environmental management

saunders havill group

First Nine Residential Development

EPBC Act Referral Submission

Springfield Land Corporation
Brookwater Drive, Brookwater
7399
March 2016

surveying town planning urban design environmental management landscape architecture

Referral of proposed action

Project title: First Nine Residential Development

1 Summary of proposed action

NOTE: You must also attach a map/plan(s) and associated geographic information system (GIS) vector (shapefile) dataset showing the location and approximate boundaries of the area in which the project is to occur. Maps in A4 size are preferred. You must also attach a map(s)/plan(s) showing the location and boundaries of the project area in respect to any features identified in 3.1 & 3.2, as well as the extent of any freehold, leasehold or other tenure identified in 3.3(i).

1.1 **Short description**

The proposed action relates to the development of 'First Nine', a master planned residential development located to the east of the existing Brookwater community and more broadly within the Greater Springfield Master Planned Development Area. Main uses include medium density and low density residential, roads and parks. The development will be generally in accordance with the approved Greater Springfield Structure Plan and Brookwater South Precinct Plan.

The short title of the project is: 'First Nine Residential Development, Lot 161 on SP271657, Springfield for Springfield Land Corporation Pty Ltd'.

1.2 **Latitude and longitude**

Latitude and longitude details are used to accurately map the boundary of the proposed action. If these coordinates are inaccurate or insufficient it may delay the processing of your referral.

Table 1: Referral Area Coordinates

ID	Longitude		Latitude	
1	152°54'6"	E	27°39'31"	S
2	152°54'7"	E	27°39'33"	S
3	152°54'8"	E	27°39'35"	S
4	152°54'10"	E	27°39'38"	S
5	152°54'11"	E	27°39'42"	S
6	152°54'12"	E	27°39'45"	S
7	152°54'13"	E	27°39'56"	S
8	152°54'12"	E	27°39'57"	S
9	152°54'9"	E	27°39'58"	S
10	152°54'7"	E	27°39'59"	S
11	152°54'5"	E	27°40'1"	S
12	152°54'2"	E	27°40'3"	S
13	152°53'60"	E	27°40'4"	S
14	152°53'58"	E	27°40'5"	S
15	152°53'55"	E	27°40'7"	S
16	152°53'53"	E	27°40'9"	S
17	152°53'51"	E	27°40'11"	S
18	152°53'49"	E	27°40'8"	S
19	152°53'47"	E	27°40'7"	S
20	152°53'46"	E	27°40'6"	S
21	152°53'45"	E	27°40'4"	S
22	152°53'48"	E	27°40'4"	S
23	152°53'49"	E	27°40'3"	S
24	152°53'50"	E	27°40'1"	S
25	152°53'51"	E	27°39'59"	S
26	152°53'52"	E	27°39'57"	S
27	152°53'53"	E	27°39'55"	S
28	152°53'54"	E	27°39'53"	S
29	152°53'55"	E	27°39'50"	S
30	152°53'56"	E	27°39'48"	S
31	152°53'56"	E	27°39'47"	S
32	152°53'56"	E	27°39'46"	S
33	152°53'58"	E	27°39'44"	S
34	152°53'60"	E	27°39'41"	S
35	152°54'1"	E	27°39'39"	S
36	152°54'2"	E	27°39'36"	S
37	152°54'3"	E	27°39'35"	S
38	152°54'4"	E	27°39'34"	S
39	152°54'5"	E	27°39'33"	S

1.3 **Locality and property description**

Provide a brief physical description of the property on which the proposed action will take place and the project location (eg. proximity to major towns, or for off-shore projects, shortest distance to mainland).

Response 1.3

The referral area is located within the larger Greater Springfield urban expansion area which is identified at State and Local government levels as a primary growth area to support SEQ's population targets. It is governed by the approved Springfield Structure Plan (refer **Plan 1**) which has facilitated past and future urban growth in the area. Nearby features include Springfield Town Centre, Springfield Central Rail Station, Brookwater Golf Course, St Augustine's College and a number of local, regional and civic parks.

The First Nine development site is encompassed by the first nine holes of the existing Brookwater Golf Course and remains one of the last isolated patches of undeveloped land between Opossum Creek and Centenary Highway.

1.4	**Size of the development footprint or work area (hectares)**	The referral area covers 40.8hectares.
1.5	**Street address of the site**	Brookwater Drive Brookwater. QLD 4300

1.6 **Lot description**

Describe the lot numbers and title description, if known.

Part of Lot 161 on SP271657

1.7 **Local Government Area and Council contact (if known)**

If the project is subject to local government planning approval, provide the name of the relevant council contact officer.

Ipswich City Council- Contact:
Garath Wilson
Senior Planner (Development)
Development and Planning Branch
p. GWilson@ipswich.qld.gov.au

1.8 **Time frame**

Specify the time frame in which the action will be taken including the estimated start date of construction/operation.

Response 1.8

The project has all necessary State and local government approvals and to commence post confirmation of EPBC requirements and will start construction in line with market demand.

1.9	**Alternatives to proposed action** Were any feasible alternatives to taking the proposed action (including not taking the action) considered but are not proposed?	X	**No** There are no feasible alternatives to the proposed action. This is primarily based on the site's strategic designation within the Springfield Structure Plan as community residential. The proposal has been designed in accordance with planning and land use intent for the site by **Ipswich City Council** and is influenced by surrounding land uses including its proximity to existing and approved infrastructure. Any alternatives would depart from high level urban planning for the area and be beyond the extents of the proponent's ownership.
			Yes, you must also complete section 2.2
1.10	**Alternative time frames etc** Does the proposed action include alternative time frames, locations or activities?	X	**No** There are no alternative timeframes proposed.
			Yes, you must also complete Section 2.3. For each alternative, location, time frame, or activity identified, you must also complete details in Sections 1.2-1.9, 2.4-2.7 and 3.3 (where relevant).

1.11	**State assessment** Is the action subject to a state or territory environmental impact assessment?	X	**No** The action is not subject to a state environmental impact assessment. A number of State Government approvals were required to be achieved as part of endorsement of the Springfield Structure Plan, however these are mutually exclusive to the EPBC process or any bilateral agreements.
			Yes, you must also complete Section 2.5
1.12	**Component of larger action** Is the proposed action a component of a larger action?	X	**No** The action is not related to other proposals in the area. While the referral area is located within the broader Greater Springfield development area and development approvals existing surrounding the development, these are the subject of different uses, separate approvals and different land ownership.
			Yes, you must also complete Section 2.7
1.13	**Related actions/proposals** Is the proposed action related to other actions or proposals in the region (if known)?	X	**No** The action is not related to other proposal in the area. Development approvals exist surrounding the development, however they are the subject of different uses, separate approvals and different land ownership.
			Yes, provide details:
1.14	**Australian Government funding** Has the person proposing to take the action received any Australian Government grant funding to undertake this project?	X	**No** The proponent has not received Commonwealth Government funding for the project.
			Yes, provide details:
1.15	**Great Barrier Reef Marine Park** Is the proposed action inside the Great Barrier Reef Marine Park?	X	**No** The proposed action is not inside or adjoining to the Great Barrier Reef Marine Park.
			Yes, you must also complete Section 3.1 (h), 3.2 (e)

2 Detailed description of proposed action

NOTE: It is important that the description is complete and includes all components and activities associated with the action. If certain related components are not intended to be included within the scope of the referral, this should be clearly explained in section 2.7.

2.1 Description of proposed action

Response 2.1

The proposed action relates to the construction and operation of the First Nine Residential Development, which is located within Greater Springfield. The development is subject to provisions of the approved Springfield Structure Plan (refer **Plan 1**) and Brookwater South Master Area Development Plan (refer **Plan 2**). The following land uses are proposed across the site

- Residential
- Medium Density Residential
- Local Centre (local shops)
- Local park
- Trunk and non-trunk roads and other infrastruucture

The referral area adjoins the existing and completed Brookwater Community residential development and is immediately encompassed by the existing greens of Brookwater Golf Course (Holes 1 to 9). More broadly the site is surrounded by residential development, including Augustine Heights to the west, Springfield Town Centre to the south and Springfield Lakes to the east and Brentwood through the north. Environmental features adjoining the site include Opossum Creek to the north and a patch of vegetation to the east which is identified within the Springfield Structure Plan as future Town Centre.

The First Nine Residential Development, while adjoining the existing Brookwater Community, will be developed under a separate and approved planning instrument being the Brookwater South Precinct Plan. The development will complement the existing pattern of development in Brookwater.

The Bookwater South Master Area Development Plan (refer **Plan 2**) shows the First Nine Residential Development (formally known as Brookwater South) will provide for a range of residential densities and the alignment of major roads have been designed to be consistent with surrounding development. The project will involve the extension of Brookwater Drive which will provide an essential east -west connection for residents through to the future Town Centre and Transport Precinct at Springfield Central.

The First Nine Residential Development is anticipated to be developed over multiple stages across an 8-10 year timeframe.

The key statistics for the action are:

Referral Area = 40.8 hectares

Development Footprint = Approximately 39.8 hectares

Open Space = The precinct will include approximately **1 hectare of parkland** recreational space. *Other areas of open space will be provided at the interfaces with the golf course and take the form of 'golf windows' allowing a visual connection between First Nine roads and the golf course, providing retained natural areas throughout the precinct and reinforcing the Brookwater character.*

Total Allotments = 800-900 dwellings

For the purposes of impacts on MNES the action is summarised as:

- Clearing of 40 hectares of vegetation which achieves the Koala Referral Guideline criteria to be considered critical habitat for the survival of the Koala
- Vegetation clearing (predominately remnant)
- Loss of habitat and increased fragmentation
- New roads and other infrastructure
- Increase in domestic animal ownership
- Increase in hardstand and stormwater run-off in close proximity to Opossum Creek

2.2 Alternatives to taking the proposed action

Response 2.2
There are no alternatives to the proposed action- refer to **Response 1.9**.

2.3 Alternative locations, time frames or activities that form part of the referred action

Response 2.3
There are no alternative locations, time frames or activities proposed- refer to **Response1.10.**

2.4 Context, planning framework and state/local government requirements

Response 2.4
The proposed action is governed by the Springfield Structure Plan (refer **Plan 1**), which is administered by **Ipswich City Council** and sets out the broader planning framework for land within the structure plan boundary. First Nine Residential Development will be developed in accordance with the approved Brookwater South Master Area Development Plan (refer **Plan 2**) and complement the existing development pattern and character of the Brookwater Community. The necessary development approvals are in the process of being obtained at local and state government levels for the project.

2.5 Environmental impact assessments under Commonwealth, state or territory legislation

Response 2.5
The project has not been subject to an environmental impact assessment- refer to **Response 1.11.**

2.6 Public consultation (including with Indigenous stakeholders)

Response 2.6
The overarching Springfield Structure Plan was adopted as part of the Ipswich Planning Scheme 2006 and was subject to extensive public consultation during its design phase in accordance with the *Integrated Planning Act 1997*. The development intent of Greater Springfield has incorporated public opinions and addressed public concerns.

As part of the Greater Springfield development, consultation was undertaken with indigenous stakeholders and cultural heritage experts which included a walk over of the First Nine development site. During this walk over, an arrow artefact (arrow head) was identified within the south-western corner (refer **Figure 3**). The existing cultural heritage area has been disturbed by an old logging trail through the site. It is proposed under the Brookwater South Master Area Development Plan (refer **Plan 2**) to retain this area as Open Space in the form of a community interactive park which will acknowledge

the cultural significance of the site. It is noted that this artefact of cultural heritage significance is not protected under any Local, State or Commonwealth heritage registers.

2.7 A staged development or component of a larger project

Response 2.7

The proposed action is not part of a staged development or a component of a larger project. Refer to **Responses 1.12 & 1.13**. While the First Nine project area is within the broader planning area of Greater Springfield and adjoins the existing Brookwater Community and golf course, the referral area will be developed under a separate planning instrument (i.e. Brookwater South Precinct Plan) does not form a stage of the completed Brookwater Community.

3 Description of environment & likely impacts

3.1 Matters of national environmental significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest.

Your assessment of likely impacts should refer to the following resources (available from the Department's web site):

- specific values of individual World Heritage properties and National Heritage places and the ecological character of Ramsar wetlands;
- profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;
- *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance*; and
- associated sectoral and species policy statements available on the web site, as relevant.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The Minister has prepared four marine bioregional plans (MBP) in accordance with section 176. It is likely that the MBP's will be more commonly relevant where listed threatened species, listed migratory species or a Commonwealth marine area is considered.

Note that even if your proposal will not be taken in a World Heritage area, Ramsar wetland, Commonwealth marine area, the Great Barrier Reef Marine Park or on Commonwealth land, it could still impact upon these areas (for example, through downstream impacts). Consideration of likely impacts should include both direct and indirect impacts.

3.1 (a) World Heritage Properties

Description

Not applicable. The site does not contain and is not located within close proximity to listed World Heritage Properties.

Nature and extent of likely impact

Not applicable.

3.1 (b) National Heritage Places

Description

Not applicable. The site does not contain and is not located within close proximity to listed National Heritage Places.

Nature and extent of likely impact

Not applicable.

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)

Description

Response 3.1 (c)

The site is located upstream of Moreton Bay, a Ramsar Wetland.

Nature and extent of likely impact

The extent of impacts is likely to be extremely minimal given the site's location approximately 35 kilometres west of Moreton Bay. The site has no direct connection to the bay. Opossum Creek is located to the north of the site. Two drainage features run parallel to the referral boundaries within the encompassing existing golf greens. Any water that flows from the site ultimately into Moreton Bay must first go through a large and complex catchment containing extensive suburbs of urban housing. Given the compounding impacts from the broader Brisbane, Logan and Redlands local council areas that exist between the site and Moreton Bay, any stormwater flowing from the site into the bay would have an extremely minimal cumulative impact. In addition, the project will comply with stormwater management plans relative to the site to ensure stormwater is managed appropriately and meets regulatory standards which mandate no-worsening of water quality prior to exiting the site.

3.1 (d) Listed threatened species and ecological communities

Description

Response 3.1(d)

MNES Desktop Assessment

A Protected Matters Search Tool using a 2 kilometre radius around the site identified the following matters protected under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) as having potential to occur on the site. A copy of the search results in contained within **Attachment A**.

- Two listed Threatened Ecological Communities:
  - *Lowland Rainforest of Subtropical Australia* (critically endangered)- community may occur in the area
  - *White Box-Yellow Box Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (critically endangered)- community likely to occur within the area
- 10 listed threatened flora species
- 20 listed threatened fauna species

Two senior ecologists from **Saunders Havill Group** conducted a field survey across the referral site on the 28th and 29th September 2015 with weather conditions fine and sunny. A copy of the field survey results is contained within the First Nine Ecological Technical Memo included as **Attachment B**. The purpose of the assessment was to identify any Matters of National Environmental Significance and to assess habitat features, vegetation structure and species occurrence. Survey methods included:

- General Searches & Species Identification – The site was walked to ensure all vegetation communities and species were recorded and identified. Particular attention was paid to any threatened species that were listed as possibly occurring on or within the vicinity of the application site and specific micro assemblages which may support these threatened species.

- Observational Survey – Detailed observational surveys of the vertebrate fauna present on or that may utilise the study area, including faunal lists and significance status of species under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that includes the Japan – Australia Migratory Bird Agreement and the Bonn Convention; and Queensland's *Nature Conservation Act 1992* (NCA).

