

Flood Management Strategy

Sydney Swan HQ and Community
Centre.

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1. Introduction

Taylor Thomson Whitting (TTW) has prepared a Flood Emergency Management Strategy for the proposed development at Royal Hall of Industries, Moore Park. The site is located at 1 Driver Avenue, Moore Park and comprises a portion of two separate lots, legally described as Lot 3, DP861843 and Lot 52 of DP1041134. The site is owned by the Centennial Park and Moore Park Trust and is leased to the Sydney Swans for the purposes of the development.

The purpose of this report is to summarise the flood risks within the site, identify preparation measures required, and to provide an action plan with steps to be completed during a flood event.

The proposed development is reconfiguration of the Royal Hall of Industries (RHI) building to a sport training and administration centre, and the addition of a new indoor sports facility and administration centre to the south of the existing building.



Figure 1 – Site Location

2. Flood Behaviour

The current City of Sydney Interim Floodplain Management Policy (approved May 2014) provides flood planning levels for the site. These flood planning levels are set out in Table 1.

Table 1 Flood Planning Levels

Area	Flood Planning Level
Business	Merits approach presented by the applicant with a minimum of the 1% AEP flood level.
Below-ground car parks and all other ingress points e.g. Lifts/stairs/exits	1% AEP flood level + 0.5 m or the PMF (whichever is the higher)

City of Sydney Council engaged WMA Water to prepare a flood study “Centennial Park Flood Study”, along with the Centennial Park Floodplain Risk Management Study which are relevant to this site. These reports have been used as the basis for this Flood Management Strategy

The 100-year ARI flood event map from the City of Sydney is shown in the Figure 2. The map contains results from Council’s flood model proposed for the Centennial Park Catchment Flood Study.

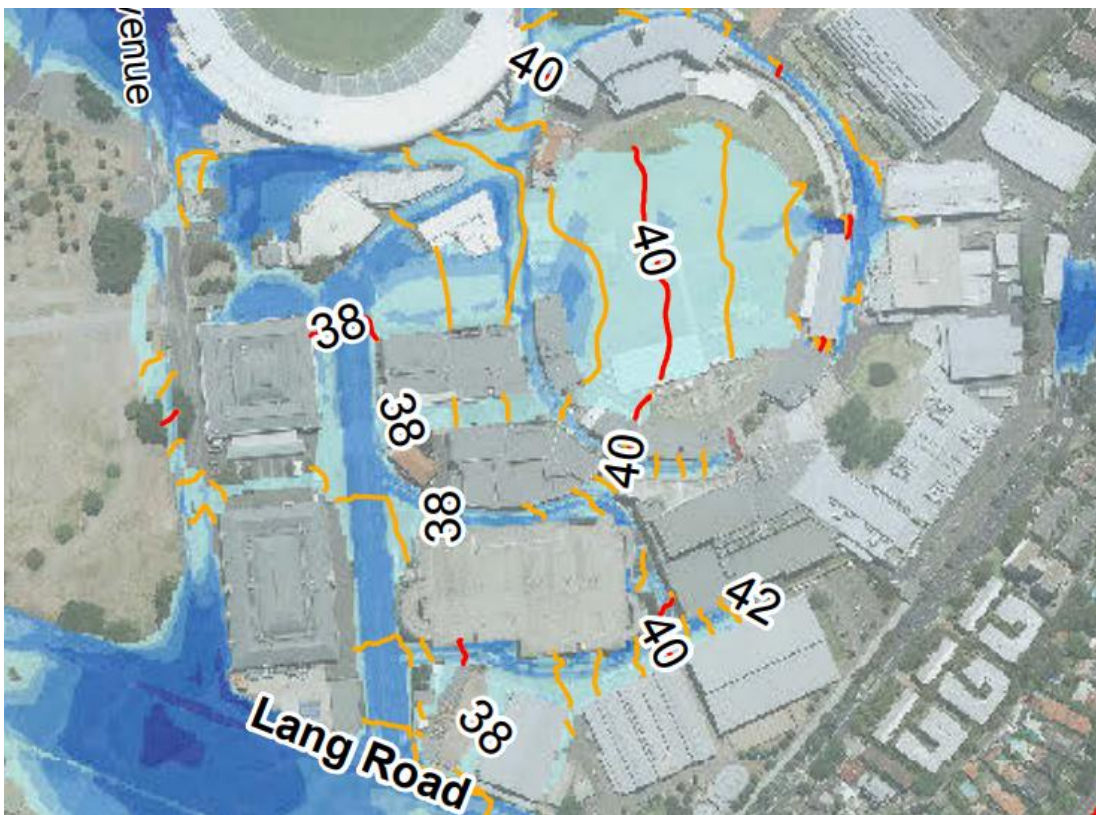


Figure 2 100-year ARI flood map

The PMF flood map is shown in Figure 3.

