[redacted]

**From:** system@accelo.com on behalf of ae design partnership Company [redacted]
**Sent:** Wednesday, 31 October 2018 9:49 AM
**To:** [redacted]
**Subject:** Submission Details for company AE Design Partnership (org_comments)
**Attachments:** 291248_18 10 31_ 136 Gates Road, Luddenham_ Submission.pdf

Confidentiality Requested: no

Submitted by a Planner: no

Disclosable Political Donation:

Agreed to false or misleading information statements: yes

Name: AE Design Partnership Company
Organisation: AE Design Partnership (AE Design Partnership)
Govt. Agency: No
Email [redacted]

Address:
[redacted]

Content:
Refer to Submission Report

IP Address: - 120.150.230.119
Submission: Online Submission from company AE Design Partnership (org_comments)
https://majorprojects.accelo.com/?action=view_activity&id=291248

Submission for Job: #9552
https://majorprojects.accelo.com/?action=view_job&id=9552

Site: #0
https://majorprojects.accelo.com/?action=view_site&id=0

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IP Address: 120.160.220.115
Submission: Online Submission from company AE Design Partnership (org_comments)
https://mailprojects.accelo.com/?action=view_activity&id=291248

Submission for Job: #8662
https://mailprojects.accelo.com/?action=view_job&id=8662

Site: #0
https://mailprojects.accelo.com/?action=view_site&id=0

ae design partnership
architecture urban design planning

# 136 GATES ROAD, LUDDENHAM

## SUBMISSION

**PREPARED FOR:**

ELIE BARIKHAN

31 OCTOBER 2018

AE Design Partnership has prepared this document for the sole use of Ellie Barikhan.

No other party should rely on this document without the prior written consent of AE Design Partnership.

AE Design Partnership may also have relied upon information provided by the Client and other third parties to prepare this document.

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# 1.0 Introduction

## 1.1 Purpose

AE Design Partnership has been commissioned to prepare a submission to inform a potential Planning Proposal on the property 136 Gates Road, Luddenham NSW 2745 (**the site**).

This submission will assist with the redevelopment of the site to enable a range of employment and residential uses due to its strategic location:

- Within 5 kilometres of the future Western Sydney Airport.
- Within Penrith local government area which forms part of Sydney's peri-urban network of Council's.
- On the eastern side of the Northern Road (Luddenham) and south of the Warragamba Prospect Water Supply pipeline with agricultural land south and east for the site.

## 1.2 Objectives

The Objectives of this Urban Design Strategy are to:

1. Review and Identify opportunities to implement aims and directions of applicable legislation and policy, including:
   - Greater Sydney Region Plan (GSC 2017);
   - Draft West District Plan (GSC 2017); and
   - Stage 1 Plan for the Aerotropolis (August 2018)
2. Conduct analysis and identify opportunities in the site's regional and local context that facilitate accelerated rezoning of the North Luddenham Precinct.
3. Conduct site analysis to derive Developable Area.
4. Deliver Desired Future Structure derived from opportunities identified in legislation and policy, the site's regional and local context, and site analysis.
5. Deliver a Master Plan responding to the Desired Future Structure.

Figure 1: Nearmap Aerial of the Site.

# 2.0 Strategic Context

## 2.1 Greater Sydney Region Plan - A Metropolis of Three Cities

The subject plan was released in October 2017 and is the current Metropolitan Plan for Sydney. It sets the 40-year vision up to 2056 and provides a 20-year plan to manage growth and change in Sydney.

The site is noted to be proximate and connected to the major Western City Airport focus of the Western City and capable of leveraging off existing and proposed infrastructure and contributing to the influence of the proposed Aerotropolis. Further, it specifically stands to benefit and integrate with the companion State Infrastructure Strategy 2018-2038 and Future Transport Strategy.

The proposal is importantly consistent with the key directions in respect of; interalia, infrastructure and collaboration, liveability, productivity and sustainability.

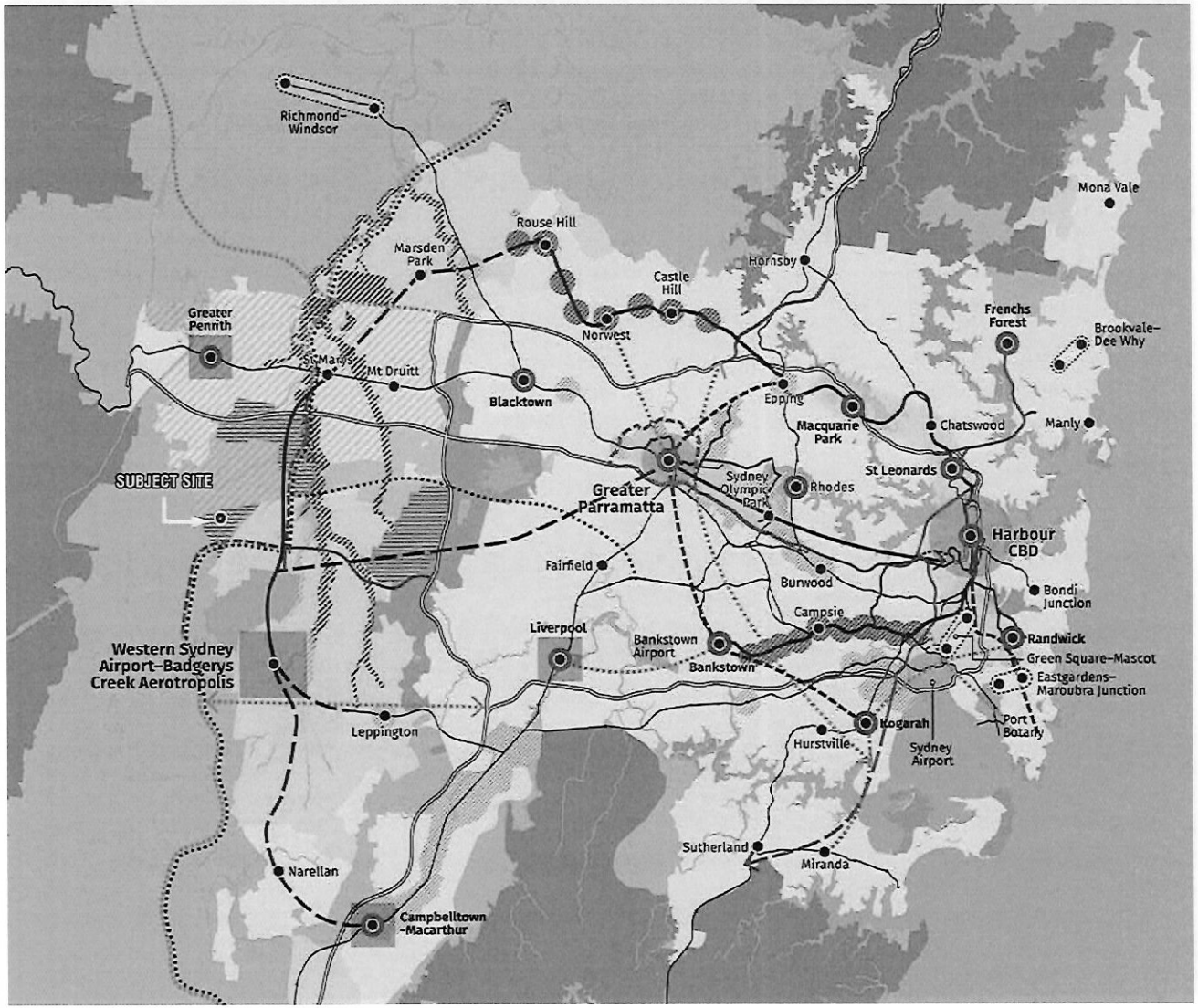


Figure 2: Greater Sydney Region Plan (2017) with site superimposed

## 2.2 Draft Western City District Plan

The Western City District Plan (WCDP) was released in March 2018 and provides a 20 year plan to manage growth in the context of economic, social and environmental matters to achieve the vision for Greater Sydney at a District Level.