- Surveys targeting Koala were conducted, including:
  - Direct observational surveys
  - SAT – The Spot Assessment Technique
  - Koala Food Tree habitat assessments as per **Australian Koala Foundation** guidelines

- Identification – Identification of habitat values within the area relevant to terrestrial vertebrate fauna, including ecological corridors; and

- Description – A description of the major fauna habitats present

- Opportunistic searches and deployment of fauna cameras

The results of the field assessment, along with desktop searches and review of previous consultant studies for the Greater Springfield Area have been used to inform the likelihood of occurrence schedule in **Table 2.**

Table 2: Likelihood of Occurrence Schedule

Listed Threatened Ecological Communities						
Name	**Status**	**Type of Presence**		**Description of Community**	**Likelihood of Occurrence**	**Site**
Lowland rainforest of Subtropical Australia	Critically Endangered	This Threatened Ecological Community is listed as a community that may occur within the area.		Typically there is a relatively low abundance of species from the genera *Eucalyptus, Melaleuca* and *Casuarina*. Buttresses are common as is an abundance and diversity of vines. This community is usually associated Regional Ecosystems 12.3.1, 12.5.13, 12.8.3, 12.8.4, 12.8.13, 12.11.1, 12.11.10, 12.12.1, and 12.12.16.	No species representing these characteristics or vegetation communities were observed within the assessment area. The site is not mapped as containing any regional ecosystem communities associated with this ecological community. **TEC is unlikely to occur.**	Not recorded
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	This Threatened Ecological Community is listed as a community likely to occur within the area.		This threatened community is characterised by a species-rich understorey of native tussock grasses, herbs and scattered shrubs and the dominance of White Box, Yellow Box, or Blakely's Red gum trees. This community is usually associated with Regional Ecosystem 11.8.2a, 11.8.8, 11.9.9a, 13.3.1, 13.11.8, and 13.12.9. It can also be a small component of Regional Ecosystem 11.3.23, 12.8.16, 13.3.4, 13.11.3 and 13.11.4.	No species representing these characteristics or vegetation communities were observed within the assessment area. The site is not mapped as containing any regional ecosystem communities associated with this ecological community. **TEC is unlikely to occur.**	Not recorded
Birds						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Anthochaera phrygia	Regent Honeyeater	Endangered	82338	Regent Honeyeaters mostly occur in dry Box-Ironbark Eucalypt woodland and dry sclerophyll forest associations in areas of low to moderate relief, wherein they prefer moister, more fertile sites. These areas are generally associated with creek flats and river valleys and foothills. These woodlands have significantly large numbers of mature trees, high canopy cover and abundance of mistletoes. They are a generalist forager, which mainly feed on nectar from a wide range of eucalypts and mistletoes.	The Regent Honeyeater has been recorded at 15 sites across Queensland, primarily south of the Sunshine Coast and Chinchilla. These records have been on Bribie Island and in the Granite Belt. Regular records in the Gore-Karara area suggest a small breeding population may have been present in the mid-1990s. Given the disturbed nature of the site and the lack of specific recordings of the species in the immediate surrounding area, it is unlikely to occur on site. **The species is unlikely to occur.**	Not observed

Botaurus poiciloptilus	Australasian Bittern	Endangered	1001	The Australasian Bittern occurs in terrestrial wetlands and, rarely, estuarine habitats, mainly in the temperate southeast and southwest. It favours wetlands with tall dense vegetation, where it forages in still, shallow water up to 0.3 m deep, often at the edges of pools or waterways, or from platforms or mats of vegetation over deep water. It favours permanent and seasonal freshwater habitats, particularly those dominated by sedges, rushes and / or reeds or cutting grass growing over muddy or peaty substrate.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Cyclopsitta diophthalmacoxeni	Coxen's Fig Parrot	Endangered	59714	The Coxen's fig Parrot occurs in rainforest habitats including subtropical rainforest, dry rainforest, littoral and developing littoral rainforest, and vine forest. Food is mainly taken from figs however other species fruit have been recorded in their diet including Elaeocarpus grandis, Syzygium corynanthum, Litsea reticulata and Grevillea robusta.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Dasyornis brachypterus	Eastern Bristlebird	Endangered	533	The Eastern Bristlebird inhabits low dense vegetation in a broad range of habitat types including sedgeland, heathland, swampland, shrubland, sclerophyll forest and woodland, and rainforest. It occurs near the coast, on tablelands and in ranges. The Eastern Bristlebird is found in habitats with a variety of species compositions, but is defined by a similar structure of low, dense, ground or understorey vegetation.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Erythrotriorchis radiatus	Red Goshawk	Vulnerable	942	A wide ranging and highly mobile species generally observed over eucalypt habitats. This species prefers forest and woodland with a mosaic of vegetation types, large prey populations (birds) and permanent water. The vegetation types include eucalypt woodland, open forest, tall open forest, gallery rainforest, swamp sclerophyll forest and rainforest margins. Habitat has to be open enough for fast attack and manoeuvring in flight, but provide cover for ambushing of prey.	Due to a lack of records within the local area, it is unlikely that this species will occur. However, possible foraging habitat occurs throughout some of the mapped remnant areas. There is no evidence of visitation orpermanent residence on site. **Species is unlikely to occur.**	Not observed
Geophaps scripta scripta	Squatter Pigeon (southern)	Vulnerable	64440	This species inhabits open grasslands and woodlands typically with a native understorey although may occur in artificial pasture.	No confirmed local records. The species is now very rarely observed in southern Queensland. Not expected onsite and no direct impact from proposed actions. **Species is unlikely to occur.**	Not observed

Lathamus discolour	Swift Parrot	Endangered	744	Swift Parrots breed in Tasmania during spring to early summer. During autumn and winter the species migrates to the mainland where it follows a nomadic existence linked to the availability and timing of flowering of trees in various locations. While the species is very uncommon in south-east Queensland, its occurrence cannot be completely discounted. There are suitable winter flowing species present on the site which may attract birds during flowing (eg E. tereticornis).	Due to a lack of records within the local area, it is highly unlikely that this species will occur. **Species is unlikely to occur.**	Not observed
Grantiella picta	Painted Honeyeater	Vulnerable	470	The species is sparsely distributed from south-eastern Australia to north-western Queensland and eastern Northern Territory. The species inhabits mistletoes in eucalypt forests/woodlands, riparian woodlands of black box and river red gum, box-ironbark-yellow gum woodlands, acacia-dominated woodlands, paperbarks, casuarinas, callitris, and trees on farmland or gardens. The species prefers woodlands which contain a higher number of mature trees, as these host more mistletoes.	Due to a lack of records within the local area, it is highly unlikely that this species will occur. **Species is unlikely to occur.**	Not observed
Peophila cincta cincta	Black-throated Finch (southern)	Endangered	64447	The Black-throated Finch (southern) occurs mainly in grassy, open woodlands and forests, typically dominated by Eucalyptus, Corymbia and Melaleuca, and occasionally in tussock grasslands or other habitats (for example freshwater wetlands), often along or near watercourses, or in the vicinity of water. It occurs at two general locations: in the Townsville region, where it is considered to be locally common at a few sites around Townsville and Charters Towers; and at scattered sites in central-eastern Queensland (between Aramac and Great Basalt Wall National Park). It has been absent from Brisbane and its surrounds since the 1930s.	Due to a lack of records within the local area, it is unlikely that this species will occur. **Species is unlikely to occur.**	Not observed
Rostratula australis	Australian Painted Snipe	Endangered	77037	The Australian Painted Snipe is usually found in shallow inland wetlands, either freshwater or brackish, that are either permanently or temporarily filled. The species has a scattered distribution throughout many parts of Australia, with a single record from Tasmania.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Turnix melanogaster	Black-breasted Button-quail	Vulnerable	923	Typical habitat occurs in dry rainforest and vegetation immediately adjacent to rainforest. However the species has also been recorded in a variety of low coastal heathlands around Frazer Island and nearby mainland. Deep leaf litter in which the species can forage appears to be particularly favoured.	Little to no suitable habitat for this species occurs and it has not been recorded in the area. **Species is unlikely to occur.**	Not observed

Insects						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Phyllodes imperialis smithersi	Pink Underwing Moth	Endangered	86084	The Pink Underwing Moth is found below the altitude of 600m in undisturbed, subtropical rainforest. It occurs in association with the vine *Carronia multisepalea.*	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Mammals						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Chalinolobus dwyeri	Large-eared Pied Bat	Vulnerable	183	The Large-eared Pied Bat roosts on sandstone cliffs and fertile woodland valley habitat within close proximity of each other. However in South-east Queensland habitat includes rainforest and moist eucalypt forest habitats at high elevations.	No confirmed local records of this uncommon species. Inhabits mesic vegetation. Not expected to occur and no impact expected. **Species is unlikely to occur.**	Not observed
Dasyurus hallucatus	Northern Quoll	Endangered	331	The Northern Quoll is known to occur as far south as Gracemere and Mr Morgan, south of Rockhampton and as far north as Cooktown. There have also been occasional records as far south as Maleny on the Sunshine coast hinterland. The species occupies rocky areas, eucalypt forest and woodlands, rainforests, sandy lowlands and beaches, shrubland, grassland and desert. Preferred habitat in Queensland suggests the Northern Quoll are more likely to be present in high relief areas that have shallower soils, greater cover of boulders, less fire impact and were close to permanent water.	Due to the large amount of disturbances and impacts from fire, no suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Dasyurus maculatus maculatus	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	Endangered	75184	The Spot-tailed Quoll has a preference for mature wet forest habitat. Unlogged forest or forest that has been less disturbed by timber harvesting is also preferable. This predominantly nocturnal species rests during the day in dens. Habitat requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves. Individuals require an abundance of food such as birds and small mammals, and large areas of relatively intact vegetation through which to forage.	Due to the large amount of disturbances and lack of suitable rocky outcrops, no suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Petrogale penicillata	Brush-tailed Rock-wallaby	Vulnerable	225	This species prefers rocky habitat, including loose boulder-piles, rocky outcrops, steep rocky slopes, cliffs, gorges and isolated rock stacks. Although rocky outcrops are crucial, vegetation structure and composition is also considered to be important. This species appears closely associated with dense arboreal cover, especially fig trees however dense rainforest, wet sclerophyll forest, vine thicket, dry sclerophlyy forest and open forests are important.	No suitable habitat or evidence was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed

Phascolarctos cinereus	Koala	Vulnerable	85104	They are found in a range of habitats, from coastal islands and tall eucalypt forests to low woodlands inland. The species is known from the surrounding area and evidence has been recorded on-site.	Areas of suitable habitat were observed on site. **Species known to occur on site.**	Evidence of Koalas in the form of observations and scats.
Pteropus poliocephalus	Grey-headed Flying Fox	Vulnerable	186	Species generally roosts in camps in trees adjacent to larger permanent watercourse. The Grey-headed flying fox requires foraging resources and roosting sites. It is a canopy-feeding frugivore and nectarivore, which utilises vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. It also feed son commercial fruit crops. The primary food source is blossom from Eucalyptus and related genera.	No camps were observed throughout the assessment area however food resources cover the site. This species is highly likely to occur when the Eucalypts are in flower and is known to occur in the broader area. **Species has potential to occur.**	Not observed
Other						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Cycas ophiolitica	Marlborough Blue	Endangered	55797	Inhabits eucalypt open forest and woodland communities with a grassy understorey. They occur on hill tops or steep slopes, at altitudes of 80-620m above sea level. It grows on shallow, stoney, red clay loams or sandy soils.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not recorded
Plants						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Bosistoa selwynii	Heart-leaved Bosistoa	Vulnerable	13702	The Heart-leaved Bosistoa is similar to the Three-leaved Bosistoa and is conserved within Mt Warning National Park, Numbinbah Nature Reserve, Limpinwood Nature Reserve and When Whian State Forest. It generally grows in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 3oo m in altitude. It is commonly associated with *Argyrodendron trifoliolatum, Syzygium hodgkinsoniae, Endiandra pubens, Dendrocnide photinophylla, Acmena ingens, Diploglottis australis and Diospyros mabacea.*	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not recorded
Bosistoa transversa	Three-leaved Bosistoa	Vulnerable	16091	The Three-leaved Bosistoa is conserved within Mt Warning National Park, Numbinbah Nature Reserve, Limpinwood Nature Reserve and Whian Whian State Forest. While population information is unavailable, it is thought to be common in its range. It generally grows in wet sclerophyll forest, dry sclerophyll forest and rainforest up to 3oo meters in altitude. It is commonly associated with Argyrodendron trifoliolatum, Syzygium hodgkinsoniae, Endiandra pubens, Dendrocnide photinophylla, Acmena ingens, Diploglottis australis and Diospyros mabacea.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not recorded

Notelaea ipsviciensis	Cooneana Olive	Critically Endangered	81858	The Cooneana Olive is known to only occur within three closely clustered sub-populations within Ipswich, those being, Murphy's Gully (111km west), a site adjacent to the Cunningham Highway (closest point of Cunningham Highway from the site is 23.6km west) and Bergin's Hill (15km west). Given the very specific locations of this plant and its distribution away from the site, it is likely that the Cooneana Olive does not occur.	The Cooneana Olive occurs in specific locations around Ipswich. The plant has never been recorded on or in close proximity to the site. **Species is unlikely to occur.**	Not recorded
Notelaea lloydii	Lloyd's Olive	Vulnerable	15002	Lloyd's Olive is known at five locations in south-east Queensland, those being Mt Crosby (31km north-west), Boonah (50km south-west), Moggill State Forest (17km north), an unnamed state forest and Moogerah Peaks National Park (73km south-west). It occurs in hilly terrain in moist gullies with shallow, well drained and stoney to very rocky soils. Given the specific and known location of this species' occurrence, it is unlikely that it occurs on the site.	The Lloyd's Olive has not been recorded on or in close proximity to the site. Its distribution is restricted to the five identified locations. **Species is unlikely to occur.**	Not recorded
Phaius australis	Lesser Swamp Orchid	Endangered	5872	The Lesser Swamp-orchid is commonly associated with coastal wet heath/sedgeland wetlands, swampy grassland or swampy forest and often where Broad-leaved Paperbark or Swamp Mahogany are found. Typically, the Lesser Swamp-orchid is restricted to the swamp-forest margins, where it occurs in swamp sclerophyll forest (Broad-leaved Paperbark/Swamp Mahogany/Swamp Box (Lophostemon suaveolens), swampy rainforest (often with sclerophyll emergent), or fringing open forest. It is often associated with rainforest elements such as Bangalow Palm (Archontophoenix cunninghamiana) or Cabbage Tree Palm (Livistona australis).	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not recorded
Phebalium distans	Mt Berryman Phebalium	Critically Endangered	81869	Mt Berryman Phebalium is found in semi-evergreen vine thicket on red volcanic soils, or in communities adjacent to this vegetation type. Geology of the area in which this species occurs is deeply weathered basalt with undulating to hilly terrain. Soils range from red-brown earths to brown clays (derived from siltstone and mudstones), and lithosols to shallow, gravelly krasnozems (very dark brown loam), derived from the Main Range Volcanics of the Tertiary period. Vegetation associations in which Mt Berryman Phebalium occur include microphyll to notophyll vine forest with or without Araucaria cunninghamii and low microphyll vine forest and semi-evergreen vine thicket with or without Araucaria cunninghamii which can be divided further into regional ecosystems depending on substrate, geography and associated vegetation species.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not recorded

