



CIVIL

Flood Emergency Response Plan

for

Ourimbah Future Food Manufacturing Hub

for Charter Pac Construction Management Pty. Ltd.

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Report details

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2-4 Brownlee Street, Ourimbah NSW, 2258

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Revision History

Revision	Report Status	Prepared	Reviewed	Issue Date
1	Draft	R Suckling	-	14/10/2024

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		Date
Prepared by	RS	14/10/2024
Checked by		
Admin		

Flood Response Summary

The following provides a summary of the findings of this Flood Emergency Response Plan including a summary of the flood behaviour, floor levels with respect to the flood behaviour, the recommended flood response actions, and the recommended on-site and off-site flood refuge locations.

Flood Levels

Table 1 – Summary of Flood Behaviour (subject site and vicinity)

Event	1% AEP	PMF
Flood Level (mAHD)	16.30-16.47	18.48-18.70
Flood Depth (m)	0.1-6.0+	1.0-6.0+
Velocity (m/s)	~0.5-2.0	~0.5-2.0
Hydraulic Hazard	H1-H6	H1-H6

Floor Levels

Table 2 - Internal Floor Levels

Floor	Level (m AHD)	Relationship to Flood Levels
Ground Floor	17.00	Above 1% AEP and Below PMF
Level 1	21.00	Above 1% AEP and PMF

Flood Response Actions

Table 3 – Flood Response Actions Summary

WHEN	WHAT	BY WHO
Prior to Flooding	Assemble Emergency Kit	First Aid Officer
	Check Floodsafe Kit every three months	First Aid Officer
	Coordinate Evacuation Drills twice per year (minimum)	Chief Flood Warden
	Monitor weather situation at 9am every day.	Chief Flood Warden
	Inductions for new staff to include flood risk associated with the subject site and evacuation procedure	Chief Flood Warden
Evacuation	Reciept of Generalised Flood Warning or Severe Weather Warning with rainfall predicted to be greater than; 141mm in 3 hours 181mm in 6 hours 210mm in 9 hours 235mm in 12 hours AND RAINFALL HAS NOT YET COMMENCED	Chief Flood Warden
	Make decision to Close Facility and Evacuate	Chief Flood Warden
	Sound Alert on PA System / Air Horn and Chief Warden to Emergency Assembly Point	Chief Flood Warden
	Direct facility users and visitors to Emergency Assembly Point	Chief Flood Warden
	Determine if conditions are suitable to allow staff and visitors to return home safely.	Chief Flood Warden
	Roll call to make sure everyone is accounted for	Chief Flood Warden
	Leave signage notifying any responders attending the site that evacuation has been undertaken	Chief Flood Warden
	Return home and wait out the storm	All
	If determined it is unsafe to return home, call SES to confirm nominated Evacuation Centre is open and accepting people.	Chief Flood Warden
	If evacuation centre is open evacuate by vehicle to Ourimbah-Lisarow RSL Club (or other evacuation centre as directed by SES).	All
On-site Refuge	Warning has been issued triggering evacuation, but RAINFALL HAS STARTED and/or off-site refuge is unavailable.	Chief Flood Warden
	Communicate decision to remain on-site and organise seating and lighting.	Chief Flood Warden
	Wait it out at nominated refuge point	All

	Maintain regular communication with staff and facility users.	Chief Flood Warden
	Do not attempt to drive or walk through floodwaters. If stranded on-site and water inundates floor level, call 000 immediately.	All
Once Risk has Passed / After a Flood	Check all services and structural stability of buildings.	Qualified persons
	Return to operation.	Chief warden

Key Personnel

Table 4 – Key Personal Summary

Person Organisation	Name	Number
Chief Flood Warden		
Deputy Flood Warden		
First Aid Officer		
SES	-	132 500
Police / Fire / Ambulance	-	000
Central Coast Council Emergency Hotline	-	(02) 4306 7900
Ourimbah Lisarow RSL Club	-	(02) 4362 1104

On-site Emergency Assembly and Refuge Points

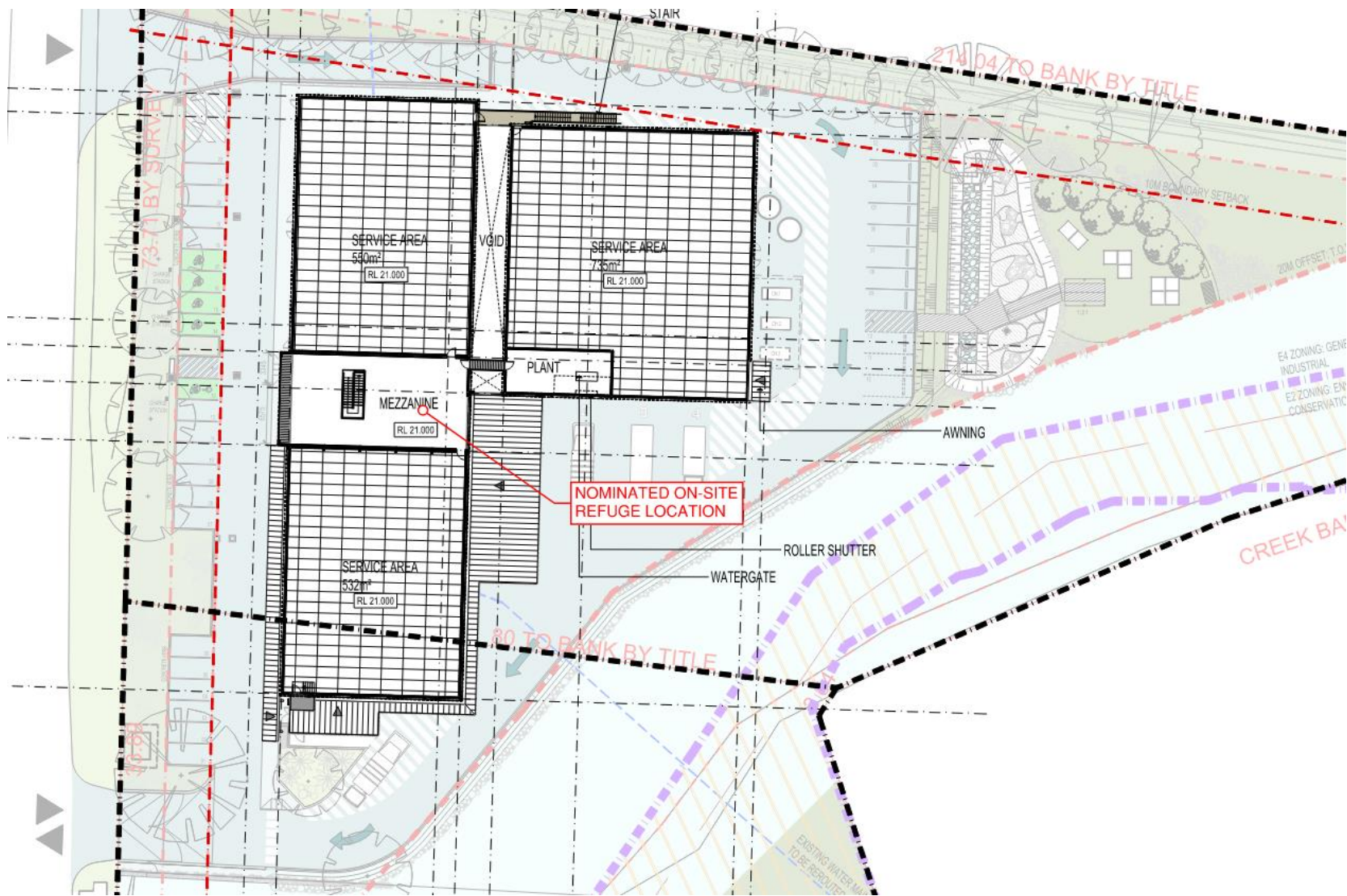


Figure 1 – Level 1 Emergency Assembly Point and On-site Refuge

Off-site Refuge Facility – Ourimbah-Lisarow RSL Club (20 Pacific Highway, Ourimbah NSW)

