMP B		

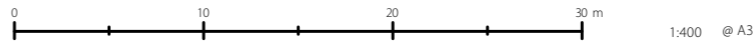
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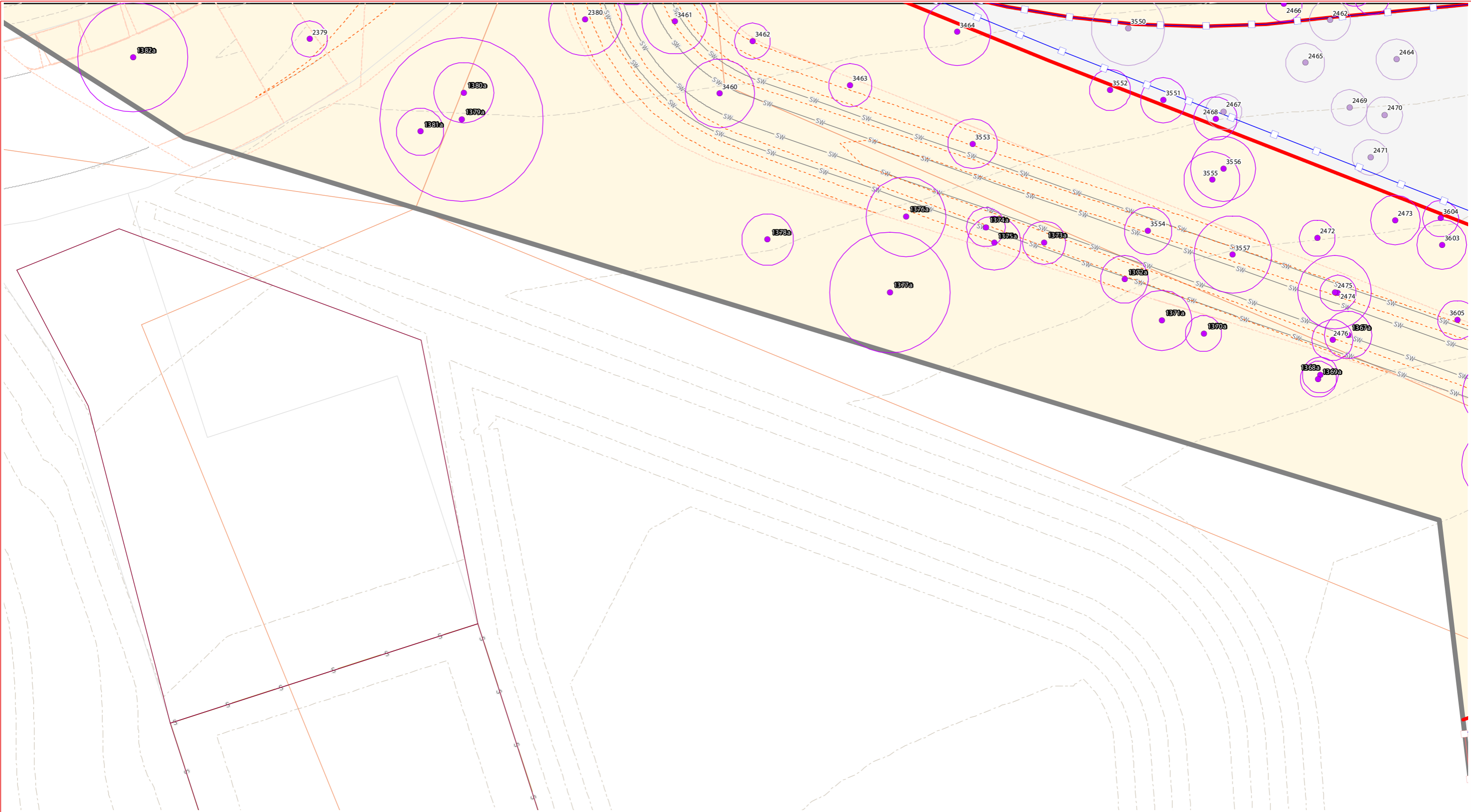




