



Lot 11 in DP 229784 Templar Road
Erskine Park

Proposed Industrial Development

Flora & Fauna Assessment Report

April 2008



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ERSKINE PARK**

PROPOSED INDUSTRIAL DEVELOPMENT

FLORA & FAUNA ASSESSMENT REPORT

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PART A

INTRODUCTION & INFORMATION BASE

1 INTRODUCTION

1.1 Background

The site that is the subject of this *Flora & Fauna Assessment Report* is Lot 11 in DP 229784 Templar Road, Erskine Park (Figure 1).

The subject site is located in the Local Government Area (LGA) of Penrith City Council within the *Erskine Park Employment Area* (EPEA). The site is located to the immediate north of the Sydney water pipeline, to the east of Mamre Road and immediately south of the CSR industrial development at Erskine Park. The subject site occupies a total area of 4.2ha, and is zoned 4(e1) – *Employment Restricted* pursuant to the *Penrith Local Environmental Plan 1994* (LEP 1994).

The subject site at Erskine Park is a relatively small triangle of land which has long been cleared for agricultural purposes. Lands to the south of the subject site (beyond the Sydney Water Pipeline) are also cleared agricultural lands, and land to the immediate north has recently been cleared and is being developed for industrial purposes (Figure 1). Land to the immediate west contains disturbed and regenerating woodland vegetation, and a small portion of the CSR lands (to the immediate northeast of the subject site) also contain regenerating woodland.

1.2 Definitions

The definitions for relevant terms employed in this *Report* are:

- “*subject site*” Lot 11 in DP 229784 Templar Road, Erskine Park;
- “*study area*” the “*subject site*” and an area approximately 5km around the land, including all of the EPEA; and
- “*locality*” an area of 10km radius around the “*subject site*”.

Other terms used in this *Report* conform to the definitions contained in the relevant legislation and planning instruments (see below).

1.3 Proposed Development

The proposal for the subject site is for the construction of an industrial warehouse facility with associated office space, car parking and stormwater treatment facilities (Figure 2). The warehouse facility, car parking and truck turning areas will occupy the majority of the subject site, with drainage swales, a detention basin (a rain garden) and landscaping along the peripheries of the subject site and in the northwestern corner.

As noted above, land to the immediate north (the CSR site) is currently being developed for industrial purposes (Figure 1). Part of that development includes the construction of a 40m wide watercourse across the southern boundary of the CSR site (immediately north of the subject site) for the

conveyance of stormwater and for the provision of a revegetated riparian zone. That feature will provide a vegetated link between the regenerating woodland to the northeast of the subject (also on the CSR site) and regenerating woodland to the west of the subject site.

1.4 Scope and Aims of this Report

As noted above, this project is the subject of consideration pursuant to Part 3A of the *Environmental Planning & Assessment Act 1979* (EP&A Act). In that regard, the proposal is the subject of an *Environmental Assessment* prepared in accordance with the *Director General's Requirements* (DGRs) which have been provided pursuant to Part 3A of the Act.

This *Report* has been prepared in order to satisfy the requirements contained in the DGRs for the proposed development, in particular with respect to the potential for impacts to be imposed upon the natural environment in general and on threatened biota and their habitats in particular, and to address the relevant *Guidelines* referred to in the DGRs.

The aims of this *Flora & Fauna Assessment Report* with respect to the subject site at Templar Road, Erskine Park are:

- to undertake surveys of the subject site to identify the flora and fauna species present or likely to occur on the site;
- to collate existing relevant information regarding the subject site and adjoining lands;
- to assess the likely impacts of industrial development of the site on the natural environment in general and on threatened biota in particular, including the potential for impacts arising from the road crossing of the watercourse to the immediate north and the potential for bushfire and/or bushfire protection impacts; and
- to address the requirements of the relevant statutes and planning instruments pursuant to Part 3A of the EP&A Act and the Director-General's Requirements for the Environmental Assessment:
 - the *Environmental Planning & Assessment Act 1979* (EP&A Act);
 - the *Threatened Species Conservation Act 1995* (TSC Act);
 - the *Penrith Local Environmental Plan 1994* (LEP); and
 - the *Penrith Development Control Plan 2006* (DCP).

2 INFORMATION BASE

Surveys of the subject site for flora and fauna and general environmental characteristics of the site have been undertaken by the author of this *Report* on a number of occasions over several years since 1999. A supplementary flora survey and a further site inspection were also undertaken in March 2008 to provide additional observations and flora records for this *Report*.

Information regarding relevant threatened and other native biota was also obtained from:

- previous investigations undertaken by Gunninah Environmental Consultants in the vicinity, including on the CSR lands to the north, the Austral land to the immediate west and the Emmaus College and Retirement Village site to the southwest;
- a check of the DECC¹ Wildlife Atlas records for the locality;
- inspection of the NPWS (2002) vegetation mapping of the locality; and
- the general published literature on threatened biota (see *Bibliography*).

¹ The DECC (Department of Environment & Climate Change) includes the National Parks & Wildlife Service (NPWS) and was previously the Department of Environment & Conservation (DEC).

Given the nature and condition of the subject site, and its small size and context, it is not considered either appropriate or necessary to conduct any further detailed surveys for native biota. In addition to the specific field investigations noted above, the site has been the subject of several inspections over a long period by the author of this *Report* (Mr F Dominic Fanning), and both the Austral land to the immediate west and the CSR lands to the immediate north have also been the subject of investigations and reporting by the author of this *Report* and his prior company (Gunninah Environmental Consultants 2000, 2001).

Assessment and analysis of the subject site and including the potential for adverse impacts upon native biota, the natural environment generally and threatened biota and their habitats is satisfactorily achievable, to an appropriate degree of certainty, on the basis of the collective information obtained from the March 2008 survey and investigations identified above.

3 EXISTING ENVIRONMENT

The subject site (Lot 11 in DP 229784 Mamre Road, Erskine Park) has long been cleared of native vegetation, and has been used for agricultural (particularly grazing) purposes over a period of at least 50 years (Mr J Waterhouse). The site supports only occasional scattered trees through the pasture and several small and isolated patches of eucalypt and native shrub regrowth (Figures 1 and 3).

Most of the vegetation on the subject site consists of a mixture of introduced pasture and some native groundcover species, as well as patches of Blackberry and other weeds. There is also some wetland and aquatic vegetation in the remaining parts of the decommissioned farm dam in the northwestern corner of the subject site, which has been drained. However, only relatively small areas of wetland vegetation and species associated with moist soils remain and these will vary dependent on levels of rainfall.

It is of particular relevance to note the context and circumstances of the subject site at Erskine Park:

- the Sydney water pipeline is located along the southern boundary of the subject site, in an easement which is entirely cleared of native vegetation and which is regularly maintained;
- to the south of the pipeline are extensive rural lands, the majority of which have been cleared for agricultural and grazing purposes over a long period (Figure 1);
- land to the immediate west of the subject site (the CSR land) support a modified woodland, parts of which had been cleared for agricultural purposes and/or had been slashed in relatively recent times. The western part of those lands are currently being cleared and developed for industrial purposes; and
- similar circumstances apply to the land immediate north of the subject site. The CSR lands to the north include substantial areas which had previously been cleared or had supported a degraded and modified woodland, but which are now entirely cleared and are being modified for industrial development purposes (Figure 1). Conversely, a patch of woodland is located on the CSR lands to the immediate northeast of the subject site, with part of that woodland abutting the site (in its eastern part).

4 FLORA and VEGETATION

4.1 Existing Vegetation

As noted above, the subject site has long been cleared of native vegetation, and is highly disturbed and modified as a result of routine agricultural activities over a long period (Figure 1).

There is no natural "*native vegetation*" on the subject site, and the prior woodland vegetation which would have been present is now represented only by scattered individual regrowth trees through the pasture and very small 'copses' or patches of regrowth woodland along the boundaries. The small patches of regenerating woodland, whilst possessing a partially native understorey, have been substantially modified and affected by cattle grazing and by the invasion of pasture grasses and pasture weeds. These areas, therefore, do not represent a natural woodland community, although they may in part be described as "*native vegetation*".

Vegetation within the area which was occupied by the decommissioned farm dam in the northwestern corner of the subject site includes a number of native wetland and aquatic species. These patches of moister vegetation are now restricted in extent, and in any case were clearly natural regeneration following construction of the farm dam for provision of water for stock on the subject site.

Pasture

The overwhelming majority of the subject site supports an introduced pasture dominated either by *Paspalum* (*Paspalum dilatatum*) or Kikuyu (*Pennisetum clandestinum*). A range of other common introduced pasture species are also present, as well as an array of native groundcover species (which dominate parts of the site).

The areas of quasi-natural grassland scattered through the grazing pasture are not remnant or “native vegetation”. The small patches of woodland trees or woodland copses include some native understorey, but are highly modified and degraded.

Wetland Vegetation

The decommissioned farm dam which has been located in the northwestern portion of the subject site (and which has recently been substantially drained) is now characterised by:

- patches of reeds and sedges in the small wet areas that remain after draining of the dam (*Eleocharis sphacelata*, *Juncus usitatus* and *Cyperus eragrostis*);
- generally very small areas of open water (following rainfall events) with a variable range of aquatic herbs (*Eleocharis sphacelata*, *Ludwigia peploides* subsp. *montevidensis*, *Persicaria decipiens*, *Alisma plantago-aquatica*, *Azolla pinnata*, *Myriophyllum variifolium*, *Pomatogeton tricarinatus*, *Juncus usitatus*, *Cyperus ergrostris*, *Triglochin microtuberosum* and *T. procera*); and
- patches of moist soil characterised by *Paspalum distichum*.

4.2 Plant Species

A total of 116 plant species have been recorded on the subject site at Erskine Park (Appendix A), of which 64 are native species and 52 are introduced and/or exotic weed species.

