

ALEXANDRIA HEALTH CARE

OPERATIONAL FLOOD EMERGENCY MANAGEMENT PLAN (2024 CONDITIONS)



Prepared for: Alexandria Property Development
By: enstruct group pty ltd
Revision: D
June 2024

ALEXANDRIA HEALTH CARE

OPERATIONAL FLOOD EMERGENCY MANAGEMENT PLAN (2024 CONDITIONS)

ISSUE AUTHORISATION

PROJECT: ALEXANDRIA HEALTH CARE

Project No: 6691

Rev	Date	Purpose of Issue / Nature of Revision	Prepared by	Reviewed by	Issue Authorise by
A	9/11/23	DRAFT for review	Tim Henderson CPEng, NER	(draft only)	
B	14/12/23	For SSDA	Tim Henderson CPEng, NER	Phillip Lambley CPEng, NER	Phillip Lambley CPEng, NER
C	23/01/24	Update following SES review	Tim Henderson CPEng, NER	Phillip Lambley CPEng, NER	Phillip Lambley CPEng, NER
D	5/06/24	Respond to authority submissions	Tim Henderson CPEng, NER	Phillip Lambley CPEng, NER	Phillip Lambley CPEng, NER

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Executive Summary

enstruct Group have been engaged by Centuria to provide an Operational Flood Emergency Management Plan (OFEMP) for the development the Alexandria Health Centre at 28-32 Bourke Road, Alexandria.

The aim of the OFEMP is to assess the impact of a 1% Annual Exceedance Probability (AEP) storm and larger events up to and including the Probable Maximum Flood (PMF) and recommend appropriate procedures for personnel onsite to follow to maximise their safety and reduce risk of death and injury due to flooding and flood water. This report will raise awareness of the risk of flooding and will include flood warnings, safe evacuation routes, designated safe assembly areas, and evacuation management plans.

The OFEMP will also discuss the flooding conditions in the vicinity of the site, proposed methods of detecting flooding, proposed routes for refuge, and details of management of all personnel on site during a flooding event.

With surrounding streets impacted by flooding, the safest flood response is to shelter in place until floodwater recede.

This OFEMP has incorporated feedback from the SES.

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I. Definitions

For the purpose of this Plan, the definitions below apply:

Assembly area(s)

The designated place or places where people assemble during the course of an evacuation.

Emergency

An event that arises internally, or from external sources, which may adversely affect the occupants or visitors in a facility, and which requires an immediate response.

Emergency plan

The written documentation of the emergency arrangements for a facility, generally made during the planning process. It consists of the preparedness, prevention and response activities and includes the agreed emergency roles, responsibilities, strategies, systems and arrangements.

Emergency Planning Committee (EPC)

Elected persons from health centre who are responsible for the documentation and maintenance of the flood risk management plan and strategy at Alexandria Health Care.

Emergency Control Organiser (ECO)

A person or persons appointed by the emergency planning committee to direct and control the implementation of the facility's emergency response procedures.

Evacuation

The orderly movement of people from a place of danger.

Refuge

An area that is specifically designed to protect people from flood and provides direct access to an exit (SES).

Notes:

1. An area of refuge is intended to facilitate a safe delay in egress from the floor or area, thus constituting a space for people to await assistance for their evacuation.
2. Refuges are normally nominated by the relevant warden.

Warden intercommunication point (WIP)

The location on a floor or evacuation zone that includes a handset provided through which instructions can be received from the intercommunication panel via the emergency intercom system.

II. Abbreviations

The following abbreviations are used in this Emergency Plan document:

AHD	Australian Height Datum
AEP	Annual Exceedance Probability
AP	Assembly Point
ARI	Average Recurrence Interval
DDA	Disability Discrimination Act
ECO	Emergency Control Organization
EPC	Emergency Planning Committee
FERP	Flood Emergency Response Plan
OFEMP	Operational Flood Emergency Management Plan
FFL	Finished Floor Level
PMF	Probable Maximum Flood
SES	State Emergency Service
WIP	Warden Intercommunication Point

1 Introduction

The Operation Flood Emergency Management Plan (OFEMP) is for the proposed “Alexandria Health Centre” development located at 28-32 Bourke Road, Alexandria (the site), within the City of Sydney Council Local Government Area (LGA). This OFEMP considers the conditions at the site prior to the installation of a proposed laneway network linking Bourke Road with O’Riordan Street. A separate OFEMP has been prepared to be enacted after completion of the laneway network.

The proposed works at Bourke Road will include basement and ground floor car parks providing approximately 77 car spaces, new mental health hospital, and a medical centre. This report is based on flood information obtained from:

- Architectural plans prepared by Warren and Mahoney
- 28-32 Bourke Road Alexandria Civil Engineering Flood Report, enstruct June 2024;
- The TUFLOW model from the Alexandra Canal Model Conversion 2020 by WMAwater Pty Ltd, and updated in 2023 obtained under a data access agreement with Council.

This OFEMP responds to the conditions of consent, specifically Condition B31

B31. A preliminary detailed Operation Flood Emergency Management Plan must be submitted that:	Responses
(a) has been prepared by a suitably qualified Engineer (who is included in the National Professional Engineers Register, administered by the Institution of Engineers Australia);	The author and reviewer of this OFEMP are suitably qualified and listed on the register
(b) includes advice from the NSW State Emergency Service noting the limitations described in the NSW Floodplain Development Manual Appendix N, section N7;	SES have reviewed this document (SES ref: ID2247 16/01/24, and ID2388 2/04/24) which has been updated based on the recommendations.
(c) addresses the provisions of the Floodplain Risk Management Guidelines (EHG)	The 28-32 Bourke Road Alexandria Civil Engineering Flood Report and TUFLOW model from the Alexandra Canal Model Conversion 2020, as well as this document address the provisions of the Floodplain Risk Management Guidelines
(d) incorporates the following:	
(i) the flood emergency management protocols for operational phase of the development, including any emergency evacuation to the nearest hospital and procedures for site isolation;	Refer to sections 7, 8 and 9
(ii) predicted flood levels within the site and within the adjoining road system and other public land expected to be used by patients, staff, occupants and visitors;	Refer to section 2

(iii) the predicted duration of flood inundation within the site and within the adjoining road system for the full range of flooding events;	Refer to section 8
(iv) what system of monitoring of flood events would occur, including who would be responsible for the monitoring and warning;	Refer to sections 3 and 4
(v) strategies such as early or pre-emptive closure or management measures for relevant tenants of the building, including under what scenarios the hospital and other tenants would be closed and the frequency of closures due to flooding events and notification of closures;	Refer to section 10
(vi) clear emergency management triggers and responses, including the authority for measuring and issuing such a direction that the trigger has been reached, the intended length of the warning times;	Refer to section 8
(vii) details of flood warning time and flood notification;	Refer to sections 3 and 4
(viii) details of assembly points and flood free routes where required;	Refer to section 8
(ix) clear roles and responsibilities for emergency flood management within the development;	Refer to section 5
(x) clear messaging and communication protocols;	Refer to sections 5 and 0
(xi) clear requirements that the Plan be regularly reviewed; and	Refer to section 11
(xii) details of awareness training for employees, contractors, visitors, occupants, patients and caregivers and induction of new staff members	Refer to sections 4 and 10.3
(e) details minimum floor space per person for periods of isolation;	All floor space is protected from flooding
(f) details access to on-site systems to provide power, water and sewerage services during and beyond the event for the full range of flooding;	Refer to section 9
(g) identifies options to evacuate the site, prepared in consultation with SES, and the associated risk;	Refer to section 8
(h) details any Shelter-in-Place strategy, including how patients, staff, visitors and tenants would be safely sheltered for extended periods if the shelter in place cannot otherwise be demonstrated to be short term (less than six hours);	Refer to sections 9 and 10
(i) details any arrangements to ensure that vehicles are restricted from leaving the basement and entering high risk flood waters;	Refer to section 8
(j) identifies personnel on site at all times who are responsible (including for all tenants within the building and what specific measures would be implemented to ensure coordinated and ongoing management is provided) for implementing the Operation Flood Emergency Management Plan, evacuating the site or the Shelter-in-Place strategy.	Refer to section 5

1.1 The Site

The land to which this flood management report relates to is known as 28-32 Bourke Road, Sydney. The site is situated on the southern side of Bourke Road.

The site occupies two land allotments and is legally described as follows: Lot 1-3 DP324707.

The site has a regular rectangular shape allotment with a frontage to Bourke Road of approximately 40.6 metres and an overall depth of approximately 73 metres, yielding a total site area of approximately 2,965 sqm.

Bourke Road forms a low point east of the subject site and is a two-way and two lane carriage way road.

A Location Plan including the site is provided in Figure 1.



