

Appendix D

STORMWATER MANAGEMENT CONCEPT PLAN

JACFIN – LOT 11 ERSKINE PARK

This Concept Plan sets out Jacfin's proposed Water Quality Treatment and Onsite Stormwater Detention measures.

Water Quality

Council's water quality objectives for Industrial Land are set out in **Section 3 Water Quality** within **Part E – Other Environmental Factors Arising from Proposal** (pages 59 to 63) of **Part 4, Section 4.1 – Industrial Land, PCC's DCP 2006**.

The main water quality treatment train features are set out in the attached **Figure 1**. Rural runoff from the external catchment south of the Sydney Water Supply Pipeline would be conveyed directly through the site to the discharge outlet in the artificial creek on the CSR site and would not have to be considered in the water quality treatment process. Roof drainage water would pass to the rainwater harvesting tank and thence direct to the discharge outlet once that was filled. All other runoff originating within the site would be treated to ensure the water quality objectives were met. There are hardstand areas at the eastern and western ends of the building for car parking/truck movement. Runoff from these areas would, where possible, be directed to adjoining vegetated areas, and allowed to pass through these areas whilst infiltrating through a permeable layer to agricultural drainage pipes. Flows would then pass through a GPT designed to collect gross pollutants and act as an oil and grease trap.

Detention storage within the car parking/truck turning areas will also assist in settling out pollutants as well as reducing peak flows.

The six metre wide emergency vehicle access track on the southern side of the building would be gravel with an underlying permeable layer. Apart from largely absorbing rainfall falling directly on this area, consideration would also be given to including the access track and its permeable layer in the water quality treatment train for the eastern car park.

Stormwater collected and treated from the areas external to the building, being largely from the car park and truck manoeuvring areas, would be collected at the NW corner of the site and pass from a diffuser into the landscaped area in the NW corner of the site to "polish" the stormwater before exiting the site. For larger storms excess flows would pass directly to the artificial creek within the CSR site.

If the main water quality treatment train features set out on **Figure 1** are insufficient to meet the DCP 2006 requirements identified in the first paragraph of this section, further measures will be implemented. As already noted above, the six metre wide emergency vehicle access track would be ideal for providing additional water quality treatment features for the eastern car park area. These could include bio-retention trenches and similar features. There is also an additional landscape feature between the north-west corner of the warehouse building, the extension of Templar Road, and south of the internal road to the eastern car park. Additional water quality features could readily be incorporated in the water quality treatment train at this location, if required.

However, it is my opinion that the water quality treatment train features already identified specifically on **Figure 1**, and discussed earlier in this section, will be sufficient to meet the criteria specified in DCP 2006 for this site. The relatively small areas involved requiring treatment, and the large areas of landscaping available to facilitate this process, make achieving the criteria relatively straightforward.

Onsite Stormwater Detention

Council's Onsite Detention requirements for Industrial Land are set out in **Section 8 Infrastructure - Drainage** within **Part B – Preliminary Site Investigations** (page 24) of **Part 4, Section 4.1 – Industrial Land, PCC's DCP 2006**.

The new large landscaped area at the NW corner of the site included within the revised **Layout Plan**, would reduce the impact of development on water quantity and peak flows by allowing more infiltration of rainwater and overland flows than would occur at present within this area. This would assist in meeting Onsite Stormwater Detention requirements.

Referring again to the attached **Figure 1**, the external catchment to the south of the Sydney Water Supply Pipeline would be conveyed directly through the site. The pipe would be larger than required for conveying small to medium flows, with a choke on the downstream end to reduce the outflow and force excess stormwater into storage within the pipe. This would assist in keeping the outflow from the total catchment to the artificial creek on the CSR site within PCC's guidelines.

