

### **APPENDIX P - ECOLOGICAL ASSESSMENT REPORT**

Saunders Havill Group



Toowoomba Region Sports Precinct, Charlton Prepared for Toowoomba Regional Council 6 December 2021

Job 10766 E



## **Document Control**

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## Acronyms and Abbreviations

DAF Department of Agriculture and Fisheries

DBH Diameter at Breast Height
EAR Ecological Assessment Report

EPBC Act Environment Protection and Biodiversity Conservation Act 1999 (Cth)

ha hectares

KHA Koala Habitat Area KPA Koala Priority Area

km kilometres m metres

MCU Material Change of Use

MNES Matters of National Environmental Significance
MSES Matters of State Environmental Significance

NCA Nature Conservation Act 1992
PMR Protected Matters Report
PMST Protected Matters Search Tool
PR Planning Regulation 2017 (Qld)

RE Regional Ecosystem
SEQ South East Queensland
SHG Saunders Havill Group

SPP State Planning Policy 2017 (Qld)

SRZ Structural Root Zone

TEC Threatened Ecological Community

TPZ Tree Protection Zone

TRC Toowoomba Regional Council

VMA Vegetation Management Act 1999 (Qld)



## 1. Introduction

Saunders Havill Group (SHG) was engaged by Toowoomba Regional Council to prepare an Ecological Assessment Report (EAR) for a sports precinct located in Charlton, intended to support the requirements of a development application to Toowoomba Regional Council (TRC). This EAR provides an assessment of ecological values in accordance with Commonwealth, State and Local legislation within land located along the Toowoomba Connection Road and Toowoomba Bypass in Charlton.

Contextually, the site is approximately 126.9 hectares (ha) in size and is located approximately 9 kilometres (km) north-west of Toowoomba town centre (refer **Figure 1**). The site is bound by Toowoomba Bypass to the west and north, Toowoomba Connection Road to the south and open paddock areas to the east (refer **Figure 2**). The site consists of 12 rural lots with Toowoomba Clay Target Club at the southern extent. The majority of the site is utilised for cattle grazing and is zoned for Sport and Recreation purposes. Surrounding land uses include predominantly rural and community facilities. Remnant vegetation and waterways exist onsite (refer **Table 1**).

The proposed development is for a major sport facility consisting of indoor and outdoor facilities and associated infrastructure. The development is intended to proceed through a Local Government Infrastructure Designation (LGID) in accordance with Chapter 2 Part 5 of the Planning Act 2016 (PA 2016). The Local Government Infrastructure Designation will enable the use of the facility as 'Sporting facilities' as defined under Schedule 5 of the Planning Regulation 2017.

The proposed Toowoomba Region Sports Precinct is intended for 12 rural lots. Due to access limitations only the southern 7 lots were able to be assessed on-ground. As such, this EAR is intended to present the outcomes of desktop assessments and ecological field results for the southern extent only (hereby referred to as the investigation area), refer **Figure 1** and **Figure 2** for extent. A brief summary of a desktop assessment for the northern extent of the site has been presented in Section 5 defined as 'Desktop Assessment Only'. Additional ecological field surveys of the northern extent of the site will be carried out in the future, details of which to be presented in a separate EAR.

### 1.1. Property summary

Key details of the property (investigation area) are provided in **Table 1**.

**Table 1: Property summary** 

Address	Charlton	
Lot/plan	Lot 114 on A345 Lot 113 on A345 Lot 112 on A345 Lot 111 on SP272107	Lot 110 on SP272107 Lot 276 on SP268921 Lot 24 on SP214746
Area	77.32 ha	
NCA Protected Plants	Outside high-risk area for protected plants	

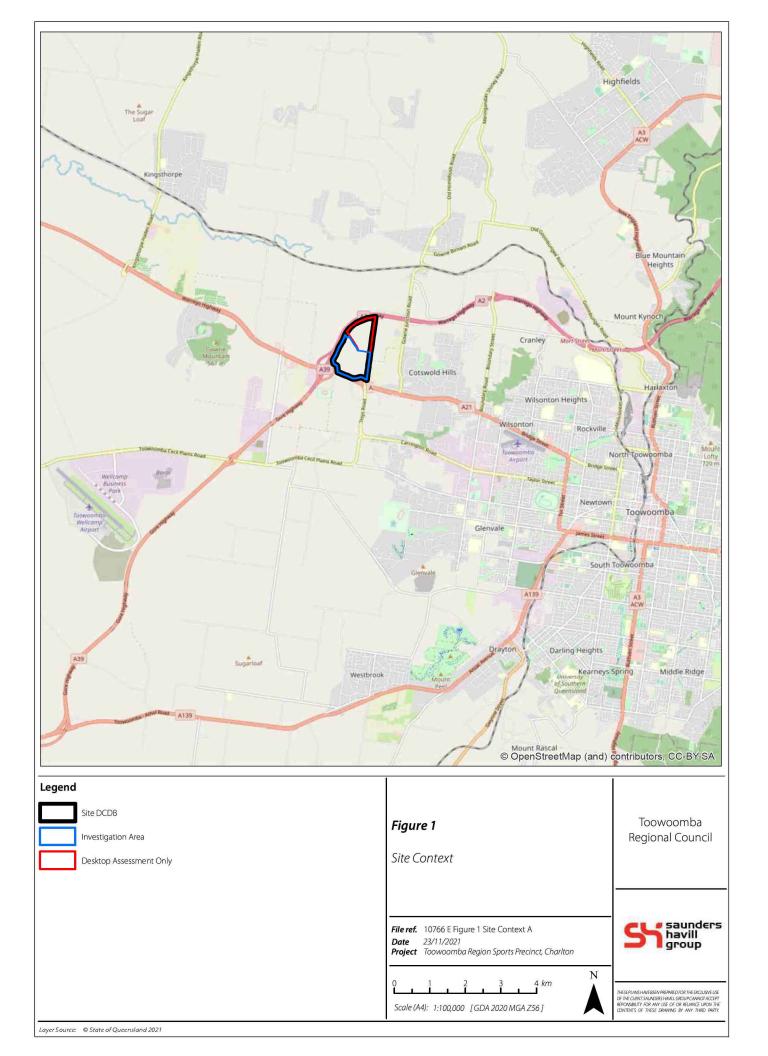


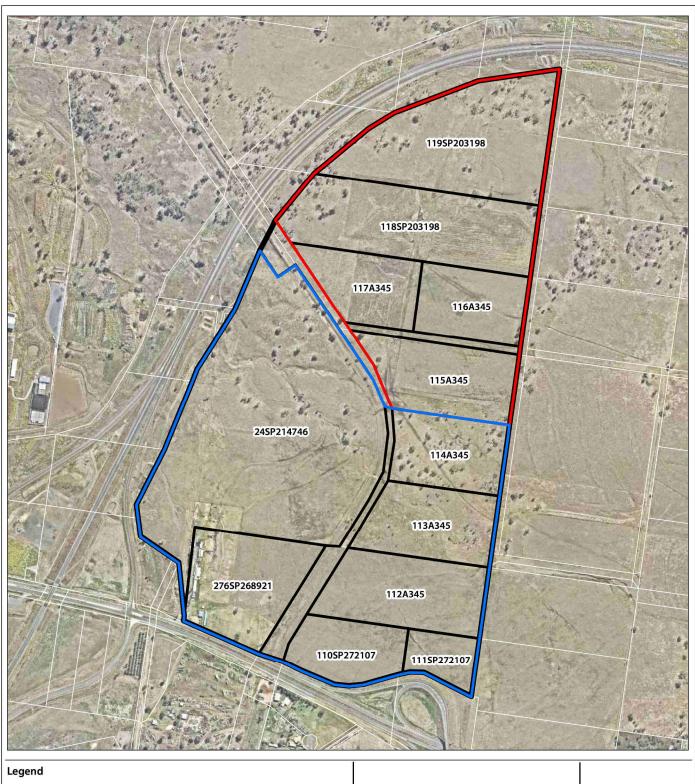
Vegetation Management Act 1999	Category X (non-remnant)
(VMA)	Category B (Least Concern) - RE11.8.5
Fisheries Act 1994	Low risk waterway for waterway barrier works (WWBW)
Local Government Area (LGA)	Toowoomba Regional Council
Planning scheme	Toowoomba Regional Planning Scheme 2019 (Version 26.0)
Zoning	Sport and Recreation
Environmental overlays	Environmental significance (Areas of Ecological Significance and Areas of Ecological Significance Buffer)
Existing land use	Vacant/grazing land/ sporting facilities
Proposed land use	Sport Facility

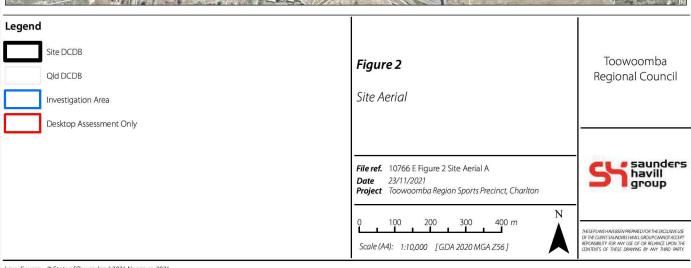
### 1.2. Purpose of the Report

The purpose of this EAR is to present the outcomes of field surveys, identify environmental site constraints, assess the potential of the project to impact on ecological features and respond to relevant Toowoomba Regional Council Planning Scheme Polices and Codes. This report was prepared in accordance with the requirements of Planning Scheme Policy 1 – Development Application Requirements.