Figure 1 Location Plan (Source: Six Maps)

2 Flood Risk

The site is located near a sag point on Bourke Road and is located in a high flood risk zone with major overland flow expected at or near the site. Based on Council flood model results, the 1% AEP flood level at the site is at 8.8 mAHD, while the Probable Maximum Flood (PMF) level varies from 10.3 mAHD to 10.4 mAHD.

The ground floor is above the PMF level (10.4mAHD) and there not affected by flooding.

All entrance levels to the basement, including the vehicle ramp, stairwells, ventilation, lifts, have been designed to be protected from flooding during a PMF event and protect the basement from flooding.

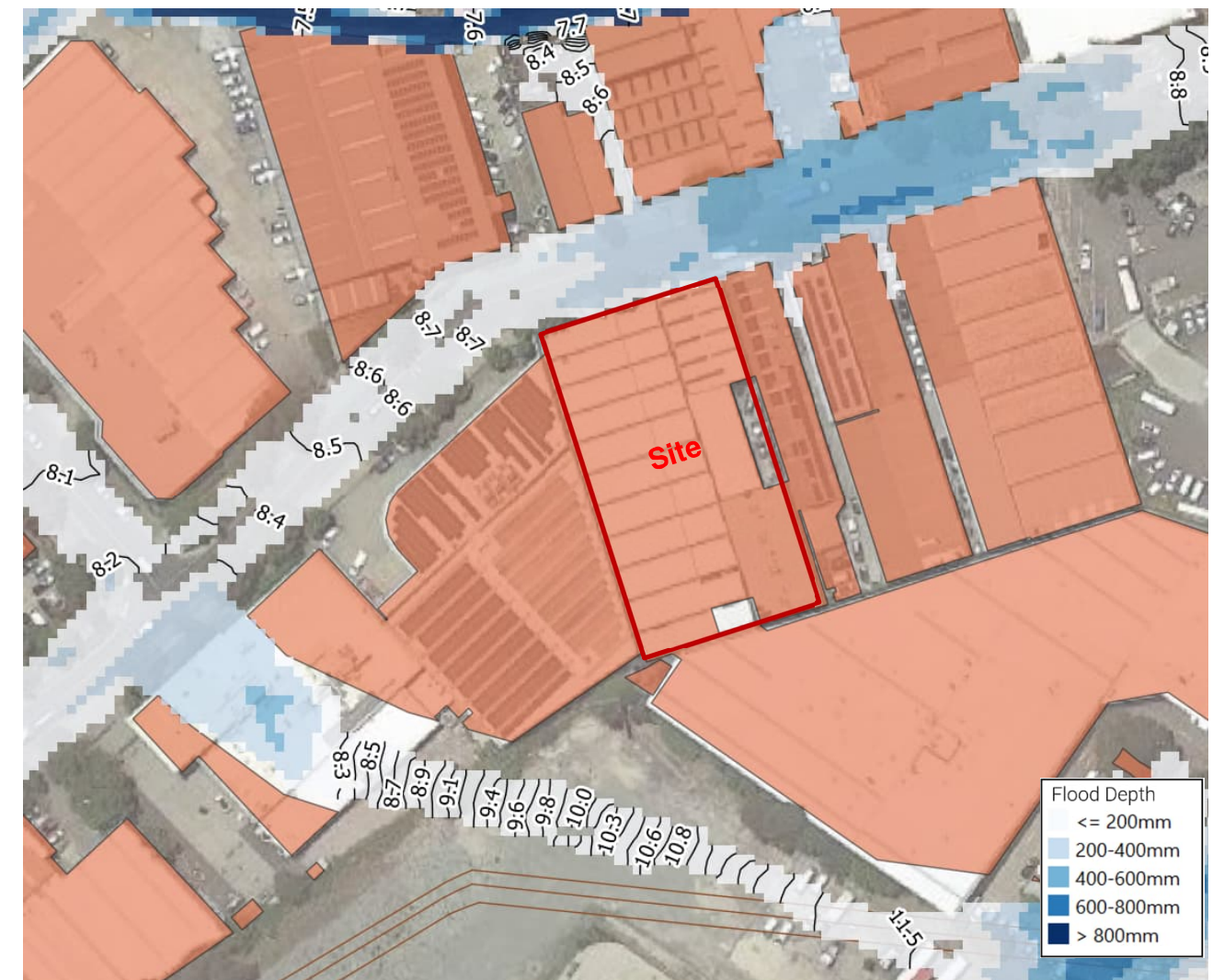


Figure 2 1% AEP Flood Map



It is important to inform occupants on the site of current advice and warnings. This can be done via the PA system. Typically, visitors and any itinerant population may seek advice from the reception. For this reason, it is imperative that reception staff are kept informed of any evolving flood situations.

3.1 Other warnings will be:

Monitor the flood situation:

In addition to publicly available information or advice from the SES, monitoring the situation before flooding begins to impact the site is important. Monitoring the situation can be undertaken by personally witnessing the height and rate at which floodwaters are rising; maintaining contact with other people in the building and local and government radio stations to receive and share updates on the flood situation.

The likelihood of flash flooding:

Severe Weather Warnings and Severe Thunderstorm Warnings issued by the Bureau of Meteorology warn of the possibility of flash flooding.

When flash flooding is likely, leaving low-lying businesses (evacuation) well before flash flooding begins is the best action to take, but only if it is safe to do so. If you are trapped by rising floodwater, seek refuge on site. Stay there and call '000' (triple zero) if you need rescue.

All warnings will be issued through the Bureau of Meteorology website, television and local radio stations for weather warnings such as 702 ABC SYDNEY 702 AM, 2CH 1170 AM, 2DAY FM 104.1 FM, 2GB 873 AM, 2ME 1638 AM, 2SM/GORILLA 1269 AM, 2UE 954 AM, C91.3 FM 91.3 FM, MIX 106.5 106.5 FM, NOVA 96.9 FM, RADIO 2MORO 1620 AM, RADIO 2RDJ 88.1 FM, SBS RADIO 97.7 FM, SYDNEY'S 95.3 95.3 FM, TRIPLE M 104.9 FM and WFSM 101.7 FM.

4 Flood Response Preparation

It is the responsibility of the Emergency Planning Committee as part of the site Emergency Management Plan that they prepare the site for a flood event. This will be achieved through induction training, nomination of flood wardens reporting to the Chief Warden during emergency events, education of flood risks and behaviour, and the preparation and maintenance of a Floodsafe Emergency Kit.

The Emergency Planning Committee is also to organise flood response drills and flood emergency kits to prepare all site personnel for flood risks. Emergency Planning Committee should also review the on-site provisions including adequate stored water and food.

4.1 Flood Emergency Kit

Potential items for a flood emergency kit are outlined at www.floodsafe.com.au and reproduced below:

- A copy of the building Emergency Management Plan;
- A torch with spare batteries;
- A first aid kit;
- Waterproof bag for valuables;
- A copy of emergency numbers; and
- Battery operated radio with AM and FM frequency access (with spare batteries).

The kit should be kept on each level of the Alexandria Health Care development for efficient deployment in the event of an emergency. The contents of the kit and management during a flood event will be the responsibility of the Chief Warden. This storage area should also be used for protecting hazardous materials and valuable goods from flood water.

This is not a comprehensive list of gear required to deal with a flood emergency at the site, but is a kit to help manage the first stage of an emergency response. Additional supplies to service the site during a period of isolation are included in section 4.2 below.

4.2 Isolation Management

There is a risk of site isolation during extreme and long duration storm events. To prepare for such an event, the following provisions should be made on site.

- The kitchen should at all times have adequate supplies of food and water (3L per person) to service all occupants for a period of 24 hours.
- Reserve supplies of linen and consumables should be stored on site at all times.

5 Flood Response Personnel

Summarised below are the personnel involved in the management of the flood response at the site, and corresponding responsibilities.

Table 1: Personnel and Responsibilities

Personnel	Responsibility
Emergency Control Organisation	<ul style="list-style-type: none"> Coordinate flood evacuation drills
Chief Warden	<ul style="list-style-type: none"> Monitor weather daily for upcoming extreme rainfall events; Decide when evacuation is required; Liaise and communicate with SES or Emergency Services personnel if they attend site; and Manage the evacuation process in consultation with SES or Emergency Services.

6 Emergency Contact

The Chief Warden is to be contactable via the WIP phone at all times to ensure they are ready to assist any person at the site.

- For emergency assistance during flood events, please call the SES on 132 500.
- If you are in a life-threatening situation please call Police, Fire or Ambulance on "000" (triple zero).
- Local Mascot Police Station on 8338 7399.

