

Flood Emergency Response Plan

The Gables New Primary School

Prepared for SINSW on behalf of NSW Department of Education / 22 November 2024

241198

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Rev	Date	Prepared By	Approved By	Remarks
1	27/09/2024	RC	JM	FINAL
2	08/11/2024	RC	JM	Updated following planning comments
3	15/11/2024	RC	JM	Updated following planning comments
4	22/11/2024	RC	JM	Updated to include client comments

1.0 Introduction

This Flood Emergency Response Plan (FERP) has been prepared by TTW (NSW) Pty Ltd on behalf of the NSW Department of Education (the Applicant) to assess the potential environmental impacts that could arise from the development of The Gables New Primary School at Lot 301 DP 1287967 on Fontana Drive, Gables (the site).

While the site is subject to inundation via sheet flow during significant rainfall events, the surrounding area and road network is notably impacted, and a response plan is required to address the management of site users during these flood events. The purpose of this FERP is to summarise the flood risks associated with the site, identify preparation measures that should be undertaken to mitigate such risks, and provide an action plan with steps to be completed during a flood event.

This report accompanies a Review of Environment Factors that seeks approval for the construction and operation of a new primary school at the site, which involves the following works:

- Construction of school buildings, including learning hubs, a school hall and an administration and library building.
- Construction and operation of a public preschool.
- Delivery of a sports court and fields.
- Construction of car parking, waste storage and loading area.
- Associated site landscaping and open space improvements.
- Associated off-site infrastructure works to support the school, including (but not limited to) services, driveways and pedestrian crossings.

For a detailed project description, refer to the Review of Environmental Factors prepared by Ethos Urban.

1.1 Site Description

The site is located on Cataract Road, Gables, within The Hills Local Government Area (LGA), approximately 50km northwest of the Sydney CBD and 10km north of the Rouse Hill Town Centre. It comprises one lot, legally described as Lot 301 DP 1287967, that measures approximately 2.2ha in area. The site is bound by Pennant Way to the north, Cataract Road to the east, Fontana Drive to the west and a vacant lot to the south.

An aerial image of the site is shown at Figure 1.



Figure 1 - Site location and surrounding area (Source: Nearmap, dated 28th August 2024).

1.2 Statement of Significance

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The proposed development is considered to result in low flood risks to people present at the school during a flood event and will not have significant adverse effects on the locality, community and the environment (refer to FIRA completed by TTW and submitted alongside this report);
- Potential flood risks/impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community (refer to FIRA completed by TTW and submitted alongside this report).

1.3 REF Reporting Requirements

This FERP has been prepared in accordance with the REF deliverable requirements as presented in Table 1.

Table 1 - Relevant REF Requirements

Item No.	REF Requirement	Relevant Section of Report
15.1	Where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk provide a flood impact and risk assessment (FIRA) prepared in accordance with the Flood Impact and Risk Assessment – Flood Risk Management Guide LU01, the Flood	A Flood Impact and Risk Assessment (FIRA) has been prepared by TTW and has been submitted alongside this report. The FIRA addresses this item.

	Risk Management Manual 2023, Support for Emergency Management Planning. The scope of the FIRA should be confirmed with the Department prior to undertaking the assessment.	
15.2	Prepare the assessment in accordance with the Standard DCCEEW Flooding Requirements.	This FERP has been prepared in accordance with the Flood Risk Management Manual 2023 and supporting guidelines, including the Support for Emergency Management Planning. Refer to Section 1.4 for a full list of the reference documents.
15.3	Detail design solutions and operation procedures to mitigate flood risk, where required.	The FIRA submitted alongside this report considers design solutions to mitigate flood risk. Refer to the FIRA for more information.
15.4	Any proposed Emergency Management strategy for an area should be compatible with the evacuation strategies identified in The Hills Shire Flood Emergency Sub Plan.	This Flood Emergency Response Plan was produced with reference to the Support for Emergency Management Planning Guide and The Hills Shire Flood Emergency Sub Plan. Refer to Section 1.4 for a full list of the reference documents.

The below table addresses the FERP-related advice raised by the NSW State Emergency Service (NSW SES) issued on 17 April 2024.

Table 2 – Agency Advice

Agency	Advice	Response
NSW SES	<p>We recommend that the SEARs should include a flood assessment detailing:</p> <ul style="list-style-type: none"> an assessment of the flood risk up to and including the Probable Maximum Flood (PMF), on the site and access/egress routes. time to onset, duration, depth, velocity and hydraulic hazard of any flooding 	<p>This FERP assesses flood behaviour in the PMF event and the access and egress routes to the site. Time to onset and duration of flooding is discussed in Section 2.3. Depth, velocity and hydraulic hazard is discussed in Section 2.1 of this report and is discussed in more detail in the Flood Impact and Risk Assessment by TTW, submitted alongside this report.</p>

1.4 Reference Documents

The FERP has been prepared with reference to the following:

- Australian Institute of Disaster Resilience (AIDR) Guideline 7-3: Flood Hazard (2017);
- FloodSafe guidelines and the relative FloodSafe Tool Kits;
- NSW Department of Planning and Environment (2023) Draft Shelter-in-place Guideline – Preamble (<https://pp.planningportal.nsw.gov.au/draftplans/under-consideration/shelter-place-guideline>);
- NSW Department of Planning and Environment (2023) Flood Risk Management Manual <https://www.environment.nsw.gov.au/topics/water/floodplains/floodplain-manual>;
- NSW Department of Planning and Environment (2023) Support for Emergency Management Planning – Flood Risk Management Guideline EM01;
- NSW Department of Planning, Housing and Infrastructure – Planning Circular PS 24-001, Update on addressing flood risk in planning decisions, 1st March 2024;
- NSW State Emergency Service (SES) Guidelines;
- The Hills Development Control Plan (DCP) 2012;
- The Hills Local Environmental Plan (LEP) 2019;

- The Hills Shire Council Flood Modelling and Stormwater Design Guideline, Revision 1, February 2024;
- The Hills Shire / NSW SES 'The Hills Shire Flood Emergency Sub Plan', May 2023 <https://www.ses.nsw.gov.au/media/5430/the-hills-flood-emergency-sub-plan-vol-1-endorsed-july-2023.pdf>;
- TTW (2024) Flood Impact and Risk Assessment Report for Gables New Primary School, dated 8 November 2024; and
- J. Wyndham Prince (2012) Water Cycle Management Post Re-Exhibition Strategy Report, 2012.