Plectranthus habrophyllus		Endangered	64589	*Plectranthus habrophyllus* is a woody, square stemmed herb with scented foliage and is known to occur in only 6 locations across South East Queensland. This includes Oxley Creek in Greenbank (10km east), Opposum Creek, Springfield (1.5km east), White Rock Conservation Park (3km south) and Ormeau (50km east). Opposum Creek and White Rock Conservation Park are both located in close proximity to the site, suggesting that there is potential for the herb to occur on the subject site. Given the specific known locations of the herb, it is likely that the herb does not occur on the site. It occurs on rock outcrops of sandstone or chart in shaded situations in Eucalypt woodland often close to vine forest.	*Plectranthus habrophyllus* has been recorded in the local area in very niche habitat locations. These niche habitat attributes (i.e. north facing rock outcrops) do not occur on site and the species was not observed during flora surveys. **Species is unlikely to occur.**	Not recorded
Sophera fraseri		Vulnerable	8836	*Sophera fraseri* grows in moist habitats, often in hilly terrain at altitudes form 60-660m on shallow soils along rainforest margins in eucalypt forests or in large canopy gaps in closed forest comminties.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not recorded
Streblus pendulinus	Siah's Backbone	Endangered	21618	On the Australian mainland, Siah's Backbone is found in warmer rainforests, chiefly along watercourses. The altitudinal range is from near sea level to 800 m above sea level. The species grows in well-developed rainforest, gallery forest and drier, more seasonal rainforest.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not recorded
Thesium australe	Austral Toadflax	Vulnerable	15202	Austral Toadflax is semi-parasitic on roots of a range of grass species notably Kangaroo Grass (Themeda triandra) (Scarlett et al. 1994). It occurs in subtropical, temperate and subalpine climates over a wide range of altitudes. It occurs on soils derived from sedimentary, igneous and metamorphic geology on a range of soils including black clay loams to yellow podzolics and peaty loams	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not recorded
Reptiles						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Delma torquata	Collared Delma	Vulnerable	1656	The Collard Delma inhabits eucalypt-dominated woodlands and open-forests in Land Zones 3 (Alluvium), 9 (undulating country or fine-grained sedimentary rocks), 10 (sandstone ranges). Common Regional Ecosystems (RE) include RE 11.3.2, RE 11.9.10, RE 11.10.1 and RE 11.10.4. These REs are located in Bioregion 11 (Brigalow Belt), located to the north and west of South East Queensland. The species is also known in the Toowoomba Ranges in habitats associated with exposed rocky outcrops on ridges or slopes in vegetation communities dominated by Narrow-Leaf Ironbark (*Eucalyptus crebra*). Other areas where the species has been	Important populations of the species are associated with important habitats found in the Brigalow Belt (Bioregion 11). Larger population records of the species west of Brisbane include Kenmore, Pinjarra Hills, Anstead, Mt Crosby, Lake Manchester and Karana Downs. The species has not been recorded on, or in close proximity to the site. **Species is unlikely to occur.**	Not recorded

				recorded is the Mt Crosby and Moggill State Forest sites, as well as Anstead and Pinjarra Hills.		
Furina dunmalli	Dunmall's Snake	Vulnerable	59254	Dunmall's Snake has been found in a broad range of habitats, including forests and woodlands on black alluvial cracking clay and clay loams dominated by Brigalow other Wattles, native Cypress or Bull-oak, and various Blue Spotted Gum, Ironbark, White Cypress Pine and Bulloak open forest and woodland associations on sandstone derived soils. Dunmall's Snake occurs primarily in the Brigalow Belt region in the South-eastern interior of Queensland. Records indicate sites at elevations between 200–500 m above sea level. The snake is very rare or secretive with limited records existing. It has been recorded at Archokoora, Oakey, Miles, Glenmorgan, Wallaville, Gladstone, Lake Broadwater, Mount Archer, Exhibition Range National Park, roadside reserves between Inglewood and Texas, Rosedale, Yeppoon and Lake Broadwater Conservation Park.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed

MNES Threatened Species and TECs Assessment

As summarised in **Table 2**, a review of specific habitat niches and distribution of these listed flora and fauna species and TECs using the SPRAT database, Queensland's Wildlife Online Search Tool, previous reporting in the local area and Queensland's Regional Ecosystem and Essential Habitat mapping ruled out the potential for most listed species to occur. The position on the potential occurrence of species was supported by field survey results. This was primarily due to combined impacts from:

- Lack of suitable niche habitat across the site, such as large waterbodies and coastal habitats.
- Influences from surrounding development, particularly expanding residential developments, roads and the railway line, as well as surrounding major commercial development and education facilities such as the Springfield Central.
- Fragmentation of the site, adjoining existing residential and arterial roads to the immediate west and south and more broadly Springfield Town Centre to the east.
- Evidence of disturbance from maintained and fertilised encompassing golf greens.
- Evidence of exotic weeds throughout the site.
- Evidence of site usage by domestic dogs from surrounding residential areas.
- Consistent usage of the site for unlawful land uses including motorbikes and 4wd.

Overall, desktop surveys described above identified potential for the Grey-headed Flying-fox (*Pteropus poliocephalus*) and Koala (*Phascolarctos cinereus*), both of which are listed as Vulnerable under to EPBC Act, to occur on site due to the availability of suitable habitat and recordings for the species in the local area. No other scheduled species or TECs were observed during field surveys or considered likely to occur on site.

Assessment of Occurrence and Field Survey Results

On the 28th and 29th September 2015, senior ecologists from **Saunders Havill Group** (SHG) conducted field assessments across the site to survey for MNES flora as well as potential habitat and evidence of MNES fauna. Overall, the site was found to be highly disturbed as a result of maintained access tracks, unlawful activities including motorbike and 4wd impacts, weed infestations, evidence of dogs, dumping of domestic rubbish and edge effects from surrounding development, in particular edge effects from the encompassing golf course. The results of this assessment by **SHG** in combination with findings and conclusions from consultant's reports for the Greater Springfield Area (refer to **Section 8** for references) have been used to inform the baseline ecological conditions for the site permanently or even seasonally.

Grey-headed Flying-fox (*Pteropus poliocephalus*)

The Grey-headed Flying-fox is listed as Vulnerable under the EPBC Act, however is it not listed as a threatened species under Queensland legislation. The Grey-headed Flying-fox is a canopy-feeding frugivore and nectarivore, which uses vegetation communities including rainforests, open forests, closed and open woodlands, Melaleuca swamps and Banksia woodlands. Its primary food source is Eucalypt blossom and related genera. It roosts in aggregations of various sizes on exposed branches, typically near water, however colonies can utilise highly modified vegetation in urban environments.

A search of the Atlas of Living Australia returned one (1) known record of the Grey-headed Flying-fox approximately 10km from the referral site within the suburb of Warcol, however it is noted that this record was made in 1992. Surveys undertaken by **Biodiversity and Assessment Management** (BAAM) during winter 2005 for the Greater Springfield area, noted numerous individuals feeding within the area, however did not detect any colonies or camps within close proximity to the subject site. Of relevance to the site, **BAAM** noted that there are four (4) stable, long-term camps which are located within the recognised typical nightly commuting distance of flying-foxes from the site. These camps are located at Goonda and Indooroopilly (to the north), Slacks Creek (to the east) and Woodend (to the west). It is also important to note that **BAAM** state that the abundance of winter flowing resources in relation to each of the camps (over 35km from the site) indicates that the site is unlikely to utilised by Grey-headed Flying-fox as part of frequent visitation.

Site specific surveys by **SHG** over the application area in September 2015 did not record any individuals or roosting camps and concluded that the proposed referral area does not contain suitable habitat for the species, such as wetter gully and drainage lines or ridges where flowing eucalypts are predominately located. Survey noted that suitable habitat for the species

was identified within the Opossum Creek corridor to the north. Opossum Creek is separated from the referral area by the existing Brookwater Golf Course and is designated within the Springfield Structure Plan as Open Space (refer **Plan 1**). Further, suitable habitat for the species has been identified within the Springfield Conservation Land to the south (refer **Plan 1**). This land will be retained and rehabilitated for environmental conservation as part of the development of Greater Springfield and has been dedicated previously by **Springfield Land Corporation** to Council.

Overall, it is considered that the abundance of suitable foraging habitat in the surrounding landscape suggests the retention of open space and conservation areas in close proximity to the proposed development, in particularly Opossum Creek corridor to the north, would likely mitigate any potential reduction of suitable habitat for Grey-headed Flying-fox.

The following provides a brief description of the species and assessment against the *Significant Impact Guidelines 1.1*:

Distribution and Population

The Grey-headed Flying-fox occurs between Rockhampton in Queensland to Melbourne in Victoria. The species will usually selectively forage where food is available and as such, its patterns of occurrence and relative abundance vary between seasons and years. There are no separate or distinct populations due to the constant genetic exchange and movement between camps throughout its geographic range.

Threats

The primary threat to the Grey-headed Flying-fox is shooting and culling to protect commercial fruit farms. In addition, habitat loss and fragmentation creates competition for food sources and the loss of roosting camps is also considered to be a threat.

Field Survey Results

Given the availability of eucalypts throughout the site, 2015 field survey by **SHG** concluded that the site has potential to provide marginal foraging habitat to the Grey-headed Flying-fox as part of a broader home range. No individuals were observed on-site and more importantly, no roosting camps were observed. Further, as the site is highly disturbed by surrounding land uses, it is considered likely that the species would opt to utilise Opossum Creek corridor to the north over the degraded referral area.

Significant Impact Assessment

To determine whether the proposed action is likely to have a significant impact on the Grey-headed Flying-fox, an assessment against the *Significant impact Guidelines 1.1* is provided in **Table 3.**

Table 3: Significant Impact Assessment – Vulnerable Grey-Headed Flying-Fox

Significant Impact Criteria	Description	Impact
An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:		
1. Lead to a long term decrease in the size of an important population of a species.	While the site does contain potential foraging habitat for the Grey-headed Flying-fox, no individuals were observed on site and no roost camps were seen on or near the site. South East Queensland has a permanent and abundant population of Grey-headed Flying-fox and available habitat is spread throughout the region given the high prevalence of Eucalypts including land designated as open space within the Opossum Creek corridor to the north. The site is not considered to support an important population of the species and the proposed action is unlikely to lead to a long term decrease in the size of any local Grey-headed Flying-fox populations.	**No significant impact**
2. Reduce the area of occupancy of an important population.	No roost camps or individuals were observed across the site. The project will not have a significant impact on any population	**No significant impact**

	of the species. While the proposed action will remove available foraging habitat, given the abundant availability of eucalypts in the surrounding landscape and the greater SEQ region, the development proposal is unlikely to have a significant impact on any area of occupancy of the species. It is noted that areas of desirable Grey-headed Flying-fox habitat is to be retained within existing conservation corridors within the Greater Springfield area, including Opossum Creek corridor to the north.	
3. Fragment an existing important population into two or more populations.	The SPRAT species profile outlines that while there are spatially structured colonies of Grey-headed Flying-fox, there are no separate or distinct populations due to the constant genetic exchange and movement between camps throughout the species' geographic range. In addition, given the high mobility of the species, the proposed action is unlikely to fragment a population into two or more populations.	**No significant impact**
4. Adversely affect habitat critical to the survival of a species.	While the proposed action results in the removal of potential foraging habitat, this habitat is highly disturbed and subject to edge effects from surrounding development. Further, this habitat is not considered to be unique or of special value. The SEQ landscape provides abundant eucalypt and similar genera which are available for foraging. The habitat on site is not considered to be critical to the survival of the Grey-headed Flying-fox.	**No significant impact**
5. Disrupt the breeding cycle of an important population.	The site surveys did not identify any evidence of breeding Grey-headed Flying-fox. Mating normally occurs within autumn, and females generally give birth in October, where they carry their young to feeding sites for four to five weeks after giving birth. As no roosting camps were observed on or near the site, the proposed action is unlikely to disrupt the breeding cycle of an important population.	**No significant impact**
6. Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.	The habitat on site did not contain any special or unique values. Its removal is unlikely to have a significant impact on the availability of habitat in the landscape, given the vast quantity and availability of eucalypts in the surrounding area.	**No significant impact**
7. Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat.	The proposed action is unlikely to result in the introduction of invasive species.	**No significant impact**
8. Introduce disease that may cause the species to decline.	The project is unlikely to introduce disease into the area.	**No significant impact**
9. Interfere substantially with the recovery of the species.	Recovery of the species has specifically targeted the broad scale culling of the species. In addition, conservation efforts have led to the protection of known roosting sites and important habitat. The site has not been identified as an important habitat or roost site and the action is unlikely to interfere with the recovery of the species.	**No significant impact**

The above assessment against the *Significant Impact Guidelines 1.1* indicates the proposed action is unlikely to have a significant impact on the Grey-Headed Flying-Fox.

Koala (*Phascolarctos cinereus*)

Conservation Status

Under the EPBC Act, Koala populations in Queensland, New South Wales and the Australian Capital Territory are listed as Vulnerable. The Koala is also listed as Vulnerable under Queensland's *Nature Conservation Act 1999* (NCA). The site is located within the modelled distribution of the Koala, within the "coastal context" as per the EPBC Act Referral Guidelines for the Vulnerable Koala (Koala Referral Guidelines).

Habitat

As described in the Koala SPRAT species profile, Koalas inhabit a wide range of temperate, sub-tropical and tropical forest, woodland and semi-arid communities dominated by eucalypt species. Under the Koala Referral Guidelines (p.5), Koala habitat is defined as:

> "*any forest or woodland containing species that are known koala food trees, or shrubland with emergent food trees. This can include remnant and non-remnant vegetation in natural, agricultural, urban and peri-urban environments. Koala habitat is defined by the vegetation community present and the vegetation structure; koalas do not necessarily have to be present".*

Distribution

Koalas are endemic to Australia and have a known distribution from north-eastern Queensland to south-east South Australia. The species is widespread within coastal and inland areas, however densities of Koalas are higher within coastal areas with higher average annual rainfalls. South East Queensland is known to support Queensland's highest density of Koalas.

Threats

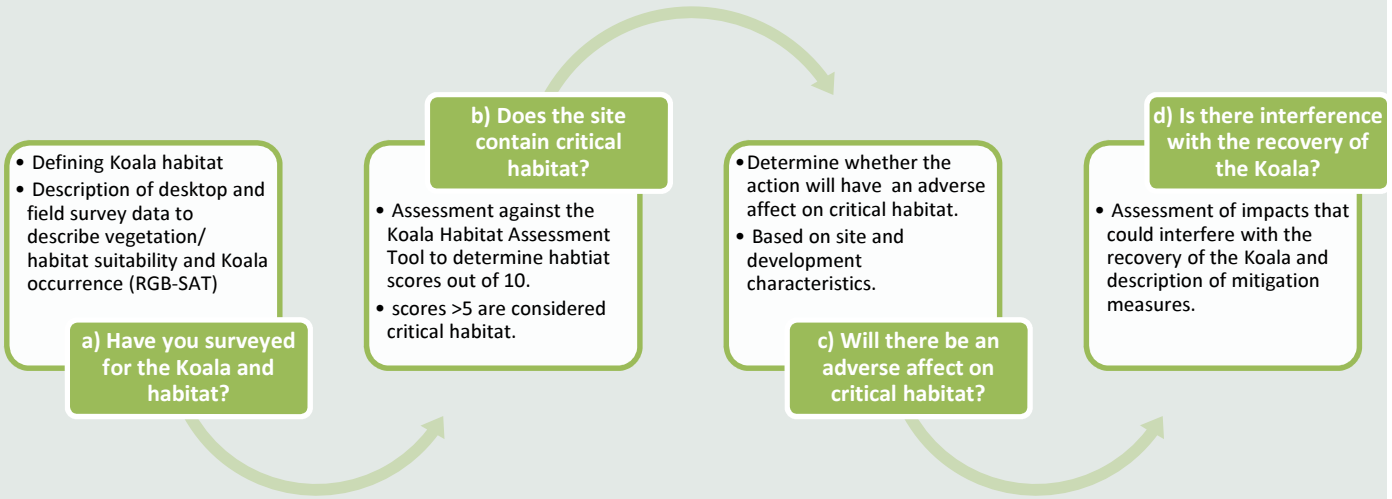
The three (3) main threats to Koala have been identified within the SPRAT profile as:

- Habitat loss and fragmentation,
- Vehicle strike, and
- Predation by domestic and/or feral dogs.

In addition, the prevalence of disease such as the *Chlamydia* virus in many Koala populations has led to symptoms such as infections of the eyes, urinary tract, repertory tract and reproductive tract, with the later having the potential to head to infertility in females. More recently, Koala Retrovirus (KoRV) has had an increasing impact on most of Queensland's Koala populations. While most Koalas carry the disease, environmental stresses such as poor nutrition and overcrowding lead to conditions caused by KoRV such as leukaemia and immunodeficiency syndrome.