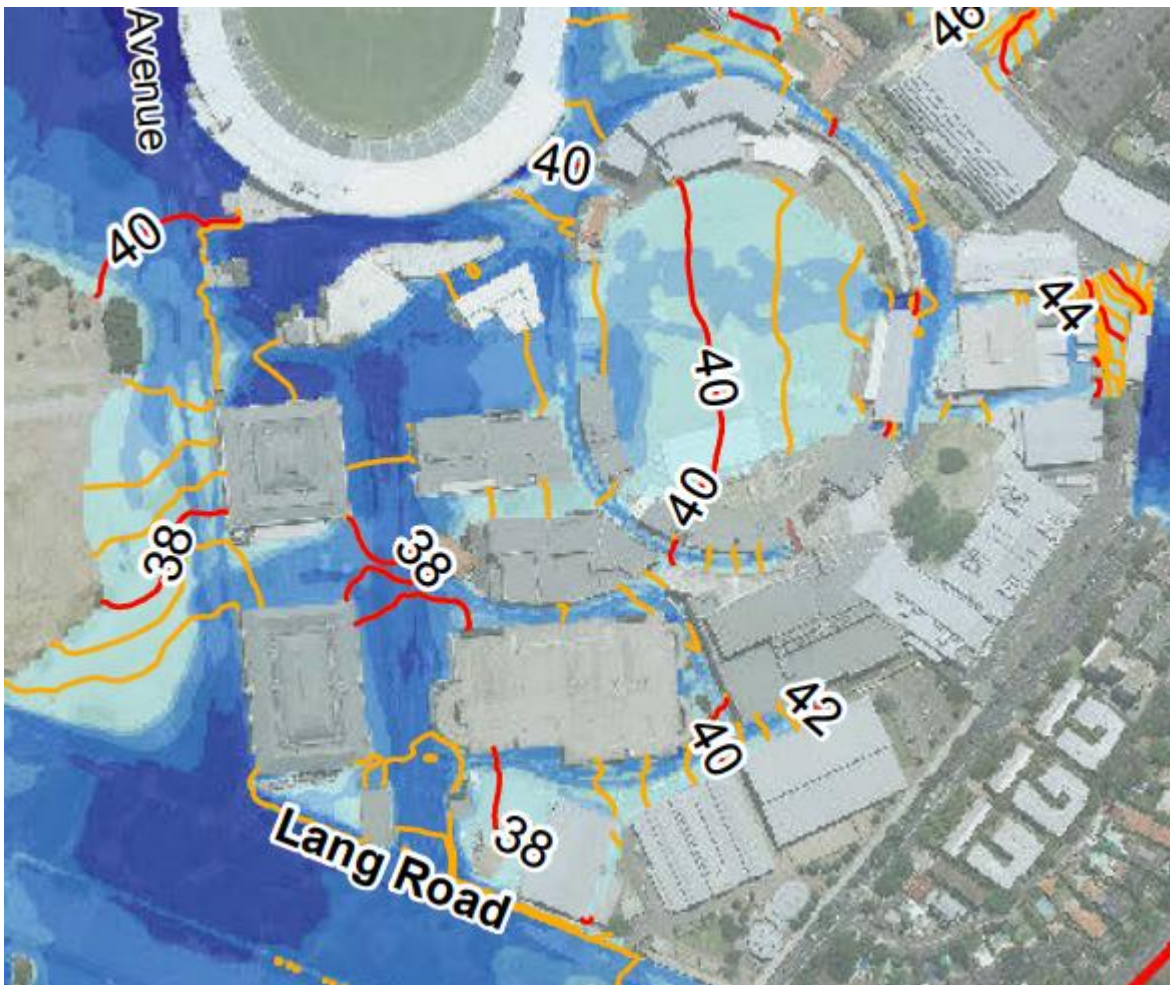


Figure 3 PMF Flood Map

The Centennial Parklands Floodplain Risk Management Study identifies the critical storm duration for this catchment as between 30 and 60 minutes, with peak flood levels being reached approximately 1 hour after the start of the storm. This is considered short term Flash Flooding, but still allows sufficient time from the commencement of a storm event, with observed raising floodwater, to implement this Flood Management Strategy.

The flood hazard assessment in the study identifies that in the 1% AEP event/100 year ARI storm, the site is surrounded by low hazard flooding, but vehicular exits will be blocked by high hazard flooding on Lang Road. In the PMF Flood Event (Probable Maximum Flood), high hazard floodwaters will surround the site preventing vehicular or pedestrian evacuation from the site. Figure 4 shows the Flood Hazard in the PMF Event.

