whipps-wood CONSULTING

Engineers in Hydraulic, Civil & Fire Protection Design

HYDRAULIC SERVICES REPORT

Major Project Application
Australian Red Cross Blood Service
17 O'Riordan Street, Alexandria

Issue **B**

Date **5th August 2008**

Job No **2008-0241**

Client

Goodman
Level 10, 60 Castlereagh Street
Sydney NSW 2000

Ph: (02) 9230 7400
Fax: (02) 9230 7444

Hydraulic Engineers
Whipps-Wood Consulting
Lower Ground, 48 Alfred Street
Milsons Point NSW 2061

PO Box 558, Milsons Point
NSW 1565

Ph: (02) **8923 8444**
Fax: (02) 8923 8484

sydney@whipps-wood.com.au
www.whipps-wood.com.au

ABN 11 077 989 158

Document History

Revision	Date	Amendments
A	26/06/08	
B	05/06/08	

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1.1 PURPOSE OF REPORT

This report has been prepared on behalf of Goodman for the preparation of the DA submission.

The purpose of the report is to comment on the effect to the hydraulic services of the proposed building will have. The building will be built for the specific purpose of housing the Red Cross Blood Service Principle Site.

The Stormwater Concept Plan Includes

- Quantifying the stormwater runoff from the proposed development.
- Preparing a stormwater concept plan in accordance with Sydney Water and Sydney City Councils requirements.
- Provide necessary stormwater calculations and design drawings to support a development application to be submitted to Council.

Existing building indicated with A.