1.5 Proposed Site Activity

The site is located with the Gables, a master planned community consisting of a town centre, retail facilities, public primary school, approximately 4,100 dwellings, recreational facilities and associated roads and infrastructure. At the centre of this master plan is a constructed lake and detention basin, providing visual amenity, water quality treatment and flood mitigation functions.

As part of the NSW Government's plan to rebuild essential services, the Gables new primary school will help meet growing enrolment demand for primary school students in Sydney's northwest suburbs, accommodating up to 1,000 students in the Hills Shire LGA. The site was acquired in early 2023 by SINSW through a Voluntary Planning Agreement (VPA) by the developer, Stockland. The latest concept design plan of the proposed school is shown in Figure 2. There is one vehicular access point to the site via Cataract Road in the east, and additional pedestrian access points via Pennant Way and Fontana Drive.

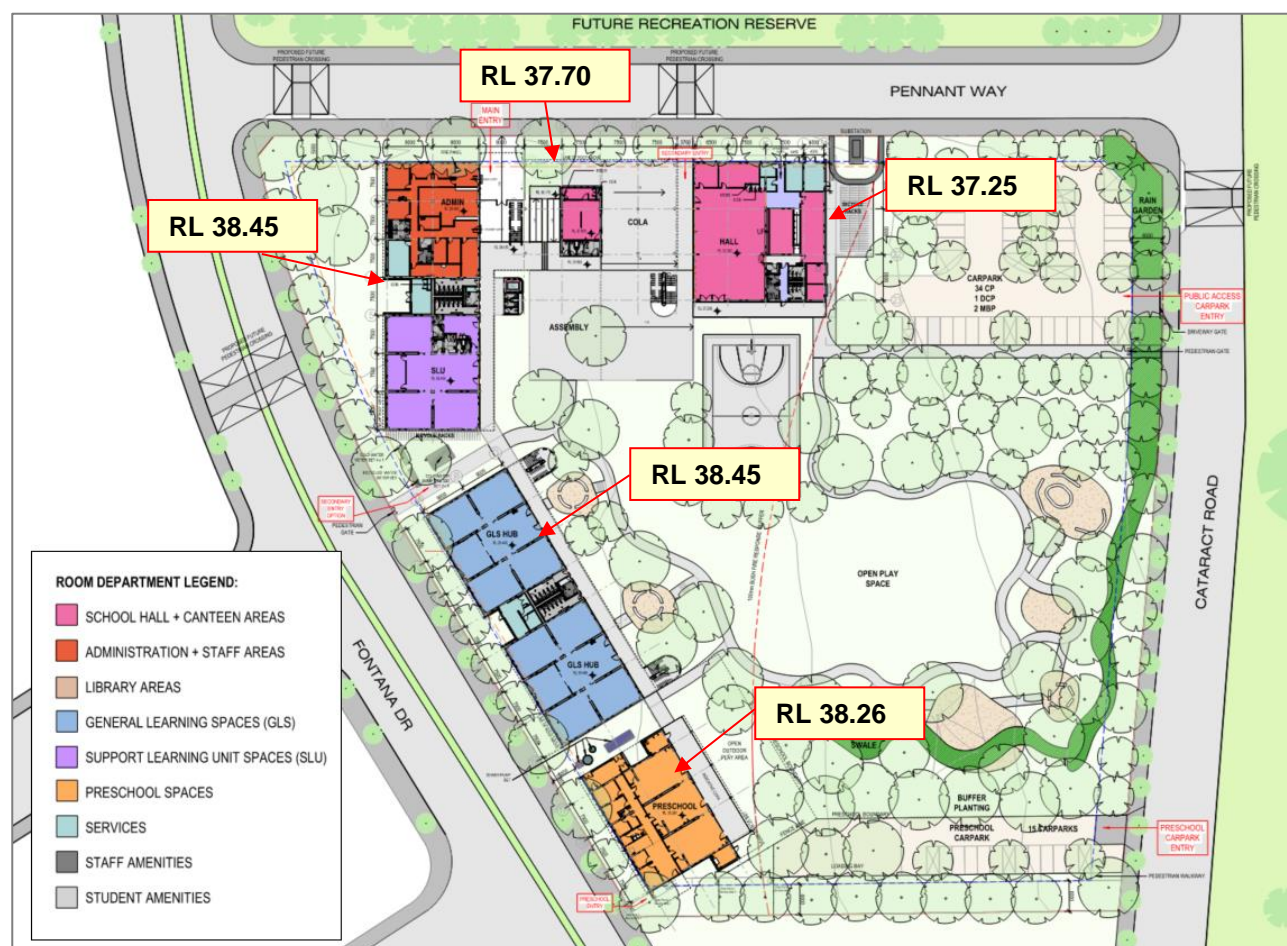


Figure 2 - Latest concept design plan and ground floor levels for the site dated 16 October 2024. Source: Architectus

The proposed site activity will also offer the Universal Pre-school and Out of School Hours Care (OSHC). The Universal Pre-school will be run by the Department of Education and will cater to students aged between 3-5 years.

The OSHC will typically be run by external/private providers. Exact timings are still to be determined but the OHSC is likely to run from 6:30AM-9:00AM (Before school) and 3.00PM-6:30PM (After school).

2.0 Flood Behaviour

Stockland, the developer, provided TTW with the latest TUFLOW hydraulic model for The Gables, prepared by Northrop Consulting Engineers in their Dam Break Assessment Report (2019). This has been used as a basis for the flood modelling completed as part of this report.

