1 Summary of proposed action

1.1 Short description
The proposed action is to develop a new residential estate, Lawson South, in the north-eastern part of the town of Belconnen in the Australian Capital Territory (see Figure 1).

1.2 Latitude and longitude

<table>
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<th>Location Point</th>
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<th>Longitude</th>
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</thead>
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<tr>
<td>NW corner</td>
<td>35 13 25</td>
<td>149 04 56</td>
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1.3 Locality
Lawson South is part of the proposed suburb of Lawson, which is located north-east of the town centre of Belconnen and approximately 10.5 km north-west of Canberra City. Surrounding suburbs include Kaleen, Bruce, Belconnen and McKellar. Lake Ginninderra bounds the area to the west. Commonwealth land, managed by the Department of Defence, adjoins the area to the north (see Figure 2). This land is the site of the former Belconnen Naval Transmitting Station (BNTS) and forms the northern part of the suburb of Lawson.

1.4 Size of the development footprint or work area (hectares)
The Lawson South area covers 100 ha, but only about 42 ha of this area is proposed for development.

1.5 Street address of the site
Not applicable

1.6 Lot description
The site comprises:
- Block 2 Section 13 Lawson (96.6 ha)
- Block 1 Section 4 Lawson
- Block 1 Section 1 Lawson
- Block 1 Section 5 Lawson
- Block 2 Section 5 Lawson

1.7 Local Government Area and Council contact (if known)
Australian Capital Territory

1.8 Timeframe
The ACT land release program indicates the first 50 blocks are to be released in 2010/11 with a further 600 blocks in 2011/12, 500 blocks in 2012/13 and 240 blocks in 2013/14.

1.9 Alternatives

<table>
<thead>
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<td>1.13</td>
</tr>
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<td>1.14</td>
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</table>
2 Detailed description of proposed action

2.1 Description of proposed action

The proposed action is to develop the new residential suburb of Lawson south, which is located in the north-eastern part of the Canberra town of Belconnen and is one of the last parcels of undeveloped land in Belconnen.

The proposed urban development would take place within Territory land which is located in the southern part of the suburb of Lawson and is managed by the Land Development Agency (LDA, see Figure 2). The northern part of Lawson is the site of the former Belconnen Naval Transmitting Station (BNTS) and is Commonwealth land managed by the Department of Defence. Development Control Plan 10/03 for this Commonwealth land was approved in May 2010 by the National Capital Authority (Ref. 1). The DCP proposes that the majority of the land be conserved in a grassland nature reserve and a smaller proportion, those areas of least ecological value, be developed for residential purposes.

Lawson South is bounded by Baldwin Drive and Ginninderra Drive to the east and south respectively, the northern reaches of Lake Ginninderra to the west and the Commonwealth land to the north. The area has been withdrawn from rural lease and is currently grazed under an informal agreement. The land contains an ActewAGL electricity substation in the south-western part of the area.

The proposed action would involve the following activities within the development boundary:

- construction of roads and site services including water supply, sewerage, stormwater, electricity, gas and telecommunications;
- construction of pedestrian and cycleway facilities;
- construction of community facilities;
- landscaping and embellishment of open space areas;
- the rehabilitation of College Creek; and
- release of residential blocks within the suburb.

The proposed action may also involve the relocation of existing overhead 132 kV transmission lines along Ginninderra Drive underground, or the replacement of the existing steel lattice frames with concrete monopoles. 11kV overhead power lines that are present in the east and north of the site may also be relocated underground. This is currently subject to consideration and design by the LDA and the ACT Planning and Land Authority (ACTPLA).

The dwelling yield in Lawson South would be approximately 1400 (March 2010 Indicative Residential Land Release Program) with the density of housing ranging from low (10 to 15 dwellings/ha) to high (60 to 100 dwellings/ha).

Figure 3 shows a preliminary masterplan for the proposed development. This may be subject to amendment in the course of finalising the planning for the suburb but indicates the proposed uses and their general location within the area.

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

The proposed action is one of the final stages in the orderly development of the town of Belconnen. In this context, the consideration of alternative locations, time frames or activities is not applicable.
Several options have been considered for the LDA masterplan, with the preferred option shown in Figure 3.

2.3 Context, planning framework and state/local government requirements

The area of Lawson South has been identified for residential development in the Territory Plan, the statutory planning document established under the ACT’s Planning and Development Act 2007, that guides future development on Territory land in the ACT (Ref. 2). In this document, the majority of the land within Lawson South is currently zoned RZ1 Suburban which allows for affordable and sustainable housing choices within a low density residential environment. In 2007, the ACT Government announced that it would undertake a planning study to identify opportunities for future urban development in Lawson taking into account issues of economic, environmental and social sustainability. The Lawson South Planning Study final report (Ref. 3) was completed in October 2009 and envisaged Lawson South to be a liveable, sustainable ‘urban village’, and a well connected, integrated and compact neighbourhood, where residential densities are higher than surrounding established suburbs on the basis of providing more sustainable development and residential choice.

