Provision of

Infrastructure and Services

Former Hoxton Park Airport, Hoxton Park

Applicant:
Mirvac Projects Pty.Limited.

ADW JOHNSON PTY LIMITED
ABN 62 129 445 398
central coast
2 Bounty Close, Tuggerah NSW 2259
phone: 02 4305 4300
fax: 02 4305 4399
email: coast@adwjohnson.com.au

www.adwjohnson.com.au

Contents

Attachments

No.

1. Preliminary Road Design

2. Stormwater and Water Quality Management Strategy

3. Preliminary designs for the drainage of the proposed driveways and parking areas

4. Erosion and Sediment Control Plan

5. Location of existing & proposed services

6. Correspondence - Olsen Infrastructure

7. Correspondence – Connect Infrastructure

8. Location of gas mains, Jemena

9. Correspondence - Telstra

10. Indicative Site Cut & Fill

1 Introduction - Provision of infrastructure, drainage and programmed civil works

This Report discusses the provision of infrastructure necessary to service the proposed distribution centres and other minor allotments. Proposed infrastructure works include;

- ~ Roads;
- ~ Drainage;
- ~ Services and Utilities, and;
- ~ Bulk earthworks including excavation and fill.

During the provision of new infrastructure, it will be necessary to maintain access and services arrangements for adjoining lot owners 401-403. These lot owners have been consulted on the development and will continue to be informed as the development proceeds.

At the completion of works, new roads & stormwater facilities will be dedicated to Liverpool City Council for public use and easements created for services as required by relevant authorities.

2 Roads & Access

The Roads and Traffic Authority (RTA) is currently in the process of carrying out a major upgrade of Cowpasture Road. Part of the upgrade includes a new intersection at the boundary of the site. This new intersection will provide access to the site with the current access point to be decommissioned at the appropriate time. The VPA obligations cover off the necessary obligations.

There is a proposed future secondary access which traverses Hinchinbrook Creek ("northern intersection") again onto Cowpasture Road. This intersection will be designed and constructed in accordance with RTA requirements at the appropriate time.

As part of the development a new north/south access road will provide access from the new intersection on Cowpasture Road to the site.

The proposed road network and intersection points are generally consistent with an established Street Network plan for this Precinct as detailed on Figure 1 Part 2.9, *Land Subdivision in Former Hoxton Park Airport Site,* of Liverpool Council's Development Control Plan 2008. Council's Street Network Plan is reproduced below.

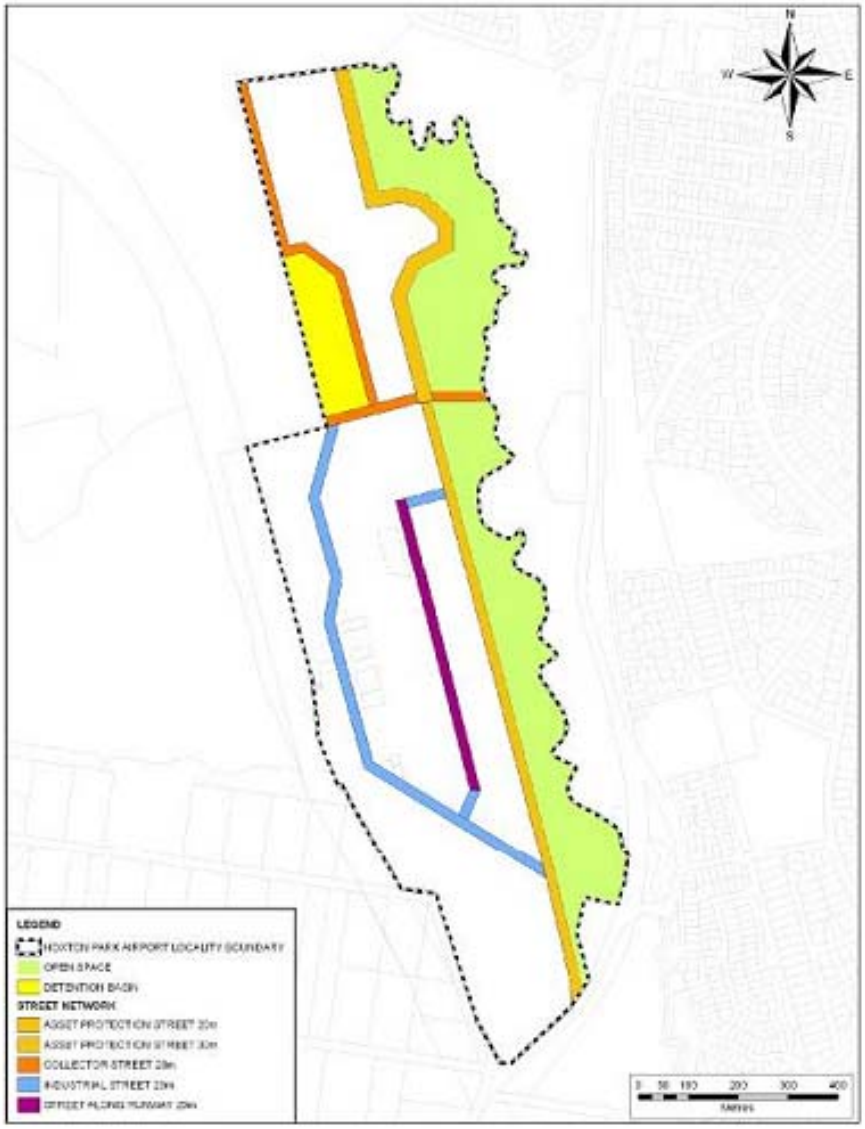


Figure 1: Street Network Plan, Liverpool Development Control Plan 2008, Part 2.9 – Land subdivision in Former Hoxton Park Airport Site

Figure 2 below provides an overlay of the proposed street network, shown dashed, on to Council's Street Network Plan, as contained in the Council's DCP.

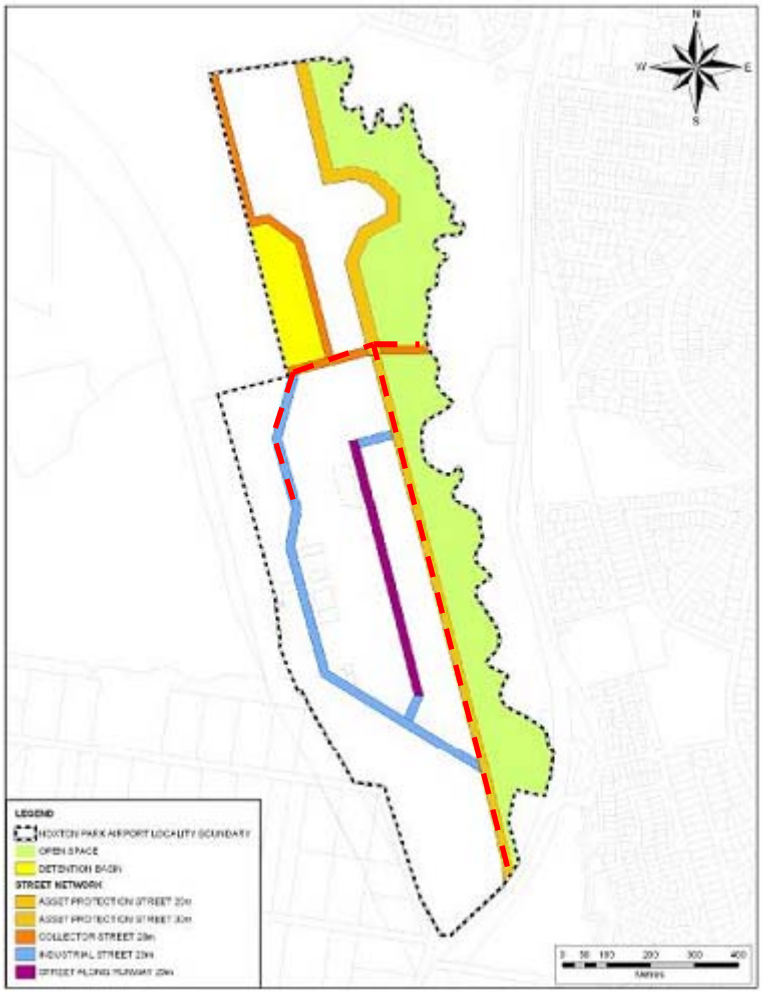


Figure 2: Proposed Street Network Plan, Proposed Distribution Centres & Land Subdivision upon the Former Hoxton Park Airport Site.

The total length of roads to be constructed is approximately 1300m, comprising an internal north-south access road (Road 1), a new east-west road (Road 2), and new road (Road 3) terminating in a cul-de-sac. This arrangement is shown in Attachment 1. Future access to Lots 401 – 403 DP 1141990 will be gained via new Road 3, which will in part utilise the existing road pavement.

Road 1 is proposed to be divided into three treatments namely;

- From the existing Cowpasture Road intersection to Chainage 60
- Chainage 60 to 240
- Chainage 240 to Roundabout

The section of road from Cowpasture Road to Chainage 60 is proposed to consist of a variable width pavement to suit the existing constructed intersection kerb alignments transitioning to the full 13.0m pavement at Chainage 60. The arrangement of the lanes transitions over the length of this segment to develop the two outbound traffic lanes and one inbound lane at the existing intersection. At Chainage 60, the lanes will develop into the full configuration of 2x3.5m traffic lanes and 2x3.0m parking lanes midblock. It is proposed to contain this pavement within a 17m road reservation to allow suitable area for the floodway that is required to be constructed to the east of the road.

The section of road from Chainage 60 to Chainage 240 is proposed to be 13.0m with 2x3.5m traffic lanes and 2x3.0m parking lanes midblock. Due to the requirement to provide a floodway to the east of the road to ensure appropriate floodplain management, it is proposed to contain the pavement within a 17.0m wide reservation. The balance of the land creating the floodplain is to be dedicated to Council as Drainage Reserve.

The section of road from Chainage 240 to the future roundabout is proposed to be 13.0m with 2x3.5m traffic lanes and 2x3.0m parking lanes midblock. It is proposed to be contained within a road reserve of 20.8m.

All new roads and intersections have been designed to cater for 19 metre semi trailers and 26 meter B Doubles in accordance with AS2890.2-2002 and Austroads requirements. It is noted that Cowpasture Road and the M7 link are both declared B Double routes.

Road 1 is proposed to have a footpath on the western side of the road. Pedestrian movements along this road are expected to be small, not warranting duplication on both sides of the road. It is also noted that there is not development potential on the eastern side of this access road. Road 2 will be provided with a cycleway on the northern side of the road ultimately providing connectivity to the M7 cycle network and Middleton Grange as per the DCP. A footpath is proposed on the southern side of Road 2. This will ultimately connect to the footpath on the future bridge crossing of Hinchinbrook Creek to Cowpasture Road in the east. It is understood Road 2 will also provide a carriageway for local public bus services.

The Roads and Traffic Authority have been consulted in relation to the intersections with Cowpasture Road and have provided a framework for progressing design plans for both intersections.

Road and intersection designs servicing the Distribution Facilities are supported by a detailed Traffic Impact Assessment, prepared by Colston Budd Hunt & Kafes Pty Ltd, as appended to the Environmental Assessment, which includes swept paths detailing truck movements.

Details of the preliminary road design are provided as Attachment 1 to this report. Full road design and construction details will be provided to Liverpool City Council at a later date. Council is proposed to be appointed as the Certifying Authority for the access roads.

All new roads will be made public by dedication.

3 Drainage

3.1.1 General

Parsons Brinkerhoff have prepared a Stormwater and Water Quality Management Strategy for the proposed development, a copy of which is provided as Attachment 2.

All street and roof drainage will be conveyed by a pipe and overland flow path system to the existing points of discharge to Hinchinbrook Creek. Wherever possible an integrated treatment train approach using swales and at source filters will be adopted. At the discharge locations appropriate end of line water quality treatment measures (e.g. gross pollutant traps) will be installed using high hydrocarbon reducing proprietary units. This is further discussed in Attachment 2.

3.1.2 Internal Drainage – Driveway and Carpark Design

Stormwater runoff from the proposed hardstand areas will be conveyed via sheet flow into a pit and pipe network.

The pit and pipe network will be designed to cater for a minimum 1 in 20 year ARI design storm. Localised sags around pits will provide greater inlet capacities. This will ensure flows up to the 1 in 20 year design remain within the pipe system.

The exception to this is the area in the north western corner of Big W. This area is not able to be graded out to cater for storms in excess of the 1:20 year ARI. The pit and pipe network in this area will be designed to cater for the 1 in 100 year design storm for duration up to 24 hours.