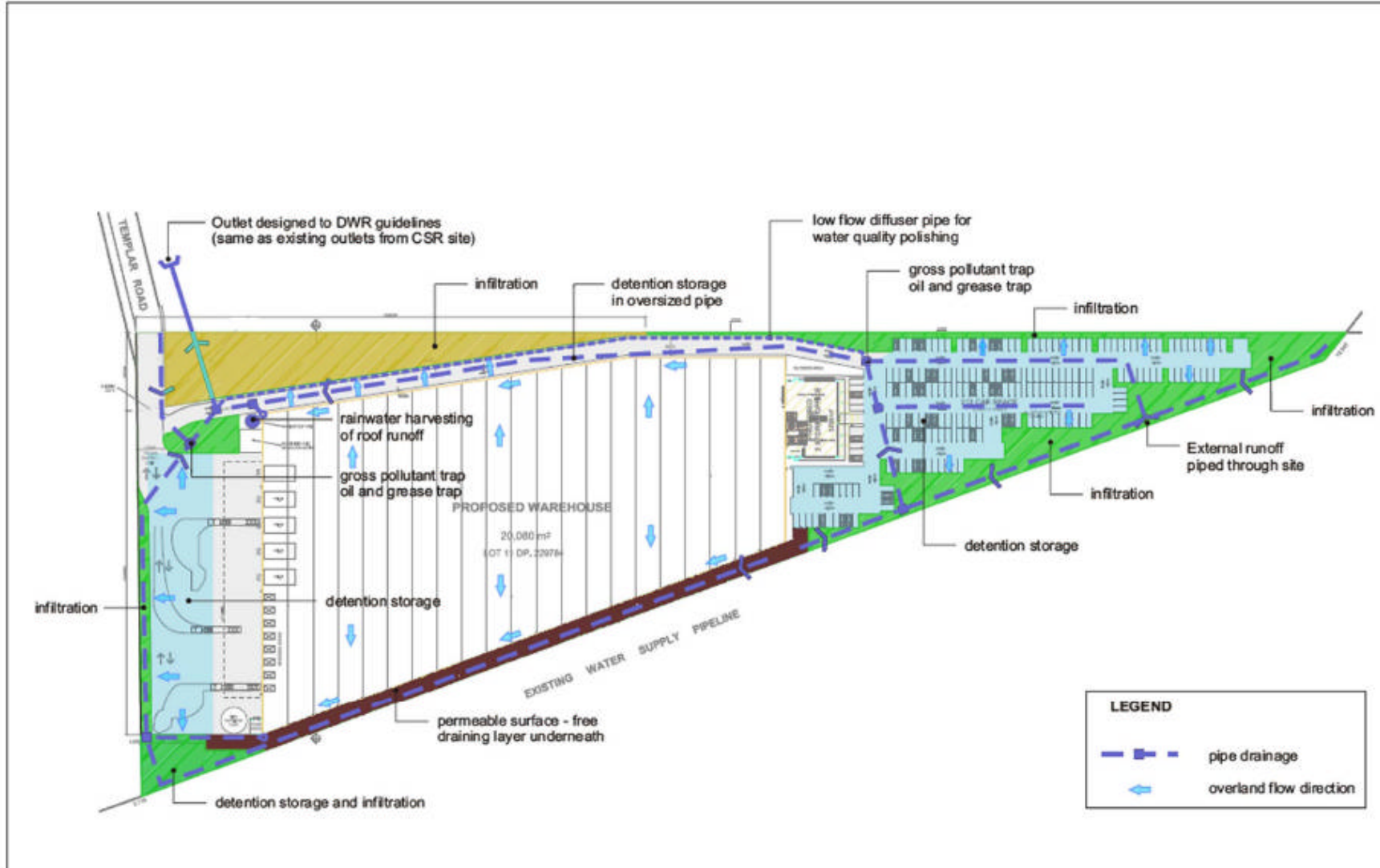
The car park area at the eastern end, and the truck manoeuvring area at the western end, would be contoured to allow shallow short term ponding (detention storage). This would assist in reducing peak flows. Landscaped areas throughout the site would be contoured to incorporate shallow detention storage as well as defining flow paths towards pits and collection points as shown on **Figure 1**. Infiltration would also be encouraged within all the landscaped areas by contouring and gentle grades.

If required, additional storage in enlarged gutters on the building or in underground storage tanks would be incorporated within the stormwater system to meet the Onsite Stormwater Detention guidelines.

The combination of detention storage, infiltration, oversized pipes and extended flow paths, will enable Council's Onsite Stormwater Detention guidelines to be met.



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resources & energy

Incorporating Planning Workshop Australia

EcoNomics

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Lot 11 DP 229784 - Templar Rd, Erskine Park
Stormwater Quantity and Quality Control
Concept Plan

FIGURE 1

Appendix E

Further Revised Statement of Commitments

This revised Statement of Commitments supersedes the draft Statement of Commitments at section 7.0 of Jacfin's Environmental Assessment Report Part 3A Project Application (No. 07_0153) as lodged with the Department of Planning on 10 June 2008 and the revised Statement of Commitments lodged with the Department of Planning on 26 November 2008.