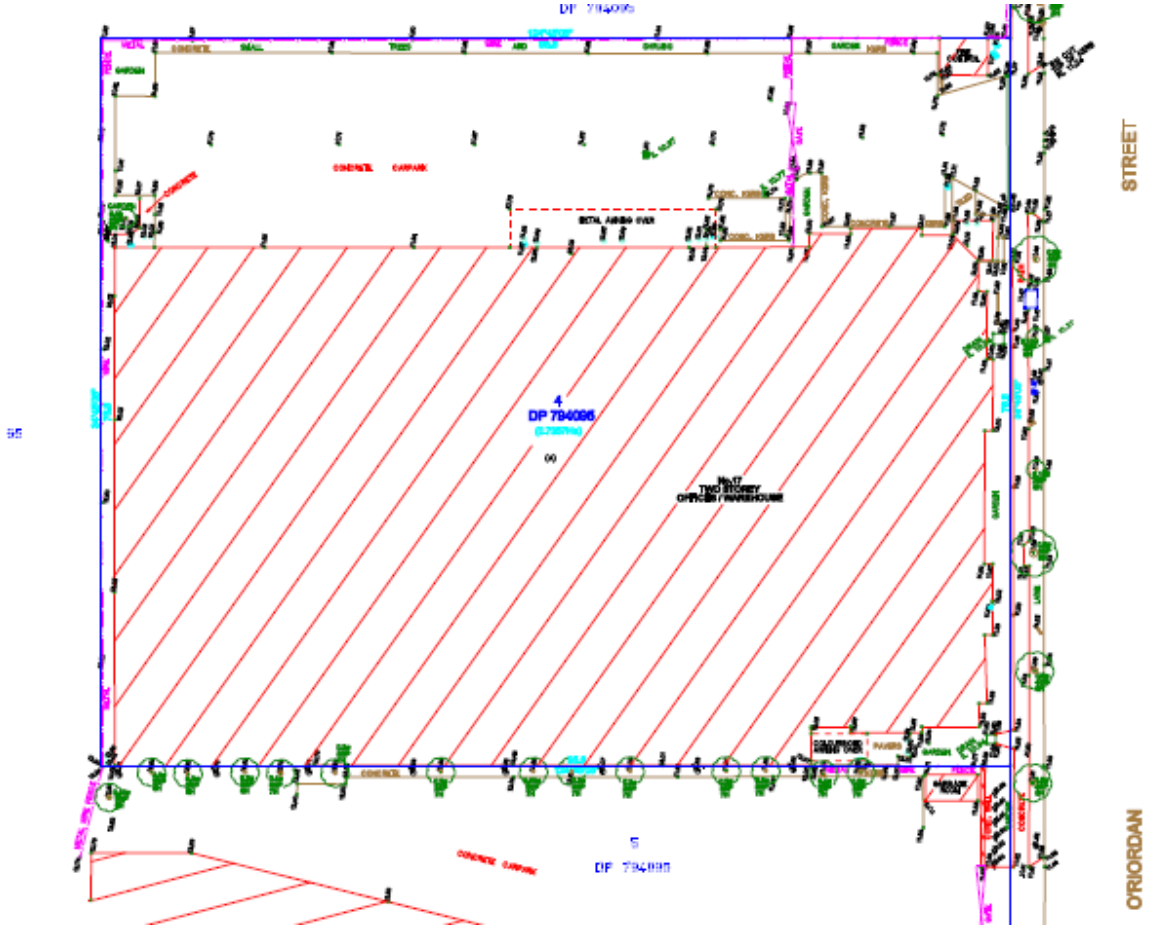
1.2 EXISTING SITE

Stormwater System

The existing stormwater system appears to be adequate for the site and discharges into the Council stormwater infrastructure system. There is a carpark and large roof from where the water is reticulated via a piped system to the Council infrastructure. The overland flow runs around the building with the site falling towards the street. The overland flow then discharges to the street and is collected via the Council Stormwater Infrastructure system.

Rainwater tank

There is currently no rainwater reuse facility onsite.



Existing Site Survey Drawing

1.3 PROPOSED REFURBISHMENT

The proposed stormwater system will consist of the following

- A piped downpipe system
- Piped stormwater system
- Rainwater reuse tank
- Pollution Control pits (By Ecosol)
- Overland Flow Path

The Stormwater system will be split into 2 systems with 2 discharge points. The first system is the rainwater reuse system in which a single downpipe will be collected to discharge into the rainwater tank which will be used for irrigation. The rainwater tank then overflows and is connected to the stormwater system. The stormwater system is collected and directed down both sides of the building. The water is then treated by an Ecosol RS4300 and discharged to the proposed kerb entry pits via gravity. The Stormwater system will be sized using a 1 in 20 year storm event.

OSD will not be provided for the site as per the advice from Sydney Water and Sydney City Council.

Downpipe System

The downpipe system will consist of a number of rainwater outlets positioned on the roof that will be collected and piped to a gross pollutant/sediment pit, and then discharge into the rainwater. The rainwater tank will have a minimum capacity 10,000 litre capacity. The rainwater tank over flow will then be piped to the internal Stormwater collection system.

Stormwater System

The stormwater system will consist of a number of pits located in various positions around the perimeter of the building that will collect the water and drain via gravity flowing through an Ecosol RSF 4300 on each side of the property. The Southern side will discharge to a proposed Kerb Entry Pit that will be constructed in the middle of the property in the roadway. The proposed Kerb Entry Pit will be located on the Northern side of the existing Kerb Entry Pit and will be connected into the Councils infrastructure. The Northern side will also discharge to a proposed Kerb Entry Pit that will be constructed in the vehicle entry point on the Northern side of the site, in the roadway, and will be connected into the Councils stormwater infrastructure.

Rainwater tank

The rainwater tank will be positioned in the basement. The rainwater reuse will be used for hose taps only for irrigation.