Assessment Against the *EPBC Act Referral Guidelines for the Vulnerable Koala*

The referral site is located within the Koala Referral Guidelines modelled distribution as 'known/likely to occur' and within the 'coastal context'. As stated above, South East Queensland is known to support Queensland's highest density of Koalas and the animal is known to occur within the broader Greater Springfield area. As such, the following provides a detailed assessment against the Koala Referral Guidelines to determine whether the proposed action, being First Nine Residential Development, will result in a significant impact on the Koala or Koala habitat. The Koala Referral Guidelines provides an assessment approach using the following processes displayed in the flow chart below:



Flow Chart: EPBC Koala Assessment Process

- **Koala Occurrence and Habitat Surveys**

Site Surveys

The site was assessed by two Senior Ecologists from **SHG** on the 28th and 29th September 2015 with weather conditions fine and sunny. The purpose of the survey was to determine the level of Koala usage across the site and to assess the availability of suitable Koala habitat. The assessment involved the following methods:

- Spot Assessment Technique (SAT) development by Philips and Callaghan (2011)
- Quaternary Assessments (Habitat Surveys)
- Opportunistic Searches

SAT Survey Results

The SAT method is an assessment of Koala activity involving a search for any Koalas and signs of Koala usage. The SAT involves identifying a non-juvenile tree of any species within the site that is either observed to have a Koala or scats or known to be food trees or otherwise important for Koalas and recording any evidence of Koala usage (including any Koalas, identifiable scratches, or scats). The nearest non-juvenile tree is then identified and the same data recorded. The next closest non-juvenile tree to the first tree is then assessed and so on until 30 trees have been recorded. The number of trees showing evidence of Koalas is expressed as a percentage of the total number of trees sampled to indicate the frequency of Koala usage. Assessment of each tree involves a systematic search for Koala scats beneath the tree within 1 m radius of the trunk. After approximately 1 minute of searching for scats, the base of the trunk is observed for scratches.

Site specific searches observed the presence of one (1) Koala individual within the centre of the site as well as several scats across the site. Ten (10) SAT surveys were conducted across the application area, as shown by the field survey effort presented in **Plan 3** and summarised in **Table 4.** Four (4) of the ten (10) SAT surveys recorded evidence consistent with the "high" usage category for Koala Use (>12.59% of trees with scats) in coastal regions as defined by the **Australian Koala Foundation's** Koala Activity Level Classification Table, extracted below as **Table 5**. This assessment has been based using the East Coast (Low) Density Area. Additionally, two (2) of the SATs recorded evidence consistent with the medium "normal" use category (≥9.47 but ≤12.59 of trees with scats) while the remaining four (4) SAT recorded evidence with the "low" use category (<9.47% of trees with scats).

Table 4: SAT Survey Results- Summary

SAT Survey	Scats	%of Trees with Scats	Usage Level
SAT 1	Yes	13.3	High
SAT 2	Yes	10	Normal
SAT 3	Yes	16.7	High
SAT 4	Yes	6.7	Low
SAT 5	Yes	10	Normal
SAT 6	Yes	6.7	Low
SAT 7	Yes	16.7	High
SAT 8	Yes	6.7	Low
SAT 9	Yes	6.7	Low
SAT 10	Yes	16.7	High

Table 5: AKF Koala Activity Level Classification Table

ACTIVITY CATEGORY	LOW USE	MEDIUM (NORMAL) USE	HIGH USE
Area (density)			
East Coast (low)	< 9.47%	≥ 9.47% but ≤ 12.59%	> 12.59%
East Coast (med – high)	< 22.52%	≥ 22.52% but ≤ 32.84%	> 32.84%
Western areas (med – high)	< 35.84%	≥ 35.84% but ≤ 46.72%	> 46.72%

Flora and Koala Habitat Searches

Queensland's Koala Habitat Values Map, attached as **Figure 4**, shows the site has been identified as containing areas of Medium Value Bushland and Medium and Low Value Rehabilitation. A patch of vegetation identified as future Town Centre and Opossum Creek corridor are mapped as containing areas of Medium and Low Value Bushland. Surrounding development areas are mapped as Medium Value and Low Value Rehabilitation as well as Generally Not Suitable for the species.

Regulated Vegetation Management Mapping, attached as **Figure 5**, shows the majority of the site is mapped as containing Of Concern RE12.9-10.2/12.9-10.7/12.9-10.19 which is also mapped as essential habitat for Koala. The existing extent of Brookwater Drive within the central western portion of the site is mapped as Category X (non-remnant) as a result of clearing.

Field surveys confirmed the site contained a high abundance of invasive weeds, including four (4) species declared under the *Land protection (Pest and Stock Route Management) Act 2002*. These include *Celtis sinensis* (Chinese Celtis) – Class 3, *Cinnamomum camphora* (Camphor Laurel) – Class 3, *Lantana camara* (Lantana) – Class 3 and *Opuntia stricta* (Prickly Pear) – Class 2.

Overall, the site is dominated by Eucalypt Woodland:

- **Eucalypt Woodland**
  - The site contained high density of Eucalyptus and Corymbia species. The vegetation observed was consistent with the Regional Ecosystem mapping within the area containing species consistent with the composite RE 12.9-10.2/12.9-10.7/12.9-10.19.

  - Dominant flora species consisted of *Eucalyptus moluccana* (Gum-topped Box), *Eucalyptus crebra* (Narrow Leaved Ironbark), *Eucalyptus siderophloia* (Grey Ironbark), *Corymbia citriodora* (Spotted Gum) *Eucalyptus tereticornis* (Forest Red Gum), *Eucalyptus major* (Grey Gum), *Corymbia intermedia* (Pink Bloodwood) and *Eucalyptus fibrosa* (Red Ironbark).

- Vegetation within the understorey and shrub layer was moderately disturbed with numerous tracks noted throughout the assessment area. Some evidence of historical logging was also observed throughout the area.

- Weeds found within the assessment area included *Lantana camara* (Lantana), *Lantana montevidensis* (Creeping Lantana), *Opuntia stricta* (Prickly Pear), *Passiflora suberosa* (Corky Passion Vine) and *Gomphocarpus physocarpus* (Balloon Cotton).

Summary of Findings

- **Does the site contain critical habitat to the survival of the Koala?**

In accordance with the Koala Referral Guidelines, habitat which receives a score of **5 or more** using the Koala Habitat Assessment Tool is considered to be critical habitat. An assessment of the site using the Koala Habitat Assessment Tool has been undertaken in **Table 6** which indicates the site has been given a critical habitat score of **5**.

Table 6: Koala Habitat Assessment Summary

Attribute	Score	Comment
Koala occurrence	2	The EPBC Act Protected Matters Search Tool identified the Koala as having potential to occur on site. A search of Queensland's Wildlife Online Search Tool using a 10 kilometre radius found 568 records for the Koala. However, a search of the Atlas of Living Australia using a 10km radius returned no records for the species and a search of the Australian Koala Foundation Koala Map using a 10km radius found 1 record for a dead individual on Augusta Parkway in 2010. A single koala was observed on the site during the September 2015 field survey. In addition, scats were observed in several locations across the site corresponding with "high", "normal" and "low" levels of use. **As there is evidence of Koala occurrence in the previous two years, this attribute has been scored 2.**
Vegetation composition	2	A detailed description of the vegetation composition on site is provided in **Response 3.1**, based on the results from 2015 ecological field survey. Overall, the site was found to be dominated by species that achieve the definition of 'woodland' as referenced in the Koala Referral Guidelines. Ecological survey of the site shows the referral area is predominately dominated by Eucalyptus and Corymbia species. Specifically, these species included *Eucalyptus tereticornis* (Forest Red Gum), E*ucalyptus siderophloia* (Grey Gum), *Eucalyptus fibrosa* (Red Ironbark), *Eucalyptus moluccana* (Gum-topped Box), *Corymbia intermedia* (Pink Bloodwood), *Corymbia citriodora* (Spotted Gum), Broad-leaved Ironbark (*Eucalyptus fibrosa*) and Grey Ironbark (*E. siderophloia*). Further, there was a high dominance of *Allocasuarina littoralis* (Black She-oak) and *Acacia spp.* throughout the shrub layer and a number of weed species were identified. As vegetation composition of canopy species on site is made up of more than two species considered to be Koala food trees, this attribute has been given a score of 2. **Two or more Koala food trees were identified in the canopy, resulting in an attribute score of 2.**
Habitat connectivity	1	Contextually, the site is bound by three (3) large 4-lane roads - Augusta Parkway to the south west, Eden Station Road to the south and Springfield Greenbank Arterial to

		the east. These major arterials and ultimately, Centenary Highway approximately 500m to the south, sever connectivity for Koala movement from the site to areas of suitable Koala habitat to the south (refer **Plan 4**). Locally, the site is disconnected from these habitats by the Brookwater Golf Course. The referral area occurs as a cul-de-sac of vegetation completely fragmented in all directions with the exception of Opossum Creek. Opportunities for connectivity are impeded as a result of properties to the south being cleared of vegetation for industrial, commercial and retail purposes, existing development of the Brookwater Community residential estate to the west, and zoning for future Town Centre on land to the east. Further no viable movement corridors or retention of Koala habitat has been planned for the referral area under the Springfield Structure Plan (refer **Plan 1**). Opportunities for Koala movement and wildlife connectivity remain along the Opossum Creek, which has been zoned for open space under the structure plan, and to the large patch of vegetation to the north. It is however noted that the majority of this remaining vegetation to the north is proposed to be cleared by current EPBC applications for Investa (EPBC Ref: 2013/7074) and Cherish (EPBC Ref: 2014/7306) (refer **Plan 4**). Ignoring all surrounding developments and EPBC applications, the site forms part of a contiguous landscape of vegetation >500ha however once these approvals are in place, this vegetated landscape will be reduced to a contagious landscape of approximately 210ha (i.e. <300ha) which falls below the medium habitat assessment score for coastal regions. **While the site will be reduced to a contiguous landscape <300ha, as the site retains connectivity to Opossum Creek this attribute has been scored a 1.**
Key existing threats	0	Given the site's proximity to trunk roads that provide vehicle connectivity to the Centenary Motorway and nearby high density residential development, the threat of vehicle strikes is considerably high. A search of the Australian Koala Foundation Koala Map using a 10km radius found 1 record for a dead individual on Augusta Parkway in 2010. In addition, increases in dog ownership due to the rapid expansion of residential development in the Brookwater area also pose a significant threat to Koalas. Evidence of dogs within surrounding residential areas was observed. Given the existence of key threats to Koalas from vehicle strikes and dog attack, as well as the combined impacts from development in the surrounding area, the attribute has been scored 0. **Due to the existence of key threats, the attribute has been scored 0.**
Recovery value	0	The interim recovery objective for coastal areas is based upon protecting and conserving large, connected areas of Koala habitat, particularly where Koalas are genetically diverse/ distinct, free of disease or have a low incidence of disease or where there is evidence of breeding. None of these elements are considered to be present on the referral site. This is primarily due to: ▪ Surrounding development to the west and south and high density residential development proposed to the east. ▪ The proximity of existing residential development to the west and major arterials to the south. ▪ The prevalence of disease within the local population ▪ The insufficient size of the site in isolation to support a genetically robust sub-population. ▪ Absence of dedicated conservation areas or habitat linkages within the referral site.

		▪ No evidence of breeding was observed. ▪ Suitable habitat will be retained along Opossum Creek corridor to the north of the site which provides wildlife movement and connectivity within the broader landscape. Further, while majority of the site is identified under the Koala Habitat is South East Queensland mapping as containing Medium Value Bushland, surrounding areas are mapped as Medium and Low Value Rehabilitation or generally not suitable for the species. This is because the site is largely encompassed by existing development which restricts movement of to the west, south and east of the site. Further, as shown in **Plan 1** -Springfield Structure Plan, planning intent is for the area to be completely developed with no conservation linkages to be retained within the referral area. Planned areas of retained open space have been dedicated along Opossum Creek corridor directly north of the site. This corridor is mapped as Low Value Bushland under the Koala SPRP and provides suitable habitat and wildlife movement for the Koala, and common fauna in the area, within the broader landscape. As discussed previously, the local Koala population is not considered to be genetically distinct and no evidence of Koala breeding was recoded on or near the site. Disease is known to be prevalent across all South East Queensland populations in the form of Chlamydia and Koala Retrovirus. The local Koala population is extremely unlikely to be free of disease. In addition, the site makes up a central portion of the Greater Springfield development area, adjoining existing residential to the west and Town Centre to the south and east. If the development does not go ahead, it will significantly affect existing and proposed development in the Greater Springfield area, specifically in its role providing a trunk collector from the Town Centre to the east to the existing development of Brookfield to the west. Overall, the site does not meet the interim recovery objectives for coastal regions a **As the referral site does not meet the interim recovery objectives, this attribute has been scored 0.**
Total	**5**	**Critical Habitat**

- **Will there be adverse impacts on critical habitat?**

Assessment of the site using the Habitat Assessment Tool identified the site achieves a **habitat score of 5** which meets the definition of critical habitat under the Koala Referral Guidelines (≥5). Potential impacts to the species under the Koala Referral Guidelines have been considered through the "yes/no" flowchart provided within the Koala Referral Guidelines as Figure 2, to determine if the action will adversely affect habitat critical to the survival of the species.

1. **Does your impact area contain habitat critical to the survival of the koala (habitat score ≥ 5)?**

Yes, as demonstrated using the Habitat Assessment Tool, the site achieved a critical habitat score of 5. Therefore, the site is considered to support habitat critical to the survival of the Koala.

2. **Do the area(s) proposed to be cleared contain known koala food trees?**

Yes. Overall the site was found to be dominated by species that achieve the definition of 'woodland' as referenced in the Koala Referral Guidelines. Field survey identified canopy species within the referral area are dominated by Eucalyptus and Corymbia specimens which are considered Koala food trees.

3. **Are you proposing to clear ≤ 2 ha of habitat containing known koala food trees in an area with a habitat score of 5?**

No. the action requires clearing approximately 40 hectares of vegetation which is considered to provide critical habitat for the Koala.

4. **Are you proposing to clear ≥ 20 ha of habitat containing known koala food trees in an area with a habitat score of ≥ 8?**

No. The action requires clearing approximately 40 hectares of vegetation which achieved a critical habitat score of 5 using the Habitat Assessment Tool. This score is at the lowest end of the spectrum for critical habitat, due to noted disturbance of the site and impacts from surrounding development.

5. **Assessment on Characteristics**

The proposed action displays a number of characteristics and measures that reduce the adversity of effects on the Koala. These include:

- The site is moderately disturbed as a result of historical land use and surrounded development, and reflects only a very a small isolated area of vegetation surrounded by existing development and roads.
- The proposal does not result in the fragmentation of other vegetation areas, as it reflects a disturbed pocket which extends from areas of higher ecological values associated with Opossum Creek corridor. This corridor is designated as open space and retains preferable habitat for the species as well as movement opportunities for the species within the broader landscape.
- Should the action not proceed, the site will be further surrounded by development which will evidently increase threats to the species including roads and domestic pets.
- The site is considered to reflect a combination of "high", "normal" and "low" level of usage by the Koala, with only one individual sighted during field survey.
- As per **ICC** conditions, no clearing can occur on site without direct involvement of a registered Fauna Spotter Catcher.
- Each of these characteristics restricts the site's ability to achieve the interim recovery objectives for coastal areas. As such, the retention of site vegetation will not advance the objective of the Commonwealth to protect large and continuous areas of Koala habitat.
- Given these factors, the short and long term impacts on Koalas as a result of the proposed action are not considered to be significant.

Overall, the adversity of impacts as a result of the proposed development are minimal given existing barriers to Koala dispersal to and from the site, coupled with current Local, State and Commonwealth approvals around the referral area, drastically influence the long term ecological function of the site within the broader landscape.