## Ecological assessment methodology and process

The following steps were undertaken in the preparation of this ecological assessment:

- 1. desktop analysis;
- 2. legislation and policy review;
- 3. field survey;
- 4. impact assessment and development analysis; and
- 5. conclusion and recommendations.

Details of the desktop analysis and field survey methodologies is provided in **Sections 2.1** and **2.2**, respectively.

### 2.1. Desktop analysis methodology

Prior to the commencement of field surveys, a desktop analysis of Commonwealth, State and Local environmental databases and overlay mapping was completed. This analysis captured the following:

- Commonwealth Matters of National Environmental Significance (MNES) protected under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) on and around the site using the Protected Matters Search Tool (PMST);
- Nature Conservation Act 1992 (NCA) listed threatened species on and around the site using the Wildlife Online database;
- Publicly available information from environmental databases including Atlas of Living Australia;
- State Government environmental overlay mapping, including:
  - o Koala habitat areas and values under the Planning Regulation 2017 (PR);
  - Regulated Vegetation Maps under the VMA;
  - Flora Survey Trigger Areas under the NCA;
  - Fish habitat under the Fisheries Act 1994;
  - Watercourses under the Water Act 2000;
  - o Weeds under the Biosecurity Act 2014; and
  - Matters of State Environmental Significance (MSES) under the State Planning Policy 2017 (SPP)
     (i.e., wetland protection areas, koala habitat, etc.); and
- Toowoomba Regional Planning Scheme documents and maps.



### 2.2. Field survey methodology

Ecological field surveys were conducted on the development site to ascertain the presence and absence of any potential matters of ecological significance. The methods utilised are described in the following sections.

2.2.1 Observational survey for significant flora and fauna, habitat trees and biodiversity values

The development site was walked (where accessible) to observe and record all flora and fauna species. Particular attention was paid to any threatened species or suitable habitat with potential to occur within or proximal to the site. This survey included observations for vertebrate fauna present within or proximal to the study area, faunal lists and significant species under the Commonwealth's EPBC Act and Queensland's NCA.

The observational survey included identification of ecological features and values such as broad vegetation communities, fauna habitats, and ecological corridors. Recording fauna habitat features within the project area included habitat trees bearing features such as hollows, arboreal termitaria, nests and scratches. Specific attention was paid to EPBC listed significant flora and fauna species.

### 2.2.2 GPS tree plot

A tree plot survey was conducted across areas of the development site (where accessible) to locate and describe vegetation values. Specific attention was paid to native mature tree specimens providing potential habitat features (i.e., hollows, nests). A handheld GPS device (Trimble) was used to record locations (accuracy  $\pm 1$  m), and the following parameters of tree specimens located were recorded:

- tree species, via a combination of observations of the gum nuts, buds, leaves, bark and growth form;
- diameter of the trunk of the tree measured using the standard method of Diameter at Breast Height (DBH);
- height of the tree measured using a laser rangefinder with three-point measurement capability (inclinometer);
- canopy spread;
- health assessment (canopy, trunk); and
- habitat values (for example, presence and/or number of hollows, nests, termites, scratches and scats).

The Tree Protection Zone (TPZ) of the tree was calculated using the formula outlined in *Australian Standard AS4970-2009 – Protection of Trees on Development Sites* (TPZ = DBH x 12). A TPZ should not be less than 2 metres (m) and no greater than 15 m (except where crown protection is required). Additionally, the Structural Root Zone (SRZ) was calculated for each plotted specimen using the measured DBH and the following formula:

SRZ radius = 
$$(DBH \times 50)^{0.42} \times 0.64$$
.

### 2.2.3 Diurnal bird surveys

This technique is a non-intrusive active search that provides an estimate of diurnal bird species occurrence. Inclement weather was avoided as this greatly reduces the detection of bird species. Only birds seen or heard



within the site were recorded. Bird species hunting, feeding or searching directly over the site were included, and birds flying overhead were recorded as 'off-site' and included with incidental records for survey area.

### 2.2.4 Ground-truthing of vegetation communities

Vegetation was ground-truthed and assessed against current VMA regional ecosystem (RE) mapping and preclear mapping. This included reviewing the accuracy and extent of mapped RE types in addition to the broad condition. Particular attention was made in identifying whether threatened ecological communities (TECs) identified as having the potential to occur on or proximal to the site were present during field survey.

### 2.2.5 Motion sensor camera trap

Camera trapping involves setting up a fixed digital camera to capture images or video of animals that pass in front of a camera with an infrared trigger. It is a non-invasive technique designed to detect medium to large sized animals as they pass, although it is possible to detect smaller animals depending on the set-up. This method identifies fauna activity beyond the scope of direct observational studies and with the absence of potential observer impacts.

Infrared sensing cameras with an infrared flash that use motion to trigger were deployed. Two (2) cameras were installed across the investigation area. Cameras were attached 30-100 cm from the ground on a tree or post and directed towards a bait station. The cameras were left to record for two (2) weeks, installed on the 9 September and removed on 23 September 2021.

### 2.2.6 Waterway Assessment

Waterway surveys were completed with the following information collected:

- general description;
- channel shape and modifications;
- in-stream habitat;
- vegetation quality and cover (embankments, channel and overall corridor);
- bed, bank and bar conditions (erosion, scouring, sediment); and
- weed cover.



## Legislation, policy and planning instruments

### 3.1. Environment Protection and Biodiversity Conservation Act 1999

The Australian Government's key piece of environmental legislation is the EPBC Act. The EPBC Act aims to protect and manage Matters of National Environmental Significance (MNES) which include nationally and internationally important flora, fauna, ecological communities and heritage places.

An EPBC Act Protected Matters Report (PMR) was obtained using the Commonwealth's PMST. The search provides a list of wetlands of international significance, Threatened Ecological Communities (TECs), threatened species and other MNES which have the potential to be temporarily or permanently located within a 5 km search radius from the central point of the development site. **Table 2** lists a summary of these results relevant to the site. The complete PMR is included in **Appendix A.** 

### Table 2: EPBC Act PMST PMR summary

### Wetlands of international importance

Banrock Station Wetland Complex - 1300-1400km

Narran Lake Nature Reserve – 400-500km upstream

Riverland - 1200-1300km

The Coorong, and Lakes Alexandrina and Albert Wetland – 1400-1500km

### Threatened ecological communities

Coolibah-Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions – Endangered (Community may occur within area)

Natural Grasslands on basalt and fine-textured alluvial plains on northern New South Wales and southern Queensland – Critically Endangered (Community likely to occur within area)

Poplar Box Grassy Woodland on Alluvial Plains – Endangered (Community may to occur within area)

Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions – Endangered (Community likely to occur within area)

Weeping Myall Woodlands – Endangered (Community may occur within area)

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland – Critically Endangered (Community likely to occur within area)

### **Threatened species**

Scientific name	Common name	Status
Birds	,	•
Anthochaera Phrygia	Regent Honeyeater	Critically Endangered
Botaurus poiciloptilus	Australasian Bittern	Endangered
Calidris ferruginea	Curlew Sandpiper	Critically Endangered