- Tree to remove (w/TPZ) - Phase 1 civil works area
- Tree to remove (w/TPZ) - Phase 2 area
- Tree to retain (w/TPZ)
- Completed Precinct 1 clearing
- Existing contours
- Phase 1 clearing extent
- Phase 2 additional clearing extent
- Design contours
- School design
- Stormwater/basin devices
- Sewer tank
- Future project lots
- New tree protection/fauna friendly fencing for Phase 1
- Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)
- Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
- To be made exclusion fencing post clearing works
- Vegetation stockpiling location (indicative)
- Phase 1 clearing area
- Phase 2 clearing area
- Existing dam

Vegetation Management Plan - Detail sheet 44





Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 45*

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

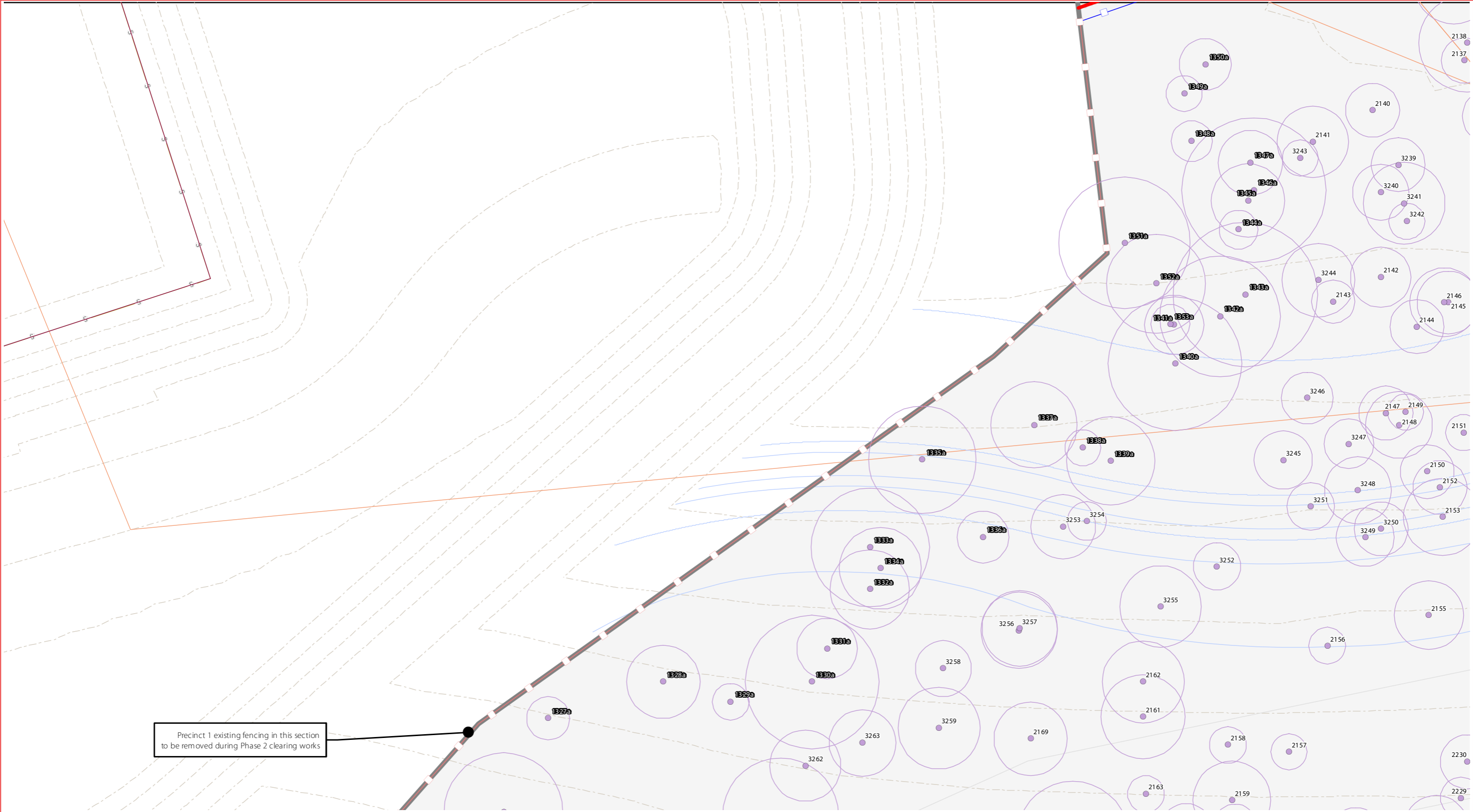
EDQ Development application No: DEVD2016/768