6. **Could the action interfere substantially with the recovery of the Koala?**

In addition to considering adverse impacts on critical habitat, the potential for the action to interfere with the recovery of the Koala must also be considered as per the Koala Referral Guidelines. Possible impacts listed in the guidelines that must be considered include:

- Introducing or increasing the risk of vehicle strike.
- Introducing or increasing koala fatalities due to dog attacks.
- Creating a barrier to movement.
- Facilitating the introduction or spread of disease.
- Increasing the risk of high-intensity fires.
- Degrading critical habitat due to hydrological changes.

These impacts, as well as mitigation measures to address impacts, are discussed in **Table 7**. In summary, the project is unlikely to interfere substantially with the recovery of the species.

Table 7: Potential Impacts

Impact	Likelihood	Comments
Dog attack	Potential	No specific survey for dogs was completed over the referral site, however evidence of dogs was recorded on the site. The project occurs within a fragmented urban setting with existing dog ownership to the north-west. The type of housing proposed to be constructed in the First Nine Residential Development project will mirror that in the immediate landscape. Interestingly, the surrounding of the referral area by a private owned and operated golf course should assist in retaining dogs to new allotment areas. Within **ICC**, all animals must be tagged and registered with stay or wandering animals within the golf course likely to be replanted. **No significant residual impacts are identified.**
Vehicle Strike	Potential	The proposed action will increase vehicle use on and surrounding the site through the construction of trunk collector and local roads. Again, in the context of existing and proposed development, specifically arterials to the west and east and Centenary Highway to the south, this increase will be relatively minor and risk of vehicular strike in the area is already high. Nevertheless, an increase in vehicle usage adjacent to bushland areas does create the potential for vehicle strike. Vehicle speeds will be limited to 50/60km per hour, in accordance with Queensland traffic laws. This reduces the risk of high speed vehicle collisions with Koalas. Further, impacts will be mitigated through road design principles and signage techniques encouraging high visibility and low speeds. Importantly, the First Nine Residential Development does not propose external roads or roads in locations which sever existing of future bushland areas. **No significant residual impacts are identified.**
Barriers to Dispersal	Unlikely	The site is already surrounded by development to the west, south and east with connectivity to Opossum Creek corridor to the north. This corridor has been designated for open space under the Greater Springfield Structure Plan (refer **Plan 1**). The site reflects a small disturbed area in the broader landscape of this open space which is separated from Opossum Creek by the existing greens of Brookwater Golf Course. Ecological values associated with Opossum Creek are considered to provide optimal habitat for the species over the referral site as it forms a wildlife corridor for fauna movement within the broader landscape. While the referral site adjoins this area, it reflects a disturbed and fragmented patch on the edge of this corridor. Clearing of this patch will not result in further fragmentation of the corridor or further barriers to dispersal. **No significant residual impacts are identified.**
Hydrological change	Potential	All activities will be subject to management plans which minimise changes to hydrological regimes on the site. Regulated Vegetation Management Mapping shows mapped waterways encompassing the referral site, over the existing golf course. Field survey confirmed that these drainage lines have been modified as a result of surrounding development and no natural watercourse extend over the referral site. While the development will result in an increase in impervious surfaces, detailed hydrological modelling, Bulk Earthworks Plans, Stormwater Management Plans and Erosion and Sediment Control Plans will be prepared to manage and mitigate impacts associated with run-off from the development to maintain water quality in accordance with as State and Local water quality objectives and standards. Potential changes to hydrology are extremely unlikely to result in the degradation of critical habitat external to the referral area.

		No significant residual impacts are identified.
Fire	Unlikely	The project will be undertaken in accordance with an approved Bushfire Management Plan. This will increase the management and mitigation of bushfire risks in the area. **No significant residual impacts are identified.**
Spread of Disease	Unlikely	One of the primary threats to Koalas is the spread of disease, which makes up a significant proportion of overall mortality in Koalas. Most of South East Queensland's Koala populations already have a high prevalence of *Chlamydia* and Koala Retrovirus. The symptoms of these diseases are often observed within Koala populations undergoing environmental stresses such as overcrowding and poor nutrition. The project is unlikely to cause pressure on the local Koala population to the point where these diseases manifest and the project is extremely unlikely to introduce or spread disease or pathogens into Koala habitat areas. **No significant residual impacts are identified.**

Nature and extent of likely impact

Grey Headed Flying Fox

The nature of impacts on the Grey-Headed Flying-Fox is restricted to the loss of potential or maginal foraging habitat throughout the site. This is unlikely to have a notable impact given the extensive availability of habitat throughout South East Queensland. No roost camps or individuals were recorded and thus it is unlikely that the proposed action will cause the displacement of individuals. An assessment against the Grey-headed Flying-fox significant impact criteria is included in **Table 3**.

Koala

Ecologists from **SHG** undertook field assessments across the site during September 2015 to determine the level of Koala usage and accesses vegetation composition to determine the value of the site in terms of providing Koala habitat. One (1) individual was identified during the first day of field survey, as well as a number of scats in several locations. Ten (10) SAT surveys were conducted across the site. Of the 300 trees searched, scats were recorded at the base of 32 trees, which equates to 10.6% and correlates to an overall "medium/normal" usage of the site by Koalas. Of the ten (10) SAT surveys, four (4) recorded "high" usage, four (4) recorded "low" usage and two (2) recorded "normal" usage.

Overall, the site was dominated by species that achieve the definition of 'woodland' as referenced in the Koala Referral Guidelines. Ecological survey of the site identified canopy species within the referral area are dominated by Eucalyptus and Corymbia species including *Eucalyptus moluccana* (Gum-topped Box), *Eucalyptus crebra* (Narrow Leaved Ironbark), *Eucalyptus siderophloia* (Grey Ironbark), *Corymbia citriodora* (Spotted Gum), *Eucalyptus tereticornis* (Forest Red Gum) and *Corymbia tessellaris* (Moreton Bay Ash). Infestations of weeds were noted particularly around disturbed edges and along access tracks, predominantly to the west of the site where clearing of Brookwater Drive has commenced to the west. Survey noted several dominant weed species including, *Lantana montevidensis* (Creeping Lantana), *Opuntia stricta* (Prickly Pear), *Passiflora suberosa* (Corky Passion Vine) and *Gomphocarpus physocarpus* (Balloon Cotton).

The Habitat Assessment Tool derived a score of 5, which is at the lowest end of the critical habitat threshold (≥ 5) under the Koala Referral Guidelines. Impacts to MNES from the proposed action have been identified as:

- Removal of 40 hectares of critical habitat for the survival of the Koala as a result of direct clearing;
- Potential injury or mortality caused by vegetation clearing and construction; and
- Increased vehicle use and dog ownership, which pose a threat to Koalas.

As discussed above, a number of factors diminish the adversity of these potential impacts. These are summarised as:

- The site is moderately disturbed as a result of historical land use and surrounded development, and reflects only a very a small disturbed area in the broader landscape of retained vegetation to the north and its associated ecological values and function.
- The proposal does not result in the fragmentation of other vegetation areas, as it reflects a disturbed pocket which extends from areas of higher ecological values associated with Opossum Creek corridor which is designated as open space and retains preferable habitat for the species.
- Should the action not proceed, the site will be surrounded by development which will evidently increase threats to the species including roads and domestic pets.
- Normal levels of Koala usage was recorded overall across the site. One (1) individual was observed within the central portion of the site, on day one of the two day survey.

- No residual impacts on the Koala were identified. As such, the project will not substantially interfere with the recovery of the Koala. In the context of surrounding development, the project will have only a minor contribution to the overall vehicle use and dog ownership in the local area.
- As the site is surrounded by existing and proposed development to the east, south and west and is encompassed by the existing Brookwater Golf Course, the referral area is predominately modified and subject to edge effects. Retention of any areas of vegetation on site are not considered to achieve the interim recovery objectives for coastal areas.
- All clearing will be undertaken in accordance with the site specific Fauna Management Plan. This includes the engagement of a Fauna Spotter Catcher who will undertake pre-clearance surveys, attend pre-start meetings and be present during all clearing activities. The purpose of using a Fauna Spotter is to ensure no clearing occurs where Koalas or other fauna species are in trees and to identify any potential habitat features that require checking before clearing occurs.
- Clearing impacts will be offset by within Springfield Conservation Land. This land will be legally secured for conservation and include weed management and rehabilitation (refer **Section 5.2** for further detail).
- The First Nine Residential Development is to be developed by the principal land owner at Greater Springfield, **Springfield Land Corporation** (SLC). As part of extensive negotiations and assessment for a recently determined EPBC Act referral in the broader area (EPBC 2013/7057) as completed by **Lendlease Communities**, the dedication of 396ha of land by **SLC** to **ICC** for Conservation purposes was acknowledged by the **DoE** as an advanced offset. Approximately 70% of this advanced offset was provided by **SLC** to **Lendlease Communities** to satisfy offset requirements for the Spring Mountain Project. **SLC** intent to utilise a balance portion of this offset land as compensation/mitigation for impacts associated with the First Nine Residential Development. A separate First Nine Offset Proposal is attached to this referral as **Attachment C**, which outlines utilisation of this offset land.

Overall, due to proposed fauna management controls and offsets, the proposed action is unlikely to have a significant impact on Matters of National Environmental Significance (MNES).

3.1 (e) Listed migratory species

Description

Response 3.1(e)

The EPBC Act Protected Matters Search Tool identified a number of migratory species as having potential to occur. **Table 8** provides a description of the habitat requirements of each of these species and assess their likelihood of occurrence. Refer to **Attachment A** for a copy of the EPBC PMST search results.

Table 9: Likelihood of Occurrence Schedule (Migratory Species)

Migratory Marine Birds						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Apus pacificus	Fork-tailed Swift	Migratory	678	This species is almost exclusively aerial and mostly occur over inland palins but sometimes above foothills or in coastal areas.	Possible as a fly over species however no impact to this species is likely to occur. **Species is unlikely to occur.**	Not observed
Migratory Terrestrial Species						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Hirundapus caudacutus	White-throated Needletail	Migratory	682	The White-throated Needletail is almost exclusively aerial. This species has been recorded roosting in trees in forests and woodlands, both among dense foliage in the canopy or in hollows. The species breeds in wooded lowlands and sparsely vegetated hills, as well as mountains covered with coniferous forests.	Low potential to occur on site within roosting periods. **Species is unlikely to occur.**	Not observed
Merops ornatus	Rainbow Bee-eater	Migratory	670	The Rainbow Bee-eater occurs mainly in open forests and woodlands, shrublands, and in various cleared or semi-cleared habitats, including farmland and areas of human habitation.	Habitat available on site and species recorded throughout field survey. **Species known tooccur.**	Observed

Monarcha melanopsis	Black-faced Monarch	Migratory	609	The Black-faced Monarch mainly occurs in rainforest ecosystems, including semi-deciduous vine thickets, complex notophyll vine forests, tropical (mesophyll) rainforest, subtropical (notophyll) rainforest, mesophyll (broadleaf) thicket/shrubland, warm temperate rainforest, dry (monsoon) rainforest and occasionally cool temperate rainforest.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Monarcha trivirgatus	Spectacled Monarch	Migratory	610	The Spectacled Monarchs natural habitats are subtropical or tropical moist lowland forests, subtropical or tropical mangrove forests, and subtropical or tropical moist montane forests. Its preference is for thick understorey areas.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Myiagra cyanoleuca	Satin Flycatcher	Migratory	612	Satin Flycatchers inhabit heavily vegetated gullies in eucalypt dominated forests and taller woodlands, and on migration occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Rhipidura rufifrons	Rufous Fantail	Migratory	592	The Rufous Fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by Eucalypts such as *Eucalyptus microcorys*, *Eucalyptus pilularis, Eucalyptus resiniferia* and a number of other Eucalyptus species.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Migratory Wetland Species						
Species	**Common Name**	**Status**	**EPBC Code**	**Description of Community / Habitat**	**Likelihood of Occurrence**	**Site**
Ardea alba	Great Egret	Migratory	59541	The Great Egret has been recorded in a wide range of wetland habitats including inland and coastal, freshwater and slaine, permanent and ephemeral, open and vegetated, large and small, natural and artificial.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Ardea ibis	Cattle Egret	Migratory	59542	The Cattle Egret occurs in tropical and temperate grasslands, wooded lands and terrestrial wetlands. It often forages away from water on low lying grasslands, improved pastures and croplands and is commonly found in cattle fields and other farm areas that contain livestock.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed
Gallinago hardwickii	Latham's Snipe	Migratory	863	Latham's Snipe occurs in permanent and ephemeral wetlands. They usually inhabit open, freshwater wetlands with low, dense vegetation.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed

Pandion haliaetus	Osprey	Migratory	952	Eastern Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers, particularly in northern Australia.	No suitable habitat was observed throughout the assessment area. **Species is unlikely to occur.**	Not observed

A search using the EPBC Act Protected Matters Search Tool with a 2 kilometre radius identified eleven (11) migratory species as having potential to occur on site (refer **Table 8**). Field surveys of the site in 2015 observed only one (1), *Merops ornatus* (Rainbow Bee-eater), of the eleven (11) listed migratory species on site. Rainbow Bee-eater has a wide distribution across most of Australia and eastern Indonesia. Its population has been estimated to be reasonably large and it is unlikely that there are genetically distinct populations, given its high mobility. It occupies open forests and woodlands, shrublands and cleared and semi-cleared habitats such as farmland and urban areas. The species is common throughout most of South East Queensland and there is extensive habitat available for the species throughout the landscape. Its high mobility mitigates any potential fragmentation from other habitat or populations. It is noted that no evidence of breeding was observed on the subject site, however an individual was observed.

Nature and extent of likely impact

The proposed action is unlikely to have a significant impact on the Rainbow Bee-eater given its wide distribution, high mobility and the extensive availability of habitat throughout South East Queensland. No roosting sites were observed during field survey and the site is considered only be utilised by the species as part of a broader home range. Preferable habitat will be retained within Opossum Creek corridor, outside of the referral area, which is zoned for conservation.

3.1 (f) Commonwealth marine area

(If the action is in the Commonwealth marine area, complete 3.2(c) instead. This section is for actions taken outside the Commonwealth marine area that may have impacts on that area.)

Description

Not applicable- the project is not located within a Commonwealth marine area.

Nature and extent of likely impact

Not applicable.

3.1 (g) Commonwealth land

(If the action is on Commonwealth land, complete 3.2(d) instead. This section is for actions taken outside Commonwealth land that may have impacts on that land.)

Description

Not applicable- the project site is not located on Commonwealth land.

Nature and extent of likely impact

Not applicable.

3.1 (h) The Great Barrier Reef Marine Park

Description

Not applicable- the project site is not located within the Great Barrier Reef Marine Park.

Nature and extent of likely impact

Not applicable.

3.1 (i) A water resource, in relation to coal seam gas development and large coal mining development

Description

Not applicable.

Nature and extent of likely impact

Not applicable.

3.2 Nuclear actions, actions taken by the Commonwealth (or Commonwealth agency), actions taken in a Commonwealth marine area, actions taken on Commonwealth land, or actions taken in the Great Barrier Reef Marine Park

You must describe the nature and extent of likely impacts (both direct & indirect) on the whole environment if your project:

- is a nuclear action;
- will be taken by the Commonwealth or a Commonwealth agency;
- will be taken in a Commonwealth marine area;
- will be taken on Commonwealth land; or
- will be taken in the Great Barrier Reef marine Park.

Your assessment of impacts should refer to the *Significant Impact Guidelines 1.2 - Actions on, or impacting upon, Commonwealth land, and actions by Commonwealth agencies* and specifically address impacts on:

- ecosystems and their constituent parts, including people and communities;
- natural and physical resources;
- the qualities and characteristics of locations, places and areas;
- the heritage values of places; and
- the social, economic and cultural aspects of the above things.