ACTPLA endorsed the Lawson South Planning Study in August 2009 and prepared a Draft Variation to the Territory Plan, No. 299 which was released in October 2009 (Ref. 4). The variation proposes to change the residential RZ1 Suburban zone in Lawson South to a range of urban zones, including low, medium and higher density residential, urban open space, community facilities, commercial mixed use and transport, whilst protecting the area’s significant natural features and open spaces. This Draft Variation has interim effect until 15 October 2010.

The National Capital Plan is the strategic plan that sets out the broader planning principles and policies for Canberra and the Territory (Ref. 5). The National Capital Plan identifies the town centre of Belconnen as an urban area and anticipates additional urban development in this area to take place through the procedures of the Territory Plan.

The Canberra Spatial Plan is the ACT’s key strategic planning document for directing and managing urban growth and change over a 30 year period. A key principal of the plan is residential intensification within a 7.5 kilometre radius of Canberra city centre to ensure that a large proportion of future urban growth would be near major employment centres and facilities such as schools (Ref. 6). Lawson South is located on the boundary of the residential intensification line and is in close proximity to Belconnen Town Centre, further education campuses, schools and hospitals.

The proposed development is therefore consistent with the Territory Plan, the National Capital Plan and the Canberra Spatial Plan.

2.4 Environmental impact assessments under Commonwealth, state or territory legislation

The requirement for an environmental impact statement under the ACT Planning and Development Act 2007 is still to be determined, and may be influenced by the outcome of the EPBC Act referral.

2.5 Consultation with Indigenous stakeholders

The most recent archaeological assessment for Lawson South was undertaken by Navin Officer in 2009 for ACTPLA’s work described above (Ref. 7). The report was undertaken to identify actual and potential archaeological sites and to prepare a conservation management plan if required. The assessment incorporated two components, a desk top review to gather the existing archaeological knowledge for the Lawson study area, and an archaeological survey. The assessment included consultation and liaison with the ACT Heritage Council, ACT Planning and Land Authority (ACTPLA) and ACT Representative Aboriginal Organisations (RAOs).
Prior to the investigation commencing, contact was made with the four entities declared by the Minister for Territory and Municipal Services to be RAOs for the purposes of Aboriginal cultural heritage within the ACT, under section 14, subsection (7) of the ACT Heritage Act 2004. These included:

- Buru Ngunnawal Aboriginal Corporation (BNAC);
- Consultative Body Aboriginal Corporation (CBAC);
- Little Gudgenby River Tribal Council (LGRTC); and
- Ngarigu Currawong Clan (NCC).

Each RAO was informed of the project and a representative from NCC participated in the field survey. The report and results were forwarded to each RAO for their review and comment. According to previous studies that have taken place within the Lawson South area, the proposed development has the potential to directly impact six recorded Aboriginal heritage sites and one potential archaeological deposit (PAD). In the most recent survey, no Aboriginal artefacts were found throughout the site and the PAD is considered to have a low archaeological potential. The ACT Heritage Council has agreed to the proposed development.

2.6 A staged development or component of a larger project

Lawson South forms part of the proposed suburb of Lawson and has been planned to take account of potential development within the Commonwealth land in the north of the suburb. The detailed design and programming of its development, however, is largely independent of the development of the Commonwealth Land, which is currently the responsibility of a different proponent. These two components of Lawson development are therefore considered as separate proposals in relation to the EPBC Act.
3 Description of environment & likely impacts

3.1 Matters of national environmental significance

3.1 (a) World Heritage Properties
No World Heritage Properties are affected by the action.

3.1 (b) National Heritage Places
No National Heritage Places are affected by the action.

3.1 (c) Wetlands of International Importance (declared Ramsar wetlands)
No Wetlands of International Significance are affected by the action.

3.1 (d) Listed threatened species and ecological communities

Description
Based on previous ecological reports (Ref. 8) and recent field inspections (Ref. 9), listed threatened species and ecological communities which are known or likely to be present within or around the Lawson South development area are as follows:

- Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory
- White Box – Yellow Box – Blakely’s Red Gum grassy woodlands and derived native grasslands
- Golden sun moth (Synemon plana)
- Striped legless lizard (Delma impar)
- Regent honeyeater (Xanthomyza phrygia)

Nature and extent of likely impact

Natural Temperate Grassland of the Southern Tablelands of NSW and the ACT

Two small isolated patches of natural temperate grassland assessed as the endangered ecological community, Natural Temperate Grassland of the Southern Tablelands of NSW and the ACT, are present within the Lawson South development area. At the time of the initial ecological assessment (Ref. 8), the patches occupied 1.09 hectares and 0.26 hectares in the central northern and south-eastern part of the area respectively. A recent site inspection (Ref. 9) confirmed the presence of these two patches of natural temperate grassland, however, the central northern patch appeared to be slightly smaller than previously assessed. The location of these patches is shown in Figure 3.