Localised sags will be used extensively throughout the carpark/driveways and forecourt areas. The exception to this is the east and south eastern area of DSE. This area, being a dedicated forklift zone is required to not have any sharp changes in grade. The area is also used for stacking containers. The maximum vertical deflection allowed in these areas is 1.5 degrees which equates to 2.5 percent. Grades in this area have been kept below this value.

Big W Site

Low flow stormwater pipes will drain the carpark and driveway to the north, east and south of Big W and integrate with the water quality measures proposed. They will drain underneath proposed Road No.1 into Hinchinbrook Creek. Runoff above the 1 in 20 year design storm will be conveyed via overland flow. It will be directed into an open channel running adjacent to Road No.1 on the western side. The open channel will discharge into creeks located downstream.

It is proposed to provide another open channel adjacent to the south western area of Big W. This channel will convey runoff from the Big W carpark. The western driveway including low flows, will all drain to the proposed channels. This channel discharges to the proposed detention basin on SP2 zoned land.

DSE Site

Low flow stormwater pipes will drain the carpark and driveway surrounding DSE and integrate with the water quality measures proposed. They will drain underneath proposed Road No.1 into Hinchinbrook Creek. Runoff above the 1 in 20 year design storm will be conveyed via overland flow. In the carpark and driveways to the north and west stormwater will be directed underneath the DSE entry into a proposed water quality basin. The remaining carpark and driveway areas will be directed into an open channel running adjacent to Road No.1 on the western side. The open channel will discharge into creeks located downstream.

Preliminary designs for the drainage of the proposed driveways and parking areas are provided as Attachment 3.

3.1.3 Water management during construction

A temporary siltation control facility is intended to be provided during bulk earthworks as shown on the proposed Erosion & Sediment Control Plan provided as Attachment 4.

3.1.4 Stormwater management and controls

Advice received from Liverpool Council has stated that on site detention to limit post development flowrates leaving the site would not be required due to the site's proximity to Hinchinbrook Creek.

Should the construction of the proposed Basin 6 be delayed it may be necessary to construct a low earth berm to the north of the proposed development to ensure runoff in this area is diverted to Hinchinbrook Creek away from the proposed development. These details will be resolved at the Construction Certificate stage of the project.

4 Services and Utilities

Consultation with various service providers has been undertaken by ADW Johnson and others to determine current and future provision of key services. The findings of these investigations are discussed below. A plan detailing the location of existing and proposed service is provided as Attachment 5.

4.1.1 Sewer

Reticulated sewer is currently provided to the site by Sydney Water and is currently being installed as part of required works in relation to a recent three (3) lot subdivision of the site creating Lots 401-403 DP 1141990 (Sydney Water Case No. 115803). This sewer infrastructure provides suitable connections to cater for the proposed developments.

A copy of the application from Olsen Infrastructure to Sydney Water for sewer connection advice is provided as Attachment 6.

4.1.2 Water (Potable)

Potable water is currently provided to the site via a 150mm diameter domestic water service line located in Cowpasture Road, at the southern end of the site. Sydney Water has indicated that future supply to the Precinct will be gained from a new 250mm diameter water main, to be constructed by the lead developer, under the M7 to the north of the airport site and a 150mm main at the southern portion of the airport site from Cowpasture Road including a 150mm link-main along Cowpasture Road to Sixteenth Avenue.

A copy of the application from Olsen Infrastructure to Sydney Water for water connection advice is provided as Attachment 6.

4.1.3 Water (Recycled)

The site is located within an area scheduled by Sydney Water to received recycled water for non-potable use i.e. irrigation, toilet flushing, firefighting and washing machine use – subject to Department of Health approval.

Sydney Water has advised that ultimately the development will be supplied with recycled water from the future Hoxton Park Recycled Water Supply Scheme, via a 300mm main extension from Middleton Grange to be provided under the M7 Motorway.

A request for Design Requirements has been included in the Feasibility Application submitted by Olsen Infrastructure as outline in point 4.1.2 above.

4.1.4 Electricity

Integral Energy have advised that, through the appointed as service coordinator Connect Infrastructure, electricity supply will be made available to this site via new high voltage mains to be installed.

Based on discussions with Integral energy it is envisaged that two (2) 11kV feeder cables will be installed from Hinchinbrook Zone substation and reticulated to smaller distribution substations located strategically within the site.

A formal application and proposed method of supply for the connection for electricity to the Distribution Facilities has been submitted to Integral Energy for their approval/comment.

Connect Infrastructure will also coordinate the provision of temporary builder supply.

A copy of correspondence from Connect Infrastructure is provided as Attachment 7.

4.1.5 Gas

Service provider Jemena has advised that reticulated gas will be available to the development via an extension of the 110mm main located in Middleton Grange. This supply has the capacity for the proposed development.

Discussions will continue with Jemena as detailed designs are prepared as part of road civil plans.

A plan indicating the location of natural gas is provided as Attachment 8.

4.1.6 Communications

Telecommunication facilities are currently provided to the site with Telstra confirming that network infrastructure has been provided previously in relation to the three (3) lot subdivision of the site creating Lots 401-403 DP 1141990. A copy of Telstra's correspondence is provided as Attachment 9.

A separate application has recently been made Telstra Smart Community in relation to the proposed development. The requirements and location of service infrastructure will be documented as part of detailed civil drawings for the future roadways.

5 Bulk earthworks

5.1 General

Levels across the site vary from 34m AHD to 51m AHD with grades being generally flat, ranging from 0% to 4%. In the proposed area of development, surface levels fall to the south by about 5 m over a length of approximately 800 m.

The site is located adjacent to the floodplain of Hinchinbrook Creek. In order to provide flood free access and building envelopes it is anticipated that approximately 180,000m^3 of fill will be required to be imported as part of the construction process.

A separate Development Application has been recently been consented to by Liverpool City Council (Ref: DA-837/2010) for the stockpiling of required fill.

The extent of cut and fill over the site is shown on the plan titled "Indicative Site Cut & Fill" provided as Attachment 10.

Bulk earthworks are required to commence as soon as possible after approval and have been scheduled to commence in May 2010.

5.2 Building Pads

The site levels generally have to be raised by up to 2.5 m above existing levels to provide the required levels for each warehouse. The warehouses are proposed to be constructed on different pad levels of RL 41.45 for the DSE building and RL 39.7 for the Big W building. There will be some minor cut in the north western corners of each platform. Approval is also sought for the construction of the parcel to the south of the Big W building with two pads proposed at approximately RL35.29 and RL35.79.

The geotechnical investigation suggests that there is up to about 1 m of existing silty clay filling over the site.

In areas of cut, which are expected to be of the order of about 1 m, the material should be easily removed by conventional earthmoving equipment. In areas of filling, up to 500mm of the existing filling material is required to be removed and replaced under geotechnical supervision

5.3 Roads & Drainage

In order to construct proposed Road 1 above the 1:100 flood level, site levels will have to be raised by up to 1.4m in some locations above exiting levels.

Earthworks will also include the construction of temporary sediment control basin, to be located towards the southern end of the site as detailed on the attached plan title “Erosion and Sediment Control Plan”.

Full details on bulk earthworks will be documented as part of detailed design plans.

6 Environmental Controls

Environmental controls throughout the construction process are proposed at a number of levels. These include;

- Construction Management/Environmental Management Plan – prepared by Mirvac Constructions provides broad controls for site management;
- Project specific Environmental Management Plan prepared by all key sub-contractors, to be submitted with final designs and implemented on site;
- Erosion & Sediment Control Plan – A detailed plan will form part of the final earthworks road and drainage design plans, of which a preliminary plan is provided as Attachment 4 Full details will be provided as part of final detailed design plans.;
- Salinity Management – Douglas Partners, have provided preliminary advice in relation to the preparation of a Salinity Management Plan, a copy of which is appended to the Environmental Assessment. Full details will be provided as part of final detailed design plans.
- Potentially Contaminated Lands - Douglas Partners, have undertaken a Targeted Phase 2 Contamination Assessment over the site, a copy of which provided is appended to the Environmental Assessment.

  Whilst no immediate contaminations were found, , a Construction Environmental Management Plan (CEMP), will be prepared by an environmental consultant, to address any contamination issues encountered during construction.

7 Easements, Dedications and future subdivision

Approval is sought for further subdivision of the land into five (5) lots, three (3) of which will cater for future development and two (2) containing public assets which will be dedicated to Liverpool City Council. Details of the proposed subdivision are provided below, with a copy of the proposed plan appended to the Environmental Assessment.

Proposed Lot	Area (ha)	Future use
4051	10.62	Dick Smith Distribution Centre
4052	19.97	Big W Distribution Centre
4053	0.9837	Detention Facility – dedicated to LCC
4054	4.92	Residual lot – Future industrial development
4055	(area by deduction)	Open Space (Hinchinbrook Creek riparian corridor) – dedicated to LCC

Upon completion of the major infrastructure;

- All new roads will be made public by dedication upon registration of the subdivision plan.
- Proposed Lot 4053 will be dedicated to Liverpool City Council for drainage purposes, in accordance with the Voluntary Planning Agreement;
- Proposed Lot 4055 will be dedicated to Liverpool City Council for Open Space, in accordance with the Voluntary Planning Agreement.

Appropriate easements will be created over any new or existing services as required by the relevant service authorities.

Existing easements benefiting lots 401-403 will also be amended to suit the development. It is noted that existing easements benefiting lots 401-403 are temporary in nature and contemplate development of the site.

8 Conclusion

Based on the above analyses, all available services necessary to support the proposed development can be extended from existing infrastructure to the subject site. As such there are no servicing constraints that would prevent the development of the site as outlined in the application to the Minister of Planning.

Attachment 1

Preliminary Road Design

Attachment 2

Stormwater and Water Quality Management Strategy

Stormwater Management Plan for Proposed Warehouse and Distribution Facilities, Cowpasture Road, Hoxton Park

February, 2010

ADW Johnson

Parsons Brinckerhoff Australia Pty Limited
ABN 80 078 004 798

Level 3
51–55 Bolton Street
NEWCASTLE NSW 2300
PO Box 1162
NEWCASTLE NSW 2300
Australia
Telephone +61 2 4929 8300
Facsimile +61 2 4929 8382
Email newcastle@pb.com.au

Revision	Details	Date	Amended By
DRAFT	Original draft	19 February 2010	
Final	Final issue	19 February 2010	Adam Shaw

Author: Duncan Barnes, Adam Shaw

Signed: .....

Reviewer: Stuart Holle

Signed: .....

Approved by: Adam Shaw

Signed: .....

Date: 19 February 2010

Distribution: 1x ADWJohnson (PDF)

Please note that when viewed electronically this document may contain pages that have been intentionally left blank. These blank pages may occur because in consideration of the environment and for your convenience, this document has been set up so that it can be printed correctly in double-sided forma

Contents

List of tables

List of figures

Appendices

Executive summary

A stormwater management plan was prepared for the proposed warehouse and distribution facility off Cowpasture Road, Hoxton Park. The site drains to Hinchinbrook Creek, which is part of the Georges River catchment.

Stormwater Management Plans typically involve analysis of the impacts of development on:

- Peak runoff flow rates
- Surface runoff quality.

Subsequently, a Stormwater Management Plan may recommend treatment methods to ensure the above impacts are appropriately managed such that receiving waters are not denigrated.

In the case of the subject Hoxton Park site, Liverpool City Council has previously advised ADW Johnson that stormwater detention is not required due to specific circumstances.

For the purposes of analysis, the site was divided into 8 separate subcatchments, however catchment A (Existing) and B were not analysed because the proposed land use is not changing for these subcatchments. The resultant stormwater management plan is presented at Figure 5.

The existing and proposed developed site conditions were reviewed, and the following treatment devices are included in this stormwater management plan:

- Three separate dry vegetated water quality basins.
- In subcatchments where a dry vegetated water quality basin is proposed, a simple gross pollutant/sediment trap is also recommended.
- In other subcatchments, a more complex gross pollutant / sediment and hydrocarbon trap is recommended.
- In the case of catchment C, a landscaped buffer area is also recommended.

MUSIC water quality modelling was completed for existing and developed conditions. The modelling indicated that the treatment train proposed will be sufficient to achieve the water quality treatment criteria specified by Liverpool City Council and Australian Runoff Quality, on a whole-of-site basis.

Note that the model results in this report are based on the treatment trains as documented. However, alternative arrangements for the water quality devices may be considered as part of Construction Certificate in consideration of further detail that may be developed at that stage.

As the stormwater conveyance elements are generally designed and sized as part of the detail design at Construction Certificate stage, this stormwater management plan does not consider these elements.