Northrop's assessment includes an 'Existing' scenario, in which the Gables area is still undergoing development, and an 'Ultimate Developed' scenario which accounts for the future development according to the master plan design of the community. This developed scenario provides a more accurate representation of future flood behaviour in the area as it accounts for increases to the total impervious area and subsequent increases in the discharge rate to the downstream drainage network and waterways that future development in the Gables may produce. The 'Ultimate Developed' model is therefore used in this flood assessment.

The model was updated to include new site survey and design information for the proposed development. The modelling methodology and the flood impact associated with the development are described in detail in the Flood Impact and Risk Assessment Report prepared by TTW (dated 8 November 2024) and submitted together with this FERP.

For the 1% Annual Exceedance Probability (AEP) event, the 30-minute duration storm was adopted as the critical storm duration. For the Probable Maximum Flood (PMF), a range of storm durations from the 15-minute storm up to the 360-minute storm were run. Although the 15-minute storm is critical for the site in the PMF event, this FERP includes an analysis of the critical duration storm and the longer duration storms to determine the maximum potential impact time for the site.

2.1 Post-Development Flood Depths and Levels

The peak post-development flood levels and depths at the site during the critical 1% AEP and PMF storm events are depicted in Figure 3 and Figure 4, respectively.

Model outputs indicate that the site is subject to some overland flow that is largely generated onsite as a result of the rainfall on grid modelling methodology. Shallow sheet flow is directed across the site to the southeast and towards the adjacent creek, at low velocities ranging between 0.1 – 0.3 m/s. This increases in concrete areas such as the sports court and car park, peaking at approximately 1.0 m/s. The site is not subject to mainstream flooding from the eastern creek.

While across the wider school site flood depths are generally less than 0.05m in both the 1% AEP and PMF event, pooling of floodwaters is evident along the perimeter of the buildings in the 1% AEP event due to a combination of the coarse model resolution and the proposed cut around the building perimeters. Depths around the buildings generally range between 0.2 – 0.8m in both the 1% AEP and the PMF. These areas of ponding around the school are considered a stormwater management issue and are not considered flooding. These flows should be diverted around the proposed buildings and be considered as part of the more detailed civil site grading and stormwater design in the subsequent design phases of the project, to ensure that all proposed buildings will achieve PMF flood immunity.

Flood velocities within the site increase in the PMF event (when compared to the 1% AEP event results), peaking between 1.0 – 1.8 m/s in the proposed car park to the east of the site. While depths within the creek system have increased (when compared to the 1% AEP event results), flows are contained within the riparian corridor and the site is not affected by mainstream flooding in the PMF.



Figure 3 - Flood levels and depths (1% AEP event) – Post Development Conditions

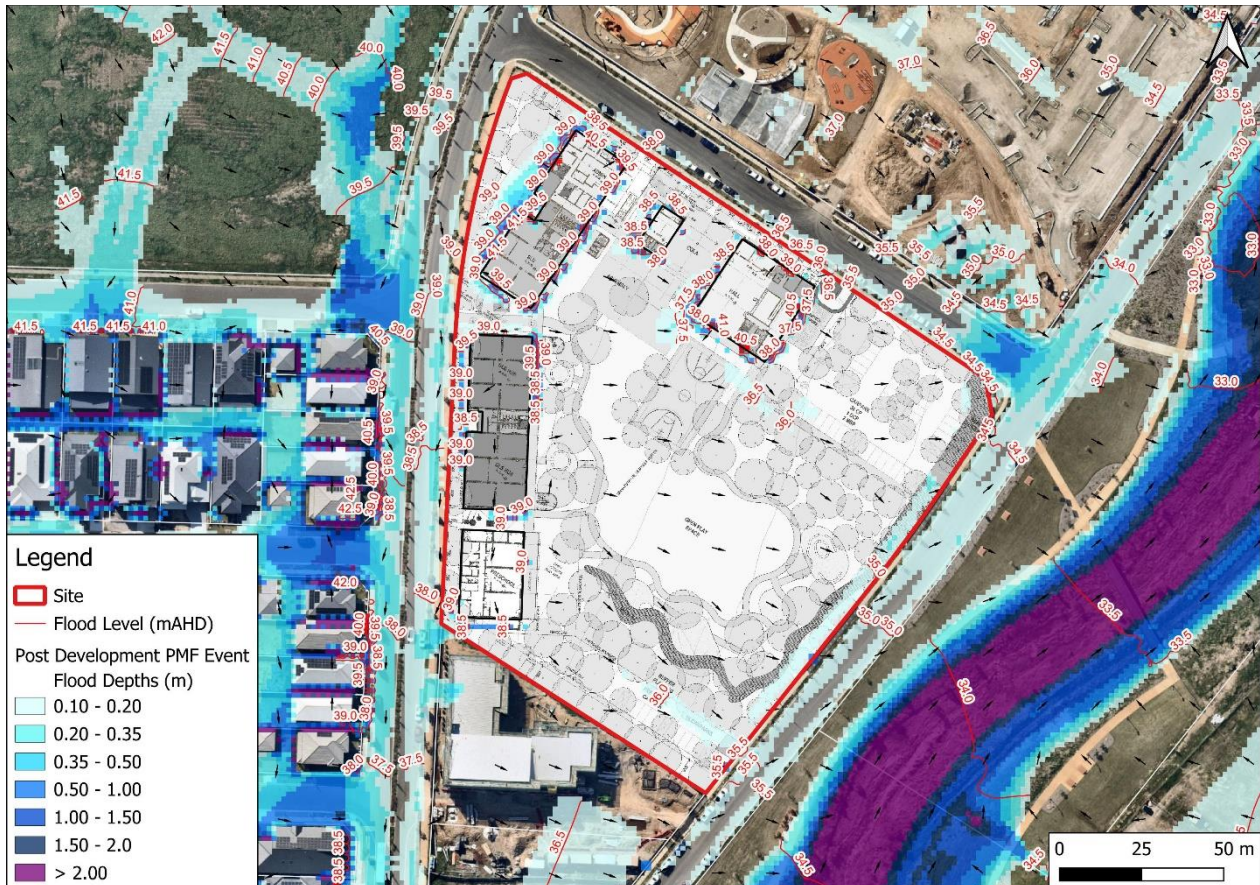


Figure 4 - Flood levels and depths (PMF event) – Post Development Conditions

2.2 Post-Development Flood Hazard

A hazard assessment was conducted using the flood hazard vulnerability curves set out in 'Handbook 7 – Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia' of the Australian Disaster Resilience Handbook Collection (2017).