The majority of the native plant species recorded are common to widespread and abundant, and many occur regularly within highly disturbed or modified patches of grassland and regrowth woodland vegetation in western Sydney.

Similarly, many of the introduced plant species are common to abundant and widespread, and several of the species are invasive or are regarded as “noxious weeds” pursuant to the *Noxious Weeds Act 1993*.

No threatened plant species have been recorded on the subject site at Erskine Park.

4.3 Threatened Biota

The small areas of scattered trees and patchy understorey on the subject site do not represent an example of the Cumberland Plain Woodland (CPW) community, which is listed as an “*endangered ecological community*” on the TSC Act. Whilst that community is represented in western Sydney by vegetation ranging from small highly degraded stands of vegetation to larger more intact tracts of forest and woodland, the scattered trees on the site do not represent an intact natural or native ecosystem.

The DECC mapping of the site (NPWS 2002)² identifies a much larger area of vegetation than is currently present on the subject site or than was present prior to the recent industrial development activities in the vicinity (Figure 2). Given the scale at which the NPWS 2002 mapping was prepared, and its basis on somewhat aged aerial photography with only limited ground-truthing, that mapping provides only a broad scale and general indication of vegetation in the general locality.

² The NPWS (National Parks & Wildlife Service) is now part of the Department of Environment & Climate Change (DECC).

Further, even if the small 'copses' or patches of regrowth woodland on the subject site (particularly around its periphery) were deemed to constitute an example of the CPW community, those areas of vegetation are extremely small, modified and degraded, and do not represent meaningful or relevant examples of that "*endangered ecological community*". Those patches of vegetation are in poor condition, and have a poor long-term prognosis. These patches of vegetation would not (even if retained) provide any ecological benefit with respect to conservation of the CPW community, or of any other native biota.

Given the context of the site and the circumstances on surrounding lands, the very small patches of modified and degraded woodland on the subject site and/or the individual trees with associated native understorey, are of no biodiversity conservation value or relevance. There are two large patches of CPW vegetation (to the immediate west and immediate northeast of the subject site), and these represent appropriate sites for biodiversity conservation purposes, as identified in the *Biodiversity Management Plan* (BMP) for the EPEA. It is noted that the subject site is not identified as representing any part of a Biodiversity Corridor or conservation lands for the achievement of biodiversity conservation outcomes within the EPEA.

No threatened flora species have been recorded on the subject site, and none are considered likely to be present given its nature and condition.

5 FAUNA and FAUNA HABITATS

5.1 Fauna Habitats

The subject site provides only very limited habitats and resources for native fauna, and there are no special or significant features or habitat types present on the site. The pasture grassland which characterises most of the site is of no conservation significance, and provides habitat for only a limited number of fauna species typical of open habitats and/or urban environments.

The scattered trees and few small copses of trees do not constitute a true woodland community, and provide no particular resources or features of value. There is limited natural groundcover and debris present, and no tree-hollows of relevance or significance on the site or in the immediate vicinity.

The native fauna which may utilise the subject site at Erskine Park are common to abundant, and most are tolerant of urban and/or modified environments. The limited habitat types and resources present would severely restrict the suite of fauna species that could potentially use the subject site.

The decommissioned farm dam located in the northwestern portion of the site would previously have provided some localised habitat, particularly for amphibian and wetland bird species. However, all of the species likely to utilise this area of the site (particularly given the recent decommissioning of the site) are considered common and widespread, and there are no known populations or records of threatened amphibian or avian species in the immediate locality.

5.2 Fauna Species

A range of urban-tolerant bird species and other native fauna which characteristically use grassland and open woodland habitats have been recorded on or are likely to occur on the subject site, at least on occasions (Appendix B). Bird species such as the Kookaburra, Noisy Miner, Australian Magpie, Rainbow Lorikeet, Galah, Masked Lapwing, Magpie-lark and other species typical of western Sydney were recorded on the site or have been sighted on adjoining lands, and a range of other similar species are also likely to occur (as indicated in Appendix B).

The Eastern Grey Kangaroo and Swamp Wallaby have been recorded on adjoining lands, and would occur on the subject site as well. Given the nature of the subject site, however, it is unlikely that other native terrestrial mammal species would be present. No evidence of either the Common Brushtail or Common Ringtail Possums was recorded (not surprisingly given the scarcity of trees), but both species are likely to be presenting the larger tracts of woodland to the west and northeast, and both are likely to use trees on the site on occasions.

Conversely, several microchiropteran bat species are known to occur in western Sydney and could utilise the scattered trees and the grassland habitats for foraging purposes. However, the subject site does not support habitat or resources of particular relevance for any such species, as there are no tree-hollows of relevance or other suitable roosting structures present.

A few common reptiles typical of grassland and open woodland environments in western Sydney have been recorded or could occur on the subject site (Appendix B). No resources or habitat features for threatened reptile species are present, and no such species are likely to occur on the site.

The decommissioned farm dam would have provided habitat for several amphibians and wetland bird species which are common to abundant in western Sydney. Species recorded on the site or in the vicinity include the Common Eastern Froglet, Brown-striped Frog and Spotted Grass Frog (Appendix B). However, since its decommission and subsequent draining, the extent of potential habitat for such species has significantly declined. Only small areas of ephemeral water are now present, and only the more hardy and/or mobile aquatic species would be present on only an occasional basis.

5.3 Threatened Biota

Given the nature and condition of the subject site, and the habitats and resources present, it is not considered likely that any threatened fauna species would be reliant or dependent upon the site at Templar Road, Erskine Park.

No threatened terrestrial, arboreal or aquatic fauna species have been recorded on or are likely to occur on the subject site, other than as individuals or on occasions, given the nature and condition of the subject site and its context. No such species have been recorded on adjoining sites (*pers obs*; Gunninah 2000, 2001). Similarly, the Cumberland Land Snail has not been recorded on the subject site and is not considered likely to occur on the site, given the nature of the site and the modification to understorey and groundcover which has occurred over a long period.

The only threatened fauna species which are likely to occur on the subject site are individuals of some of the threatened microchiropteran bat species which are known to occur in western Sydney. These species are highly mobile and wide-ranging, and could potentially utilize the sparse tree canopy or the environs of the decommissioned farm dam for foraging purposes. Conversely, there are no tree-hollows present on the subject site and there is no likelihood that any such species (even if they do occur on the site on occasions) would be resident on or roost on the subject site at Erskine Park. Occasional individuals of a few threatened bird species could also theoretically be present on occasions.

6 IMPACT ASSESSMENT

6.1 General Considerations

The proposed development of the subject site at Erskine Park will involve the complete transformation of the subject site from its current agricultural nature (introduced pasture and disturbed areas) to an industrial development with extensive landscaping and water quality and flow control features. It is not proposed that any vegetation or any of the existing features of the subject site be retained, although it is proposed to provide a 'rain garden' and water detention feature in the northwestern part of the site and drainage swales along the northern boundary, all of which will feature native vegetation.

None of the vegetation present on the subject site is of biodiversity conservation value or significance, and no habitats or natural resources of relevance to threatened biota will be lost as a result of the development as currently proposed.

6.2 Part 3A of the EP&A Act

The *Director General's Requirements* (DGRs) for the Jacfin warehousing facility on the subject site at Erskine Park have been received from the Department of Planning (Appendix C). The DGRs were provided pursuant to Part 3A of the EP&A Act, and identify *inter alia* that the *Environmental Assessment* for the proposal must include:

- consideration as to whether the proposal would be "*likely to have a significant impact on matters of National Environmental Significance, pursuant to the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*";
- "*any relevant statutory provisions including the consistency of the project with the objects of the Environmental Planning and Assessment Act 1979*";
- "*a detailed assessment of the key issues*" specified in the DGRs, and "*any other significant issues identified in the general overview of environmental impacts of the project*". That assessment must include:
 - "*a description of the existing environment*";
 - "*an assessment of the potential impacts of all components of the project*"; and
 - "*a description of the measures that would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor the impacts of the project*".
- "*a draft Statement of Commitments, outlining environmental management, mitigation and monitoring measures*";
- assessment of impacts on flora and fauna including:
 - "*measures to minimise the impacts of the proposal on the recently approved Biodiversity Corridor in the Erskine Park Employment Area, particularly in relation to the proposed creek crossing*";
 - "*consideration of the need to offset any clearing on site and to enhance the Biodiversity Corridor*";
 - "*fire management procedures to minimise risks to the Biodiversity Corridor*".

With respect to the assessment of flora and fauna issues regarding the proposed development, the DGRs identify two *State Government Technical and Policy Guidelines* that need to be addressed:

- the *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities. Working Draft (DEC)*; and
- the *Draft Guidelines for Threatened Species Assessment Under Part 3A of the Environmental Planning & Assessment Act 1979 (DEC)*.

6.2.1 Objects of the EP&A Act

The relevant “objects” of the EP&A Act with respect to ecological issues are:

- “the proper management, development and conservation of natural and artificial resources .. for the purpose of promoting the social and economic welfare of the community and a better environment”;
- “the promotion and co-ordination of the orderly and economic use and development of land”;
- “the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats”; and
- the achievement of “ecologically sustainable development”.

The proposed development on the subject site at Templar Road, Erskine Park will involve the establishment of an industrial warehousing facility on a portion of land in western Sydney located at the periphery of the *Erskine Park Employment Area* (EPEA). As discussed in detail in earlier parts of this *Report*, the land which is proposed for development activities has long been used for agricultural purposes (in excess of 50 years), and currently represents a highly modified and degraded area of predominantly introduced grassland at the periphery of a major industrial and employment area. The subject site does not contain or support any habits or features which are of particular biodiversity conservation value or significance, and the development as proposed would not involve the loss of any habitats, resources or native biota of biodiversity conservation concern.