1. Introduction

1.1 Background

Parsons Brinckerhoff (PB) was engaged by ADW Johnson to prepare a stormwater management plan for proposed warehouse and distribution facilities off Cowpasture Road, Hoxton Park, NSW. The location of the site is shown on Figure 1.

The development involves the construction of two distribution warehouses for Big W and Dick Smith Electronics, along with the supporting road, car park and utility services.

The Project Application for the development is being submitted to NSW Planning for approval under Part 3A of the Environmental Planning and Assessment Act 1979. This stormwater management plan will be included in the Environmental Assessment for the development, which comprises a core element of the Project Application.

PB has been informed by ADW Johnson that liaison had been previously undertaken with Liverpool City Council as part of the development planning process. Through this liaison it was revealed that Council does not consider on-site detention to be required for the development. Accordingly, this stormwater management plan has only focused on surface water quality management for the development.

1.2 Scope of work

The following tasks were completed in the development of this stormwater management plan:

- Review information pertaining to the site including the development site plan, conceptual engineering and landscape plans, and detail survey (all supplied by ADW Johnson).
- Estimate the undeveloped (baseline) runoff water quality from the proposed development using MUSIC, a recognised water quality model.
- Assess opportunities for water quality management that integrates with the site plan and engineering concept plan.
- Model the proposed water quality controls using MUSIC, relating the performance to Liverpool City Council's stormwater management guidelines and Australian Runoff Quality (ARQ, Engineers Australia, 2005).
- Document the stormwater management plan including water quality modelling and results, for inclusion in the Project Application submission to NSW Planning.

Client: ADW Johnson
Project: Proposed Warehouse and Distribution Facilities
Project: Stormwater Management Plan
Location: Cowpasture Road, Hoxton Park NSW

PARSONS BRINCKERHOFF

Legend:

Proposed Development Site

Locality Plan

Map reproduced with permission of UBD. Copyright Universal Publishers Pty Ltd, DG 10/03.

Figure No. 1

1.3 Site description

The site is located on part of the former Hoxton Park Aerodrome which is situated at the corner of Cowpasture Road and the M7 Motorway, in the central region of the Liverpool Local Government Area (LGA). Vehicular access to the site is from Cowpasture Road.

The Hoxton Park Aerodrome was most recently used as an uncontrolled airfield for light aircraft and helicopters for private flight training and flying. As the aerodrome was never used for commercial flights, the aerodrome does not have a passenger terminal. Several airport hangers and sheds which were occupied by the flying school and other similar companies had been erected to the west of the runway, with the majority being removed. The remaining buildings are low scale in nature and are generally constructed out of corrugated metal sheeting. This use ceased in December 2008 and the site is currently unoccupied.

The site is generally cleared, comprising mostly grassed areas. The former hangers and buildings are in the process of being demolished.

1.4 Development proposal

The proposed development on the site includes two warehouse buildings, which will be occupied by Big W and Dick Smith Electronics, as shown on the development layout (Figure 2).

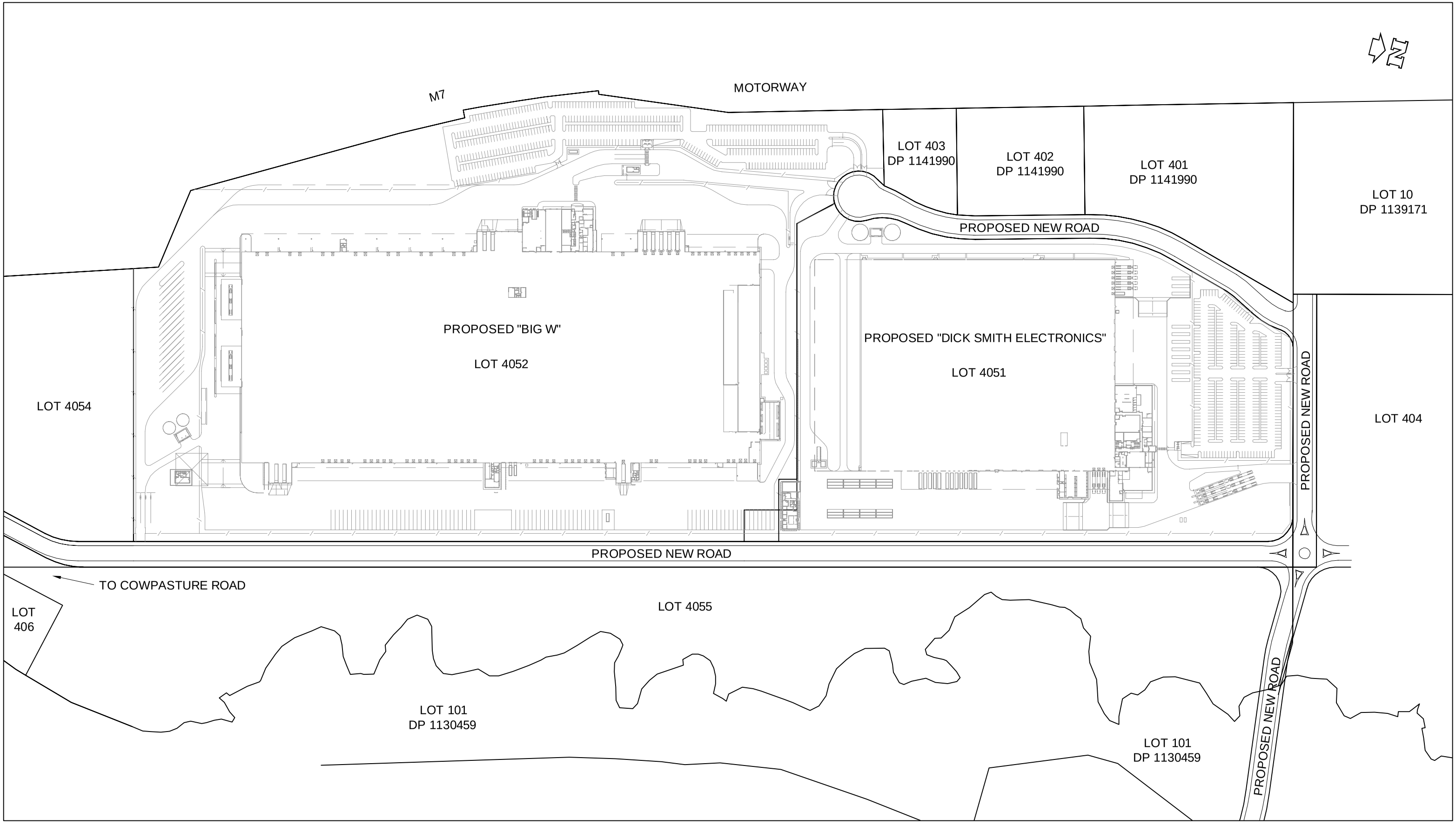
The building to the south will be occupied by Big W and is the larger of the two warehouses comprising approximately 89,000 m^2 (GFA). It is proposed that this building will be constructed in one stage and will eventually accommodate approximately 420 employees. The Big W warehouse, as currently proposed, is approximately 200 m wide, 400 m long and 13.7 m high, however these dimensions may vary slightly as the detailed design of the warehouse develops.

The Dick Smith warehouse building, which is located on the northern part of the site, will be constructed in two stages. Initially the building will be approximately 200 m wide, 250 m long and 13.7 m high (Stage 1). As storage requirements increase, the warehouse will be expanded to include a possible 37 m Highbay facility and will accommodate approximately 50,300 m^2 GFA (Stage 2). At the end of Stage 2, the Dick Smith warehouse is expected to accommodate approximately 325 employees.

Approximately 790 car parking spaces will be provided on site for staff. Consent will also be sought for construction of the internal roads and installation of associated infrastructure and services.

Client: ADW Johnson
Project: Proposed Warehouse and Distribution Facilities
Project: Stormwater Management Plan
Location: Cowpasture Road, Hoxton Park NSW

PARSONS BRINCKERHOFF



0 75 150 m

Scale 1: 3000 @ A3

Development Layout

Plot Date: 19/02/10 - 12:12 Cad File: \\Aunclf\proj\A\ADW_Johnson\2103418A_HOXTON_PARK_STORMWATER\09_CADD\Drawings\Figures\Figure 2.dwg

Figure No. 2

1.5 Existing catchment and drainage

The site is located within the Georges River catchment. Runoff from the local site drains eastward to Hinchinbrook Creek through local drainage pits, culverts and channels, and as sheet flow across the grassed areas. The existing site surface slopes are generally around 1% to 2%, which is typical for airport sites. The estimated existing local drainage catchment plan is shown on Figure 3.

Hinchinbrook Creek is a tributary of Cabramatta Creek, which eventually drains through to the Tasman Sea near Kurnell (some 48 km downstream) via Chipping Norton Lake, and Georges River. Part of the site is located within the floodplain of Hinchinbrook Creek and is affected by regional flooding. Flooding considerations for the site are being documented by others.

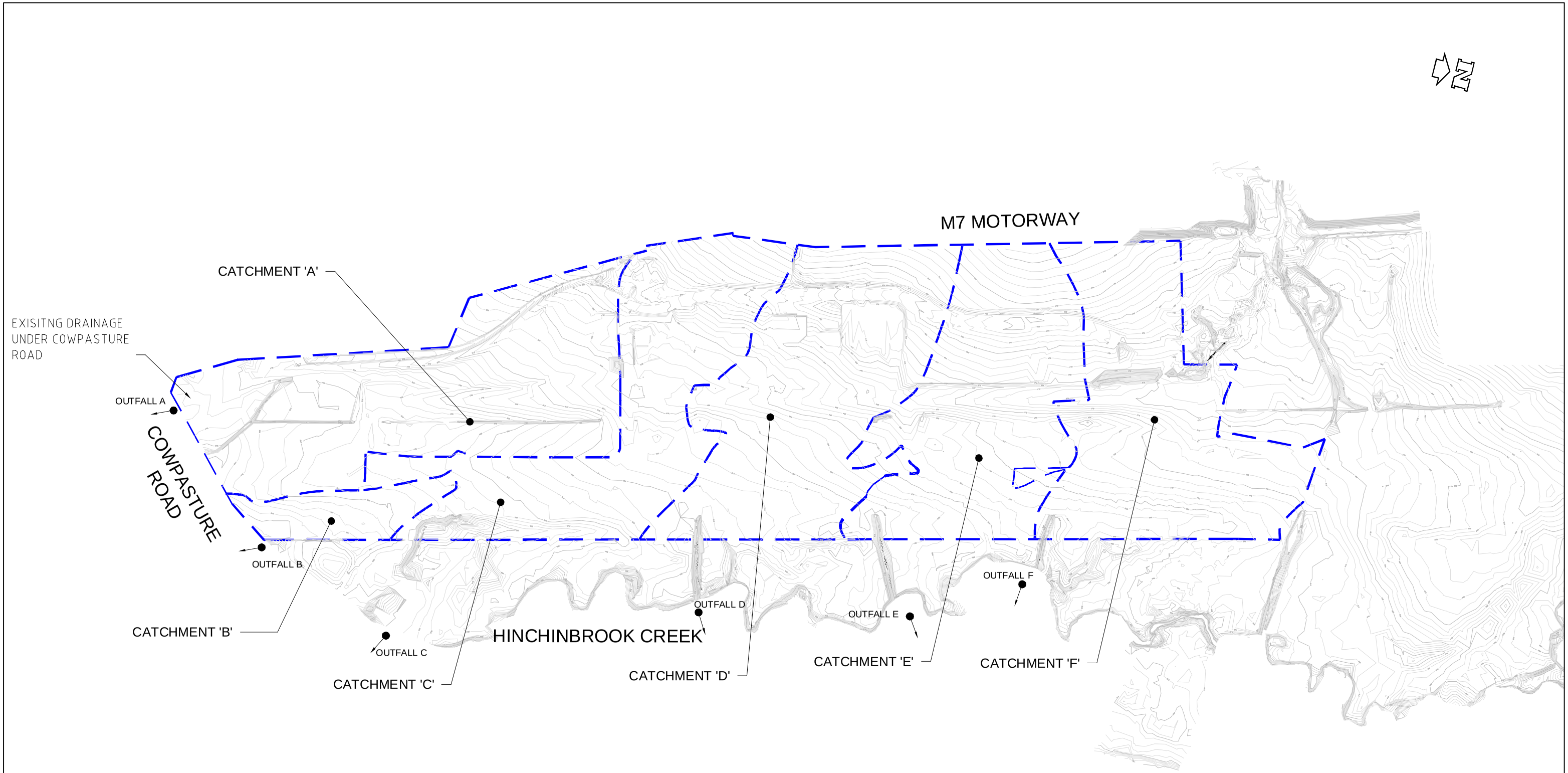
Beyond Hinchinbrook Creek is Cowpasture Road and the suburb of Hinchinbrook which predominantly comprises low density residential development. North of the site is the future development, which will accommodate commercial/retail uses immediately adjacent to the site which will eventually provide a buffer for the future 200 (approximately) dwellings which are being considered further north on the same site.