7 Nearest Hospitals

The site is approximately equidistant to three major hospitals:

- Royal Prince Alfred Hospital (RPA) in Camperdown to the northwest of the site.
- St Vincents Hospital in Darlinghurst to the north of the site.
- Prince of Wales Hospital in Randwick to the east of the site.

7.1 Directions to RPA Hospital

- Take Bowden Street to McEvoy Street
- Then take Swanson Street, Erskineville Rd, and King Street to Missenden Road.

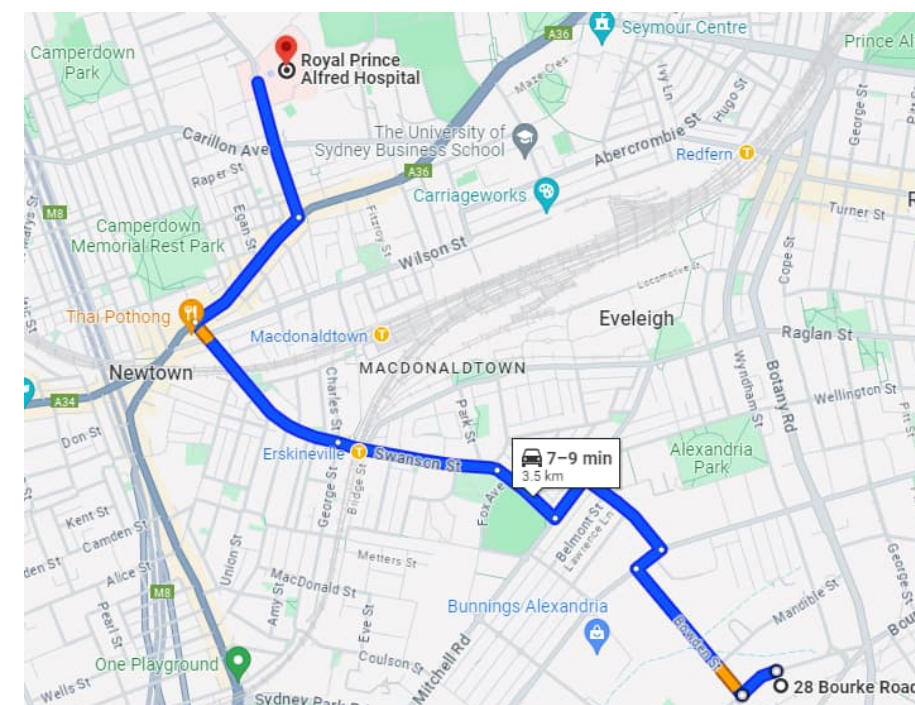


Figure 4 Driving directions to RPA Hospital

7.2 Directions to St Vincents Hospital

- Take Bowden Street to McEvoy Street
- Continue on McEvoy Street, left on to Bourke Street, right on to The Crescent and left on to South Dowling Street.
- Continue north on South Dowling Street to Oxford Street. Turn left on Oxford Street, then right on to Darlinghurst Road

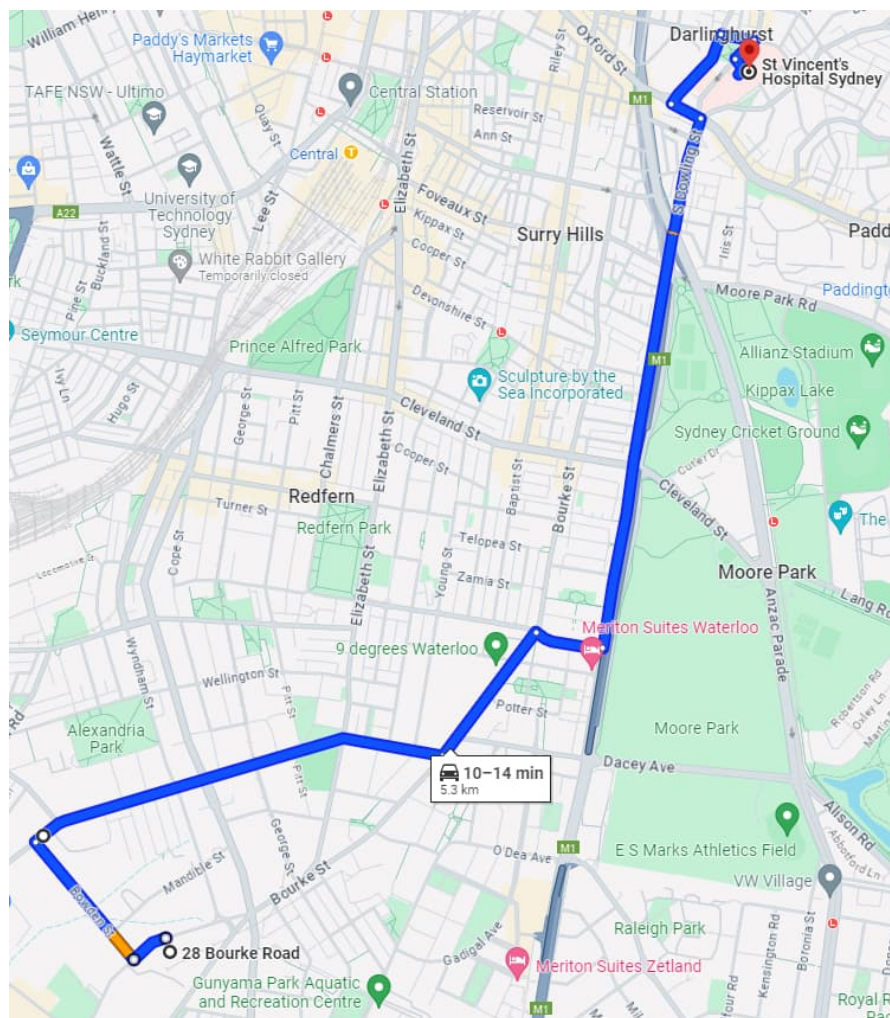


Figure 5 Driving directions to St Vincents Hospital

7.3 Directions to Prince of Wales Hospital

- Take Bowden Street to McEvoy Street
- Continue on McEvoy Street, left to Bourke Street then right to Lachlan Street.
- Continue along Lachlan Street, Dacey Avenue and Alison Road.
- Turn right on Botany Street to Prince of Wales Hospital

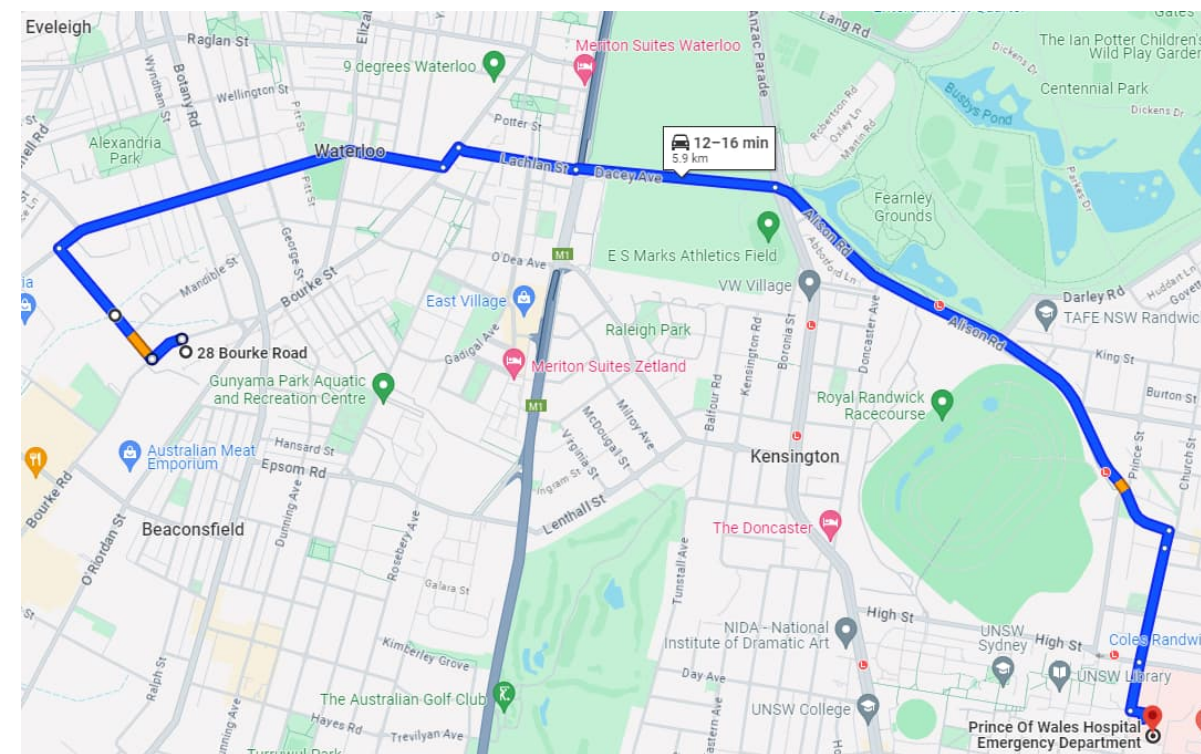


Figure 6 Driving directions to Prince of Wales Hospital

8 Assembly Point (AP) and Evacuation Routes

Since no official SES flood warnings will be issued prior to a flood emergency in the Alexandria Canal catchment area, it is expected that some persons will be on the site during a flood emergency. During a flood emergency, there is no safe exit from the site until the storm event subsides. The following section provides some information on evacuation routes during storms of different magnitude. It is important to note that the magnitude of a storm is not known before or even during the storm event, but is provided herein to inform risk assessment during a flood event.

