

Flood Emergency Response Plan

Alterations and Additions to Newington College Senior Campus, Stanmore

Prepared for Council of Newington College c/o AJC / 18 May 2026

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1.0 Introduction

This Flood Emergency Response Plan (FERP) has been prepared to support the State Significant Development Application (SSD-78268465) for alterations and additions to the Newington College Senior Campus in Stanmore.

The purpose of this report 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. The details of this report are based on currently available information and correspondence undertaken at the time of writing.

1.1 Guidance Documents

The following documents have been reviewed and referenced in preparing this report:

- Australian Institute of Disaster Resilience (AIDR), Guideline 7-3: Flood Hazard (2017);
- Department of Planning and Environment, Considering Flooding in Land Use Planning Guideline (2021);
- Department of Planning and Environment, Flood Impact and Risk Assessment – Flood Risk Management Guide LU01 (2023);
- Department of Planning, Housing and Infrastructure – Planning Circular PS 24-001, Update on addressing flood risk in planning decisions (1st March 2024);
- Inner West Council (IWC) Marrickville Council Development Control Plan (DCP), 2011;
- Inner West Council (IWC) and NSW State Emergency Service (SES) Inner West Council Flood Emergency Sub Plan (October 2023);
- NSW Department of Planning and Environment, Shelter-in-place guideline for flash flooding (2025), (<https://pp.planningportal.nsw.gov.au/draftplans/made-and-finalised/shelter-place-guideline-flash-flooding>);
- NSW Department of Planning and Environment, Flood Risk Management Manual <https://www.environment.nsw.gov.au/topics/water/floodplains/floodplain-manual> (2023);
- NSW Department of Planning and Environment, Support for Emergency Management Planning – Flood Risk Management Guideline EM01 (2023);
- NSW Planning Portal Spatial Viewer ([Spatial Collaboration Portal - Map Viewers \(nsw.gov.au\)](https://spatialcollaborationportal.nsw.gov.au)); and
- TTW, Flood Impact and Risk Assessment – Alterations and Additions to Newington College Senior Campus, Stanmore (8 May 2026).

1.2 Site Description

The Newington College Senior Campus is located at 200-244 Stanmore Road, Stanmore and is bordered by Stanmore Road to the north, Newington Road to the south and College Lane to the west. The College boundary also includes the Concordia building to the north at 221-235 Stanmore Road. The main campus is legally described as Lot 8 in DP710369 and the Concordia site is legally described as Lot A in DP109269, Lot 1 in DP49, Lot B in DP330028, and Lot 1 in DP526319.

Key features of the site include:

- The main campus site is a regular shaped allotment with an area of 8.7ha. The Concordia site (and access handle to Cavendish Street), immediately north of the main campus is irregular in shape and is 2,903sqm in area.
- The topography of the main campus is a defining characteristic, particularly the grassed slope from the historic Founders Building down to Johnson Oval. The site has an overall fall of approximately 18m from the north-west corner to south-east corner.
- The at-grade car park adjacent to the Concordia building sits approximately 2.8m above the Stanmore Road street level, and is accessed via Cavendish Street (to the rear).

- The existing school buildings are largely located along the College Lane and Newington Road edges of the site. Existing buildings generally range from 2-4 storeys in scale. The balance of the site comprises at-grade car parking and sporting facilities, including sporting ovals and tennis courts.
- The Concordia building across Stanmore Road is a two-storey building with basement and car parking accessed from Stanmore Road. An at-grade car park is located within the eastern portion of this site, with vehicular access from a driveway to Cavendish Street (to the north).
- The site has a primary frontage to Stanmore Road (which accommodates both vehicular and pedestrian access to the site) and a secondary frontage to Newington Road, which is generally limited to pedestrian access and service vehicles.
- The area surrounding the site is predominantly zoned R2 Low Density Residential and includes a combination of single dwellings and residential flat building ranging from 1-3 storeys in height. Stanmore Train Station is located approximately 220m to the north. An existing pedestrian bridge and signalised traffic lights provide pedestrian access over Stanmore Road to Stanmore Trains Station, further north.

The site is identified in Figure 1.



Figure 1: Aerial photograph of existing site (Source: Urbis 2024)

1.3 Proposed Development Description

This SSDA seeks consent for staged alterations and additions to the Newington College Senior Campus, comprising:

Concept Proposal for the provision of new and upgraded facilities, including:

- Building envelope for the redevelopment of Sevington Courts to accommodate recreational facilities and teaching spaces (refer to detailed Stage 1 Works below).