The M7 adjoins the western boundary of the site. The M7 is a 4 lane motorway providing an uninterrupted journey between the M2, M4 and M5 motorways. Beyond the M7 is a Mirvac/Landcom joint venture called Parkbridge. Cowpasture Road bounds the southern part of the site.

Drainage of the developed site will be predominantly in an eastward direction into outfalls along Hinchinbrook Creek. The locations of these outfalls were determined from site survey and previous inspections, and in conjunction with ADW Johnson who are currently preparing the conceptual civil engineering designs for the development.

Client: ADW Johnson
Project: Proposed Warehouse and Distribution Facilities
Project: Stormwater Management Plan
Location: Cowpasture Road, Hoxton Park NSW

PB PARSONS BRINCKERHOFF



NOTE: PIPE NETWORK HAS BEEN ASSUMED BASED ON PIPE INVERT LEVELS DETERMINED BY SURVEY AND THE LOCATION OF OUTFALLS.

LEGEND:

MAJOR SUB-CATCHMENT BOUNDARY

CHANNEL/OVERLAND CONCENTRATED FLOW PATH/XP-SWMM LINK

50 0 50 100 150 200 250 m

Scale 1: 5000 @ A3

Existing Model subcatchment plan

Figure No. 3

Plot Date: 19/02/10 - 12:06 Cad File: \\Aunclf\proj\A\ADW_Johnson\2103418A_HOXTON_PARK_STORMWATER\09_CADD\Drawings\Figures\Figure 3.dwg

1.6 Previous report

Hoxton Park Airport – Stormwater and Water Quality Management Strategy (PB, 2006)

A stormwater management study was previously completed by PB for a proposed residential, industrial and retail development on the Hoxton Park Airport site. Stormwater flow and water quality modelling was completed as part of the study. The previous stormwater management plan and modelling results were not used in the development of this stormwater management plan. However, PB was able to draw from the general knowledge of the site, existing drainage, and surrounding area gained from the previous work.

1.7 Available information

The following information was used in the development of this stormwater management plan:

- Concept civil design plans prepared by ADW Johnson.
- Site detail survey supplied by ADW Johnson.

2. Methodology

The methodology for the development of the stormwater management plan is outlined below.

2.1 MUSIC model

An estimate of pollutant loads from the current land use was undertaken using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC). MUSIC is a continuous simulation water quality model used to evaluate the short and long-term performance of stormwater improvement devices that are configured in series or in parallel to form a 'treatment train'.

The MUSIC model considers suspended solids, total nitrogen and total phosphorus, which are typical components of urban stormwater runoff. The key MUSIC model inputs are:

- rainfall and evaporation data
- catchment area and percentage impervious
- soil storage parameters
- pollutant event mean concentrations for source nodes.

All input parameters to the MUSIC model were derived from either climate data supplied by the Bureau of Meteorology (BOM) or estimated from the MUSIC model manual (2005) and other published papers.

MUSIC model outputs include:

- average annual pollutant export rates
- treatment train effectiveness, expressed in terms of pollutant reduction.

There has been no baseline water quality monitoring undertaken for the site. As a result, predicted pollutant loads and runoff volumes from the MUSIC model were compared against typical values for similar land uses.

Pollutant loads were estimated for the proposed development and compared against existing pollutant loads. The relative effectiveness of proposed water quality management structures was also examined for the site using the MUSIC model.

2.2 Water quality treatment targets

The quantitative and qualitative stormwater objectives for new developments provided in Table 1 have been sourced from the *WSUD Technical Guidelines for Western Sydney* (May 2004). The quantitative objectives represent achievable targets using current best practice stormwater management techniques and have been used to assess the performance of the proposed treatment trains. These targets also correspond to the targets set in Liverpool City Council's 'Development Control Plan' 2008, and Australian Runoff Quality (Engineers Australia, 2006).

Table 1: Quantitative post-construction phase stormwater management objectives

Pollutant	Stormwater treatment objective
Coarse sediment	80% retention of average annual load for particles 0.5 mm or less.
Fine sediment	50% retention of average annual load for particles 0.1 mm or less.
Total phosphorus	45% retention of the average annual load.
Total nitrogen	45% retention of the average annual load.
Litter	70% retention of average annual litter load greater than 5 mm.
Oil and grease	90% retention of average annual pollutant load.

For the purposes of modelling in MUSIC, coarse and fine sediment are grouped as Total Suspended Solids (TSS). The treatment target adopted for TSS is 80%, which is the higher target treatment value for coarse and fine sediment presented in Table 1.

The MUSIC model does not consider litter, oil and grease, but these pollutants were considered in more qualitative sense when recommending treatment devices in the stormwater management plan.

3. Existing conditions

This section documents pollutant loads for existing conditions and establishes a baseline for assessing the effectiveness of the proposed water quality controls.

3.1 Modelling parameters

3.1.1 Catchment plan

The site consists of six drainage catchments being Catchments A, B, C, D, E and F. The existing catchment plan is provided in Figure 3. Catchment data for the MUSIC model is provided in Appendix A.

3.1.2 Rainfall and evapotranspiration

Six minute rainfall data for Liverpool (Whitlam Centre) was obtained from the BOM for input into the model. This data spans a period of approximately 14 years and was selected for input because the station is located only 6 kilometres from the site and comprises the most complete continuous rainfall data set. The mean annual rainfall recorded at this gauging station is 745 mm.

Monthly average areal potential evapotranspiration values for the area were obtained from the *Climatic Atlas of Australia – Evapotranspiration* (BOM, 1999). Evapotranspiration values are given in Table 2. The total annual evapotranspiration was 1225 mm.

Table 2 Monthly average areal potential evapotranspiration values

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Evapo-transpiration (mm/month)	170	135	125	80	55	40	45	60	85	125	150	155

3.1.3 Time step

The model was run with a time step of 30 minutes that spanned the period 1981 to 1995. This time step was considered to provide a reasonable compromise between computational speed, file size and model reliability.

3.1.4 Land use

The land use for the existing conditions comprises areas of impervious surfaces (runway, roads and roof areas) and lawn.

3.1.5 Hydrology

MUSIC hydrology parameters adopted for each land use are summarised in Table 3 and are based on the default parameters provided in the MUSIC User Guide Version 3 (2005) for Sydney.

Table 3 MUSIC hydrology parameters for existing conditions

Parameter	Existing
Impervious Area	Varies^
Rainfall Threshold (mm)	1
Pervious Area Properties:	
Soil Storage Capacity (mm)	200
Initial Storage (%)	30
Field Capacity (mm)	170
Infiltration Capacity Coefficient, a	200
Infiltration Capacity Exponent, b	1
Groundwater Properties:	
Initial groundwater Depth (mm)	10
Daily Recharge Rate (%)	25
Daily Baseflow Rate (%)	5
Daily Deep Seepage Rate (%)	0

^ Impervious percentage varies between 0 and 34% for each catchment.

3.1.6 Event mean concentrations

The MUSIC model requires pollutant generation parameters for baseflow and stormflow conditions. Baseflow is derived from the groundwater store, which is recharged from the pervious soil store. Stormflow is generally generated from the impervious area, and under some conditions the pervious area as well.

The pollutant parameters for each land use are based on concentrations documented in *Urban Stormwater Quality: A Statistical Overview (*Duncan, 1999) for urban areas.

A summary of event mean concentrations adopted for baseflow and stormflow conditions are provided in Table 4. Note that concentrations adopted for the existing and developed land uses were identical. This is considered reasonable given the current level of development existing on the site.

Table 4 Baseflow and stormflow pollutant mean concentrations for each land use

Flow	Mean Concentration		
	Total Suspended Solids	Total Phosphorous	Total Nitrogen
	(mg/L)	(mg/L)	(mg/L)
Baseflow	10	0.1	1.0
Stormflow	100	0.25	1.8

3.2 Existing model results

The predicted average annual pollutant loads leaving each of the existing drainage catchments is provided in Table 5. Pollutant load estimates are provided for suspended solids, total phosphorus and total nitrogen.

Table 5 Predicted average annual pollutant loads leaving each drainage catchment for existing conditions

Outfall	Average Annual Pollutant Load (kg/yr)		
	Total Suspended Solids	Total Phosphorus	Total Nitrogen
A	1,970	4.8	33.2
B	438	1.0	7.3
C	2,910	6.7	45.1
D	2,010	4.9	34.7
E	1,150	2.9	21.3
F	1,510	3.8	26.2
Total Site	9,988	24.1	167.8

Note that existing pollutant loads from the site will be higher than those expected from a site covered in natural bushland.

4. Developed conditions

This section quantifies developed pollutant loads with no mitigation measures.

4.1 Modelling parameters

Provided below is a description of the catchment plan and land uses adopted in the developed MUSIC model.

4.1.1 Catchment plan

A developed catchment plan is shown in Figure 4. The catchment plan comprises a number of subcatchments (A to F) that drain to Hinchinbrook Creek through a variety of culverts and channels located on the eastern side of the site. It should be noted that for modelling purposes catchment F was broken up into smaller subcatchments (F1 and F2) in order to more appropriately represent the runoff flowing into proposed basin.

The following *new* land uses were used within the developed MUSIC model:

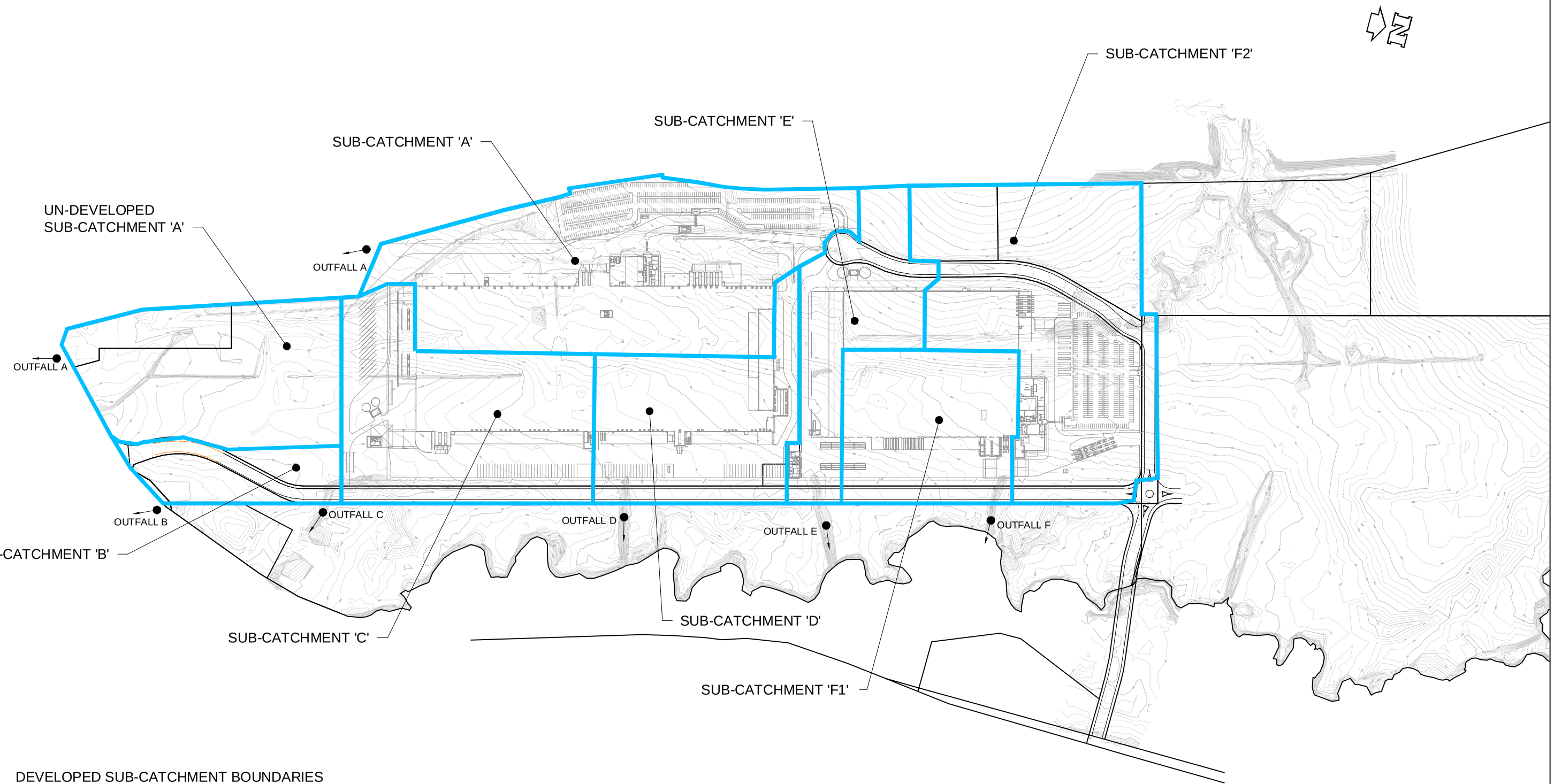
- Urban (Commercial) – This comprises the area of the proposed commercial development and is assumed 100% impervious. This is a reasonable approach following review of the concept engineering and landscape plans.
- Urban (Industrial) – This comprises the industrial lots on the north western section of the development. This area does not comprise part of the Dick Smith or Big W development, but was included as the treatment train in the north end of the site may collect stormwater from these sites. Urban (Industrial) area is assumed 90% impervious.
- Urban (Roads) – This comprises urban road area, assumed 100% impervious.
- Urban (Roofs) – This comprises the roofed areas of the proposed warehouses and was modelled as being 100% impervious.

