

***Illawarra Regional Business Park
Concept Plan (MP06_0272)***



Director-General's Environmental
Assessment Report
Section 75I of the
*Environmental Planning and Assessment
Act 1979*

November 2008

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November 2008

EXECUTIVE SUMMARY

This is a report on an application seeking approval for a concept plan pursuant to Part 3A of the *Environmental Planning and Assessment Act, 1979* ("the Act").

Delmo Albion Park (the Proponent) is seeking approval for the Illawarra Regional Business Park, comprising of a 60 lot subdivision covering 55 hectares with associated services and infrastructure, a creek realignment, riparian buffers and an environmental management area.

On 11 July 2008, the proposed site was listed as a State Significant Site under Schedule 3 of the *State Environmental Planning Policy (Major Projects) 2005*, which rezoned the site to permit light industrial uses and to protect the area covered by the proposed environmental management area.

The estimated capital investment of the development is \$365 million and is expected to generate 35 full time positions at completion.

The proposal was exhibited for a period of 31 days from 1 August 2007 to 30 August 2007. During the exhibition period, the Department received a total of 39 submissions comprising 29 submissions from the public and 10 submissions from Government agencies, being Shellharbour City Council, Department of Environment and Climate Change (DECC), Department of Primary Industry, NSW Roads and Traffic Authority, Ministry of Transport, Department of Water and Energy, State Emergency Services (SES) and Sydney Water.

In November 2007 and March 2008, the Proponent submitted its Preferred Project Report and Supplementary Preferred Project Report respectively in response to the submissions. Additional information pertaining to the proposed road infrastructure upgrades was submitted by the Proponent in July and September 2008.

The key issues associated with the concept plan relate to flooding, flora and fauna, heritage, traffic, the potential conflict with the Illawarra Regional Airport, operational noise and stormwater management. These issues were reflected within the 39 submissions the Department received during the exhibition period for the Environmental Assessment.

In particular, the potential impacts on flooding behaviour as a result of the proposed earthworks was a significant issue identified by the Department, DECC, SES, Council and public submissions. Consequently, the Department commissioned an expert review of the Proponent's assessment and the issues raised in submissions. This review verified the Proponent's flooding details and provided recommendations regarding future development on the site, such as design requirements for the proposed realignment of Frazers Creek and further consultation with Council and the DECC. These have been adopted in the Department's recommended Instrument of Approval.

The potential impact on the neighbouring property, Ravensthorpe, was also a key concern for the Department and the local community. In response, the Proponent proposed built form controls, including setbacks, building heights and the preservation of the view corridor to the escarpment, to minimise any impact on the heritage values of this property. The Department considers these measures to be sufficient but has recommended that the Proponent will need to demonstrate in future applications that the built form complies with these requirements. Furthermore, the Department has recommended future environmental assessment requirements for both the construction and operational stages of the development to ensure on-site activities that have the potential to impact on this property, such as earthworks and operational noise, are appropriately assessed, and where necessary, mitigated and managed.

Overall, the Department has assessed the merits of the proposal and is satisfied that the impacts of the proposed development have been addressed via the Proponent's Preferred

Project Report, the Statement of Commitments and the Department's recommended modifications, which include:

- limitations on the built form of the development to address neighbouring heritage building and the Illawarra Regional Airport;
- preservation of a 14 metre strip alongside the Illawarra Regional Airport, should Shellharbour City Council chose to expand the airport;
- requiring the Proponent to address potential cumulative impacts on the floodplain that the proposal could contribute to as a result of the proposed cut and fill activities;
- establishing the design objectives for the proposed realignment of Frazers Creek that must be addressed in Stage 1 and Stage 2 applications;
- requiring the Proponent to extend the 25 metre SEPP 14 wetland buffer unless it can be demonstrated that the proposed buffer can be appropriately designed and treated;
- setting the requirement for the Proponent to complete site rehabilitation works within two years of commencing Stage 1 to ensure the environmental benefits and offsets are achieved; and
- requiring the Proponent to finalise the site access intersection design as part of Stage 1 and Stage 2 of the development, and for these works to be completed as part of Stage 3 of the development.

On these grounds, the Department is satisfied that the site is suitable for the proposed development and that the project will provide environmental, social and economic benefits to the region. All statutory requirements have been met.

The Department has also recommended that the Minister determine that future development on the site be subject to further environmental assessment under Part 3A of the Act, should it satisfy the criteria of the Major Project SEPP, and, for all other development, be subject to further environmental assessment under Part 4 of the Act in accordance with Section 75P of the Act. The requirements for these assessments are specified within the recommended Instrument of Approval.

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1. BACKGROUND

1.1 Site Location

The site is located at 78 Tongarra Road (Lot B DP109816 and Lot 6 DP1100435), Albion Park, in the Shellharbour Local Government Area (refer to Figure 1 and Figure 2). The site covers approximately 74 hectares (ha) and is in the ownership of the Proponent, Delmo Albion Park Pty Ltd.



Figure 1 – Site Location (shown as purple)

The site is currently being used for agricultural purposes, and three disused farm buildings and a homestead are located within the site.

The site is located on a floodplain within a valley flat below the Illawarra escarpment. Frazers Creek, which has been modified and has limited riparian vegetation, flows in a northerly direction through the western parts of the site.

The site is largely devoid of vegetation, with the exception of a small stand of an endangered ecological community in the south-eastern corner of the site (*Swamp Schelorphyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions*). Two wetlands are located in the northern and centre of the site, with the latter wetland listed under *State Environmental Planning Policy No.14 – Coastal Wetlands*. Both wetlands have been modified by earthworks and ongoing cattle grazing but continue to provide some ecological function.

Areas along the south-western boundary have been identified by the RTA as a road reserve for the future upgrade of the Illawarra Highway.



Figure 2 – The Proposed Site

1.2 Surrounding development

The areas adjacent to the site are largely rural open land uses, with the exception of the Illawarra Regional Airport located to the east of the site and a residential 'pocket' on the southern boundary. Lands further to the south-west of the site, as well as land to the north-east of the site, are predominantly residential with the exception of a small industrial area to the north of the site. The Ravensthorpe homestead is located on the site's southern boundary and is presently used as a function centre that includes a restaurant and accommodation.

1.3 State Significant Site

On 11 July 2008, the proposed site was listed as a State Significant Site under Schedule 3 of the *State Environmental Planning Policy (Major Projects) 2005*, which rezoned the site to permit light industrial uses (IN2), to protect the area covered by the proposed environmental management area (zone E2) and to preserve a 14 metre strip within the site for a future airport expansion (SP2).

State Environmental Planning Policy No.14 (Coastal Wetlands) was also concurrently amended to list the southern wetland located on the site under this policy (as outlined in yellow in Figure 2).

2. PROPOSED DEVELOPMENT

2.1 The Proposal



The Proponent is seeking concept plan approval for the Illawarra Regional Business Park (refer to Figure 3), comprising of:

- 60-lot subdivision (59 industrial lots and 1 lot for environmental conservation) covering approximately 43 ha. The proposed lots will vary between 32,600m² to 200m²;
- a café, hotel/motel and a service station;
- associated earthworks and supporting infrastructure, including a signalised access intersection;
- design guidelines for future development;
- an environmental management area (26ha);
- rehabilitation of the environmental management area; and
- the relocation of the Wanalama Homestead and the demolition of three disused farm buildings.

Figure 3 – The Proposed Development (as amended)

The Proponent originally intended for development on the site to comprise of business park uses. However, the Proponent amended the concept plan to change these uses to light industrial in order to be consistent with the objectives of the *Illawarra Regional Strategy*. As such, future uses on site could include freight transport facilities, depots, industrial retail outlets, vehicle sale premises, and warehousing and distribution. The café, hotel/motel and the service station still form part of concept plan, and would be located at the southern entry point to the site.

The proposed development has a capital investment of \$365 million and will generate approximately 1,650 full time positions when completed.

2.2 Staging and Subsequent Applications

The Proponent has indicated that development on the site would be undertaken in four stages:

- *Stages 1 and 2* – earthworks and the placement of fill material on the development area south of the airport, the installation of services and the initiation of riparian rehabilitation works (shown as hatched on Figure 4);
- *Stage 3* – construction of the first part of the road and the initial industrial lots in the south eastern portion of the site (shown as blue on Figure 4);
- *Stage 4* – construction of the remainder of the Business Park south of the Illawarra Regional Airport (shown as orange on Figure 4);
- *Stage 5* – construction of the final parts of the Business Park development north of the east–west runway of the Illawarra Regional Airport (shown as green on Figure 4).

The Proponent is not seeking approval to physically commence any stage of the concept plan. Future development would be subject to further assessment and approval under the *Environmental Planning and Assessment Act 1979*.

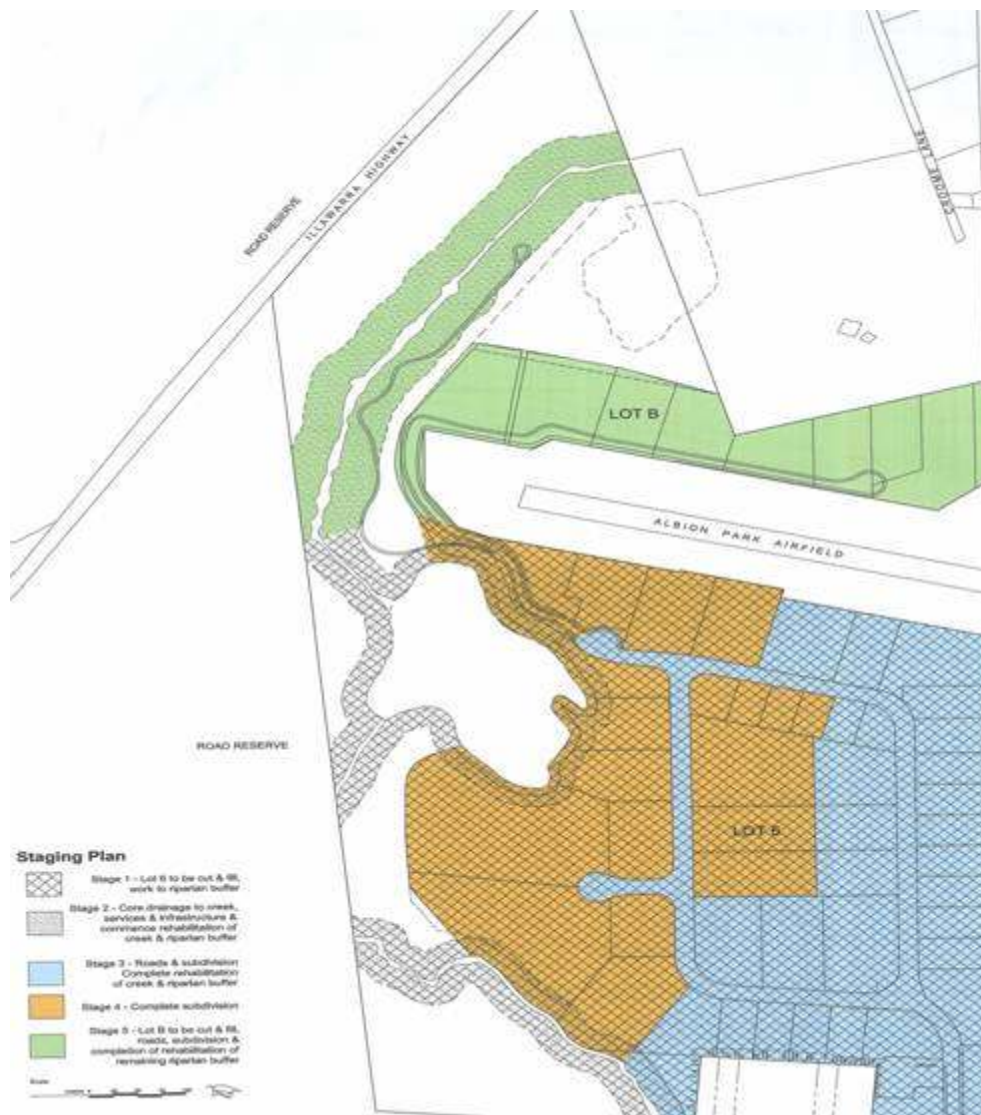


Figure 4 – Proposed Staging

2.3 Preferred Project Report

In November 2007, the Proponent amended the concept plan via a Preferred Project Report. The amendments included:

- changes to the future land uses from business park to light industrial uses;
- use of the Wanalama Homestead as the proposed café, if it can be suitably relocated;
- additional building controls to minimise the heritage impacts on the Ravensthorpe homestead, including the establishment of a building line to the west of Ravensthorpe, a 25m building setback from the northern boundary of Ravensthorpe, provision of a view corridor to the escarpment from Ravensthorpe, and the redesign of the landscaping around Ravensthorpe; and
- amendments to the design guidelines to cap the maximum height of buildings at RL26 and the requirement for Construction Environmental Management Plans to accompany future applications.

In March 2008, the Proponent submitted a supplementary Preferred Project Report to the Department to provide a 14 metre wide strip along the eastern boundary of the site. This was in response to Council's request to ensure development at the site would not impede the potential expansion of the Illawarra Regional Airport.

Nevertheless, this strip of land is presently zoned SP2 Infrastructure and can be acquired by Council in the event that it determines that upgrade of the airport is feasible. In the event that this upgrade is not feasible, it is proposed that the land would be returned to the IN2 zoning as part of the Council's comprehensive Local Environmental Plan.

2.4 Project Need and Justification

The *Illawarra Regional Strategy* identifies a shortfall in vacant employment land within the Shellharbour Local Government Area and identifies Albion Park as a Major Town. The proposed development would contribute towards providing additional employment lands for the future projected population of the Illawarra, will generate approximately 1,650 full time positions, and will assist in reinforcing Albion Park's future identity as a major town. The proposal also represents an opportunity to rehabilitate and protect approximately 24 hectares of land, which is presently used for cattle grazing.

3. STATUTORY CONTEXT

3.1 Major Project

On 28 September 2006, the former Minister for Planning formed the opinion pursuant to Clause 6 of the *State Environmental Planning Policy (Major Projects) 2005* that the proposal is for the purpose of development described in Clause 12 of Schedule 1 of that Policy (being development for the purpose of distribution centres that has a capital value of more than \$30 million).

Consequently, the concept plan is subject to Part 3A of the *Environmental Planning and Assessment Act* (the Act) and the Minister is the approval authority.

3.2 Concept Plan

On 28 September 2006, the former Minister for Planning authorised the submission of a concept plan for the project under section 75M of the Act.

3.3 Permissibility

The site is zoned IN2 – Light Industrial and E2 – Environmental Conservation under Schedule 3 of the *State Environmental Planning Policy (Major Projects) 2005*. The proposed uses are permissible with development consent.

3.4 Minister's Approval Power

The Environmental Assessment was exhibited for a period of 31 days from 1 August 2007 to 31 August 2007 and an advertisement for the exhibition period was published in the Illawarra Mercury on 1 August 2007. Agencies and adjoining landowners were notified of the development on 1 August 2007.

The EA was made available to the public in the Department's Information Centre and at the office of Shellharbour City Council. The Department received a total of 41 submissions from public authorities and 12 submissions from the public.

The Department has met all its legal obligations so that the Minister can determine the Concept Plan.

3.5 Environmental Planning Instruments (EPIs)

To satisfy the requirements of section 75I(2)(d) and (e) of the Act, this Report includes references to the provisions of the environmental planning instruments that govern the carrying out of the project and have been taken into consideration in the environmental assessment of the concept application. A summary of compliance with the relevant EPIs is provided in Appendix B.

The development standards of Local Environmental Plans and Development Control Plans are not required to be strictly applied in the assessment and determination of Major Projects under Section 75R of the Act.

3.6 Objects of the *Environmental Planning and Assessment Act 1979*

The objects of any statute provide an overarching framework that informs the purpose and intent of the legislation and gives guidance to its operation. The Minister's consideration and determination of a concept plan under Part 3A of the Act must be informed by the relevant provisions of the Act, consistent with the backdrops of the objects of the Act. The objects of the Act are as follows:

(a) to encourage:

- (i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,
- (ii) the promotion and co-ordination of the orderly and economic use and development of land,
- (iii) the protection, provision and co-ordination of communication and utility services,
- (iv) the provision of land for public purposes,
- (v) the provision and co-ordination of community services and facilities, and
- (vi) 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
- (vii) ecologically sustainable development, and
- (viii) the provision and maintenance of affordable housing, and

(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and

(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.

Of particular relevance to the assessment of the subject application is consideration of the Objects under section 5(a) of the Act. Relevantly, the Objects stipulated under section 5(a) (i), (vi), and (vii) of the Act are significant factors in forming the determination of the concept plan. The project does not raise significant issues with regards to and objectives of the Act.

The Department has considered the Objects of the Act, in the assessment of the concept plan application. The balancing of the project in relation to the Objects is provided in Section 5 of this report.

3.7 ESD Principles

The *Protection of the Environment Administration Act 1991* provides five accepted ESD principles:

- (a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations (**the integration principle**);
- (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (**the precautionary principle**);
- (c) the principle of inter-generational equity - that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations (**the inter-generational principle**);
- (d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making (**the biodiversity principle**); and

- (e) improved valuation, pricing and incentive mechanisms should be promoted (**the valuation principle**).

The Department has considered the concept plan application in relation to the ESD principles and has made the following conclusions:

- **Precautionary Principle**

Following an assessment of the Proponent's EA, it is considered that there is no threat of serious or irreversible environmental damage as a result of the proposal. The extensive range of studies into flooding and stormwater management, climate change, flora and fauna impacts, bushfire threats and Aboriginal cultural heritage have not revealed any uncertainty regarding potential impacts. Impacts identified can be appropriately managed and have not been found to result in serious or irreversible environmental damage as a consequence of this proposal. In contrast, the findings and recommendations of the flora and fauna report have identified opportunities that will improve the environmental attributes and qualities of the site, particularly in relation to the riparian corridor beside Frazers Creek, that would not otherwise be realised without redevelopment and the elements incorporated into this concept plan. The findings and recommendations of the range of specialist studies have not revealed the need to adopt the precautionary principle from an ecological point of view to either delay or prevent the concept plan application from proceeding.

- **Integration Principle**

The social and economic benefits of the proposal are well documented. The environmental impacts are and will be addressed through the proponent's Statement of Commitments. Additionally, the environmental impacts will be assessed as future applications are lodged with Council. The Department's assessment has duly considered all issues raised by the community and public authorities. The proposal as recommended for approval does not compromise nor hinder the opportunities of a particular stakeholder

- **Inter-Generational Principle**

It is considered that the development of this site will have positive social, economic and environmental impacts and as a result will maintain the environment for the benefit of future generations.

- **Biodiversity Principle**

Following an assessment of the Proponent's EA, it is considered that there is no threat of serious or irreversible environmental damage as a result of the proposal. The extensive range of studies into flooding and stormwater management, climate change, flora and fauna impacts, bushfire threats and Aboriginal cultural heritage have not revealed any uncertainty regarding potential impacts. Impacts identified can be appropriately managed and have not been found to result in serious or irreversible environmental damage as a consequence of this proposal. In contrast, the findings and recommendations of the flora and fauna report have identified opportunities that will improve the environmental attributes and qualities of the site, particularly in relation to the riparian corridor beside Frazers Creek, that would not otherwise be realised without redevelopment and the elements incorporated into this concept plan. The findings and recommendations of the range of specialist studies have not revealed the need to adopt the precautionary principle from an ecological point of view to either delay or prevent the concept plan application from proceeding.

- **Valuation Principle**

It is difficult to assign a monetary value to the environment of a locality, or environmental resources not exploited for commercial use. A monetary value could not be placed against the greatest proportion of environmental attributes of the site which may be affected. The more appropriate approach adopted for this project is to manage

environmental impacts by identifying appropriate safeguards to mitigate adverse environmental impacts. This cost of implementing these safeguards is included in the total project cost as a means of pricing the protection of the environmental attributes of the site.

Further assessment of ESD principles will be undertaken during development application subsequent stages of the proposal.

3.8 Director-General's Report

The Director General's report to the Minister for the proposed concept plan satisfies the relevant criteria under Section 75I of the Act and clause 8B of the *Environmental Planning and Assessment Regulation* as detailed in Table 1.

Table 1 – Section 75I(2) and Clause 8B Criteria

Section 75I(2) criteria	Response
Copy of the proponent's environmental assessment and any preferred project report;	The Proponent's EA and Preferred Project Report are located in the Report Appendices.
Any advice provided by public authorities on the project;	Copies of the submissions provided by public authorities on the project for the Minister's consideration is set out in Section 6 of this report and located in the Report Appendices.
Copy of any report of a panel constituted under Section 75G in respect of the project;	A panel was not formed for this proposal.
Copy of or reference to the provisions of any State Environmental Planning Policy that substantially govern the carrying out of the project;	Each relevant SEPP that substantially governs the carrying out of the project is identified in the Report appendices.
Except in the case of a critical infrastructure project – a copy of or reference to the provisions of any environmental planning instrument that would (but for this Part) substantially govern the carrying out of the project and that have been taken into consideration in the environmental assessment of the project under this Division,	An assessment of the development relative to the prevailing environmental planning instrument is the Report appendices.
Any environmental assessment undertaken by the Director General or other matter the Director General considers appropriate;	This report represents the environmental assessment undertaken by the Director-General.
A statement relating to compliance with the environmental assessment requirements under this Division with respect to the project.	The Environmental Assessment (EA) for the concept plan complied with the Director-General's requirements and the Proponent was notified of its compliance on 27 June 2007
Clause 8B criteria	Response
An assessment of the environmental impact of the project.	An assessment of the environmental impact of the proposal is discussed in Section 5 of this report.
Any aspect of the public interest that the Director-General considers relevant to the project.	The public interest is considered in Section 5 of this report, and addressed by the Statement of Commitments and Conditions of Consent.
The suitability of the site for the project.	The site is considered suitable for the development as discussed in Section 5 of the report.
Copies of submissions received by the Director-General in connection with public consultation under section 75H or a summary of the issues raised in those submissions.	A summary of the issues raised in the submissions is provided in section 4 and Appendix E of this report.