These curves assess the vulnerability of people, vehicles and buildings to flooding based on the velocity and depth of flood flows. The flood hazard categories are outlined in Figure 5, ranging from a level of H1 (generally safe for people, vehicles and buildings) to H6 (unsafe for vehicles and people, with all buildings considered vulnerable to failure).

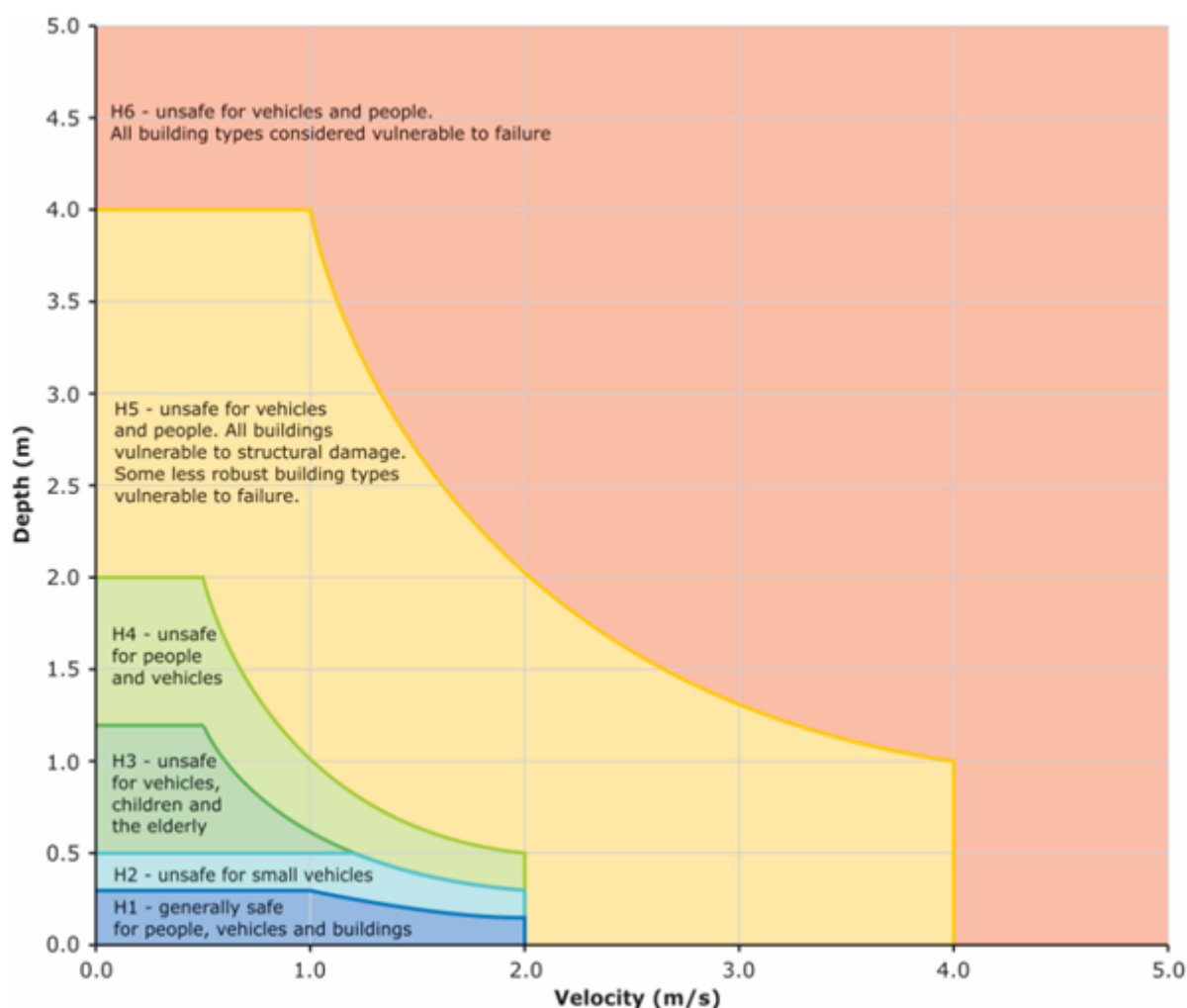


Figure 5 - Flood hazard vulnerability curve (Source: Flood Risk Management Guide FB03 - Flood Hazard, NSW Department of Planning and Environment, 2022)

Figure 6 and Figure 7 present the flood hazard categorisation around the site in post-development conditions in the 1% AEP and PMF events, respectively.

While flood hazard across the site is generally low at H1 in the 1% AEP event, this rises to H2-H3 around the perimeter of the buildings, reaching H4 at the communal hall in the PMF event – although this pooling is considered a stormwater management issue that must be addressed in the civil design stage and not considered as flooding. Flood hazard increases in the PMF event, with hazard ranging from H2-H6 along the building perimeters, remaining at H1 elsewhere due to the shallow nature of the sheet flow.

Offsite, roads remain trafficable in the 1% AEP with mostly H1 hazard, though this increases substantially in the PMF event with H5 hazard evident along Fontana Drive to the west and along Pennant Way at the northern frontage of the site.