Both of these patches were determined to be highly modified and have a Botanical Significance Rating of 3 which is the middle ranking in a scale of 1 to 5 that rates the significance of a grassland in terms of its cover, richness and rarity of plant species. The ranking system has been applied to all remaining lowland grasslands within the ACT and a BSR of 3 is generally associated with an area that has been moderately altered due to past disturbance, contains a high cover of native grasses with a medium diversity of native species including mostly disturbance tolerant species and few uncommon species (Ref. 10). The south-eastern patch contains a slightly greater diversity of native species than the patch in the central north (Ref. 8).
The proposed development would result in the loss of the entire natural temperate grassland in the south-eastern part of the area and approximately half of the patch in the northern part of the site with the remainder of the grassland to be retained within a 30 metre ecological buffer zone that is to be located along the northern boundary of Lawson South (Ref. 3). The development of Lawson South would have a significant impact on the endangered natural temperate grassland patches within the development area, however, when considered in the regional context, the impact on this endangered ecological community would be minor. The Commonwealth land that borders the area to the north contains approximately 120 hectares of high quality natural temperate grassland that would not be directly or indirectly affected (see Section 3.1 (g)) by the proposed action. The natural temperate grassland on the Commonwealth land contains the threatened plant species, Ginninderra peppercress (*Lepidium ginninderrense*), and provides habitat for the golden sun moth and the striped legless lizard. The loss of natural temperate grassland within the proposed development area represents approximately one percent of the total community within the entire area of Lawson.

The proposed action would not substantially reduce the extent of the natural temperate grassland across the ACT which has conserved areas of high quality natural grassland in nature reserves throughout the Territory, and would not fragment the larger higher quality natural temperate grassland within the Commonwealth land. The proposed development of Lawson South is not considered to have a significant impact on the endangered ecological community, Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory.

**Box – gum woodland**

Prior to European settlement, it is likely that yellow box – red gum grassy woodland would have covered a large portion of the lower slopes within the proposed development area, particularly the eastern and western lower slopes of Reservoir Hill (Ref. 8). This community is listed as endangered under the ACT *Nature Conservation Act* and also forms part of the White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands community which is listed as critically endangered under the *EPBC Act*.

Figure 3 shows the location of the existing remnant yellow box – red gum woodland trees within the area. The original assessment of the area (Ref. 8) did not consider these trees to be part of the endangered ecological community because of an understorey (groundcover) of mostly exotic species with some disturbance tolerant forbs. A field inspection in February 2010 supported this conclusion, however, the groundcover appeared to have improved in condition since the original inspection (Ref. 9), a trend that is common across many parts of the ACT over recent years. The composition of the groundcover vegetation is now predominantly native and there are numerous patches of young tree regeneration. The area, however, remains with a low diversity of forb species and the regeneration does not meet the *EPBC Act* criterion of being at least 15 cm circumference at 130 cm above the ground (Ref. 11). The remnant yellow box – red gum grassy woodland does not meet the criteria for the critically endangered White Box – Yellow Box – Blakely's Red Gum grassy woodlands and derived native grasslands ecological community, hence there would be no impact on that endangered ecological community.

A selected area containing remnant yellow box and Blakely's red gum trees in the southern part of this patch would be retained and incorporated into an area of open urban space within the future Lawson South suburb (see Figure 3).

**Golden sun moth**

The golden sun moth, listed as critically endangered under the *EPBC Act*, is present in low to moderate numbers across the Lawson South area. Figures 4 (Ref. 8) and 5 (Ref. 12) show the distribution of moths across the area gathered from data collected during surveys that were conducted in 2007 and 2009 respectively. The figures generally represent the distribution of male
flying moths which appear to be associated with native pasture and natural temperate grassland. One female moth was recorded in the central part of the area during each of the 2007 and 2009 surveys, indicating that at least part of this area contains breeding habitat for this species. The total general area in which golden sun moth was recorded during either or both of these surveys covers approximately 37 hectares (Ref. 9). This equates to 37 percent of the Lawson South area.

Lawson South is located adjacent to the Commonwealth land that contains mostly natural temperate grassland which supports an extensive population of the golden sun moth (Ref. 10). It is likely that the population of the golden sun moth in Lawson South is connected to this population although the quality of habitat within the Lawson South development area is much lower.

The factors relating to the golden sun moth at Lawson South and the impacts of development on this species are summarised as follows (Ref. 9):

- There is a low level of golden sun moth activity but it is spread over a large proportion of the area.
- Subject to appropriate management of a sufficiently large area, Lawson South appears to be at least moderately viable as golden sun moth habitat.
- The general ecological quality of the golden sun moth habitat varies between native pasture and secondary native grassland with low to moderate forb diversity.
- There are no special scientific or cultural attributes associated with golden sun moths in the area.
- A high proportion of the area is likely to be affected by the proposed development, although some small patches may be retained as suitable habitat.
- Where habitat is disturbed, it is likely to be completely removed.
- The geographical context of the area would leave any remaining habitat largely surrounded by development, although there is the possibility of habitat at the northern edge being linked with the grassland habitat within the Commonwealth land.

These factors are considered in the context of assessing the impacts on the golden sun moth in the specific context of the Canberra area, using a methodology developed for this purpose (Ref. 13). Applying that methodology, it is considered that the impact on the golden sun moth in Lawson South would be considered significant at the local level in the context of the EPBC Act, as a high proportion of moderate quality habitat supporting a low density population of golden sun moth would be removed. While low numbers of golden sun moth may remain in remnant grassland (eg. along the northern border of the area), these may not maintain a viable population in the long term, unless the habitat quality of these remnants is enhanced.