4. CONSULTATION AND ISSUES RAISED

During the exhibition period, the Department received a total of 39 submissions, 10 from public authorities and 29 from the public.

4.1 Public Submissions

The public submissions consisted of two from special interest groups, three from businesses and 24 from local residents. All but one objected to the proposal. Key issues raised in the submissions are summarised below:

- Impacts on **Ravensthorpe**, including the heritage impacts due to the built form of the proposal and impacts on the business due to the construction and operational impacts of the proposal;
- **Flooding impacts** and the potential for the site to impact on current flooding behaviour;
- **Traffic and Transport**, including impacts on Tongarra Road and need to upgrade the surrounding road network to cater for additional traffic;
- **Visual impacts**, namely the loss of open space and impacts on scenic values of the area;
- **Ecology impacts**, with specific concern with the impact on vegetation and wetlands located on site; and
- **Site Suitability**.

4.2 Government Agencies

Submissions were received from nine Government authorities, being the Department of Environment and Climate Change, Department of Primary Industries (Fisheries), NSW Roads and Traffic Authority, Ministry of Transport, Department of Water and Energy, State Emergency Services, the Rural Fire Service, the Department of Premier and Cabinet and Sydney Water. Other than the Department of Premier and Cabinet (who supported the proposal), none of the agencies stated an explicit position but identified a number of key issues for further consideration/information including: flooding, traffic and transport, SEPP 14 buffer distances, and water quality control (refer to Table 2).

Table 2 – Agency Submissions

Agency	Issue
Department of Environment and Climate Change	Identified issues relating to flood impacts, biodiversity conservation, buffer distances for the SEPP 14 wetland, water quality and quantity, use of coal wash within earthworks, and Aboriginal cultural heritage.
NSW Roads and Traffic Authority	Identified issues with the information provided regarding TRACKS modelling and impact of the proposal on the surrounding road network, identified road infrastructure upgrades required, including the access treatment, external and internal bus infrastructure and the upgrade of the cycleway along Tongarra Road.
Department of Water and Energy	Identified issues with the environmental management area, buffer distances between the development and Frazers Creek, the creek realignment and the revegetation program
State Emergency Services	Concerned due to the isolation of the lots on the northern side of the runway in times of flood and requested flood free access
Ministry of Transport	Requested a freight management strategy be prepared. Also expressed concern with the impact on existing congested intersections, and identified issues relating to car parking, cycling and need to consider public transport services and integration
Department of Primary Industries (Fisheries)	Concerned with the enforcement of the water cycle management plan, and identified issues relating to the 25 metre buffer width for the SEPP 14 wetland
Department of Premier and Cabinet	Indicated its support for the proposal

Table 2 cont.

Agency	Issue
Rural Fire Service	Stated the development did not raise any bushfire issues
Sydney Water	Identified requirements for section 73 Compliance Certificates and landscaping.

4.3 Shellharbour City Council

Shellharbour City Council indicated that it had 'in principle' support for the proposal, but identified a number of issues that it considered should be addressed before an approval is granted. The key issues are summarised in Table 3 below.

Table 3 – Matters identified in Council's Submission

Flooding	potential impact on the floodplain, the impact of the proposal on inundation behaviour in flood events smaller than the 1 in 100 year flood event and the on-going incremental impact, cumulative impact due to future work on the floodplain;
Riparian Corridor	inadequate setbacks provided, the multiple ownership of the riparian corridor and the need for vehicular access to allow for maintenance of the corridor.
Frazers Creek realignment	insufficient detail provided regarding the realignment of Frazers Creek.
Illawarra Regional Airport	identified matters that should be considered in the design and construction of future development to ensure the protection of operations at the airport.
Traffic and Transport	states that the Proponent had used incorrect traffic modelling data and insufficient information/data had been provided to justify modelling outcomes;
Stormwater Water Quality Management	questioned how water quality targets would be achieved and how the performance of the system would be monitored.
Flora and Fauna	specifically relating to the loss of endangered ecological communities.
Developer Contributions	indicated that it remains committed to the option of a planning agreement. The recent changes to S94 would prevent Council from having a section 94 Plan that charges for city wide facilities.
Heritage/ Archaeology	concerned with the impact of European heritage impacts on site and off-site and requested this be assessed. Also expressed concern that the potential for deposits of Aboriginal heritage may be present on site and suggested that a test excavation program be implemented to determine any significance of deposits that may be found on the subsurface.

4.4 Preferred Project Report / Response to Submissions

A Preferred Project Report (PPR) and response to submissions was prepared by the Proponent (Appendix C). As the changes were not significant, the proposal was not re-exhibited but was placed on the Department's website in accordance with the *Environmental Planning and Assessment Act 1979*. However, the Preferred Project Report was referred to Council and the Roads and Traffic Authority for comment.

NSW Roads and Traffic Authority

NSW Roads and Traffic Authority still identified concerns with the traffic modelling, the design of the intersection and the requirements to upgrade other intersections to cater for the increases in traffic generated by the proposal. The Proponent subsequently addressed these issues in further correspondence to the RTA in July and September 2008. However, the issue of the provision and design and the intersection treatment of Tongarra Rd and Station St and the intersection of Croome Rd and Tongarra Rd. This is discussed further in Section 5 of this report.

Shellharbour City Council

Council identified a number of additional concerns, which are considered in Section 5 of this report or are matters that the Department considers can be addressed at the detailed design stage.

However, Council did identify the potential for future upgrade of the Illawarra Regional Airport (IRA) and the need for fencing of the boundary between the airport and proposal to meet security standards. The Proponent modified the concept plan through a supplementary Preferred Project Report in response to this issue, as detailed in section 2 of this report.

5. ASSESSMENT OF ENVIRONMENTAL IMPACTS

After consideration of the Environmental Assessments, submissions, Submissions Report and the Government agency response to the Submissions Report, the Department has identified the following key environmental issues associated with the proposal:

- flooding;
- flora and fauna impacts;
- European heritage and built form impacts; and
- traffic and transport.

The Proponent has also assessed the potential impacts of the project on water quality, noise, Aboriginal heritage, and construction impacts. These issues are considered to be minor and although adequately assessed, require consideration and specific recommendations.

5.1 Flooding

The proposed site is located on the fringe of the floodplain of the Macquarie Rivulet and most of the site is subject to flooding during the 1 in 100 year and the Probable Maximum Flood (PMF) events. To enable development to proceed on the site, the Proponent is proposing to import approximately 230,500m³ of fill. This will change both on-site and off-site flood behaviour, particularly with respect to the loss of floodplain storage in the local catchment. These two issues have been considered separately below.

On Site Flood Impacts

Following the completion of the earthworks at the site, the Proponent identified that:

- the environmental conservation lands and the private road providing access to the 8 lots on the northern side of the east west runway would be inundated in a 1 in 100 year (1%) flood event; and
- the lower (central) portion of the proposed development, south of the east-west runway would be inundated in a PMF event.

The State Emergency Services (SES) raised concerns regarding access to lots on the northern side of the east-west runway in flood events, given the access road would be covered to a depth of 10cm in a 1% flood event and would become impassable at the peak of the PMF event. The DECC and Council also raised a number of issues, relating to the discrepancies in the assessment, the modelling assumptions and the management of risks on site.

In response to these submissions, the Proponent's predicted flood levels and the technical issues raised in submissions, the Department commissioned an expert review of the Proponent's assessment. This review confirmed the Proponent's flood levels. An overlay of these levels on the proposed subdivision is shown in Figure 5 and Figure 6 respectively.

Consideration

The primary objective of the NSW Government's *Flood Prone Land Policy* is to reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods. At the same time, the policy recognises the benefits flowing from the use, occupation and development of flood prone land. The policy promotes the use of a merit approach which balances social, economic, environmental and flood risk parameters to determine whether particular development or use of the floodplain is appropriate and sustainable.

The NSW Government's *Flood Plain Development Manual* (FPDM) (2005) is another guideline that provides direction to councils in the development and implementation of

detailed local floodplain risk management plans in order to produce effective floodplain risk management outcomes.