In particular, it has been determined (see previous chapters of this *Report*) that there are no threatened biota present or likely to be dependent on the subject site for their survival (even on an individual basis). Modification of the site as proposed would not involve the loss of relevant or significant habitat or resources for any threatened biota.

Given those considerations, the proposed development on the subject site at Templar Road, Erskine Park satisfies the “objects” of the EP&A Act, particularly with respect to the conservation of biodiversity in NSW, the protection and conservation of threatened biota and their habitats, and the achievement of “ecologically sustainable development” (ESD) outcomes.

In this latter regard, the proposed development does not contravene the *Precautionary Principle*, which is one of the underlying principles of ESD. There is no likelihood of the proposed development involving “threats of serious or irreversible environmental damage” and, in any case, the proposal incorporates appropriate “measures to prevent environmental degradation”.

6.2.2 Draft DECC Guidelines

The investigations of the subject site at Erskine Park, incorporating information from other sites in the vicinity, satisfactorily address the survey and assessment *Guidelines* for threatened biota prepared by the DECC.

Given the nature and condition of the subject site, and its context with respect to adjoining industrial developments and areas of native vegetation, and given the extent of investigations which have been conducted on adjoining properties (including *inter alia* by the author of this *Report*), assessment of the likely impacts of the proposal on threatened biota primarily on the basis of habitat assessment and analysis is considered an appropriate approach.

As noted elsewhere in this *Report*, the subject site does not support habitat or resources of likely value or significance for any threatened biota. Modification of the subject site for the industrial purposes proposed is not “likely” to impose a “significant effect” (if indeed any effect at all) upon any “threatened species, populations or ecological communities, or their habitats”. In this regard:

- the subject site is only a very small proportion of the general landscape, being only approximately 4.2 ha in total area;
- the subjects site is also highly modified from its original wooded condition, and consists

essentially of introduced pasture grassland with occasional scattered trees and a few small copses of native woodland regeneration;

- there are no resources or habitat feature of any particular value or significance for threatened (or other) native biota on the subject site in its current condition;
- the site is located the periphery of a substantial industrial development area, and does not contribute in a meaningful sense to any biodiversity conservation outcomes; and
- retained woodland vegetation to the west and northeast of the subject site, and the rehabilitated watercourse being constructed across its north (between those areas of retained woodland), satisfy the requirements of a Biodiversity Corridor as identified in the *Biodiversity Management Plan* (BMP) for the Erskine Park Employment Area (EPEA).

Given the nature, condition, size, context and circumstances of the subject site at Templar Road, Erskine Park, the *Guidelines for Threatened Species Assessment*, prepared by the Department of Environment & Conservation (DEC)³ and the Department of Primary Industries (DPI) for assessments pursuant to Part 3A of the EP&A Act, have been addressed above with respect to the assessment and evaluation of likely impacts of the proposed development.

As noted in earlier parts of this *Report*, the proposed development on the subject site at Erskine Park is not considered of concern with respect to threatened biota or their habitats, primarily because of the nature and condition of the site, and its current context.

Given those considerations, and particularly the lack of resources or habitat features of relevance for threatened biota, there is no requirement to “*avoid and mitigate*” impacts arising from the proposed development of the site on threatened biota. Appropriate management of development activities on the subject site is anticipated (as a standard environmental management measure) to prevent the discharge of contaminants or sediment into adjoining natural features, and the proposal incorporates measures for the ongoing management of stormwater discharges and water quality derived from the subject site.

As no threatened biota are considered likely to be adversely affected to a significant extent (if indeed at all) by the proposed development on the subject site at Erskine Park, there is no requirement to “*mitigate*” or “*offset*” any such impacts, including clearing of vegetation. In this regard, it is also to be noted that the subject site does not contribute in any relevant way to the Biodiversity Corridor which is being developed along the watercourse to the immediate north of the subject site between the retained woodland vegetation to the west and to the northeast. That Biodiversity Corridor has been identified in the BMP for the EPEA (Figure 4), and there is no requirement for the subject site to provide any element of that BMP. Nevertheless, the potential impacts of bushfire management and of the required watercourse crossing are considered below.

6.2.3 Bushfire and Creek Crossing Impacts

There is no requirement for the provision of measures to protect the Biodiversity Corridor from the possible impacts of bushfire emanating from the subject site, following development, as there will be no risk of bushfire on the site itself. Appropriate bushfire protection measures will be incorporated into any industrial activities on the site itself.

Furthermore, because of the separation of buildings on the subject site from bushland (either existing woodland to the west and northeast or rehabilitated vegetation along the watercourse to the north) by peripheral roads and parking areas, there is no requirement for the management of vegetation within those areas (including along the watercourse to the immediate north) to reduce the risk of bushfire impacts upon the development itself. Thus, the proposal will not affect the Biodiversity Corridor in respect of bushfire protection requirements.

The access road to the subject site from the end of Templar Road (located on the CSR lands to the north) will be via a crossing over the newly constructed watercourse which is located to the immediate north of the site (*ie* within the southern part of the CSR lands). The proposed crossing has been designed and located *inter alia* to incorporate several relevant elements:

³ The DEC is now the Department of Environment & Climate Change (DECC).

- the crossing is at the location of an existing riffle zone within that watercourse, constructed of rocks and river pebbles;
- the crossing includes four 2.4m x 2.4m concrete culverts which provide both for the transmission of floodwaters along the watercourse and for dry passage for terrestrial fauna during circumstances other than major floods;
- the provision of rock riffles both above and below the crossing, providing both scour protection of the watercourse and habitat for native biota (particularly aquatic invertebrates); and
- the crossing will be installed in consultation with the bush regeneration team working within the constructed watercourse to ensure that a satisfactory corridor of vegetation is maintained along the watercourse, to facilitate its function as a Biodiversity Corridor.

6.3 Environment Protection & Biodiversity Conservation Act

The *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act), of the Commonwealth of Australia, seeks *inter alia*:

- “to provide for the protection of the environment, especially those aspects of the environment that are *Matters of National Environmental Significance*”;
- “to provide ecologically sustainable development”; and
- “to promote the conservation of biodiversity”.

Implementation of the EPBC Act requires *inter alia* a consideration as to whether a development or activity is likely to impose adverse impacts on “*Matters of National Environmental Significance*” including *inter alia* listed threatened biota and migratory species.

The threatened biota and migratory species listed on the EPBC Act have been considered in the assessment of the likely effects of the proposed development at Templar Road, Erskine Park. Given the nature and condition of the subject site, its small size and its local context, it is not considered likely that an adverse impact would be imposed upon any “*Matters of National Environmental Significance*” listed on the EPBC Act. The site does not support habitat and resources of relevance for any of the listed threatened biota, and individuals of those migratory species listed on the EPBC Act which might occur on the subject site would only be present on occasions and on a transitory basis. The site does not support habitat or resources of relevance for the conservation of any such species.

Given those considerations, there is no relevant issue with respect to the EPBC Act. There is no proposal to or requirement for ‘referral’ of the proposed development to the Commonwealth for the purposes of assessment or for an approval by the Federal Minister for the Environment.

6.4 Penrith Local Environmental Plan 1994

The proposed development of the subject site is consistent with the matters raised in the *Penrith Local Environmental Plan 1994 (Erskine Park Employment Area)*⁴ with respect to biodiversity and riparian issues.

The proposed development does not contravene any of the intentions or aims of the LEP, and the relevant ecological matters are addressed below with respect to the *Penrith Development Control Plan* (DCP) 2006 and the *Biodiversity Management Plan* (BMP) which has been prepared for the Erskine Park Employment Area (EPEA).

⁴ LEP 1994 *Penrith Local Environment Plan 1994 (Erskine Park Employment Area)*

6.5 Penrith Development Control Plan 2006

The Penrith *Development Control Plan 2006* (the DCP) provides *inter alia* for a range of measures to achieve biodiversity and ecological outcomes within the EPEA. The biodiversity approach adopted in the DCP was predicated on the pre-existing *Biodiversity Conservation Strategy* for the EPEA, which had been based on previous documentation by Biosis Research.

Subsequent development activities on substantial areas of land within the EPEA (particularly the Austral site located to the immediate west of the subject site and the substantial CSR site to the immediate north of the subject site) have required amendments to the *Biodiversity Conservation Strategy* and approach adopted in the DCP. As a consequence of negotiations and consultations regarding various industrial developments within the EPEA, and on the basis of approvals which have been granted on both the Austral and CSR sites, a modified version of the *Biodiversity Strategy* has been developed for the EPEA which is known as the *Biodiversity Management Plan* (BMP).

The BMP for the EPEA, prepared by HLA Envirosciences in 2006 (Figure 4), has been adopted by Council and the Department of Planning (DoP) as the appropriate vehicle for the establishment and maintenance of biodiversity conservation values within the EPEA. That *Plan* includes *inter alia* the provision of a Biodiversity Corridor running in an east-west direction across the EPEA including:

- vegetation on the eastern part of the Austral site (to the immediate west of the subject site);
- vegetation along the unused road corridor (between the northwestern corner of the subject site and Mamre Road);
- a substantial area of vegetation on the CSR site (to the immediate northeast of the subject site); and
- the reconstructed and ultimately revegetated riparian watercourse along the southern side of the CSR site (to the immediate north of the subject site).

The BMP for the EPEA which has now been adopted identifies vegetated lands and other land which will contribute to the achievement of appropriate biodiversity conservation values within the EPEA (Figure 4). The accepted “*biodiversity areas*” within the EPEA do not include any portion of the subject site (Figure 4). That outcome is consistent with the lack of biodiversity conservation values within the subject site, as detailed in this *Report* (in Chapters 3, 4 and 5).