Threatened species		
Scientific name	Common name	Status
Erythrotriorchis radiatus*	Red Goshawk	Vulnerable
Falco hypoleucos	Grey Falcon	Vulnerable
Geophaps scripta scripta*	Squatter Pigeon (southern)	Vulnerable
Grantiella picta*	Painted Honeyeater	Vulnerable
Hirundapus caudacutus*	White-throated Needletail	Vulnerable
Lathamus discolor	Swift Parrot	Critically Endangered
Rostratula australis*	Australian Painted Snipe	Endangered
Turnix melanogaster	Black-breasted Button-quail	Vulnerable
Mammals		
Chalinolobus dwyeri	Large-eared Pied Bat, Large Pied Bat	Vulnerable
Dasyurus hallucatus	Northern Quoll	Endangered
Dasyurus maculatus maculatus	Spot-tailed Quoll	Endangered
Nyctophilus corbeni	Corben's Long-eared Bat	Vulnerable
Petauroides volans*	Greater Glider	Vulnerable
Petrogale penicillata	Brush-tailed Rock-Wallaby	Vulnerable
Phascolarctos cinereus*	Koala	Vulnerable
Pseudomys novaehollandiae	New Holland Mouse	Vulnerable
Pteropus poliocephalus	Grey-headed Flying-Fox	Vulnerable
Plants		
Arthraxon hispidus	Hairy-joint Grass	Vulnerable
Bothriochloa bunyensis*	Satin-top Grass	Vulnerable
Cadellia pentastylis	Ooline	Vulnerable
Clematis fawcettii	Stream Clematis	Vulnerable
Dichanthium queenslandicum	King Blue-grass	Endangered
Dichanthium setosum	Bluegrass	Vulnerable
Lepidium peregrinum*	Wandering Pepper-cress	Endangered
Rhaponticum australe	Austral Cornflower	Vulnerable
Sarcochilus weinthalii	Blotched Sarcocilus	Vulnerable
Sophora fraseri	-	Vulnerable
Thesium australe	Austral Toadflax	Vulnerable
Reptiles		
Anomalopus mackayi	Five-clawed Worm-skink	Vulnerable



Threatened species			
Scientific name	Common name	Status	
Delma torquata*	Adorned Delma	Vulnerable	
Egernia rugosa	Yakka Skink	Vulnerable	
Furina dunmalli	Dunmall's Snake	Vulnerable	
Tympanocryptis condaminensis	Condamine Earless Dragon	Endangered	

<sup>\*</sup> Identifies where species or species habitat is known to occur within the area.

### 3.2. Nature Conservation Act 1992

The NCA classifies and protects significant areas (protected areas) and protects threatened plant and animal species. The *Nature Conservation (Animals) Regulation 2020* (the Animals Regulation) and the *Nature Conservation (Plants) Regulation 2020* (the Plants Regulation) (previously combined as the *Nature Conservation (Wildlife) Regulation 2006*) lists animal and plant species, respectively, presumed extinct, critically endangered, endangered, vulnerable, near threatened, least concern, international or prohibited. The schedules of this regulation were considered in this assessment using a wildlife online database extract with a 5 km radius from the central point of the subject site. The list of threatened species under the Animals Regulation and the Plants Regulation with the potential to occur on or near the project are presented in **Table 3** (refer to **Appendix B** for complete Wildlife Online search results).

Table 3: NCA wildlife online search results

Scientific name	Common name	Status
Birds		
Calyptorhynchus lathami	Glossy Black-Cockatoo	Vulnerable
Falco hypoleucos	Grey Falcon	Vulnerable
Turnix melanogaster	Black-breasted Button Quail	Vulnerable
Mammals		
Phascolarctos cinereus	Koala	Vulnerable
Plants		
Picris evae	Hawkweed	Vulnerable
Rhaponticum australe	Austral Cornflower	Vulnerable
Cyperus clarus	-	Vulnerable
Sophora fraseri	Brush Sophora	Vulnerable
Digitaria porrecta	Finger Panic Grass	Near Threatened

The protected plants regulatory framework under the NCA commenced on 31 March 2014, establishing survey and approval triggers, and processes for clearing protected plants. The protected plant definition includes all presumed extinct, critically endangered, endangered, vulnerable and/or near threatened plant species listed



by name in the Plants Regulation and least concern wildlife, not listed by name but identified as a plant indigenous to Australia. Furthermore, the plant must be considered in the wild in order to be a protected plant.

The NCA identifies *in the wild* as 'in an independent state of natural liberty'. Several factors influence whether a protected plant is *in the wild*:

- the process by which the plant has become established, *i.e.*, either initiated through human intervention or naturally occurring;
- the natural range of the plant species; and/or
- the ecological situation in which the plant is found.

Typically, planted specimens are not considered *in the wild* and an authority or permission is not necessary for the taking of such specimens. The *Operational Policy Wildlife Management*<sup>1</sup> provides further information on this definition.

If a specimen is confirmed as *in the wild,* the plant must not be 'taken'—which includes being cleared—unless the taking is under:

- a conservation plan applicable to the plant;
- a license, permit or other authority under a regulation; or
- an exemption under a regulation.

A search of the protected plants flora survey trigger map identified that the investigation area is outside a 'high risk' area for protected plants. Consequently, a flora survey and liaison with the administering authority in accordance with the protected plants guidelines is not required prior to the clearing of vegetation. If in the wild protected plants are present on-site that will be cleared, the person / entity completing the clearing will need a clearing permit unless an exemption applies. Notably, no protected plants were recorded within the investigation area during the field survey.

### 3.3. Vegetation Management Act 1999

The Vegetation Management Act (VMA) is the key mechanism by which the Queensland Government protects the state's environmental resources pertaining to vegetation. Under the VMA, a series of maps delineate vegetation features across the landscape and features are assigned a conservation value directly related to the extent remaining in the landscape. The VMA also protects other natural resource elements associated with the protected vegetation such as essential habitat (where listed threatened species have been known to occur), wetlands and watercourses.

The Regulated Vegetation Management Map (RVMM) shows vegetation categories used to determine clearing requirements. While areas shown on the map as *Category X* are not regulated under the VMA, those shown as *Category A, B, C or R* are subject to clearing requirements. The latter vegetation categories can only

Department of Environment and Heritage Protection 2015. When a protected plant in Queensland is considered to be 'in the wild' Operational policy.



be cleared in accordance with an exemption, self-assessable vegetation clearing code, area management plan or development approval. A Supporting Map defining REs, wetlands, watercourses and essential habitat, accompanies the Regulated Vegetation Management Map. Approval to clear native vegetation that is identified as *Category A, B, C or R* is required under the *Planning Act 2016* unless an exemption applies.

A property search of the Regulated Vegetation Management Map identified the investigation area is mapped predominantly as non-regulated *Category X* vegetation, with a polygon of remnant *Category B* vegetation the centre of the site (**Figure 3**). Clearing of *Category X* (non-remnant) vegetation is exempt from assessment under the *Planning Act 2016*. The Supporting Vegetation Management Map shows the mapped *Category B* vegetation is Least Concern RE11.8.5 (**Figure 4**). **Table 4** provides vegetation descriptions of the mapped regional ecosystems on-site.

Table 4: Regional ecosystem descriptions

Status	Code	Description
Least Concern	11.8.5	Eucalyptus orgadophila open woodland. Eucalyptus orgadophila predominates and forms a distinct but discontinuous canopy sometimes with other sub-dominant species such as Corymbia erythrophloia, E. melanophloia and occasionally E. crebra. Shrubs are usually scarce and scattered although a well-defined shrubby layer does develop in some areas. On the lower slopes at better sites, softwood scrub species may form tall and low shrub layers under the canopy of Eucalyptus orgadophila. The ground layer is moderately dense to dense, and dominated by species that include the grasses Aristida lazaridis, A. ramosa, Bothriochloa ewartiana, Dichanthium sericeum, Chrysopogon fallax, Heteropogon contortus, Enneapogon gracilis, Themeda triandra and Tragus australianus and the herbs Brunoniella australis, Evolvulus alsinoides, Galactia tenuiflora and Indigofera linnaei. Occurs on undulating plains, rises, low hills or sometimes flat tablelands on top of mountains, formed from basalt. Generally soils are shallow to moderately shallow, often rocky or stony clays. (BVG1M: 11a)

### 3.4. Biosecurity Act 2014

The *Biosecurity Act 2014* commenced on 1 July 2016 and established a framework to regulate and control invasive plants and animals. Under the *Biosecurity Act 2014*, land owners are responsible for taking all reasonable and practical steps to minimise the risks associated with invasive plants and animals under their control. This obligation is known as the general biosecurity obligation.

The Biosecurity Act 2014 categorises restricted matters (restricted plants and animals) into the following:

- Category 1: must be reported to an inspector within 24 hours (includes Red Imported Fire Ants, amongst others).
- Category 2: must be reported within 24 hours to Biosecurity Queensland on 13 25 23.
- Category 3: must not be distributed either by sale or gift, or released into the environment.
- Category 4: must not be moved.
- Category 5: must not be kept.



- Category 6: must not be fed (animals).
- Category 7: must be euthanised (animals).

Restricted matters observed on-site are listed in **Section 4**.