It is founded on 10 Directions, in a manner consistent with the Greater Sydney Regional Plan and reflected in Key Priorities and Actions.

As with the Greater Sydney Region Plan the proposal in the WDP context is seen to be consistent with the key directions in respect of: infrastructure and collaboration, livability, productivity and sustainability and in particular:

| | |
|---|---|
| **Planning Priority W1** | Planning for a city supported by infrastructure |
| **Planning Priority W2** | Working through collaboration |
| **Planning Priority W3** | Providing services and social infrastructure to meet peoples changing needs. |
| **Planning Priority W5** | Providing housing supply, choice and affordability, with access to jobs and services |
| **Planning Priority W7** | Establishing the land use and transport structure to deliver a liveable, productive and sustainable Western Parkland City |
| **Planning Priority W8** | Leveraging industry opportunities from the Western Sydney Airport and Badgerys Creek Aerotropolis |
| **Planning Priority W9** | Growing and Strengthening the Metropolitan Cluster |
| **Planning Priority W10** | Maximising freight and logistics opportunities and planning and managing industrial and urban services land |
| **Planning Priority W11** | Growing investment, business opportunities and jobs in strategic centres. |
| **Planning Priority W12** | Protecting and improving the health and enjoyment of the District's waterways. |
| **Planning Priority W15** | Increasing urban tree canopy cover and delivering Green Grid connections. |
| **Planning Priority W16** | Protecting and enhancing scenic and cultural landscapes |
| **Planning Priority W17** | Better Managing Rural Areas |
| **Planning Priority W19** | Reducing urban emissions and managing energy, water and waste efficiently. |

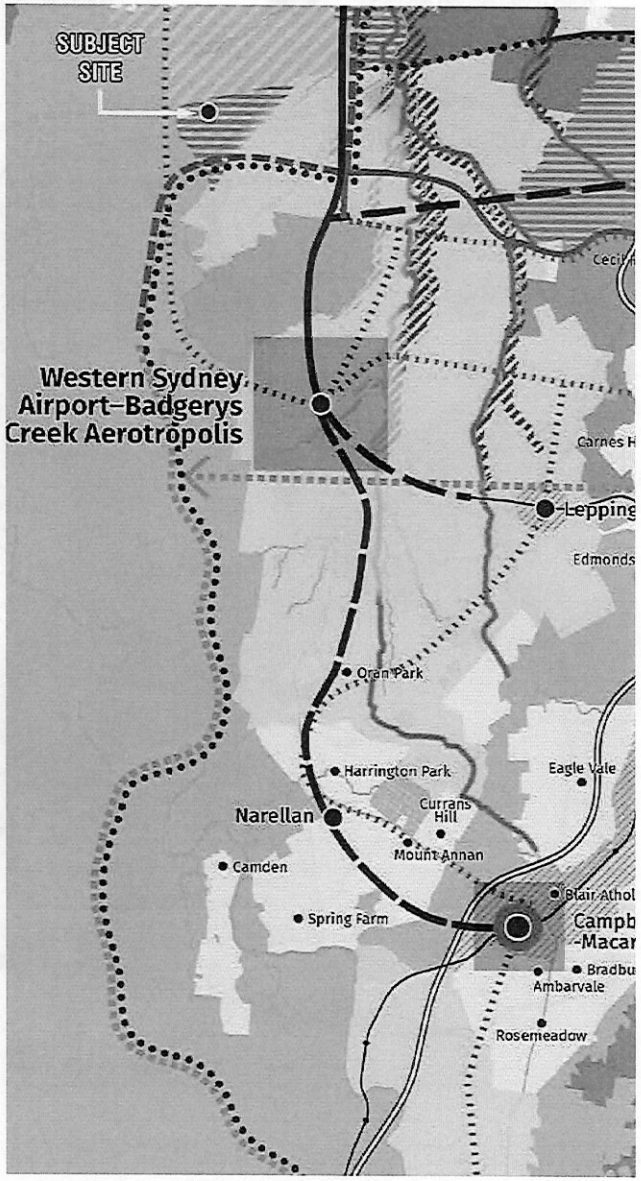


Figure 3: Western City District Plan (2017) with site superimposed

## 2.3 Stage 1 Plan for the Aerotropolis

The Stage 1 Plan for the Aerotropolis was released in August 2018 and identifies nine initial precincts within the Western Sydney Aerotropolis (formerly Western Sydney Airport Growth Area). These precincts are:

- Aerotropolis Core;
- Northern Gateway;
- South Creek;
- North Luddenham;
- Rossmore;
- Mamre Road;
- Kemps Creek;
- Badgerys Creek; and
- Agriculture and Agribusiness Precinct.

The site is located within the North Luddenham Precinct, which is identified for Flexible Employment.

It is noted that this plan facilitates the development of the initial precincts which will be the impetus for the Aerotropolis' growth.