Development of the subject site at Templar Road, Erskine Park will not adversely affect the functioning of the Biodiversity Corridor as proposed in the BMP for the EPEA. As noted above, there will be no imposition of impacts for bushfire protection on the biodiversity corridor as a result of the proposed development, and the proposed crossing of the constructed watercourse to the immediate north of the subject site will not adversely affect the functioning of that Corridor to any relevant extent. In that regard, it should be noted that the crossing has been designed to incorporate an additional box culvert principally for the purposes of terrestrial fauna movements, and it is anticipated that the vegetation along the watercourse will not be disrupted such that fauna movements would be prevented or inhibited as a result of the road crossing of the watercourse.

7 IMPACT AMELIORATION and ENVIRONMENTAL MANAGEMENT MEASURES

Notwithstanding the nature and condition of the subject site, and its location and context (particularly given the surrounding industrial development), appropriate impact amelioration and environmental management measures are recommended for implementation as part of the proposed development of the subject site at Erskine Park.

Specific measures in this regard include:

- the management of stormwater discharge volumes and water quality from the development area, both during construction activities and following completion and occupation of the site, according to current ‘best practice’, as determined in the *Report* by Stephen Webb & Associates;

- the use of sediment fences and other appropriate control measures during construction activities to avoid erosion and sediment discharge or the discharge of other contaminants;
- the implementation of a management regime during the construction process to ensure that no other wastes (including building rubble, garbage, contaminants, fuels, oils, paints or other chemicals) are discharged from the construction area, and that all such wastes and contaminants are contained within the construction footprint and are appropriately managed;
- landscape planting along the northern side of the proposed development will be of plant species sympathetic to the functioning of the Biodiversity Corridor to its north; and
- rehabilitation of disturbed areas across the watercourse which arise from construction of the proposed crossing will be undertaken to ensure that there is contiguous cover and/or shelter for native fauna wishing to traverse the road crossing along the watercourse corridor, and that the separation of canopy along the corridor is not a disruption to the movements of native arboreal fauna.

Given the nature and condition of the area proposed for development activities and the lack of relevant concerns regarding threatened biota, no special or species-specific provisions regarding either impact amelioration or environmental management are warranted for the proposed development of the subject site at Erskine Park.

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Deleted: ¶

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Figure 1

The subject site (Lot 11 in DP 229784) and its context at Erskine Park



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NOT TO SCALE

- NOTES:
- 1.0

Aerial photograph courtesy of Worley Parsons (25/03/08)
- 2.0

All features are approximate only and subject to detailed survey

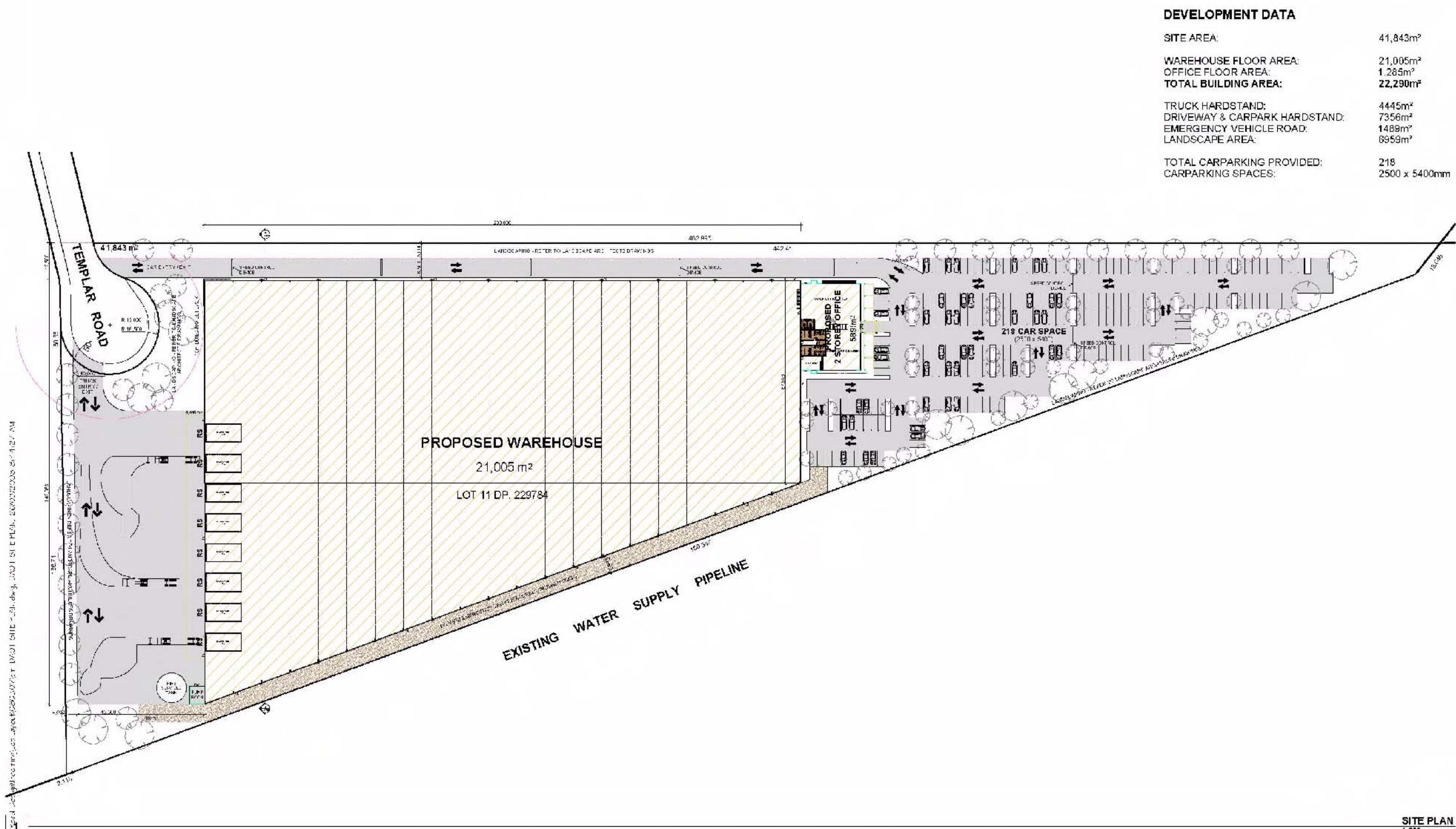
Legend

 Subject site (boundaries are approximate)

No.	Date	Revision Details

SCALE:	NOT TO SCALE
CO-ORDS:	N/A
DATUM:	N/A
DATE OF PLAN:	01-04-2008
CHECKED BY/DATE:	01-04-2008
APPROVED BY/DATE:	01-04-2008
JOB REF:	D988EV
GIS REF:	D988EV-M-001

Figure 2 Industrial layout for the subject site at Templar Road, Erskine Park



DEVELOPMENT DATA

SITE AREA:	41,843m ²
WAREHOUSE FLOOR AREA:	21,005m ²
OFFICE FLOOR AREA:	1,285m ²
TOTAL BUILDING AREA:	22,290m ²
TRUCK HARDSTAND:	4445m ²
DRIVEWAY & CARPARK HARDSTAND:	7356m ²
EMERGENCY VEHICLE ROAD:	1489m ²
LANDSCAPE AREA:	6959m ²
TOTAL CARPARKING PROVIDED:	218
CARPARKING SPACES:	2500 x 5400mm

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NOTES:

- 1.0 Site Layout courtesy of Vaughan Constructions

SITE PLAN
1:600



VAUGHAN
CONSTRUCTIONS
4/4 MURDOCH
ST, SYDNEY
NSW 2000

Drawn:	DA01
Amended:	B
Job No:	27065
Scale:	As shown on plan
Date:	26.1.2007
Drawn:	N.A.

PROJECT: PROPOSED WAREHOUSE & OFFICE FOR
WATERHOUSE
LOT 11 DP.229784 TEMPLAR ROAD
ERSKINE PARK NSW 2208



Issue:	Amendment	Date:	Drawn:	Check:
A	ISSUE FOR PRELIMINARY APPROVAL	26.1.07	DA	—
B	REVISION TO PRELIMINARY APPROVAL	26.1.07	DA	—

1. THIS SITE PLAN IS A PRELIMINARY APPROVAL FOR THE PROPOSED DEVELOPMENT.
2. THE DEVELOPER MUST OBTAIN ALL NECESSARY APPROVALS FROM THE LOCAL COUNCIL AND THE NSW GOVERNMENT BEFORE COMMENCING CONSTRUCTION.
3. THE DEVELOPER MUST OBTAIN ALL NECESSARY APPROVALS FROM THE LOCAL COUNCIL AND THE NSW GOVERNMENT BEFORE COMMENCING CONSTRUCTION.
4. THE DEVELOPER MUST OBTAIN ALL NECESSARY APPROVALS FROM THE LOCAL COUNCIL AND THE NSW GOVERNMENT BEFORE COMMENCING CONSTRUCTION.
5. THE DEVELOPER MUST OBTAIN ALL NECESSARY APPROVALS FROM THE LOCAL COUNCIL AND THE NSW GOVERNMENT BEFORE COMMENCING CONSTRUCTION.