Parts of Catchment A and F will not be altered as part of the development and therefore, these parts were separated out and were assigned the same parameters as the existing model. Catchment B will be altered by the development through the addition of a road, however, the land use was not expected to change significantly since impervious areas associated with the old airport are expected to be similar to those post development. For this reason catchment B was modelled with the same parameters as the existing model.

Catchment data for the developed model can be seen in Appendix B.

Client: ADW Johnson
Project: Proposed Warehouse and Distribution Facilities
Project: Stormwater Management Plan
Location: Cowpasture Road, Hoxton Park NSW

PB PARSONS BRINCKERHOFF



LEGEND:

DEVELOPED SUB-CATCHMENT BOUNDARIES

OUTFALL LOCATIONS

OUTFALL D

0 75 150 m

Scale 1: 3000 @ A3

Developed Model Sub-Catchment Plan

Figure No. 4

Plot Date: 19/02/10 - 12:37 Cad File: \\Aunclf\proj\A\ADW_Johnson\2103418A_HOXTON_PARK_STORMWATER\09_CADD\Drawings\Figures\Figure 4.dwg

4.1.2 MUSIC Model parameters

MUSIC hydrology parameters adopted for each land use are summarised in Table 6 and are based on the default parameters provided in the MUSIC User Guide Version 3 (2005) for Sydney.

Table 6 MUSIC hydrology parameters for each developed land use

Parameter	Urban Commercial	Urban Industrial	Urban Roads	Urban Roofs
Impervious Area				
Impervious Percentage	100%	90%	100%	100%
Rainfall Threshold (mm/day)	1	1	1	1
Pervious Area Properties:				
Soil Storage Capacity (mm)	200	200	200	200
Initial Storage (%)	30	30	30	30
Field Capacity (mm)	170	170	170	170
Infiltration Capacity Coefficient, a	200	200	200	200
Infiltration Capacity Exponent, b	1	1	1	1
Groundwater Properties:				
Initial groundwater Depth (mm)	10	10	10	10
Daily Recharge Rate (%)	25	25	25	25
Daily Baseflow Rate (%)	5	5	5	5
Daily Deep Seepage Rate (%)	0	0	0	0

4.1.3 Event mean concentrations

A summary of event mean concentrations adopted for baseflow and stormflow conditions for each developed land use are provided in Table 7. The concentrations were sourced from Australian Runoff Quality 2006.

Table 7 Baseflow and stormflow pollutant mean concentrations for each developed land use

Landuse	Mean Concentration		
	Total Suspended Solids	Total Phosphorous	Total Nitrogen
	(mg/L)	(mg/L)	(mg/L)
Urban (Commercial, Industrial, Road, Roofs) – Baseflow	10	0.1	1.0
Urban (Commercial, Industrial) – Stormflow	150	0.3	3.0
Urban (Roads) – Stormflow	250	0.25	3.0
Urban (Roofs) – Stormflow	35	0.1	3.0

4.2 Model calibration

4.2.1 Hydrology

Due to the absence of site specific runoff and pollutant data, accurate calibration of the MUSIC model could not be undertaken. Instead, the predicted volumetric runoff coefficients have been compared against typical values for similar land uses documented in *Managing Urban Stormwater: Strategic Framework* (DEC, 1997).

A comparison of model predicted and typical volumetric runoff coefficients is summarised in Table 8 for each land use. Predicted volumetric runoff coefficients were calculated using the predicted runoff volume and the average annual rainfall reported in the model for the analysed rainfall period.

Table 8 Comparison of typical and predicted volumetric runoff coefficients

Landuse	Description	Volumetric Runoff Coefficient	
		Typical	MUSIC Predicted
Existing	Low Urban	0.30	0.26
Developed	High Urban	0.80	0.78

Volumetric runoff coefficients predicted by the MUSIC model compare well with the typical volumetric runoff coefficients documented in *Managing Urban Stormwater: Strategic Framework* (DEC, 1997).

4.3 Developed model results

A comparison of existing and developed (with no mitigation) average annual pollutant loads is provided in Table 9 for the total site. The comparison has been provided to demonstrate the net increase in pollutants arising from the site rather than for each of the drainage catchments.

Table 9 Comparison of existing and developed average annual pollutant loads (total site)

Outfall	Parameter	Existing	Developed	Relative Difference (%)
Total Site	Suspended Solids (kg/yr)	9,988	39,200	+292%
	Total Phosphorus (kg/yr)	24.13	65.5	+171%
	Total Nitrogen (kg/yr)	167.83	797	+374%

As expected, Table 9 shows an increase in the concentration of TSS, TP and TN for the developed site, emphasising the importance of incorporating water quality treatment devices within the stormwater and water quality management strategy for the proposed development.

5. Mitigated conditions

This section outlines the proposed treatment train for the management of stormwater runoff from the site and examines its relative performance.

5.1 Treatment devices

5.1.1 Type

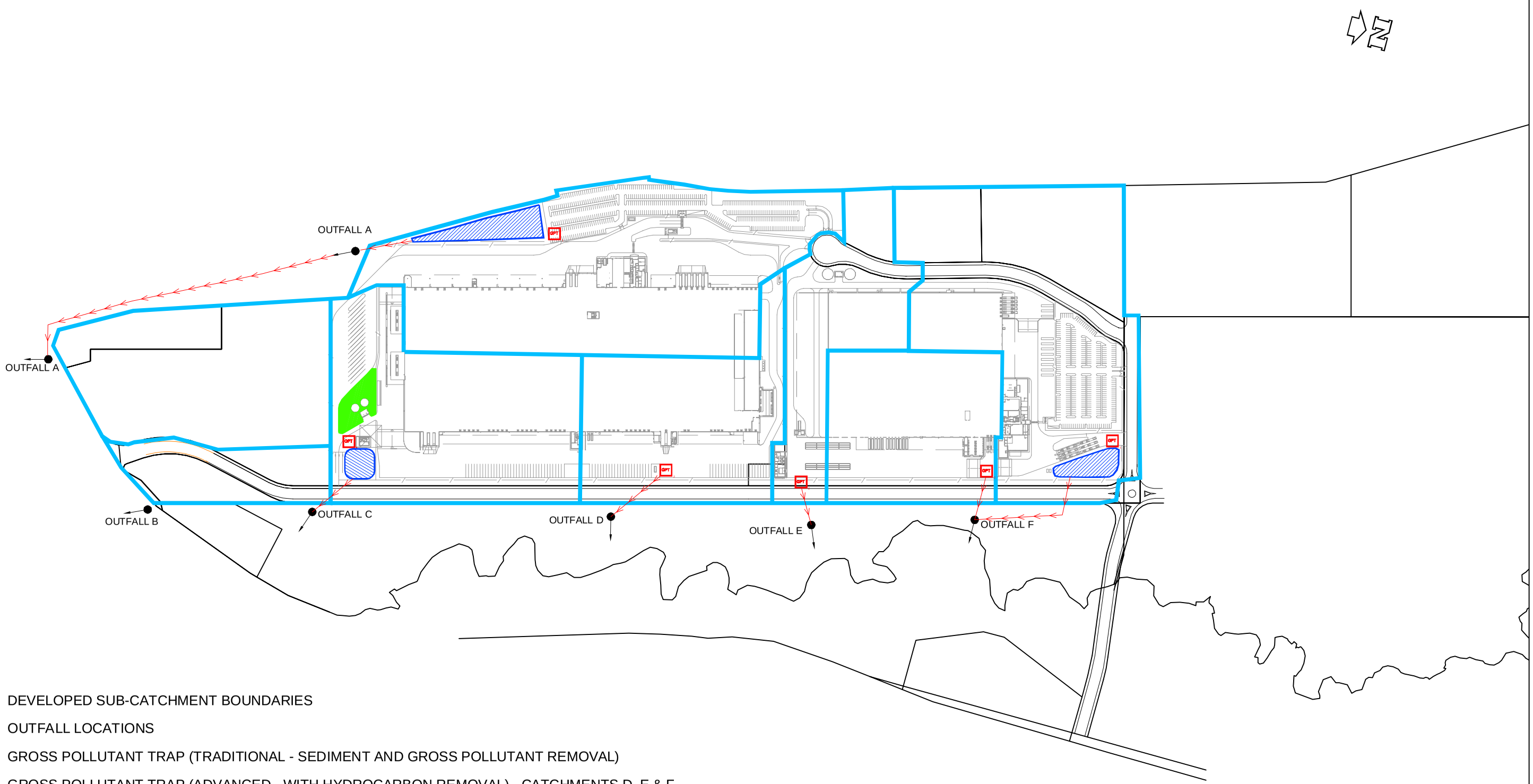
The treatment devices were chosen to integrate with the development plan and concept civil engineering design (by ADW Johnson), and include:

- Vegetated (dry) basins [essentially oversized swales] in subcatchments A, C and F.
- A landscaped buffer area on subcatchment C prior to the GPT and the vegetated water quality basin.
- Gross pollutant traps for the removal of coarse sediment, gross pollutants, nutrients, heavy metals and hydrocarbons. Two types of gross pollutant traps were specified. The first type is based on a typical gross pollutant trap, removing sediment and gross pollutants only, and is used prior to the vegetated basins. The second type has a higher hydraulic residence time, which results in higher sediment removal rates, as well as heavy metal and hydrocarbon removal properties, and is proposed where the basins and other vegetated elements could not be accommodated in the development layout.

A general description of the modelling parameters adopted for each treatment device is provided below. The locations of the devices are shown on Figure 5.

Client: ADW Johnson
Project: Proposed Warehouse and Distribution Facilities
Project: Stormwater Management Plan
Location: Cowpasture Road, Hoxton Park NSW

PB PARSONS BRINCKERHOFF



LEGEND:

- DEVELOPED SUB-CATCHMENT BOUNDARIES
- OUTFALL LOCATIONS
- GROSS POLLUTANT TRAP (TRADITIONAL - SEDIMENT AND GROSS POLLUTANT REMOVAL)
- GROSS POLLUTANT TRAP (ADVANCED - WITH HYDROCARBON REMOVAL) - CATCHMENTS D, E & F
- PROPOSED VEGETATED DRY TREATMENT BASIN
- LANDSCAPE BUFFER AREA

0 75 150 m

Scale 1: 3000 @ A3

Stormwater Management Plan

Figure No. 5

Plot Date: 19/02/10 - 12:39 Cad File: \\Aunclf\proj\A\ADW_Johnson\2103418A_HOXTON_PARK_STORMWATER\09_CADD\Drawings\Figures\Figure 5.dwg

5.1.2 Modelling parameters

Vegetated basins

The vegetated basins located on subcatchments A, C and F2 were modelled as sedimentation basins in MUSIC, with key parameters as provided in Table 10. As mentioned earlier subcatchment F was broken up into smaller subcatchments F1 and F2 to differentiate the areas of the subcatchment flowing into the basin and those areas that do not flow into the basin.

Table 10 Adopted sedimentation basin parameters

Parameter	Basin A	Basin C	Basin F2
Surface Area	3,600 m^2	1,600 m^2	1,100 m^2
Extended Detention Depth	0.5 m	1.0 m	0.5 m
Permanent Pool Volume	0 m^3	0 m^3	0 m^3
Exfiltration Rate	5 mm/hr	5 mm/hr	5 mm/hr

Note that the key parameter from Table 11 is the surface area, and may guide the future design of these three basins. The detention depth, weir width, and outlet configuration (generally) will be determined and confirmed at the detail design stage.