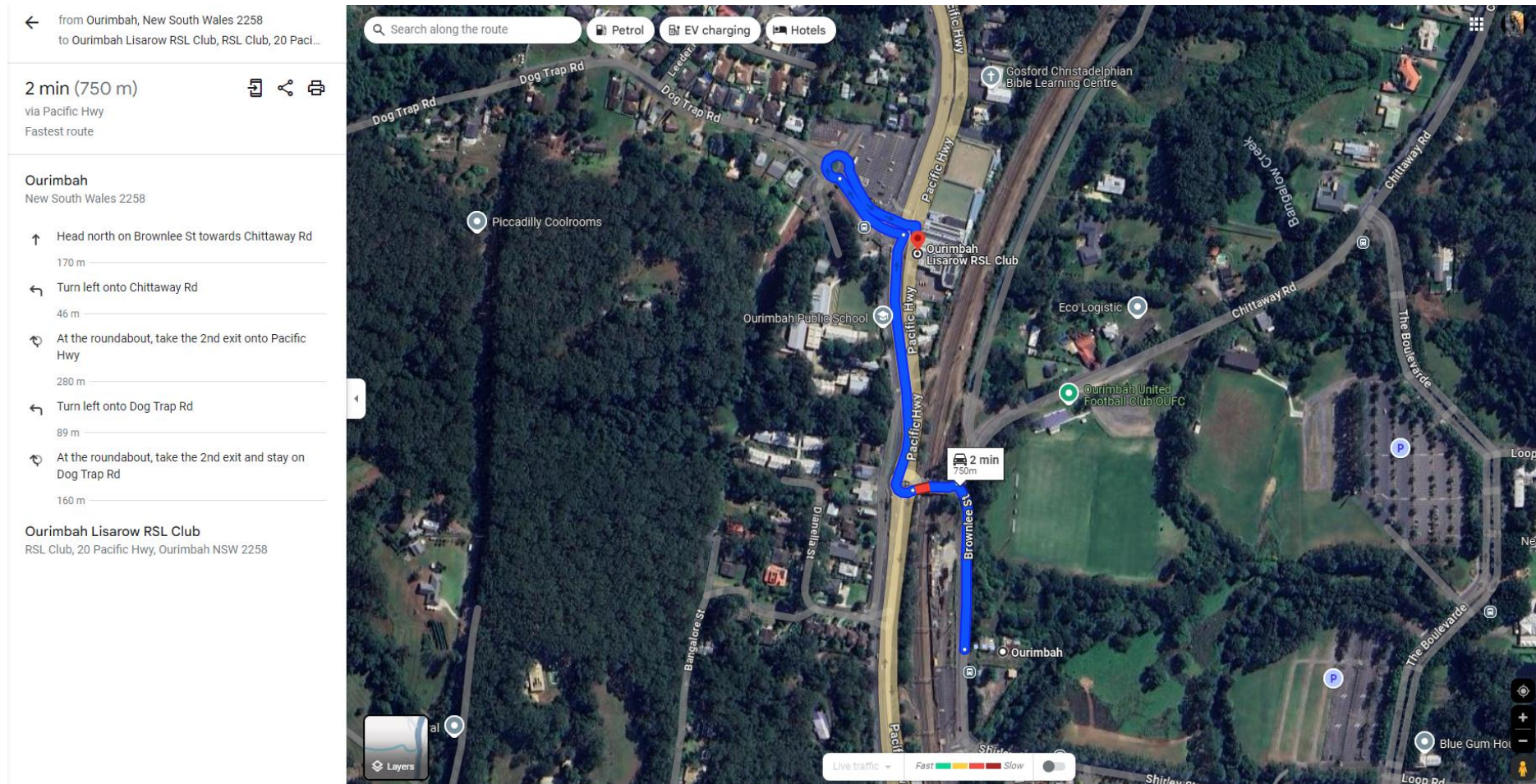


Figure 2 – Evacuation Route to Off-site Refuge Facility (Bar Beach Bowling and Sporting Club)

Introduction

Northrop Consulting Engineers have been engaged by Charter Pac Construction Management Pty Ltd to prepare a Flood Emergency Response Plan for the proposed industrial development located at 2-4 Brownlee Street, Ourimbah (the subject site).

This report has been prepared as a preliminary Flood Emergency Response Plan (FERP) to accompany the Flood Impact and Risk Assessment (FIRA) prepared for the purposes of Development Application to Central Coast Council.

It is anticipated this FERP will be revised at Construction Certificate phase and ongoing as noted in the Revisions of this FERP section contained below.

This FERP has been prepared with consideration to:

- The Department of Planning, Housing and Industry (DPIE) Draft Shelter-In-Place Guideline (2023).
- Flood Information Certificates obtained from Central Coast Council dated 26/06/2023.
- Ourimbah Creek Floodplain Risk Management Plan & Study (WMA Water 2019).
- Flood Impact and Risk Assessment (FIRA) for the proposed development located at 2-4 Brownlee Street, Ourimbah (REV A) prepared by Northrop Consulting Engineers and dated the 15th of October 2024, herein referred to as the “*FIRA (Northrop, 2024)*”.

Contained herein is a description of the subject site, study methodology and information used to prepare this report, a summary of the likely flood behaviour, recommendations for flood preparation and recommended response actions during a flood event.

Subject Site

The subject site is contained within Lot 3 DP612071 and Lot 11 DP1201715 and is presented in **Figure 3**. The site has an approximate area of 1.86 hectares and is bound by Brownlee Street to the west, Shirley Street to the south, Blue Gum Park community sport oval to the north, and Bangalow Creek and floodplain to the east. Ourimbah train station is located approximately 100 metres south of the site.

The site is subject to flooding from Bangalow Creek which traverses the eastern side of the site. Flood characteristics across the site are presented in the Council's Flood Information Certificates.

Proposed Development

The development proposes to construct a Food Manufacturing Hub comprised of the following infrastructure and services:

- Multi-unit industrial warehouse.
- Vehicular access roads and associated carparking spaces.
- Stormwater management network including below ground drainage and water quality devices.
- Connection to water, sewer and other essential services.

The development footprint covers a part of subject site and is typically located the upper reaches of the site, along the western portion of the lots.

This Flood Emergency Response Plan (FERP) has been prepared to:

- Promote satisfactory awareness of expected flood behaviour and flood risks associated with the subject site.
- Nominate roles and responsibilities when preparing for and responding to a flood emergency.
- Identify measures to monitor weather forecasts and highlight warning systems available.
- Provide education and awareness material for training programs with respect to flooding of the subject site.
- Identify potential evacuation and evasion procedures including evacuation routes and flood refuge opportunities.



Figure 3 - Locality Plan (obtained from SIX Maps www.maps.six.nsw.gov.au)

Methodology and Available Data

This plan was developed based on the following information:

- Ourimbah Creek Floodplain Risk Management Study & Plan (WMA Water 2019)
- Flood Information Certificates for Lot 3 DP612071 & Lot 42 DP1237817 obtained from Central Coast Council dated 26/06/2023.
- Flood Impact & Risk Assessment (FIRA) prepared by Northrop Consulting Engineers for the subject site dated 15th October 2023 (Revision A)
- Central Coast Councils Online Mapping Tool (<https://maps.centralcoast.nsw.gov.au/public/>)

The expected flood behaviour for the subject site is based on the above flood information and is summarised in the **Flood Behaviour** section of this plan.

A review of the Bureau of Meteorology (BoM) and State Emergency Service (SES) guidelines and Central Coast Council Website have been undertaken to report on the likely warning types described in the **Flood and Evacuation Warnings** section of this plan.

Consideration has been given to the personnel most likely to be on-site and responsible for flood emergency response. This is outlined in the **Flood Response Personnel** section of this plan.

Analysis of the site and nearby topography, in combination with the likely flood behaviour has informed the evacuation routes and on-site refuge points nominated in the **Evacuation** and **Floor Levels and On-site Refuge** sections of this plan.

Contact numbers for relevant emergency response agencies and the proposed local evacuation centre are noted in the **Emergency Contact** section of this plan.

Finally, a review of the Central Coast Council Development Control Plan and aforementioned flood studies, NSW State Flood Plan and Emergency Business Continuity Plan and the Departments Draft Shelter-In-Place guidelines (2023) have contributed to the recommended preparation and response actions outlined in the **Flood Response Preparation** and **Flood Response Actions** sections of this plan.

Flood Behaviour

Flood Source and Behaviour

Flooding of the subject site and surrounding properties is derived from riverine flooding for the adjacent Bangalow Creek.

The site is partially inundated during the 1% Annual Exceedance Probability (AEP) as well as the during the Probable Maximum Flood (PMF) storm events.

Peak Flood Levels, Depth and Velocities

Peak flood levels for both the 1% AEP and PMF events are summarised in Table 5. The below flood level data is based on the information provided within a Flood Information Certificates provided by Council.

It is important to note that the events defined in the below Table 5 are rare to extreme events which are not expected to occur every time it rains. The 1% AEP is commonly referred to as the “100-year flood event” while, the PMF has a nominal Annual Exceedance Probability of 1 in 10 million.

Table 5 – Peak Flood levels

Event	Flood Level (m AHD)
5% AEP	16.15 – 16.47
1% AEP	16.30 – 16.47
PMF	18.48 – 18.70

Extracts from the FIRA prepared by Northrop has been utilised to present the peak flood depths and elevation, as well as the peak velocity for the 1% AEP and PMF Events.