At the strategic level within the ACT, however, the impact of the Lawson South development on the golden sun moth is not considered significant for the following reasons:

- While it extends over a relatively large area, the golden sun moth density or activity level within Lawson South is relatively low, and the habitat quality is at best only moderate.
- The natural temperate grassland in the Commonwealth land in the northern part of Lawson is planned to be retained in Draft DCP No. 171/10/0003 (Ref. 1). This natural temperate grassland is likely to be more significant as golden sun moth habitat, as well as for other native grassland values.
- The reduction in golden sun moth numbers resulting from the Lawson South development would have only a minor impact on the population in the Canberra area or in this part of Belconnen, particularly with a viable population being maintained within the Commonwealth land.
**Striped legless lizard**

The striped legless lizard, which is listed as vulnerable under the *EPBC Act*, is generally found in natural temperate grasslands that are dominated by tussock forming grasses such as kangaroo grass (*Themeda triandra*), spear grass and wallaby grass (Ref. 10). It has not been recorded within the Lawson South development area, despite several searches, but has been found in dry *Themeda* grassland adjacent to the area in the eastern part of the Commonwealth land in 2002 (Ref. 8). This area is identified as striped legless lizard in the Lowland Native Grassland Conservation Strategy Action Plan No. 28 (Ref. 10). There is a narrow strip of native pasture covering 2.4 ha between this dry *Themeda* grassland and Baldwin Drive which has been described as potential habitat for the striped legless lizard (Ref. 8), but previous surveys have not located the species within that area and it was not identified as habitat in Action Plan No. 28 (Ref. 10).

While there are no records of the striped legless lizard within Lawson South, it is not possible to be definitive that the species is absent (Ref. 8). If present it is likely to be restricted to areas of natural temperate grassland and native pasture, and would not be considered an important population in the context of the *EPBC Act*. The development of Lawson South would therefore not result in a significant impact on the species. Important populations for the species occur in Gungahlin where three nature reserves containing natural temperate grasslands have been set aside for the specific purposes of conserving several threatened species including the striped legless lizard.

**Regent honeyeater**

The regent honeyeater is listed as endangered and migratory under the *EPBC Act*. The species has previously been recorded within 2km of the proposed development area (Ref. 8) and is generally associated with flowering yellow box and Blakely’s red gum trees (Ref. 14). The remnant yellow box – red gum woodland on the western lower slopes of Reservoir Hill contains habitat characteristics suitable for the species but there are no reported sightings within the site or in the adjacent Commonwealth land to the north.

The proposed development would not have a significant impact on the regent honeyeater. Within the ACT, the species appears to prefer the yellow box – red gum grassy woodland along the lower slopes of Mount Ainslie and Mount Majura which are approximately 8km south-east and 7km east of the site respectively. It has also been recorded in the Mulligans Flat Nature Reserve (Ref. 14) which is 8.5km north-east of the site. In any case, trees that have been identified as being high value within the development site would be retained wherever possible (Ref. 3). This would include some yellow box and Blakely’s red gum trees in the central part of Lawson South that could provide refuge for the species within the urban environment.

### 3.1 (e) Listed migratory species

The 2008 ecological report for the Lawson South Planning Study (Ref. 8) identified three species listed as migratory under the *EPBC Act* that were considered likely or potentially likely to occur at the site, namely:

- the white-bellied sea-eagle (*Haliaeetus leucogaster*)
- the great egret (*Ardea alba*); and
- the cattle egret (*Ardea ibis*).

**Nature and extent of likely impact**

Suitable foraging habitat for the white-bellied sea-eagle is present on Lake Ginninderra and surrounding terrestrial areas located to the immediate west of Lawson south. The species is unlikely to breed at the site or in the vicinity of Lake Ginninderra because of frequent disturbance from recreation activities.

Habitat for the great egret is likely to be restricted to the foreshores of Lake Ginninderra and to a lesser degree, College Creek in the western part of the area.
Much of the area is likely to provide potential habitat for the cattle egret as this species is able to exploit pasture for foraging and is often associated with cattle.

While there is potential for these species to utilise the area from time to time, the area is considered highly unlikely to support an ecologically significant proportion or provide important habitat for any of these species.

3.1 (f) Commonwealth marine area

The action does not affect Commonwealth marine areas.

3.1 (g) Commonwealth land

Description
Commonwealth land, managed by the Department of Defence, is located adjacent to the area to the north. The land is the former site of the Belconnen Naval Transmitting Station (BNTS) and comprises 143 hectares, 115 hectares of which is located within a secure fenced area. The site contains natural temperate grassland, which is planned to be retained in the current draft DCP for the land, and supports a core population of the golden sun moth within the ACT. From an ecological perspective this grassland is considered to be one of three such sites in the ACT that has a high Botanical Significance Rating (2) and is over 50 hectares in size (Ref. 10).

Nature and extent of likely impact
The Commonwealth land would not be directly impacted on as a result of the residential development of Lawson South, however, given the close proximity of this land to the development area, there is potential for it to be adversely impacted upon in the long term.