- Building envelope for alterations and additions to Centenary Hall and development of an adjoining, four storey teaching and learning facility (College Lane building). This development will accommodate a cafeteria and dining hall, lecture theatre, multi-purpose teaching spaces and additional pastoral spaces.
- Building envelope for the redevelopment of the Concordia building to accommodate a performance theatre, multi-purpose gallery and exam centre, new teaching spaces and basement car parking. The Concordia redevelopment includes a new pedestrian bridge across Stanmore Road to the main campus.
- Landscaping design strategy across the campus.
- Car parking provision and circulation arrangements.
- Increase of 368 students and 45 full-time equivalent (FTE) staff.

Detailed Stage 1 works, including:

- Earthworks and the associated demolition of Sevington Courts.
- Construction, fit-out and operation of 3 storey building comprising multi-purpose indoor and rooftop courts, fitness centre, multi-purpose teaching spaces, amenities and basement car parking.
- Construction, fit-out and operation of 4 storey building comprising multi-purpose teaching spaces, administrative functions and amenities.
- Alterations to the existing driveway within the site to facilitate vehicle access to the new basement car park.
- Temporary car park during construction phase of Stage 1 Works.
- The removal and new landscaping adjacent to the Stage 1 development site.
- Increase of 368 students and 45 FTE staff.

Figure 2 provides an aerial image of the site in its current form and showing the location of each proposed building area. Figure 3 shows the proposed masterplan of the college development.



Figure 2: Proposed site development plan



Figure 3: Proposed site development masterplan (Source: AJC Architects, dated 17 April 2026-Rev6)

The proposed upgrades aim to ultimately increase the existing college student population of 1,492 to 1,850 (i.e. a 358 increase in students).

1.4 Consultation with SES

TTW contacted NSW State Emergency Service (SES) on 19 March 2026 (via email) to request for feedback on this FERP for the proposed school development, however SES responded (on the same day) stating that SES no longer provide flood emergency feedback for individual proposed development in NSW. SES will now review and provide feedback via the referral from the Department of Planning, Housing and Infrastructure, upon the lodgement of development application. The correspondence with SES is included in Appendix A.

2.0 Flood Behaviour

To assess flood behaviour at the site, Council's TUFLOW model has been used by TTW to assess overland flow flooding, in the critical 39% AEP, 18% AEP, 10% AEP, 1% AEP and PMF events. The TUFLOW is developed by Cardno as part of the 2017 Marrickville Valley Floodplains Risk Management Study. The modelling methodology and the flood impact associated with the development are described in detail in the Flood Impact and Risk Assessment (FIRA) report prepared by TTW (dated 8 May 2026) and submitted together with this FERP. Refer to this report for detailed discussion on modelling carried out for the development. It is worth noting that this FERP only discusses the Stage 1 Sevington development scenario as the Masterplan development scenario assessed as part of the FIRA is of high-level concept nature.

A hazard assessment was also 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 4, 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). Table 1 outlines the threshold limits for each hazard category.