The peak flood depths and elevation for the site and surrounding areas for the 1% AEP and PMF are presented in **Figure 4** and **Figure 6**. The peak flood velocities for the subject site are presented in **Figure 5** and **Figure 7**.

It is possible evacuation from the site may remain possible during the 1% AEP, although it is not recommended during the peak of the flood event due to the potential for the broader road network to be compromised.

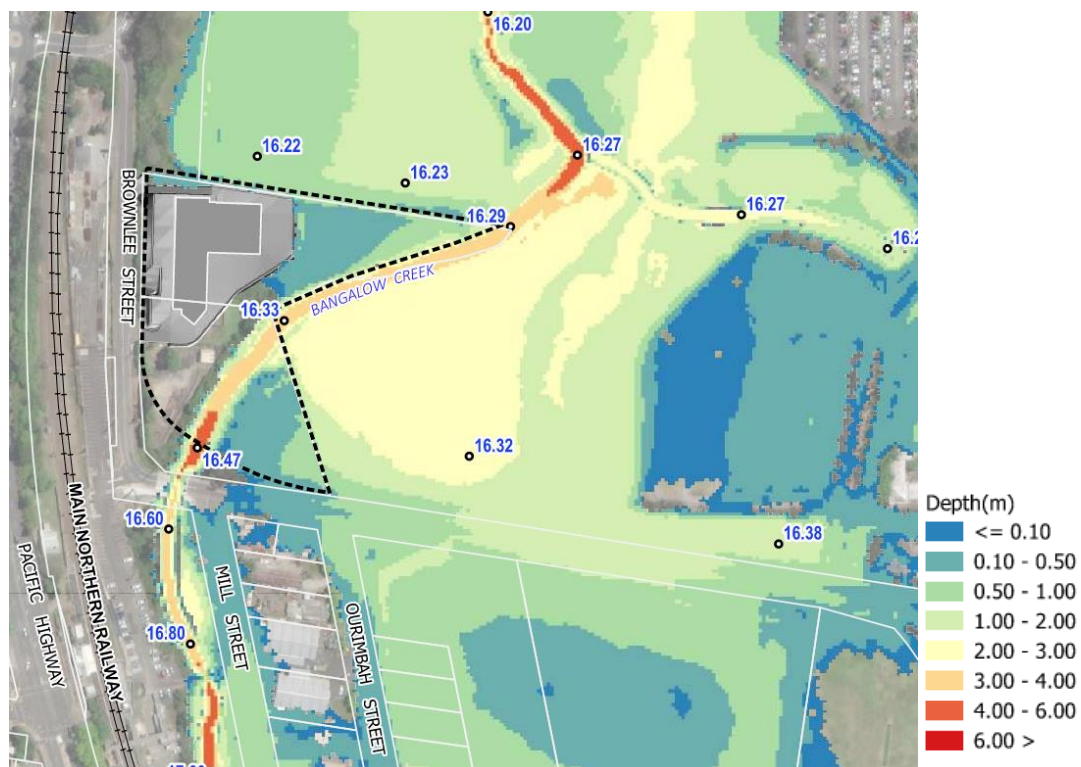


Figure 4 - 1% AEP Flood Depths & Elevation

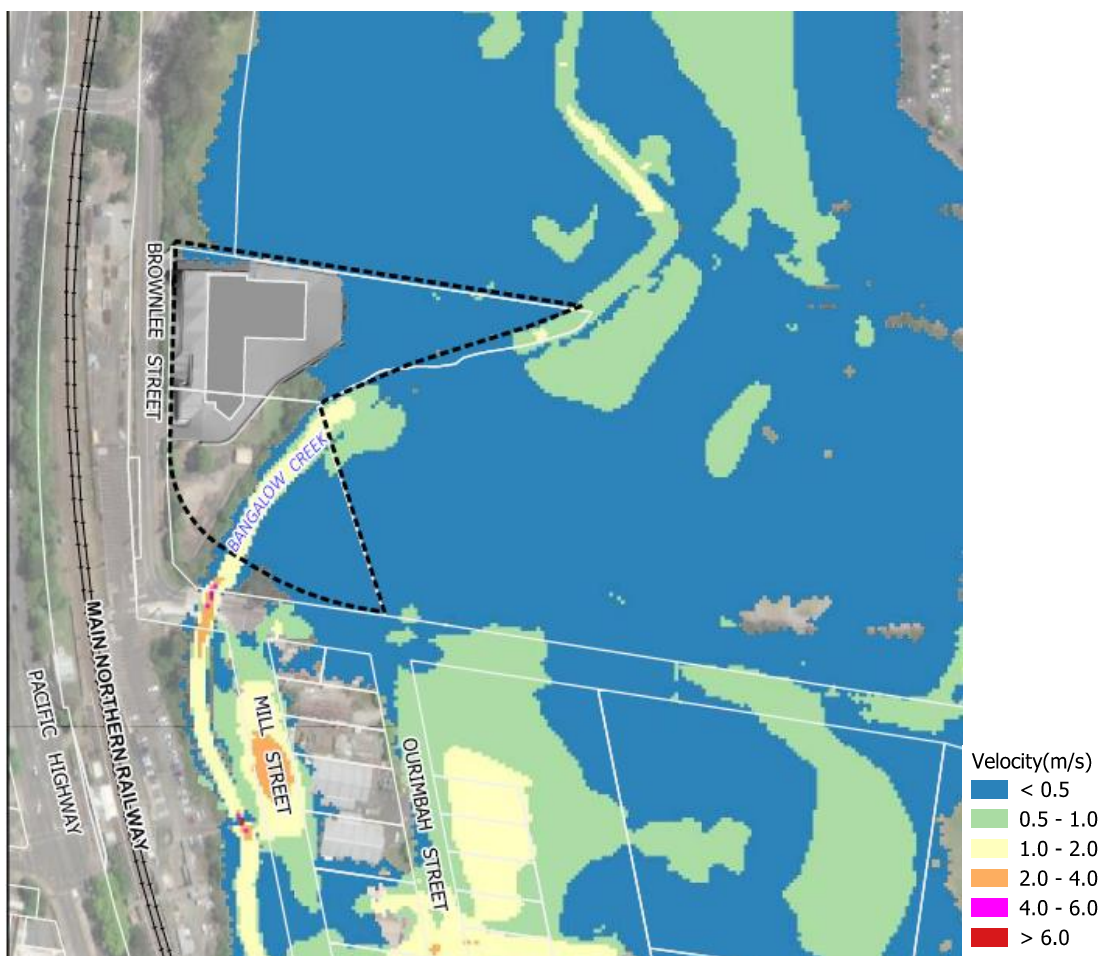


Figure 5 - 1% AEP Peak Flood Velocity



Figure 6 - PMF Flood Depth & Elevation

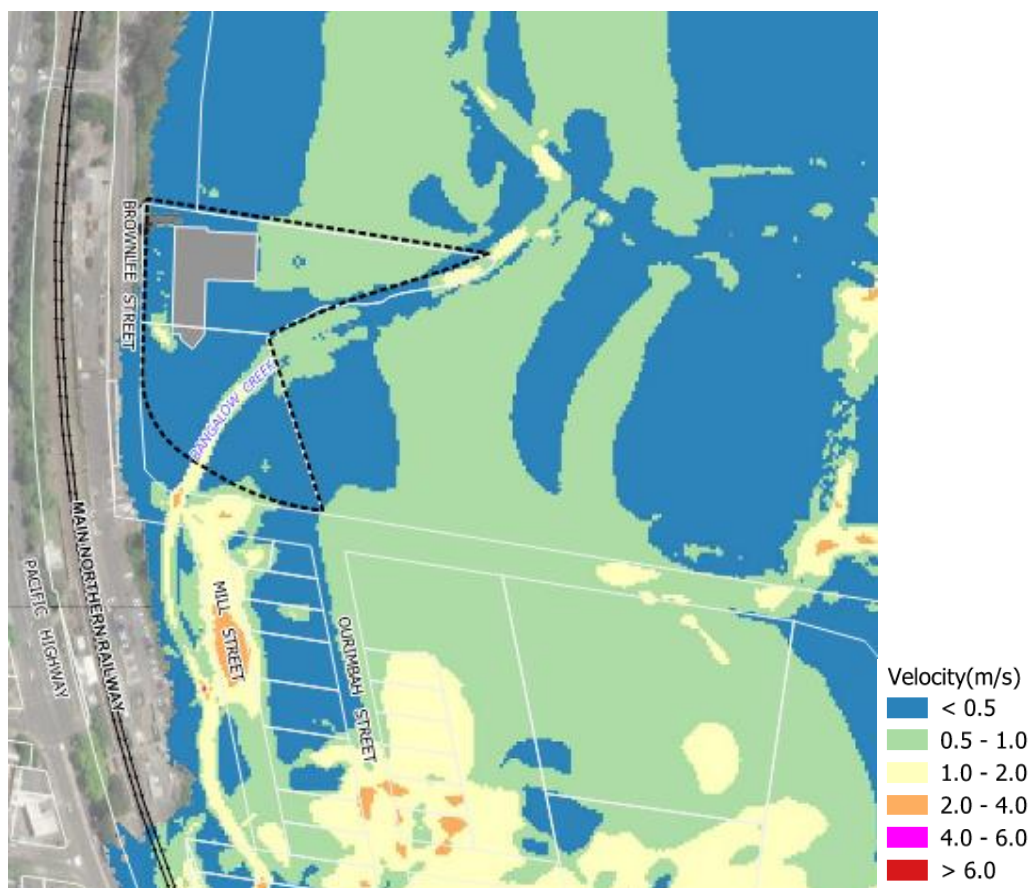


Figure 7 - PMF Peak Flood Velocity

Flood Hazard and Risk to Property and Life

The provisional hydraulic hazard category has been determined in accordance with the Australian Rainfall and Runoff provisional hydraulic hazard categories (ARR 2016, Book 6, Chapter 7). A summary of the hazard categories is presented in **Figure 8**.

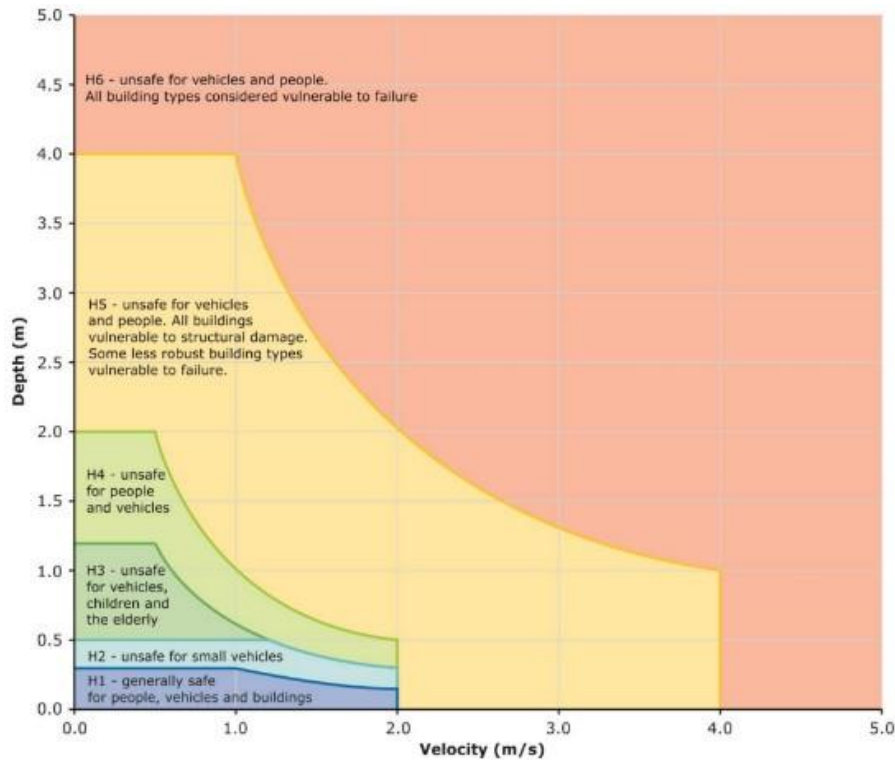


Figure 8 - Hydraulic Hazard Classification (ARR 2016)

The provisional hydraulic hazard categories for the 1% AEP and PMF events are presented in **Figure 9** and **Figure 10**.

It is observed that in the 1% AEP, the site generally remains low hazard, with H1 and H2 around the development footprint. Up to H6 is observed within the main section of the creek. During the PMF event the warehouse is surrounded by H4 hazard, with H5 observed towards the eastern extent of the site and up to H6 within the main creek line. As such the site is generally considered to experience a low risk to life during the 1% AEP, but will become hazardous to people and vehicles during events exceeding the 1% AEP up to the PMF Event.