### 3.5. Fisheries Act 1994

The Fisheries Act 1994 deals with the use, conservation and improvement of Queensland's fisheries resources and fish habitats. The legislation deals with the impact from coastal development on marine fish habitat, including protected marine plants, and declared fish habitat areas. Development proposals that modify, or have a temporary or permanent loss of fish habitat are assessed by the Department of Agriculture and Fisheries (DAF).

The investigation area is mapped with two low-risk waterways for WWBW traversing the site from east to west (**Figure 5**). Should any operational work be undertaken within the mapped waterway that does not meet Accepted Development Requirements, a referral and response to SDAP State Code 18: Waterway Barrier Works is generally required. As this development is intended to proceed under the LGID process, any works within mapped WWBW do not require assessment against SDAP State Code 18: Waterway Barrier Works. However, it is recommended this assessment is still carried out and consultation with DAF to discuss their support of the proposed works occurs prior to detailed design.

### 3.6. Water Act 2000

The Water Act 2000 provides a framework for sustainable management of Queensland's water resources and quarry material. Under the Water Act 2000, a riverine protection permit is required to be obtained if works within a waterway result in filling or excavation unless these works meet an exemption.

A review of Queensland Globe indicates that mapped waterways traversing the investigation area have not been defined under the *Water Act 2000*. A request for a watercourse determination should be made to Water Services South, who will make a decision regarding the status of water features onsite, to determine requirements for completing work within the water features onsite. Operational work within a watercourse as defined under the *Water Act 2000* may trigger the requirement for a riverine protection permit if exemption requirements cannot be met.

### 3.7. Koala habitat assessment

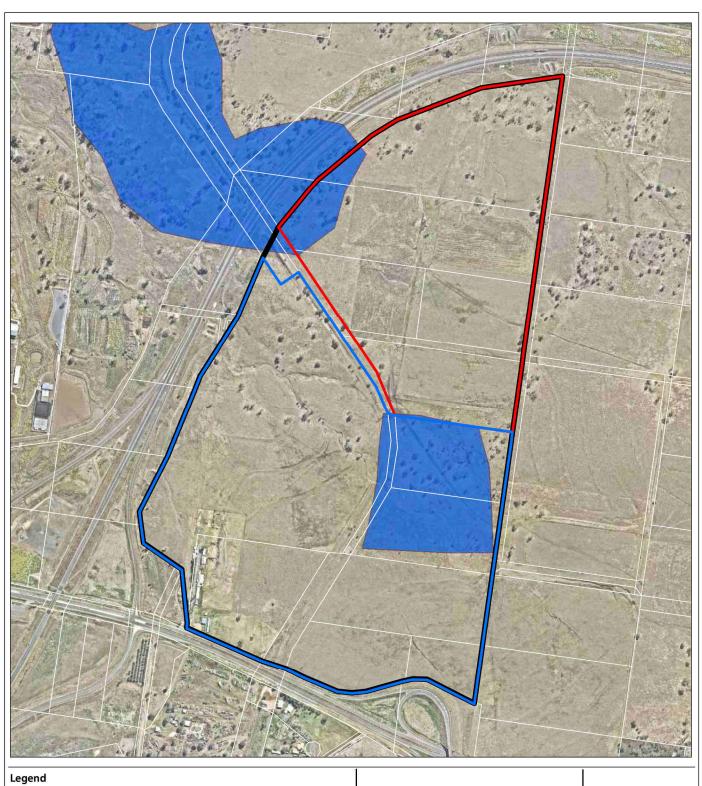
South East Queensland koala habitat protection mechanisms are incorporated into the PR. Schedule 11 of the PR details specific assessment benchmarks where development is proposed within mapped Koala habitat and/or Koala Priority Areas (KPA). It regulates the clearing of mapped Koala habitat, stipulating clearing mandates (e.g., staging, presence of a Koala spotter, etc.) when a development approval is sought for a material change of use, operational work, or reconfiguring a lot to create an additional lot. Schedule 10, Part 10, Division 2 of the PR outlines what is and is not prohibited development interfering with a Koala Habitat Area (KHA) within and outside of a KPA. This legislation was enforced in February 2020.

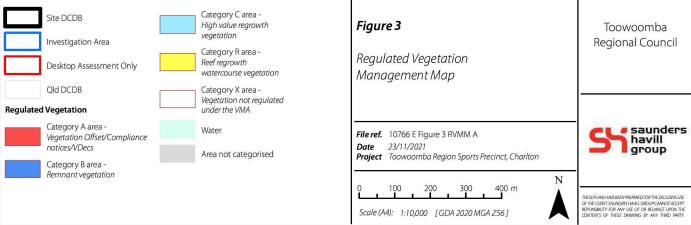


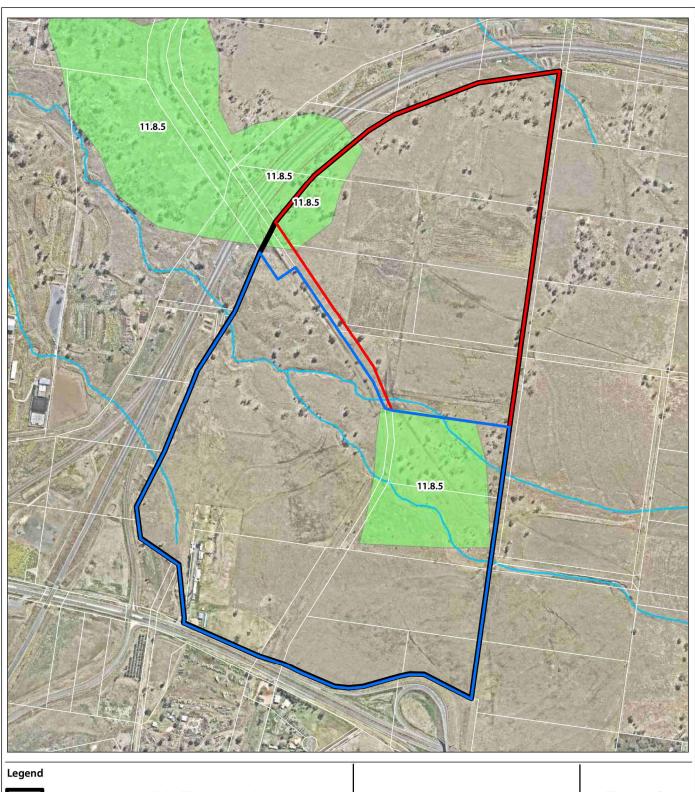
The KPA and KHA map administered by DES identifies the investigation area as occurring outside a Koala Priority Area (KPA) with no Koala Habitat Areas existing within site boundaries. As no Koala habitat is mapped on-site, no response to assessable development provisions is required (i.e. SDAP Code 25).

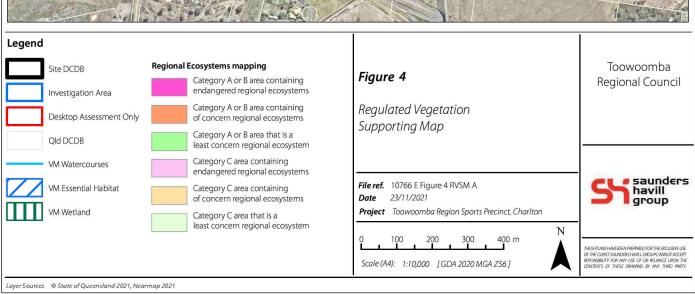
The investigation area is mapped within Koala District A on the Koala Conservation Plan Map, under the Nature Conservation (Koala) Conservation Plan (2017) (Koala Conservation Plan), This affords requirements regarding sequential clearing under Division 3, Part 3, s10 of the Koala Conservation Plan to any vegetation clearing onsite.