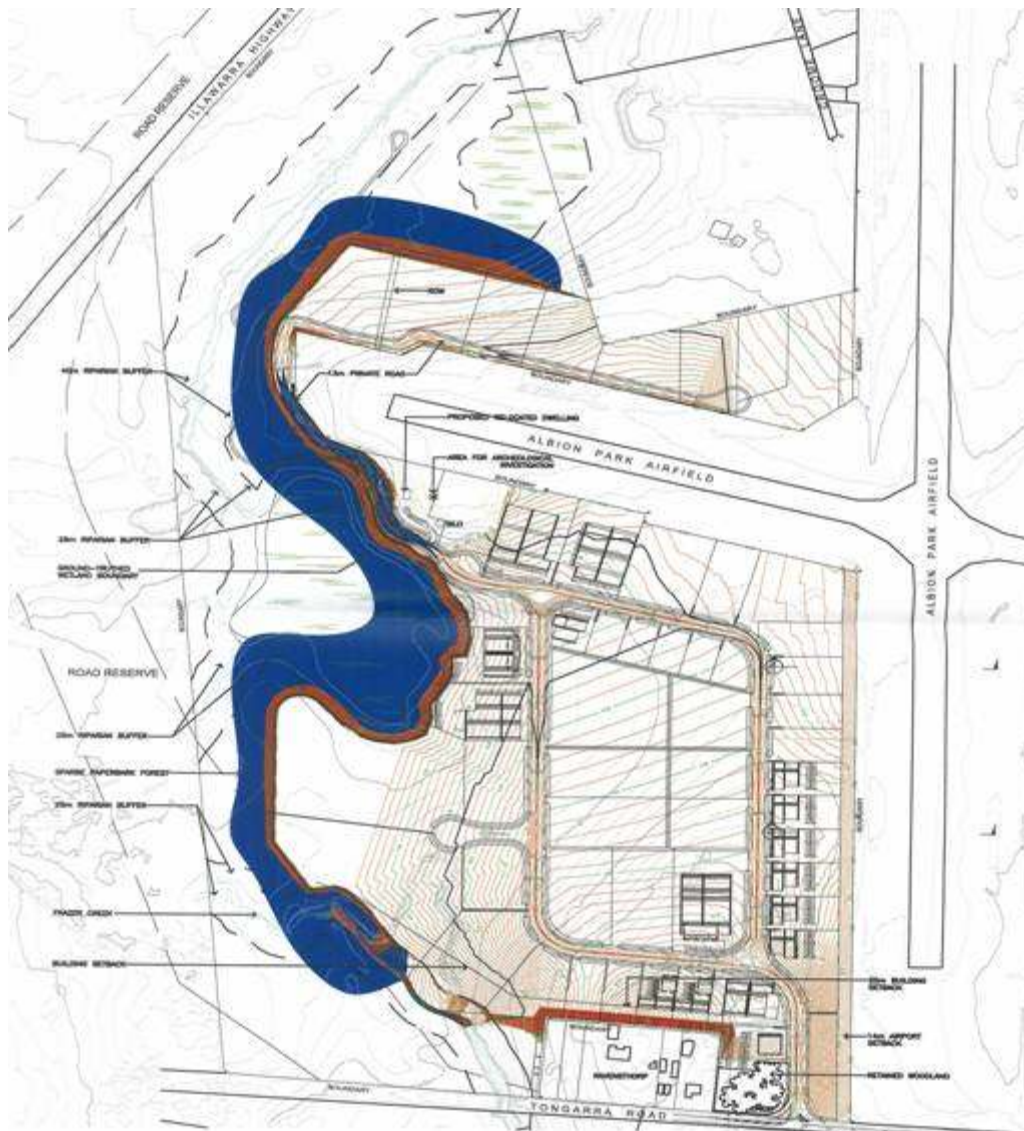


Figure 5 - 1 in 100 year post development flood levels

As outlined in the FPD, it is generally not feasible, socially, environmentally or economically desirable to safeguard development against the PMF. Subsequently, given the rarity of the PMF event, the Department considers that the partial inundation of the site in a PMF event as illustrated in Figure 6 would not pose an unacceptable threat to human life nor unacceptable economic or social consequences. Further, the Department concurs with the Proponent that these long duration events would provide ample time for flood warning. However, the Department agrees with the DECC that future development that would be inundated by these flood events would need to be appropriately designed to ensure possible risks to the built form and environmental risks are minimised. This includes:

- the need for the appropriate storage of chemicals/fuels;
- the appropriate siting and flooding proofing of service infrastructure (sewerage, water and electricity) and the protection of vital electronic equipment within these structures;
- demonstrating that the proposed built form can withstand flood events, provide minimum floor levels and that external structures (i.e. fences) will not impede flood waters.

This has been reflected within the recommended further environmental assessment requirements for future stages within the site.

The Department also recommends that educational facilities, childcare facilities and liquid fuel depots are to be prohibited on lands subject to inundation in the PMF event. Further, educational facilities and childcare facilities are also recommended to be prohibited on land that would be isolated during a 1% flood event. This is to reduce the potential evacuation risk and the exposure of people to dangerous flood situations.

To address the concerns of the SES, the Department has recommended the preparation of an emergency excavation plan for the site, to the satisfaction of the SES, as part of the future application for Stage 4 and 5 on the site. This will ensure that appropriate warning and excavation procedures are in place for the site, should a major flood event occur.

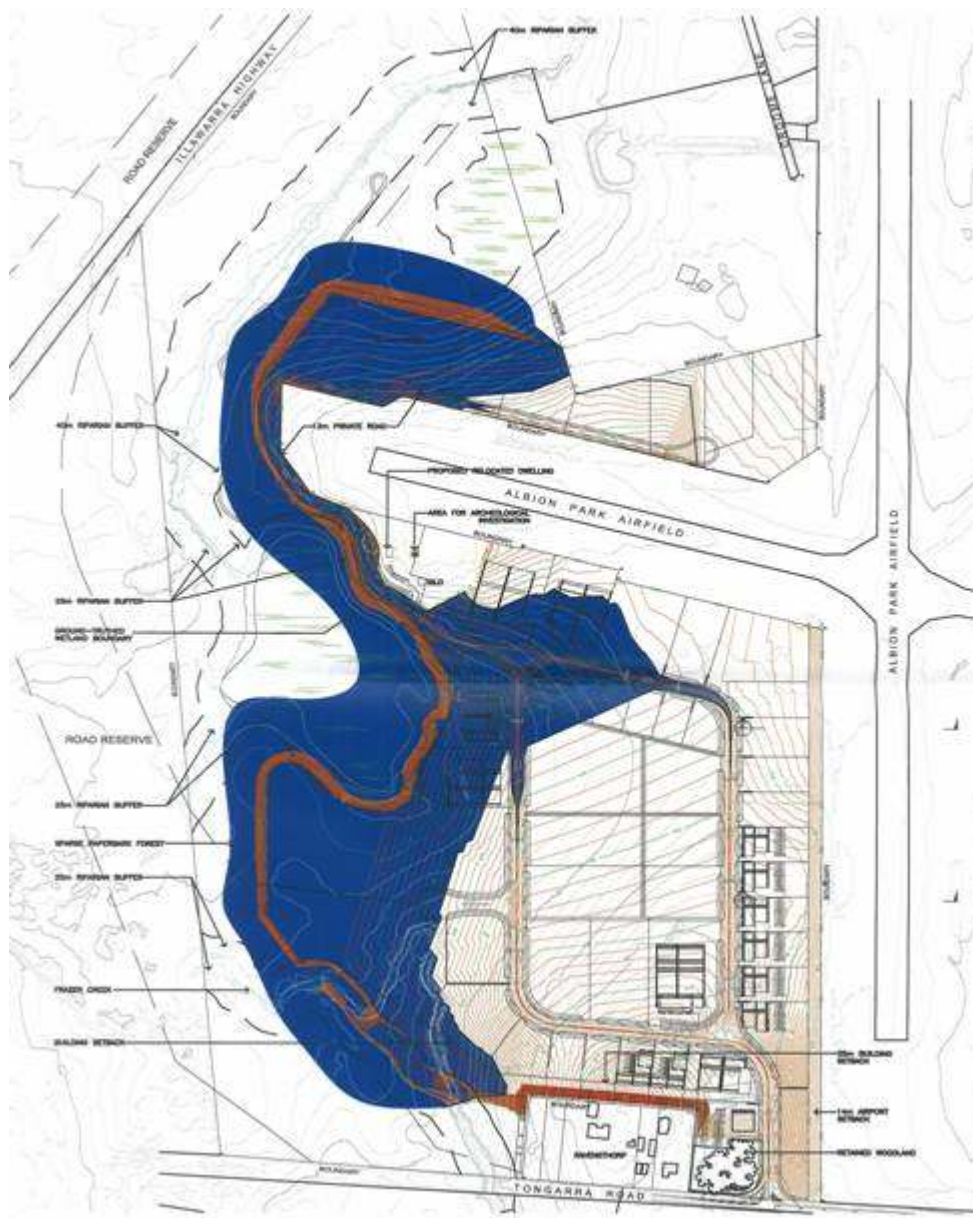


Figure 6 - PMF Post development flood levels

Off Site Flooding Impacts

The Proponent's assessment concluded that the proposed site preparation works would raise the flood level in the northern part of the floodplain between 32mm to 34mm and between 40mm to 60mm in the southern part of the catchment during the 1 in 100 year event. The Proponent also estimated that the proposal would displace less than 1.93% of the total volume of the flood plain in a 1 in 100 year flood event and 1.84% in a PMF event.

The potential impacts that this may have on surrounding properties was a key concern raised in public submissions. Council also raised the issue of the cumulative impacts on floodplain storage due development across the floodplain and that the further encroachment within the floodplain would limit development elsewhere. In response to these concerns, the Proponent advised that the impact of the proposal on the floodplain was minimal.

The predicted changes to offsite flooding levels was supported by Department's expert review, which concluded that the impact of the proposal on flood levels off site was not unreasonable under the proposed development conditions and future floodplain filling scenarios. However, the expert also recommended that the extent of future flood level increase be referred to other authorities including Council, DECC and DWE to determine if the increase was acceptable in light of possible cumulative impacts from other potential development within the floodplain.

Consideration

Future development on the site has the potential to displace flood plain storage and increase the effects of flooding on infrastructure external to the site given the levels of fill to be imported and future levels of hard surface on the site. The proposal will displace approximately 1.84% of the existing volume of floodplain storage in the PMF and approximately 1.93% of floodplain storage for the 1 in 100 year flood event. This is considered to be insignificant and would not create unacceptable impact when considered in isolation, particularly given that floor levels of residential development in the surrounding area are required to be above these levels.

The Department understands that Council is currently preparing a flood study and floodplain management study in accordance with *Flood Plain Development Manual*. One of the objectives of these studies is to determine the appropriate extent of acceptable losses in floodplain storage, flood planning levels and what mitigation measures would be required to mitigate flooding risk. Consequently, whilst the Proponent's assessment considered some filling scenarios, the Department acknowledges the conclusions of its expert and recommends that the Stage 1/2 development application must demonstrate that there will be no significant increase in the potential flood affectation on other development or properties either individually or in combination with the cumulative impact of development within the floodplain. This assessment should be undertaken in consultation with Shellharbour Council, to ensure consistency with its studies. If unacceptable impacts are identified and attributed to the site, the Department has recommended that mitigation measures must be identified within the Stage 1/2 application.

Climate Change Impacts on Flood Behaviour

The Proponent's flood report included an assessment of the potential impacts of climate change on flooding and the possible implications for the proposed development. The assessment has been based on the DECC guideline *Practical Consideration of Climate Change*.

Consideration

The impacts of climate change on sea levels and flood producing rainfall events will have a flow on effect on flood behaviour which may result in key flood levels being reached more

frequently and floods of the same average recurrence interval, ARI, being of a larger magnitude. However, the climate change factors influencing flood behaviour and their ramifications to the community will vary with the location, and the scientific evidence forecast regime is not certain. The Department notes that the flood study undertaken by the Proponent, and verified by the Department's expert review, considered the impacts of climate change, which included an inbuilt freeboard in the estimation of flood levels (0.5 metres) and an increase in the peak discharge into Macquarie Rivulet (of 15-20%) to reflect potential increase in rainfall.

Consequently, the Department is satisfied that the potential influences of climate change have been suitably addressed within the flood modelling and assessment.

5.2 Flora and Fauna

Endangered Ecological Communities

The site contains two endangered ecological communities (EECs) – *Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions* (FWCF) and *Swamp Schelorophyl Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions* (SSFCF). The remaining stands of SSFCF community within NSW represents less than 30% of its original extent, is often highly fragmented and subject to development pressure.

The proposed earthworks will disturb approximately 43.4% of the site. These works will not directly impact on the FWCF community but will result in the clearance of approximately half of the SSFCF community (0.5 hectares), which is located in the south-eastern corner of the site, in order to provide site access. However, the Proponent has proposed 24 hectare environmental conservation area, which would be rehabilitated as an offset for this loss.

The DECC raised concerns regarding the removal of SSFCF and requested that where the removal of these communities were unavoidable, that steps should be taken to minimise and mitigate associated impacts and provide compensation accordingly. Council also raised concerns with the potential impacts on these communities.