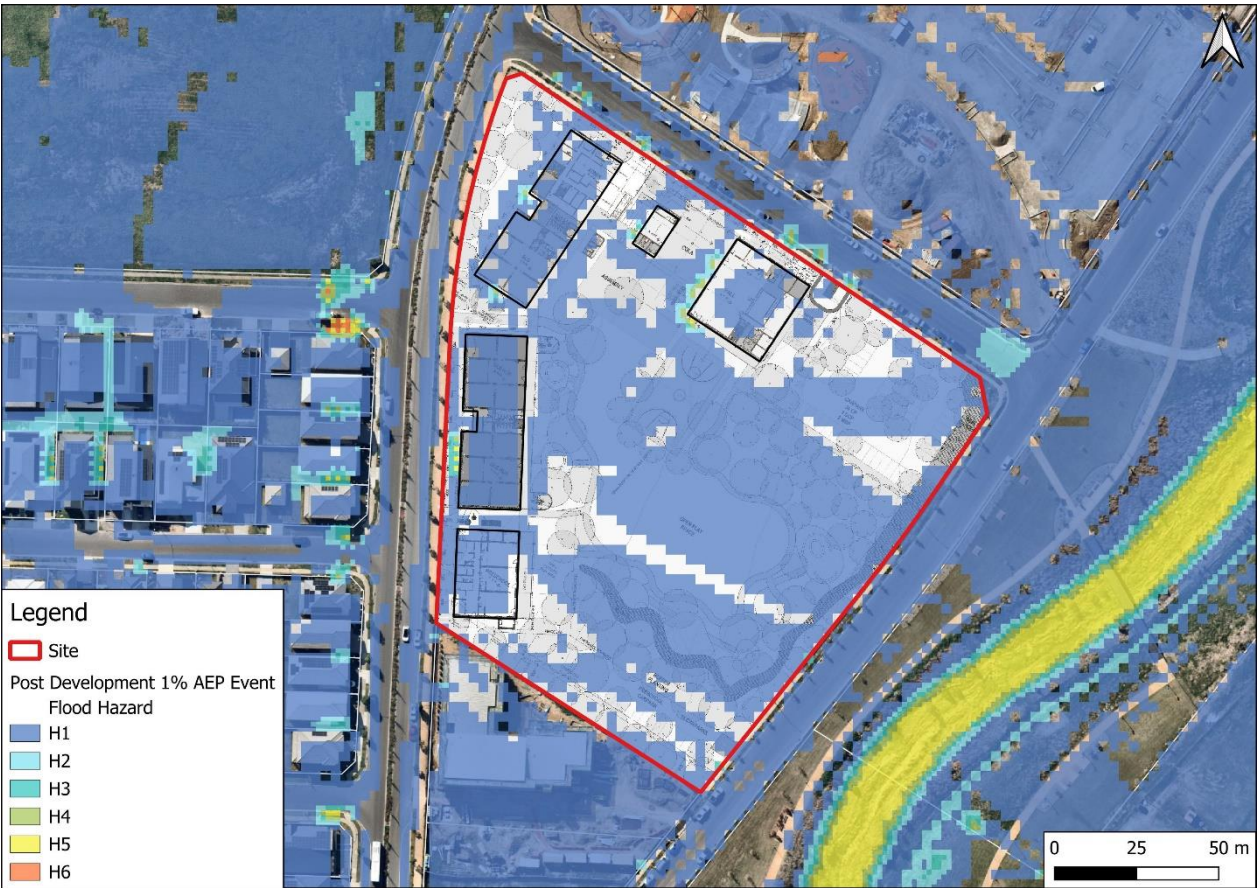


Figure 6 - Flood hazards (1% AEP event) – Post Development Conditions

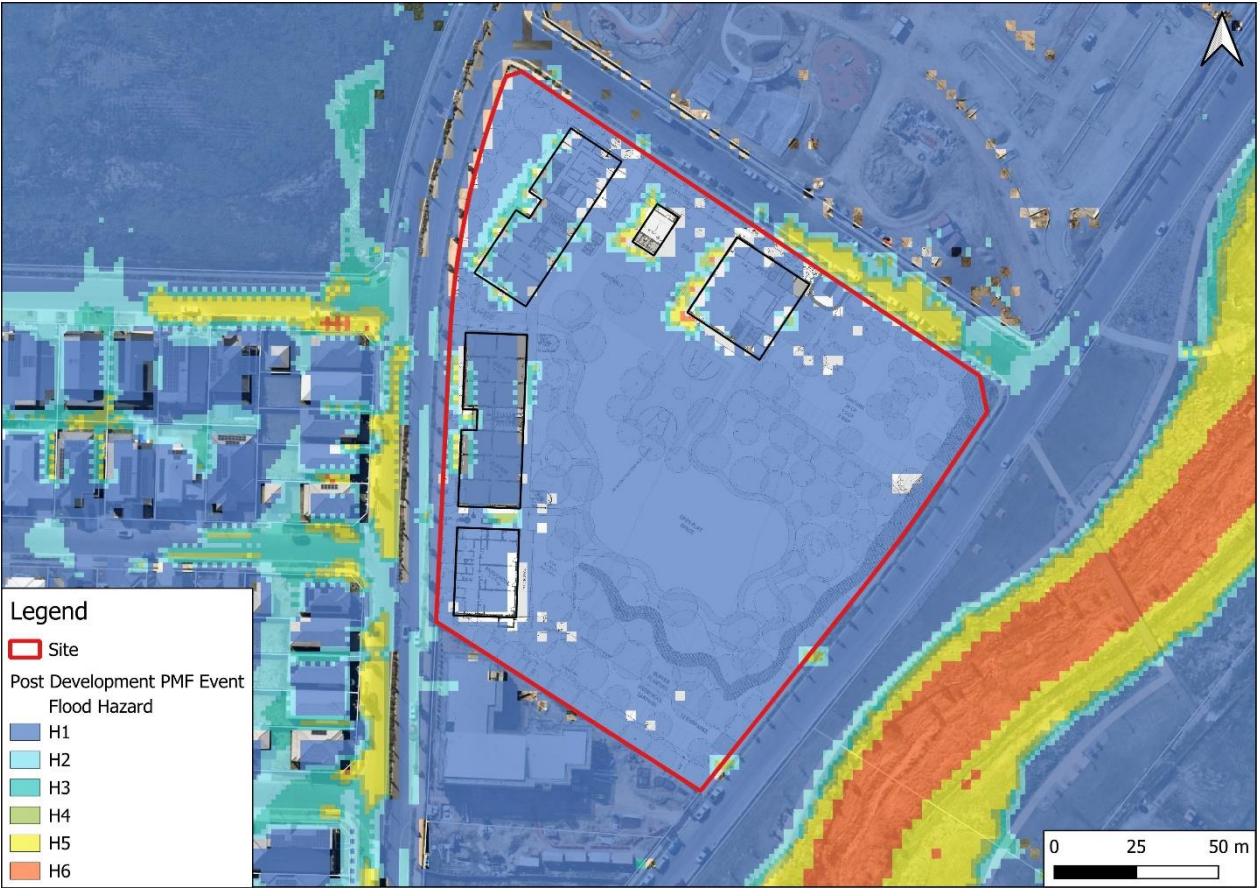


Figure 7 - Flood hazards (PMF event) – Post Development Conditions

2.3 Inundation and Recession Times

Table 3 presents a summary of the inundation and recession times for the critical PMF storm duration (15-minutes). A longer duration event (6 hours) has also been assessed in order to consider the possibility of longer isolation periods.

Due to the ROG modelling methodology, the surrounding roads will always be flood affected in the PMF event, though it is important to consider the flood hazard and whether roads are trafficable. For the purpose of this assessment, the recession time is regarded as the time taken for roads to return to a trafficable, low hazard (H1) state.

The short critical duration for the catchment indicates that roads are unlikely to be isolated for an extended period of time. Analysis indicates that in the critical PMF storm, roads are cut off for approximately 20-30 minutes before returning to trafficable conditions. Under a longer duration 6-hour PMF event, roads remain trafficable for the entire duration.

Table 3 - Time to inundation and recession at the site in PMF storm events

PMF Storm Duration	Time to Inundation (minutes)	Recession Time
15 minutes (Critical duration)	< 10 minutes until flows reach a H5 hazard level at Fontana Drive and Pennant Way.	20 minutes after the onset of the storm, most of the surface flow onsite has dissipated, and Fontana Drive, Pennant Way and Valetta Drive have returned to a trafficable condition. Access and egress are possible via the south on Fontana Drive. Some sections of Red Gables Road north of the site remain at H5 hazard. All roads in the vicinity have returned to a trafficable condition 30 minutes after the onset of the storm.
6 hrs (Long duration)	Flood depths and velocity peak approximately one hour after the onset of the storm and remain relatively stable for 3-4 hours, but all roads remain trafficable at H1 hazard for the whole duration of the storm event.	All roads remain trafficable at H1 hazard for the whole duration of the storm event. Flows onsite begin to dissipate after approximately 3 hours.

It should be noted that in all simulated events, the model indicates that there is a low hazard (i.e. H1) route in and out of the site via Cataract Road. However, the model has not fully captured the road corridor along this section of road, and therefore this road cannot be relied upon as a safe egress route for the site. In addition, while this section of Cataract Road is shown to be trafficable, all routes out of the site via this road eventually become impassable in the critical PMF event due to H5 hazard along Red Gables Road, western Cataract Road and southern Fontana Drive.

This is depicted in Figure 8, which shows the flood hazard categorisation for the site and its surrounding area during the critical PMF storm event. This indicates that there is no way in or out of the site in the critical PMF event that does not go through high or medium hazard waters, though floodwaters quickly recede.