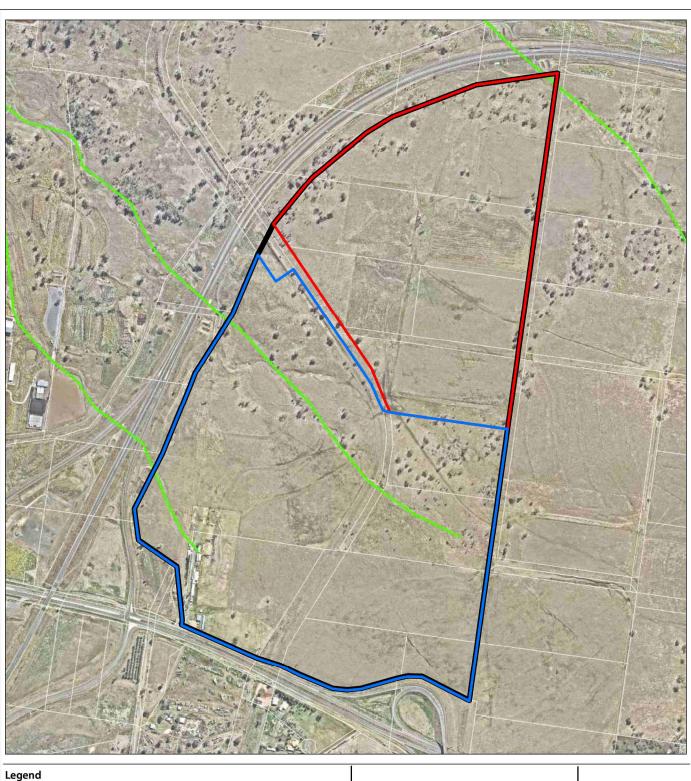


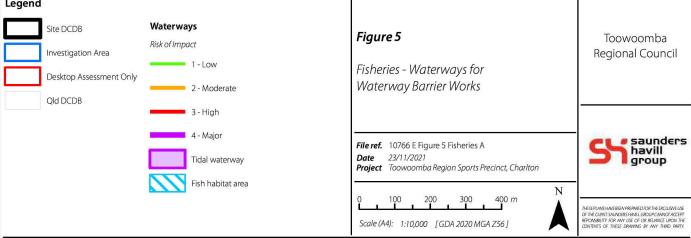












### 3.8. Other Queensland environmental legislation

Other Queensland environmental legislation has been reviewed in the context of the proposed development. **Table 5** lists other relevant Queensland legislation that is not triggered by the proposed development, the purpose of the legislation, and its relevance to the proposed development site.

Table 5: Site relevant to other Queensland environmental legislation

Legislation	Purpose	Relevance to Development Site
Coastal Protection and Management Act 1995	Seeks to protect the coastal resources of the coastal zone.	The site does not contain any coastal areas. Therefore, a response to State Code 8 is not required.
State Planning Policy 2017	The SPP provides interim development assessment requirements which ensures that state interests are considered by local government when assessing development applications where the local government planning scheme does not yet integrate the State interests in the planning scheme. MSES are categorised under Biodiversity, Coastal Environment or Water Quality.	The site is mapped as containing MSES – Regulated Vegetation Intersecting a Watercourse. Compliance with the SPP is addressed through the provisions of the planning scheme.

### 3.9. Town planning instruments

The site is located within the jurisdiction of Toowoomba Regional Council and is subject to the provisions of the TRC planning scheme.

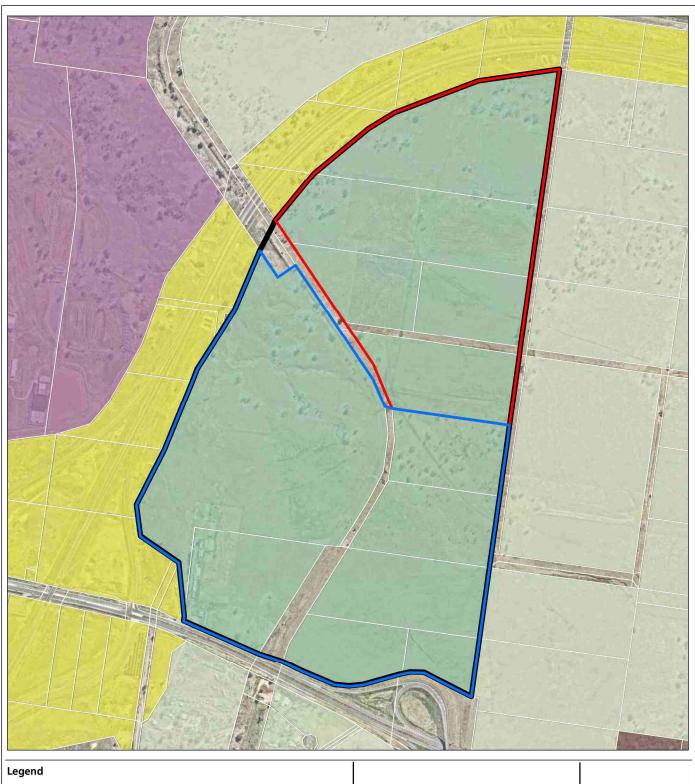
### 3.9.1 Toowoomba Regional Planning Scheme

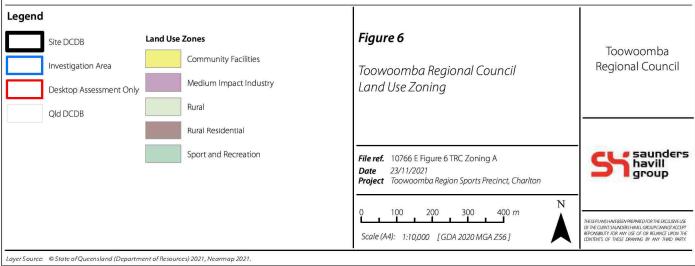
Under the Toowoomba Regional Planning Scheme the application area is zoned as sport and recreation (**Figure 6**),

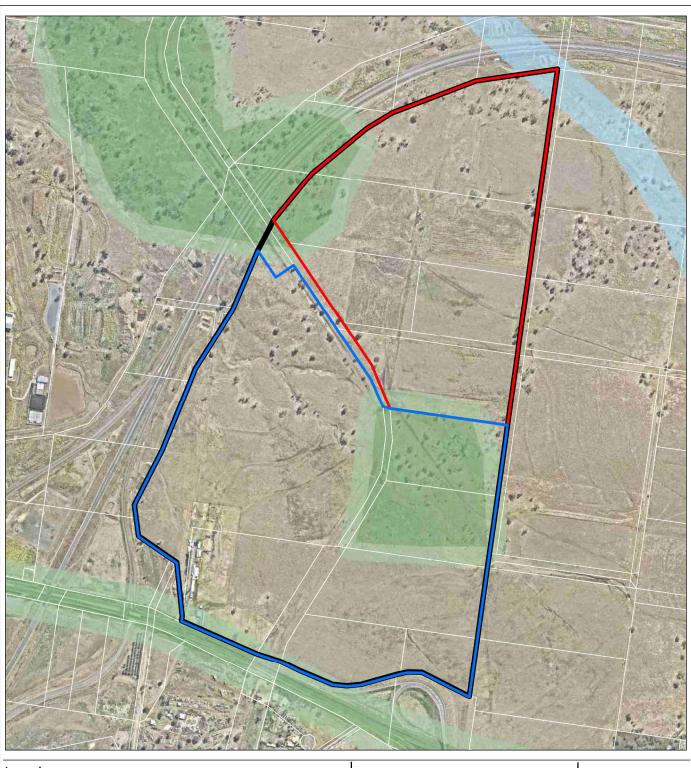
• Environmental significance overlay: The site is mapped as containing areas of ecological significance including an associated buffer area (**Figure 7**).

A response to the Environmental Significance Overlay Code is located in **Appendix C**.











### Figure 7

Toowoomba Regional Council Environmental Significance Overlay

File ref. 10766 E Figure 7 TRC Env Sig A

Date 23/11/2021
Project Toowoomba Region Sports Precinct, Charlton

Scale (A4): 1:10,000 [GDA 2020 MGA Z56]

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Toowoomba

Regional Council

## 4. Desktop Assessment of Northern Extent

A desktop assessment of the northern extent (refer **Figures 1 - 7**) of the site was carried out with field surveys and subsequent EAR to be completed in the future. **Table 6** outlines the results of the desktop assessment for the northern extent of the site. Refer **Section 3** for details of relevant environmental legislation and requirements

Table 6: Outcomes of desktop assessment for the northern extent of the site.