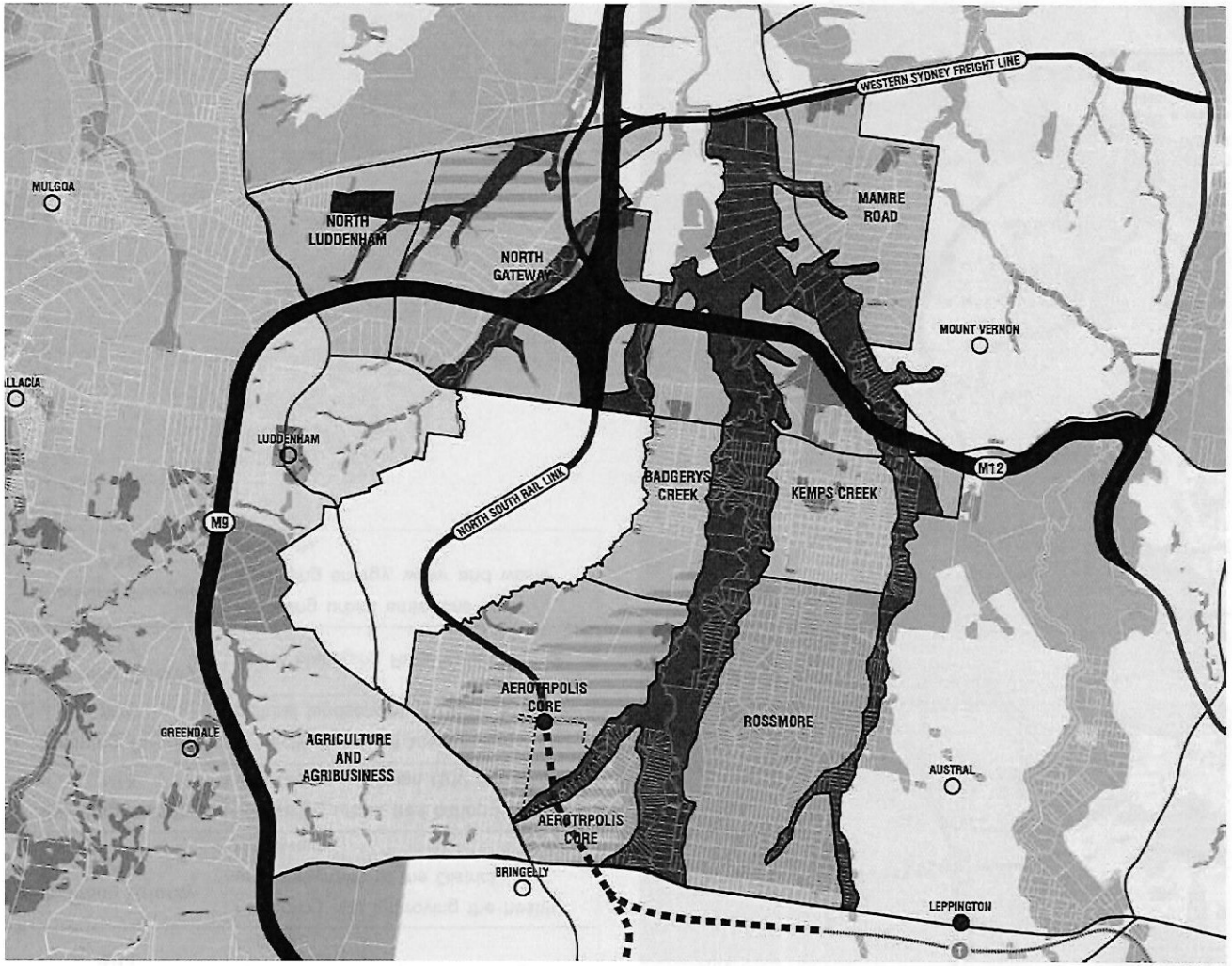


Figure 4: Stage 1 Plan for the Aerotropolis

**LEGEND**

- Subject Site
- Western Sydney Aerotropolis Initial Precincts
- ANEC/ANEF = 20+
- Agricultural
- Luddenham Village
- Flexible Employment (FE)
- Urban Land (UL)
- Mixed FE and UL
- Non Urban Land
- Metropolitan Rural Areas
- National Parks, Nature Reserves & Environmental Conservation
- Potential Conservation Land
- Proposed Transport Corridors
- North South & South West Rail Link - Future Stages

The Stage 1 Plan for the Aerotropolis structure plan is founded on the following principles:

- *Existing agricultural uses within the Aerotropolis will be transitioned further west as the Aerotropolis and Airport are constructed. This provides an opportunity for agriculture to transition to more intensive forms and with activities structured to take advantage of the Airport. A new agri-port and agri-business activities will catalyse this agricultural transition.*
- *Potential new rail lines to the north and south of the Airport provide an opportunity to create intensive employment centres around new stations. Away from the rail line a broader and flexible approach to employment and industrial activity may occur.*
- *Freight lines and better connections to global markets through gateways at the new Airport, as well as Port Botany and Port Kembla, will create opportunities for new freight terminals as well as logistics and freight handling industries.*
- *Residential opportunities will be provided in the east and the south to boost the area's economic potential. These new residential areas, built in a way that minimises noise intrusion, will be home to higher densities to provide a diversity of housing more comparable to inner city locations than urban fringe environments.*
- *Water and energy will be used more efficiently and effectively. The potential to keep water in the landscape rather than sending it to the ocean will allow the Aerotropolis to thrive, with South Creek as its green spine. Innovative technology and distributed energy will focus on clean, reliable and affordable energy supplies.*
- *Embedded design for sustainability and resilience will recognise the opportunities and constraints provided by the natural environment and the proposed future land uses by the appropriate location of development.*
- *Location of land uses provides safe, diverse, innovative and healthy communities by maximising the opportunities provided by the greenfield nature of the site, so that development is consistent with the Region and District Plan.*
- *Appropriate forms of development will achieve compact, smart development and support the sustainable development objectives.*
- *Designing for an ecologically sustainable and adaptable future will focus on the changing needs of the community.*

The North Luddenham Precinct is identified primarily for 'Flexible Employment'.

> *Planning for the Aerotropolis will accommodate this planned new freight infrastructure, as well as freight and logistics development enabling* ***flexible employment precincts to support the increasing freight task and changes*** *in global freight requirements.*
>
> (Section 4.2.3, p.36)

It is envisioned development within the precinct will remain consistent with the general principles outlined in the plan.

# 3.0 Local Context

## 3.1 North Luddenham

North Luddenham (**the precinct**) forms the western end of the northern gateway into the Western Sydney Aerotropolis.

This precinct is identified for further development for the Land Use and Infrastructure Implementation Plan Stage 2 of the Western Sydney Aerotropolis.

The precinct is situated immediately adjacent the Sydney Science Park, which aims to meet the Federal and State Government's goal of creating 200,000 knowledge jobs within the Western Sydney Aerotropolis.

Figure 5: North Luddenham Precinct

### 3.1.1 Topography & Waterways

The precinct is occupied by a system of waterways classified primarily as 1st order streams and 2nd order streams.

Blaxland Creek forms the waterway system of the north-western end of the precinct with waterways branching to the west. South Creek enters into the eastern end of the precinct and branches to the south west. The result of the streams branching out from the creek form waterbodies on the land.

**Figure 6** illustrates the existing topography and waterways within the precinct. Ridgelines are identified in a dashed orange line and begin at high points.

There is opportunity for the precinct to establish a new road system that follows and remains in harmony with the existing natural topography of the site and precinct as a whole.

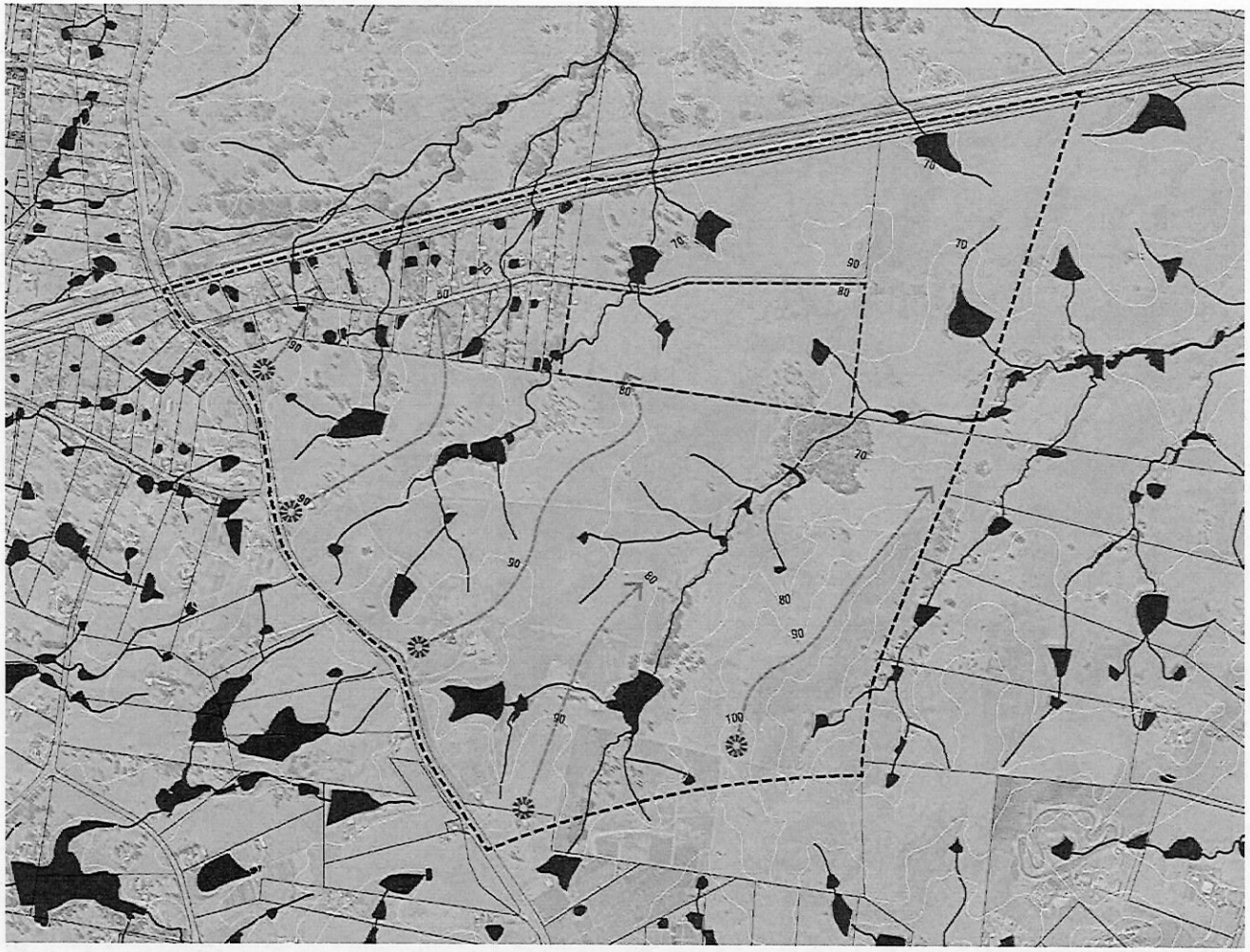

Figure 6: Waterways and Water Bodies identified within the Precinct (SIX Maps)