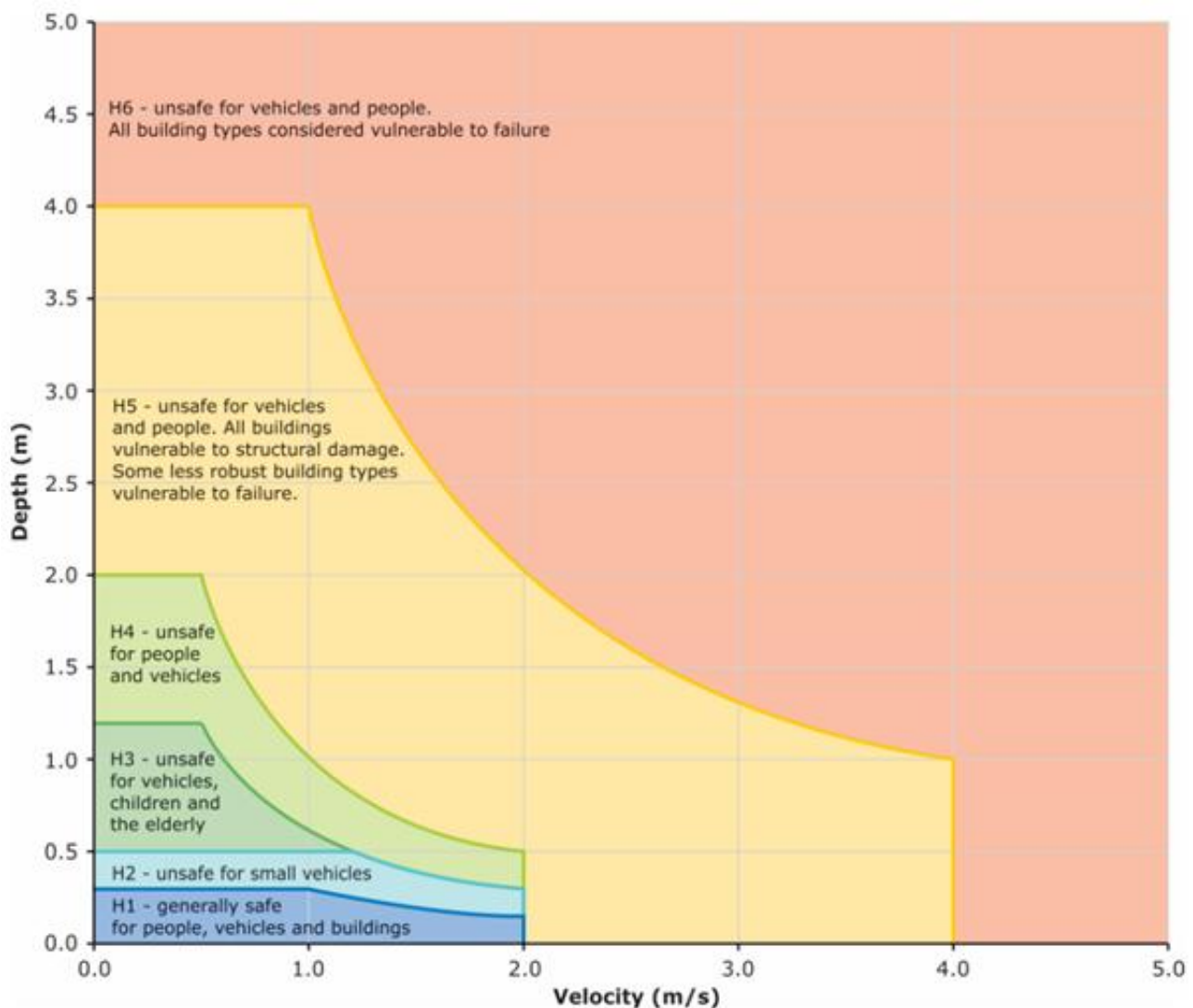


Figure 4: Flood hazard vulnerability curve (Source: Flood Risk Management Guide FB03 - Flood Hazard, NSW Department of Planning and Environment, 2022)

Table 1: Hazard vulnerability threshold limits

Hazard	Description	Classification Limit (m ² /s)	Limiting still water depth (D) (m)	Limiting velocity (V) (m/s)
H1	Generally safe for people, vehicles and buildings	$D \times V \leq 0.3$	0.3	2.0
H2	Unsafe for small vehicles	$D \times V \leq 0.6$	0.5	2.0
H3	Unsafe for vehicles, children and the elderly	$D \times V \leq 0.6$	1.2	2.0
H4	Unsafe for people and vehicles	$D \times V \leq 1.0$	2.0	2.0
H5	Unsafe for people and vehicles. All buildings vulnerable to structural damage.	$D \times V \leq 4.0$	4.0	4.0
H6	Unsafe for people and vehicles. All building types considered vulnerable to failure.	$D \times V > 4.0$	No Limit	No Limit

2.1 Post-Development Flood Behaviour

Initial modelling show that floodwater from Stanmore Road overtops the road kerbs north of the proposed Sevington building area even in the 39% AEP, therefore flood gates have been proposed at the Sevington entrance area to prevent floodwater on Stanmore Road from entering the proposed Sevington entrance and podium areas. Post-development flood behaviour at the site is described in detail in the Flood Impact and Risk Assessment report submitted alongside this FERP, and summarised for the 1% AEP and PMF events below.

2.1.1 1% AEP Event

The flood depths and levels in the 1% AEP event for the Post-Development Scenario are presented in Figure 5, with hazard classification depicted in Figure 6.