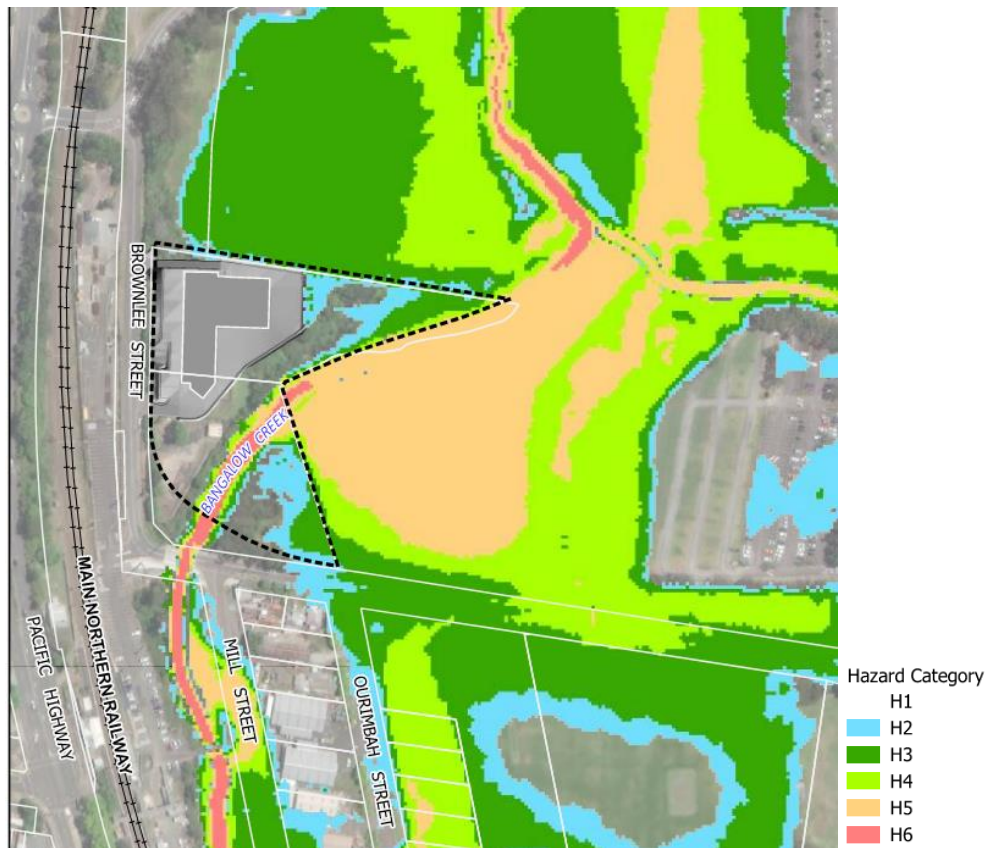


Figure 9 - 1% AEP Provisional Hydraulic Hazard Category

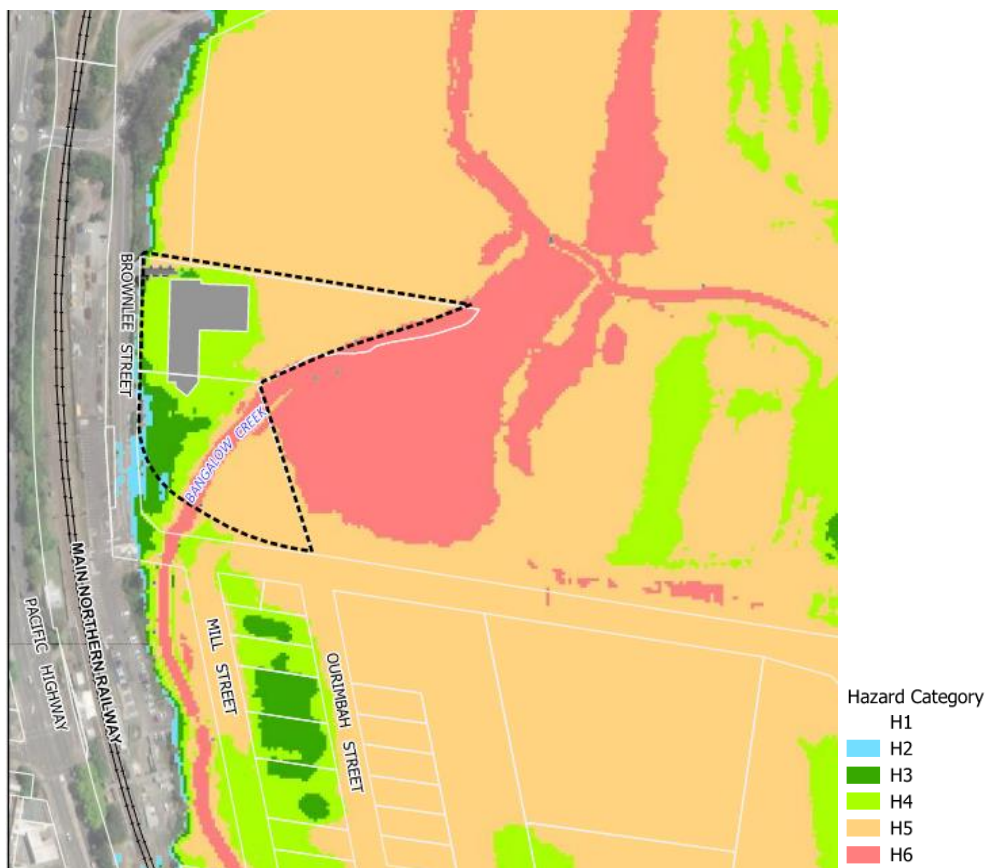


Figure 10 - PMF Provisional Hydraulic Hazard Category

Flood Duration

Figure 11 presents an overview of data point locations for which the flood elevation has been determined as part of the critical duration PMF storm event. **Figure 12** presents a time series of the flood elevation with respect to time from the commencement of the storm event.

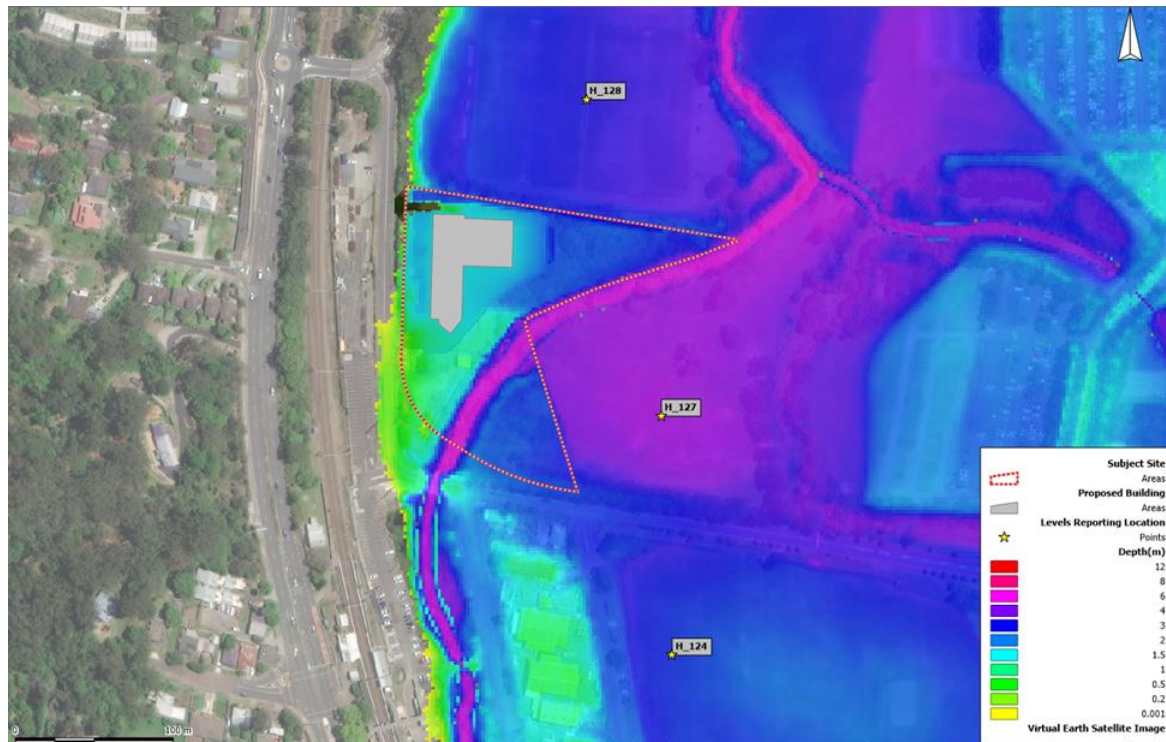


Figure 11 - Location of Flood Elevation Data Points

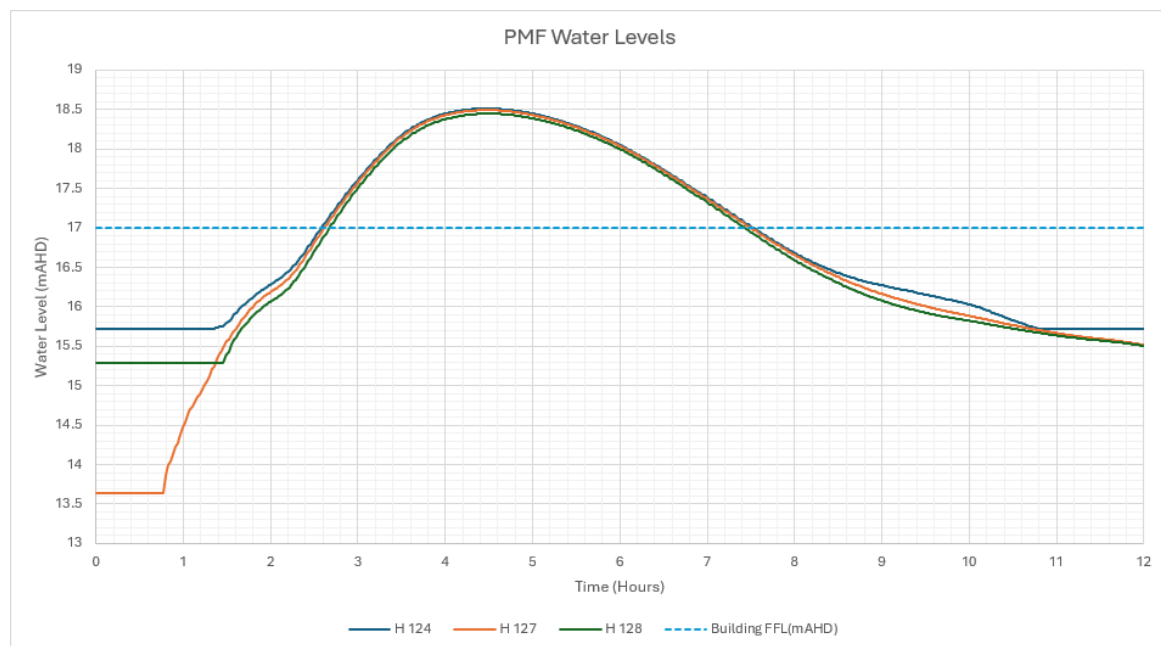


Figure 12 - PMF Water Levels Over Time for Critical Duration

It can be observed that there is approximately 2.5 hours from the start of rainfall before the ground floor of the facility becomes inundated by flood waters. Similarly, it is also observed that the duration of flood waters that exceed the ground floor level is approximately 5 hours. As such it is anticipate that if on-site refuge is being sought, the potential duration of isolation is anticipated to be in the range of 6-12 hours, noting that there may be a delay in the flood waters receding after the storm event has passed.

Flood and Evacuation Warnings

A network of rainfall gauge stations is maintained throughout the Central Coast region. These provide information to the Bureau of Meteorology (BoM) as one source of information informing their flood warning system.