The most likely potential adverse impacts relate to possible alterations in water runoff patterns throughout the Commonwealth land and the risk of introducing weeds to the high quality natural temperate grassland in the Commonwealth land through invasion by garden escapees planted in Lawson South. Using the criteria set out in Policy Statement 1.2 (Ref. 15), the severity of these impacts have been assessed as being minor. While the proposed action would result in continuous, long term impacts, these would be low intensity and localised, and would be mitigated through the appropriate planning and design of Lawson South. This includes managing stormwater runoff. Currently untreated stormwater from the adjacent suburb of Kaleen is piped under Baldwin Drive, traverses the north-eastern corner of Lawson South and enters the south-eastern section of the Commonwealth land. Development at Lawson South proposes to capture this stormwater as it enters the proposed suburb and treat it to national best practice levels via two constructed wetlands prior to release. In addition, a 30 metre wide buffer will be introduced on the northern boundary of Lawson South to protect the ecological values of the Commonwealth land.

According to the EPBC Act Policy Statement 1.2 (Ref. 15), any impact on Commonwealth land is considered significant if there is a real chance or possibility that the action will (inter alia):

- introduce potentially invasive species; or
- measurably reduce the quantity, quality or availability of surface water or groundwater.

The Commonwealth land is located within a highly developed urban setting and, to date, has managed to maintain its high quality ecological characteristics despite being surrounded on three sides by residential suburbs. The potential to introduce invasive species is no greater than that which currently exists in the area and the development would not alter the hydrology of the Commonwealth land as much of the development area, with the exception of the north-east corner, drains away from the Commonwealth land and directly into Lake Ginninderra.

The proposed action would therefore not significantly impact upon Commonwealth land.
3.1 (h) The Great Barrier Reef Marine Park

The action does not affect the Great Barrier Reef Marine Park.

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

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3.3 Other important features of the environment

3.3 (a) Soil and vegetation characteristics

Much of the vegetation and soil of the Lawson South area has been modified by a long history of agricultural use. The area contains a diverse range of vegetation communities including degraded native pasture, native pasture, modified remnant yellow box - red gum grassy woodland, broad-leaved peppermint - apple box tableland woodland, forward plantings of native and exotic tree and shrub species, riparian vegetation and two small patches of natural temperate grassland. With the exception of the natural temperate grassland, most of the area contains a low component of native forbs. Weeds that are common throughout the area include serrated tussock (*Nassella trichotoma*), St Johns wort (*Hypericum perforatum*), saffron thistle (*Carthamus lanatus*) and catsear (*Hypochaeris radicata*). In the eastern part of the area, woody weeds such as Nepal firethorn (*Pyracantha crenulata*) are common.

3.3 (b) Water flows, including rivers, creeks and impoundments
College Creek begins as an open defined watercourse in the eastern part of the area and runs adjacent to Ginninderra Drive before running through the proposed development site in a north-west direction. The creek is generally slow flowing and receives water from Kaleen, the University of Canberra and other parts of Bruce. It also receives water from the south-east corner of the proposed development area.

The land between the eastern ridgeline and the lake is gently undulating and contains drainage gullies that meander westward to the lake. East of the ridgeline, a small ephemeral drainage channel drains parallel with Baldwin Drive and south to Ginninderra Drive (Ref.3).

3.3 (c) Outstanding natural features, including caves

Reservoir Hill and the ridgeline in the south-eastern corner of the proposed Lawson South estate are highly visible from many surrounding areas and provide views in all directions across Canberra and the ACT including Lake Ginninderra and Belconnen Town Centre, Black Mountain and the Brindabella Range in the distance to the west. The hill and ridgeline would be incorporated into the public open space network for use by residents and visitors. There are no other outstanding natural features within the Lawson South area.

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

The proposed development area ranges in slope of between 2 and 20 percent. The majority of the area contains gentle foothill slopes that are gently undulating and range between 2 and 4 percent. The slopes on Reservoir Hill are generally between 8 and 12 percent, increasing to between 15 and 20 percent at the Ginninderra Drive side.

3.3 (e) Buildings or other infrastructure

The ActewAGL electricity substation is located in the south-western part of the area. 132 kV overhead transmission lines traverse the southern boundary of the Lawson South and 11kV overhead transmission lines are located between the ridge line and Baldwin Drive.

A major survey control mark known as ‘Reservoir Trig’ is located on Reservoir Hill. There are a number of heritage buildings on the adjacent Commonwealth land site that would not be directly or indirectly impacted on as a result of the proposed development.

3.3 (f) Marine areas

Not relevant

3.3 (g) Kinds of fauna & flora

The faunal diversity of the area is low, with common birds, rabbits, brown hares and foxes being the only vertebrate animals observed during all site inspections (Ref. 8 and 9).

A range of vegetation communities are present throughout the area containing a mixture of native and introduced vegetation. With the exception of the two isolated patches of natural temperate grassland, there is a limited number and diversity of forb species across the area, which is indicative of its past grazing history.
3.3 (h) Current state of the environment in the area

Since the initial ecological assessment was completed in 2008, the cover of native vegetation within the Lawson South development area appears to have increased (Ref. 9). This is consistent with many sites across the ACT and was most obvious in those areas in the western part of the site and on the upper slopes of Reservoir Hill that were previously mapped as exotic pasture. While these areas remain in a degraded condition, they now contain a component of native grass species, particularly spear grasses (*Austrostipa* spp.).