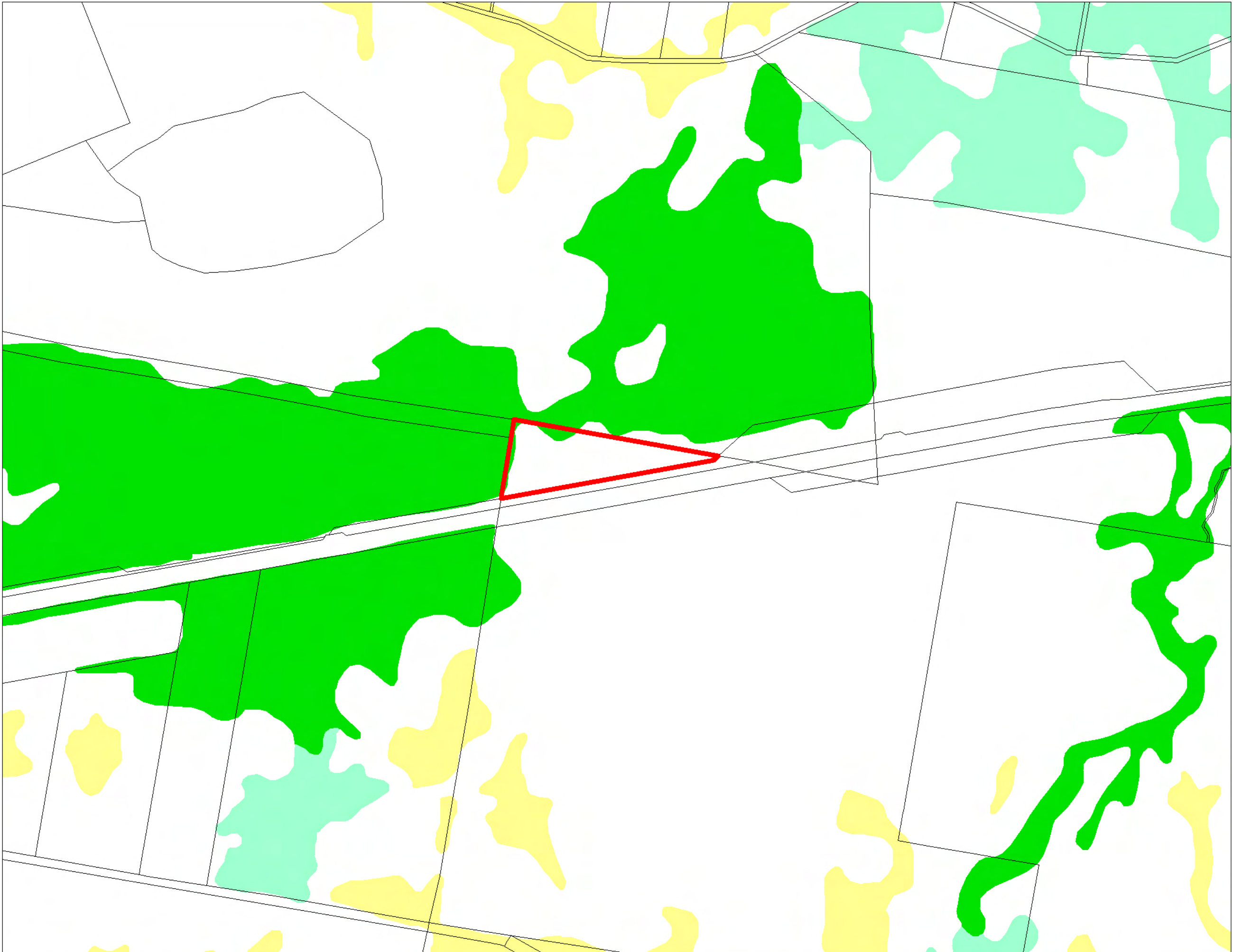
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No.	Date	Revision Details
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SCALE:	NOT TO SCALE
CO-ORDS:	N/A
DATUM:	N/A
DATE OF PLAN:	01-04-2008
CHECKED BY/DATE:	01-04-2008
APPROVED BY/DATE:	01-04-2008
JOB REF:	D988EV
GIS REF:	D988EV-M-004

Figure 3

Vegetation mapping by the DECC around the subject site, Erskine Park



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Jacfin Pty Ltd

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1:8,000 @A3

NOTES:

- 1.0 DCDB © 2006 Department of Lands
- 2.0 Vegetation Data © 2002 NPWS
- 3.0 All features are approximate only and subject to detailed survey

Legend



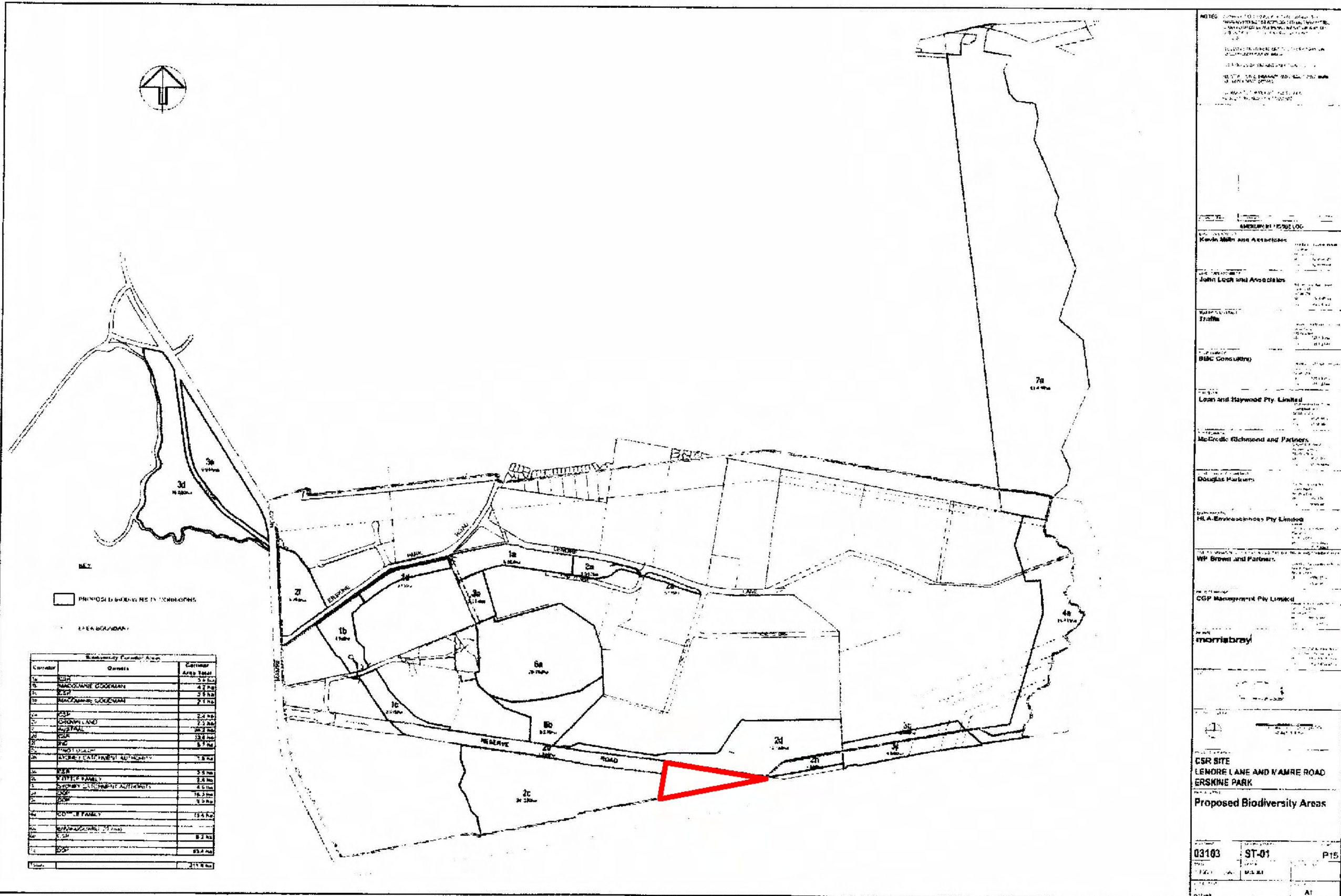
Subject site

NPWS significance levels

- Core Habitat
- Support to Core Habitat
- Other Remnant Vegetation

No.	Date	Revision Details

SCALE:	1:8,000 @A3	
CO-ORDS:	MGA	
DATUM:	N/A	
DATE OF PLAN:	01-04-2008	
CHECKED BY/DATE:	01-04-2008	
APPROVED BY/DATE:	01-04-2008	
JOB REF:	D988EV	
GIS REF:	D988EV-M-002	



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NOT TO SCALE

- 1.0 Map from the Biodiversity Management Plan (HLA Envirosiences 2006)
- 2.0 All features are approximate only and subject to detailed survey

Subject site

No.	Date	Revision Details

SCALE:	NOT TO SCALE	
CO-ORDS:	N/A	
DATUM:	N/A	
DATE OF PLAN:	01-04-2008	
CHECKED BY/DATE:	01-04-2008	
APPROVED BY/DATE:	01-04-2008	
JOB REF:	D988EV	
GIS REF:	D988EV-M-003	



Lot 11 in DP 229784 Templar Road
Erskine Park

Flora & Fauna Assessment Report

Appendix A
Flora Species List

April 2008



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email: dfanning@insites.com.au

APPENDIX A Flora species recorded on the subject site at Templar Road, Erskine Park.