In response, the Proponent committed to the following:

- retention, protection, enhancement and long term management of all FWCF vegetation;
- provision of a separate Vegetation Management Plan for SSFCF vegetation as part of the application for the development of Stage One of the proposal;
- rehabilitation of the riparian corridor along Frazers Creek using species representative of SSFCF prior to the commencement of construction on the site;
- the provision of restrictions on land titles to ensure the protection of the riparian buffers where this species would be planted; and
- the preparation and implementation of a Construction Management Plan that would ensure the protection and subsequent regeneration of the SSCFC vegetation.

Consideration

The Department recognises that the small patch of SSFCF community has been subjected to grazing activities over a long period and has little value as corridor habitat due to its small size and isolated nature. Further, the rehabilitation of approximately 24 hectares of the environmental conservation lands, which species from this EEC would be used, would provide an appropriate offset for the loss of 0.5 hectares of this community. However, it is noted that the Propoent has not provided a clear commitment on what the off-set ratio would be for the impacted EEC to ensure that this off-set is appropriate.

Whilst no clear offset ratio has been established, the Department is satisfied with the proposed revegetation of the Environmental Management Area is capable of achieving the

required offset and recommends that the VMP form part of the further assessment requirements for the Stage 1 application. It is considered that the VMP should be prepared in consultation with DECC and should:

- address both the remaining stands of the SSFCF and the future rehabilitated areas;
- identify the performance objectives for the rehabilitation works. This includes setting an appropriate off-set ratio for the impacted EEC;
- identify the planting densities and species composition for the rehabilitation areas;
- detail maintenance and monitoring programs for the Environmental Management Area, including the identification of the relevant responsible parties; and
- identify corrective measures that would be implemented in an event where the performance objectives are not met or the failure of rehabilitated areas.

The Department also notes that the Proponent has deferred part of the rehabilitation of the entire alignment of Frazers Creek and the Environmental Conservation Land to last stage of the development. The Department does not concur that this provides an ideal outcome, as it would:

- would delay the realisation of the ecological benefits and offsets of the development; and
- could generate uncertainty that the full environmental outcomes would be delivered given the last rehabilitation works are tied to the last development stages of the site.

Consequently, the Department recommends that the concept plan be modified to require the rehabilitation works to be completed within two years of works commencing on Stage 1 of the development

Management and Rehabilitation of the Environmental Conservation land

Due to the encroachment of individual lots into the SEPP 14 Wetland buffer, Council advised that they would not commit to managing the Environmental Management Area. In response, the Proponent provided a revised Concept Plan limiting individual lot subdivision to the IN2 portion of the buffer, thus allowing that area zoned Environmental Conservation to be managed by a single body.

Consideration

The Department understands that Council has not committed to the management of the Environmental Management Area. Consequently, the Department recommends the Concept Plan be modified to ensure that future application for subdivision must detail how this area will be managed in the long term. Possible mechanisms include the use of a positive covenant registered on title which stipulates the responsibilities for individual lots. This has been reflected in the recommended Instrument of Approval.

Wetlands

The proposed SEPP 14 Wetland buffer is 25m in width and comprises 10m of E2 Conservation land and 15m of IN2 Light Industrial land (Figure 7). The partial IN2 zoning of the wetland buffer was considered necessary to ensure proposed fill and flood protection works could be undertaken to establish and rehabilitate the initial landforms in the EMA. The proposed Concept Plan does not include a setback for the northern wetland

Prior to lodgement of the proposal, DECC had also advised that the proposed 25m buffer around the SEPP 14 Wetland would deliver 'reasonable habitat solutions' provided it was planted with local provenance species and exclude batter slopes. However, DECC identified that this would not provide for ideal corridor functionality.

DPI also requested a minimum buffer width of 40m around the southern and eastern side of the SEPP 14 Wetland (comprising of 25m of natural buffer and 15m fill batter) be provided and that fill batter be located outside the buffer area.

In response, the Proponent advised that the batter would be located over existing cleared pasture land and thus would not compromise the riparian zone, that no buildings would be permitted within the buffer and the buffer would be fully rehabilitated. The Proponent also made the following commitments in this regard:

- There would be no buildings within the buffer area;
- Any works within the buffer area would be for flood mitigation or vegetation rehabilitation purposes only;
- The provision of a Vegetation Management Plan for development within the business park to ensure the rehabilitation and long-term protection of buffer areas, and
- The implementation of a Construction Management Plan.

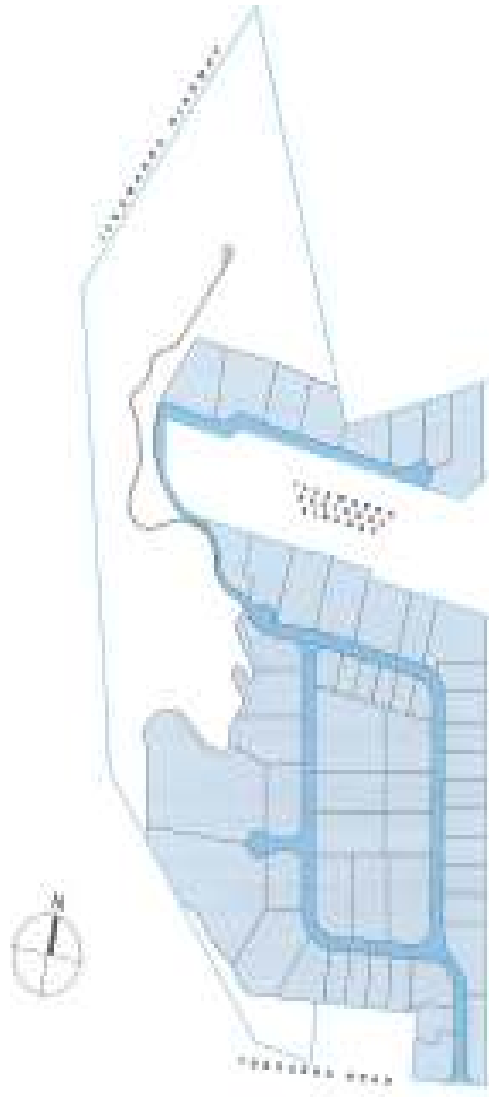


Figure 7 – SEPP 14 Wetland Setback

Consideration

In regards to the proposed size and composition of the SEPP 14 Wetland buffer, the Department is satisfied that the proposed buffer width of 25m would provide satisfactory protection for the Wetland and assist in preventing a decline in its ecological function given the commitments made by the Proponent.

However, with the presence of the batter within buffer will compromise the hydrological and ecological performance of the buffer unless it is appropriately designed – both in terms of the batter slope, the species composition/structure and how these factors can interact satisfactorily. Consequently, the Department has recommended that the assessment for Stages 1 and 2 must demonstrate that the batter design will ensure that the function of the buffer is maximised and can be appropriately maintained over time. Should this not be demonstrated, then consideration is to be given to reducing the amount of the batter that is located within the 25 metre buffer area.

The Department has also recommended that:

- development is excluded within the 25 metres or 40 metre buffer area (where applicable) for both wetlands and riparian areas, other than flood mitigation and environmental works. This includes the exclusion of stormwater detention and treatment facilities;
- that development is prohibited within a 25m radius of the northern Wetland boundary and that the proposed Vegetation Management Plan is to include provision for the rehabilitation of this buffer;
- the location of the pathway is only permitted within core riparian areas if an assessment demonstrates that this does not compromise the function of this area and that mitigation measures are implemented to reduce any conflict between these uses; and
- future applications for development that adjoins the buffer area must demonstrate that construction works will be appropriately managed to minimise the impacts on the SEPP 14 wetland and that the proposed operations at the site do not detrimentally impact on the buffer areas contained within the site, such as appropriate on-site water quality control measures.

5.3 Realignment of Frazers Creek

The eastern arm of Frazers Creek will be realigned as part of Stage 1 of the proposal, which will create a more direct alignment of the waterway in the south-western corner of the site. This is proposed to maximise the developable area for industrial purposes. The realignment will affect both remnant vegetation as well as the hydrological conditions of the creek.

Remnant vegetation along Frazers Creek is part of an, 'indicative habitat corridor' identified in the *Illawarra Regional Strategy* and is also identified as a 'proposed riparian corridor' in Council's *Nature Conservation Strategy*. The Proponent's assessment determined that the habitat corridor value of the Frazers Creek in its current condition was extremely marginal and that most species would not utilise Frazers Creek as habitat or for movement purposes.

Government agencies and members of the public raised concerns regarding the impact of the proposed realignment of Frazers Creek on remnant vegetation within the banks of the Creek and the potential for associated bank erosion.

In relation to the impact of the realignment on remnant vegetation, the Proponent committed to the preparation of a Vegetation Management Plan that would make provision for the rehabilitation of creek buffers. However, the Proponent did not propose any measures to ensure the prevention of bed and bank erosion associated with the realignment of Frazers Creek.

Consideration

The Department recognises that the proposed creek realignment would result in the removal of remnant vegetation on the banks of the creek for that portion of the realignment. However, it is equally recognised that the affected riparian zone has been substantially modified as a consequence of agricultural practices and is of low quality.

Overall, the Department considers that the proposed re-establishment of riparian vegetation through a Vegetation Management Plan would ensure that the function of the Frazers Creek as a habitat corridor will be maintained. The rehabilitation of the creek and Environmental Management Area also has the potential to enhance the current function of the site in a local context and will contribute towards achieving the goals of the *Illawarra Regional Strategy*.

With respect to the design of the realignment, the Department considers that the Proponent has not provided sufficient information on the proposed design and how the future engineering design of the realignment will address the potential for bed instability and bank erosion. Consequently, the Department has recommended that the design of the realignment must demonstrate that it would satisfy the following requirements in the application for Stage 1/2:

- the creek realignment works do not trigger any instability in the river system, including lateral and plan form meander migration, bed and bank erosion, and headcut erosion;
- works must not result in any adverse changes in existing flow, sediment erosion and deposition patterns;
- works must do not result in any adverse impacts in existing and upstream flood levels;
- That the full range of flows, including the lower flows, channel dominant discharge, bank discharge, and higher flows, are taken into account in the assessment of the impacts on stream morphology;
- That the works do not result in any adverse redistribution or increase in flow velocities near its vicinity;
- the design must demonstrate that the application of principles for the design of environmentally sustainable channels is applied to the design; and
- potential maintenance issues must be adequately addressed.

These requirements have been incorporated into the recommended Instrument of Approval.

5.4 Water Quality

Operation

The Concept Plan includes a proposed Water Cycle Strategy, which aims to control stormwater on-site, avoid the discharge of contaminated waters or sediment into Frazers Creek and control quality of stormwater that would be discharged into wetlands on the site. The Proponent states that this would contribute towards the improvement of Lake Illawarra, which is subject to high nutrient levels, due to the containment and treatment of polluted runoff from this site. The implementation of the Water Cycle Strategy would be shared between individual lot owners and Council (the latter being responsible for road runoff).

Three key issues were identified in the exhibition and assessment of the Concept Plan relating to the Strategy – being the potential to achieve the water quality targets, the impact on the hydrological condition of the SEPP 14 wetland and the proposed shared-management approach. These are discussed separately below.