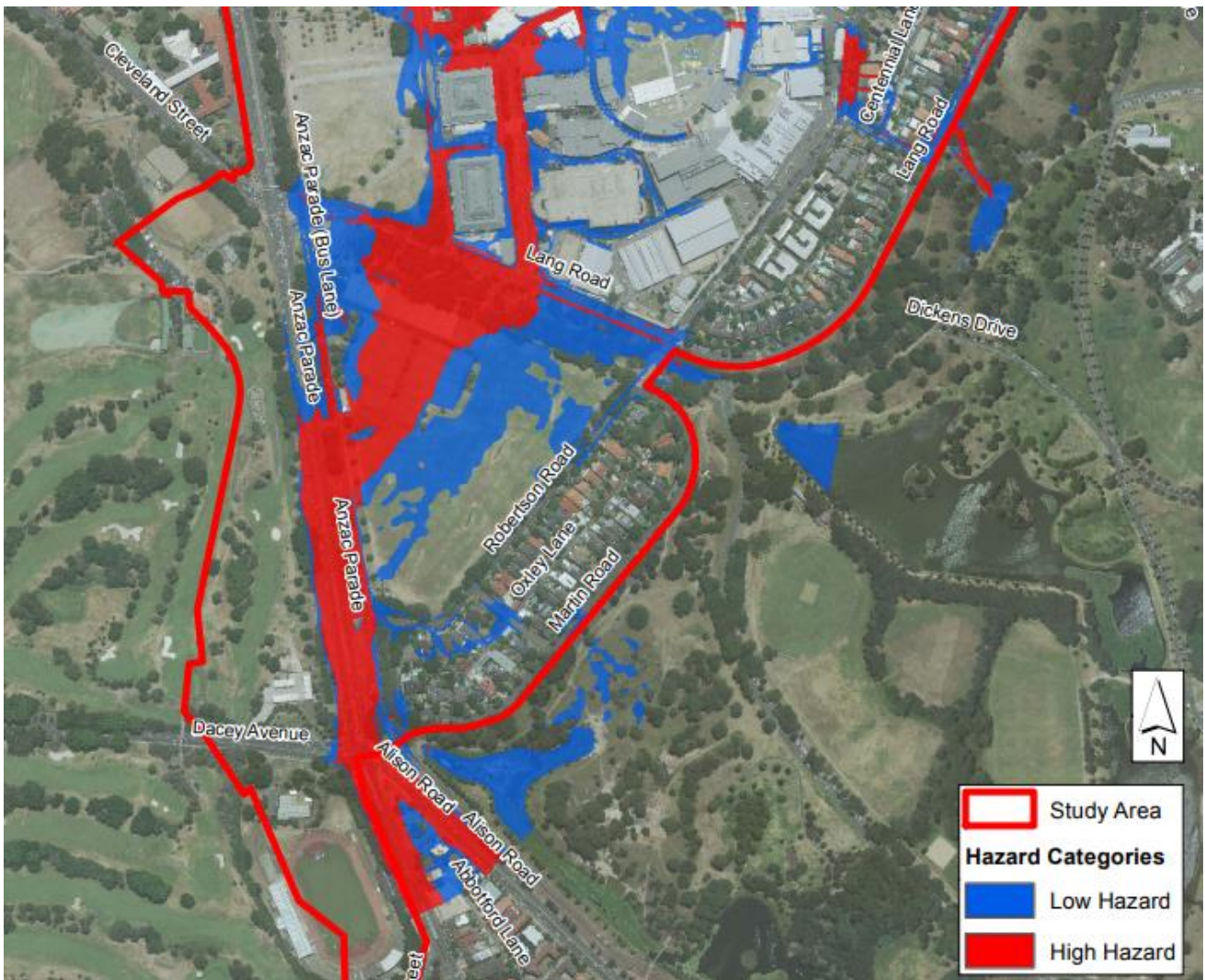


Figure 4 PMF Flood Hazard Map

Building Works

The finished floor levels of the proposed new building (Swifts building) is 37.55 which is higher than peak PMF level (37.50) and 1% AEP flood level (max 36.90) and comply with City of Sydney requirements.

The RHI building FFL's are 37.40 at the Northern edge of building, and 37.55 at other parts of building which are higher than 1% AEP flood level (max 37.40). Peak PMF level at the RHI building is 38.0. The only basement entry is located at southern edge of RHI building is above the PMF level at that location (37.5) and 1% AEP flood level + 0.5 m or the PMF (37.40) and comply with City of Sydney requirements.