Legislation	Relevance to development site (northern extent)		
Federal			
Environment Protection and Biodiversity Conservation (1999)	An EPBC Act Protected Matters Report (PMR) was obtained using the Commonwealth's PMST. The search provides a list of wetlands of international significance, TECs, threatened species and other MNES which have the potential to be temporarily or permanently located within a 5 km search radius from the central point of the development site. <b>Table 2</b> lists a summary of these results relevant to the site. The complete PMR is included in <b>Appendix A</b> .		
State			
	The list of threatened species under the Animals Regulation and the Plants Regulation with the potential to occur on or near the project are presented in <b>Table 3</b> (refer to <b>Appendix B</b> for complete Wildlife Online search results). <b>Protected Plants</b>		
Nature Conservation Act (1992)	A search of the protected plants flora survey trigger map identified that this area is located partially within a 'high risk' area for protected plants. Consequently, a flora survey conducted by a suitably qualified person and liaison with the administering authority in accordance with the protected plants guidelines is required prior to the clearing of vegetation. If in the wild protected plants are present on-site that will be cleared, the person / entity completing the clearing will need a clearing permit unless an exemption applies. Where no protected plants are detected onsite or within the protected plants buffer area, an exemption to clear must be obtained from DES.		
Vegetation Management Act (1999)	A property search of the Regulated Vegetation Management Map identified this area as mapped predominantly as non-regulated <i>Category X</i> vegetation, with a small polygon of remnant <i>Category B</i> vegetation ( <b>Figure 3</b> ). Clearing of <i>Category X (non-remnant)</i> vegetation is exempt from		



	assessment under the <i>Planning Act 2016</i> . The Supporting Vegetation Management Map shows the mapped <i>Category B</i> vegetation is Least Concern RE11.8.5 ( <b>Figure 4</b> )
Fisheries Act 1994	This area is mapped with a small section of a low-risk waterway for WWBW in the far northern corner ( <b>Figure 5</b> ).
Water Act 2000	A review of Queensland Globe indicates that mapped waterway in the northern corner of the site has not been defined under the <i>Water Act 2000</i> .
Koala habitat assessment	The Koala priority and koala habitat area map administered by DES does not identify this area as inside a Koala Priority Area (KPA). No Koala Habitat is mapped therefore no response to assessable development provisions is required (i.e. SDAP Code 25). Sequential clearing requirements under the Koala Conservation Plan will apply to vegetation clearing onsite.
Coastal Protection and Management Act 1995	This area does not contain any coastal areas. Therefore, a response to State Code 8 is not required.
State Planning Policy 2017	This area is mapped as containing MSES –Regulated Vegetation Intersecting a Watercourse. Compliance with the SPP is addressed through the provisions of the planning scheme.
Local	
	Under the Toowoomba Regional Planning Scheme, the application area is zoned as sport and recreation ( <b>Figure 6</b> ).
Toowoomba Regional Planning Scheme	Overlays  Environmental significance overlay: The site is mapped as containing areas of ecological significance including an associated buffer area (Figure 7).



## 5. Ecological survey results

The site has been assessed by Ecologists from the SHG as part of a detailed ecological assessment. Site assessments were undertaken on the following dates: 9, 20, 21 and 23 September 2021. Refer to **Table 7** below for summary of weather during the survey period. This assessment included recording ecological values within the application area in accordance with Commonwealth and State ecological survey guidelines and identifying environmental constraints to development. Refer **Plan 1** for field survey effort.

Table 7: Survey weather data

Date	Min Temp (°C)	Max Temp (°C)	Rainfall (mm)
9 September 2021	10.6	22	0
20 September 2021	13	27	0
21 September 2021	9.4	15.3	4.2
23 September 2021	4.5	21.8	0

Bureau of Meteorology: Station 041529

### 5.1. General site observation

The following observations have been made based on detailed field surveys:

- The investigation area incorporates 7 lots totalling approximately 77 ha. Access is via Toowoomba Connection Road to the south and Gowrie Junction Road, through neighbouring properties, to the east. The site is bound by Toowoomba Bypass to the west and Toowoomba Connection Road to the south with large rural properties to the north and east.
- The investigation area is mapped as containing primarily Category X (non-remnant) vegetation with Category B (remnant) vegetation within Lot 114 and 113 on A345 and partially on Lot 24 on SP214746.
- Two waterways are mapped across the site traversing from west to east.

### 5.2. Mapped Category B (remnant)

An area of approximately 12 hectares of Category B (remnant) vegetation is mapped within Lot 114 and 113 on A345 and partially on Lot 24 on SP214746 consisting of 'Least Concern' RE11.8.5. Vegetation within this area was dominated by *Eucalyptus orgadophila* (Mountain Coolibah) with scattered *Eucalyptus tessellaris* (Moreton Bay Ash) and *Eucalyptus tereticornis* (Forest Red Gum). Retained large mature trees were present within this area as well as small specimens consistent with regrowth vegetation. The shrub layer was sparse and the ground layer dominated by a combination of native and non-native pastoral grasses. Species observed within this area are indicative of the RE mapping of 11.8.5.

Within the remnant polygon, an access track and an eroded drainage channel were present. Exotic species at the ground level exist in varying densities, predominantly *Chamaenerion angustifolium* (Fireweed) and



Glandularia aristigera (Mayne's Curse). Field surveys identified the extent of the remnant polygon to be mapped incorrectly, particularly in the southern and western extent, where mapping overlays identified areas confirmed to be devoid of trees. Refer **Plan 1** for rectified Category B area.





Photo set 1: Category B (remnant) vegetation.

### 5.3. Waterways

Two waterways are mapped across the site. The southern mapped waterway begins at the Toowoomba Gun Club in the southern extent of the site, continues north-west to the western boundary of the site and under the Toowoomba Bypass. The northern waterway extends across the centre of the site from east to west through mapped Category B (remnant vegetation). Detailed waterway assessments were completed for both waterways:

### 5.3.1 Mapped Waterway (North)

- Mapped as Stream Order 2 and Stream Order 1 under the Vegetation Management Act as well as Low value waterway for waterway barrier works (under the Fisheries Act). Lies within the central portion of Lot 24 on SP214746 and extends across an old disused rail corridor into Lot 113 on A345.
- Approximately 260 meters from the northern extent of the mapped waterway is an old railway corridor which has funnelled the overland flow between an old railway timber bridge. The Vegetation Management Act 1999 has mapped the waterway and part of the site as containing Least Concern Regional Ecosystem 11.8.5 described as *Eucalyptus orgadophila open woodland on Cainozoic igneous rocks*. Detailed site assessment identified that the upper portion of the mapped waterway is incorrectly mapped as remnant vegetation.



Table 8: Mapped waterway (north) observed attributes

Physical and Hydrological Attributes of a Waterway (Northern Waterway)				
1. Defined bed and banks	The mapped waterway contained a small, constructed dam adjacent to the western property boundary as well as a small section containing minor discontinuous bed and bank features identified throughout the central portion of the mapped waterway. All other features were minor erosion points because of a lack of native vegetation and historical cattle grazing. Bed and bank features are therefore isolated and broken sections of depression areas.			
An extended, if non-permanent, period of flow.	There is no evidence of flow beyond the duration of major rain events with the flow path identified as discontinuous. The central portion of the mapped waterway which contained some minor waterway features in the form of deposited material, bed and bank features, also contained a single area of potential pooling water. Although dry at the time of the assessment, this is the last feature along the waterway that fish, if in the event of migration could survive if rainfall was consistent enough to retain pooled water. This was not the case at the time of the assessment.			
3. Flow adequacy.	Basic ecological waterway processes and habitats are not identified throughout the mapped waterway. A constructed dam adjacent to the western property boundary was the only feature identified that retained some water at the time of the assessment. The dam is highly disturbed from cattle trampling and only contained small, scattered clumps of <i>Juncus usitatus</i> (Common Juncus). No obvious channel or flow path is identified directly upstream of this constructed dam.			
4. Fish habitat at, or upstream of, the site.	No fish habitat is identified upstream of the constructed dam.  Downstream of the mapped waterway is a culvert which is approximately sixty (60) metres in length under the Toowoomba Bypass. No habitat is identified between the dam and the culvert with access maintenance tracks constructed across the mapped waterway.			





**Photo set 2:** General observations of the mapped waterway (north), minor bed and bank features and a discontinuous channel.

### 5.3.2 Mapped Waterway (South)

- Mapped as Stream Order 1 under the *Vegetation Management Act 1999* as well as Low value waterway for waterway barrier works within the southern portion of Lot 24 on SP214746 with the upper portion mapped within the northwest section of Lot 276 on SP268921.
- This mapped waterway does not retain any fish habitat for breeding or rearing of young and the mapped waterway does not provide access to any critical habitat for food and protection for fish species.
- The waterway is also mapped as containing non-remnant vegetation. No canopy trees, sub-canopy trees or shrubs were identified within proximity to the mapped waterway. Two Eucalyptus orgadophila (Mountain Coolibah) trees were recorded within the southern portion of the Lot adjacent to the property boundary and away from the mapped waterway. Exotic Chamaenerion angustifolium (Fireweed) was present throughout this area.