- Within the Sevington development area itself, flood affectation is low in the 1% AEP, with overland flows observed on both east and west of the proposed Sevington building. The overland flows originated from Stanmore Road, running downstream via the existing vehicular entry and exit areas. The flow depths near the entry and exit areas are observed to be generally less than 130mm with depths become shallow further south and downstream (i.e. generally less than 60mm). Hazard in the entry and exit areas are generally low at H1.
- The proposed Sevington podium and entrance staircase are flood free (i.e. protected by the proposed flood gates/barriers) in the 1% AEP event assessed.
- The crest at the entrance to the basement areas of the proposed Sevington building is not overtopped by floodwater, hence the basement areas of the building is flood free in the 1% AEP event assessed.
- Flooding within the detention area at the south-east sporting fields reaches around 0.85m, at H3 hazard (unsafe for vehicles, children and the elderly). This area should be avoided in a flood event.
- All existing school buildings located along the south-west corner of the Senior Campus site is free from flooding in the 1% AEP event assessed.
- Hazard within the Senior Campus site is generally low at H1 (generally safe for people and vehicles), however small patches of H5 and H6 hazards are observed around the steep drop in surface elevation along the edge of sporting fields where flow velocities are estimated to be high. These high hazard areas should be avoided in a flood event.
- Some sections of Newington Road are impacted by H5 hazard just south of the Senior Campus site (Unsafe for people and vehicles. All buildings vulnerable to structural damage).

- Some southern sections of Stanmore Road along the Senior Campus's north-west corner and a section near the intersection with Merchant Street to the north-east are impacted by H5-H6 hazard, which is unsafe for all traffics.

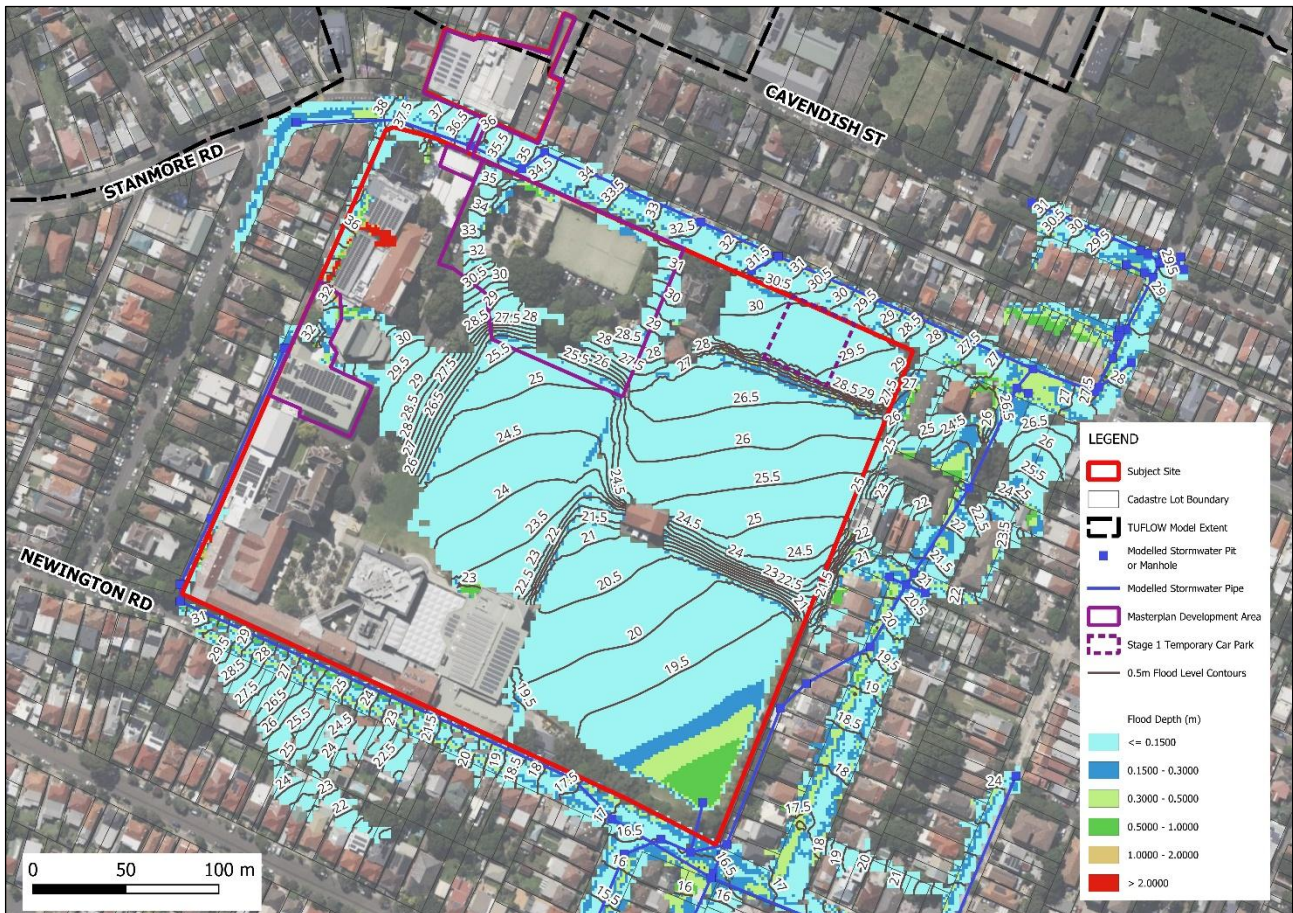


Figure 5: Post-Development Stage 1 scenario - peak flood levels and depth at the site in the 1% AEP event