Subject	Commitments	Approved by	Timing
Approved Project	The development for the industrial warehouse and ancillary offices is to be carried out generally in accordance with the architectural drawings prepared by Vaughn Constructions (Plan DA01 Amendment D dated 28 September 2009, Plan DA02 Amendment D dated 28 September 2009 and Plan DA03 Revision B dated 25 July 2007) and the Environmental Assessment Report prepared by JBA Urban Planning Consultants Pty Ltd dated July 2008.	Approved with Project Application	No timing. General Statement of Commitment
Stormwater	The stormwater pipe outlet into the CSR artificial creek is to be located upstream of the access road creek crossing. The outlet is to be designed to DNR guidelines and have rock scour protection matching the designs for the CSR outlets to the creek.	Approved with Project Application	No timing. General Statement of Commitment
Water re-use / rainwater tank	The rainwater tank is to be plumbed directly to the toilet facilities on site. Allowance is to be made to permit connection by the State Government to a possible future regional water reuse system.	Approved with Project Application	No timing. General Statement of Commitment
Traffic and Parking	The proposed parking layout will be provided in accordance with the design requirements of AS2890.1-2004 for cars and AS2890.2-2002 for	Approved with Project Application	No timing. General Statement of Commitment

Subject	Commitments	Approved by	Timing
	heavy vehicles. The 212 parking spaces are to include both employee and visitor spaces. 1-2% of total car parking spaces are to be designed and designated as disabled parking spaces in accordance with AS2890.1. The southern access road is to be constructed of gravel.		
Road Signposting	The road signposting associated with the development is to be provided at no cost to the RTA. Driveway access points to the site are to be appropriately signposted for trucks (entry / exit) and exclusively car (entry / exit).	Approved with Project Application	No timing. General Statement of Commitment
Bushfire	Bunding and absorption materials are to be stored on site and used to minimise the spread of contamination runoff during fire-fighting activities. The stormwater management system is to hold any contaminated water from fire suppression activities on site and allow for its removal for proper disposal. The northern and eastern elevation of office building component of the proposed warehouse are to be constructed to comply with Level 3 specifications as defined by the Australian Standard AS 3959 – 1999 – Construction of buildings in Bushfire Prone Areas. The northern and eastern elevation of the office component of the proposed warehouse are to contain glazed windows and doors for heat control purposes (designed to withstand 40kWm2 radiant heat levels). The development is to provide static water supply tanks and hydrants/fire hose reels which are to be installed in accordance with the Building Code	Approved with Project Application	No timing. General Statement of Commitment

Subject	Commitments	Approved by	Timing
	of Australia and Australian Standard AS 2419.1 – 2005.		
Construction and Waste Management	A construction and waste management plan is to be prepared to address noise and waste management issues associated with the Project construction.	Department of Planning	Prior to the issue of Construction Certificate
Construction Traffic Management Plan (CTMP)	A Construction Traffic Management Plan (CTMP) is to be developed.	Penrith City Council	Prior to the issue of Construction Certificate
Contributions	The proponent is to pay contributions in accordance with the current section 94 Contributions Plan for Erskine Business Park Employment Area based on the development area as identified in the project application. The payment of contributions may be staged and is payable prior to the release of the Construction Certificate.	Penrith City Council	Prior to the issue of Construction Certificate
Fire Management for Biodiversity Corridor	A detailed Hazard Management Plan, including maintenance program for landscaping is to be prepared.	Department of Planning	Prior to the issue of Construction Certificate
Erosion and Sediment Control	A detailed erosion and sediment control plan is to be submitted and approved by the principal certifying authority, based on the erosion and sediment control provisions within the Penrith DCP and the “Blue Book” for Managing Urban Stormwater. During construction, all reasonable and feasible measures are to be taken to minimise soil erosion and the discharge of sediment from the site to downstream waters.	Principal Certifying Authority (PCA)	Prior to issue of Construction Certificate and during construction

Subject	Commitments	Approved by	Timing
Materials and Finishes	Finalised colours and materials are to be submitted to the Department of Planning for approval prior to the issue of the Construction Certificate. The palette of colours and materials are to: • be consistent with those required for the Erskine Business Park Employment Area by the Penrith DCP (eg: earth tones such as stone colours, browns, muted greens, sand, dark red / plums; and cool tones such as soft greys, grey / blues); • include external materials that do not exceed 20%, consistent with DCP requirements. • be energy efficient; and • have regard to the requirements of Planning for Bushfire Protection 2006 for selection of materials in bushfire prone areas.	Approved with Project Application	Prior to issue of Construction Certificate
Waste Management Plan	A Waste Management Plan is to be prepared and submitted prior to the issue of the Construction Certificate.	Department of Planning	Prior to issue of Construction Certificate
Access Road/Creek Crossing	The proposed access road is to be provided in the initial construction phase, prior to construction of the warehouse facility. The creek crossing is to conform to the DWE requirements for crossings. The access road intersection with Templar Road is to accommodate access and turning movements by B-Double trucks. The access road, north of the creek crossing, is to have a 13m wide carriageway.	Approved with Project Application	Prior to the construction of warehouse facility