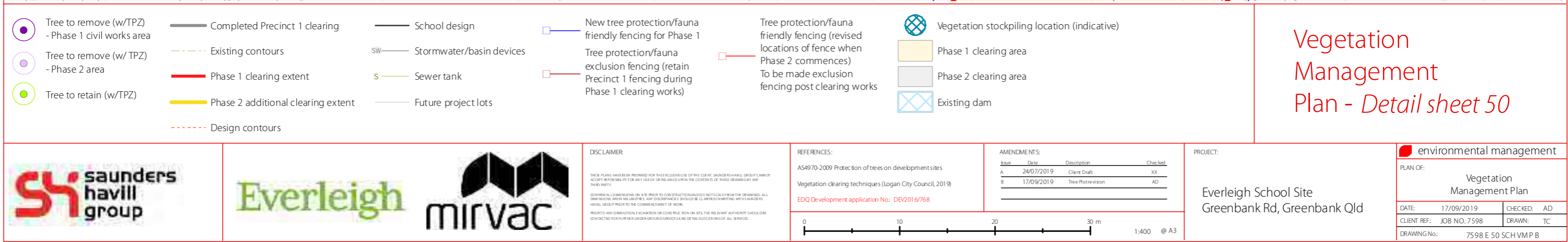
AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Plan revision	AD

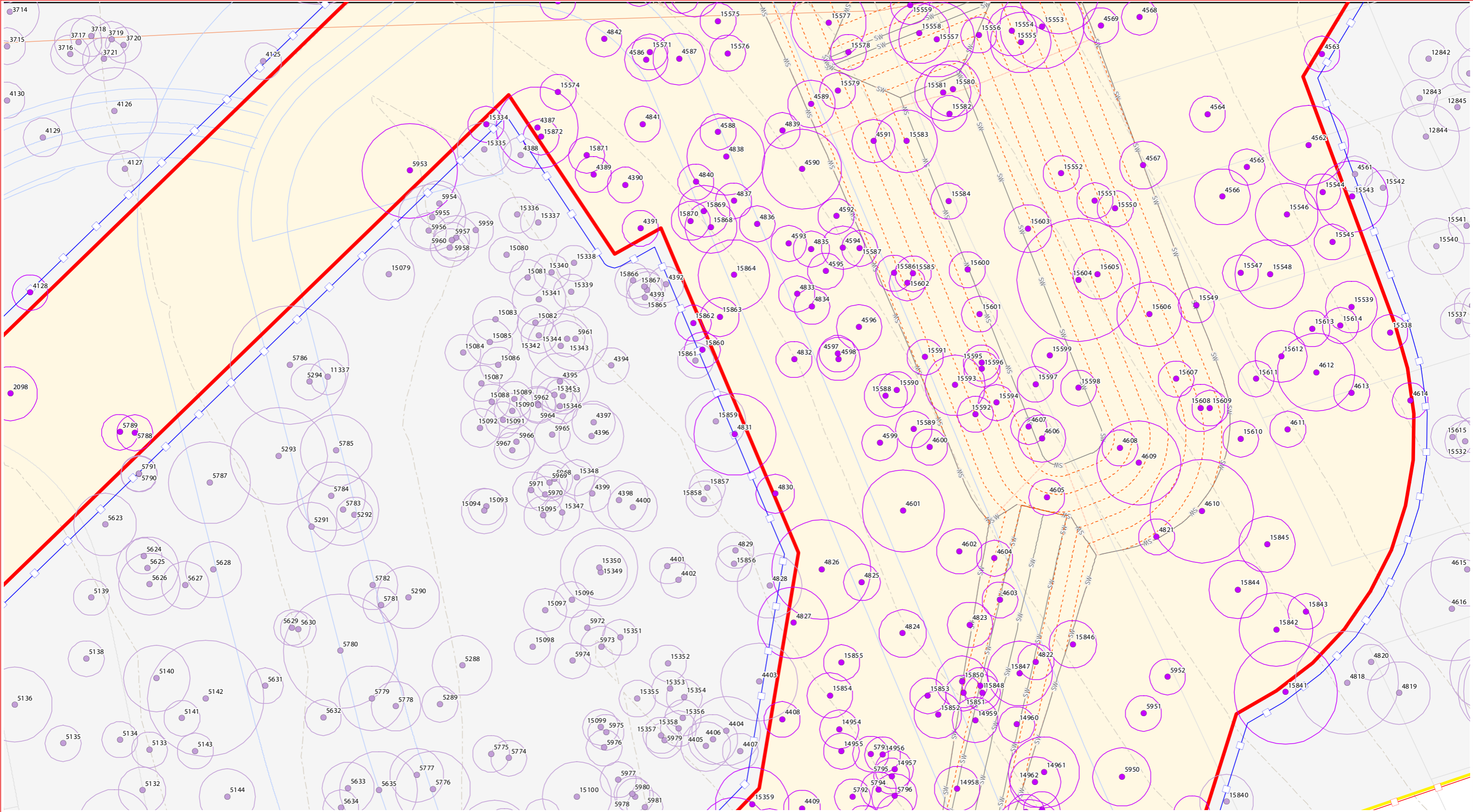
PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 45 SCH VMP B		







Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 51*

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REFERENCES:

AS4970-2009 Protection of trees on development sites

Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No.: DEV2016/768

AMENDMENTS:

Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Retention	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

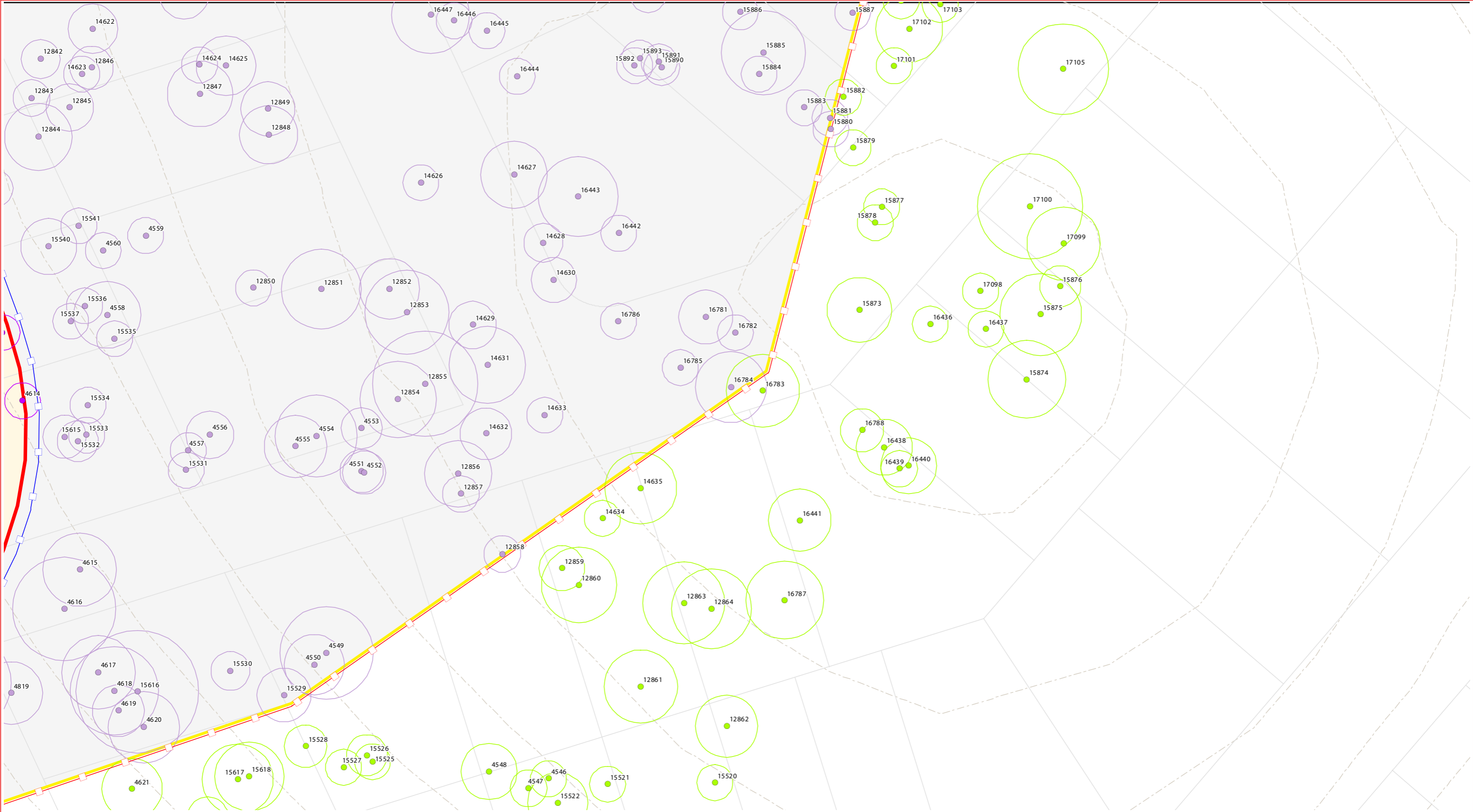
environmental management

PLAN OF: Vegetation Management Plan

DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No.:	7598 E 51 SCH VMP B		

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1:400 @ A3



Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 52*

DISCLAIMER

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EDQ Development application No: DEV2016/768

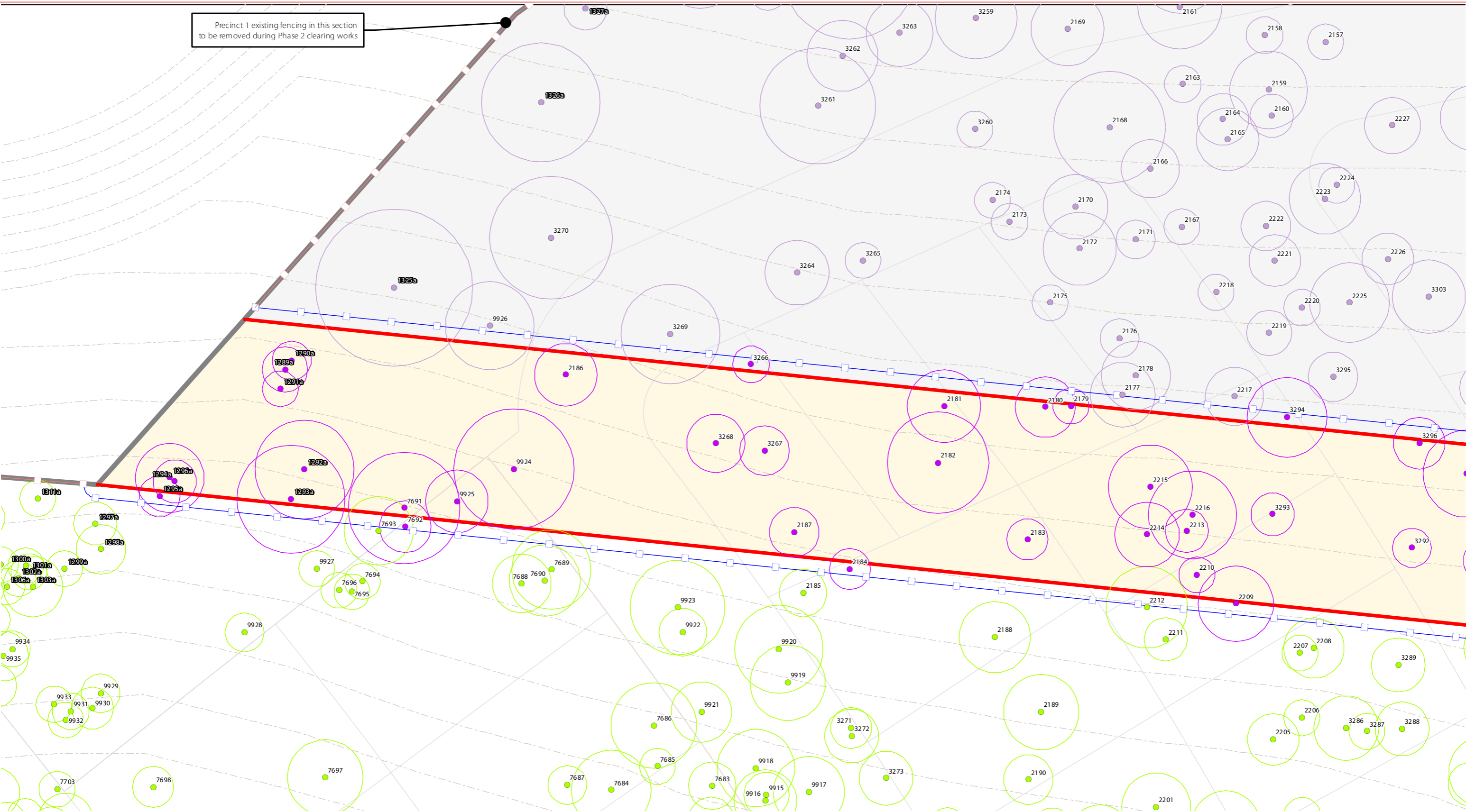
AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Plot revision	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 52 SCH VMP B		