**LEGEND**

| | | | |
|---|---|---|---|
| [- - -] | Site Boundary | —— | Waterway |
| —— | Cadastre | ■ | Water body |
| ~~~ | Contours (0.5m Intervals) | - - - | Ridge Line |
| [- - -] | Precinct Boundary | ✱ | High Point |

### 3.1.2 Riparian Corridors and Vegetation

Blaxland Creek and South Creek form the 3rd Order Riparian Corridors in the precinct. A 2nd Order Riparian Corridor dominates the western portion of the site with 1st Order Riparian Corridors are dominant within the entire precinct.

Under the NSW Office of Water 'Guidelines for riparian corridors on waterfront land' (Table 2, p. 3, 2012):

- 1st order streams can be realigned and a riparian corridor of 10m is to be retained.
- 2nd order streams require a 20m vegetated riparian zone.

The precinct is generally cleared land with sparse vegetation in patches around the precinct.

The Stage 1 Plan for the Aerotropolis identifies land immediately adjacent South Creek as 'Non-Urban Land' providing opportunity for a substantial portion of the precinct for redevelopment to service the Western Sydney Aerotropolis.

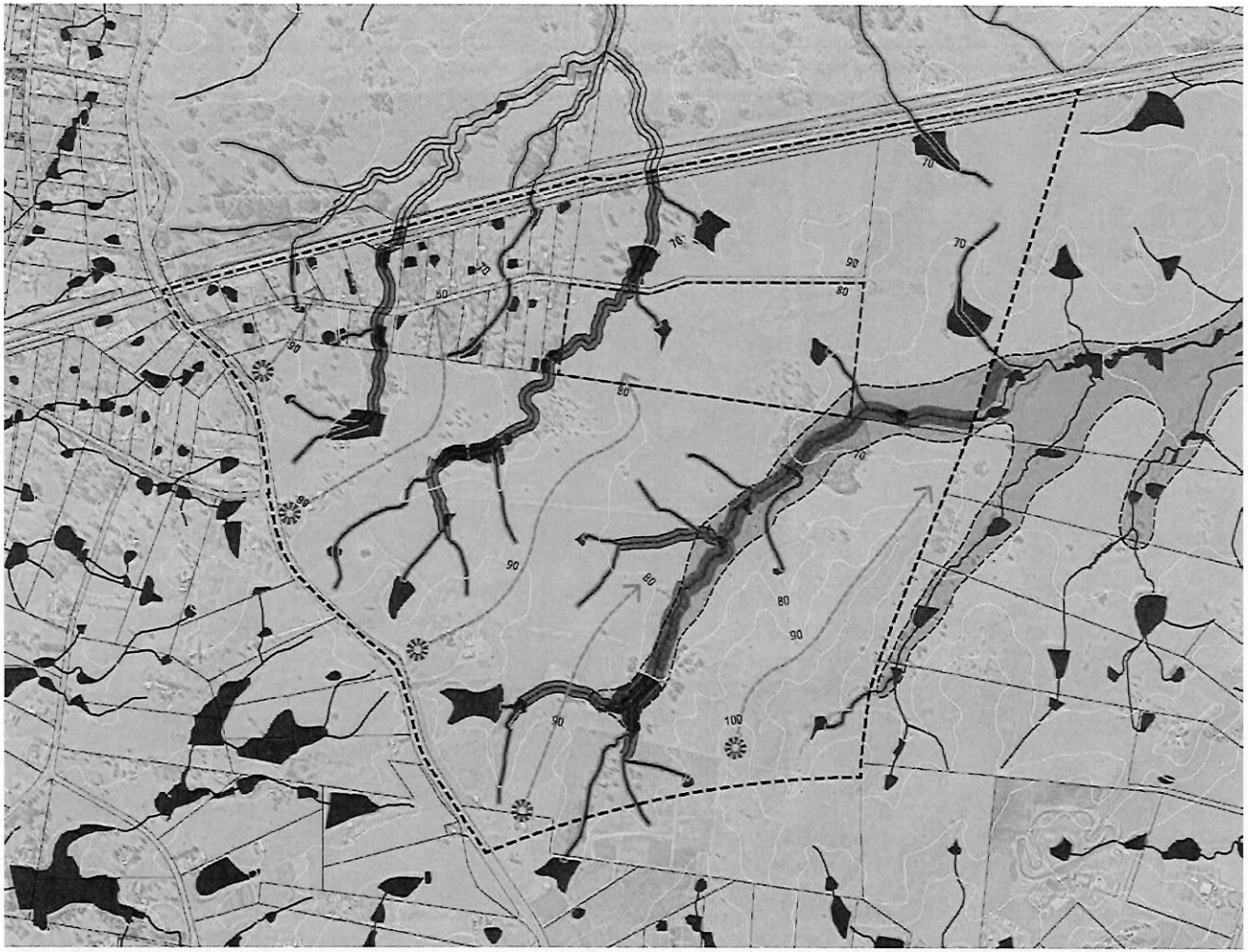

Figure 7: Vegetation within the Precinct

**LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| [ ] | Site Boundary | — | Waterway | [ ] | 1st Order Riparian Corridor |
| — | Cadastre | ■ | Water body | [ ] | 2nd Order Riparian Corridor |
| ~ | Contours (0.5m Intervals) | - - - | Ridge Line | [ ] | 3rd Order Riparian Corridor |
| [ ] | Precinct Boundary | ✱ | High Point | [ ] | Non Urban Land |

### 3.1.3 Existing Road Network

The precinct is occupied by very little road infrastructure, where in most cases, private properties have established dirt road networks to travel around their respective properties.

Under current conditions, the precinct is accessible via The Northern Road. Gates Road is located off The Northern Road at the north western corner of the site, enabling access into rural properties

**The Northern Road Upgrade**

The Northern Road forms the western boundary of the precinct. It is envisioned the Northern Road Upgrades will deliver new and upgraded roads to support integrated transport in the region and capitalise on the economic benefits from developing the Western Sydney Airport at Badgerys Creek.

Road upgrades include a future road connection from Gates Road that intersects to an extension of Littlefields Road.

**Outer Sydney Orbital**

Land which forms the southern boundary of the site is envisioned for a major orbital transit corridor for greater Sydney that will contribute to improved north-south transport connections between Greater Sydney, Newcastle and Wollongong.