Table 9: Mapped waterway (south) observed attributes

Physical and Hydrological Attributes of a Waterway (Southern Waterway)			
1.	Defined bed and banks	Both bed and banks were absent throughout the mapped waterway with only one small area containing some minor erosion. The erosion appeared to be a result of a lack of any native vegetation and historical cattle grazing.	
2.	An extended, if non- permanent, period of flow.	No attributes throughout the mapped waterway would provide any opportunity for an extended period of flow or potential pooling. The lower catchment area includes a stormwater detention basin which manages water flow from the Toowoomba Bypass. Water flows are directed through a seventy-five (75) meter length of pipe beneath the arterial road, opening into an uncovered area of approximately ten (10) meters before entering an additional forty (40) meter-long pipe, directed under the Toowoomba Bypass access ramp.	
3.	Flow adequacy.	No in-stream habitat, riparian vegetation (which is dependent upon significant water availability), or damp areas/features capable of sustaining ecological processes representative of a waterway, was identified throughout the mapped waterway. Connectivity along the mapped waterway is discontinuous, as is the connectivity both downstream and upstream of the currently mapped waterway. It is also note that the upstream portion of the waterway is mapped across the carpark of the local clay-target shooting club.	
4.	Fish habitat at, or upstream of, the site.	No in-stream habitat is identified throughout the mapped waterway. Water pooling and fish movement opportunities are non-existent with no obvious flow path identified in any portion of the mapped waterway. No overhanging embankments, flow path, wood debris, or wetland-dependant flora or fauna was identified throughout the mapped waterway.	





**Photo set 3:** General observations of the mapped waterway (south), no waterway features present on-site. Culverts leading under Toowoomba Bypass to the west.

### 5.3.3 Non-remnant vegetation (balance)

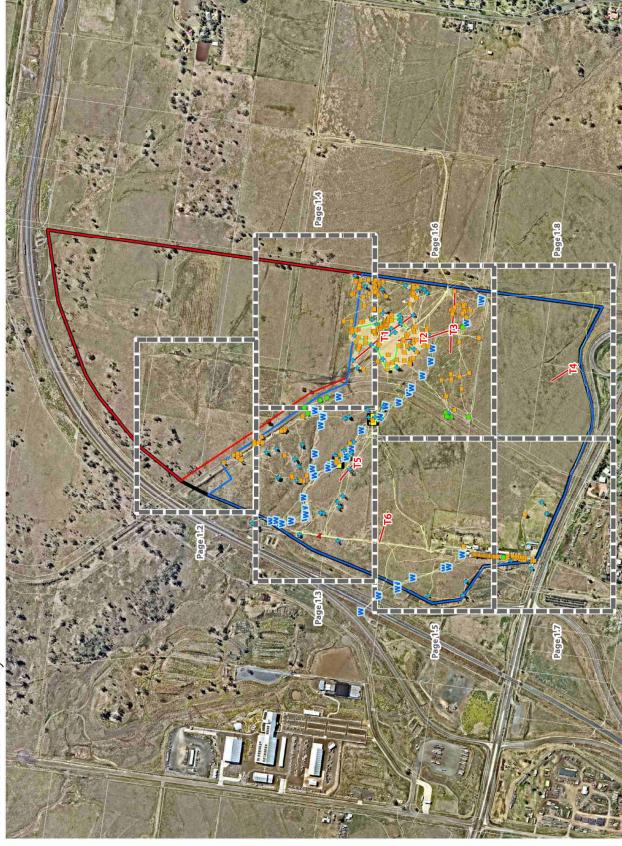
The balance of the site consists of Category X (non-remnant) vegetation supporting open paddocks with pasture grasses and limited scattered, mature trees, predominantly *Eucalyptus orgadophila* (Mountain Coolibah) with *Eucalyptus tereticornis* (Forest Red Gum) and *Angophora woodsiana* (Rough-barked Apple). Planted native species were recorded along the access road to the Toowoomba Gun Club in the southern extent of the site consisting predominantly of *Eucalyptus melliodora* (Yellow Box). Exotic ground cover species are present in varying densities across the site primarily *Chamaenerion angustifolium* (Fireweed) and *Glandularia aristigera* (Mayne's Curse).





Photo set 4: Balance of the site, Category X (non-remnant).





Habitat Quality Transects

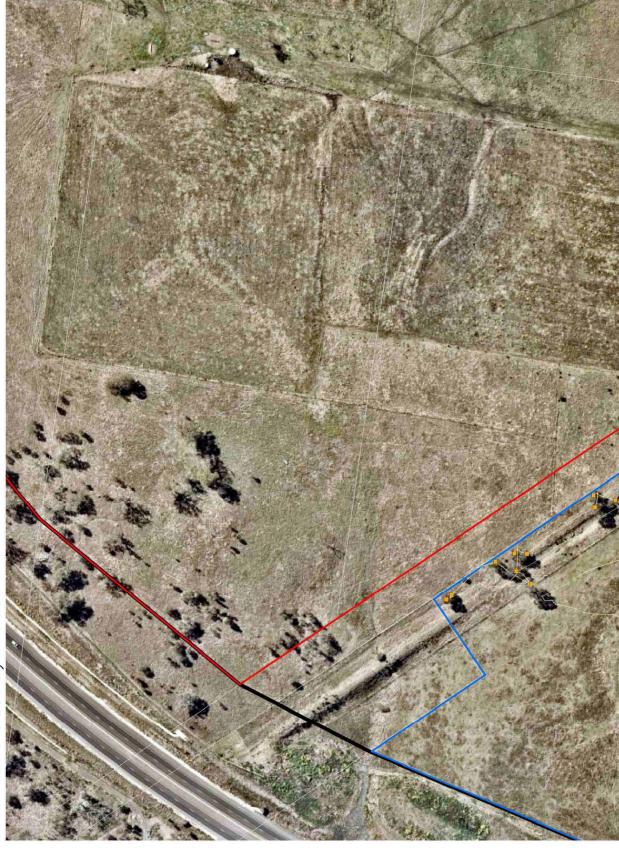
Track Log

Dead/Stag Tree

Toowoomba Regional Council

Toowoomba Region Sports Precinct, Charlton





Legend

- Track Log

Habitat Quality Transects

GPS Tree Plot

Habitat Tree

Non-juvenile Koala Habitat Tree

Dead/Stag Tree

Toowoomba Region Sports Precinct, Charlton

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Toowoomba Region Sports Precinct, Charlton

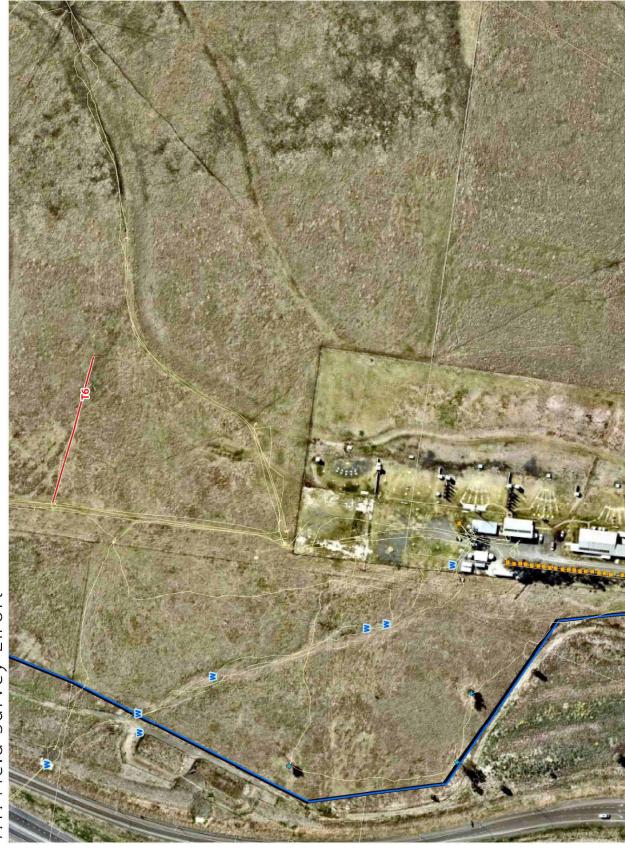
Non-juvenile Koala Habitat Tree Dead/Stag Tree Habitat Tree Site DCDB Track Log **GPS Tree Plot** Legend