KEY	
Status	
H	Horticulturally Introduced Species
*	Introduced Species
N	Noxious weeds listed in the <i>NSW Noxious Weed Act 1993</i>

Status	SCIENTIFIC NAME	COMMON NAME
	FILICOPSIDA	
	Azollaceae	
	<i>Azolla pinnata</i>	Ferny Azolla
	Sinopteridaceae	
	<i>Cheilanthes sieberi</i> ssp <i>sieberi</i>	Mulga Fern
	MAGNOLIOPSIDA: Magnoliidae	
	Acanthaceae	
	<i>Brunoniella australis</i>	Blue Trumpet
	Amaranthaceae	
	<i>Alternanthera denticulata</i>	Lesser Joyweed
	Apiaceae	
	<i>Centella asiatica</i>	Swamp Pennywort
*	<i>Ciclospermum leptophyllum</i>	Slender Celery
*	<i>Daucus carota</i>	Wild Carrot
*	<i>Foeniculum vulgare</i>	Fennel
	Asteraceae	
*	<i>Aster subulatus</i>	-
*	<i>Bidens pilosa</i>	Cobblers Pegs
*	<i>Cirsium vulgare</i>	Common Thistle
*	<i>Conyza bonariensis</i>	Flax-leaved Fleabane
	<i>Euchiton involucratus</i>	Cudwood
	<i>Euchiton sphaericus</i>	Cudweed
*	<i>Hypochaeris radicata</i>	Cats Ears
	<i>Pseudognaphalium luteo-album</i>	Jersey Cudweed
*	<i>Senecio madagascariensis</i>	Fireweed
*	<i>Sonchus oleraceus</i>	Sow Thistle
*	<i>Taraxacum officinale</i>	Dandelion
	<i>Vernonia cinerea</i>	-
	Brassicaceae	
*	<i>Capsella bursa-pastoris</i>	Shepherd's Purse
	Campanulaceae	
	<i>Wahlenbergia gracilis</i>	Native Bluebell
	Caryophyllaceae	
*	<i>Cerastium glomeratum</i>	Mouse-eared Chickweed
	Chenopodiaceae	
*	<i>Chenopodium album</i>	Fat Hen
	<i>Einadia hastata</i>	-
	Convolvulaceae	
	<i>Dichondra repens</i>	Kidney Weed
	<i>Polymeria calycina</i>	Swamp Bindweed
	Euphorbiaceae	
*	<i>Euphorbia peplus</i>	Petty Spurge
	<i>Phyllanthus hirtellus</i>	Thyme Spurge
	<i>Poranthera microphylla</i>	-
	Fabaceae: Faboideae	
	<i>Desmodium varians</i>	-

APPENDIX A Flora species recorded on the subject site at Templar Road, Erskine Park.

Status	SCIENTIFIC NAME	COMMON NAME
	<i>Dillwynia sieberi</i>	-
	<i>Glycine clandestina</i> sp complex	Love Creeper
	<i>Glycine tabacina</i>	Love Creeper
*	<i>Medicago arabica</i>	Spotted Medic
	<i>Pultenaea microphylla</i>	-
*	<i>Trifolium repens</i>	Red Clover
*	<i>Vicia sativa</i>	Common Vetch
	Gentianaceae	
*	<i>Centaurium erythraea</i>	Centaury
*	<i>Centaurium tenuiflorum</i>	Common Centaury
	Haloragaceae	
	<i>Myriophyllum variifolium</i>	Water Milfoil
	Hypericaceae	
	<i>Hypericum gramineum</i>	-
	Lamiaceae	
*	<i>Stachys arvensis</i>	Stagger Weed
	Lobeliaceae	
	<i>Pratia purpurascens</i>	Whiteroot
	Malvaceae	
*	<i>Malva neglecta</i>	Dwarf Mallow
*	<i>Sida rhombifolia</i>	Paddy's Lucerne
	Myrtaceae	
	<i>Angophora floribunda</i>	Rough-barked Apple
	<i>Eucalyptus eugenioides</i>	Thin-leaved Stringybark
	<i>Eucalyptus moluccana</i>	Grey Box
	<i>Eucalyptus tereticornis</i>	Forest Red Gum
	Onagraceae	
	<i>Ludwigia peploides</i> ssp <i>montevidensis</i>	-
	Oxalidaceae	
*	<i>Oxalis corniculata</i> var <i>repens</i>	Yellow Wood-sorrel
	<i>Oxalis pes-caprae</i>	Sour-sob
	Phytolaccaceae	
*	<i>Phytolacca octandra</i>	Inkweed
	Pittosporaceae	
	<i>Bursaria spinosa</i> var <i>spinosa</i>	Blackthorn
	Plantaginaceae	
*	<i>Plantago lanceolata</i>	Plantain
	Polygonaceae	
	<i>Persicaria decipiens</i>	Slender Knotweed
	<i>Rumex brownii</i>	Swamp Dock
*	<i>Rumex crispus</i>	Curled Dock
	Primulaceae	
*	<i>Anagallis arvensis</i>	Scarlet Pimpernel
	Ranunculaceae	
*	<i>Ranunculus repens</i>	Creeping Buttercup
	<i>Ranunculus plebeius</i>	
	Rosaceae	
N*	<i>Rubus fruticosus</i> species aggregate	Blackberry
	Rubiaceae	
	<i>Asperula conferta</i>	Common Woodruff
	<i>Opercularia diphylla</i>	Stinkweed
	Solanaceae	

APPENDIX A Flora species recorded on the subject site at Templar Road, Erskine Park.

Status	SCIENTIFIC NAME	COMMON NAME
*	<i>Solanum nigrum</i>	Black Nightshade
*	<i>Solanum pseudocapsicum</i>	Madeira Winter Cherry
	Stackhousiaceae	
	<i>Stackhousia viminea</i>	-
	Verbenaceae	
*	<i>Verbena bonariensis</i>	Veined Verbena
*	<i>Verbena rigida</i>	Purple Top
	MAGNOLIOPSIDA: Liliideae	
	Alismataceae	
	<i>Alisma plantago-aquatica</i>	
	Asparagaceae	
*	<i>Myrsiphyllum asparagoides</i>	Florists' Smilax
	Commelinaceae	
	<i>Commelina cyanea</i>	Scurvy Weed
*	<i>Tradescantia albiflora</i>	Wandering Jew
	Cyperaceae	
	<i>Cyperus brevifolius</i>	-
*	<i>Cyperus eragrostis</i>	Umbrella Sedge
	<i>Cyperus gracilis</i>	-
	<i>Cyperus polystachyos</i>	-
	<i>Eleocharis sphacelata</i>	Tall Spike Rush
	<i>Fimbristylis dichotoma</i>	-
	Juncaginaceae	
	<i>Potamogeton tricarlinatus</i>	Floating Pondweed
	Juncaceae	
*	<i>Juncus acutus</i>	-
	<i>Juncus continuus</i>	-
	<i>Juncus usitatus</i>	Common rush
	Juncaginaceae	
	<i>Triglochin microtuberosum</i>	Water Ribbons
	<i>Triglochin procera</i>	Water Ribbons
	Lomandraceae	
	<i>Lomandra longifolia</i>	Mat Rush
	Philydraceae	
	<i>Philydrum lanuginosum</i>	Woolly Frogsmouth
	Poaceae	
	<i>Agrostis avenacea</i>	Blown Grass
*	<i>Andropogon virginicus</i>	Whiskey Grass
	<i>Aristida ramosa</i> var <i>ramosa</i>	Three-Awn Speargrass
	<i>Aristida vagans</i>	Three-Awn Speargrass
*	<i>Avena fatua</i>	False Oats
*	<i>Axonopus affinis</i>	Carpet Grass
*	<i>Briza maxima</i>	Quaking Grass
*	<i>Bromus catharticus</i>	Prairie Grass
*	<i>Chloris gayana</i>	Rhodes Grass
	<i>Chloris truncata</i>	Windmill Grass
	<i>Cymbopogon refractus</i>	Barbed-wire Grass
	<i>Cynodon dactylon</i>	Common Couch
	Poaceae continued	
	<i>Echinopogon caespitosus</i> var <i>caespitosus</i>	Tufted Hedgehog Grass
	<i>Entolasia marginata</i>	Bordered Panic
*	<i>Eragrostis curvula</i>	African Lovegrass
	<i>Eragrostis leprostachya</i>	Paddock Lovegrass
*	<i>Lolium perenne</i>	Perennial Rye Grass
	<i>Microlaena stipoides</i> var <i>stipoides</i>	Weeping Meadow Grass

APPENDIX A Flora species recorded on the subject site at Templar Road, Erskine Park.

Status	SCIENTIFIC NAME	COMMON NAME
*	<i>Paspalum dilatatum</i>	Paspalum
	<i>Paspalum distichum</i>	Water Couch
*	<i>Paspalum urvillei</i>	Paspalum
*	<i>Phalaris minor</i>	Canary Grass
*	<i>Pennisetum clandestinum</i>	Kikuyu
*	<i>Setaria pumila</i>	Pale Pigeon Grass
	<i>Sporobolus creber</i>	Slender Rats-tail Grass
*	<i>Stenotaphrum secundatum</i>	Buffalo Grass
	<i>Themeda australis</i>	Kangaroo Grass
	Potamogetonaceae	
	<i>Potamogeton tricarinatus</i>	Floating Pondweed



Lot 11 in DP 229784 Templar Road
Erskine Park

Flora & Fauna Assessment Report

Appendix B
Fauna Species Recorded on the Subject Site and in the Vicinity

April 2008



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APPENDIX B

Fauna species recorded on the subject site and in the vicinity

KEY	
*	Introduced species.
Threatened species categories in the <i>NSW Threatened Species Conservation Act 1995</i> .	
E	Endangered
V	Vulnerable
A	Fauna species recorded during field investigations in the locality (Gunninah and Whelans InSites)
B	Fauna species recorded by Biosis Research 1999 in the general locality