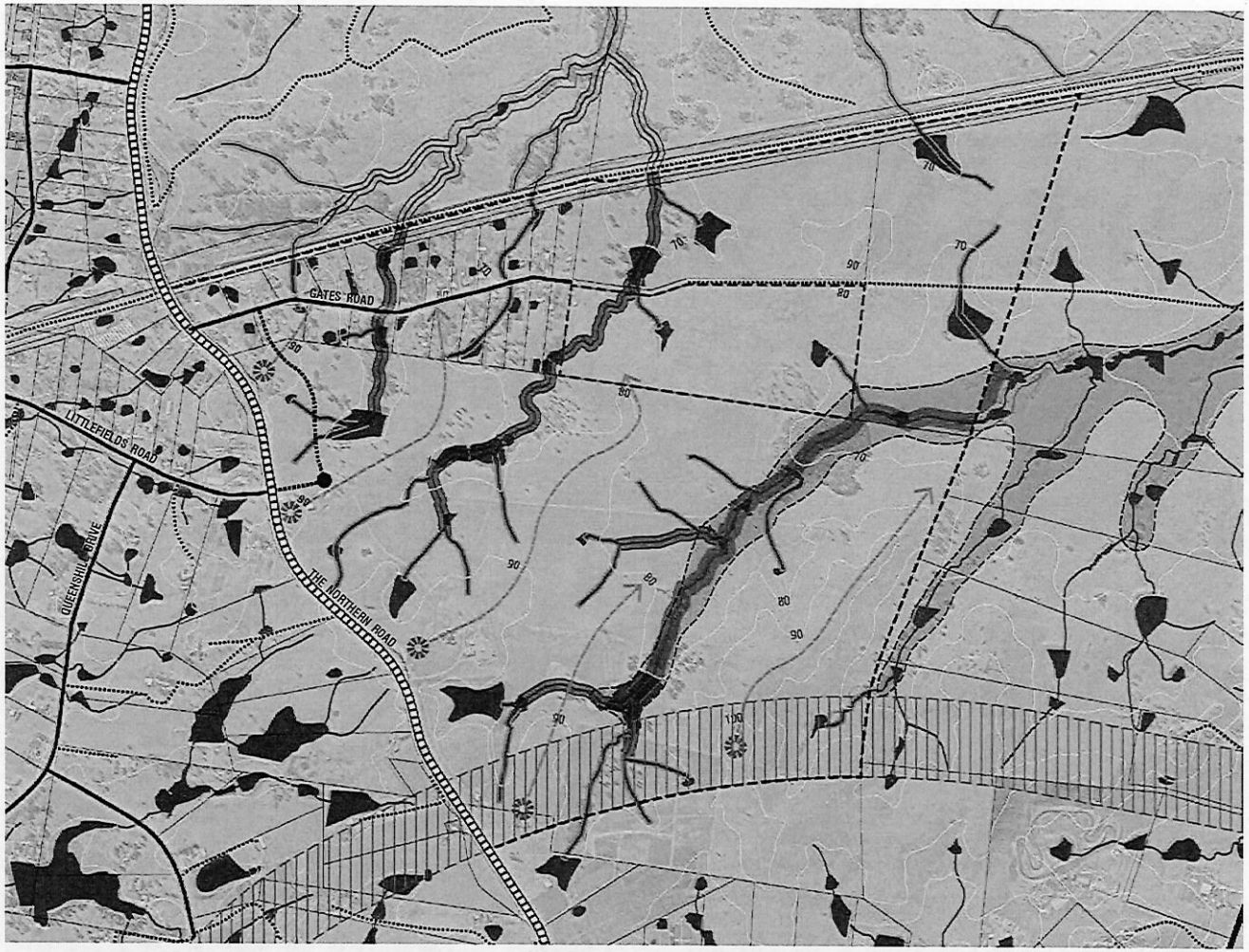


Figure 8: Existing Road Network within the Precinct

**LEGEND**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| [dashed box] | Site Boundary | —— | Waterway | [outline box] | 1st Order Riparian Corridor | [triple line] | Major Arterial |
| —— | Cadastre | [filled box] | Water body | [outline box] | 2nd Order Riparian Corridor | —— | Collector & Local Road |
| [curved line] | Contours (0.5m Intervals) | - - - | Ridge Line | [outline box] | 3rd Order Riparian Corridor | ····· | Track |
| [dashed box] | Precinct Boundary | ✱ | High Point | [dashed box] | Non Urban Land | ····· | Road Under Construction |

## 3.2 The Site

### 3.2.1 Topography & Flooding

**Topography**

The site is predominantly flat with modest slopes, with the lowest level of the site being RL 66.00 to the south-eastern corner, and highest level being RL 85.00 to the south.

**Riparian**

Blaxland Creek enters the site on the western end of the northern site boundary and exits on the southern portion of the western site boundary. Blaxland Creek is characterised by a second order riparian corridor within the site.

A first order riparian corridor off South Creak enters the site in the south-eastern corner.

**Flooding**

Potential flooding has been identified within the riparian corridors of Blaxland Creek and South Creek, identifying areas for the:

- 20 Year ARI Flood Level; and
- 100 Year ARI Flood Level.

Figure 9: Site Flooding

**LEGEND**

- Site Boundary
- Cadastre
- Contours (0.5m Intervals)
- Waterway
- Water body
- First Order Riparian Corridor
- Second Order Riparian Corridor
- 20 Year ARI Flood Level
- 100 Year ARI Flood Level

### 3.2.3 Vegetation

The site is primarily cleared of any vegetation. A patch of Shale Hills Woodlands <10% and Shale Plan Woodlands <10% is located on the south western corner of the site.

Immediately around the site exists patches of:

- Shale Hills Woodland;
- Shale Plains Woodland;
- Alluvial Woodlands;
- Shale Hills Woodland <10%;
- Shale Plains Woodland <10% and.
- Alluvial Woodlands <10%.