Landscaped buffer area

A landscaped buffer area was modelled on subcatchment C to reduce suspended solids and to allow infiltration into sub-surface layers. Subcatchment C was broken up in MUSIC to accurately simulate the runoff that actually flows into the landscaped buffer area. The parameters used to model this buffer zone are shown below in Table 11.

Table 11 Adopted buffer area parameters

Parameter	Value
Percentage of upstream area buffered (%)	*100*
Buffer Area (% of upstream impervious area)	15.0
Exfiltration Rate (mm/hr)	*5.0*

Gross pollutant traps

The pollutant removal efficiencies adopted for a proprietary gross pollutant traps (GPT) are presented in Table 12. GPTs that did not form part of a treatment train with basins were modelled as SPEL Stormceptors (Class 1), as they have longer hydraulic residence time and are designed to remove hydrocarbons. Smaller GPT units were modelled prior to the basins since these GPTs form part of a larger treatment train. The exact sizes of these GPTs are subject to the final detailed design of the site.

Table 12 Adopted MUSIC GPT removal efficiencies

Pollutant	% Removal Efficiency Subcatchments D,E,F1	% Removal Efficiency^ Subcatchments A, C, F2
Total Suspended Solids (TSS)	90%	70%
Total Nitrogen (TN)	20%	20%
Total Phosphorus (TP)	35%	20%

^ Source: (CRC, 1999)

5.2 Treatment train

The treatment devices listed above have been arranged into a treatment train for the removal of pollutants from each catchment. A summary of devices used within each subcatchment are provided in Table 13. The bracketed numbers represent the number or length of each device contained within the catchment. The arrangement of treatment devices in each catchment is shown in Figure 5.

Table 13 Treatment train for each mitigated model subcatchment

Subcatchment	Treatment Train
A	*GPT (1), Basin*
B	*Does not change significantly with proposed development*
C	*Buffer Area, GPT (1), Basin*
D	*GPT (1)*
E	*GPT (1)*
F	*GPT (2), Basin*

5.3 Mitigated model results

A summary of developed and mitigated average annual pollutant loads and treatment train efficiencies within each subcatchment is provided in Table 14. It should be noted that catchment B will not be effected by the proposed development and therefore was not included in the results.

Table 14 Comparison of developed and mitigated average annual pollutant loads and treatment efficiency for each subcatchment

Sub-catchment	Pollutant	Developed	Mitigated	Treatment Efficiency (%)
A	TSS (kg/yr)	8780	1030	88
	TP (kg/yr)	16.6	6.68	60
	TN (kg/yr)	211	78.3	63
	Gross Pollutants (kg/yr)	1830	0.0	100
C	TSS (kg/yr)	7330	730	90
	TP (kg/yr)	12.2	4.69	62
	TN (kg/yr)	147	56.6	62
	Gross Pollutants (kg/yr)	1270	0.0	100
D	TSS (kg/yr)	4110	410	90
	TP (kg/yr)	6.75	4.36	35
	TN (kg/yr)	94.2	73.7	22
	Gross Pollutants (kg/yr)	822	41.1	95
E	TSS (kg/yr)	4450	444	90
	TP (kg/yr)	6.93	4.52	35
	TN (kg/yr)	75.1	59.6	21
	Gross Pollutants (kg/yr)	663	33.1	95
F1	TSS (kg/yr)	3480	347	90
(No Basin)	TP (kg/yr)	5.5	3.58	35
	TN (kg/yr)	83.3	65.8	21
	Gross Pollutants (kg/yr)	723	36.1	95
F2	TSS (kg/yr)	11100	1310	88
(Basin)	TP (kg/yr)	17.5	7.92	55
	TN (kg/yr)	186	105	44
	Gross Pollutants (kg/yr)	1650	0.0	100
Total	TSS (kg/yr)	39200	4280	89
	TP (kg/yr)	65.5	31.7	52
	TN (kg/yr)	797	440	45
	Gross Pollutants (kg/yr)	6960	110	98

The results in Table 14 indicate that the treatment targets may not be achieved at some of the individual subcatchments. This is expected as some subcatchments, whilst employing the latest technology in GPT's, still do not have the vegetation that is ultimately required for the removal of dissolved nutrients (eg. nitrogen). However, the basins and vegetated buffer provide a very high level of treatment so that the surface runoff quality is met for the total development site. Hinchinbrook Creek ultimately receives all stormwater flow from the site, and the local outfall locations are sufficiently close, such that consideration of the treatment train performance on a total site basis is a reasonable approach.

6. Conclusions and recommendations

A stormwater management plan was prepared for the proposed warehouse and distribution facility off Cowpasture Road, Hoxton Park. ADW Johnson had informed PB that their previous liaison with Liverpool City Council revealed stormwater detention (i.e. developed flow rates) did not require further consideration. Accordingly, the stormwater management plan has been formulated with respect to surface runoff water quality treatment only. The capacity of the drainage elements to convey the developed flow rates will be assessed at the detail design stage, in conjunction with the detail civil engineering design.

The existing and proposed developed site conditions were reviewed, and the following treatment devices proposed as part of the development stormwater management plan:

- gross pollutant traps, in consideration of other devices that are present within the treatment train of each subcatchment
- dry vegetated water quality basins
- a landscaped buffer area.

MUSIC water quality modelling was completed for existing and developed conditions, and revealed that the proposed treatment train will be sufficient to achieve the water quality treatment criteria specified by Liverpool City Council and Australian Runoff Quality, on a whole-of-site basis.

Note that the model results in this report are based on the treatment trains as documented. However, alternative arrangements for the water quality devices may be considered as part of Construction Certificate in consideration of further detail that may be developed at that stage.

The proposed treatment devices will require inspection and maintenance to maintain optimal performance, and will also be a consideration at the Construction Certificate stage.

7. References

- Allison R A, Walker T A, Wong T H F, Wootton, R M, 1999, *Removal of suspended solids and associated pollutants by a CDS gross pollutant trap*, Cooperative Research Centre for Catchment Hydrology (CRC).
- Bewsher Consulting, 2004, Georges river floodplain management plan.
- Bureau of Meteorology (BOM), 1999, Climatic atlas of Australia: evapotranspiration.
- Duncan H P, 1999, *Urban stormwater quality: a statistical overview*, Cooperative Research Centre for Catchment Hydrology (CRC).
- Department of Environment and Conservation (DEC); Environment Protection Authority (EPA), 1997, *Managing urban stormwater strategic framework.*
- Department of Infrastructure Planning and Natural Resources (DPNR), 1998, *Constructed wetlands manual.*
- Institution of Engineers Australia, 1997, *Australian rainfall and runoff*, Institution of Engineers Australia.
- Institution of Engineers Australia, 2006, *Australian Runoff Quality: a guide to water sensitive urban design*, Institution of Engineers Australia.
- Liverpool City Council, 2003, *D5 - Development design specification: stormwater drainage design.*
- Liverpool City Council, 2003, *Handbook for drainage design criteria.*
- NSW Government, 2001, Floodplain Management Manual.
- Upper Parramatta River Catchment Trust, 2004, *WSUD technical guidelines for western Sydney.*

Appendix A

Existing MUSIC Model
Subcatchment Data

Hoxton Park Project No. 2103418A

Stormwater Management Strategy Client Ref.

Date: 18-Feb-10

Outfall	Existing		
	Total Area	Pervious Area (ha)	Impervious Area (ha)
A	10.46	8.86	1.60
B	1.71	1.67	0.04
C	8.42	5.53	2.89
D	9.16	7.45	1.71
E	7.99	7.19	0.81
F	8.84	7.67	1.16
Totals:	46.58	38.38	8.20

Appendix B

Developed and Mitigated MUSIC Model Subcatchment Data

MUSIC Developed and Mitigated Data (ha)							
Catchment	**Commercial (no buffer)**	**Commercial (buffer)**	**Road**	**Roof**	**Industrial**	**Un-developed**	
A	5.736			4.143		5.221	
B						1.71	
C	1.578	2.419	0.701	2.156			
D	1.778		0.499	2.156			
E	1.772		0.582	0.752	0.494		
F1	1.113		0.652	2.134	3.184		
F2	3.032			1.528		3.240	

Attachment 3

Preliminary designs for proposed driveways and parking areas

Attachment 4

Erosion and Sediment Control Plan

Attachment 5

Location of existing & proposed services

Attachment 6

Correspondence - Olsen Infrastructure

e-Developer

APPLICATION ENTRY

An application fee will be charged as per standard schedule of charges. Additional charges may also be incurred.

CASE INFORMATION

Application Number	**118648**
Application Type	Feasibility

This is not a formal application. Sydney Water will issue an advice letter "Guidance Note for Proposed Development" in due course. The advice is provided as a guide only, is current at the date of issue and may be subject to change.

Associated Cases	107187, 115803, 117
Agent Contact	Torsten Olsen
Agent Contact Phone	8007 6803
Agent Reference	10100

DEVELOPER SAME AS THE APPLICANT?

Is the developer the same as the applicant?

(•) Yes ( ) No

DEVELOPER INFORMATION

Search Type	Search for a developer		
Name	MIRVAC PROJECT PTY LTD	ABN	
Address	Level 26 60 Margaret Street, NORTH SYDNEY 2060	Phone	02 90808000

HYDRA DATA AUTO POPULATION

Hydra Download Number	21035546	Auto-Populate

LEAD ADDRESS

Section Number		Street Number	
Street Name	COWPASTURE RD	Comment	
Suburb	Cecil Park	Comment	
Cross Street			
LGA	Liverpool	Comment	
UBD Edition	Sydney UBD Edition 41		
UBD Map	247	UDB Reference	H14
Plan Number (s)	DP1141990 ?	Lot Number(s)	400

DEVELOPMENT LOCATIONS

Property Number	Lot or Portion Number	Section Number	Plan Type and Number	Lot Area Sq m	Street Number	Street Name	Suburb	Lead Address

Number								
5440420	400		DP1141990	778515.05		COWPASTURE RD	Cecil Park	

Total Calculated Area (Sq M)	778515.05	Comment	
Total Number of Lot/Portion Nos flagged for Development	1	Comment	

PROPERTY USE

Lot Status	

Current Property Type	Delete	Comment
INDUSTRIAL		

Add Current Property Type

Describe Current and Proposed Development:

proposed subdivision and development of Lot 405 in the subdivision of Lot 400 (refer to case 117874) into 5 lots (lot 4051 - 4055).
Lot 4051 - The construction of a warehouse / distribution facility for Dick Smith Electronics. (for flows, see attached document)
Lot 4052 - The construction of a warehouse / distribution facility for Big W. (for flows, see attached document)
Lot 4053 - Drainage basin
Lot 4054 - Residue Lot
Lot 4055 - Draiange land for council
It is also requsted that the contribution charges for the recycled water be based upon usage rather than area, as the majority of the development is warehouse / storage which has no usage. Anticipated usgae has been provided in the attached zip file

PROPOSED DEVELOPMENT

Development Type	Industrial
Development sub type	Warehouse/Wholesaling
Stage Number	1 of 1
Stage Name	
Subdivision required?	Yes No
Total Dwellings	3
Total Lots (incl. Residue Lots)	5
Total Residue Lots	2
No. of Lots (Excl. Residue/Reserve/Road etc)	3
Total Lot Area (Excl. Residue/Reserve/Road etc)	514100.0
Attach Subdivision Plan	Case 118648 dev.zip
Attach Development Plan	

CONSENT INFORMATION

Consent Authority	N/A
Development Consent Number	
Consent Date	
Attach Consent Document	
Attach Stormwater Analysis	

Total Impervious Surface Area	

EXPECTED REQUIREMENTS FOR THE PROPOSED DEVELOPMENT

Water

Maximum demand		KL/Day
Average demand	4.70000	KL/Day
Peak demand	1.90000	L/Sec

Recycled Water

Maximum demand		KL/Day
Average demand	12.50000	KL/Day
Peak demand	5.50000	L/Sec

Waste Water

Maximum discharge		KL/Day
Average discharge	15.00000	KL/Day
Peak simultaneous discharge	4.50000	L/Sec

Irrigation Systems

Maximum demand		L/Day
Average demand		L/Day
Peak demand		L/Sec
Automatic Timer	☐	

Proposed Pattern of Usage:

Process Water

Maximum demand		L/Day
Average demand		L/Day
Peak demand		L/Sec

Proposed Pattern of Usage:

Other Requirements

Air-conditioning make-up water		L/Sec
Proposed meter size		mm

Any other relevant information affecting usage:

Fire Fighting Requirements

Fire Hose Reel		Number
Fire Hydrant	30.00000	L/Sec
Fire Sprinkler		L/Sec
Wall Drencher		L/Sec


Attachment 7

Correspondence – Connect Infrastructure

Connect Infrastructure Design Pty Ltd
ABN 31 102 482 271 ACN 102 482 271
PO Box 484, Casula NSW 2170
tel 02 9733 3333 fax 02 9733 3330
mail@connecteng.com.au

Electrical Infrastructure
Consultancy, Design
and Construction

Level 1 and 3 ASP

29 January, 2010

Chris Smith
Senior Town Planner
ADW Johnson
P.O. Box 3717
Tuggerah NSW 2259

Dear Chris,

RE: Electricity Supply to Hoxton Park Airport Site

I confirm that Connect Infrastructure has submitted an Application to Integral Energy in respect to their requirements for electricity to this site.