College Creek, the major drainage feature within the area, contains a mixture of native and introduced vegetation. The creek banks are generally stable in the eastern part of the area but are deeply incised in some places in the western part. The common eastern froglet (*Crinia signifera*), a common ACT frog species, was heard in the creek at the eastern part of the area during a previous site inspection.

The site contains a large number of trees that have been identified in the tree assessment survey as being high value and a number of trees have been identified as being suitable for retention and protection (Ref. 3). Some of these trees are located within the area that is identified as remnant box – gum woodland trees in Figure 4. It is proposed to retain several remnant woodland trees that are present in the southern part of this patch as part of the open space network.

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

A historic windbreak of *Pinus radiata* is located on the highest part of the area on the ridgeline to the north of the peak of Reservoir Hill. The windbreak was planted in 1939 when the Belconnen Naval Transmission Site was established. A pre-c.1915 travelling stock route is located in the western part of Lawson South and runs through the area in a north-south direction. Both of these features would be retained and incorporated into the open space network of Lawson South.

Commonwealth land containing an area of high value grassland is located adjacent to the area to the north. This is discussed in Section 3.1 (g).

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

The area is Territory land which has been withdrawn from lease pending development.

3.3 (k) Existing land/ marine uses of area

The majority of the land (96.6 ha, Block 2 Section 13) proposed for development is currently grazed under an informal agreement. The other major land use is the ActewAGL substation in the south-western part of Lawson South.

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

Urban development. It is proposed to develop approximately 42 hectares of the land and retain 58 ha for non urban land use. This is 26 hectares less than the original planned developable area of 68 hectares and has been reduced to ensure the ecological features of the land and adjacent land are maintained along with any other significant features, such as Reservoir Hill and the historic pine windbreak. The formal land use designation of most of the project area under the Territory Plan is for low density residential accommodation and urban open space zone. The area is currently the subject of a draft variation to the Territory Plan to allow medium and high density housing within the suburb. Provision is also made in the Territory Plan for the ongoing operation of the electrical zone substation within the area.
4 Measures to avoid or reduce impacts

The primary impacts relevant to the matters protected under the EPBC Act relate to the loss of a small area of natural temperate grassland, listed as an endangered ecological community under the Act and the loss of potential habitat for the critically endangered golden sun moth. The indirect impacts on the high quality natural temperate grassland and golden sun moth habitat adjacent to the area within the Commonwealth land are also considered.

The following measures have been incorporated into the Draft Precinct Code to avoid and reduce the impacts of the development:

- The establishment of a 30 metre wide ecological buffer zone along the northern site boundary within Lawson South. The buffer zone would serve three main purposes:
  - Preserve the golden sun moth in Lawson South by retaining potential habitat including part of the natural temperate grassland in the central northern part of the area.
  - Provide a buffer to protect the ecological values of the Commonwealth land, particularly the high quality of the natural temperate grassland and the integrity of the habitat for golden sun moth.
  - Function as a potential refuge for golden sun moth (and other fauna) in the event of ecological disturbance on the Commonwealth land (Ref. 3). Since the completion of the Lawson South Planning Study, however, the draft DCP (Ref. 1) for the Commonwealth Land has been released and indicates a substantial proportion of the existing natural temperate grassland containing golden sun moth habitat would remain undeveloped and be set aside for nature conservation.

- Appropriate placement and use of native species in the landscaping of the future suburb. This would include no tree planting in areas of close proximity to the natural temperate grassland, the use of native species in suitable public planting areas to increase the likelihood of the golden sun moth and other native animal species being able to find suitable habitat within the new suburb and the re-establishment of native grass cover between the edge road and the boundary fence (i.e. within the buffer zone) using seed collected from the adjacent grassland in the Commonwealth Land.

- A proposed enforcement of the ACT Government’s cat containment policy for residents of Lawson South as outlined in Draft Variation to the Territory Plan No. 299 (Ref. 4).
5 Conclusion on the likelihood of significant impacts

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

X Yes, complete section 5.3

No, complete section 5.2

5.2 Proposed action IS NOT a controlled action.

5.3 Proposed action IS a controlled action

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)
X 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)
- 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)

The proposed development of the residential suburb of Lawson South is considered to be a controlled action due to the potential impact the proposed development of Lawson South may have on the critically endangered golden sun moth. The assessment has been made on a precautionary basis which acknowledges that the action does meet certain criteria outlined in the relevant Significant Impact Guidelines. These guidelines include the EPBC Act Policy Statement 1.1 – Matters of National Environmental Significance (Ref. 16) and EPBC Act Policy Statement 3.12 – Significant Impact Guidelines for the critically endangered golden sun moth (Ref. 17).

EPBC Act Policy Statement 1.1 states that an action is likely to have a significant impact on a critically endangered species if there is a real chance or possibility that it will (inter alia):

- lead to a long-term decrease in the size of the population;
- reduce the area of occupancy of the species; or
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline.