Precinct 1 existing fencing in this section to be removed during Phase 2 clearing works



- Tree to remove (w/TPZ) - Phase 1 civil works area
- Tree to remove (w/ TPZ) - Phase 2 area
- Tree to retain (w/TPZ)
- Completed Precinct 1 clearing
- Existing contours
- Phase 1 clearing extent
- Phase 2 additional clearing extent
- Design contours
- School design
- Stormwater/basin devices
- Sewer tank
- Future project lots
- New tree protection/fauna friendly fencing for Phase 1
- Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)
- Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
- To be made exclusion fencing post clearing works
- Vegetation stockpiling location (indicative)
- Phase 1 clearing area
- Phase 2 clearing area
- Existing dam

Vegetation Management Plan - *Detail sheet 53*

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Vegetation clearing techniques (Logan City Council, 2019)

EDQ Development application No: DEV2016/768

AMENDMENTS:

Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Revision	AD

PROJECT:

Everleigh School Site

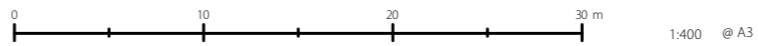
Greenbank Rd, Greenbank Qld

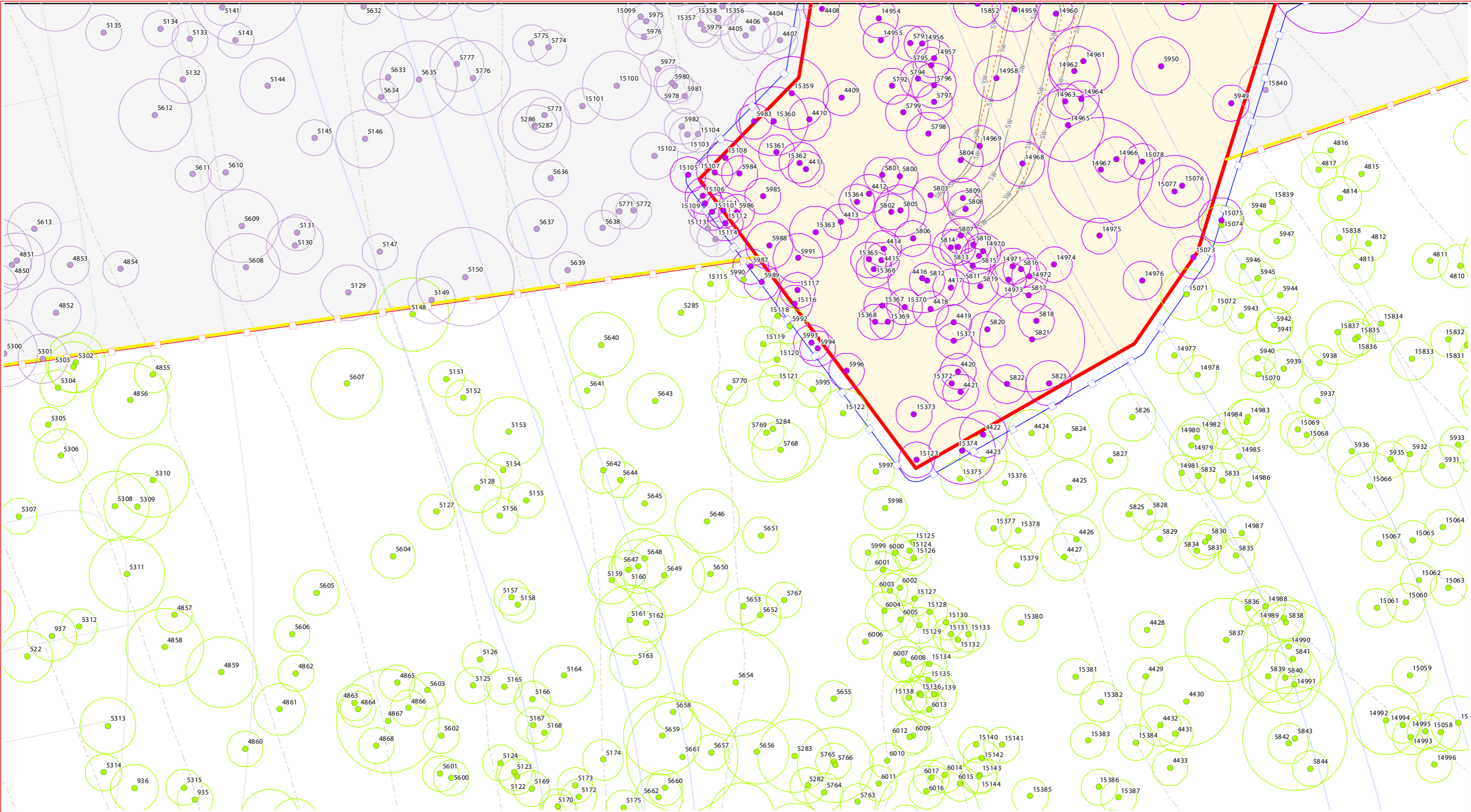
environmental management

PLAN OF:

Vegetation Management Plan

DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 53 SCH VMP B		





Tree to remove (w/TPZ)
- Phase 1 civil works area

Tree to remove (w/ TPZ)
- Phase 2 area

Tree to retain (w/TPZ)

Completed Precinct 1 clearing

Existing contours

Phase 1 clearing extent

Phase 2 additional clearing extent

Design contours

School design

SW

Stormwater/basin devices

S

Sewer tank

Future project lots

New tree protection/fauna friendly fencing for Phase 1

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing during Phase 1 clearing works)

Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences)
To be made exclusion fencing post clearing works

Vegetation stockpiling location (indicative)

Phase 1 clearing area

Phase 2 clearing area

Existing dam

Vegetation Management Plan - *Detail sheet 55*

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Vegetation clearing techniques (Logan City Council, 2019)