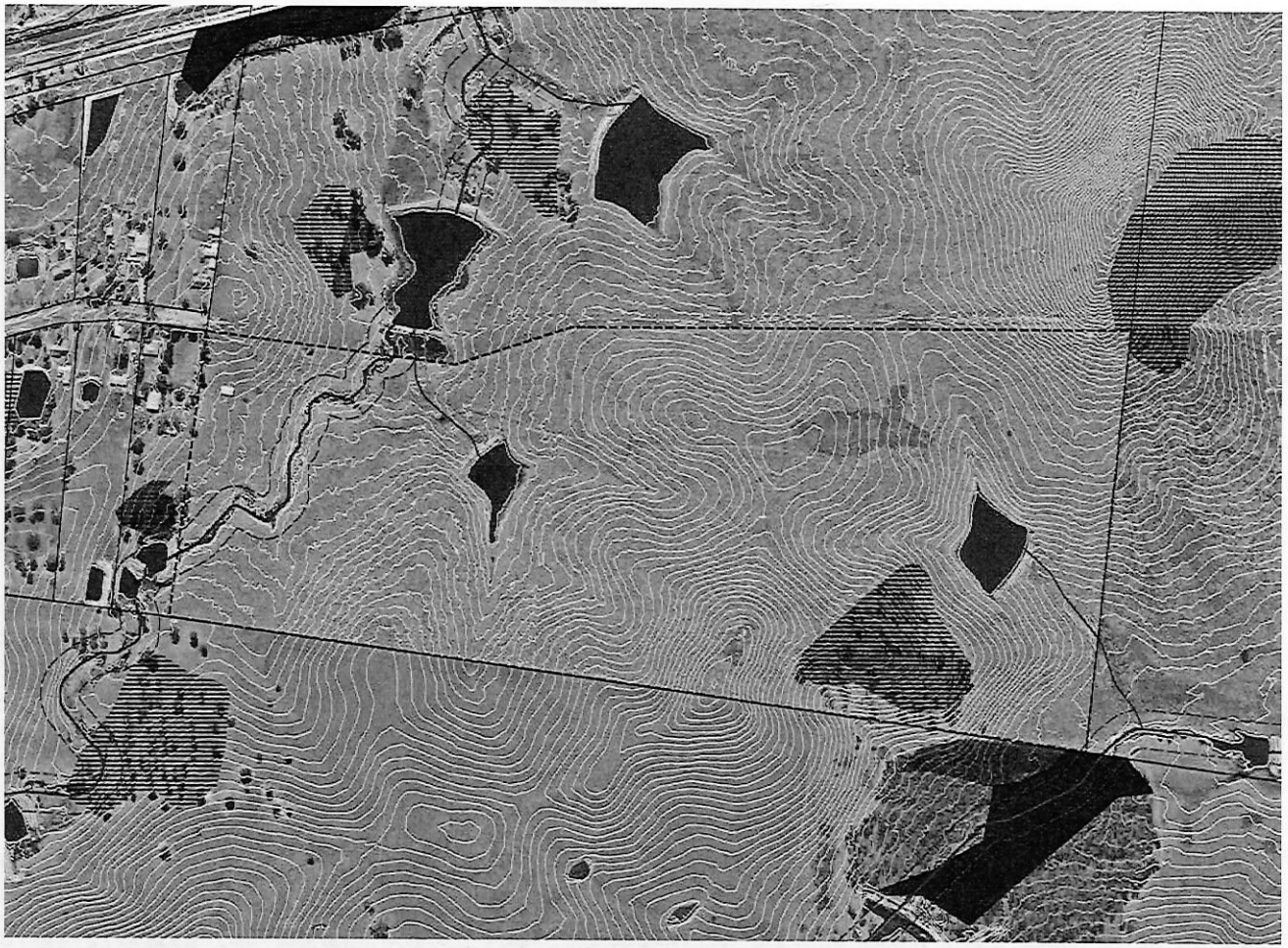

Figure 10: Site Vegetation

**LEGEND**

- Site Boundary
- Cadastre
- Contours (0.5m Intervals)
- Waterway
- Water body
- First Order Riparian Corridor
- Second Order Riparian Corridor
- Shale Hills Woodland
- Shale Plains Woodland
- Alluvial Woodlands
- Shale Hills Woodland <10%
- Shale Plains Woodland <10%
- Alluvial Woodland <10%

## 3.3 Developable Footprint

The site is constrained by the second order riparian corridor pf Blaxland Street due to the nature of flooding within a 20 metre vegetated corridor.

Despite constraints established by Blaxland Creek on the western end of the site, the total developable area produced is 38.3 Ha

Figure 11: Site Developable Footprint

**LEGEND**

| | | | |
|---|---|---|---|
| Site Boundary | Waterway | Shale Hills Woodland | Shale Plains Woodland <10% |
| Cadastre | Water body | Shale Plains Woodland | Alluvial Woodland <10% |
| Contours (0.5m Intervals) | First Order Riparian Corridor | Alluvial Woodlands | 20 Year ARI Flood Level |
| Developable Footprint | Second Order Riparian Corridor | Shale Hills Woodland <10% | 100 Year ARI Flood Level |

# 4.0 Opportunities

**Desired Future Structure**

The desired future structure for the precinct is derived from the following general principles outlined in the Stage 1 Plan for the Aerotropolis structure plan:

- *Freight lines and better connections to global markets through gateways at the new Airport, as well as Port Botany and Port Kembla, will create opportunities for new freight terminals as well as logistics and freight handling industries.*
- *Water and energy will be used more efficiently and effectively. The potential to keep water in the landscape rather than sending it to the ocean will allow the Aerotropolis to thrive, with South Creek as its green spine. Innovative technology and distributed energy will focus on clean, reliable and affordable energy supplies.*
- *Embedded design for sustainability and resilience will recognise the opportunities and constraints provided by the natural environment and the proposed future land uses by the appropriate location of development.*
- *Location of land uses provides safe, diverse, innovative and healthy communities by maximising the opportunities provided by the greenfield nature of the site, so that development is consistent with the Region and District Plan.*
- *Appropriate forms of development will achieve compact, smart development and support the sustainable development objectives.*
- *Designing for an ecologically sustainable and adaptable future will focus on the changing needs of the community.*

There is opportunity for:

- redevelopment of the site to integrate a range of uses that service the Western Sydney Aerotropolis and complement Sydney Science Park, immediately east of the site;
- accelerate the rezoning of the precinct;
- improved vehicular connections around the area, particularly linkages between The Northern Road and Luddenham Road;
- promote increased level of accessibility by providing public transport connections into the Aerotropolis Core, and Sydney Science Park; and
- provision of public open space to improve residential amenity for future residential uses around the area.

**LEGEND**

| | | | | |
|---|---|---|---|---|
| Site Boundary | Waterway | Carriageway | B2 Local Centre | B4 Mixed Use |
| Cadastre | Non Urban Land | Major Intersection | IN1 General Industrial | |
| | Ridge Line | Track | R1 General Residential | |
| | High Point | Potential Road Connections | B7 Business Park | |

# 5.0 The Concept

**LEGEND**

- Site Boundary
- Cadastre
- Waterway
- Non Urban Land
- Carriageway
- Major Intersection
- Track
- Potential Intersection
- B2 Local Centre
- IN1 General Industrial
- R1 General Residential
- B7 Business Park
- B4 Mixed Use
- B6 Enterprise Corridor

## 5.1 Land Uses

The following land uses are detailed in **Table 1** below:

Table 1: Proposed Land Uses

| Zone | **Land Uses** (including but not limited to) |
|---|---|
| RE1 Public Recreation | Community facilities; Environmental facilities; Function centres; Information and education facilities; Recreation areas; Recreation facilities (indoor); Recreation facilities (outdoor) |
| B2 Local Centre | Information and education facilities; Medical centres; Passenger transport facilities; Places of public worship; Public administration buildings; Recreation areas; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Service stations; Shop top housing |
| B6 Enterprise Corridor | Business premises; Hardware and building supplies; Hotel or motel accommodation; Industrial retail outlets; Industrial training facilities; Landscaping material supplies; Light industries; Passenger transport facilities; Plant nurseries; Recreation areas; Roads; Service stations; Vehicle sales or hire premises; Veterinary hospitals; Warehouse or distribution centres |
| IN1 General Industrial | Boat building and repair facilities; Car parks; Depots; Storage premises; Take away food and drink premises; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres |
| R1 General Residential | Attached dwellings; Dwelling houses; Semi-detached dwellings; Seniors housing; Shop top housing |

Figure 12: Concept - Proposed Land Uses

**LEGEND**

- Site Boundary
- Cadastre
- Contours (0.5m Intervals)
- Waterway
- Water body
- Second Order Riparian Corridor
- RE1 Public Recreation
- B2 Local Centre
- B6 Enterprise Corridor
- IN1 General Industrial
- R1 General Residential

## 5.2 Building Heights

Indicative heights proposed within the site include:

- J - 9.0m
- M - 12.0m
- P - 17.0m
- S - 23.0m

Figure 13: Concept - Proposed Building Heights

**LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| [ ] | Site Boundary | — | Waterway | | J - 9m |
| — | Cadastre | ■ | Water body | | M - 12m |
| | Contours (0.5m Intervals) | - - - | Second Order Riparian Corridor | | P - 17m |
| | | | | | S - 23m |

## 5.3 Accessibility

### 5.3.1 Vehicular Network

The proposed vehicular network would involve a new road network characterised by:

- truck connector roads forming the northern site boundary of the site and the arterial spine travelling north-south;
- industrial access streets providing connections throughout the entire site;
- residential street access only accessible via industrial access street. No road connections to truck connector roads; and
- laneway access into smaller residential development.

Figure 14: Concept - Proposed Vehicular Network

**LEGEND**

- Site Boundary
- Cadastre
- Contours (0.5m Intervals)
- Waterway
- Water body
- Trunk Connector Road
- Industrial Access Street
- Residential Access Street
- Laneway Access

## 5.4 Open Space

The proposed concept will maximise constraints established by the second order riparian corridor on the western end of the site by ensuring existing waterways are protected with a minimum 20.0m vegetated riparian corridor.

Amenity will be retained by providing:

- shared paths connecting the entire site, with potential to extend network onto future surrounding sites;
- shade structures;
- lighting;
- covered & uncovered tables and seating;
- play areas;
- half court/rebound wall; and
- informal active recreation spaces.