Non-juvenile Koala Habitat Tree Dead/Stag Tree Habitat Tree Track Log Legend

> Toowoomba Regional Council S saunders havill group

Toowoomba Region Sports Precinct, Charlton



Legend

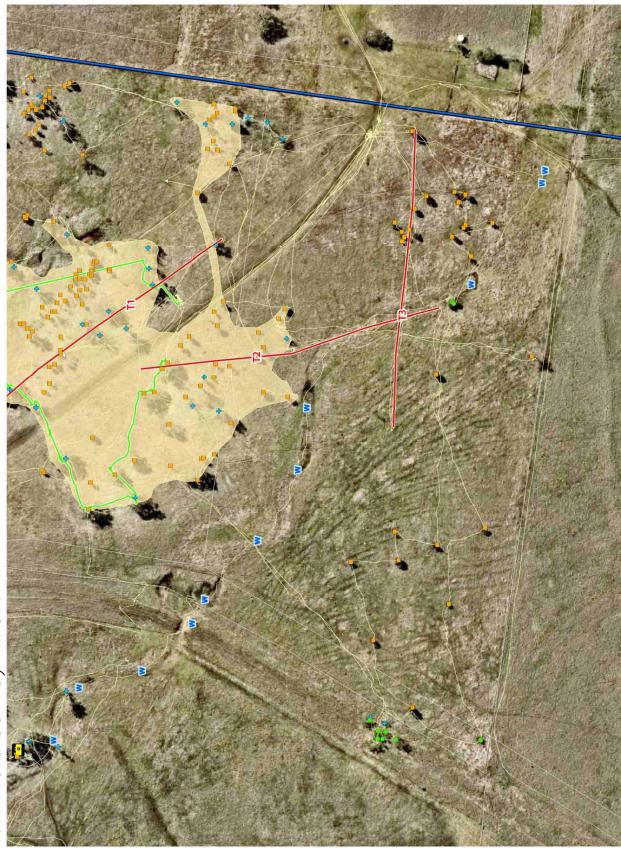
Habitat Tree

Non-juvenile Koala Habitat Tree

Dead/Stag Tree

Toowoomba Regional Council

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Habitat Quality Transects

Track Log

Legend

Toowoomba Region Sports Precinct, Charlton

Toowoomba Regional Council

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Dead/Stag Tree

Non-juvenile Koala Habitat Tree

Habitat Tree

GPS Tree Plot



Legend

Site DCDB

Track Log

Habitat Quality Transects

Waterway Observation Point

**GPS Tree Plot** 

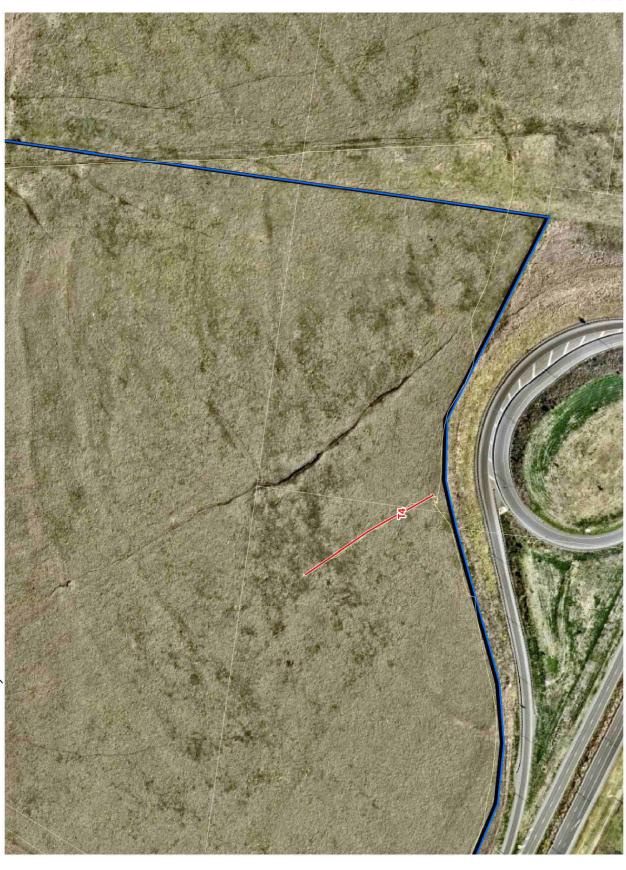
Habitat Tree

Non-juvenile Koala Habitat Tree

Dead/Stag Tree

Toowoomba Region Sports Precinct, Charlton

Saunders havill group



Track Log

Habitat Tree

Non-juvenile Koala Habitat Tree

### 5.4. Flora Survey Results

A total of 72 flora species were identified across the investigation area (refer to **Table 10**Error! Reference source not found.), made up of 45 natives and 32 introduced weeds. Five (5) of these species are listed as restricted matter under the *Biosecurity Act 2014*. The native and introduced flora composition is typical of a highly disturbed environment.

No flora species listed as threatened under state of federal legislation were detected onsite.

Table 10: Flora species list

Scientific name	Common name	Native introduced	or	Restricted matter listing under the Biosecurity Act 2014
Acacia implexa	Lightwood	Native		
Acacia salicina	Sally Wattle	Native		
Ageratum houstonianum	Blue Billy Goat Weed	Introduced		
Alphitonia excelsa	Soap Tree	Native		
Alstonia constricta	Bitterbark	Native		
Andropogon virginicus	Whiskey Grass	Introduced		
Angophora subvelutina	Broad-leaved Apple	Native		
Angophora woodsiana	Rough-barked Apple	Native		
Aristida latifolia	Feathertop Wiregrass	Native		
Aristida vagans	Threeawn Speargrass	Native		
Atalaya hemiglauca	Whitewood	Native		
Bidens Pilosa	Cobbler's Pegs	Introduced		
Brachychiton rupestris	Narrow-leaved Bottle Tree	Native		
Brachyscome microcarpa	Forest Daisy	Native		
Brassica napus	Canola Crop	Introduced		
Bryophyllum delagoense	Mother-of-Millions	Introduced		Restricted – Category 3
Bursaria spinosa	Black Thorn	Native		
Carissa ovata	Currant Bush	Native		
Celtis sinensis	Chinese Elm	Introduced		Restricted – Category 3
Cheilanthes distans	Bristle Cloak Fern	Native		
Chloris gayana	Rhodes Grass	Introduced		
Chrysocephalum apiculatum	Yellow Buttons	Native		
Corymbia tessellaris	Moreton Bay Ash	Native		

Corymbia intermedia	Pink Bloodwood	Native
Crassocephalum crepidioides	Thickhead	Introduced
Cynodon dactylon	Green Couch	Introduced
Cyperus gracilis	Slender Sedge	Native
Desmodium incanum	Creeping Beggar Weed	Introduced
Dianella caerulea	Blue Flax Lily	Native
Echium plantagineum	Paterson's Curse	Introduced
Einadia hastata	Berry Saltbush	Native
Eleusine indica	Crows Foot Grass	Introduced
Enchylaena tomentosa	Ruby Saltbush	Native
Eremophila debilis	Winter Apple	Native
Eremophila glabra	Emu Bush	Native
Eucalyptus albens	White Box	Native
Eucalyptus crebra	Narrow-leaved Ironbark	Native
Eucalyptus melliodora	Yellow Box	Native
Eucalyptus orgadophila	Mountain Coolibah	Native
Eucalyptus siderophloia	Grey Ironbark	Native
Eucalyptus tereticornis	Forest Red Gum	Native
Eustrephus latifolius	Wombat Berry	Native
Glandularia aristigera	Mayne's Curse	Introduced
Gomphocarpus physocarpus	Balloon Cotton Bush	Introduced
Goodenia rotundifolia	Star Goodenia	Native
Heliotropium amplexicaule	Blue Heliotrope	Introduced
Heteropogon contortus	Black Spear Grass	Native
Hydrocotyle acutiloba	Pennywort	Introduced
Hypochaeris radicata	Flatweed	Introduced
Imperata cylindrica	Blady Grass	Native
Juncus usitatus	Common Rush	Native
Megathyrsus maximus	Guinea Grass	Introduced
Melia azedarach	White Cedar	Native
Melinis repens	Red Natal Grass	Introduced



Neonotonia wightii	Green Glycine	Introduced	
Onopordum acanthium	Scotch Thistle	Introduced	
Opuntia stricta	Common Pest Pear	Introduced	Restricted – Category 3
Opuntia tomentosa	Velvety Tree Pear	Introduced	Restricted – Category 3
Oxalis stricta	Common Wood Sorrel	Introduced	
Panicum decompositum	Native Millet	Native	
Rumex brownie	Swamp Dock	Native	
Senecio madagascariensis	Fireweed	Introduced	Restricted – Category 3
	South African Pigeon		
Setaria sphacelata	Grass	Introduced	
Sida rhombifolia	Common Sida	Introduced	
Soliva sessilis	Carrot Top	Introduced	
Taraxacum officinale	Common Dandelion	Introduced	
Themeda triandra	Kangaroo Grass	Native	
Trifolium repens	White Clover	Introduced	
Trophis scandens	Burny Vine	Native	
Verbena bonariensis	Purple-top Verbena	Introduced	
Vicia sativa	Common Vetch	Introduced	
Wahlenbergia communis	Tufted Bluebell	Native	