The Bureau should issue one of five types of warnings through local radio, television and through their website <http://www.bom.gov.au>. In addition, the SES may issue a flood bulletin, evacuation warning or evacuation order.

Bureau of Meteorology

Severe Weather Warning

Severe weather warnings are issued by the Bureau for potentially dangerous weather conditions. A description of the threat will be included in the warning along with the time for next issue. It is noted that a severe weather warning does not imply that flooding will eventuate. Warnings have varying lead-times, depending on the weather situation, and can range from just an hour or two up to about 24 hours. These warnings are generally updated every six hours, or as the event dictates.

This type of warning should be accompanied with predicted extreme rainfall depth as discussed in the **Flood Response** section, as well as observed values from around the state.

Severe Thunderstorm Warning

A severe thunderstorm warning will be issued if there is strong evidence that a severe thunderstorm will develop, or if a severe thunderstorm is reported. Flash flooding may occur during severe thunderstorms. Warnings are generally updated every three hours or shorter as required.

Flood Alert/ Watch/ Advice

A flood alert / watch / advice is one of the earliest warnings that will be issued by the BoM with advice provided up to four days in advance of the expected onset of flooding (BoM). Although four days warning may be available, they are also occasionally issued during and after the rainfall has occurred, depending on the level of maturity of the flood warning systems and services (BoM).