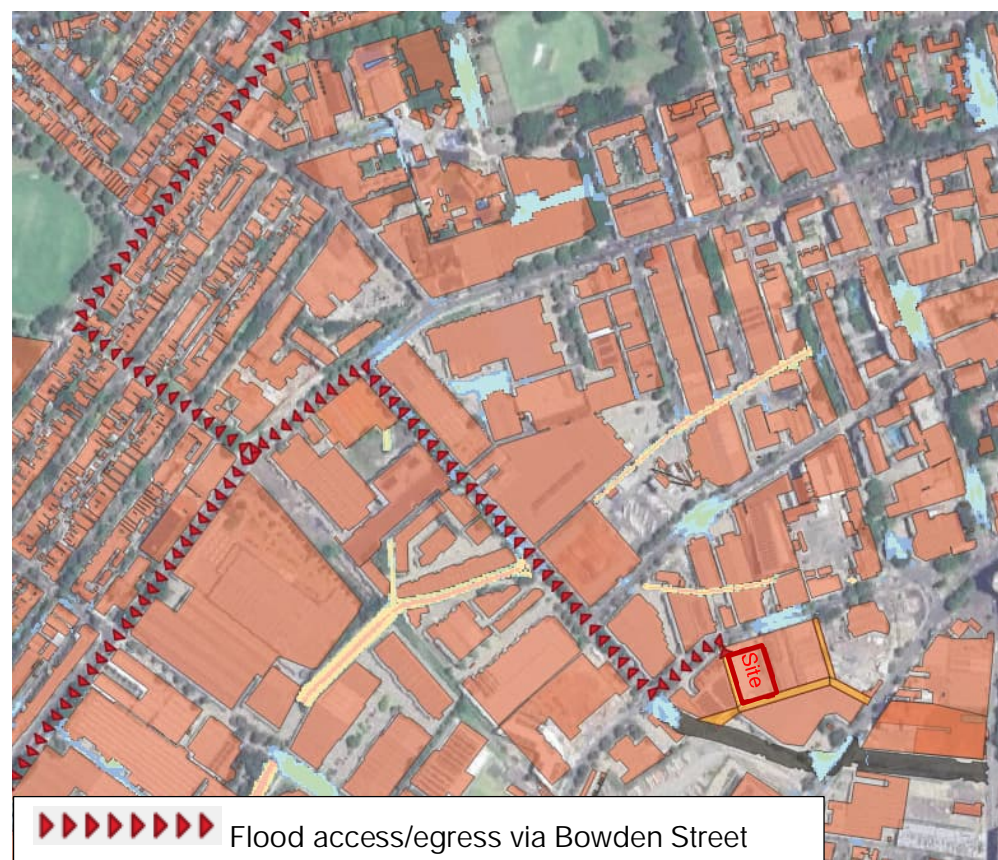


Figure 7 Access/egress routes

As the site is bounded by inaccessible roadways, all persons at the site when a flooding occurs are expected to be unable to safely leave the site. All floor levels are protected from flooding during a PMF.

In all events up to the 20-year ARI storm, evacuation is expected to be able to continue through the peak flood as the flood water will only affect a portion of the site. Furthermore, all ground floor levels, including the crest of ramps to basement levels, are located above the PMF ensuring any person within the building will be in refuge from the flood event.

Bowden Street is a known flooding hotspot. During a short duration 100-year ARI storm (90 minutes), Bowden Street is untrafficable for a period of approximately 20 minutes. During long duration events (6+ hours) the street are likely to be trafficable. In any case, the Chief Warden must monitor the situation and seek information on the status of the surrounding roads. Note that the Chief Warden should not leave the site to assess the status of surrounding area, but seek information via radio, internet, or communication with flood response authorities. Any persons evacuating the site should proceed with caution and follow the directions of the SES and emergency services.

In the PMF event, occupants are expected to seek refuge on any level above and including the ground floor where an emergency Assembly Point will be allocated. Boom gates and/or roller doors should be closed to prevent vehicular egress from basement parking into flooded streets.

9 Shelter In Place

During 1% AEP storm event, site may be isolated for a period of approximately 20 minutes. This is considered an inconvenience to site users (patients and staff) and should be managed similarly to other occurrences such as bad traffic, public transport delays and the like.

During a PMF event, the isolation period has shown to vary up to approximately 12 hours. In this instance, staff and patients will remain on site for the duration of the site being isolated. The site includes a backup generator located above the PMF level so the site will be powered. The proposed hospital has an on site kitchen, which will have adequate supplies of food and water for the isolation period. There will be reserve supplies of linen and consumables. Any procedures should be postponed to minimise the risk of medical emergencies on site.

The Chief Warden will remain in contact with the authorities (Police, SES, etc) and monitor local and government radio stations to receive and share updates on the flood situation with site occupants.

In general, staff remaining on site should continue to provide patient care at an appropriately reduced capacity. The kitchen staff will be notified by the Chief Warden on the number of people on site and expected duration of isolation to plan for and prepare meals and supply water.

In the event of a medical emergency, contact 000.

10 Flood Response Actions

10.1 Emergency Risk Management

To minimise the risk to site occupants, the number of people on site should be minimised when a Flood Watch has been issued. When any warnings outlined in Section 3 are issued, medical procedures should be rescheduled where possible. Admissions should also be rescheduled where possible.

Medical professionals planning to undertake any treatment or procedures should consider that the ability to transfer patients to other hospitals will be difficult or impossible during a flood event. Medical professionals are best placed to make this risk assessment for the individual patient and treatment.

10.2 Early Site Closure

Where a Flood Watch has been issued, and before the onset of a storm, a site closure may be ordered by the Chief Warden. This involves:

- Chief Warden to maintain regular communication with all persons, providing updates on the situation;
- Any person within the site is to move towards the site entrance in an orderly fashion;
- Leave signage at site entrance that evacuation has occurred;

- Site to be shut down, where possible of all, but essential power; and
- All persons at the site to evacuate.

Patients in a vulnerable state may not be able to evacuate. In this case, the Chief Warden, in consultation with staff, can assign staff to remain on site with the vulnerable patients, giving consideration to medical needs of the patient as well as provisions for the patients and staff, and the potential for site isolation.

10.3 Flood Response Drills

Emergency Response drills are designed to increase flood awareness within the building. These drills are to be undertaken annually to familiarise patrons of the building, specifically of the commercial sectors, of the procedures when responding to a flood event.

10.4 Evacuation

During rare storm events, there is no safe evacuation route. Occupants must stay on site until local streets are declared safe by Police or SES. The Chief Flood Warden must remain in contact with the emergency services and communicate the condition of local roads appropriately.

Evacuation can be undertaken following clearance from the Chief Flood Warden on the basis of advice from the Police or SES. In this case, an announcement will be made over the PA system. Any persons within the site are to move towards the site entrance in an orderly fashion. Signage is to be left at the entrance that evacuation has occurred.

11 Revision of Flood Emergency Response Plan

This plan should be reviewed if the City of Sydney Council requirements or City of Sydney Council Flood Study, Plans and Maps are revised, and if the street drainage surrounding the site is upgraded.

The proposed development of the area including laneways servicing Alexandria Health Centre will enable evacuation via O'Riordan Street. A separate plan has been prepared for the scenario where this evacuation route is available. Once the laneways between the site and O'Riordan Street are completed, this document should be discarded and replaced with the plan prepared for the future laneway scenario.

The Emergency Planning Committee shall be responsible for ensuring the Flood Risk Management Plan is reviewed annually and updated as required. As part of the review, the Emergency Planning Committee shall contact Council annually to confirm if any new street drainage upgrades are planned or have been constructed.

12 Conclusion

Since official flood warnings are not issued for the Alexandria Canal catchment area, and local roads will be flood affected during a flood event, it is recommended that the site users shelter in place by remaining on site under the directions of the Chief Flood Warden. Safe refuge is available on all floors.