Figure 15: Concept - Open Space

**LEGEND**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Site Boundary | | Waterway | | Shared Paths | | Table & Seating - Covered |
| | Cadastre | | Water body | | Shade Structures | | Play Area |
| | Contours (0.5m Intervals) | | Carriageway | | Lighting | | Half Court/Rebound wall |
| | | | Open Space | | Table & Seating - Uncovered | | Informal Active Rec Space |

## 5.5 Concept - Locality Statement

The proposed locality of the site is characterised by the existing waterways of Blaxland Creek. Streams travel within the western end of the site, establishing areas dedicated to public open space.

This locality will provide opportunity for residential development and a significant scaled industrial and business area that will service the Western Sydney Aerotropolis.

### Development Outcomes

| | |
|---|---|
| Residential Neighbourhoods | Residential areas on the western end of the site are intended for lower density residential development and will be required to uphold the ecological values established by site's environmental features. |
| Town Centre | The town centre will feature:<br>• Linkages to public open space;<br>• an integrated mix of land uses to service the local community including retail; residential; sports and recreation;<br>• active street frontage; and<br>• higher density residential. |
| Business and Industry | The site is in proximity to the future Outer Sydney Orbital network which is a major orbital transit corridor for greater Sydney and will contribute to improved north-south transport connections between Greater Sydney, Newcastle and Wollongong.<br>It is intended that land proposed for B6 Enterprise Corridor and IN1 General Industrial will be developed to maximise... |

Figure 16: Concept - Locality Statement

**LEGEND**

- Site Boundary
- Cadastre
- Contours (0.5m Intervals)
- Waterway
- Water body
- Carriageway
- Open Space
- Shared Paths
- Shade Structures
- Lighting
- Table & Seating - Uncovered
- Table & Seating - Covered
- Play Area
- Half Court/Rebound wall
- Informal Active Rec Space
- B2 Local Centre
- B6 Enterprise Corridor
- IN1 General Industrial
- R1 General Residential

| | |
|---|---|
| | state government investments.<br>Industry and business employment opportunities include:<br>• large-scale manufacturing, processing and service industries;<br>• large format retailing (bulky goods) predominantly within enterprise corridor zoning;<br>• higher value business, office and commercial and health-related uses which promote knowledge creation, and entrepreneurial activity in industry, science and technology and research and development, complementing the approved Sydney Science Park east of the site;<br>• Freight and logistic service. |
| Environment & Open Space | Public open space are located to ensure minimal flooding to residential areas.<br>Open space adjacent waterways are encouraged to ensure natural environmental features are retained. |
| Infrastructure | The lack in vehicular movement within the immediate area will be remedied by proposed road infrastructure that will create linkages to major road including:<br>• The Northern Road; and<br>• Luddenham Road. |

# 6.0 Assessment of the Proposal

## 6.1 Natural Environment

Development on the site would ensure natural waterways identified within the Precinct are retained by ensuring riparian corridors are integrated and provision of open space maximise proximity to existing water features around the site.

As illustrated in **Figure 17**, retaining existing waterways including:

- Blaxland Creek (to the north-west); and
- South Creek (to the south-east)

will promote a focus on clean, reliable and affordable energy supplies, consistent with the following general principle identified in the Stage 1 Plan for the Aerotropolis:

- *Water and energy will be used more efficiently and effectively. The potential to keep water in the landscape rather than sending it to the ocean will allow the Aerotropolis to thrive, with South Creek as its green spine. Innovative technology and distributed energy will focus on clean, reliable and affordable energy supplies.*

Realignment of 1st order streams can be achieved through the implementation of stormwater treatment trains and providing ephemeral wetlands in locations that would be subject to future assessment.

Dedamming of existing dams would be required for the development of the precinct. It is anticipated in some cases, subject to water quality investigations, dams may be retained, particularly from 1st order riparian corridors along South Creek.

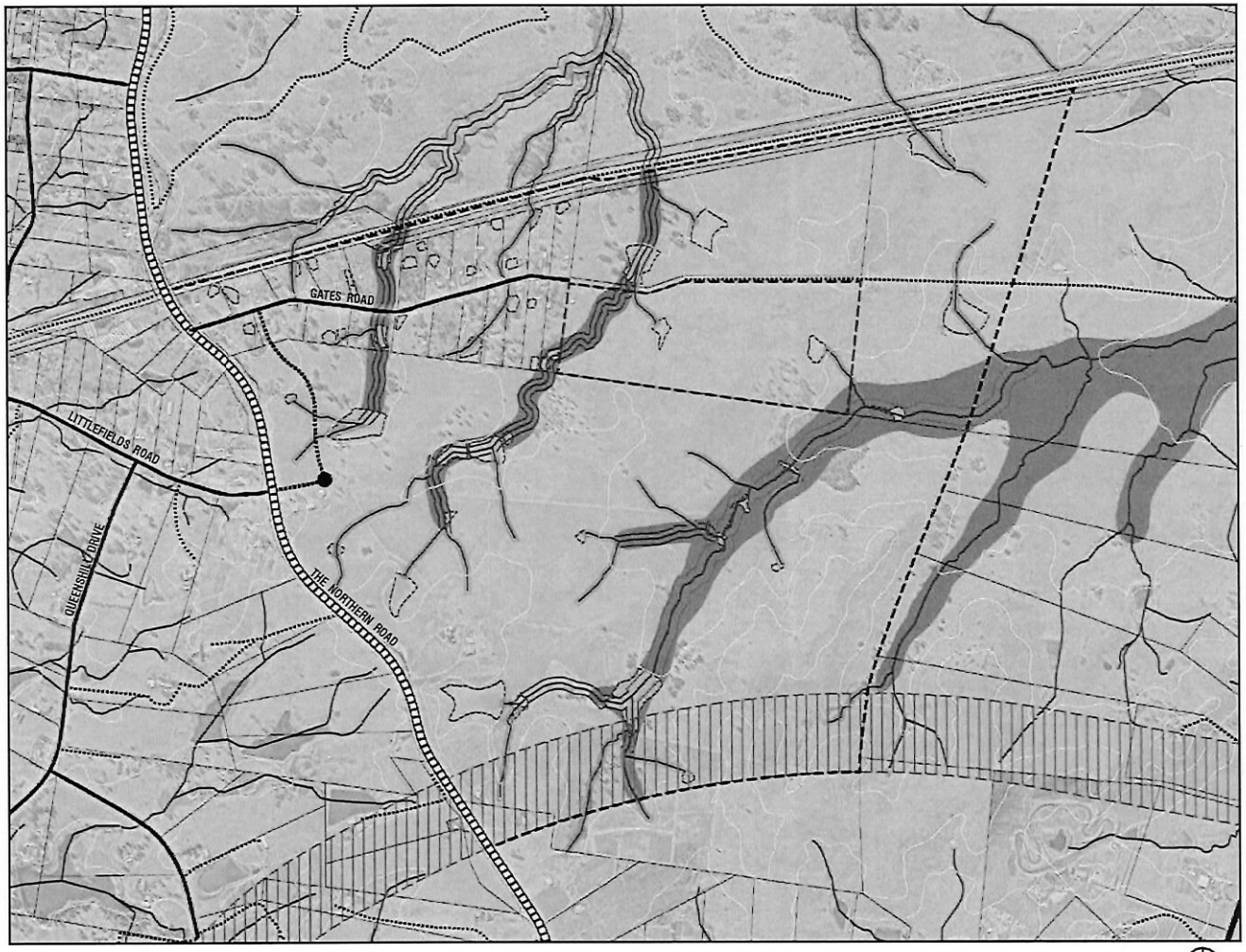


Figure 17: Assessment - Natural Environment

**LEGEND**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| [- - -] | Site Boundary | —— | Waterways | [ ] | 2nd Order Riparian Corridor | [OOO] | Outer Sydney Orbital |
| [- - -] | North Luddenham Precinct | ▬ | Open Space & Vegetation | [ ] | 3rd Order Riparian Corridor | [□□□□] | Major Arterial Road |
| —— | Cadastre | [ ] | 1st Order Riparian Corridor | [- - -] | Potential Dams to be removed | ▬ | Major Collector Road |
| ~~~ | Contours (0.5m Intervals) | | | | | | |

## 6.2 Indicative Land Uses

The North Luddenham Precinct has potential to accommodate a mixture of land uses including:

- B2 Local Centre
- B6 Enterprise Corridor;
- IN1 General Industrial; and
- R1 General Residential.