Generalised Flood Warning

A generalised flood warning is typically more specific than the Flood Alert / Watch / Advice and is issued when flooding is expected to occur in a given area. Three hours warning time is expected from issue of warning to peak flood level as per the "Service Level Specification for Flood Forecasting and Warning Services for New South Wales – Version 3.15" (Bureau of Meteorology, 2024).

This is the most likely warning type for the subject site should evacuation need to occur.

Minor/ Moderate/ Severe Flood Warning

A Minor / Moderate / Major Flood Warning typically provides more information than a generalised flood warning and is issued when flooding is expected to occur in a given area. These warnings are usually accompanied by a flood gauge level and timing for the peak to occur.

More detailed flood warning may be issued based on any additional information available. Three hours warning time is expected from issue of warning to peak flood level.

SES Flood Bulletins

The SES distributes Emergency Bulletins to media outlets and agencies in the event of predicted hazardous conditions. The SES Flood Bulletins may contain the following information:

- Current warnings, together with indications of the likely impact of flooding at any predicted heights.
- Current flood heights and flood behaviour.
- Details of conditions and closures of main roads, and
- Advice on safety matters and means of protecting property.

The NSW SES will issue three levels of warnings.

Advice

The SES will issue flood advice acknowledging that an incident has started and informing people to stay up to date in case the situation changes.

Watch and Act

The SES will issue a Watch and Act warning when flood conditions are changing and the purpose of this warning to prepare for evacuation / isolation or avoid the area that is expected to impact by flooding.

Emergency Warning

The SES will issue an Emergency Warning if evacuation is required. If this occurs evacuation must be undertaken. Broadcast will be via radio/ TV, door knock, automated telephone message or SMS.

All warnings will be issued through the SES/BOM website, radio and television. Radio frequencies include ABC Central Coast (92.5FM), 2GO (107.7FM), SEA-FM (101.3FM), ABC Sydney (702AM), 2GB (873AM), 2UE (954AM), Star-FM (104.5FM) and 2CCC (96.3FM).

All public and commercial television stations should broadcast warnings.

On-Site Emergency Communication

The PA system is recommended it be configured to sound an emergency tone meaning all staff and visitors are to assemble in the designated assembly point under the direction of staff and Flood Wardens. The tone will be tested every three months as a minimum.

Should a PA system be unavailable or inoperable in the event of an emergency, an air horn and handheld loudspeaker is located within the Flood Emergency Kit. These will be used to obtain people's attention and direct them to the emergency assembly point or facilitate evacuation offsite.

Other Warning Types / Resources

Central Coast Council Disaster Dashboard

The Central Coast Disaster Dashboard (<https://emergency.centralcoast.nsw.gov.au/dashboard/flood>) can provide live advice as to which roads may be closed and where hazardous flood conditions may be expected.

The Dashboard should be reviewed regularly during a flood event for accurate updates of emergency conditions in the area including real time road conditions.

Hazards Near Me NSW

Recently the NSW SES and NSW Public Works have created a new tool called [Hazards Near Me App](#) NSW which is both a webpage and Phone Application. The application filters BoM and RFS warnings relevant to the user and may be used as an additional resource. The Application is free and allows the user to input a radius of interest for receiving notifications.

Hazard Watch

The NSW SES and Australian Federal Government have prepared the [HazardWatch](#) portal that filters BoM warnings and provides advice on locations and magnitude of predicted hazards. This resource is also free and can be accessed via a smart phone, tablet or laptop.

Flood Response Personnel

Summarised in Table 6 are the facilities nominated emergency personnel, their location and responsibilities in managing flood response.

Table 6 - Flood Response Personnel

	Location	Responsibilities
Chief Flood Warden	On-site	<ul style="list-style-type: none"> • Coordinate flood evacuation drills. • Monitor weather at 9am daily for upcoming extreme rainfall events. • Monitor notifications from the Central Coast Council Disaster Dashboards. • Decide when Cancellation of activities or Evacuation / Refuge is required. • Communicate Cancellation and Evacuation / Refuge to staff and visitors. • Liaison with SES or Emergency Services personnel if they attend site. • Remain calm and direct visitors and staff through the evacuation procedures.
First Aid Officer	On-site	<ul style="list-style-type: none"> • Prepare and maintain Flood Emergency Kit. • Prepare and coordinate assistance for staff and visitors with mobility difficulties.
Deputy Chief Flood Warden	On-Site	<ul style="list-style-type: none"> • Undertake Chief Flood Warden duties when Chief Flood Warden is unavailable. • Maintain calm and direct staff and visitors through the evacuation process.
Flood Wardens	On-Site	<ul style="list-style-type: none"> • Assist Chief and Deputy Chief Flood Warden with evacuations.
Staff	On-site	<ul style="list-style-type: none"> • Maintain calm and direct visitors onsite through evacuation or refuge processes.
Ourimbah Lisarow RSL Club	20 Pacific Highway, Ourimbah	<ul style="list-style-type: none"> • Nominated off-site refuge facility. • Phone Number: (02) 4362 1104.

It is anticipated the Site Manager (or similar) who is in charge of emergencies and evacuation, will be nominated the role of Chief Flood Warden.

A staff member who is on-site on a regular basis should be nominated the role as the First Aid Officer. Similarly, staff members who are on-site on a regular basis should be nominated the role of Deputy Chief Flood Warden and general Flood Wardens. All remaining staff are to assist the Flood Wardens with Evacuation / Refuge during a flood emergency.

Assembly Point and Evacuation Routes

As outlined in the Ourimbah Creek Floodplain Risk Management Study & Plan, the local road network becomes compromised during extreme flood events, and in general the emergency response strategy for the precinct for which the subject site is located is to seek refuge on-site if available, unless rising road access is provided to a nominated evacuation facility that is open and has adequate capacity. The nearest evacuation facility as nominated is the Ourimbah-Lisarow RSL Club, however as outlined further within the study, it is noted that the RSL Club is also subject to flooding during the PMF and the road network may become compromised to access the site. As such, evacuation to off-site refuge is only to be sought if it has been deemed unsafe to return home, and prior to rainfall commencing when a flood warning is current.

The Chief Flood Warden is to call the SES or RSL Club in advance to confirm if the facility is open and accepting people.

Emergency Assembly Point

The nominated **Emergency Assembly Point** for flooding is located in the Mezzanine Area located on the first floor of the warehouse facility presented in **Figure 13**.

It is the responsibility of the Chief Flood Warden to activate the evacuation procedure with all staff and visitors are to evacuate early, prior to rainfall commencing.

It is strongly recommended that in the event of a flood the elevators are not used. There is the potential for flood waters to enter the lift shafts, potentially disabling the lifts during a flood event.