Water Quality Targets

The proposed Water Cycle Strategy contains predicted water quality targets. DECC raised concerns regarding the potential to achieve these targets

In response, the Proponent proposed an ongoing program for the monitoring and maintenance of water quality in the SEPP 14 Wetland and committed to the formulation of treatment methods and water quality targets in consultation with Council.

Consideration

The Department notes that the Strategy does not include a water quality validation program to confirm the targets predicted within the Environmental Assessment. To address this issue, the Department recommends that such a program be provided to demonstrate that water discharged into Frazers Creek does not compromise the interim objectives for the Illawarra Catchments outlined in the NSW Government's *Water Quality and River Flow from Illawarra Catchments*.

Hydrological Impacts on SEPP 14 and Native Vegetation

The DECC raised concern that the management system may detrimentally impact on the wetlands and the Endangered Ecological Communities due to changes in on-site hydrology and has recommended that this is monitored to ensure no adverse impacts.

Consideration

The Department agrees that the interaction of the proposed stormwater system and the receiving environment must be monitored to ensure no detrimental impacts occur.

The Department recommends that the Concept Plan be modified to ensure a monitoring program is implemented that monitors the health of the SEPP 14 Wetland, the northern wetland and the *Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions* at both pre and post-development stages to ensure that the changes in hydrology caused by the development does not have detrimental impacts on the health of these systems. The program must also identify what corrective measures (and the relevant responsible parties) would be implemented, and who would be responsible for implementing these measures, should any adverse impacts be detected.

Water Cycle Management

The Department of Primary Industries (DPI) and DECC raised a number of concerns regarding the shared management approach – specifically, that:

- the proposed stormwater management for individual lots would be managed by each individual lot and was thus contrary to a holistic water management approach required for such a sensitive site;
- the requirement for on-site detention for each individual lot may be impractical for smaller lots and result in inefficient stormwater management for the entire site; and
- the staged approach to stormwater management may lead to inappropriate and inadequate infrastructure on some lots that would result in overflows into the road network and creek outlets beyond their designed capacity.

In regards to the future operation of the Water Cycle Management Plan, the Proponent has committed to ensuring that all development in the site complies with the requirements of the proposed Water Cycle Management Plan.

In response to the concerns regarding the staged approach to stormwater management on the site and the potential inefficiency of stormwater control, the Proponent has provided a proposed water management plan that accounts for the size of the proposed lots and proposed that the core drainage to Frazers Creek be undertaken as part of Stage 1 of the proposal.

Consideration

The Department is satisfied that the Proponent has provided an adequate Water Cycle Management Plan that has accounted for the proposed subdivision plan and the staged nature of the development. However, the Department does not believe that the Proponent has provided an appropriate mechanism to ensure that this Plan is implemented by future land owners. Consequently, it is recommended that the Concept Plan be modified to require a public positive covenant that outlines the responsibilities of each lot to be placed on the title of all future lots to ensure landowners comply with the requirements of this plan.

The Department has also recommended that future applications must demonstrate compliance with the Water Cycle Management Plan and that there is sufficient capacity within the core drainage system for the subject development.

5.5 Heritage Impacts

The key issues relating to heritage can be summarised as follows:

- Impacts on Ravensthorpe;
- Impact on the Wanalama homestead site;
- Impact on Aboriginal artefacts.

Impacts on Ravensthorpe

The site does not contain any State listed heritage items, however it does adjoin Ravensthorpe on its southern boundary which is a locally listed item (refer to Figure 8). This property includes a guesthouse which operates as a restaurant and wedding reception venue. Whilst Ravensthorpe's development consent stipulates the erection of a 2.1m high fence on its northern boundary adjoining the Business Park site (as shown in Figure 9), Ravensthorpe owners have not yet erected this fence.



Figure 8 - Ravensthorpe

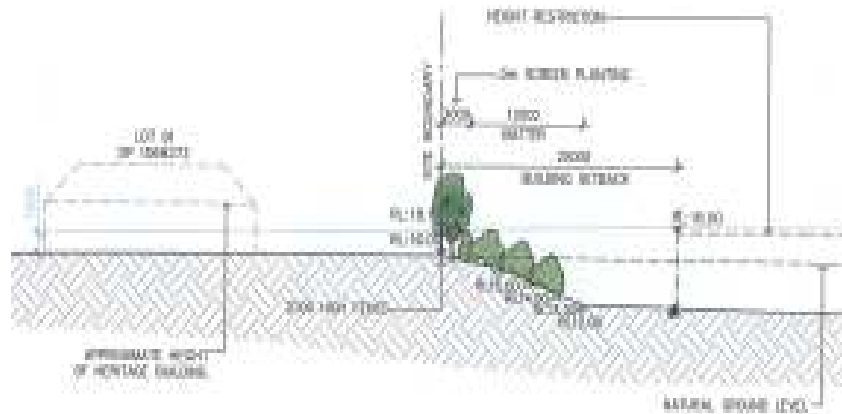


Figure 9 - Proposed height controls to protect Ravensthorpe

Table 4 – Proposed Height Controls

Location	Height
Within 100 m of part of the northern boundary of Ravensthorpe	RL18
Along the defined view corridor between the Escarpment and the Ravensthorpe	In accordance with the View Corridor Plan (refer to Figure 11)
All other locations	RL26



Figure 10 – View of the escarpment to the north from Ravensthorpe

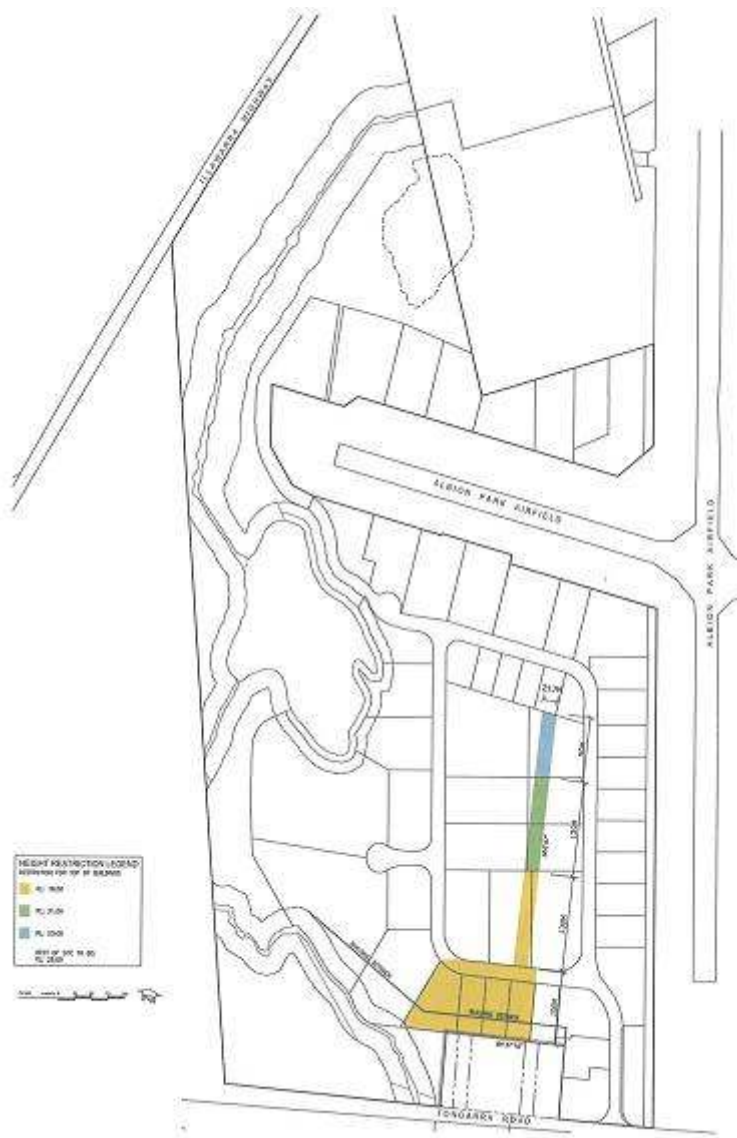
Public submissions and Council identified concerns regarding the heights limits proposed for future buildings on the site and the potential impact of future development on the heritage significance of 'Ravensthorpe' and the visual amenity of the surrounding area.

The Proponent stated that:

- the general finished ground level is likely to be 8 – 10m, resulting in developments unlikely to exceed 16m in height in general within the Business Park;
- that a building line setback of 25m from the boundary of Ravensthorpe in addition to the revised height controls detailed in Table 4 which includes a maximum building height of 6m within 100 metres of the property boundary (as shown in Figure 9).

The Proponent also proposed additional controls to protect significant views to and from Ravensthorpe (Figure 11) and its gardens, which would minimise the visual impacts on Ravensthorpe from the future development of the Business Park. These measures were included:

- planting of the area to the west of the site between Ravensthorpe and Frazer Creek in the Riparian Buffer with grass and sedgeland, and transferring the ownership of this area to Shellharbour City Council;
- provision of a view corridor 21.7m in width from the northern boundary of Ravensthorpe. The height of buildings within this zone would be limited in accordance with the Proponent's Heritage Report as shown in Figure 11; Establishing a building line setback of 25m to the north of the existing boundary of Ravensthorpe, and providing landscaping and parking in this zone;
- retention of the landscape batter of 12m to the rear of Ravensthorpe.



Consideration

The heritage significance of Ravensthorpe is derived significantly from its relationship with the surrounding landscape including the Illawarra Escarpment to its north. The protection of views to and from Ravensthorpe is essential in maintaining its economic viability and ability to operate as a functioning heritage item. It is considered that the proposed general height restrictions and buffer area are sufficient to ensure the protection of views to and from Ravensthorpe.

A height limit of 6m within 100m of Ravensthorpe is considered acceptable as it would ensure future development is limited to 10cm below the height of the 2.1m high fence Ravensthorpe's owners are required to erect on its northern boundary. This height would also ensure that future development on the site does not detract from its heritage significance or visually dominate the surrounding area.

Figure 11 - View corridor from Ravensthorpe to the escarpment

Whilst parking and landscaping will be permitted within the 25m boundary of Ravensthorpe, the Department is satisfied that these uses would not detract from the visual setting of the Ravensthorpe property. With respect to the remainder of the site, the Department considers that a 16m height limit is an acceptable limit for the business park as any higher would visually dominate Ravensthorpe, detrimentally impact on its heritage significance and detract from the visual amenity of the surrounding area. Nevertheless, the Department has

recommended that future applications would need to demonstrate that the proposed built form does not generate any adverse impacts on Ravensthorpe.

Protection of the Wanalama homestead site

Currently, the Wanalama Homestead and associated buildings are located on the site to the rear of Ravensthorpe (Figure 13) and are not of local or State heritage significance. These buildings were originally located in close proximity to the stand of fig trees in the centre of the site, however were relocated to the rear of Ravensthorpe during World War 2. The most significant building and oldest building on the site is the Wanalama Homestead (also known as Marks Villa) which is an example of an early Victorian farmhouse, however has undergone significant renovation since the 1940s. It is proposed that the remaining farm buildings on the site be demolished.