Due to the site's strategic location in proximity to the Outer Sydney Orbital and directly north of the future Western Sydney Airport, proposed indicative land uses are appropriate in the context of the Western Sydney Aerotropolis.

Indicative land uses discussed in Section 5.1 will promote the economic viability of the area.

Proposed land uses are consistent with the following general principles outline in the Stage 1 Plan for the Aerotropolis:

- *Location of land uses provides safe, diverse, innovative and healthy communities by maximising the opportunities provided by the greenfield nature of the site, so that development is consistent with the Region and District Plan.*
- *Appropriate forms of development will achieve compact, smart development and support the sustainable development objectives.*

Figure 18: Assessment - Indicative Land Uses

**LEGEND**

- Site Boundary
- North Luddenham Precinct
- Cadastre
- Contours (0.5m Intervals)
- B2 Local Centre
- B6 Enterprise Corridor
- IN1 General Industrial
- R1 General Residential
- Riparian Corridor
- Open Space identified in the Stage 1 Plan for the Aerotropolis
- Waterways
- Outer Sydney Orbital
- Major Arterial Road
- Major Collector Road

## 6.3 Indicative Building Heights

Indicative heights proposed within the site include:

- J - 9.0m where lower-scale residential dwellings are proposed within the site. It is envisioned the north western corner of the North Luddenham Precinct will provide residential opportunities in proximity to the Western Sydney Aerotropolis.
- M - 12.0m along the south-western end of the site, and the western side of a potential major collector road of the Precinct. Heights will facilitate shop top development without precluding opportunity to cater for light industrial facilities along a major collector road.
- P - 17.0m for B2 Local Centre and B6 Enterprise Corridor zones to ensure larger-scale land uses are catered for accordingly. Increased heights will enable freight and industry-type facilities located along a main road network.
- S - 23.0m for IN1 General Industry related uses. heights will facilitate development of Boat building and repair facilities; Car parks; Depots; Storage premises; Take away food and drink premises; Timber yards; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Warehouse or distribution centres.

Figure 19: Assessment - Indicative Building Heights

**LEGEND**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Site Boundary | | J - 9.0M | | Riparian Corridor | | Outer Sydney Orbital |
| | North Luddenham Precinct | | M - 12.0m | | Open Space identified in the Stage 1 Plan for the Aerotropolis | | Major Arterial Road |
| | Cadastre | | P - 17.0 m | | | | Major Collector Road |
| | Contours (0.5m Intervals) | | S - 23.0m | | Waterways | | |

## 6.4 Open Space

Consistent with the following general principles outlined in the Stage 1 Plan for the Aerotropolis:

- Embedded design for sustainability and resilience will recognise the opportunities and constraints provided by the natural environment and the proposed future land uses by the appropriate location of development.
- *Designing for an ecologically sustainable and adaptable future will focus on the changing needs of the community.*

Indicative areas proposed for public open space are located around existing waterways to maximise and conserve the existing natural environment.

Figure 20: Assessment - Open Space

**LEGEND**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Site Boundary | | B2 Local Centre | | Riparian Corridor | | Outer Sydney Orbital |
| | North Luddenham Precinct | | B6 Enterprise Corridor | | Open Space identified in the Stage 1 Plan for the Aerotropolis | | Major Arterial Road |
| | Cadastre | | IN1 General Industrial | | | | Major Collector Road |
| | Contours (0.5m Intervals) | | R1 General Residential | | Waterways | | Potential Intersections |

## 6.5 Accessibility

### 6.5.1 Vehicular Network

The proposed indicative layout plan for the site promotes improved vehicular connections across the precinct as well as connections to the adjacent Sydney Science Park.

Figure 16, illustrates a future potential road network across the precinct comprised of major collector roads that provide connections to The Northern Road (major arterial road) which forms the western boundary of the Precinct.

Figure 21: Assessment - Vehicular Connections

**LEGEND**

- Site Boundary
- North Luddenham Precinct
- Cadastre
- Contours (0.5m Intervals)
- B2 Local Centre
- B6 Enterprise Corridor
- IN1 General Industrial
- R1 General Residential
- Riparian Corridor
- Open Space identified in the Stage 1 Plan for the Aerotropolis
- Waterways
- Outer Sydney Orbital
- Major Arterial Road
- Major Collector Road
- Potential Intersections

## 6.5.2 Public Transport

A key consideration to infrastructure that will connect the Aerotropolis identified in the plan is Public transport.

> *"Transport planning for the Aerotropolis will focus on making the public and active transport the easiest and most convenient choice."*
>
> (Section 4.2.1, p.32)

Future indicative road network for the Precinct should facilitate opportunities to provide an increased level of public transport that will provide linkages to the wider Western Sydney Aerotropolis, particularly to the Sydney Science Park, which is immediately east of the precinct.

Figure 22: Assessment - Public Transport

**LEGEND**

- Site Boundary
- North Luddenham Precinct
- Cadastre
- Contours (0.5m Intervals)
- B2 Local Centre
- B6 Enterprise Corridor
- IN1 General Industrial
- R1 General Residential
- Riparian Corridor
- Open Space identified in the Stage 1 Plan for the Aerotropolis
- Waterways
- 400m Bus Stop Catchments
- Potential Bus Connections
- Outer Sydney Orbital
- Major Arterial Road
- Major Collector Road
- Potential Intersections

# 7.0 Conclusion

This submission informs the proposed land use activities proposed for land within the North Luddenham Precinct, with specific attention to the property at 136 Gates Road, Luddenham.

The North Luddenham Precinct is identified primarily for 'Flexible Employment'.

> *Planning for the Aerotropolis will accommodate this planned new freight infrastructure, as well as freight and logistics development enabling* ***flexible employment precincts to support the increasing freight task and changes*** *in global freight requirements.*
>
> (Section 4.2.3, p.36)

The site's strategic location in proximity to the Outer Sydney Orbital, directly north of the future Western Sydney Airport, highlights adequacy of the proposed indicative land uses in the context of the Western Sydney Aerotropolis.

Given the location of the North Luddenham Precinct forms the north-western gateway into the Western Sydney Aerotropolis, there is increased opportunity to provide freight terminals as well as logistics and freight handling industries within the following land uses:

- B6 Enterprise Corridor; and
- IN1 General Industrial.

Proposed land uses are consistent with general principles outlined in the Stage 1 Plan for the Aerotropolis, particularly:

- *Freight lines and better connections to global markets through gateways at the new Airport, as well as Port Botany and Port Kembla, will create opportunities for new freight terminals as well as logistics and freight handling industries.*
- *Location of land uses provides safe, diverse, innovative and healthy communities by maximising the opportunities provided by the greenfield nature of the site, so that development is consistent with the Region and District Plan.*
- *Appropriate forms of development will achieve compact, smart development and support the sustainable development objectives*

Accordingly, it is recommended proposed land use activities and building heights outlined in this submission will assist with the redevelopment of the site to accelerate the rezoning of the precinct enable a range of employment and residential uses that will service the wider Western Sydney Aerotropolis.

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