Integral Energy advise that electricity supply will be made available to this site via new reticulation to be installed at the developers expense. Integral Energy will determine the extent of this reticulation upon receipt of confirmation of the electrical loads to be connected within the site.

Based on verbal discussion with Integral energy it is envisaged that two (2) 11kv feeder cables will be installed from Hinchinbrook Zone substation and reticulated to smaller distribution substations located strategically within the site. (Please refer to attached sketch showing the location of Hinchinbrook Zone substation and the a proposed HV cable route through existing conduits)

It is anticipated that the detailed design of this work will be completed and certified by Integral Energy within ten (10) to twelve (12) weeks with a further twelve (12) to sixteen (16) weeks required for the construction and commissioning.

A formal application and proposed method of supply for the connection for electricity to the Distribution Centres is currently being prepared to submit to Integral Energy for their approval/comment.

Please don't hesitate to contact me if you require further information

Regards

Greg Saunders.

Greg Saunders

Attachment 8

Location of gas mains, Jemena

Attachment 9

Correspondence - Telstra

Print this page

AFR SubDivision

Name: TBC
Stage: TBC
Reference: Former Hoxton Park Airport
Approval Number: TBC
Address: Former Hoxton Park Airport, Cowpasture Road
Locality: Hoxton Park
Postcode: 2171
State: NSW
Number of Lots: 3
Business Units In Stage: 3
Road Works Date: 01/05/2010
Type: Business

AFR Applicant

Role: Consulting Engineer
First Name: Peter
Last Name: Johnson
Company: ADW Johnson Pty Ltd
Phone: 0243054300
Mobile: 0413804600
Address: PO Box 3717 Tuggerah
Postcode: 2259
Email: peterj@adwjohnson.com.au

AFR Developer

First Name: Bill
Last Name: Anthony
Company: Mirvac Projects ABN 72 001 069 245
Phone: 0290808204
Mobile: 0411168552
Address: L26 - 60 Margaret Street, Sydney
Postcode: 2000
Email: william_anthony@mirvac.com

AFR Information

Date Created: 16:55:39 05/02/2010
Date Modified: 14:51:47 09/02/2010
AFR Type: Sub Division
Terms Agreed: yes
Applicant Type: Consulting Engineer

AFR Notes

Notes: There are existing Telstra services located generally within the existing road, servicing lots 401, 402 & 403 DP1141990 which will need to be relcoated during the civil works. Works due May 2010. This subdivision is to facilitate construction of BigW (lot 4052) & Dick Smith (lot 4051) distribution centres. As part of the subdivision Mirvac require Telstra to provide provision for fibre optics to proposed lots 4051 (Dick Smith), 4052 (Big W) & 4054 (Residual Lot). A further application for the distribution centre buildings (Lots 4051 & 4052) will follow shortly. This application will provide details on the specific requirements for the distribution centre buildings. Lot 4054 will be provisioned as part of the initial subdivision.

AFR Documents

Document #1: C_150126_SK_009[E].pdf
Document #2: C_150126_SK_010[E].pdf
Document #3: C_150126_SK_011[E].pdf
Document #4: C_150126_SK_012[E].pdf
Document #5: C_150126_SK_013[E].pdf

Print this page

Application for Reticulation

Upon Completion of the Application for Reticulation, we will pass your details on to one of our accredited contractors. Our contractor will then in turn contact you or your nominated Services Coordinator to facilitate the communications reticulation for your development.

Along with the Application for reticulation, you will need to supply a suitable development plan including shared trench details if available.

Please take time to read the terms and conditions, and acknowledge your acceptance of them, before submitting your application.

Back Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Application for Reticulation View only

Please indicate what type of development you are registering

○ **Subdivision**	Less than 3 lots in a new estate development
◉ **Subdivision**	3 or more lots in a new estate development
○ **Residential Building (s)**	Less than 3 units in a single residential building and including Group Housing (e.g. townhouses or villas)
○ **Residential Building (s)**	3 or more units in a single residential building and including Group Housing (e.g. townhouses or villas)
○ **Commercial Industrial Building(s)**	Retail, Office, Industrial or Commercial buildings
○ **Mixed use Building(s)**	Buildings that contain a mixture of Residential Buildings and Commercial Industrial Buildings

Back Next

Application for Reticulation View only

Terms and Conditions

The following page has important information regarding the terms and conditions on which Telstra pre-provisions telecommunications network infrastructure to proposed estate development. Please read these terms and conditions carefully before completing and submitting this application form.

The terms and conditions form the basis of a contract between the Developer and Telstra which comes into existence when Telstra communicates to the Developer that it has determined that it will pre-provide telecommunications network infrastructure to the Proposed Development in response to your Application for Reticulation.

Click here to view the terms and conditions

You must agree to the Terms & Conditions to submit your application ☑ I Agree

Back Next

New Estate Developments - Terms and Conditions Print this page

TERMS AND CONDITIONS

Subject to Telstra determining it will provide telecommunications network infrastructure to the Proposed Development in response to your Application, the following terms and conditions will apply to Telstra's provisioning of telecommunications network infrastructure to the Proposed Development. Some of the words used in this document have particular meanings that are set out in clause 8.

1. Developer's Obligations.
1.1. The Developer warrants that it has the authority to enter into this agreement.
1.2. The Developer agrees to provide to Telstra after consultation with Telstra and at no cost to Telstra:
a) suitable trench/trenches (shared and/or exclusive trenches as notified by Telstra which meet Telstra's specifications, including ACIF Industry Code C524 2001 External Communication Cable Networks) and pit voids for the Network Infrastructure to connect to the proposed new lots or building development including, where required by Telstra, provisions for Future Developments;
b) Finish surface levels;
c) suitable space within the Proposed Development for above ground housing for the distribution of the network;
d) provide Telstra with safe access to the Land for the purposes of inspecting, installing and maintaining the Network Infrastructure;
e) comply with all reasonable directions of Telstra in relation to the Network Infrastructure; and
f) use best endeavours to ensure that no damage is done to the Network Infrastructure or that it is in anyway interfered with by any person.
1.3. The Developer agrees to meet the costs of replacement or repair necessitated by a breach of 1.1(e).

2. No Restriction on Commonwealth Legislation
a) Nothing in this agreement affects, restricts, or limits the rights, powers and immunity of Telstra under and by virtue of the Act or any other applicable legislation and/or regulations of the Commonwealth, or any State or Territory.
b) The Developer agrees in accordance with clause 17(5) of Schedule 3 of the Act to waive its right to be given a notice under clause 17(1) or 19 (1) of Schedule 3 of the Act in relation to the exercise by Telstra of its power to inspect land, to install a low impact facility within the meaning of the Telecommunications (Low Impact Facilities) Determination 1997, or to maintain a facility.
c) The Developer acknowledges and agrees that by waiving its right to receive a notice under clause 17(5) or 19(2) of Schedule 3 of the Act it is also waiving any right, including without limitation any right conferred by clause 4.30 of the Telecommunications Code of Practice 1997, to object to the activities that are the subject of the notice.
d) The operation of this clause survives the expiry or termination of this agreement.

3. Indemnity
a) The Developer indemnifies Telstra against any liability, loss, damage, costs or

expenses incurred or suffered by Telstra which is caused solely and directly by:
(i) a breach of this agreement by the Developer; or
(ii) the negligence of the Developer or an employee or agent of the Developer acting within the scope of their authority.
b) The indemnity provided by the Developer under this clause 3 will not exceed $20 million per event and in the aggregate.
c) The Developer's liability to indemnify Telstra under this clause 3 shall be reduced proportionately to the extent that any act or omission of Telstra contributed to the liability, loss, damage, costs or expenses.

4. Intellectual Property
4.1. The Developer grants to Telstra a perpetual, irrevocable licence to use, modify and adapt all Developer Material for the sole purpose of Telstra installing and maintaining the Network Infrastructure, including the use of the Developer Material to update and maintain Telstra's recording systems.
4.2. The Developer represents and warrants that it has sufficient right, title and interest in the Developer Material to license that material to Telstra for the sole purpose of Telstra installing and maintaining the Network Infrastructure and updating and maintaining Telstra's recording systems.
4.3. The Developer indemnifies Telstra in respect of any and all loss, damage or expense suffered by Telstra due to a claim concerning infringement of intellectual property rights brought by a third party in relation to Telstra's use of Developer Material to install and maintain the Network Infrastructure and to update and maintain Telstra's recording systems.

5. Ownership of the Network Infrastructure
5.1. Telstra shall own the Network Infrastructure, and any other equipment or facilities installed by Telstra (none of which shall be considered a fixture, notwithstanding that elements of the Network Infrastructure may be fixed to the Land in some way) up to the network boundary point.
5.2. The Developer must not use, or permit anyone else to use, the Network Infrastructure.

6. Telstra's Liability
Telstra is not liable (including in negligence) for any loss, damage or expense that the Developer may suffer in connection with the provisioning of the Network Infrastructure by Telstra, including in circumstances where Telstra is unable to provide Network Infrastructure due to circumstances beyond its control. To the full extent allowed by law, Telstra excludes all warranties, whether express or implied by law.

7. Relocating Network Infrastructure
If, in Telstra's opinion, it becomes necessary to remove or alter the position of any Network Infrastructure on, over or under the Land because of the Proposed Development or alterations to the finish surface levels provided, Telstra's normal business practice applies. This commonly involves the Developer reimbursing Telstra for all of its costs incurred in connection with anything reasonably done by Telstra in connection with that removal or alteration.

8. Explanation of Certain Words
Where relevant and not already defined under this clause, words in these terms and conditions have the meaning given to them in the Act.
Act means the Telecommunications Act 1997 (Cth).
Application means this online application for reticulation.
Developer means the person listed in Step 4 of this Application and that person who acknowledges and agrees to the Terms and Conditions.
Developer Material means any and all material provided by the Developer to Telstra for the purpose of Telstra installing the Network Infrastructure, including all trench plans and surveyors' plans submitted as part of this application.
Land means the land described in Step 9 of this Application.
Network Infrastructure means the equipment and facilities (including, without limitation, conduits, cable, road crossings, pipe, pits, lead in starter pipe) and any provision for future development in shared or exclusive trench/trenches where required, installed or to be installed by Telstra on the Land.
Proposed Developmentmeans the development in respect of which the applicant has submitted this form as referred to in Step 9 of this Application.
Telstra means Telstra Corporation Limited (ACN 051 775 556) and its employees, agents or subagents and employees of its agents and sub agents.
Trench/Trenches and **pit** voids mean all excavations, backfill (with suitable material) and reinstatement without limitations necessary within the Land to accommodate the Telstra Network Infrastructure.
Finish surface levels means the final level of the terrain (including development landscaping).

Close Window | Print this page

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Application for Reticulation View only

Developer's Details

* mandatory fields
# please provide at least one contact number.

Select a developer you have entered previously from the list, or enter the details of a new developer.

Existing developer: Select a developer

First Name:	Bill	*
Last Name:	Anthony	*
Company:	Mirvac Projects ABN 72 001 069 245	*
Phone include Area Code:	0290808204	#
Mobile Phone:	0411168552	#
Postal Address:	L26 - 60 Margaret Street, Sydney	*
Postcode:	2000	*
email:	william_anthony@mirvac.com	

Back Next

Application for Reticulation View only

Civil Contractor (optional section)

* mandatory fields (Only if this section is not skipped)
# please provide at least one contact number.

Select a contractor you have entered previously from the list, or enter the details of a new contractor.

Existing contractor: Select a contractor

First Name: *

Last Name: *

Company: *

Phone include Area Code: #

Mobile Phone: #

Postal Address: *

Postcode: *

email:

Back Skip Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Application for Reticulation View only

Service Coordinator (optional section)

* mandatory fields (Only if this section is not skipped)
# please provide at least one contact number.

Select a coordinator you have entered previously from the list, or enter the details of a new coordinator.

Existing coordinator: Select a coordinator

First Name: *
Last Name: *
Company: *
Phone include Area Code: #
Mobile Phone: #
Postal Address: *
Postcode: *
email:

Back Skip Next

Application for Reticulation View only

Applicant

Are you the:

- Developer
- Other Consulting Engineer

Back Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Application for Reticulation View only

Details of Applicant

* mandatory fields
# please provide at least one contact number.