3.2 (a)	**Is the proposed action a nuclear action?**	**X**	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (b)	**Is the proposed action to be taken by the Commonwealth or a Commonwealth agency?**	**X**	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment		

3.2 (c)	**Is the proposed action to be taken in a Commonwealth marine area?**	**X**	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(f))		

3.2 (d)	**Is the proposed action to be taken on Commonwealth land?**	**X**	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(g))		

3.2 (e)	**Is the proposed action to be taken in the Great Barrier Reef Marine Park?**	**X**	**No**
			Yes (provide details below)
	If yes, nature & extent of likely impact on the whole environment (in addition to 3.1(h))		

3.3 Other important features of the environment

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed above). If at Section 2.3 you identified any alternative locations, time frames or activities for your proposed action, you must complete each of the details below (where relevant) for each alternative identified.

3.3 (a) Flora and fauna

Response 3.3(a)

Ecological surveys were completed by **Saunders Havill Group** on 28th and 29th September 2015. The survey effort is show in **Plan 3**. A copy of the field results is contained within the First Nine Ecological Technical Memo included as **Attachment B**. The survey was carried out to address all MNES, however a focus was placed on Koalas as they are known to occur in the region and on site. The following provides a brief description of flora and fauna values found on site.

Flora

Queensland's Regulated Vegetation Management Map shows the site contains areas of Category X (non-remnant) vegetation and Category B remnant vegetation containing composite Of Concern Regional Ecosystems RE12.9-10.2/12.9-10.7/12.9-10.19 (65/20/15) (refer **Figure 5**). The following provides a description of each of these regional ecosystems.

- RE12.9-10.2 (Least Concern)
  - *Corymbia citriodora subsp. variegata* open forest or woodland usually with *Eucalyptus crebra*. Other species such as *Eucalyptus tereticornis, E. moluccana, E. acmenoides* and *E. siderophloia* may be present in scattered patches or in low densities. Understorey can be grassy or shrubby. Shrubby understorey of *Lophostemon confertus* (whipstick form) often present in northern parts of bioregion. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 10b).

- RE12.9-10.7 (Of Concern)
  - *Eucalyptus crebra* +/- *E. tereticornis, Corymbia tessellaris, Angophora leiocarpa, E.* melanophloia woodland. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 13c) Vegetation communities in this regional ecosystem include: 12.9-10.7a *Eucalyptus siderophloia, Corymbia intermedia* +/- *E. tereticornis* and *Lophostemon confertus* open forest. Occurs on Cainozoic and Mesozoic sediments in near coastal areas. (BVG1M: 12a).
  - RE12.9-10.7 is an essential habitat factor for Koala.

- RE12.9-10.19 (Least Concern)
  - *Eucalyptus fibrosa subsp. fibrosa woodland* +/- *Corymbia citriodora subsp. variegata, E. acmenoides or E. portuensis, Angophora leiocarpa, E. major.* Understorey often sparse. Localised occurrences of *Eucalyptus sideroxylon*. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 12a). Vegetation communities in this regional ecosystem include: 12.9-10.19a: *Corymbia henryi* +/- *Eucalyptus fibrosa*

subsp. fibrosa, Corymbia citriodora subsp. variegata, E. siderophloia, E. crebra open forest. Occurs in coastal areas on Cainozoic and Mesozoic sediments. (BVG1M: 10b).

Under Queensland's State Planning Policy (SPP), the site has been identified as containing the following Matters of State Environmental Significance:

- Wildlife Habitat (Koala)
- Regulated Vegetation
- Regulated Vegetation intersecting a watercourse

The following general flora observations were made by field survey across the referral area:

- Ten (10) listed threatened flora species under the EPBC Act and two (2) listed Threatened Ecological Communities (TEC) described as *Lowland Rainforest of Subtropical Australia* and *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* were considered to have potential to occur on site. None of these protected matters were recorded on or in the immediate vicinity of the site.
- Eight (8) listed threatened plants protected under the *Nature Conservation Act 1992* (Qld) (NCA) were considered to have potential to occur across the site. No specimens were recorded at the time of the assessment.
- Fifty (50) flora species were identified on site during field assessment, of which five (5) of these species are introduced. One (1) Class 2 declared species, *Opuntia stricta* (Prickly Pear) and four (4) Class 3 declared species, *Lantana camara* (Lantana), *Lantana montevidensis* (Creeping Lantana), *Cinnamomum camphora* (Camphor Laurel) and *Celtis sinensis* (Chinese Elm) under the *Land Protection (Pest and Stock Route Management) Act 2002* were identified within the referral area. One (1) Local High Priority Species, *Passiflora suberosa* (Corky Passion Vine), listed by **Ipswich City Council** was also found on site (refer **Table 9** for flora species list).
- The majority of the site is mapped as remnant vegetation (refer **Figure 5**) consisting of composite Of Concern RE 12.9-10.2/12.9-10.7/12.9-10.19. Survey confirmed areas mapped as remnant were consistent with on-ground regional ecosystems. Areas not identified as remnant occur in the west over the western extent of Brookwater Drive. Survey confirmed a number of access tracks, including the full extent of Brookwater Drive, are currently mapped as remnant but do not contain vegetation with height and spread requirements to meet the remnant definition.

Table 9: Flora Species List

Species Name	Common Name
Acacia amblygona	Fan Wattle
Acacia concurrens	Black Wattle
Acacia disparrima	Hickory Wattle
Acacia fimbriata	Fringed Wattle
Acacia leiocalyx	Early Black Wattle
Acacia podalyriifolia	Silver Wattle
Allocasuarina littoralis	Black She-oak
Alphitonia excelsa	Soap Tree

Angophora leiocarpa	Smooth-barked Apple
Aristida sp.	
Celtis sinensis	Chinese Elm
Cinnamomum camphora	Camphor Laurel
Corymbia citriodora	Spotted Gum
Corymbia intermedia	Pink Bloodwood
Corymbia tessellaris	Moreton Bay Ash
Cymbopogon refractus	Barbed Wire Grass
Dianella longifolia	
Dodonea viscosa	Hop Bush
Eragrostis sp.	
Eremophila debilis	Winter Apple
Eucalyptus cloeziana	Gympie Messmate
Eucalyptus crebra	Narrow-leaved Ironbark
Eucalyptus fibrosa	Broad-leaved Ironbark
Eucalyptus major	Queensland Grey Gum
Eucalyptus microcorys	Tallowwood
Eucalyptus moluccana	Gum-topped Box
Eucalyptus resinifera	Red Stringybark
Eucalyptus seeana	Fine-leaved Red Gum
Eucalyptus siderophloia	Grey Ironbark
Eucalyptus tereticornis	Blue Gum
Gahnia aspera	Saw Sedge
Goodenia glabra	Smooth Goodenia
Imperata cylindrica	Blady Grass
Jacksonia scoparia	Dogwood
Lantana camara	Lantana
Lantana montenvidensis	Creeping Lantana
Leucopogon juniperinus	Prickly Heath
Lomandra longifolia	Mat Rush
Lomandra multiflora	Many-flowered Mat Rush
Lophostemon confertus	Brush Box
Lophostemon suaveolens	Swamp Box
Opuntia stricta	Prickly Pear

Parsonsia straminea	Monkey Rope Vine
Passiflora suberosa	Corky Passion Vine
Pennisetum purpureum	Elephant Grass
Petalostigma pubescens	Quinine Berry
Poa labillardieri	Tussock Grass
Smilax australis	Barbed-wire Vine
Themeda triandra	Kangaroo Grass
Xanthorrhoea latifolia	Grass Tree

Overall, the site can be divided into two separate zones, based on vegetation attributes and ecological value (shown in **Plan 5**). These include:

Zone 1: Eucalyptus Woodland

- Zone 1 contained a high density of *Eucalyptus moluccana* (Gum-topped Box), *Eucalyptus crebra* (Narrow Leaved Ironbark) and *Eucalyptus siderophloia* (Grey Ironbark), however *Corymbia citriodora* (Spotted Gum) was also found in notable proportions. Sub-dominant species included *Eucalyptus tereticornis* (Forest Red Gum) and *Corymbia tessellaris* (Moreton Bay Ash).
- Vegetation within this zone was mostly undisturbed, with only minor disturbance from fire and track construction observed.
- Overall, this zone contained habitat suitable for the Koala and was relatively undisturbed.




Photos: Zone 1: Eucalyptus Woodland


Photos: Zone 1:Rocky outcrops

Zone 2: **Disturbed Areas (Non-remnant)**

- Zone 2 reflects non-remnant areas (both mapped and not mapped) which have been previously cleared.
- It is noted that a small portion of land within the western extent of Brookwater Drive has been previously cleared which is mapped as non-remnant.
- In addition, a number of access tracks were noted to have been previously cleared and heavily infested weeds.

- Weeds found within this zone included *Lantana camara* (Lantana), *Lantana montevidensis* (Creeping Lantana), *Opuntia stricta* (Prickly Pear), *Passiflora suberosa* (Corky Passion Vine) and *Gomphocarpus physocarpus* (Balloon Cotton)
- Consists of areas previously cleared containing existing infrastructure.


Photos: Zone 2: Access tracks




Photos: Zone 2: Disturbed Areas

Fauna

A fauna assessment was conducted by **SHG** in September 2015 in conjunction with the vegetation assessment over the application site. The purpose of the survey was to identify habitat opportunities, observations of species presence and activity, and undertake targeted searches for actual usage by threatened and significant fauna species. A summary of fauna observations is provided below:

- Twenty (20) threatened fauna species listed under the EPBC Act are considered to have potential to occur within the vicinity of the application site. None of these protected matters were observed on or in the vicinity of the site, with the exception of one (1) Koala sighted, on day one of the two day survey period, within the central portion of the site.
- Fourteen (14) threatened fauna species listed under the NCA were considered to have the potential to occur across the site. Again, none of these protected matters were observed on or in the vicinity of the site, with the exception of the observation of one (1) Koala.
- The site's ability to support listed threatened fauna species which are generally highly sensitive, specialised and require particular habitat features is highly unlikely for the majority of the listed EPBC Act or NCA flora species (refer to **Table 2**).
- One (1) migratory species, *Merops ornatus* (Rainbow Bee-eater) was observed on site and is considered to utilise the site as part of a broader home range. No breeding places for the species was observed within the referral area. No other listed migratory species are considered to frequently visit the site (refer **Table 8**).
- The site contains suitable habitat for a variety of mammals, reptiles, amphibians and birds. The majority of fauna observed on site were made up of avi-fauna common to the local area. These species included the Galah, Torresian Crow, Pheasant Coucal, Kookooburra, Noisy Minor, Rainbow Bee-eater, Crested Pigeon, Tawny Frogmouth, Grey Fantail and Willie Wagtail. Other species observed on site included dogs, Beeping Froglet and Blue Tongued Skink. Refer to **Table 10** for observed fauna species list.
- A few small rocky areas were observed within the subject site however contained limited habitat value due to the absence of suitable overhangs, crevices and hollows.
- Extensive areas of eucalypt woodland are available for typical dry sclerophyll species (particularly avi-fauna and Koalas).


Photos: Koala observed on site and rocky outcrops

- Koala surveys were carried out during field assessment, specifically SAT which is an assessment of Koala activity involving a search for any Koalas and signs of Koala usage. Ten (10) SATs were carried out over the site in locations shown in **Plan 3**. Evidence of Koala usage was noted in all ten (10) SATs, with four (4) recording evidence consistent with 'high' usage, four (4) consistent with 'low' usage and two (2) consistent with 'normal' usage. Areas of 'high' usage are contained to the northern and southern extents of the referral area outside disturbed areas (Zone 2).

Table 10: Observed Fauna Species List

Scientific Name	Common Name
Alectura lathami	Australian Brush-Turkey
Anas superciliosa	Pacific Black Duck
Bufo marinus	Cane Toad
Cacatua roseicapilla	Galah
Canis familiaris	Dog
Centropus phasianinus	Pheasant Coucal
Corvus orru	Torresian Crow
Cracticus nigrogularis	Pied Butcherbird
Cracticus torquatus	Grey Butcherbird
Crinia parinsignifera	Beeping Froglet
Cryptoblepharus virgatus	Wall Skink
Dacelo novaeguineae	Laughing Kookooburra
Diporiphora australis	Tommy Round-head
Entomyzon cyanotis	Blue-faced Honeyeater
Grallina cyanoleuca	Magpie-lark
Gymnorhina tibicen	Australian Magpie
Hemidactylus frenatus	Asian House Gecko
Hirundo neoxena	Welcome Swallow
Lampropholis delicata	Grass Skink
Lichmera indistincta	Brown Honeyeater
Macropus giganteus	Eastern Grey Kangaroo
Malurus cyaneus	Superb Fairywren
Manorina melanocephala	Noisy Minor
Merops ornatus	Rainbow Bee-eater
Myzomela sanguinolenta	Scarlet Honeyeater
Ocyphaps lophotes	Crested Pigeon
Phascolarctos cinereus	Koala
Philemon corniculatus	Noisy Fiarbird
Physignathus lesueurii	Eastern Water Dragon
Pardalotus striatus	Striated Pardalote
Podargus strigoides	Tawny Frogmouth
Pogona barbata	Common Bearded Dragon

Pseudocheirus peregrinus	Common Ringtail Possum
Psophodes olivaceus	Eastern Whipbird
Rhipidura fuliginosa	Grey Fantail
Rhipidura leucophrys	Willie Wagtail
Specotheres viridis	Figbird
Tiliqua scincoides	Blue-tongued Skink
Trichoglossus chlorolepidotus	Scaly-breasted Lorikeet
Trichoglossus haematodus	Rainbow Lorikeet
Trichosurus vulpecula	Common Brushtail Possum
Wallabia bicolor	Swamp Wallaby
Vanellus miles	Masked Lapwing
Varanus varius	Lace Monitor

3.3 (b) Hydrology, including water flows

Response 3.3(b)

Three mapped low order (Stream Order 1) tributaries envelope the site (outside the referral extent) within the existing golf greens (refer **Figure 3**). These drainage features are not identified by Fisheries mapping (refer **Figure 4**). Field survey confirmed that these mapped watercourses reflect disturbed drainage lines which have been highly modified as a result of the encompassing Brookwater Golf Course. Unmapped overland flow paths (refer Photos below) drain from the centre of the site towards the Golf Course before ultimately draining into Opossum Creek. These features reflect incised gullies with no riparian vegetation or aquatic value.

Opossum Creek, approximately 50m to the north, is separated from the site by the existing Brookwater Golf Course. Opossum Creek is identified as a Stream Order 4 watercourse (refer **Figure 3**) and high risk (red) waterway by Fisheries (refer **Figure 4**). While outside the referral extent and not part of this assessment, the portion of Opossum Creek adjoining the site was noted by survey to contain relatively in-tact riparian vegetation consistent with mapped Of Concern regional ecosystems. This creek corridor is identified to be retained as open space within the Springfield Structure Plan to retain biodiversity values and maintain connectivity within the broader landscape.

Photos: Gullies within First Nine site

3.3 (c) Soil and Vegetation characteristics

Response 3.3(c)

Regional Ecosystem mapping identifies the site within Land Zones 9 and 10, which are described as:

Land Zone 9

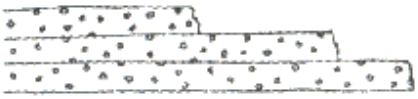
Short description: fine grained sedimentary rocks

General term: undulating country on fine grained sedimentary rocks

Fine grained sedimentary rocks, generally with little or no deformation and usually forming undulating landscapes. Siltstones, mudstones, shales, calcareous sediments, and labile sandstones are typical rock types although minor interbedded volcanics may occur. Includes a diverse range of fine textured soils of moderate to high fertility, predominantly Vertosols, Sodosols, and Chromosols.