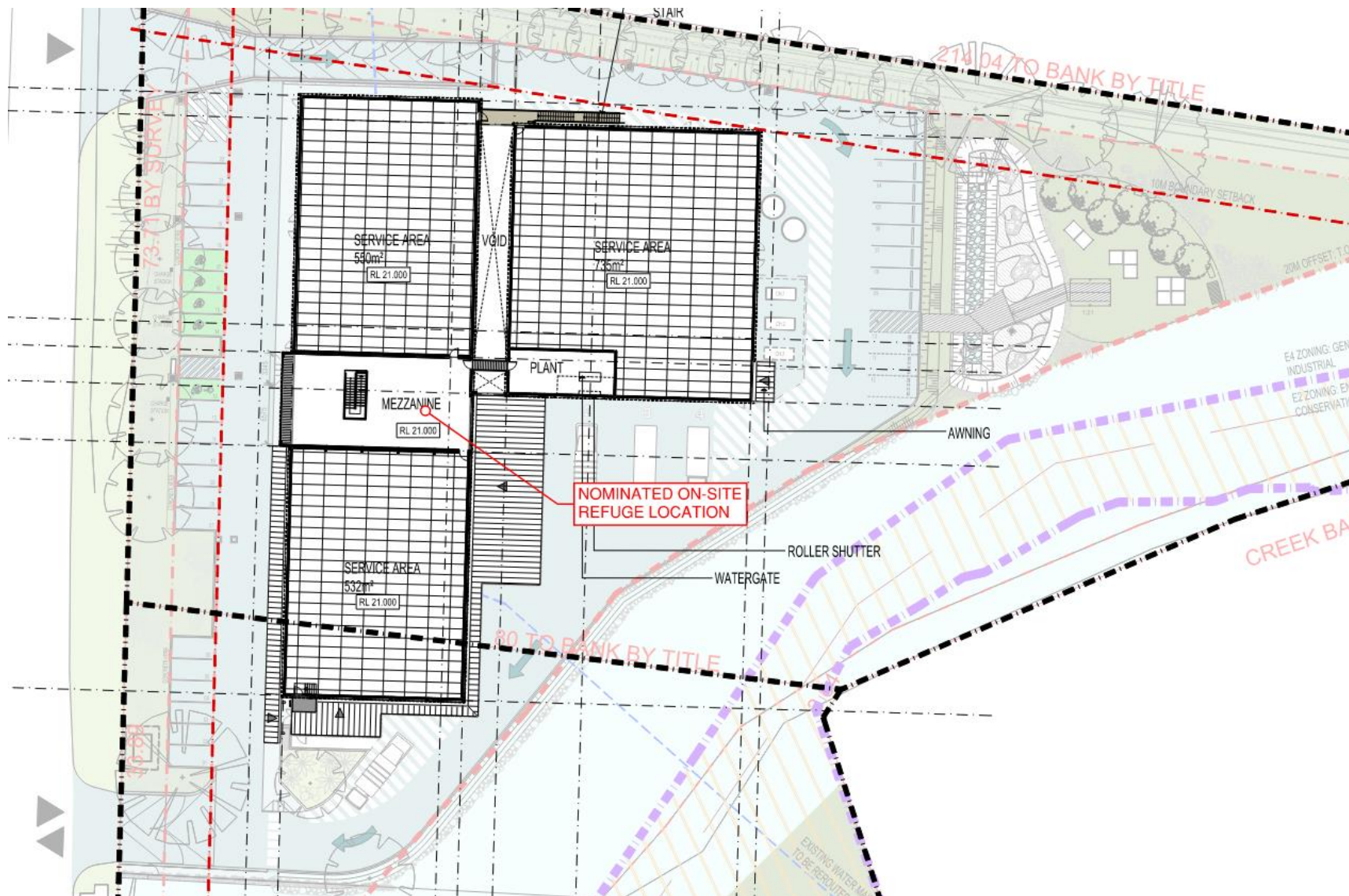


Figure 13 - Flood Emergency Assembly Point Level 1 (Architectural Drawings (Rev E dated 24/09/24))

Evacuation Centre

In the event where staff and visitors are unable to return home, the nominated off-site refuge point is **Ourimbah Lisarow RSL Club**, located at **20 Pacific Highway, Ourimbah**. This location has been defined as the nearest evacuation centre by the Wyong Shire Local Flood Plan (EMPLAN 2013).

It is noted that the Ourimbah Creek Floodplain Risk Management Study & Plan identifies this facility as potentially flooding during a PMF event and has provided recommendations for alternative evacuation centres.

As a result, it is critical for the Chief Flood Warden to call in advance to confirm with the SES and/or the RSL club if any alternative evacuation centres have been established prior to undertaking evacuation off-site.

Evacuation Route

Once everyone is accounted for and the access and availability of the evacuation centre is confirmed, evacuation should be undertaken to the agreed refuge point under the control of the Flood Wardens and guidance of staff. The evacuation route to the nominated off-site refuge point is shown in Figure 14.

It is recommended staff and visitors capable of driving proceed to the nominated off-site evacuation centre. Driving to the facility will remove the potential for the vehicles being flooded and potentially becoming floating debris, creating issues on-site and downstream.

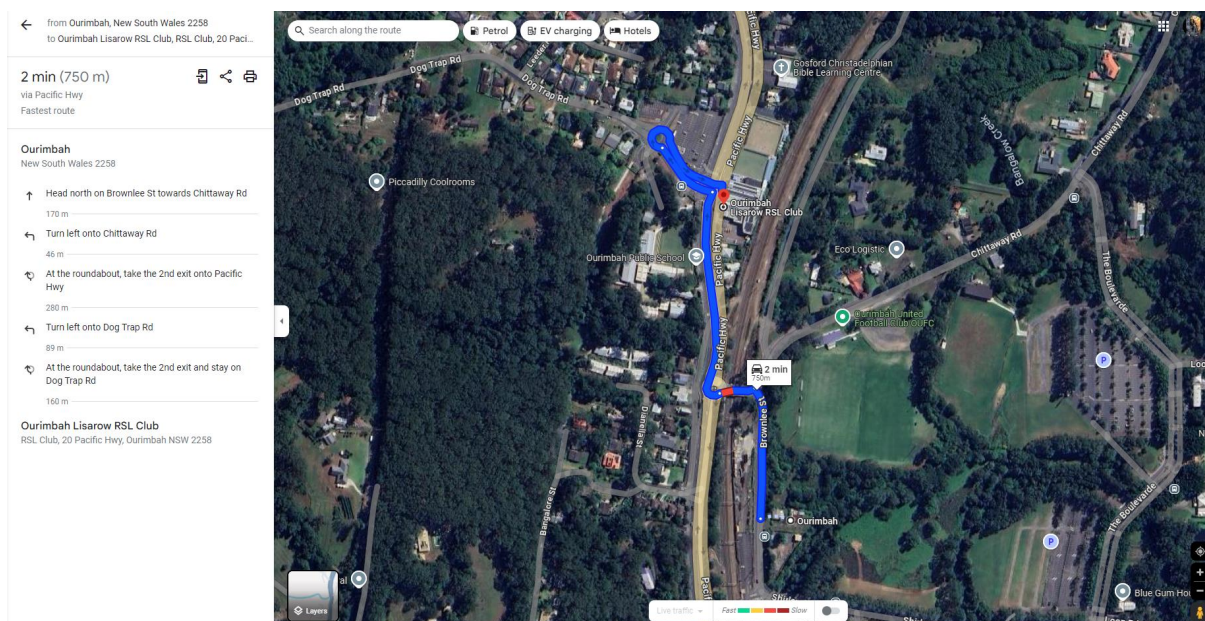


Figure 14 - Evacuation Route

Floor Levels and On-Site Refuge

Floor Levels

The proposed facility has two floor levels, and the level of each floor is presented in Table 7, along with the relationship to the 1% AEP and PMF flood levels.

Table 7 - Internal Floor Levels

Floor	Level (m AHD)	Relationship to Flood Levels
Ground Floor	17.00	Protected above 1% AEP, below PMF
First Floor	21.00	Above 1% AEP and PMF

On-Site Refuge

In the event where rainfall has commenced, or if flood warnings are received and it is determined that it is unsafe to return home or if the evacuation centres are not receiving people, staff and visitors are to seek refuge on-site.

As shown in Figure 13 above, the nominated on-site refuge point is the **Mezzanine Area on Level 1**. We recommend staying onsite once rainfall has commenced. This location is sited at an elevation of 21.00m AHD, approximately 2.30m above the PMF.

Should you become isolated on-site, move to **Level 1** of the building and do not try to evacuate by foot or vehicle and never enter rising flood water. **Call the SES on 132 500 if emergency supplies are getting low, or 000 if in a life-threatening situation. Remember if its flooded, forget it.**

Emergency Provisions for Essential Services

It is recommended the following contingency measures be implemented and maintained to facilitate on-site refuge:

- Staff with first aid training on-site at all times during operation.
- Supply of medicines, non-perishable food items and bottled water to withstand isolation for up to 12 hours.
- Consideration to connecting the proposed development to the existing facility backup generator or allowance during detailed design to introduce a backup generator for the proposed development.
- Back up provisions in the event where water supply and sewage services are temporarily unavailable.

Do not Drive or Walk through Floodwater.

Remember, If It's Flooded, Forget It!

Emergency Contact

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**.

For road blockages, fallen trees and other local asset issues, please call **Central Coast Council's Emergency Hotline** on (02) 4306 7900.

Once the decision has been made to evacuate, call **Ourimbah Lisarow RSL** on (02) 4362 1104 to ensure they are ready to accept the subject site population.

Flood Response Preparation

It is the responsibility of the staff to prepare the facility for a flood event. This will be achieved through; induction training provided by the operator, nomination of flood wardens, education of flood risks and behaviour, and the preparation and maintenance of a *Floodsafe Emergency Kit*.

The information presented above is a summary of the flood behaviour and considered key to understanding the risks associated with flooding. This should be displayed in conjunction with other emergency information (such as fire, etc.) throughout the facility.

Evacuation Drills

Evacuation drills are designed to increase flood awareness within the facility. These drills are to be undertaken twice per year to familiarise staff and facility users of the procedures when responding to a flood event.

It is also an opportunity to outline expected flood levels and dangers of entering flood water. The following link can be used as a resource for evacuating personnel that are mobility impaired: <https://www.ses.nsw.gov.au/floodsafe/what-floodsafe-means-for-you/mobility-impaired/>.

For new staff it is expected they will be made familiar with the site flooding conditions and made familiar with the emergency procedures and response during the initial site induction.