The residential development of Lawson South encompasses an area of approximately 100 hectares and the golden sun moth is present across much of this area. The proposed development would result in the removal of a large amount of vegetation that appears to support the species and would therefore reduce the area of occupancy of the species, potentially leading to a long-term decrease in the size of the population.
**EPBC Act** Policy Statement 3.12 identifies the significant impact threshold for the golden sun moth that is present in a large or continuous habitat area of greater than 10 hectares to be habitat loss, degradation or fragmentation of an area greater than 0.5 hectares. According to these guidelines, the impact is considered to be significant as the proposed action would result in the removal of more than 0.5 hectares.

Policy Statement 3.12 states that significant impact judgements must be made on a case by case basis and with consideration for the context of the action. A significant impact is one which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. You should consider all of these factors when determining whether an action is likely to have a significant impact on matters of national environmental significance (Ref. 17).

Section 3.1 (d) summarised the factors relating to the golden sun moth at Lawson South and the impacts of development on this species in the specific context of the Canberra area and using a methodology that has been developed for this purpose (Ref. 13). This assessment concluded that the development would result in impacts that would be considered significant in the local context, however these impacts would not be significant at a strategic level within the ACT.

Based on surveys undertaken in 2007 and 2009, the Lawson South area contains low to moderate levels of golden sun moth activity. The site contains one of nearly 60 known populations across Canberra and borders high quality grassland that supports a core population of golden sun moth in the ACT. A proposed conservation strategy for the golden sun moth in Canberra was prepared in early 2009 (Ref. 18) and is in the process of being updated because of the large number of additional golden sun moth sites that were identified in late 2009. The main thrust of the strategy, however, is still relevant in identifying the priorities for golden sun moth conservation in the ACT.

In the context of that conservation strategy and the assessment of significant impacts in the context of the Canberra area, the impact of the Lawson South development on the golden sun moth is not considered significant. The presence of good quality habitat immediately adjacent to the area, along with the large and growing number of sites in the Canberra area, means that any reduction in site area or moth numbers within Lawson South would have a very minor impact on the total ACT population or the ability of the species to remain viable in the ACT region.

In the case of the natural temperate grassland, the proposed action would reduce the extent of the endangered ecological community and, according to criteria in Policy Statement 1.1, would therefore result in a significant impact on community. The total amount of natural temperate grassland within the proposed development area is approximately 1 hectare. In the wider context, the loss or reduction in size of two very small patches of natural temperate grassland would have a negligible impact on the endangered ecological community given the large area of high quality grassland in the Commonwealth land adjacent to the area and the presence of grassland conservation reserves throughout the entire ACT.

The proposed development area is adjacent to Commonwealth land and therefore may have the potential to impact on that land, particularly the ecological values of the land. These potential impacts include changes in hydrology and the potential introduction of invasive species and have been assessed to be minor in accordance with Policy Statement 1.2 (Ref. 15). The proposed action would not result in a significant impact on the adjoining Commonwealth land.

Based on the stated intention of the National Capital Authority that the majority of the Commonwealth land in the northern part of the Lawson would remain as a grassland nature reserve (Ref. 1), this would offer the opportunity for managing the grassland to enhance it both as a natural temperate grassland community and as golden sun moth habitat, potentially offsetting the impacts of
developing Lawson South. As it is Commonwealth land, however, such action is not within the power of the ACT Government at the present time although it is understood this situation may change shortly. Other potential offset options on Territory land outside the Lawson area would need to be addressed in the context of a broader strategy for golden sun moth conservation in the Canberra area.

In summary, the main reason for considering the development of Lawson South to be a controlled action is that it is likely to result in the loss of golden sun moth habitat. While this may result in a significant impact on the species in the local environment within Lawson South, it is not considered significant at a strategic level within the ACT or nationally.
### 6 Environmental history of the responsible party

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<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>6.1 Does the party taking the action have a satisfactory record of responsible environmental management?</td>
<td>X</td>
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**Provide details**

All proposals by the Land Development Agency are subject to detailed environmental analysis and planning, and are reviewed under ACT and Commonwealth environmental assessment procedures.

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<tr>
<td>6.2 Has the party taking the action 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?</td>
<td>X</td>
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</table>

**If yes, provide details**

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<th></th>
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<tr>
<td>6.3 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?</td>
<td>N/A</td>
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**If yes, provide details of environmental policy and planning framework**

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<tr>
<th></th>
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<tbody>
<tr>
<td>6.4 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?</td>
<td>X</td>
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</table>

**Land Development Agency**

**Provide name of proposal and EPBC reference number (if known)**

- Dunlop 5 (West) residential development, ACT. (EPBC Ref. 2007/3302)
- Block 17, Section 102, Symonston, ACT. (EPBC Ref. 2007/3554)
- Bonner residential development, Stages 1, 2 and 3, Gungahlin, ACT. (EPBC Ref. 2008/4036).
- Hume West industrial estate. (EPBC Ref. 2009/4766)
- North Weston residential development, ACT. (EPBC Ref. 2009/4752)
- Bonner Stage 4, Gungahlin, ACT. Site servicing and land release (EPBC Ref. 2009/4816)
7 Information sources and attachments

7.1 References


2. ACT Government. *Territory Plan*.  

   http://www.actpla.act.gov.au/topics/significant_projects/planning_studies/lawson_planning_study