It is the responsibility of the Emergency Planning Committee as part of the site Emergency Management Plan that they prepare the building for a flood event. This will be achieved through induction training, nomination of flood wardens reporting to the Chief Warden, education of flood risks and behaviour, the preparation and maintenance of a Floodsafe Emergency Kits, and site provisioning the site with adequate stored water and food.

This plan should be reviewed if the City of Sydney Council requirements or City of Sydney Council Flood Study, Plans and Maps are revised, and if the street drainage surrounding the site is upgraded.

Further, this OFEMP is reviewed regularly (on a five-yearly basis).

ALEXANDRIA HEALTH CARE

OPERATIONAL FLOOD EMERGENCY MANAGEMENT PLAN (FUTURE CONDITIONS)



Prepared for: Alexandria Property Development
By: enstruct group pty ltd
Revision: A
June 2024

ALEXANDRIA HEALTH CARE

OPERATIONAL FLOOD EMERGENCY MANAGEMENT PLAN (FUTURE CONDITIONS)

ISSUE AUTHORISATION

PROJECT: ALEXANDRIA HEALTH CARE

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Rev	Date	Purpose of Issue / Nature of Revision	Prepared by	Reviewed by	Issue Authorise by
A	5/06/24	Respond to authority submissions	Tim Henderson CPEng, NER	Phillip Lambley CPEng, NER	Phillip Lambley CPEng, NER

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Executive Summary

enstruct Group have been engaged by Centuria to provide an Operational Flood Emergency Management Plan (OFEMP) for the development the Alexandria Health Centre at 28-32 Bourke Road, Alexandria. This OFEMP is based on the future scenario where the laneway network between the Bourke Road and O'Riordan Street is completed. If this is not the case, refer to the 2024 Conditions OFEMP.

The aim of the OFEMP is to assess the impact of a 1% Annual Exceedance Probability (AEP) storm and larger events up to and including the Probable Maximum Flood (PMF) and recommend appropriate procedures for personnel onsite to follow to maximise their safety and reduce risk of death and injury due to flooding and flood water. This report will raise awareness of the risk of flooding and will include flood warnings, safe evacuation routes, designated safe assembly areas, and evacuation management plans.

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The orderly movement of people from a place of danger.

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(ii) predicted flood levels within the site and within the adjoining road system and other public land expected to be used by patients, staff, occupants and visitors;	Refer to section 2

(iii) the predicted duration of flood inundation within the site and within the adjoining road system for the full range of flooding events;	Refer to section 8
(iv) what system of monitoring of flood events would occur, including who would be responsible for the monitoring and warning;	Refer to sections 3 and 4
(v) strategies such as early or pre-emptive closure or management measures for relevant tenants of the building, including under what scenarios the hospital and other tenants would be closed and the frequency of closures due to flooding events and notification of closures;	Refer to section 10
(vi) clear emergency management triggers and responses, including the authority for measuring and issuing such a direction that the trigger has been reached, the intended length of the warning times;	Refer to section 8
(vii) details of flood warning time and flood notification;	Refer to sections 3 and 4
(viii) details of assembly points and flood free routes where required;	Refer to section 8
(ix) clear roles and responsibilities for emergency flood management within the development;	Refer to section 5
(x) clear messaging and communication protocols;	Refer to sections 5 and 0
(xi) clear requirements that the Plan be regularly reviewed; and	Refer to section 11
(xii) details of awareness training for employees, contractors, visitors, occupants, patients and caregivers and induction of new staff members	Refer to sections 4 and 10.3
(e) details minimum floor space per person for periods of isolation;	All floor space is protected from flooding
(f) details access to on-site systems to provide power, water and sewerage services during and beyond the event for the full range of flooding;	Refer to section 9
(g) identifies options to evacuate the site, prepared in consultation with SES, and the associated risk;	Refer to section 8
(h) details any Shelter-in-Place strategy, including how patients, staff, visitors and tenants would be safely sheltered for extended periods if the shelter in place cannot otherwise be demonstrated to be short term (less than six hours);	Refer to sections 9 and 10
(i) details any arrangements to ensure that vehicles are restricted from leaving the basement and entering high risk flood waters;	Refer to section 8
(j) identifies personnel on site at all times who are responsible (including for all tenants within the building and what specific measures would be implemented to ensure coordinated and ongoing management is provided) for implementing the Operation Flood Emergency Management Plan, evacuating the site or the Shelter-in-Place strategy.	Refer to section 5

1.1 The Site

The land to which this flood management report relates to is known as 28-32 Bourke Road, Sydney. The site is situated on the southern side of Bourke Road.

The site occupies two land allotments and is legally described as follows: Lot 1-3 DP324707.

The site has a regular rectangular shape allotment with a frontage to Bourke Road of approximately 40.6 metres and an overall depth of approximately 73 metres, yielding a total site area of approximately 2,965 sqm.

A laneway network links Bourke Road with O’Riordan Street (Figure 2), noting this is a future arrangement and not complete at the time of preparing this OFEMP.

Bourke Road forms a low point east of the subject site and is a two-way and two lane carriage way road.

A Location Plan including the site is provided in Figure 1.



Figure 1 Location Plan (Source: Six Maps)

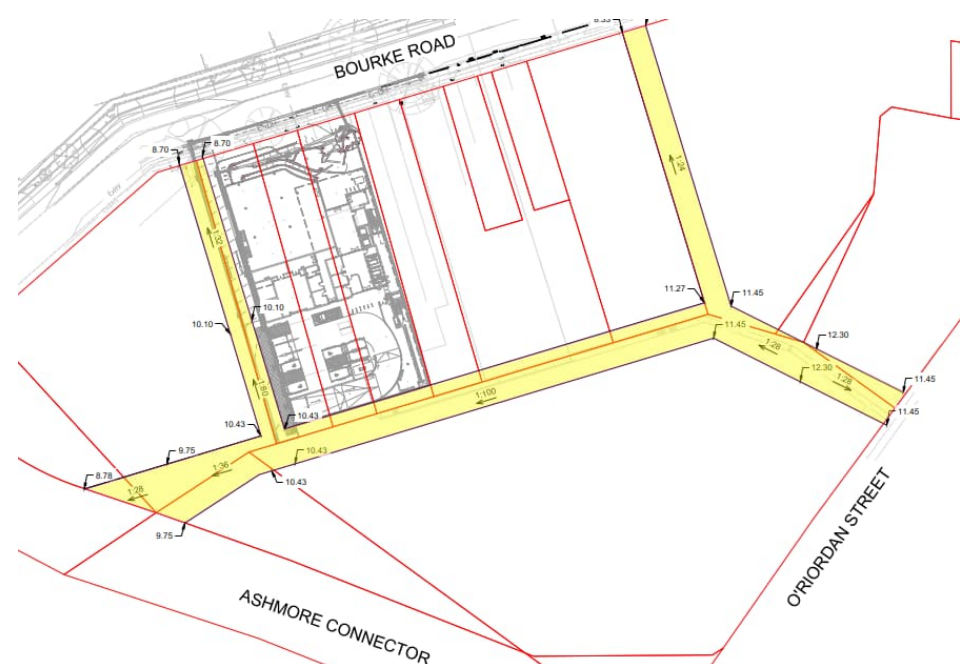


Figure 2 Laneways connecting Bourke Road and O'Riordan Street (assumed complete for this OFEMP)

2 Flood Risk

The site is located near a sag point on Bourke Road and is located in a high flood risk zone with major overland flow expected at or near the site. Based on Council flood model results, the 1% AEP flood level at the site is at 8.8 mAHD, while the Probable Maximum Flood (PMF) level varies from 10.3 mAHD to 10.4 mAHD.

The ground floor is above the PMF level (10.4mAHD) and there not affected by flooding.

All entrance levels to the basement, including the vehicle ramp, stairwells, ventilation, lifts, have been designed to be protected from flooding during a PMF event and protect the basement from flooding.