Floodsafe Emergency Kit

Although the storm event may only last a couple hours, there is the potential for flood water to remain for a longer period following completion of rainfall. As such, enough resources should be contained in the Flood Emergency Kit to ensure anyone trapped on site has enough supplies for a prolonged period. In the event where resources are getting low, the SES may be contacted to provide a re-supply/evacuation from the facility.

Potential items for a flood emergency kit are outlined at; <https://www.ses.nsw.gov.au/floodsafe/prepare-your-home/emergency-kit/>. Items outlined on the SES website and some additional items are presented below:

- Drinking water, medicines and non-perishable food items.
- A copy of the facilities emergency management plan.
- Chemical register.
- Air horn and hand-held loudspeaker.
- Portable radios with spare batteries.
- Torches with spare batteries.
- Lanterns with spare batteries.
- Two-way radio with spare batteries.
- A first aid kit.
- Candles and waterproof matches.
- Waterproof bag for valuables.
- A copy of emergency numbers.

When leaving or evacuating add the following items:

- **Register** of Staff and Visitors on-site.
- **Sign in book** for visitors and contractors.
- **Individual Health Care Plans** as required for staff, including asthma puffers, diabetes medication, epi pens, etc.
- **Drinking water** and **non-perishable food items**.

The kit should be kept in the **Lounge and Staff Room on Level 1** in a roll trolley suitable for easy deployment in the event of an evacuation. The contents of the kit and management during a flood event will be the responsibility of the **First Aid Officer**.

It is essential that the items recommended for the Floodsafe Emergency Kit be maintained to ensure those seeking refuge on-site are as comfortable as possible during a flood event.

TRIGGER FOR REVIEW AND EDUCATION:

- Three monthly checking of the emergency kit to ensure all items are in suitable working order.
- Six monthly evacuation drills and reminder of the flood risks.
- Inductions for new staff, highlighting the flood risk associated with the subject site.

BY WHO: Chief Flood Warden and First Aid Officer

Storage of Sensitive Goods

All sensitive goods which are susceptible to damage from flood waters or, if exposed to floodwaters would have significant ramifications to the surrounding area, must not be stored on the ground floor level which are susceptible to flooding. The first floor is above the PMF level and are therefore considered appropriate places to store goods which are sensitive to water.

Monitoring of Weather Situation

It is the responsibility of the Chief Flood Warden to monitor the weather situation and be aware if a warning has been issued. This will be achieved through checking of the local radio stations and the Bureau website.

TRIGGER FOR MONITORING:

- Continuous, 9am daily

BY WHO: Chief Flood Warden

Flood Response Actions

Cancellation of Operations

In order to minimise the risk to life, it is recommended the facility be closed if a **Generalised Flood Warning** or **Severe Weather Warning** with nominated rainfall depth equivalent to a 1% AEP flood event as presented in the following Table 8.

Table 8 - Rainfall triggers for cancellation

Rainfall Depth (mm)	Timescale
141	3 hours
181	6 hours
210	9 hours
235	12 hours

Evacuation and closure should be undertaken well in advance of rainfall occurring. Once rainfall has commenced, refuge is to be sought on-site as discussed in the prior sections.

The aim is to eliminate/reduce the risk to life by removing as many staff and visitors from the floodplain prior to the commencement of rainfall, provided there is enough time for them to return home or to a safe place of residence.

The Chief Flood Warden is responsible for reviewing the weather forecasts daily and notifying facility users and staff of the decision to close the facility or seek refuge on-site.

When a warning is received, consideration should be given to:

- Cancelling services and deliveries for the day of the event.
- Blocking floor wastes and toilets.
- Securing objects that are likely to float and cause damage.
- Turning off mains power, water and gas and other hazardous materials.
- Relocating chemicals above the predicted water level.
- Moving vehicles away from the site where possible.

If time permits the evacuation procedure should generally as follow:

- **Sound** alarm on PA system/ air horn.
- **Chief Flood Warden** to the **Emergency Assembly Point**.
- **Flood Wardens and Staff direct and assist** all remaining Staff and visitors to the **Emergency Assembly Point**.
- **Chief Flood Warden** to contact the **Ambulance Service**.
- **Flood Wardens** clear all buildings.
- **Roll call** to ensure everyone is accounted for.
- **Return home** if it is safe to do so and wait out the storm event.

- **If unable to return home, Chief Flood Warden to call ahead** to the nominated off-site refuge point make sure the facility is able to accept evacuees.
- **Control** evacuation to **Ourimbah Lisarow RSL Club**, located at **20 Pacific Highway, Ourimbah**.
- **If evacuating the facility, leave signage undercover** and notify **Ambulance Service/Police/SES** that evacuation has occurred, and to where.
- **If rainfall has commenced or if it is deemed impossible to seek refuge at the designated off-site refuge point**, refuge may be sort on-site at the designated on-site refuge point as a means of last resort.
- **Wait it out** at the designated refuge points.

TRIGGERS FOR EVACUATION:

- Weather forecast with a **rainfall depth as below:**
 - **141mm over a period of 3 hours**
 - **181mm over a period of 6 hour**
 - **210mm over a period of 9 hours**
 - **235mm over a period of 12 hours**

RESPONSIBLE FOR THE DECISION: Chief Flood Warden

Refuge On-Site

In the event where rainfall has commenced and it is determined that staff and visitors cannot return home or seek refuge at the designated off-site refuge facility, refuge may be sort on-site. The procedure for refuge on site should be carried out as the following:

- Sound air horn (or PA system if available);
- Direct everyone to Emergency Assembly Point.
- Roll call to ensure everyone is accounted for.
- Confirm in-ability for evacuation and off-site refuge.
- Explain that refuge is being sought on-site and the measures in place to make this safe to maintain calm.
- Seek Refuge and Wait it Out.

TRIGGERS FOR REFUGE ONSITE

- **Commencement of rainfall** in event when a **Severe Weather Warning** or **Generalised Flood Warning** is current; or
- **Evacuation and off-site refuge is deemed unsafe or is unavailable.**

RESPONSIBLE FOR THE DECISION: Chief Flood Warden

Emergency Services Attending Site

It is noted self-motivated early evacuation, such as that proposed in this plan, reduces strain on emergency services. There is a possibility that emergency services such as Police, Fire, Ambulance or SES may attend site and assume control from the Chief Flood Warden. Once this has occurred, they are in control of the site and any response operations.

TRIGGERS FOR EMERGENCY SERVICES TAKE CONTROL:

- Police, Fire, Ambulance or SES attending site.

RESPONSIBLE FOR THE DECISION; Chief Flood Warden

After a Flood

Once a Final Flood Warning or SES “All Clear” has been received:

- A thorough check of services such as electricity, sewer, water and gas should be undertaken by qualified persons.
- Advice should be sought from a suitably qualified engineer as to the structural integrity of buildings prior to their use.
- Personal protective equipment should be worn during the clean-up and disinfectant used.

TRIGGER FOR RETURN:

- All clear given by SES or emergency services and building inspected by representatives appointed by the department of education.

BY WHO: SES, Emergency services, Flood wardens

Revision of this Flood Evacuation Plan

This plan should be revised prior to Construction Certificate phase.

Furthermore, this plan should be revised if there are further revisions to the Ourimbah Creek Floodplain Risk Management Plan & Study or the Wyong Shire Flood Emergency Sub Plan is reviewed to capture changes in the emergency response or nominated evacuation centres.

Notwithstanding the above, this plan shall be **revised every three years** or when there is a major operational change or flood event.

Revisions should be undertaken by a suitably qualified flood emergency response consultant.

Conclusion

The subject site is affected by flooding caused by overland flow from the upstream catchment. A review of the proposed development has been undertaken in conjunction with the expected flood behaviour and it was concluded that:

- **Nominated flood wardens** will provide adequate direction in flood emergencies.
- **Cancellation of operations** is preferable prior to major and extreme events to eliminate community exposure to flood hazards.
- If operations have commenced for the day, **evacuation well in advance of a predicted major or extreme event** is preferable with staff and visitors recommended to return home and wait out the flood event.
- If staff and visitors are unable to return home, an **off-site refuge point is recommended as the Ourimbah Lisarow RSL Club** as outlined in the Wyong Shire Flood Emergency Sub Plan. It is noted that this facility is located within the extent of a predicted PMF flood level and as such should only be sought as a location of off-site refuge if confirmation is received by the SES that it is open and operating as an Evacuation Centre.
- If rainfall has commenced for a predicted major or extreme event, **shelter in place on-site**, refuge is available on Level 1 of the facility.
- Through adoption of this plan, the proposed development adequately minimises the flood risks associated with the subject site. The recommendations contained herein assist in managing the risk to life of the staff, facility users and visitors to the subject site.

References

- | | | |
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