Select an applicant you have entered previously from the list, or enter the details of a new applicant.

Existing applicant: Select an applicant

What is your role in this project:	Consulting Engineer	*
First name:	Peter	*
Last name:	Johnson	*
Company:	ADW Johnson Pty Ltd	*
Phone include Area Code:	0243054300	#
Mobile phone:	0413804600	#
Postal address:	PO Box 3717 Tuggerah	*
Postcode:	2259	*
email:	peterj@adwjohnson.com.au	*

Back Next

Application for Reticulation View only

Development Details - Subdivision * mandatory fields

Development name:	TBC *
Stage No:	TBC *
Developers reference:	Former Hoxton Park Airport
Planning approval number:	TBC
Crown allotment:	
Development address:	Former Hoxton Park Airport, Cowpast *
Development suburb/city:	Hoxton Park *
Postcode:	2171 *
State:	NSW *
Grid reference:	
Map Number:	
Average lot frontage (m):	
Number of lots:	3 *
Living Units in stage:	0 *
Business Units in stage:	3 *
Commencement of Road Works:	1/05/2010 *
Type of Development:	n/a

Back Next

Application for Reticulation View only

Subdivision Details

Please add any extra information you would like to include with your application (maximum 1000 characters).

Notes:

There are existing Telstra services located generally within the existing road, servicing lots 401, 402 & 403 DP1141990 which will need to be relcoated during the civil works. Works due May 2010.

This subdivision is to facilitate construction of BigW (lot 4052) & Dick Smith (lot 4051)distribution centres. As part of the subdivision Mirvac require Telstra to provide provision for fibre optics to proposed lots 4051 (Dick Smith), 4052 (Big W) & 4054 (Residual Lot).

A further application for the distribution centre buildings (Lots 4051 & 4052) will follow shortly. This application will provide details on the specific requirements for the distribution centre

Back Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Application for Reticulation

Your Registration number is: 12034311

Development Attachments

To assist Telstra in planning the network, please attach a suitable plan of your development including joint use shared trench details, if available.

Where possible, please provide files in .dwg format.

Please note:
You are only able to upload a maximum of 10 files. Each file must not be greater than 5Mb in size.

File Name	Type	Size	Status	Action
C_150126_SK_009[E].pdf		564Kb	Uploaded	Remove
C_150126_SK_010[E].pdf		299.9Kb	Uploaded	Remove
C_150126_SK_011[E].pdf		291.5Kb	Uploaded	Remove
C_150126_SK_012[E].pdf		374.4Kb	Uploaded	Remove
C_150126_SK_013[E].pdf		311.5Kb	Uploaded	Remove

Browse... Upload files

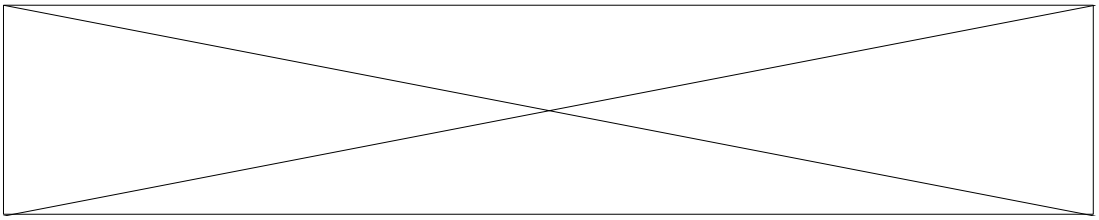
If you are having difficulty providing suitable softcopy plans, please indicate how you will be providing your plans below

☐ email correspondence: dev4syd@team.telstra.com

☐ Please send hardcopies to: Locked Bag 3101 BURWOOD 1805

If you have completed uploading files or you do not have any files to upload, click on Submit button.

Back Submit



Print this page

ITD SubDivision

Name: TBC
Location: Former Hoxton Park Airport, Cowpasture Road
Suburb: Hoxton Park
Reference: Former Hoxton Park Airport
Approval Number: TBC
Crown Allotment: Proposed Lots 4051, 4052 & 4054 being a subdivision of Lot 400 DP 1141990
Postcode: 2171
Approx Lots: 3
Approx Stages: 3
Works Date: 01/05/2010
Sales Date: 03/01/2011

ITD Applicant

Role: Consulting Engineer
First Name: Peter
Last Name: Johnson
Company: ADW Johnson Pty Ltd
Phone: 0243054300
Mobile: 0413804600
Address: PO Box 3717, Tuggerah
Postcode: 2259
Email: peterj@adwjohnson.com.au

ITD Consultant

First Name: Peter
Last Name: Johnson
Company: ADW Johnson Pty Ltd
Phone: 0243054300
Mobile: 0413804600
Address: PO Box 3717, Tuggerah
Postcode: 2259
Email: peterj@adwjohnson.com.au

ITD Developer

First Name: Bill
Last Name: Anthony
Company: Mirvac Projects ABN 72 001 069 245
Phone: 0290808204
Mobile: 0411168552
Address: L26 - 60 Margaret Street, Sydney
Postcode: 2000
Email: william_anthony@mirvac.com

ITD Information

Date Created: 16:28:52 05/02/2010
Date Last Modified: 14:18:41 12/02/2010
Developer Consultant: Consulting Engineer
Email Correspondence: no
Send Hard Copy: no
Registered: The ITD has been registered
Completed: The ITD has been completed

ITD Notes

Notes: Expected sales to commence - Proposed Lot 4051 & 4052 subject to agreement for lease with Woolworths. There are existing Telstra services located generally within the existing road, servicing Lots 401, 402 & 403 DP1141990 which will need to be relocated during the civil works. Works due May 2010. This subdivision is to facilitate construction of BigW (Lot 4052) & Dick Smith (Lot 4051) distribution centres. As part of the subdivision Mirvac require Telstra to provide provision of fibre optics to propsoed lots 4051

(Dick Smith), 4052 (BigW) & 4054 (Residual Lot) A further application for the distribution centre buildings (Lots 4051 & 4052) will follow shortly. This application will provide details on the specific requirements for the distribution center buildings. Lot 4054 will be provisioned as part of the intial subdivision.

ITD Documents

Document #1: C_150126_SK_009[E].pdf
Document #2: C_150126_SK_010[E].pdf
Document #3: C_150126_SK_011[E].pdf
Document #4: C_150126_SK_012[E].pdf
Document #5: C_150126_SK_013[E].pdf

Print this page

Intent to Develop

Once you have completed your Intent to Develop, you will be provided with a Registration Number and password which will be particular to this development and allow you to log in and amend details at any time. You will also be able to submit an Application for Reticulation for each stage of your development as construction nears.

Your lodgment of an Intent to Develop will also send the details you provide to one of Telstra's Community Development Consultants located in the region of your development.

You have the option to engage your Community Development Consultant to ensure that the right products and services are made available to your customers when they move into their new home or workplace.

An Intent To Develop will need to be followed up by an Application For Reticulation at the appropriate time for each stage of the development.

Back Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Intent to Develop

Please indicate what type of development you are registering

- ○ Less than 3 lots/units
- ◉ 3 or more Residential lots/units or any Commercial/Industrial development

Back Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Intent to Develop View only

Developer's Details

* mandatory fields
# please provide at least one contact number.

Select a developer you have entered previously from the list, or enter the details of a new developer.

Existing developer: Select a developer

First Name:	Bill	*
Last Name:	Anthony	*
Company:	Mirvac Projects ABN 72 001 069 245	*
Phone include Area Code:	0290808204	#
Mobile Phone:	0411168552	#
Postal Address:	L26 - 60 Margaret Street, Sydney	*
Postcode:	2000	*
email:	william_anthony@mirvac.com	

Back Next

Intent to Develop View only

Developer's Consultant

Do you wish to nominate one of:

- ○ Architect
- ◉ Consulting Engineer
- ○ Other _____
- ○ None

Back Next

Intent to Develop View only

Developer's Consultant

* mandatory fields
# please provide at least one contact number.

Select a consultant you have entered previously from the list, or enter the details of a new consultant.

Existing consultant: Select a consultant

First name:	Peter	*
Last name:	Johnson	*
Company:	ADW Johnson Pty Ltd	*
Phone include Area Code:	0243054300	#
Mobile phone:	0413804600	#
Postal address:	PO Box 3717, Tuggerah	*
Postcode:	2259	*
email:	peterj@adwjohnson.com.au	

Back Next

Intent to Develop View only

Details of Applicant

Are you the:

- Developer
- Developer's Consultant
- Other

Back Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Intent to Develop View only

Details of Applicant

* mandatory fields
# please provide at least one contact number.

Select a consultant you have entered previously from the list, or enter the details of a new consultant.

Existing consultant: Select a consultant

What is your role in this project:	Consulting Engineer	*
First name:	Peter	*
Last name:	Johnson	*
Company:	ADW Johnson Pty Ltd	*
Phone include Area Code:	0243054300	#
Mobile phone:	0413804600	#
Postal address:	PO Box 3717, Tuggerah	*
Postcode:	2259	*
email:	peterj@adwjohnson.com.au	*

Back Next

Intent to Develop View only

Type of Development

Please nominate the type of development you will be registering:

- (●) Subdivision
- ( ) Buildings or Group title

Back Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Intent to Develop View only

Subdivision Details	* mandatory fields
Development address:	Former Hoxton Park Airport, Cowpast *
Development suburb/town:	Hoxton Park *
Development name:	TBC *
Developers reference:	Former Hoxton Park Airport
Planning/Building approval number:	TBC
Crown allotment (if known):	Proposed Lots 4051, 4052 & 4054 be
Postcode of development :	2171 *
Grid reference:	
Map number:	
Approximate number of lots:	3 *
Approximate number of stages:	3 *
When do you expect first stage earthworks to commence?	1/05/2010 *
When do you expect sales to commence?	3/01/2011 *

Back Next

Intent to Develop View only

Subdivision Details

Please add any extra information you would like to include with your application (maximum 1000 characters).

Notes:

```
Expected sales to commence - Proposed Lot 4051 &
4052 subject to agreement for lease with Woolworths.

There are existing Telstra services located
generally within the existing road, servicing Lots
401, 402 & 403 DP1141990 which will need to be
relocated during the civil works. Works due May 2010.

This subdivision is to facilitate construction of
BigW (Lot 4052) & Dick Smith (Lot 4051) distribution
centres. As part of the subdivision Mirvac require
Telstra to provide provision of fibre optics to
propsoed lots 4051 (Dick Smith), 4052 (BigW) & 4054
(Residual Lot)

A further application for the distribution centre
```

Back Next

TOC Step 1 Step 2 Step 3 Step 4 Step 5 Step 6 Step 7 Step 8 Step 9 Step 10 Step 11

Intent to Develop

Your Registration number is: 12034307

Development Attachments

To assist Telstra in planning the network, please attach a suitable plan of your development including joint use shared trench details, if available.

Where possible, please provide files in .dwg format.

Please note:
You are only able to upload a maximum of 10 files. Each file must not be greater than 5Mb in size.

File Name	Type	Size	Status	Action
C_150126_SK_009[E].pdf		564Kb	Uploaded	Remove
C_150126_SK_010[E].pdf		299.9Kb	Uploaded	Remove
C_150126_SK_011[E].pdf		291.5Kb	Uploaded	Remove
C_150126_SK_012[E].pdf		374.4Kb	Uploaded	Remove
C_150126_SK_013[E].pdf		311.5Kb	Uploaded	Remove

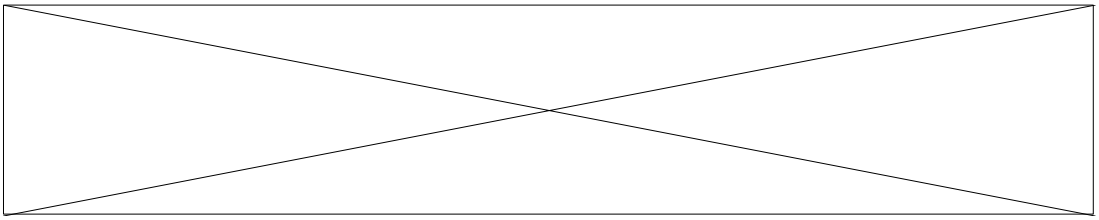
Browse... Upload files

If you have difficulty in providing suitable softcopy plans, please indicate your intended method of delivery below:

- ☐ email correspondence:
- ☐ Please send hardcopies to:

If you have completed uploading files or you do not have any files to upload, click on Submit button.

Back Submit



Attachment 10

Indicative Site Cut & Fill