While modelling indicates that the bridge over the creek along Fontana Drive is overtopped with hazard reaching H6, the road surface level has not been incorporated into the model, and this instead represents hazard within the creek.



Figure 8 - Flood hazard categorisation for the site and its surrounding area during the critical PMF storm event.

3.0 Flood Response Strategy

3.1 Preferred Strategy

3.1.1 Pre-Emptive Closure

Pre-emptive closure of the school is the preferred flood emergency strategy for the school site if advanced warning is received outside of school hours, or where a severe event is forecast several hours in advance.

Although flash flood events are characterised by minimal warning times, there may be advanced notice of the extreme rainfall experienced in a 1% AEP–PMF event. During the operational phase, where there is enough warning prior to school opening hours, the school should be closed in advance of the flood event so children can be safe at home and parents do not have to drive through roads that could become hazardous.

An SMS must be sent to staff and parents at the earliest opportunity (once the severe weather warning is issued by BOM) to ensure no site users enter dangerous road conditions.

3.1.2 Shelter-in-Place

While there is often advanced warning time of extreme rainfall events such as those endured in a 1% AEP–PMF event, this cannot be relied upon. Severe weather events may lead to flash flooding with little to no warning time, and pre-emptive closure of the school cannot be accomplished.

Draft shelter-in-place (SIP) guidance published by the NSW Department of Planning and Environment in 2023 states that SIP is an appropriate emergency management response when the flood warning time and flood duration are both less than six hours. With less than 10 minutes from the onset of the critical PMF storm until inundation of the adjoining roads for the proposed school site, it is recommended that the school is prepared for a shelter-in-place strategy.

As evident in Figure 8, there is no way in or out of the site that does not go through high or medium hazard waters during the critical duration PMF event. NSW SES state that evacuation of a site must not require people to drive or walk through flood water. The duration of isolation is short due to the flashy nature of flooding in the area, with the school only cutoff from access roads for approximately 20-30 minutes in the critical PMF event (Section 2.3). It should also be noted that all proposed buildings are to be set above the PMF level and will not experience above-floor inundation provided adequate stormwater management is implemented. As a result, all buildings are safe to shelter in from the ground floor and upwards.

During the shelter-in-place strategy, all staff and students are to remain indoors. The Site Manager must ensure that there are no site users outdoors, including within the car park area.