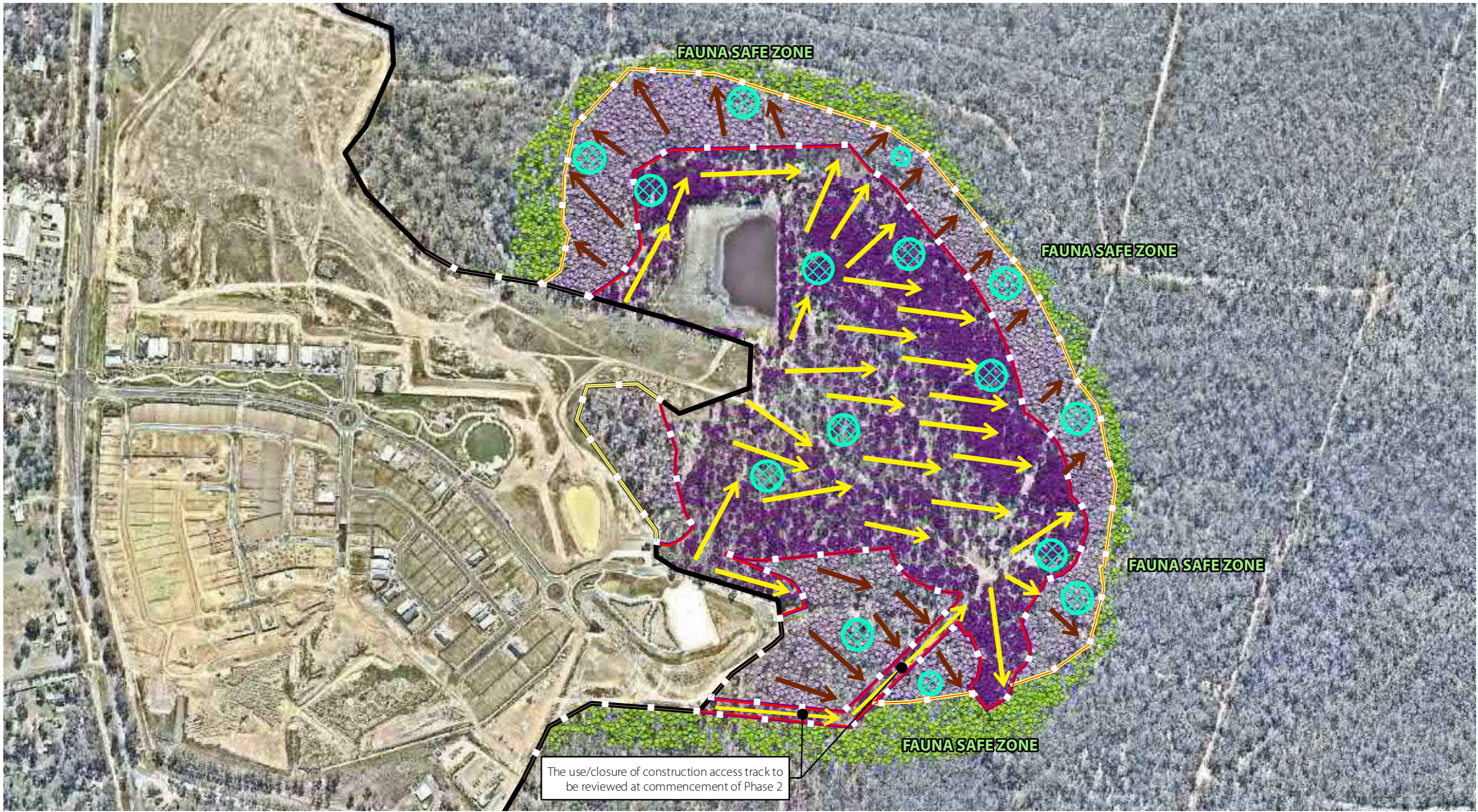
EDQ Development application No.: DEV2016/768

AMENDMENTS:			
Issue	Date	Description	Checked
A	24/07/2019	Client Draft	XX
B	17/09/2019	Tree Retention	AD

PROJECT:

Everleigh School Site
Greenbank Rd, Greenbank Qld

environmental management			
PLAN OF: Vegetation Management Plan			
DATE:	17/09/2019	CHECKED:	AD
CLIENT REF:	JOB NO. 7598	DRAWN:	TC
DRAWING No:	7598 E 55 SCH VMP B		



Legend

- Phase 1 - Tree to remove

Phase 2 - Tree to remove

Tree to retain

Vegetation Stockpiling locations (indicative)
- Phase 1 Clearing direction

Phase 2 Clearing direction
- Completed Precinct 1 clearing

Phase 1 - Civil works vegetation clearing extent

Phase 2 - Ultimate School Site vegetation additional clearing extent
- Phase 1 tree protection/fauna friendly fencing during clearing works. To be made exclusion fencing post clearing works

Tree protection/fauna exclusion fencing (retain Precinct 1 fencing)
- Tree protection/fauna friendly fencing (revised locations of fence when Phase 2 commences) To be made exclusion fencing post clearing works

Vegetation Management Plan - Clearing Direction