3. Flood Management strategy

In accordance with the recommendations of the Centennial Park Floodplain Risk Management Study, TTW recommends that shelter-in-place strategy, including relocation of persons to level 1 is appropriate for the site; and that in the event that inundation of the ground floor levels in RHI occurs that all persons within those areas be evacuated to Level 1 of the building where the finished floor level of 41.55 is well in excess of the peak PMF level of max 38.0. All access to basement plant levels should be prohibited in the event of observed rising flood levels.

4. Preparation for Flood Response

1.1 Education

Community awareness of flooding is a significant issue within the floodplain due to the infrequency of severe floods and the anticipated depths of these floods in a PMF event.

1.1.1 Staff

As part of the preparation for a flood event, the staff managing the reception and administration will be made aware of the flood risk and their obligation to evacuate the ground floor levels when inundation begins to occur. Inductions will be held to educate staff on their role during a flood event.

1.1.2 General Community

As local community members and other visitors may utilise the element of the site it is important for appropriate evacuation signage and emergency warning system to be put in place.

1.2 Evacuation Drills

It is recommended that evacuation drills be held at a minimum of once yearly to ensure all residents and staff are aware of and familiar with their flood response actions, the sound of the alert and occupancy warning system, and the location of the assembly point.

All staff will be trained in the flood response procedures with mandatory drills recommended to be conducted once a year.

1.3 Flood Emergency Kit

A Flood Emergency Kit should be prepared prior to a flood event taking place and regularly checked to ensure that supplies within the kit are sufficient and in working condition. This check could occur after the evacuation drill takes place to provide a regular schedule. The Kit should include:

- Radio with spare batteries;
- Torch with spare batteries;
- First aid kit and other medicines;
- Candles and waterproof matches;
- Waterproof bags;
- A copy of the Site's Emergency Management Plan; and
- Emergency contact numbers.

This Emergency Kit should be stored in a waterproof container and is the responsibility of the First Aid Officer.

5. Coordination of Flood Response Warnings and Orders

The Building Manager under the direction of the Incident Controller will decide when to issue Flood Response Warnings and Orders for the site.

It is recommended that:

- Flood markers be provided at entry points into the building on North and East edge of RHI building, in order to provide an indication of ponding floodwaters approaching the finished floor level; and
- A water level sensor device be provided at the entry points into the building on North and East edge of RHI building, in order to provide early flood warning when flood waters approach the floor level.

During heavy rain it will be the responsibility of the Building Manager and the Incident Controller to monitor ponding floodwaters against the flood markers and to make the decision on when to evacuate the ground floor if necessary. The early warning system installed at the entry points into the building on North and East edge of RHI building will be connected to the reception and concierge service and the Incident Controller will need to distribute these warnings to all persons within that areas.

The Incident Controller will initiate a flood response and occupant warning through a Public Address (PA) system including continuous bell that can alert visitors, residents and staff in the event of an emergency.

Flood Response Plan	
<u>Alarm Condition</u>	<u>Recommended actions</u>
1) Local Councils or Bureau of Meteorology issues an alert, advice or warning.	Building staff to observe ponding levels against markers on entry points at north and east edge of the building.
2) Ponding floodwaters rise to 100 mm below finished floor level. Flood Water level sensor sends alert	Incident Controller to confirm the ponding is approaching overtopping level.
	Send an alert and warning message over the PA system confirming a major flood event. Announce that water will soon inundate the building.
	Immediately commence evacuation of all persons to Levels 1, evacuating them to Level 01 systematically to available areas.
	Block all access to basement plant rooms.
	Confirm any remaining people have been evacuated in shelter.
3) Alert will remain in place for approximately 2 hours or such time that the ponding depth recedes	Confirm that there is no ponding within the building. Once floodwater subsides below finished floor level, ground floor to be inspected by the incident controller. Once it

	has been confirmed that the water level has reduced to a level that will not produce inundation for a period of at least 2 hours and if determined safe the incident controller may announce that all persons can return to ground floor and basement carpark.
4) Flooded areas are to remain off limits until ponding is cleared. The directions of police and SES are to be followed at all times.	

6. FLOODPLAIN RISK MANAGEMENT STUDY REVIEW

Within the Centennial Park Flood Study and the related Floodplain Risk Management Study prepared by WMA water for the City of Sydney Council, several hotspots are identified, along with discussions on potential works to reduce the flooding at these hotspots.

One particular hotspot is identified outside of the site at the intersection of Lang Road and Driver Ave, with several options for reducing the impact of flooding in this area discussed, including upgrades of trunk drainage systems and regrading of Driver Avenue.

If flood mitigation works are undertaken in this area or the upper catchment, it is likely that the Floodplain Risk Management Study for the area will be updated by City of Sydney. In that event, this Flood Management Strategy should be updated taking into account any changes in flood behaviour adjacent to and surrounding the site.