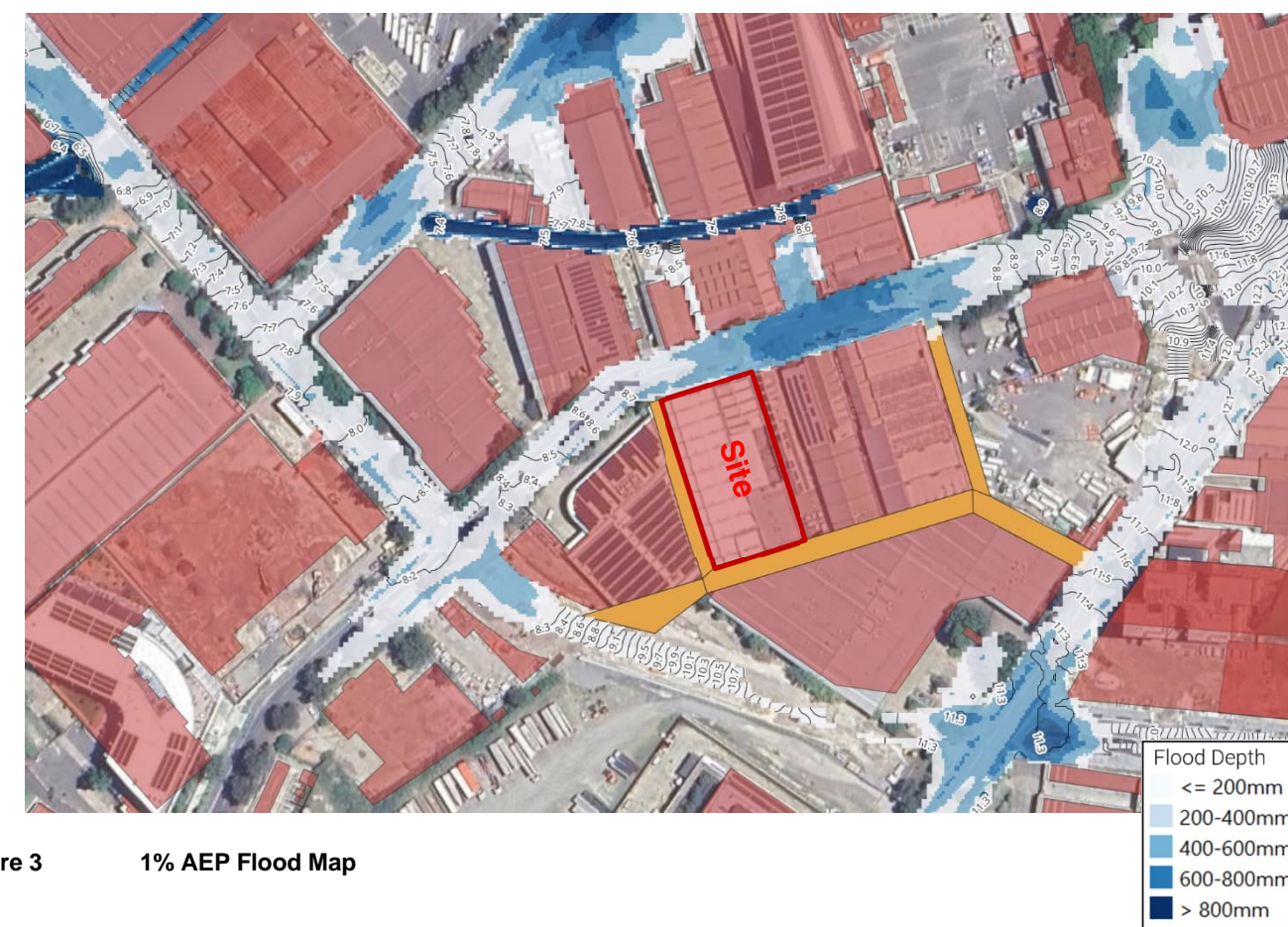


Figure 3 1% AEP Flood Map



Figure 4 Probable Maximum Flood Map

3 Flood and Evacuation Warnings

There are no official flood warnings issued by authorities for the area.

The address below can be visited to check severe weather, thunderstorm, and flood watch warnings for the Alexandria Canal.

<http://www.bom.gov.au/nsw/forecasts/sydney-local-forecasts.shtml>

Severe Weather Warnings (Bureau of Meteorology):

Severe Weather Warnings are provided for potentially hazardous or dangerous weather that is not directly related to severe thunderstorms, tropical cyclones or bushfires. They are issued for sustained winds of gale force; wind gusts of 90km/h or more; very heavy rain that may lead to flash flooding and abnormally high tides.

Severe Thunderstorm Warnings (Bureau of Meteorology):

A Severe Thunderstorm Warning is issued if the severe phenomena are directly caused by the thunderstorm and include wind gusts of 90km/h or more; gale force winds; tornados; blizzards\ heavy rainfall that is conducive to flash flooding; hail with a diameter of at least 2cm; abnormally high tides and unusually large surf waves expected to cause dangerous conditions on the coast.

Flood Watch (Bureau of Meteorology):

A Flood Watch is issued by the Bureau of Meteorology if flood producing rain is expected to happen in the near future and flooding is expected to be above Minor level. A Flood Watch covers a river basin or catchment. The general weather forecasts can also refer to flood producing rain. You should be prepared to act should flooding occur.

Warning Systems (SES):

When flooding is likely to cut evacuation routes or inundate property, the NSW SES issues warnings in line with the Australian Warning System (AWS). The AWS is a nationally consistent, three-tiered approach designed to make warnings clearer and lead people to take action ahead of severe weather events. The warning system comprises warning levels, action statements, hazard icons, colours and shapes. Being prepared will allow you to respond quickly if a warning is issued.



It is important to inform occupants on the site of current advice and warnings. This can be done via the PA system. Typically, visitors and any itinerant population may seek advice from the reception. For this reason, it is imperative that reception staff are kept informed of any evolving flood situations.

3.1 Other warnings will be:

Monitor the flood situation:

In addition to publicly available information or advice from the SES, monitoring the situation before flooding begins to impact the site is important. Monitoring the situation can be undertaken by personally witnessing the height and rate at which floodwaters are rising; maintaining contact with other people in the building and local and government radio stations to receive and share updates on the flood situation.

The likelihood of flash flooding:

Severe Weather Warnings and Severe Thunderstorm Warnings issued by the Bureau of Meteorology warn of the possibility of flash flooding.

When flash flooding is likely, leaving low-lying businesses (evacuation) well before flash flooding begins is the best action to take, but only if it is safe to do so. If you are trapped by rising floodwater, seek refuge on site. Stay there and call '000' (triple zero) if you need rescue.

All warnings will be issued through the Bureau of Meteorology website, television and local radio stations for weather warnings such as 702 ABC SYDNEY 702 AM, 2CH 1170 AM, 2DAY FM 104.1 FM, 2GB 873 AM, 2ME 1638 AM, 2SM/GORILLA 1269 AM, 2UE 954 AM, C91.3 FM 91.3 FM, MIX 106.5 106.5 FM, NOVA 96.9 FM, RADIO 2MORO 1620 AM, RADIO 2RDJ 88.1 FM, SBS RADIO 97.7 FM, SYDNEY'S 95.3 95.3 FM, TRIPLE M 104.9 FM and WFSM 101.7 FM.

4 Flood Response Preparation

It is the responsibility of the Emergency Planning Committee as part of the site Emergency Management Plan that they prepare the site for a flood event. This will be achieved through induction training, nomination of flood wardens reporting to the Chief Warden during emergency events, education of flood risks and behaviour, and the preparation and maintenance of a Floodsafe Emergency Kit.

The Emergency Planning Committee is also to organise flood response drills and flood emergency kits to prepare all site personnel for flood risks. Emergency Planning Committee should also review the on-site provisions including adequate stored water and food.

4.1 Flood Emergency Kit

Potential items for a flood emergency kit are outlined at www.floodsafe.com.au and reproduced below:

- A copy of the building Emergency Management Plan;
- A torch with spare batteries;
- A first aid kit;
- Waterproof bag for valuables;
- A copy of emergency numbers; and
- Battery operated radio with AM and FM frequency access (with spare batteries).

The kit should be kept on each level of the Alexandria Health Care development for efficient deployment in the event of an emergency. The contents of the kit and management during a flood event will be the responsibility of the Chief Warden. This storage area should also be used for protecting hazardous materials and valuable goods from flood water.

This is not a comprehensive list of gear required to deal with a flood emergency at the site, but is a kit to help manage the first stage of an emergency response. Additional supplies to service the site during a period of isolation are included in section 4.2 below.

4.2 Isolation Management

There is a risk of site isolation during extreme and long duration storm events. To prepare for such an event, the following provisions should be made on site.

- The kitchen should at all times have adequate supplies of food and water (3L per person) to service all occupants for a period of 24 hours.
- Reserve supplies of linen and consumables should be stored on site at all times.

5 Flood Response Personnel

Summarised below are the personnel involved in the management of the flood response at the site, and corresponding responsibilities.

Table 1: Personnel and Responsibilities

Personnel	Responsibility
Emergency Control Organisation	<ul style="list-style-type: none"> Coordinate flood evacuation drills
Chief Warden	<ul style="list-style-type: none"> Monitor weather daily for upcoming extreme rainfall events; Decide when evacuation is required; Liaise and communicate with SES or Emergency Services personnel if they attend site; and Manage the evacuation process in consultation with SES or Emergency Services.