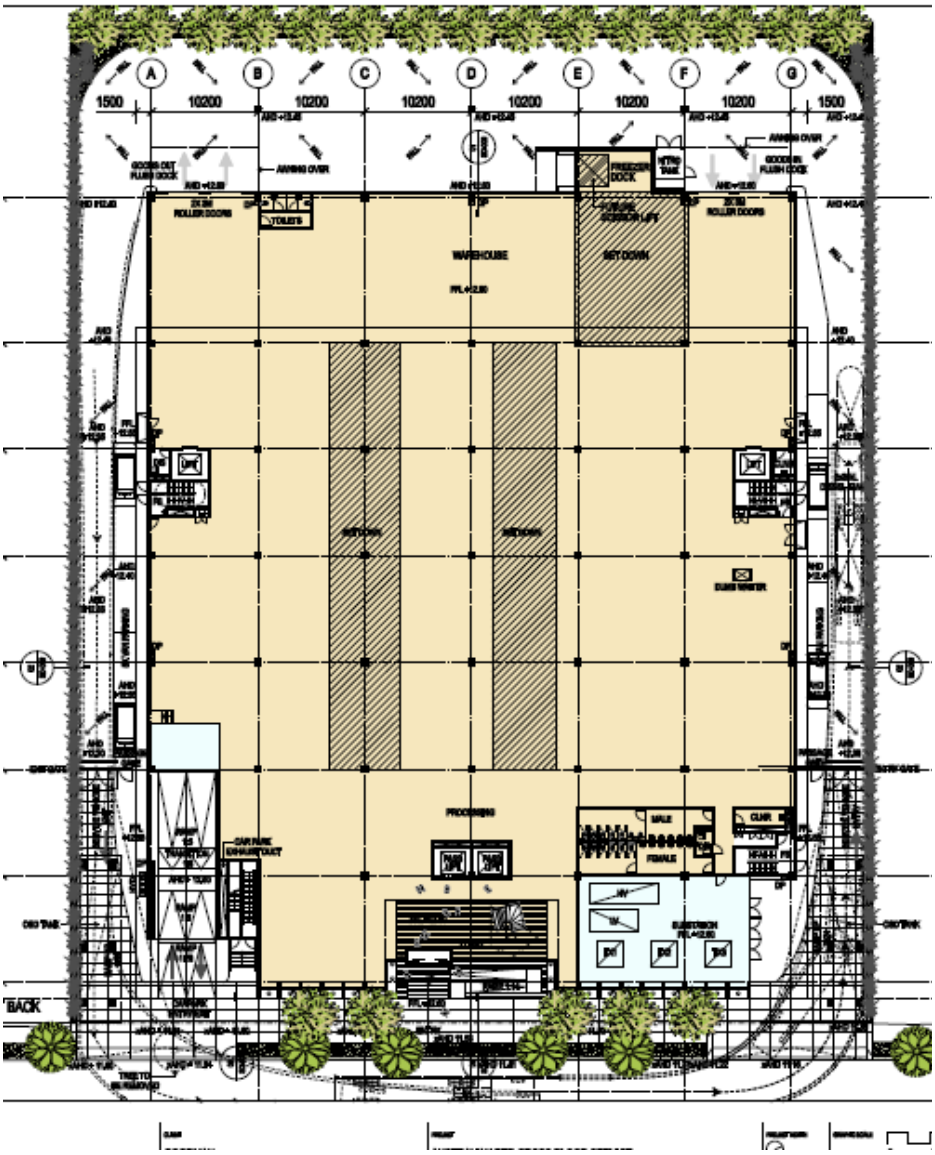
Pollution Control Pit

The proposed pollution control pit to be used will be an Ecosol RSF 4300 to meet the requirements outlined by Sydney Water. There will be one pit on each side of the building with each treating approximately 120l/s of water. The pollution control pit will have a regular maintenance schedule to enable the pit to function correctly.

Overland Flow

The site levels will be worked to ensure the overland flow path will not be hindered. The property will fall from the rear to the front with an even grade to ensure that any storm event will be directed

around the proposed building and discharge to the street to be collected by the Council stormwater infrastructure system.



Proposed site Ground Floor Plan

1.4 SUMMARY

Based upon the preliminary information all of the existing services apart from the hydrant system will have the require capacity to service all new buildings. A new hydrant system will be installed to service all building on site.

Yours Faithfully
Whipps Wood Consulting

Anthony Whipps
Director