3.2 Secondary Emergency

Although shelter-in-place is the preferred emergency response strategy should a severe event begin without sufficient warning, any decision to shelter-in-place must be accompanied by alternative plans for evacuation in the event of a secondary emergency (e.g. medical or fire) or if some site users refuse to shelter-in-place. While they should be advised to stay in place (at least until the magnitude of the flood is clearer), if they insist on leaving or if there is a secondary emergency, the first roads to become trafficable include Cataract Road, Fontana Drive and Valetta Drive which leads to Boundary Road, which was identified as a key evacuation route in the J. Wyndham Prince (2012) Water Cycle Management Post Re-Exhibition Strategy Report (2012). Travel to the north of the site should be avoided due to hazardous floodwaters along Red Gables Road.

4.0 Flood Warnings and Notifications

4.1 Bureau of Meteorology

Severe weather and thunderstorm warnings are issued by the Bureau of Meteorology (BoM). These warnings are continually updated with descriptions of the likely conditions, including predicted extreme rainfall depths. Flood warnings are issued by the BoM when flooding is occurring or is expected to occur in an area. Warnings may include specific predictions of flood depths dependent on real-time rainfall and river level data. These warnings are distributed by BoM to councils, police and the relevant local SES, as well as being available on the BoM website.

- A **Flood watch** is issued by the BoM up to four days prior to a flood event. A watch is generally updated daily and may be issued before, during, or after rainfall has occurred.
- **Flood warnings** are issued by the BoM when flooding is occurring or expected to occur in a particular area. Warnings may include specific predictions of flood depths dependent on real-time rainfall and river level data. These warnings are distributed to Council, Police, and the relevant local SES, as well as being available on the BoM website, through telephone weather warnings and radio broadcasts.

4.2 NSW SES Australian Warning System

NSW SES has recently implemented the Australian Warning System (AWS) which replaces their previous evacuation orders and warnings system. The AWS is a new national approach to information and 'Calls to Actions' for hazards including flooding. The System uses a nationally consistent set of icons, with three warning levels: Advice, Watch and Act, and Emergency Warning. The flood warnings are described in Figure 9.



Figure 9 - Australian Warning System - Three Warning Levels

The NSW SES utilises a range of sources to build detailed flood intelligence within local communities, including information from flood studies and historical flood data. As part of the transition to the Australian Warning System, the NSW SES has increased flexibility to tailor warnings at the community level, based on the expected consequences of severe weather events.

The Site Manager is responsible for monitoring information from the AWS. Impacted communities will continue to receive flood warnings through the NSW SES website, NSW SES social media channels and by listening to local ABC radio stations. The NSW SES has also developed an all-hazards warning platform, Hazard Watch, to provide an additional channel for communities to access important warning information.

Each warning has three components:

- 1) **Location and hazard:** The location and the type of hazard impacting the community.
- 2) **Action statement:** For each warning level there are a range of action statements to guide protective action by the community. These statements evolve as the warning levels increase in severity.

Statements range from 'stay informed' at the Advice level, to 'prepare to evacuate' at the Watch and Act level, to 'evacuate now' in the Emergency Warning level. As the situation changes and the threat is reduced, the level of warning will decrease accordingly.

- 3) **The warning level:** The severity of the natural hazard event based on the consequence to the community.

4.3 Triggers

The flashy nature of flooding at the site (and the inherently limited warning time associated with this type of flooding) limits the capacity of NSW SES to issue flood notifications and action statements with sufficient lead time. It is important to note that the warnings outlined above may not be available or occur with advanced warning.

To ensure adequate response time, alternative triggers should be monitored, including severe weather warnings, media updates via local radio stations and social media. While the Chief Warden is responsible for monitoring information from the AWS, NSW SES recommend that all site users (namely, all staff members and wardens) refer to the HazardWatch website and the Hazards Near Me app.

4.4 Emergency Signals

The site should have a Public Announcement (PA) system that can be used by the Site Manager to inform all staff of the chosen response strategy in the event of a flood emergency. This ensures that staff with key responsibilities in the Plan can begin to fulfil their duties without delay.

The PA system should be used alongside SMS and email updates to staff and students to inform them of any severe weather or flood warnings covering the site.

5.0 Flood Response Team

5.1 Staff Responsibilities

In the event of a severe flood, various staff members will be responsible for specific tasks as detailed in Table 4. Before the site is in operation, these roles must be delegated to specific staff members.

It is also important to consider the Out of School Hours Care (OSHC) offered by the proposed activity, which will typically be run by external providers. Roles and responsibilities must be designated to the external personnel that will be onsite during these hours, as it is possible that the regular DoE staff may not be present. It is the responsibility of the School Principal to delegate these roles and tasks appropriately to ensure the staff flood responsibilities can be met even outside of ordinary school hours.

Table 4: Staff Flood Responsibilities

Role	Responsibilities
Site Manager	<ul style="list-style-type: none">- Decide if pre-emptive closure can occur if warnings are received prior to school opening hours or with several hours' notice- Monitor flood warnings and notifications from BoM and AWS- Monitor BOM lidar and weather in the area of the site- Inform staff and students/parents of flood risk- Coordinate flood SIP drills
First Aid Officer	<ul style="list-style-type: none">- Coordinate assistance for less able students and pre-school age children, and staff- Prepare a Flood Emergency Kit that includes a portable radio, torch, spare batteries, first aid materials, emergency contact numbers, candles, waterproof matches, waterproof bags and required medications.
Staff	<ul style="list-style-type: none">- Check visitor log and student registers so all site users can be accounted for.- Report missing students or site visitors to Site Manager

5.2 Key Contact Details

In the event of a severe flood, key telephone numbers have been listed in Table 5 below.

Table 5: Key Contact Numbers

<u>IMPORTANT TELEPHONE NUMBERS</u>	
Site Manager	tba
Deputy Manager	tba
Safety/First Aid Officer	tba
Centre Staff	tba
<u>External Contacts</u>	
Police/Ambulance	000
NSW State Emergency Services (SES)	132 500
Fire & Rescue NSW – Box Hill-Nelson	02 9658 9000
Riverstone Police Station	02 9838 2199
Hawkesbury District Hospital	02 4560 5555

6.0 Preparation for Flood Response

6.1 Education and signage

As part of the preparation for a flood event, all staff and students will be made aware and advised of the flood risks present on site and the flood protocols & procedures via signage. All staff on site will be made aware of the flood risk (including their management responsibilities) via briefing and signage. This will form part of the mandatory site inductions that all staff must undertake prior to commencing work. A copy of this FERP which includes emergency response procedures will be made available at communal areas within the site as well as the main office.