Subject	Commitments	Approved by	Timing
Access Road Safety	Plans depicting the safety of the intersection with the existing Templar Road cul-de-sac are to be submitted with the Road Safety Audit.	Penrith City Council	Prior to the issue of Construction Certificate
Aboriginal Heritage	A target landscape which includes Zones 2 and 3 is to be chosen for sub-surface investigation (salvage) as mitigation against the development proposal. DLALC, DCAC, DTAC, DACHA and (the newly formed) DLO are to be invited to be involved in this selection of this sub-surface investigation areas and to provide representatives to participate in the archaeological investigation. Their wishes, as expressed in their reports on the area's cultural significance are to be considered. DLALC, DCAC, DTAC, DACHA and DLO may wish to monitor ground disturbance works associated with the construction of the proposed development impacts. These groups are to be consulted with prior to construction.	Approved with Project Application	Prior to Construction
Services	The requirements of relevant public authorities in regard to the connection to, relocation and/or adjustment of services affected by the construction of the proposed development are to be complied with.	Relevant Service Provider	During construction
Security Fencing	Security fencing is to be erected along the site boundaries.	Approved with Project Application	Prior to issue of Construction Certificate
Construction	The construction works are to be generally restricted to the hours outlined in the Penrith DCP 2006, section 6.14 Erskine Park Employment Area, clause 6.9.2 Requirements, being:	Approved with Project Application	During Construction

Subject	Commitments	Approved by	Timing
	- Monday to Friday, 7.00 a.m. to 6.00 p.m. - Saturday, 7.00 a.m. to 1.00 p.m. - No work on Sundays or Public Holidays		
Landscaping	Landscaping is to be in accordance with the approved Landscape Management Plan prior to occupation of the premises and will be maintained for the life of the development.	Department of Planning	Prior to issue of Occupation Certificate and on-going
Hours of Operation	The final hours of operation for the premises are to be unrestricted.	Approved with Project Application	Following the issue of Occupation Certificate and on-going
Lighting	Provision is to be made for external lighting during the detailed design phase and which is to comply with the relevant requirements of <i>Control of Obtrusive Effects of Outdoor Lighting (Standards Australia, AS4282)</i>. A compliance certificate by a suitably qualified consultant demonstrating compliance is to be provided prior to issue of the Occupation Certificate	Department of Planning	Prior to issue of Occupation Certificate
Signage	Final details of the approved signage panel (including colours and proposed wording) is to be submitted for approval.	Department of Planning	Prior to issue of Occupation Certificate
Noise	Prior to the issue of the Occupation Certificate a noise assessment on the proposed operator is to be undertaken by a suitably qualified consultant to demonstrate that the noise criteria set out in Condition 17 of Schedule 3 of the Project Approval can be met. If the proposed noise levels for the use are predicted to be higher than the criteria nominated then further assessment/mitigation measures are to be undertaken.	Department of Planning	Prior to issue of Occupation Certificate

Subject	Commitments	Approved by	Timing
Evacuation, Bushfire and other emergencies	An Evacuation Plan is to be prepared and submitted to Penrith City Council prior to issue of an Occupation Certificate.	Penrith City Council	Prior to issue of Occupation Certificate
Water Quality Measures On-going Maintenance	The water quality measures are to conform to an ongoing maintenance program, as follows: • Periodic (6 monthly) inspection and manual removal of any gross pollutants and coarse sediment that is deposited in the water quality treatment train and replacement of vegetation as necessary; and • Periodic (3 monthly) and episodic (post storm greater than 1 yr ARI) inspection and removal of trapped pollutants from all GPT's. There is to be a 90% reduction in generated oils and grease through the installation of appropriate water treatment devices.	Approved with Project Application	Ongoing
Sydney Water Servicing	A section 73 Certificate and a Trade Waste Permit are to be obtained.	Sydney Water	Prior to the issue of Occupation Certificate
Earthworks etc along boundary with Sydney Catchment Authority	Details (including plans) of proposed earthworks, retaining walls or other constructions along the Sydney Catchment Authority (SCA) boundary are to be provided to SCA before such works commence.	Approved with Project Application	Prior to issue of Construction Certificate
Storage Facilities	Goods, plant, equipment and other material are to be stored appropriately and screened from view surrounding developments.	Approved with Project Application	Ongoing

Subject	Commitments	Approved by	Timing
Air Quality	Appropriate dust control measures are to be implemented during the preparation and construction stages of the development.	Approved with Project Application	Ongoing
Ecology	The following environmental biodiversity contributions are to be provided: • 7 ha of supplementary plantings of canopy tree species and understorey shrubs along Ropes Creek (on land owned by Jacfin being Lot 5 in DP262213). These plantings are to use native species typical of the Cumberland Plain Woodland and River-flat Eucalypt Forest on Coastal Floodplains communities, which are characteristic of the subject site area; and • the control of weeds and introduced grasses in the planting area to facilitate both the growth of those planted specimens and the regrowth of native understorey and groundcover species.	Approved with Project Application	Prior to issue of Occupation Certificate