STATUS	COMMON NAME	SCIENTIFIC NAME	A	B
	BIRDS			
	Anatidae			
	Australian Wood Duck	<i>Chenonetta jubata</i>	x	x
	Pacific Black Duck	<i>Anas superciliosa</i>	x	x
	Grey Teal	<i>Anas gracilis</i>		x
	Hardhead	<i>Aythya australis</i>	x	
	Podicipedidae			
	Australasian Grebe	<i>Tachybaptus novaehollandiae</i>		x
	Phalacrocoracidae			
	Little Pied Cormorant	<i>Phalacrocorax melanoleucos</i>		x
	Pied Cormorant	<i>Phalacrocorax varius</i>	x	
	Pelecanidae			
	Australian Pelican	<i>Pelecanus conspicillatus</i>		x
	Ardeidae			
	White-faced Heron	<i>Egretta novaehollandiae</i>	x	x
	Little Egret	<i>Egretta garzetta</i>		x
	Intermediate Egret	<i>Ardea intermedia</i>	x	
	Cattle Egret	<i>Ardea ibis</i>	x	x
	Threskiornithidae			
	Royal Spoonbill	<i>Platalea regia</i>	x	
	Accipitridae			
	Black-shouldered Kite	<i>Elanus axillaris</i>		x
	Brown Goshawk	<i>Accipiter fasciatus</i>		x
	Grey Goshawk	<i>Accipiter novaehollandiae</i>		x
	Little Eagle	<i>Hieraaetus morphnoides</i>		x
	Falconidae			
	Brown Falcon	<i>Falco berigora</i>		x
	Nankeen Kestrel	<i>Falco cenchroides</i>		x
	Rallidae			
	Purple Swamphen	<i>Porphyrio porphyrio</i>	x	x
	Dusky Moorhen	<i>Gallinula tenebrosa</i>	x	x
	Eurasian Coot	<i>Fulica atra</i>		x
	Scolopacidae			
	Latham's Snipe	<i>Gallinago hardwickii</i>		x
	Charadriidae			
	Masked Lapwing	<i>Vanellus miles</i>	x	x
	Columbidae			
*	Rock Dove	<i>Columba livia</i>	x	x
*	Spotted Turtle-Dove	<i>Streptopelia chinensis</i>	x	x
	Crested Pigeon	<i>Ocyphaps lophotes</i>	x	x

APPENDIX B

Fauna species recorded on the subject site and in the vicinity

STATUS	COMMON NAME	SCIENTIFIC NAME	A	B
V	Cacatuidae			
	Yellow-tailed Black Cockatoo	<i>Calyptorhynchus funereus</i>		x
	Galah	<i>Cacatua roseicapilla</i>		x
	Long-billed Corella	<i>Cacatua tenuirostris</i>		x
	Little Corella	<i>Cacatua sanguinea</i>		x
	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>		x
	Psittacidae			
	Eastern Rosella	<i>Platycercus eximius</i>	x	x
	Red-rumped Parrot	<i>Psephotus haematonotus</i>	x	x
	Turquoise Parrot	<i>Neophema pulchella</i>		x
	Podargidae			
	Tawny Frogmouth	<i>Podargus strigoides</i>		x
	Alcedinidae			
	Kookaburra	<i>Dacelo novaeguineae</i>	x	x
	Maluridae			
	Superb Fairy-wren	<i>Malurus cyaneus</i>	x	x
	Variegated Fairy-wren	<i>Malurus lamberti</i>	x	
	Pardalotidae			
	Spotted Pardalote	<i>Pardalotus punctatus</i>	x	x
	Striated Pardalote	<i>Pardalotus striatus</i>		x
	White-browed Scrubwren	<i>Sericornis frontalis</i>	x	x
	Weebill	<i>Smicromis brevirostris</i>	x	x
	Brown Thornbill	<i>Acanthiza pusilla</i>		x
	Buff-rumped Thornbill	<i>Acanthiza reguloides</i>		x
	Yellow-rumped Thornbill	<i>Acanthiza chrysorrhoa</i>		x
	Yellow Thornbill	<i>Acanthiza nana</i>	x	x
	Meliphagidae			
	Red Wattlebird	<i>Anthochaera carunculata</i>		x
	Noisy Friarbird	<i>Philemon corniculatus</i>		x
	Noisy Miner	<i>Manorina melanocephala</i>	x	x
	Yellow-faced Honeyeater	<i>Lichenostomus chrysops</i>		x
	Fuscous Honeyeater	<i>Lichenostomus fuscus</i>		x
	White-plumed Honeyeater	<i>Lichenostomus penicillatus</i>		x
	Eastern Spinebill	<i>Acanthorhynchus tenuirostris</i>		x
	Petroicidae			
	Eastern Yellow Robin	<i>Eopsaltria australis</i>		x
	Neosittidae			
	Varied Sittella	<i>Daphoenositta chrysoptera</i>		x
	Pachycephalidae			
	Crested Shrike-tit	<i>Falcunculus frontatus</i>	x	
	Golden Whistler	<i>Pachycephala pectoralis</i>		x
	Rufous Whistler	<i>Pachycephala rufiventris</i>		x
	Grey Shrike-thrush	<i>Colluricincla harmonica</i>		x
	Dicruridae			
	Magpie-lark	<i>Grallina cyanoleuca</i>	x	x
	Grey Fantail	<i>Rhipidura fuliginosa</i>	x	x
	Willie Wagtail	<i>Rhipidura leucophrys</i>	x	x
	Campephagidae			
	Black-faced Cuckoo-shrike	<i>Coracina novaehollandiae</i>	x	x
	Oriolidae			
	Olive-backed Oriole	<i>Oriolus sagittatus</i>		x

APPENDIX B

Fauna species recorded on the subject site and in the vicinity

STATUS	COMMON NAME	SCIENTIFIC NAME	A	B
	Artamidae			
	Grey Butcherbird	<i>Cracticus torquatus</i>	x	x
	Australian Magpie	<i>Gymnorhina tibicen</i>	x	x
	Pied Currawong	<i>Strepera graculina</i>		x
	Corvidae			
	Australian Raven	<i>Corvus coronoides</i>	x	x
	Corcoracidae			
	White-winged Chough	<i>Corcorax melanorhamphos</i>		x
	Alaudidae			
	Singing Bushlark	<i>Mirafra javanica</i>		x
	Motacillidae			
	Richard's Pipit	<i>Anthus novaeseelandiae</i>		x
*	Passeridae			
	House Sparrow	<i>Passer domesticus</i>		x
	Double-barred Finch	<i>Taeniopygia bichenovii</i>		x
	Red-browed Finch	<i>Neochmia temporalis</i>	x	x
	Hirundinidae			
	Welcome Swallow	<i>Hirundo neoxena</i>	x	x
	Sylviidae			
	Golden-headed Cisticola	<i>Cisticola exilis</i>		x
	Zosteropidae			
	Silvereye	<i>Zosterops lateralis</i>		x
	Sturnidae			
*	Common Starling	<i>Sturnus vulgaris</i>	x	x
	Common Myna	<i>Acridotheres tristis</i>	x	x
	MAMMALS			
	Tachyglossidae			
	Short-beaked Echidna	<i>Tachyglossus aculeatus</i>		x
	Pseudocheiridae			
	Common Ringtail Possum	<i>Pseudocheirus peregrinus</i>		x
	Phalangeridae			
	Common Brushtail Possum	<i>Trichosurus vulpecula</i>		x
	Macropodidae			
	Eastern Grey Kangaroo	<i>Macropus giganteus</i>	x	x
V	Pteropodidae			
	Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	x	x
	Molossidae			
	White-striped Freetail Bat	<i>Nyctonomus australis</i>	x	x
	Little Freetail Bat	<i>Mormopterus</i> sp. 1	x	
	Vespertilionidae			
	Gould's Wattled Bat	<i>Chalinolobus gouldii</i>	x	x
	Chocolate Wattled Bat	<i>Chalinolobus morio</i>	x	x
V	Large Bent-wing Bat	<i>Miniopterus schreibersii</i>	x	
V	Large-footed Myotis	<i>Myotis adversus</i>		x
	Eastern Broad-nosed Bat	<i>Scotorepens orion</i>		x
	Large Forest Bat	<i>Vespadelus darlingtoni</i>	x	
	Little Forest Bat	<i>Vespadelus vulturnus</i>	x	x

APPENDIX B

Fauna species recorded on the subject site and in the vicinity

STATUS	COMMON NAME	SCIENTIFIC NAME	A	B
	Muridae			
*	House Mouse	<i>Mus musculus</i>		x
*	Black Rat	<i>Rattus rattus</i>		x
	Canidae			
*	Dog	<i>Canis familiaris</i>		x
*	Fox	<i>Vulpes vulpes</i>	x	x
	Felidae			
*	Cat	<i>Felis catus</i>		x
	Leporidae			
*	Rabbit	<i>Oryctolagus cuniculus</i>	x	x
*	Brown Hare	<i>Lepus capensis</i>	x	x
	Equidae			
*	Horse	<i>Equus caballus</i>	x	x
	Bovidae			
*	European Cattle	<i>Bos taurus</i>	x	x
*	Goat	<i>Capra hircus</i>	x	
	AMPHIBIANS			
	Myobatrachidae			
	Common Eastern Froglet	<i>Crinia signifera</i>	x	x
	Brown-striped Frog	<i>Limnodynastes peronii</i>	x	x
	Spotted Grass Frog	<i>Limnodynastes tasmaniensis</i>	x	x
	Haswell's Frog	<i>Paracrinia haswelli</i>	x	
	Smooth Toadlet	<i>Uperoleia laevis</i>		x
	Hylidae			
	Eastern Dwarf Tree Frog	<i>Litoria fallax</i>		x
	Verreaux's Tree Frog	<i>Litoria verreauxi</i>		x
	REPTILES			
	Chelidae			
	Eastern Snake-necked Turtle	<i>Chelodina longicollis</i>		x
	Gekkonidae			
	Wood Gecko	<i>Diplodactylus vittatus</i>	x	x
	Pygopodidae			
	Common Scaly-foot	<i>Pygopus lepidopodus</i>		x
	Agamidae			
	Jacky Lizard	<i>Amphibolurus muricatus</i>		x
	Varanidae			
	Lace Monitor	<i>Varanus varius</i>	x	
	Scincidae			
	Robust Ctenotus	<i>Ctenotus robustus</i>		x
	Eastern Water-skink	<i>Eulamprus quoyii</i>	x	
	Dark-flecked Garden Sunskink	<i>Lampropholis delicata</i>	x	x
	Pale-flecked Garden Sunskink	<i>Lampropholis guichenoti</i>	x	x
	Eastern Blue-tongued Lizard	<i>Tiliqua scincoides</i>		x
	Typhlopidae			
	Blackish Blind Snake	<i>Ramphotyphlops nigrescens</i>		x
	Elapidae			
	Red-naped Snake	<i>Furina diadema</i>		x
	Red-bellied Black Snake	<i>Pseudechis porphyriacus</i>		x
	Eastern Brown Snake	<i>Pseudonaja textilis</i>		x
STATUS	COMMON NAME	SCIENTIFIC NAME	A	B