### 7.2 Reliability and date of information

The ecological and general environmental information used to support this referral was obtained largely from the Environmental Studies Report, dated May 2008 (Ref. 7), which was compiled through field surveys undertaken between December 2007 and January 2008. To confirm the information provided in this report is still accurate and current, a field survey was undertaken on 22 February 2010 and a supplementary report was prepared to identify any apparent changes in the ecological characteristics of the area over the intervening two year period (Ref. 8). While the site experienced some changes that may have implications in relation to ACT legislation, there were no changes within the site that are considered to be of consequence in relation to the EPBC Act. Surveys for the golden sun moth at the site were undertaken in 2007 as part of the Environmental Studies Report (Ref. 7) and in 2009 as part of a wider study which examined the presence of golden sun moth at many sites across Canberra.

The background information in the golden sun moth strategy paper (Ref. 18) is current as of February 2009, but does not include approximately 20 additional golden sun moth sites reported during late 2009. Even if those sites were included, it is unlikely to provide a comprehensive list of all of the sites in the Canberra area supporting golden sun moth populations, as there are many potential habitat sites which have not yet been surveyed under suitable conditions.
### 7.3 Attachments

<table>
<thead>
<tr>
<th><strong>You must attach</strong></th>
<th><strong>Title of attachment(s)</strong></th>
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<tbody>
<tr>
<td>figures, maps or aerial photographs showing the project locality (section 1)</td>
<td>✓</td>
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<tr>
<td>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)</td>
<td>✓</td>
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<tr>
<td>copies of any state or local government approvals and consent conditions (section 2.3)</td>
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<tr>
<td>copies of any completed assessments to meet state or local government approvals and outcomes of public consultations, if available (section 2.4)</td>
<td></td>
</tr>
<tr>
<td>copies of any flora and fauna investigations and surveys (section 3)</td>
<td>✓</td>
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<tr>
<td>technical reports relevant to the assessment of impacts on protected matters and that support the arguments and conclusions in the referral (section 3 and 4)</td>
<td>✓</td>
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<tr>
<td>report(s) on any public consultations undertaken, including with Indigenous stakeholders (section 3)</td>
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# 8 Contacts, signatures and declarations

**Project title:** LAWSON SOUTH RESIDENTIAL DEVELOPMENT, BELCONNEN, ACT

## 8.1 Person proposing to take action

<table>
<thead>
<tr>
<th>Name</th>
<th>Chris Reynolds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>General Manager Development</td>
</tr>
<tr>
<td>Organisation</td>
<td>Land Development Agency</td>
</tr>
<tr>
<td>ACN / ABN (if applicable)</td>
<td>20 419 925 579</td>
</tr>
<tr>
<td>Postal address</td>
<td>Level 6, TransACT House</td>
</tr>
<tr>
<td></td>
<td>470 Northbourne Avenue</td>
</tr>
<tr>
<td></td>
<td>DICKSON ACT 2602</td>
</tr>
<tr>
<td>Telephone</td>
<td>62075432</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:chris.reynolds@act.gov.au">chris.reynolds@act.gov.au</a></td>
</tr>
<tr>
<td>Declaration</td>
<td>I declare that the information contained in this form is, to my knowledge, true and not misleading. I agree to be the proponent for this action.</td>
</tr>
<tr>
<td>Signature</td>
<td>[Signature]</td>
</tr>
<tr>
<td>Date</td>
<td>22-6-10</td>
</tr>
</tbody>
</table>

## 8.2 Person preparing the referral information (if different from 8.1)

<table>
<thead>
<tr>
<th>Name</th>
<th>David Hogg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Director</td>
</tr>
<tr>
<td>Organisation</td>
<td>David Hogg Pty Ltd</td>
</tr>
<tr>
<td>Postal address</td>
<td>PO Box 213, Jamison Centre, ACT 2614</td>
</tr>
<tr>
<td>Telephone</td>
<td>02 – 6251 3885</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:dhpl@bigpond.com">dhpl@bigpond.com</a></td>
</tr>
<tr>
<td>Declaration</td>
<td>I declare that the information contained in this form is, to my knowledge, true and not misleading.</td>
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<td>Signature</td>
<td>[Signature]</td>
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<tr>
<td>Date</td>
<td>22-6-10</td>
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</table>
Figure 1. Location
Figure 2. The Lawson South study area

- COMMONWEALTH LAND
  (former Belconnen Naval Transmitting Station)
- TERRITORY LAND
- Lawson South study area
- Reservoir Hill
- College Creek
- Lake Ginninderra
- Baldwin Drive
- Ginninderra Drive

Base map produced from ACTMAPi
Figure 3. Draft LDA masterplan
Figure 4. Ecological features within the study area: Natural temperate grassland, Remnant box-gum woodland trees.
Lawson Environmental Studies

GSM Survey Results

Legend
- Study Site

No. GSM individuals

GSM
- 0
- 1 - 2
- 3 - 4
- 5 - 6
- 7 - 16

Source: Ref. 7

Figure 5. Golden sun moth records in Lawson South in 2007
Figure 6. Golden sun moth records in Lawson South in 2009