The OSHC external providers must also be made aware of flood risk and their management responsibilities. Completion of site induction and safety training for existing and new staff is the responsibility of the Site Manager.

Depth markers can also be implemented along the western wall of the proposed school buildings to demonstrate the estimated 1% AEP and PMF depths, ensuring that site users are aware of the potential risks of flooding at the site.

6.2 Flood Drills

It is recommended that flood drills be held by staff annually to ensure all staff workers (including OSHC providers) and students are familiar with the sound of the alert and their subsequent flood response actions. It is the responsibility of the Site Manager to ensure that evacuation drills are organised and that any issues with these drills are attended to, and if necessary, rerun.

These drills are required to test the suitability of the plan, identify gaps and to provide staff the opportunity to put into practice their specific responsibilities. If issues arise, this plan should be reviewed and updated. The Site Manager will also ensure that all site drills are recorded in an appropriate records book and any non-conformities reported and responded to.

6.3 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 Emergency Management Plan; and
- Emergency contact numbers.

This Emergency Kit should be stored in a waterproof container, and it is the responsibility of the Site Manager to make sure that this kit is maintained and available during an emergency.

7.0 Flood Response Actions

The flood response actions are outlined in Table 6.

Table 6: Flood Emergency Response Actions for the site

Flood Emergency Response Plan	
Flood Warning and Notification Procedures	Evacuation and Refuge Protocols
<p>1) Weather forecast predicts significant rainfall event in the area</p> <p>or BoM issues a FLOOD WATCH</p> <p>or NSW SES issue a yellow “ADVICE” warning</p> 	<p>The following actions must be undertaken by the Site Manager:</p> <ol style="list-style-type: none">1) Notify all staff, site users and parents of the flood watch via SMS and email and confirm availability of relevant staff to assist with emergency actions if required.2) Ensure the emergency kit is ready to use.3) Listen to the local radio station for updates on forecasted flood heights and timings. Monitor updates on social media and NSW SES platform Hazard Watch.4) Ensure staff are familiar with their responsibilities. <p>If the flood event is not anticipated to impact the site (either directly or indirectly), the Site Manager is to continue hourly check-ins and postpone high risk activities (e.g. unnecessary deliveries etc.).</p> <p>If flood event is anticipated to impact the site, the Site Manager must undertake the following actions:</p> <ul style="list-style-type: none">• For life-threatening emergencies phone 000 immediately. <p>If outside of operational school hours (including outside of the OSHC hours) or where several hours of notice has been given:</p> <ul style="list-style-type: none">• Implement pre-emptive closure of school. Send SMS to staff and parents to inform them and advise them of closure. <p>If during school hours (or during OSHC hours) or where warning time is deemed insufficient:</p> <ul style="list-style-type: none">• An alert and warning message should be broadcast over the PA system confirming a significant flood event, notifying all students and staff to begin shelter-in-place procedures.• Ensure no one is outdoors.• Send SMS to parents, advising them of SIP strategy and asking them not to travel to school.• Direct all students and staff to shelter in their classrooms. Unnecessary movement between buildings should be avoided. Staff must check student registers and complete a headcount to ensure all site users are accounted for.• The Site Manager is to follow any action statements provided via the AWS. <p>NOTE: Avoid driving or walking through floodwaters. These are the main causes of death during flooding.</p>
<p>2) Flash flooding is reported in the media / via visual observation</p> <p>or BoM issues a FLOOD WARNING</p> <p>or NSW SES issue an amber “WATCH AND ACT” or red “ACT NOW” warning</p> 	<p>3) Visual observation shows flood is receding or the alert has been downgraded by the relevant authorities and any flood event that occurred has passed.</p>  <ul style="list-style-type: none">• The Site Manager is to confirm floodwater has subsided below the ground level and that there is no ponding within the site.• Flooded areas are to remain off limits until ponding has cleared. Site is to be inspected by the Site Manager if required. Once it has been confirmed that the water level has reduced to a suitable level, and if determined safe, the Site Manager may announce that staff and students no longer need to shelter-in-place.

8.0 Limitations and Revision of the Flood Emergency Response Plan

This FERP only addresses the shelter-in-place strategies during extreme flooding events for students and staff within the site itself and is considered a guide only. It does not cover students and staff individual safe travel arrangements to the site or when their safe travel arrangements may be disrupted by flooding and/or road closures.

In addition, this FERP is based on the currently available information for the proposed site, and must be updated following the detailed design stage, prior to the site becoming operational.

It is the NSW Department of Education & Communities' responsibility to ensure this FERP is current and updated as necessary to be in line with relevant standards, directorate, legislation, and the Regional's State Emergency Management Plan to ensure the health, safety and welfare of all staff, students and others.

9.0 Mitigation Measures and Recommendations

Project Stage <i>Design (D)</i> <i>Construction (C)</i> <i>Operation (O)</i>	Mitigation Measures	Relevant Section of Report
D	This FERP is based on the currently available information for the proposed site, and must be updated following the detailed design stage, prior to the site becoming operational.	N/A
O	Delegate Staff Responsibilities so all staff are aware of their specific roles flood response actions.	Section 5.0, Section 7.0
O	Education and signage - As part of the preparation for a flood event, all staff and students will be made aware and advised of the flood risks present on site and the flood protocols & procedures via signage. Depth markers can also be implemented along the western wall of the proposed school buildings to demonstrate the estimated 1% AEP and PMF depths, ensuring that site users are aware of the potential risks of flooding at the site.	Section 6.1
O	Flood drills - It is recommended that flood drills be held by staff annually to ensure all staff workers and students are familiar with the sound of the alert and their subsequent flood response actions.	Section 6.2
O	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.	Section 6.3

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