APPENDIX B

Fauna species recorded on the subject site and in the vicinity

E	INVERTEBRATES Cumberland Plain Land Snail	<i>Meridolum corneovirens</i>	x	
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Lot 11 in DP 229784 Templar Road
Erskine Park

Flora & Fauna Assessment Report

Appendix C
Director General's Requirements for the
Part 3A Environmental Assessment

April 2008



Whelans InSites Pty Ltd

Level 12/80 Clarence Street Sydney NSW 2000

ph: 02 – 8234 8300 fax: 02 – 9262 6511

email: dfanning@insites.com.au



NSW GOVERNMENT
Department of Planning

Contact: Ann-Maree Carruthers
Phone: (02) 9228 6550
Fax: (02) 9228 6466
Email: ann-maree.carruthers@planning.nsw.gov.au

Our Ref: S07/01875

Mr Kirk Osborne
Principal Planner
JBA Urban Planning Consultants
Level 7, 77 Berry Street
North Sydney NSW 2060

Dear Mr Osborne

**Director General's Requirements
Jacfin Warehousing Facility, Erskine Park
Project Application No: 07_0153**

The Department has received your application for the proposed warehousing facility at Templar Road, Erskine Park in the Penrith local government area.

I have attached a copy of the Director-General's requirements (DGRs) for the project. These requirements have been prepared based on the Department's knowledge of the site and its surrounds and the information you have provided to date.

Please note that under section 75F(3) of the *Environmental Planning and Assessment Act 1979*, the Director-General may alter these requirements at any time.

If your proposal is likely to have a significant impact on matters of National Environmental Significance, it will require an approval under the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. It is your responsibility to contact the Department of the Environment and Water Resources in Canberra (6274 1111 or <http://www.environment.gov.au>) to determine if the proposal would require an approval under the EPBC Act. The Commonwealth Government has accredited the NSW environmental assessment process for assessing any impacts on matters of National Environmental Significance. As a result, if it is determined that an approval is required under the EPBC Act, please contact the Department immediately as supplementary Director-General's requirements may need to be issued.

I would appreciate it if you would contact the Department at least two weeks before you propose to submit your Environmental Assessment for the project to determine the:

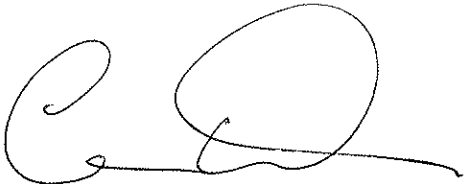
- fees applicable to the application (see Division 1A, Part 15 of the *Environmental Planning and Assessment Regulation 2000*);
- whether the proposal requires an approval under the EPBC Act and any obligations under that Act;
- consultation and public exhibition arrangements that will apply; and
- the number of copies (hard-copy or CD-ROM) of the Environmental Assessment that will be required for exhibition purposes.

As you may know, the Department will review the draft Environmental Assessment in consultation with the relevant authorities to determine if it adequately addresses the Director-General's requirements. If the Director-General considers the Environmental Assessment to be inadequate, you will be required to revise it prior to public exhibition.

The Director-General's requirements will be placed on the Department's website along with other relevant information which becomes available during the assessment of the project. As a result, I would appreciate it if the documents submitted to the Department are in a suitable format for the web, and if you would arrange for an electronic version of the Environmental Assessment for the project to be hosted on a suitable website with a link to the Department's website.

If you have any enquiries about these requirements, please contact Ann-Maree Carruthers on 02 9228 6550.

Yours sincerely

A handwritten signature in black ink, consisting of a large, stylized 'C' followed by a horizontal line and a small loop at the end.

26.11.07

Chris Wilson
Executive Director
As delegate of the Director-General

Director-General's Requirements

Section 75F of the *Environmental Planning and Assessment Act 1979*

Project	Construction and operation of a warehousing facility, including warehouse space, associated offices and car parking.
Site	Templar Road (Lot 11, DP 229784), Erskine Park.
Proponent	Jacfin Pty Ltd
Date of Issue	26 November 2007
Date of Expiration	26 November 2009
General Requirements	The Environmental Assessment must include: • an executive summary; • a detailed description of the project including the: – need for the project; – alternatives considered; and – various components and stages of the project; • consideration of any relevant statutory provisions including the consistency of the project with the objects of the <i>Environmental Planning and Assessment Act 1979</i>; • a general overview of the environmental impacts of the project, identifying the key issues for further assessment, and taking into consideration any issues raised during consultation; • a detailed assessment of the key issues specified below, and any other significant issues identified in the general overview of environmental impacts of the project (see above), which includes: – a description of the existing environment; and – an assessment of the potential impacts of all components of the project; and – a description of the measures that would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor the impacts of the project; • a draft Statement of Commitments, outlining environmental management, mitigation and monitoring measures; • a conclusion justifying the project, taking into consideration the environmental impacts of the proposal, the suitability of the site, and the benefits of the project; and • a signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading.
Key Issues	• Layout/Design – demonstrate that the proposal is generally consistent with the <i>Erskine Park Employment Area Development Control Plan</i>, and justify any inconsistencies between the proposal and the DCP. • Planning agreement/developer contributions – review the proposal against the requirements in the <i>Erskine Park Employment Area Section 94 Contributions Plan</i>, and either include a draft planning agreement for the redevelopment of the site, or describe what development contributions would be paid for the redevelopment of the site, including consideration of the need to contribute to the proposed regional road network for the Western Sydney Employment Hub; • Traffic & parking – including details of access to the site (including infrastructure across the creek), details of the traffic volumes likely to be generated during construction and operation; an assessment of the predicted impacts of this traffic on the safety and efficiency of the surrounding road network; car parking requirements and; details of Templar Road extension and associated potential impacts.

	• Soils & Water – including the proposed erosion and sediment controls (during construction); water quality management; the proposed stormwater management system; water supply including consideration of the potential for rainwater harvesting; wastewater disposal; and relationship to the CSR relocated creek. • Flora & fauna – including: – measures to minimise the impacts of the proposal on the recently approved Biodiversity Corridor in the Erskine Park Employment Area, particularly in relation to the proposed creek crossing; – consideration of the need to offset any clearing on site and to enhance the Biodiversity Corridor; and – fire management procedures to minimise risks to the Biodiversity Corridor; • Noise – including construction, operational, and traffic noise; • Aboriginal heritage – determining the presence of Aboriginal heritage on the site; and any mitigation, management measures or offset measures to reduce any impacts; and • Visual – including landscaping, design, set-backs, signage and lighting.
References	The Environmental Assessment must take into account relevant State government technical and policy guidelines, as well as industry guidelines. While not exhaustive, guidelines which may be relevant to the project are included in the attached lists.
Consultation	During the preparation of the Environmental Assessment, you should consult with the relevant local, State or Commonwealth government authorities, service providers, community groups or affected landowners. The consultation process and the issues raised must be described in the Environmental Assessment. In particular, you should consult with: • Penrith City Council; • NSW Roads and Traffic Authority; • Department of Environment and Climate Change; and • Department of Water and Energy. The consultation process and the issues raised must be described in the EA.
Deemed refusal period	60 days

State Government Technical and Policy Guidelines - For Reference

Aspect	Policy / Methodology
Traffic and Transport	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
Soil and Waters	
<i>Erosion & Sediment Control</i>	Managing Urban Stormwater: Soils & Construction (Landcom)
<i>Flooding</i>	Floodplain Management Manual (DNR)
<i>Water Quality</i>	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
<i>Wastewater Reuse</i>	Environmental Guidelines: Use of Effluent by Irrigation (DEC)
	National Water Quality Management Strategy - Guidelines For Water Recycling: Managing Health And Environmental Risks (Phase1) (EPHC, NRMCC & AHMC)
	National Water Quality Management Strategy – Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2): Augmentation of Drinking Water Supplies – Draft for Public Comment (EPHC, NRMCC & AHMC)
Flora and Fauna	
	Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities. Working Draft (DEC)
	Draft Guidelines for Threatened Species Assessment under Part 3A of the <i>Environmental Planning and Assessment Act 1979</i> (DEC)
Noise	
	NSW Industrial Noise Policy (DECC)
	Environmental Criteria for Road Traffic Noise (NSW EPA)
	Environmental Noise Control Manual (DECC)
Heritage	
<i>Aboriginal</i>	Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC)
	Aboriginal Cultural Heritage Standards and Guidelines Kit (NSW EPA)
Visual	
	Control of Obtrusive Effects of Outdoor Lighting (Standards Australia, AS4282)



Lot 11 in DP 229784 Templar Road
Erskine Park

Flora & Fauna Assessment Report

Appendix D
Photographs of the Subject Site

April 2008



Whelans InSites Pty Ltd

Level 12/80 Clarence Street Sydney NSW 2000

ph: 02 – 8234 8300 fax: 02 – 9262 6511

email: dfanning@insites.com.au



Photo 1 Site of proposed crossing over the constructed watercourse on the CSR lands. The western end of the subject site is located beyond the watercourse, with the Sydney water pipeline in the background.



Photo 2 The CSR watercourse upstream from the proposed crossing. The eastern end of the subject site is visible to the right of the constructed watercourse, extending to the Sydney water pipeline.



Photo 3 The CSR watercourse downstream from the proposed crossing, which will be located at the riffle in the centre of the photo. Vegetation in the background is on the road reserve west of the subject site.



Photo 4 The site of the proposed crossing of the CSR watercourse.