6 Emergency Contact

The Chief Warden is to be contactable via the WIP phone at all times to ensure they are ready to assist any person at the site.

- For emergency assistance during flood events, please call the SES on 132 500.
- If you are in a life-threatening situation please call Police, Fire or Ambulance on "000" (triple zero).
- Local Mascot Police Station on 8338 7399.

7 Nearest Hospitals

The site is approximately equidistant to three major hospitals:

- Royal Prince Alfred Hospital (RPA) in Camperdown to the northwest of the site.
- St Vincents Hospital in Darlinghurst to the north of the site.
- Prince of Wales Hospital in Randwick to the east of the site.

7.1 Directions to RPA Hospital

- Take the rear laneway to O’Riordan Street and Bourke Street, then right to Lachlan Street
- Then turn left on South Dowling Street, and left onto Cleveland Street.
- Turn left onto City Road, right onto Carillon Avenue and right onto Missenden Road.

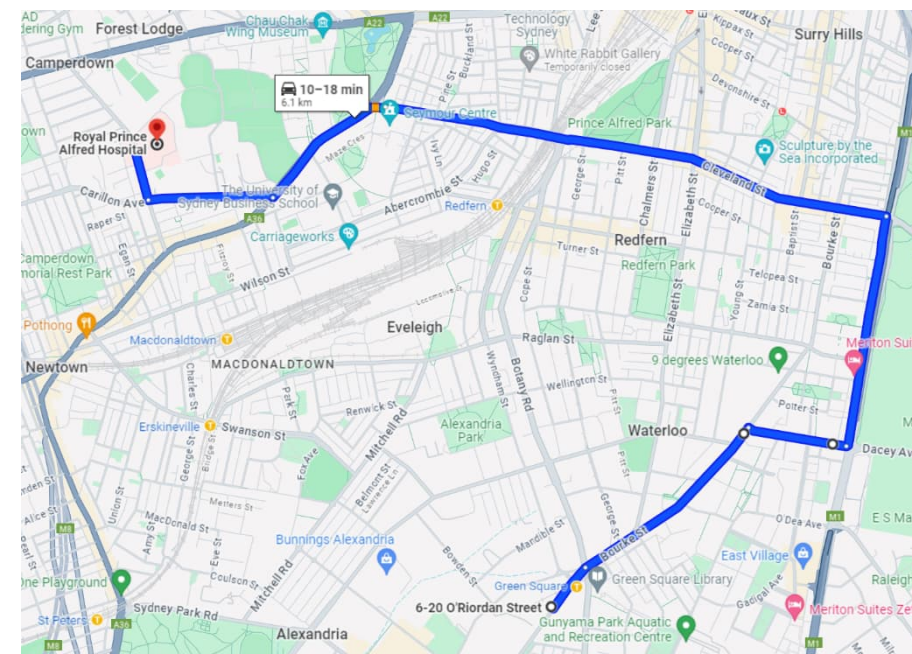


Figure 5 Driving directions to RPA Hospital

7.2 Directions to St Vincents Hospital

- Take the rear laneway to O’Riordan Street and Bourke Street, then right to Lachlan Street and left onto South Dowling Street
- Continue north on South Dowling Street to Oxford Street. Turn left on Oxford Street, then right on to Darlinghurst Road

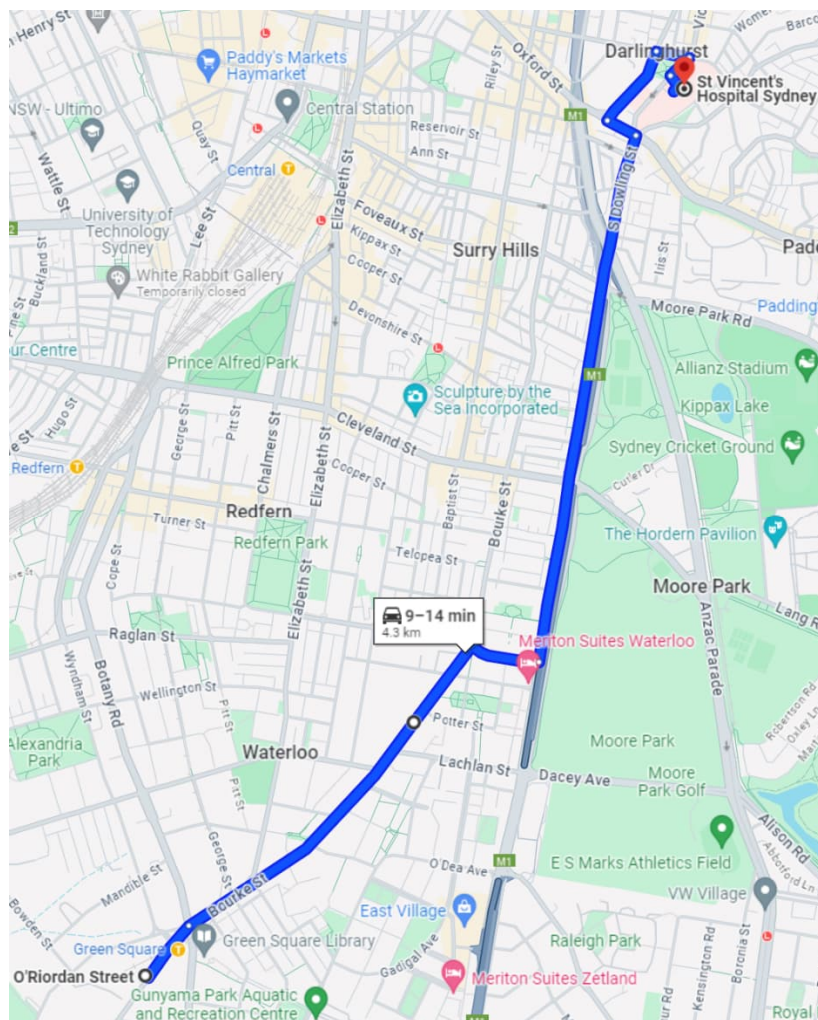


Figure 6 Driving directions to St Vincents Hospital

7.3 Directions to Prince of Wales Hospital

- Take the rear laneway to O’Riordan Street and Bourke Street, then right to Lachlan Street.
- Continue along Lachlan Street, Dacey Avenue and Alison Road.
- Turn right on Botany Street to Prince of Wales Hospital

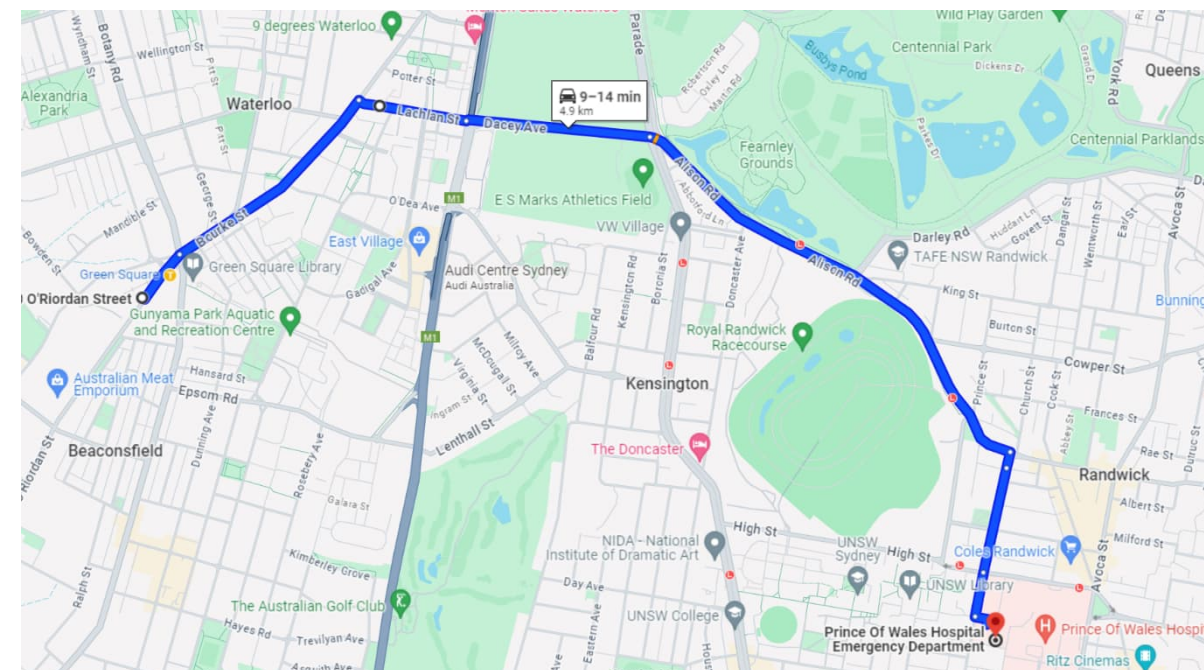


Figure 7 Driving directions to Prince of Wales Hospital

8 Assembly Point (AP) and Evacuation Routes

Since no official SES flood warnings will be issued prior to a flood emergency in the Alexandria Canal catchment area, it is expected that some persons will be on the site during a flood emergency. The following section provides some information on evacuation routes during storms of different magnitude. It is important to note that the magnitude of a storm is not known before or even during the storm event, but is provided herein to inform risk assessment during a flood event.