Land Zone 10

Short description: coarse grained sedimentary rocks



General term: sandstone ranges

Medium to coarse grained sedimentary rocks, with little or no deformation, forming plateaus, benches and scarps. Includes siliceous (quartzose) sandstones, conglomerates and minor interbedded volcanics, and springs associated with these rocks. Excludes overlying Cainozoic sand deposits (land zone 5). Soils are predominantly shallow Rudosols and Tenosols of low fertility, but include sandy surfaced Kandosols, Kurosols, Sodosols and Chromosols.

Extract: Land Zone definitions, Source: Queensland Government

Soil

Information on the site's soil properties has been obtained from the Australian Soil Resource Information System (ASRIS). Level 4 soil order mapping exists for the region and defines the application area as containing Dermosols (refer **Figure 7**).

Dermosols are moderately deep and well-drained soils, occurring in the mountainous high rainfall zones of southeastern Australia. The may be strongly acidic in the high rainfall areas or highly alkaline if they contain calcium carbonate. Dermosols support a wide range of land uses including cattle and sheep grazing of native pastures, forestry and sugar cane. Cereal crops, especially wheat, are commonly grown on the more fertile Dermosols.

3.3 (d) Outstanding natural features

Response 3.3(d)

No outstanding natural features were observed across the site. While the site remains vegetated with predominately native species, disturbance to the ground layer and surrounding influenced of golf and development result in an open modified balance development site.

3.3 (e) Remnant native vegetation

Response 3.3(e)

Queensland's Regulated Vegetation Management Map shows the site contains areas of Category X (non-remnant) vegetation and Category B remnant vegetation containing composite Of Concern Regional Ecosystems RE12.9-10.2/12.9-10.7/12.9-10.19 (65/20/15) (refer **Figure 5**).

- RE12.9-10.2 (Least Concern)
  - *Corymbia citriodora subsp. variegata* open forest or woodland usually with *Eucalyptus crebra*. Other species such as *Eucalyptus tereticornis, E. moluccana, E. acmenoides* and *E. siderophloia* may be present in scattered patches or in low densities. Understorey can be grassy or shrubby. Shrubby understorey of *Lophostemon confertus* (whipstick form) often present in northern parts of bioregion. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 10b).

- RE12.9-10.7 (Of Concern)
  - *Eucalyptus crebra +/- E. tereticornis, Corymbia tessellaris, Angophora leiocarpa, E.* melanophloia woodland. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 13c) Vegetation communities in this regional ecosystem include: 12.9-10.7a *Eucalyptus siderophloia, Corymbia intermedia +/- E. tereticornis* and *Lophostemon confertus* open forest. Occurs on Cainozoic and Mesozoic sediments in near coastal areas. (BVG1M: 12a).
  - RE12.9-10.7 is an essential habitat factor for Koala.

- RE12.9-10.19 (Least Concern)
  - *Eucalyptus fibrosa subsp. fibrosa woodland +/- Corymbia citriodora subsp. variegata, E. acmenoides or E. portuensis, Angophora leiocarpa, E. major.* Understorey often sparse. Localised occurrences of *Eucalyptus sideroxylon*. Occurs on Cainozoic and Mesozoic sediments. (BVG1M: 12a). Vegetation communities in this regional ecosystem include: 12.9-10.19a: *Corymbia henryi +/- Eucalyptus fibrosa subsp. fibrosa, Corymbia citriodora subsp. variegata, E. siderophloia, E. crebra* open forest. Occurs in coastal areas on Cainozoic and Mesozoic sediments. (BVG1M: 10b).

3.3 (f) Gradient (or depth range if action is to be taken in a marine area)

Response 3.3(f)

The site reflects a low hill, with ridgelines extending northeast to southwest through the centre of the site. Contours range from 80m along the ridgeline to 30m at the lowest point to the north (refer **Figure 7**).

3.3 (g) Current state of the environment

Response 3.3(g)

The site contains a generally consistent cover of vegetation, however as noted above a number of disturbances from edge effects, weed invasion, creation of access tracks and increases in domestic and feral animals from surrounding development have left the site heavily disturbed. Further, the site is devoid of notable ecological features such as waterways. While connectivity to Opossum Creek conservation corridor remains to the north, disturbance from the encompassing Brookwater Golf Course has resulted in edge effects surrounding this vegetated pocket has resulted in heavy infestations of weeds, particularly along access tracks (refer **Response 3.3a** for further detail).

3.3 (h) Commonwealth Heritage Places or other places recognised as having heritage values

Response 3.3(h)

There have been no Commonwealth Heritage Places or other heritage places identified across the site.

3.3 (i) Indigenous heritage values

Response 3.3(i)

An indigenous artefact was identified within the site and will be retained within parkland by the development (refer **Figure 3**).

3.3 (j) Other important or unique values of the environment

Response 3.3(j)

The site is not located near other notable environmental features that are likely to be affected by the proposed action.

3.3 (k) Tenure of the action area (eg freehold, leasehold)

Response 3.3(k)

The site is freehold land.

3.3 (l) Existing land/marine uses of area

Response 3.3(l)

The site is currently vacant land. Surrounding land uses range from residential, commercial, retail, educational transport (rail and bus) and roads.

3.3 (m) Any proposed land/marine uses of area

Response 3.3(m)

Proposed land uses include residential housing, retail and open space.

4 Environmental outcomes

Provide descriptions of the proposed environmental outcomes that will be achieved for matters of national environmental significance as a result of the proposed action. Include details of the baseline data upon which the outcomes are based, and the confidence about the likely achievement of the proposed outcomes. Where outcomes cannot be identified or committed to, provide explanatory details including any commitments to identify outcomes through an assessment process.

If a proposed action is determined to be a controlled action, the Department may request further details to enable application of the draft *Outcomes-based Conditions Policy 2015* and *Outcomes-based Conditions Guidance 2015* (http://www.environment.gov.au/epbc/consultation/policy-guidance-outcomes-based-conditions), including about environmental outcomes to be achieved, details of baseline data, milestones, performance criteria, and monitoring and adaptive management to ensure the achievement of outcomes. If this information is available at the time of referral it should be included.

General commitments to achieving environmental outcomes, particularly relating to beneficial impacts of the proposed action, CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, and conditions of approval, if your proposal proceeds to these stages).

Response 4

The development of First Nine will result in the removal of 40ha of habitat considered critical to the survival of the species. As highlighted throughout this referral document, this vegetation is encompassed by the Brookwater Golf Course and surrounded by existing development including Brookwater Community, Augustine Heights and future Town Centre land. Further, the referral site is ultimately fragmented from connectivity to areas of vegetation to the south by Centenary Highway. While evidence of Koala activity (i.e. an individual sighted on day 1 of the 2 day survey period, scats etc.) was recorded on the site, the proposal site remains a disturbed pocket surrounded by urban development which is not large enough to support a local Koala population and does not provide further connectivity than that retained through the Opossum Creek Corridor.

While outside the referral area, connectivity along Opossum Creek will be retained by the Springfield Structure Plan which states:

> *"To ensure that urban and edge effects are reduced, a minimum of 40 metres either side of the centreline line of the creek and drainage systems will define creekline vegetation areas. In some areas this minimum dimensions will need to be increased to protect appropriate habitat environment or site and areas of significant cultural heritage."*

To ensure environmental outcomes are achieved on site, a number of site specific environmental management mitigation measures will be adopted as part of the First Nine development which including (refer to **Response 5** for further detail):

- Vegetation Clearing and Management Plan
- Fauna Management Plan
- Stormwater Management Plan
- Erosion and Sediment Control Plans

While the proposed action is not considered by this assessment to be a Controlled Action and thus is not a candidate for outcomes based conditions, to compensate the loss of critical habitat for the Koala, a portion of the 396ha of Conservation Land to the south previously dedicated by **Springfield Land Corporation** (SLC) to **Ipswich City Council** (ICC) (refer **Plan 5**). Detailed discussions have been held with the **Department of Environment** in regards to this land which has been identified as "Advanced Offset" under the *EPBC Act Environmental Offsets Policy*. This land will be secured via a legally binding mechanism in Queensland (i.e. Voluntary Declaration) and will be rehabilitated to remnant status through targeted weed removal and natural and assisted regeneration (refer **Plan**

6). Further, rehabilitation of the Conservation Land, which forms part of the Flinders Karawatha, will provide enhancement of an area that contributes to regional biodiversity significance for Koala.

5 Measures to avoid or reduce impacts

Note: If you have identified alternatives in relation to location, time frames or activities for the proposed action at Section 2.3 you will need to complete this section in relation to each of the alternatives identified.

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

For any measures intended to avoid or mitigate significant impacts on matters protected under the EPBC Act, specify:
- what the measure is,
- how the measure is expected to be effective, and
- the time frame or workplan for the measure.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

Provide information about the level of commitment by the person proposing to take the action to implement the proposed mitigation measures. For example, if the measures are preliminary suggestions only that have not been fully researched, or are dependent on a third party's agreement (e.g. council or landowner), you should state that, that is the case.

Note, the Australian Government Environment Minister may decide that a proposed action is not likely to have significant impacts on a protected matter, as long as the action is taken in a particular manner (section 77A of the EPBC Act). The particular manner of taking the action may avoid or reduce certain impacts, in such a way that those impacts will not be 'significant'. More detail is provided on the Department's web site.

For the Minister to make such a decision (under section 77A), the proposed measures to avoid or reduce impacts must:
- clearly form part of the referred action (eg be identified in the referral and fall within the responsibility of the person proposing to take the action),
- be must be clear, unambiguous, and provide certainty in relation to reducing or avoiding impacts on the matters protected, and
- must be realistic and practical in terms of reporting, auditing and enforcement.

More general commitments (eg preparation of management plans or monitoring) and measures aimed at providing environmental offsets, compensation or off-site benefits CANNOT be taken into account in making the initial decision about whether the proposal is likely to have a significant impact on a matter protected under the EPBC Act. (But those commitments may be relevant at the later assessment and approval stages, including the appropriate level of assessment, if your proposal proceeds to these stages).

Response 5

Impacts to MNES as a result of the proposed action will be limited to impacts on the Koala. No other MNES are identified as likely to be impacted by the project. A number of measures to avoid and mitigate impacts caused by the removal of vegetation are incorporated into existing approval conditions, which are summarised below.

1. **Vegetation Clearing and Management Plan**

An approved Vegetation Clearing and Management Plan (VC&MP) must be implemented during Operational Works, which includes details on:

- Locations of protected vegetation, vegetation to be retained and vegetation to be removed
- Details on vegetation types
- Location of significant vegetation (remnant vegetation, city wide significant species etc.)
- Particulars on how vegetation is proposed to be cleared (clearing sequence plan)
- Methods for protecting or relocating plants
- Disposal methods

2. **Fauna Management Plan**

All works must be undertaken in accordance with the approved Fauna Management Plan. This includes details on:

- Species surveyed as using the site
- A plan showing existing habitat areas

- Details of threats to existing fauna
- Clearing sequence plan
- Management and mitigation measures- e.g. temporary fauna exclusion fencing
- Fauna spotter role, contacts and certification:
    - Pre-clearance surveys
    - Attendance at pre-start meeting
    - Attendance throughout vegetation clearing period
    - Continued monitoring and reporting
- Specific fauna management procedures for potential or known habitat trees

The primary purpose of engaging a Fauna Spotter Catcher during all stages of clearing is to ensure that no injury or death comes to Koalas during vegetation clearing.

3. Stormwater Management Plan

All works must be carried out and completed in accordance with the approved Stormwater Management Plan. This provides details on:

- Stormwater quality improvement devices
- Mechanisms for monitoring and reporting

The implementation of the Stormwater Management Plan will ensure that water quality standards set by State and Local governments are achieved.

4. Erosion and Sediment Control Plan

Operational works applications must be accompanied by an Erosion and Sediment Control Plan and must contain details on:

- Catchment boundary and overland flow path
- Estimated soil loss from each catchment
- Length, width and depth of each sediment basin
- Spillway details and levels
- Energy dissipation/ scour protection
- High flow bypass
- Cross section, capacity and spacing of each catch/ diversion drain
- Location and spacing of silt fences
- Frequency and location of water quality monitoring
- Maintenance requirements and frequency
- Maintenance access and
- Contingency measures in case of failure to achieve water quality objectives.

5. Environmental Offsets

The First Nine Residential Development is to be developed by the principal land owner at Greater Springfield, **Springfield Land Corporation** (SLC). As part of extensive negotiations and assessment for a recently determined EPBC Act referral in the broader area (EPBC 2013/7057) as completed by **Lendlease Communities**, the dedication of 396ha of land by **SLC** to **ICC** for Conservation purposes was acknowledged by the **DoE** as an advanced offset. Approximately 70% of this advanced offset was provided by **SLC** to **Lendlease Communities** to satisfy offset requirements for the Spring Mountain Project. **SLC** intent to utilise a balance portion of this offset land as compensation/mitigation for impacts associated with the First Nine Residential Development. A separate First Nine Offset Proposal is attached to this referral as **Attachment C**, which outlines utilisation of this offset land.

Summary

Each of these management measures are specifically designed to avoid and reduce impacts on the natural environment as a result of the development. In particular, the use of a fauna-spotter catcher during clearing and construction phases will ensure that impacts to Koalas, if present, are avoided.

6 Conclusion on the likelihood of significant impacts

Identify whether or not you believe the action is a controlled action (ie. whether you think that significant impacts on the matters protected under Part 3 of the EPBC Act are likely) and the reasons why.

6.1 Do you THINK your proposed action is a controlled action?

X	No, complete section 5.2
	Yes, complete section 5.3

6.2 Proposed action IS NOT a controlled action.

Specify the key reasons why you think the proposed action is NOT LIKELY to have significant impacts on a matter protected under the EPBC Act.

Response 6.2

The proposed action being the development of First Nine Residential Development is not considered to be a controlled action as the project has not been identified as having a significant impact on Matters of National Environmental Significance (MNES).

Strategically, the First Nine residential referral area occurs as part of a small remaining cul-de-sac of vegetation hemmed in by major roads, a rail line, expanding development and the Greater Springfield Town Centre. Prior development decisions for surrounding infrastructure and development have not incorporated any strategic of even local fauna connectivity with surrounding threats not supported by fauna sensitive infrastructure (i.e. exclusion fencing, road crossing solutions). Locally, the entire project is encompassed by the privately owned and operated Brookwater Golf Course. This use is not an impenetrable barrier for movement, however does disconnect existing site trees with regularly maintained and utilised turf areas. The Golf Course also provides a non-vegetated edge to the referral area for access by predators and other disturbances.

Desktop and field surveys have ruled out the occurrence of most listed MNES, with potential impacts limited to the clearing of potential habitat for the Koala (*Phasacolarctos cinereus*) which is listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*. As such, field surveys placed focus on identifying the level of usage of the site by Koalas and to identify areas of critical habitat. **Section 3.1(d) – Listed Threatened Species and Ecological Communities** of this form provided a detailed assessment against the provisions of the *EPBC Act Referral Guidelines for the Vulnerable Koala* (January 2015) which showed that while evidence of Koala use was found on site, the construction of First Nine is not likely to have a significant impact on Koala because of the following:

- The SAT assessment results indicated results for 'high', 'normal' and 'low' usage by Koala over the site, with overall usage considered to be 'normal'.
- Approximately 40 hectares of vegetation of varying quality will be removed. This is made up of 38.9 hectares of remnant vegetation and 0.1 hectares of non-remnant vegetation.
- The site was assessed as having a habitat score of 5 using the Koala Habitat Assessment Tool which is at the lower end of the spectrum (≥5) for critical habitat as defined by the Koala Referral Guidelines. These results were derived from the existence of Koala food trees, evidence of Koala usage in the last two years and proximity to Opossum Creek which provides connectivity for the species. The habitat assessment derived a 0 for key existing threats and 0 for recovery value as the site is broadly surrounded by existing urban development and encompassed by Brookwater Golf Course. The expansion of surrounding development in accordance with existing approvals is expected to result in further encroachment and edge effects fragmenting the site from habitat areas which currently exist along Opossum Creek.