Concerns were raised regarding the potential for the proposal to reduce the heritage significance of the Wanalama Homestead and associated buildings. In response, the Proponent committed to investigating the relocation of the Wanalama homestead from its current position at the rear of Ravensthorpe to its original position adjacent the east west runway at the existing stand of fig trees for use as a café and provision of an interpretation plan for the site. If this building did not survive the relocation due to its poor condition a new purpose built café would be built on the original site.

Consideration

The Proponent's Heritage Report identified that the significance of the Wanalama Homestead 1 was diminished due to its renovation and relocation and that the remaining buildings were of much lower heritage significance. Whilst it is possible that relocation may damage the homestead, if successful, it would provide an opportunity to interpret the story of Wanalama at the original site of the homestead whilst operating as a café. The Department has not recommended any modifications with respect to this item, but has recommended that future development applications would need to ensure that it does not generate any adverse impacts on this item.

The farm buildings associated with the Wanalama Homestead have been identified as of less heritage significance and it is considered that their demolition will not reduce the significance of the Wanalama homestead.



Figure 12 - Wanalama Homestead



Figure 13 - the view of Ravensthorpe and associated buildings looking from the west along Tongarra Rd. The proposed Business Park site is to the left.

Aboriginal Heritage

An Aboriginal stone flake was found west of the east west runway during the Proponent's Heritage Assessment. This Assessment indicated that the flake was most likely deposited on the bank of Frazers Creek after previous dredging activity.

The Proponent committed to several measures to ensure minimal impact on the Aboriginal stone flake and any other relics found during the proposed works and to the maintenance of a watching brief during the excavation and filling of the site. The Proponent has also proposed to adoption of procedures approved by the Local Aboriginal Land Council in the event that any Aboriginal relics or items of cultural significance be discovered.

It is noted that Council requested sub-surface testing of the entire site to determine if any items, other than that already identified by the Proponent. On the other hand, the DECC suggested that no surface testing would be required given its knowledge of the area and recommended that a Plan of Management be prepared to consider the Aboriginal cultural values of certain areas of the park, being the stand of fig trees, the paperbark forest and the wetlands, and to mitigate/avoid any impacts on these areas.

Consideration

It is considered that these measures are sufficient in ensuring the protection of any potential Aboriginal relics to be found on the site. Protocols and measures relating to the protection and recovery of the items of Aboriginal heritage, should be detailed within an Aboriginal heritage management plan, which has been prepared in consultation with DECC and the relevant Aboriginal groups. The Department is satisfied that this will ensure the adequate protection of any items of Aboriginal heritage on site.

5.6 Traffic and Transport

At completion, the Proponent has estimated that the proposed site would generate approximately 525 vehicles per hour in the AM peak and 602 vehicles per hour in the PM peak. It was predicted that most of the traffic would access or depart the site via the Princes Highway, travelling through the Croome Road and Station Street intersections.

The RTA, Council, the Ministry of Transport and a member of the public raised the following issues in relation to road safety, intersection treatments, peak traffic flows, road infrastructure capacity, freight movements, road design, site access and road network implications.

These issues were addressed by the Proponent through the revised Concept Plan/Preferred Project Report which was referred to the RTA for comment. The following issues were raised by the RTA in relation to the PPR:

- inadequate level of information provided regarding TRACKS modelling and impact of the proposal on the surrounding road network;
- inadequacy of SIDRA analysis provided;
- identification of the road infrastructure requirements for necessary to mitigate the impacts of the proposal;
- the need for plans of the proposed access treatment on Tongarra Rd;
- provision of internal and external bus infrastructure; and
- upgrade of the cycleway on Tongarra Rd for the full frontage of the development.



Figure 14 – Location of the Site, Croome Road and Station Road intersections. The proposed access point is located between Ravensthorpe and the property boundary.

The additional information presented by the Proponent confirmed the adequacy of the TRACKS modelling, however it demonstrated that the proposed layout would result in unacceptable impacts on the traffic efficiency of Tongarra Rd. The RTA and the Proponent investigated options to revise the access arrangements for the site and to determine if this could be accommodated within the existing road reserve.

The RTA still remains concerned with the Proponent's final two concept options for the site access, and the impacts on Station Road and Croome Road intersections (refer to Figure 14). The RTA subsequently requested the following:

- traffic signals be provided at the junction of Tongarra Rd and the site access and that the Proponent obtain an option to acquire land that is likely to be required in the future;
- the provision of traffic signals at the junction of Tongarra Rd and Station St prior to occupation of the site;
- upgrade of the junction of Croome Rd and Tongarra Rd prior to occupation of the site.

In response, the Proponent agreed to the provision of traffic signals at the site access but argued that both designs could be catered for within the existing road reserve. This is based on how certain assumptions, namely that the speed limit in proximity of the development should be reduced from 80km/hr to 60km/hr.

The Proponent also advised that both the Tongarra Rd/Croome Rd and Tongarra Rd/Station Street intersection would require signalisation within the 5 years regardless of the proposal and as such they should not be required to fully upgrade these intersections prior to occupation of the site (refer to Table 5). The Proponent has identified that it is contributing an average of 19% of peak movements at these intersections, and argued that its contribution to upgrade these intersection should reflect this.

Table 5 – Intersection Level of Service With and Without the Proposal

	Level of Service					
	2007 (Existing)		2018 (Proposed)		2018 (No Proposal)	
	AM	PM	AM	PM	AM	PM
Tongarra Rd/Station St	C	F	F	F	F	F
Tongarra Rd/Croome Rd	C	D	F	F	F	F

Consideration

The Department acknowledges that both the Tongarra Rd/Station St and the Croome/Tongarra Road intersections will require upgrading in the future to cater for expected growth demands, regardless whether or not the proposal proceeds. Conversely, it is recognised that the development will also place demands on the broader road network and that any contribution towards road infrastructure by the Proponent should reflect this.

The Department notes that the Proponent will be expected to make satisfactory arrangements towards regional road infrastructure prior to the subdivision of the site, and it is anticipated that this would comprise of the upgrade of the Tongarra Road/Station Street and the Tongarra Road/Croome Road intersections. As the Proponent is not presently seeking approval for the subdivision of the site, it has not yet entered into discussions with the RTA to determine how it will fulfil its obligations for making satisfactory arrangements. Consequently, the Department recommends that the Proponent should be required to demonstrate how it has satisfied its obligations for making satisfactory arrangements towards regional infrastructure as part of Stage 1 of the development. This will ensure that this issue is resolved prior to any works commencing on site. This has been discussed with the RTA, who have agreed to this approach.

In regards to the proposed site access, the RTA has indicated that it still has concerns with the proposed design and that it would not accept a reduction in the speed limit at this location as proposed by the Proponent. Given both parties agree that a signalised intersection is required at this location, the Department considers that the design of the intersection can be deferred to enable further refinement and negotiation to ensure the RTA's requirements are properly addressed. The Department believes that this should not delay the Minister's determination of the concept plan given it does not seek approval for any physical works. Consequently, to ensure these matters are resolved prior to Stage 1/2 commencing on site, the Department recommends that:

- the concept plan be modified to require the intersection to be designed and constructed to the satisfaction of the RTA and to require the completion of the site access intersection prior to the occupation of any building on-site; and
- the design of the intersection (as agreed by the RTA), including options to acquire any relevant land, be included within the application for Stage 1/Stage 2 of the development.

Freight Movements

The Ministry of Transport suggested a freight study be undertaken to ascertain the impact of freight transport for the surrounding road network and requested that the traffic analysis and recommendations of the Albion Park Transport Study be addressed by the proposal. As part of this, the Ministry requested an investigation of air and rail freight capabilities in the area.

In response, the Proponent stated that these requests were beyond the scope of the study and that the development represents a commercial office and light industrial employment opportunity and therefore its impact on freight movements would be minimal.

Consideration

The proposal is for a 60 lot business park for light industrial development. The Department considers that the potential impact on freight movements within the area from such development would be minimal and does not warrant the preparation of a freight study.

Internal design

The RTA and Shellharbour City Council raised concerns regarding the capability of proposed internal bus infrastructure to sufficiently cater for entering traffic.

In this regard, the Proponent advised that bus stops would be located along the internal loop road and that the parking lane would be utilised for bus stops to ensure that traffic flows can be maintained. The Proponent also committed to further consultation with bus service operators in the area to ensure the requirements of these operators are met.

Consideration

The Department considers that the detailed design of the internal road system, and the final location of the bus stop can be addressed as part of the future applications. This has been incorporated within the recommended instrument of approval for the concept plan.

5.7 Illawarra Regional Airport

The *Illawarra Regional Strategy* (2007) states that the Illawarra Regional Airport will need to be protected and supported to attract investment. It further states that land use planning decisions will protect Illawarra Regional Airport recognising the link it provides to and from the region'. However, the Strategy also identifies the subject site as 'employment investigation lands'.

Council has advised that there is a proposal to expand the Illawarra Regional Airport to a Code 3 status to facilitate the possible entry of jet airline services into the region. This would require the widening both runway flight strips from their current width of 90m to a width of 150m and that this would result in an encroachment of 14m into the Business Park for the length of the east west runway.

In this respect, Council requested the reservation of an additional 14m strip of site for the potential airport expansion and made the following requests:

- erection of a 2.1m high security fence on the western boundary of the 14m strip and the IRBP;
- provision of an easement as part of a condition of consent allowing access to the 14m strip; and
- consideration of potential safety aspects associated with the proposal including light spill and building heights.

The Civil Aviation Authority (CASA) also raised concern regarding the potential of the proposal to impact on the future operation of the Airport.

In response, the Proponent revised their concept plan through a supplementary Preferred Project Report to provide a 14m strip of land zoned SP2 Airport for the length of the north south runway and provided a revised commitment stating all measures will be taken as necessary to ensure there are no conflicts between the operation of the Business Park and the adjacent Illawarra Regional Airport in accordance with the airport's current classification.

Light spill and Landscape Management were also raised as issues in relation to the impact of the proposal on airport security. The proposed Landscape Management Plan ensures the height of trees adjacent to and at the end of runways are within the height restrictions provided by the Obstacle Limitation Surface (OLS).

Consideration

The future operation of the IRA will not be restricted by the future development of the business park given the concept plan now provides a 14m wide strip of land along the site boundary will ensure the opportunity for future upgrade of the airport is protected. Further, the recent rezoning of the site has zoned this area as SP2 (Special Infrastructure).

Nevertheless, the Department has recommended that the concept plan be modified to provide an easement along the 14 metre strip to ensure Council can maintain this strip of land. In addition, the Landscape Management Plan will need to provide appropriate measures to ensure no conflict occurs with the operation of the airport.