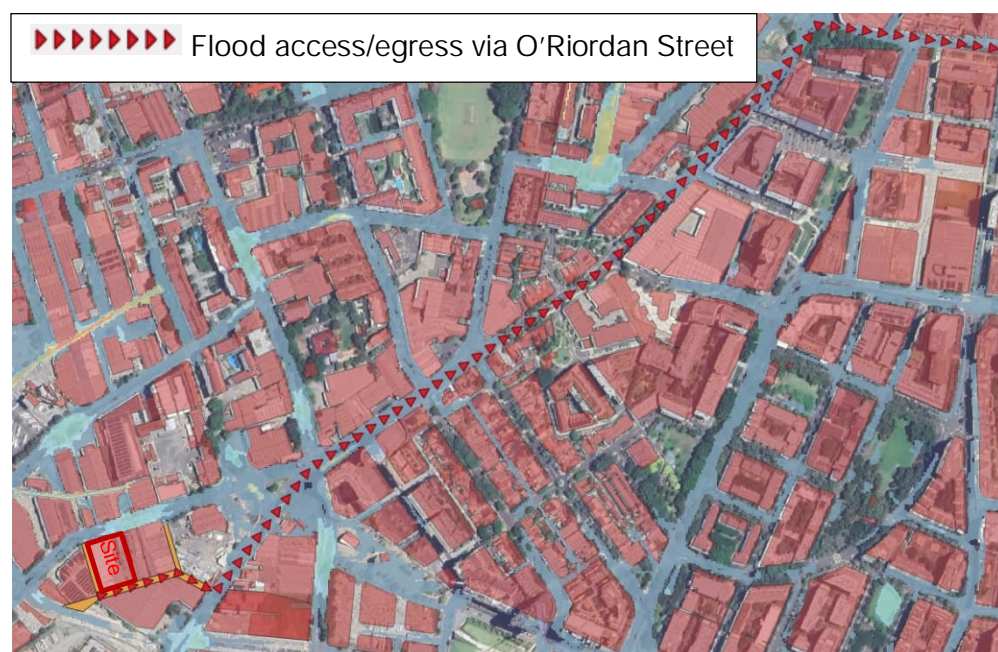


Figure 8 Access/egress routes

As the site is bounded by inaccessible roadways, all persons at the site when a flooding occurs are expected to be unable to safely leave the site. All floor levels are protected from flooding during a PMF.

In all events up to the 100-year ARI storm, evacuation is expected to be able to continue through the peak flood via the rear laneway to O'Riordan Street. Furthermore, all ground floor levels, including the crest of ramps to basement levels, are located above the PMF ensuring any person within the building will be in refuge from the flood event.

Bourke Road is untrafficable for small vehicles during a 5% flood event. Bowden Street is a known flooding hotspot and should be avoided during flood events. Any site egress/access is via the rear laneways and O'Riordan Street. In any case, the Chief Warden must monitor the situation and seek information on the status of the surrounding roads. Note that the Chief Warden should not leave the site to assess the status of surrounding area, but seek information via radio, internet, or communication with flood response authorities. Any persons evacuating the site should proceed with caution and follow the directions of the SES and emergency services.

In event larger than the 1% AEP, occupants are expected to seek refuge on any level above and including the ground floor where an emergency Assembly Point will be allocated. Boom gates and/or roller doors should be closed to prevent vehicular egress from basement parking into flooded streets.

9 Shelter In Place

During 1% AEP storm event, access via Bowden Street is unavailable approximately 20 minutes, and site access is only available via the rear laneways. This is considered an inconvenience to site users

(patients and staff) and should be managed similarly to other occurrences such as bad traffic, public transport delays and the like.

Flood modelling has shown that the egress is available during events up to and including the 1% AEP via O'Riordan street, however with an unknown magnitude of storm event, it is safest to remain on site and shelter in place. During a PMF event, the isolation period has shown to vary up to several hours. In this instance, staff and patients will remain on site for the duration of the site being isolated. The site includes a backup generator located above the PMF level so the site will be powered. The proposed hospital has an on site kitchen, which will have adequate supplies of food and water for the isolation period. There will be reserve supplies of linen and consumables. Any procedures should be postponed to minimise the risk of medical emergencies on site.

The Chief Warden will remain in contact with the authorities (Police, SES, etc) and monitor local and government radio stations to receive and share updates on the flood situation with site occupants.

In general, staff remaining on site should continue to provide patient care at an appropriately reduced capacity. The kitchen staff will be notified by the Chief Warden on the number of people on site and expected duration of isolation to plan for and prepare meals and supply water.

In the event of a medical emergency, contact 000.

10 Flood Response Actions

10.1 Emergency Risk Management

To minimise the risk to site occupants, the number of people on site should be minimised when a Flood Watch has been issued. When any warnings outlined in Section 3 are issued, medical procedures should be rescheduled where possible. Admissions should also be rescheduled where possible.

Medical professionals planning to undertake any treatment or procedures should consider that the ability to transfer patients to other hospitals will be difficult or impossible during a flood event. Medical professionals are best placed to make this risk assessment for the individual patient and treatment.

10.2 Early Site Closure

Where a Flood Watch has been issued, and before the onset of a storm, a site closure may be ordered by the Chief Warden. This involves:

- Chief Warden to maintain regular communication with all persons, providing updates on the situation;
- Any person within the site is to move towards the site entrance in an orderly fashion;
- Leave signage at site entrance that evacuation has occurred;

- Site to be shut down, where possible of all, but essential power; and
- All persons at the site to evacuate.

Patients in a vulnerable state may not be able to evacuate. In this case, the Chief Warden, in consultation with staff, can assign staff to remain on site with the vulnerable patients, giving consideration to medical needs of the patient as well as provisions for the patients and staff, and the potential for site isolation.

10.3 Flood Response Drills

Emergency Response drills are designed to increase flood awareness within the building. These drills are to be undertaken annually to familiarise patrons of the building, specifically of the commercial sectors, of the procedures when responding to a flood event.

10.4 Evacuation

During extreme storm events, there is no safe evacuation route. Occupants must stay on site until local streets are declared safe by Police or SES. The Chief Flood Warden must remain in contact with the emergency services and communicate the condition of local roads appropriately.

Evacuation can be undertaken following clearance from the Chief Flood Warden on the basis of advice from the Police or SES. In this case, an announcement will be made over the PA system. Any persons within the site are to move towards the site entrance in an orderly fashion. Signage is to be left at the entrance that evacuation has occurred.

11 Revision of Flood Emergency Response Plan

This plan should be reviewed if the City of Sydney Council requirements or City of Sydney Council Flood Study, Plans and Maps are revised, and if the street drainage surrounding the site is upgraded.

The proposed development of the area including laneways servicing Alexandria Health Centre will enable evacuation via O'Riordan Street. A separate plan has been prepared for the 2024 scenario where this evacuation route is not available. Once the laneways between the site and O'Riordan Street are completed, the 2024 scenario document should be discarded and replaced with this plan.

The Emergency Planning Committee shall be responsible for ensuring the Flood Risk Management Plan is reviewed annually and updated as required. As part of the review, the Emergency Planning Committee shall contact Council annually to confirm if any new street drainage upgrades are planned or have been constructed.

12 Conclusion

Since official flood warnings are not issued for the Alexandria Canal catchment area, and local roads will be flood affected during a flood event, it is recommended that the site users shelter in place by remaining on site under the directions of the Chief Flood Warden. Safe refuge is available on all floors.

It is the responsibility of the Emergency Planning Committee as part of the site Emergency Management Plan that they prepare the building for a flood event. This will be achieved through induction training, nomination of flood wardens reporting to the Chief Warden, education of flood risks and behaviour, the preparation and maintenance of a Floodsafe Emergency Kits, and site provisioning the site with adequate stored water and food.

This plan should be reviewed if the City of Sydney Council requirements or City of Sydney Council Flood Study, Plans and Maps are revised, and if the street drainage surrounding the site is upgraded.

Further, this OFEMP is reviewed regularly (on a five-yearly basis).