- The site is modified as a result of historical land use and surrounded development, and reflects only a very a small disturbed area in the broader landscape of retained vegetation to the north and its associated ecological values and function.
- The proposal does not result in the fragmentation of other vegetation areas, as it reflects a disturbed pocket which extends from areas of higher ecological values associated with Opossum Creek corridor which is identified preferable habitat for the species and will be retained as open space.
- Should the action not proceed, the site will be surrounded by development which will evidently increase threats to the species including roads and domestic pets.
- No residual impacts on the Koala were identified. As such, the project will not substantially interfere with the recovery of the Koala. In the context of surrounding development, the project will have only a minor contribution to the overall vehicle use and dog ownership in the local area.
- As the site is surrounded by existing and proposed development to the east, south and west and is encompassed by the existing Brookwater Golf Course, the referral area is highly disturbed as a result of edge effects from surrounding vegetation. While the vegetated site adjoins Opossum Creek corridor to the north, the site itself reflects a highly disturbed patch which contains no significant ecological features or planned conservation areas. As such, retention of vegetation on site would not achieve the interim recovery objectives for coastal areas.
- All clearing will be undertaken in accordance with a Fauna Management Plan as approved by Council. This includes the engagement of a Fauna Spotter Catcher who will undertake pre-clearance surveys, attend pre-start meetings and be present during all clearing activities. The purpose of using a Fauna Spotter is to ensure no clearing occurs where Koalas or other fauna species are in trees and to identify any potential habitat features that require checking before clearing occurs.

Springfield Conservation Land

As per the attached Offset Proposal (refer **Attachment C**) and specified throughout sections of this referral, clearing of 40 ha of critical habitat with a value of 5 will be offset within the 396ha of Conservation Land to the south previously dedicated by **Springfield Land Corporation** (SLC) to **Ipswich City Council** (ICC) to cater for environment impacts associated with development in the Springfield Structure Plan Area. Detailed discussions have been held with the **Department of Environment** in regards to this land which has been identified as "Advanced Offset" under the *EPBC Act Environmental Offsets Policy*.

As this project is not recommended as a Controlled Action, the offset is provided as a compensatory measure. In support of the impacts created through this project, **50.25 hectares** within the Conservation Land will be legally secured via voluntary declaration and enhanced through weed management and assistant regeneration.

6.3 Proposed action IS a controlled action

Type 'x' in the box for the matter(s) protected under the EPBC Act that you think are likely to be significantly impacted. (The 'sections' identified below are the relevant sections of the EPBC Act.)

	Matters likely to be impacted
	World Heritage values (sections 12 and 15A)
	National Heritage places (sections 15B and 15C)
	Wetlands of international importance (sections 16 and 17B)
	Listed threatened species and communities (sections 18 and 18A)
	Listed migratory species (sections 20 and 20A)
	Protection of the environment from nuclear actions (sections 21 and 22A)

	Commonwealth marine environment (sections 23 and 24A)
	Great Barrier Reef Marine Park (sections 24B and 24C)
	A water resource, in relation to coal seam gas development and large coal mining development (sections 24D and 24E)
	Protection of the environment from actions involving Commonwealth land (sections 26 and 27A)
	Protection of the environment from Commonwealth actions (section 28)
	Commonwealth Heritage places overseas (sections 27B and 27C)

Specify the key reasons why you think the proposed action is likely to have a significant adverse impact on the matters identified above.

7 Environmental record of the responsible party

NOTE: If a decision is made that a proposal needs approval under the EPBC Act, the Environment Minister will also decide the assessment approach. The EPBC Regulations provide for the environmental history of the party proposing to take the action to be taken into account when deciding the assessment approach.

		Yes	No
7.1	**Does the party taking the action have a satisfactory record of responsible environmental management?** Springfield Land Corporation (SLC) as the master developer of the Greater Springfield Project has an excellent record of environmental management and sustainability recognised at a local, state, national and international levels. **Provide details** SLC has worked closely with partners, stakeholders and community as well as local and state authorities to ensure a variety of environmental management and sustainability outcomes are delivered through the Greater Springfield Project. The unique scale and timeframe associated with the propagation of the Greater Springfield Project has afforded SLC the opportunity to establish a framework that delivers a range of initiatives at a strategic and local project level that deliver environmental management and sustainability benefits. For example, at a strategic level the Greater Springfield master plan has identified the environmental attributes of the site and included the protection of these attributes through the designation of these areas within the open space network. This has resulted in some 32% of the land holding being retained. Other environmental initiatives at a local project level include recycled water reuse and returned effluent treatment reuse systems across projects such as the Brookwater golf course and residential projects, weed and pest management programs with both Landcare and Greening Australia, undertaking HIA Green Smart programmes across a number of projects, provision of site based management plans across facets of the project such as residential development, utility facilities such as data centres, retail centres, hospitals, university all communities, generation of site based urban design outcomes (in consultation with the local authority), water recycling programmes, waterway and corridor management and builder's water recycling programmes. Additional to this, SLC through it partners undertakes community education and interaction programmes with its community to in creating a high level of social capital. SLC has won numerous state and national Urban Development Institute of Australia awards as a master planned community. These awards are recognition for the comprehensive planning and implementation of site specific outcomes in working with all constraints including the provision of environmental and sustainability initiatives. SLC as the master developer of the Greater Springfield project also won the global Prix d'Excellence awarded by the International Real Estate Federation for best master planned community	**X**	
7.2	**Has either (a) the party proposing to take the action, or (b) if a permit has been applied for in relation to the action, the person making the application - ever been subject to any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources?** **If yes, provide details**		**X**

7.3	**If the party taking the action is a corporation, will the action be taken in accordance with the corporation's environmental policy and planning framework?** **If yes, provide details of environmental policy and planning framework** SLC seeks to deliver outcomes through its activities and those of its partners that support its commitment to delivering sustainable environmental management outcomes consistent with its planning framework. SLC development partners such as Lendlease and Mirvac undertake development activities on SLC behalf in accordance with their Corporate environmental management policy and planning framework.	**X**	
7.4	**Has the party taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?** **Provide name of proposal and EPBC reference number (if known)**		**X**

8 Information sources and attachments

(For the information provided above)

8.1 References

- List the references used in preparing the referral.
- Highlight documents that are available to the public, including web references if relevant.

Austecology 2013, MNES Vertebrate Fauna Assessments Land at Spring Mountain, commissioned by **Lendlease Communities**.

Australian Koala Foundation, *The Spot Assessment Technique: determining the importance of Habitat Utilised by Koalas (Phascolarctos cinereus)*, available online: https://www.savethekoala.com/sites/default/files/docs/conserve/The%20Spot%20Assessment%20Technique.pdf

Australian Koala Foundation 2012, *National Koala Tree Protection List; Recommended Tree Species for Protection and Planting of Koala Habitat*.

Australian Soil Resource Information System, http://www.asris.csiro.au/

BAAM 2011, Planning Review of Springfield Wildlife Corridor for Significant Fauna Species, prepared for **Ipswich City Council**.

DERM 2010, Koala Coast Koala Population Report 2010, Department of Environment and Resource Management, Brisbane.

Dique DS, de Villiers DL and Preece HJ 2003, *Evaluation of line-transect sampling for estimating Koala abundance in the Pine Rivers Shire, south-east Queensland.' **Wildlife Research 30:** 127-133.*

Hill & Curran 2003, *Area, shape and isolation of tropical forest fragments: effects on tree species diversity and implications for conservation. **Journal of Biogeography, 30:** 1391-1403.*

Phillips S & Callaghan J 2011, *The Spot Assessment Technique: a tool for determining localised levels of habitat use by Koalas Phascolarctos cinereus. **Australian Zoologist 35(3)**: 774-780.*

Saunders Havill Group 2016, *Ecological Assessment Report EPBC Act Referral* commissioned by **Springfield Land Corporation**.

8.2 Reliability and date of information

For information in section 3 specify:

- source of the information;
- how recent the information is;
- how the reliability of the information was tested; and
- any uncertainties in the information.

Refer to **Section 8.1 References**.

8.3 Attachments

Indicate the documents you have attached. All attachments must be less than three megabytes (3mb) so they can be published on the Department's website. Attachments larger than three megabytes (3mb) may delay the processing of your referral.

		✓ attached	Title of attachment(s)
You must attach	figures, maps or aerial photographs showing the project locality (section 1)	✓	Included at the end of this referral.
	GIS file delineating the boundary of the referral area (section 1)		
	figures, maps or aerial photographs showing the location of the project in respect to any matters of national environmental significance or important features of the environments (section 3)	✓	Included at the end of this referral.
If relevant, attach	copies of any state or local government approvals and consent conditions (section 2.5)		N/A
	copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.6)		N/A
	copies of any flora and fauna investigations and surveys (section 3)	✓	Ecological Technical Memo – MNES Flora and Fauna by SHG (2016) (refer **Attachment B**).
	technical reports relevant to the assessment of impacts on protected matters that support the arguments and conclusions in the referral (section 3 and 4)	✓	Ecological Technical Memo – MNES Flora and Fauna by SHG (2016) (refer **Attachment B**). EPBC Offset Proposal by SHG (2016) (refer **Attachment C**).
	report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)		N/A

9 Contacts, signatures and declarations

NOTE: Providing false or misleading information is an offence punishable on conviction by imprisonment and fine (s 489, EPBC Act).

Under the EPBC Act a referral can only be made by:

- the person proposing to take the action (which can include a person acting on their behalf); or
- a Commonwealth, state or territory government, or agency that is aware of a proposal by a person to take an action, and that has administrative responsibilities relating to the action[1].

Project title: First Nine Residential Development

9.1 Person proposing to take action

This is the individual, government agency or company that will be principally responsible for, or who will carry out, the proposed action.

If the proposed action will be taken under a contract or other arrangement, this is:

- the person for whose benefit the action will be taken; or
- the person who procured the contract or other arrangement and who will have principal control and responsibility for the taking of the proposed action.

If the proposed action requires a permit under the Great Barrier Reef Marine Park Act[2], this is the person requiring the grant of a GBRMP permission.

The Minister may also request relevant additional information from this person.

If further assessment and approval for the action is required, any approval which may be granted will be issued to the person proposing to take the action. This person will be responsible for complying with any conditions attached to the approval.

If the Minister decides that further assessment and approval is required, the Minister must designate a person as a proponent of the action. The proponent is responsible for meeting the requirements of the EPBC Act during the assessment process. The proponent will generally be the person proposing to take the action[3].

1. Name and Title:	Raynuha Sinnathamby – Director
2. Organisation (if applicable):	Springfield Land Corporation Pty Limited Organisation name should match entity identified in ABN/ACN search
3. EPBC Referral Number (if known):	
4: ACN / ABN (if applicable):	ACN: 055 714 531
5. Postal address	PO Box 4167, Springfield QLD 4300
6. Telephone:	(07) 3819 9999
7. Email:	r.luhrs@springfieldland.com.au
8. Name of designated proponent (if not the same person at item 1	Springfield Land Corporation Pty Limited

[1] *If the proposed action is to be taken by a Commonwealth, state or territory government or agency, section 8.1 of this form should be completed. However, if the government or agency is aware of, and has administrative responsibilities relating to, a proposed action that is to be taken by another person which has not otherwise been referred, please contact the Referrals Gateway (1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

[2] *If your referred action, or a component of it, is to be taken in the Great Barrier Reef Marine Park the Minister is required to provide a copy of your referral to the Great Barrier Reef Marine Park Authority (GBRMPA) (see section 73A,* EPBC Act*). For information about how the GBRMPA may use your information, see http://www.gbrmpa.gov.au/privacy/privacy_notice_for_permits.*

[3] *If a person other than the person proposing to take action is to be nominated as the proponent, please contact the Referrals Gateway(1800 803 772) to obtain an alternative contacts, signatures and declarations page.*

above and if applicable):

9. ACN/ABN of designated proponent (if not the same person named at item 1 above): ACN: 055 714 531

COMPLETE THIS SECTION ONLY IF YOU QUALIFY FOR EXEMPTION FROM THE FEE(S) THAT WOULD OTHERWISE BE PAYABLE

I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

□ an individual; OR

□ a small business entity (within the meaning given by section 328-110 (other than subsection 328-119(4)) of the *Income Tax Assessment Act 1997*); OR

□ not applicable.

If you are small business entity you must provide the Date/Income Year that you became a small business entity:

Note: You must advise the Department within 10 business days if you cease to be a small business entity. Failure to notify the Secretary of this is an offence punishable on conviction by a fine (regulation 5.23B(3) *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth)).

COMPLETE THIS SECTION ONLY IF YOU WOULD LIKE TO APPLY FOR A WAIVER

I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations. Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made:

□ not applicable.

Declaration

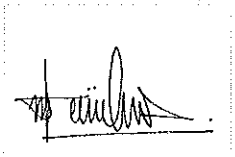
I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct.
I understand that giving false or misleading information is a serious offence.
I agree to be the proponent for this action.
I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature

Date 16 March 2016

9.2 Person preparing the referral information (if different from 9.1)

Individual or organisation who has prepared the information contained in this referral form.

Name	**Murray Saunders**
Title	**Director**
Organisation	**Saunders Havill Group Pty Ltd**
ACN / ABN (if applicable)	**24 144 972 949**
Postal address	**9 Thompson Street, Bowen Hills, QLD 4006**
Telephone	**(07) 3251 9415**
Email	murraysaunders@saundershavill.com
Declaration	I declare that to the best of my knowledge the information I have given on, or attached to this form is complete, current and correct. I understand that giving false or misleading information is a serious offence.
Signature	 Date: 16/03/2016

REFERRAL CHECKLIST

NOTE: This checklist is to help ensure that all the relevant referral information has been provided. It is not a part of the referral form and does not need to be sent to the Department.

HAVE YOU:

- ❑ Completed all required sections of the referral form?
- ❑ Included accurate coordinates (to allow the location of the proposed action to be mapped)?
- ❑ Provided a map showing the location and approximate boundaries of the project area?
- ❑ Provided a map/plan showing the location of the action in relation to any matters of NES?
- ❑ Provided a digital file (preferably ArcGIS shapefile, refer to guidelines at Attachment A) delineating the boundaries of the referral area?
- ❑ Provided complete contact details and signed the form?
- ❑ Provided copies of any documents referenced in the referral form?
- ❑ Ensured that all attachments are less than three megabytes (3mb)?
- ❑ Sent the referral to the Department (electronic and hard copy preferred)?

Attachment A

Geographic Information System (GIS) data supply guidelines

If the area is less than 5 hectares, provide the location as a point layer. If the area greater than 5 hectares, please provide as a polygon layer. If the proposed action is linear (eg. a road or pipline) please provide a polyline layer.

GIS data needs to be provided to the Department in the following manner:

- Point, Line or Polygon data types: ESRI file geodatabase feature class (preferred) or as an ESRI shapefile (.shp) zipped and attached with appropriate title
- Raster data types: Raw satellite imagery should be supplied in the vendor specific format.
- Projection as GDA94 coordinate system.

Processed products should be provided as follows:

- For data, uncompressed or lossless compressed formats is required - GeoTIFF or Imagine IMG is the first preference, then JPEG2000 lossless and other simple binary+header formats (ERS, ENVI or BIL).
- For natural/false/pseudo colour RGB imagery:
    - If the imagery is already mosaiced and is ready for display then lossy compression is suitable (JPEG2000 lossy/ECW/MrSID). Prefer 10% compression, up to 20% is acceptable.
    - If the imagery requires any sort of processing prior to display (i.e. mosaicing/colour balancing/etc) then an uncompressed or lossless compressed format is required.

Metadata or 'information about data' will be produced for all spatial data and will be compliant with ANZLIC Metadata Profile. ().

The Department's preferred method is using ANZMet Lite, however the Department's Service Provider may use any compliant system to generate metadata.

All data will be provide under a Creative Commons license ()