Further environmental assessment requirements on future development within the site, as recommended by the Department, will also require matters relating to lighting, landscaping and heights of buildings and other structures, does not compromise the operation of the airport.

Overall, the Department is satisfied that the measures proposed are acceptable in ensuring the safety of the operation of the Airport and that future lighting on the site can be assessed at the future development application stage.

5.8 Operational Noise

Submissions from the general public and Council raised concerns regarding potential noise impacts generated as a result of operations at the site on residential receivers, in particular the Ravensthorpe property.

The Proponent identified that the impact on residential receivers was largely attributed to the potential 24 hour operations and the heavy vehicle movements on site. These impacts can be mitigated to meet the applicable noise criteria through the provision of an acoustic noise barrier of 2.4m in height on a portion of the eastern boundary of the site and a portion of the northern and eastern boundaries of 'Ravensthorpe'. However, given this acoustic wall as been based several assumptions based on future operations, the Proponent has indicated that it would determine whether or not the acoustic wall would be required as development progresses.

Consideration

The Department accepts the conceptual nature of the noise assessment, on the basis that detailed and site-specific noise assessments will accompany future applications. Consequently, the Department recommends that the concept plan be modified:

- that future applications must undertake an assessment in accordance with the *Industrial Noise Policy* and the *Environmental Criteria for Road Traffic Noise* against the recommended noise criteria, which must also address cumulative noise impacts from the business park; and
- that mitigation measures be incorporated in further assessments should noise criteria be exceeded, such as acoustic wall.

5.9 Soil Impacts

The proposed development requires substantial cut and fill activities across the site, which will also involve the importation of fill. Areas within the site have been identified as containing potentially contaminated soils, saline soils and potential acid sulphate soils (PASS). The disturbance of these soils will pose both environmental, health and longer-term issues for development within the site if not properly identified, treated (where applicable) and managed during the earthworks and development stages of the development. Furthermore, the importation of soil may pose similar risks, depending on the nature of the fill material. For example, the Proponent had originally identified sourcing coal wash for this purpose.

Consideration

The Department considers that these potential impacts must be addressed as part of Stage 1/2 and Stage 5 of the concept plan. Consequently, the Department has recommended the following further assessment requirements for these stages:

- detailed civil engineering plans for the bulk earthworks, which confirm the presence of PASS and saline soil risks and demonstrate how these impacts will be addressed with appropriate mitigation measures (where applicable) in the immediate and long term;
- identification of the source of fill to be used on site. If virgin excavated soil is not to be used, an assessment on the suitability and justification of the use of this material must be undertaken along with an assessment of the impacts that may arise from the use of this material (such as, water quality, groundwater and ecological impacts);
- undertake a further assessment of contaminated soils for the entire site, with a remedial action plan to be prepared should remediation be required; and
- details of how material would be stockpiled and how the site would be stabilised and maintained once earthworks are completed.

5.10 Construction Impacts

Construction work, particularly the earthworks stage of the development, will generate impacts on the surrounding environment and properties, ranging from noise, soil and water, air quality (dust) and traffic. This was a concern raised in submissions from the general public.

Consideration

Limited assessment has been conducted on these impacts on the basis that these would be addressed in subsequent applications. However, an overarching Construction Environmental Management Plan has been proposed by the Proponent to address these issues.

The Department concurs that the detailed assessment of these impacts is appropriately deferred to subsequent applications and has recommended further assessment requirements for these Stages – which include an assessment of construction noise, air quality (dust), soil and erosion, contamination, and construction traffic assessments.

6. CONCLUSION AND RECOMMENDATION

The Department has reviewed the environmental assessment and the preferred project report and duly considered advice from public authorities as well as issues raised in general submissions in accordance with Section 75I(2) of the Act. All the relevant environmental issues associated with the proposal have been extensively assessed.

In balancing the State significant planning outcomes with the issues raised in the body of this report, the Department is of the view that the Proponent has satisfactorily mitigated the environmental impacts arising from the development of the Illawarra Regional Business Park. In assessing the proposal, the Department has resolved any outstanding environmental issues through recommended modifications.

The Proponent has committed (through Statement of Commitments) to a number of measures to ensure the development does not adversely impact on local amenity and landscapes adjacent on the site. The Department is recommending further modifications to the concept plan to augment commitments made by the Proponent.

Recommended modifications to the Concept Plan are provided at Appendix A. The reasons for the imposition of modifications are to encourage good urban design, maintain the amenity of the local area and adequately mitigate the environmental impact of the development.

Consequently, it is recommended that the Minister:

- (a) consider the findings and recommendations of this report;
- (b) approve the concept plan for the proposal under section 75O *Environmental Planning and Assessment Act, 1979* (the Act) subject to the recommended modifications;
- (c) determine the future environmental assessment requirements for subsequent project or development applications associated with the Concept Plan;
- (d) determine that any development or an activity associated with the approved Concept Plan with a capital investment of less than \$30 million be subject to Part 4 or Part 5 of the Act, whichever is applicable, unless the development is, in the opinion of the Minister, development of a kind that is described in Schedule 1 of *State Environmental Planning Policy (Major Projects) 2005*; and
- (e) determine that a development application for the project or that stage of the project under Part 4 is to be generally consistent with the terms of the approval of the concept plan under section 75P(2)(a) of the Act.

Endorsed by:

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APPENDIX A – RECOMMENDED INSTRUMENT

APPENDIX B – STATEMENT OF COMMITMENTS

APPENDIX C – PREFERRED PROJECT REPORT / RESPONSE TO SUBMISSIONS

APPENDIX D – ENVIRONMENTAL ASSESSMENT

APPENDIX E – SUBMISSIONS SUMMARY

APPENDIX F – ENVIRONMENTAL PLANNING INSTRUMENTS

The table below provides the Department's assessment of compliance against Environmental Planning Instruments, including State Environmental Planning Policies, that substantially govern the carrying out of the development.

<i>State Environmental Planning Policy (Major Projects) 2005</i>	
State Environmental Planning Policy (Major Projects) 2005 outlines the types of development declared a major project for the purposes of Part 3A of the EP&A Act. For the purposes of the SEPP certain forms of development may be considered a Major Project if the Minister (or his delegate) forms the opinion that the development meets criteria within the SEPP.	On 16 July 2006, the Minister for Planning formed the opinion pursuant to Clause 6 of <i>State Environmental Planning Policy (Major Projects) 2005</i> that the proposal is a Major Project and subject to Part 3A of the Act, having satisfied himself that the proposal met the criteria of a kind being a State Significant Site and authorised the submission of a Concept Plan for the site.
SEPP Major Projects Amendment No.28 protects land of environmental conservation value with environmental protection zoning, identifies land that could be used for potential airport expansion; identifies land appropriate for development as being within business park development, establishes development controls over the Illawarra Regional Business Park, and protects the adjacent local heritage item 'Ravensthorpe'	The Concept Plan is consistent with the SEPP Major Projects Amendment through its proposed layout, landuse and development controls.
<i>State Environmental Planning Policy No. 14 – Coastal Wetlands</i>	
Clause 7 of the SEPP states that: In respect of land to which this policy applies, a person shall not: (a)clear that land, (b)construct a levee on that land, (c)drain that land, or (d)fill that land, except with the consent of the council and the concurrence of the Director.	The site accommodates a wetland that is listed as item 382 under the SEPP. As part of the Major Projects SEPP amendment, the proponent proposes to amend the boundary of wetland 382 to comply with the boundary which has been ground truthed as part of the Waterways and Wetland Report. Thus there is no proposed development within the wetland and it shall be protected under the provisions of SEPP 14.
<i>State Environmental Planning Policy No. 55 – Remediation of Land</i>	
SEPP 55 promotes the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated.	<p>The Proponent has conducted a Stage 1 Environmental Land Assessment that has identified potential contaminating activities including storage of chemicals, uncontrolled filling, maintenance, asbestos usage and pesticide application.</p> <p>The Proponent has listed in their Statement of Commitments the remediation measures which will be undertaken and has indicated that a Stage 2 Environmental Site Assessment will be conducted. Based on the results of the Stage 2 Assessment, remediation of any contamination at the site will be undertaken.</p>
<i>State Environmental Planning Policy No. 64 – Advertising and Signage</i>	

<p>The policy aims to ensure that signage:</p> <ul style="list-style-type: none"> - is compatible with the amenity & visual character of an area; - provides effective communication in suitable locations; - and is of high quality design and finish. 	<p>Future development on the site will be subject to the provisions of SEPP 64.</p>
State Environmental Planning Policy No. 71 – Coastal Protection	
<p>SEPP 71 aims to protect and manage the natural, cultural, recreational and economic attributes of the New South Wales coast.</p>	<p>The Illawarra Regional Business Park is located within the Coastal zone.</p> <p>It is considered that the proposal addresses the aims of the SEPP through its provision of environmental conservation lands, generation of employment opportunities and protection of the heritage significance of the 'Ravensthorpe' homestead.</p>
Draft SEPP 66 – Integration of Land Use and Transport	
<p>This draft SEPP aims to ensure that urban structure, building forms, land use locations, development designs, subdivision and street layouts help achieve the following planning objectives:</p> <ul style="list-style-type: none"> (a) improving accessibility to housing, employment and services by walking, cycling, and public transport, (b) improving the choice of transport and reducing dependence solely on cars for travel purposes, (c) moderating growth in the demand for travel and the distances travelled, especially by car, (d) supporting the efficient and viable operation of public transport services, (e) providing for the efficient movement of freight 	<p>It is considered that the proposal addresses the aims of the draft SEPP through its location, access to public transport and Statement of Commitments regarding the implementation of a Transport Behavioural Programme.</p>
State Environmental Planning Policy (Infrastructure) 2007	
<p>The main objectives of the SEPP for Infrastructure are to facilitate the effective delivery of infrastructure by improving regulatory certainty through consistent planning management for infrastructure and providing greater flexibility in the location of infrastructure and service facilities.</p>	<p>In addition, the Department of Environment and Climate Change has been consulted and have since provided comments. Their recommendations have been considered and shall be included into the modifications of the Concept Plan approval.</p>
<p>Schedule 3 of the SEPP lists traffic generating development that is required to be referred to the Roads and Traffic Authority (RTA).</p>	<p>The Roads and Traffic Authority (RTA) have been consulted accordingly. Their comments have been duly considered and their suggested conditions of approval have been incorporated into the modifications of the Concept Plan approval.</p>
Illawarra Regional Strategy	
<p>The Draft North Subregional Strategy outlines a plan for the region's new housing, employment growth, natural resources and cultural heritage. The strategy translates objectives of the NSW Government's Metropolitan Strategy to the local level.</p>	<p>The Concept Plan is generally consistent with the Strategy in providing employment opportunities, new housing, and protecting and rehabilitating areas of environmental importance.</p>
Illawarra Regional Environmental Plan No 1	
<p>The Illawarra Regional Environmental Plan No. 1 provides a framework to manage regional growth.</p>	<p>The Concept Plan is generally consistent with the Plan through its potential to generate employment and economic growth.</p>