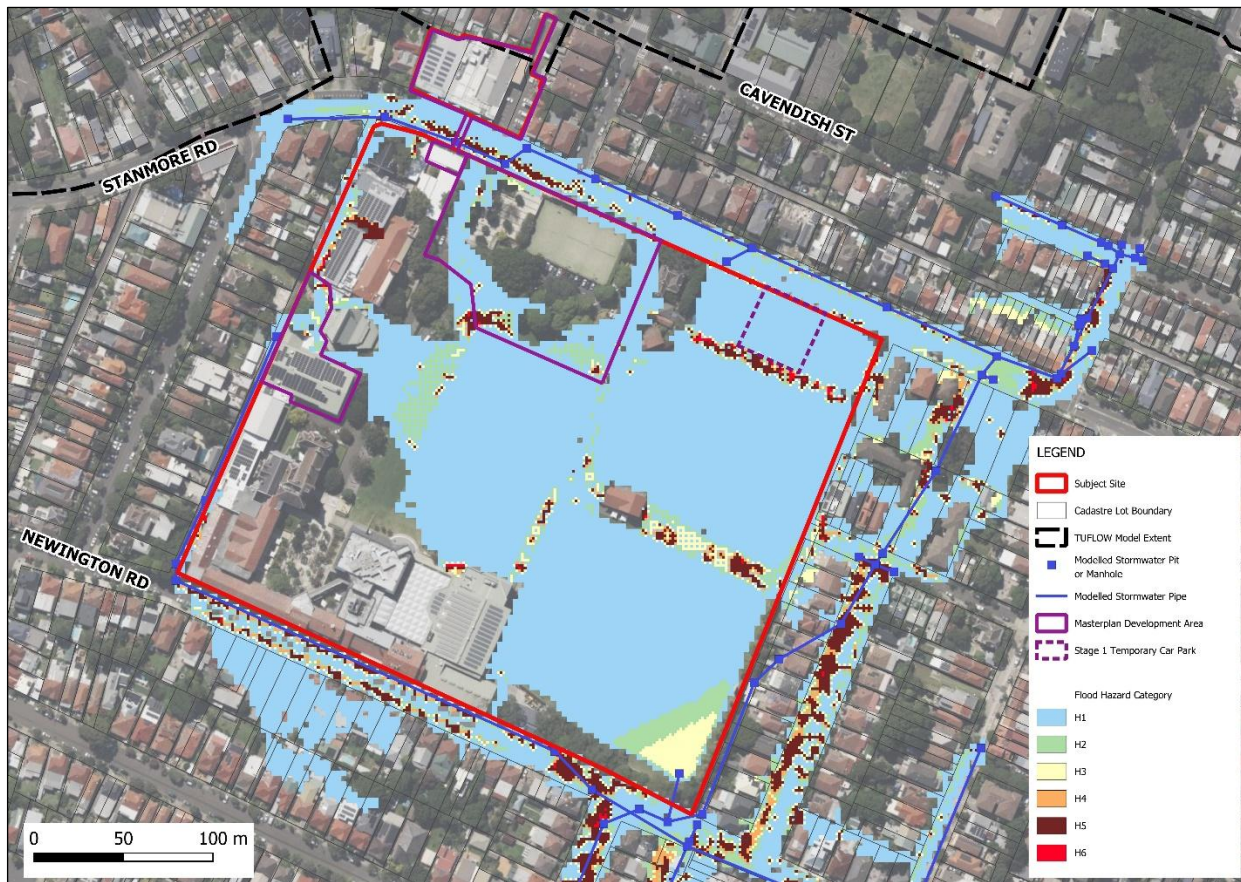


Figure 6: Post-Development Stage 1 scenario - peak flood hazard at the site in the 1% AEP event

2.1.2 PMF Event

The flood depths and levels in the PMF event for the Post-Development Scenario are presented in Figure 7, with hazard classification depicted in Figure 8.

- Within the Sevington development area itself, flood affectation is low in the 1% AEP, with overland flows observed on both east and west of the proposed Sevington building. The overland flows originated from Stanmore Road, running downstream via the existing vehicular entry and exit areas. The flow depths near the entry and exit areas are observed to be generally less than 150mm with depths become shallower further south and downstream (i.e. generally less than 100mm). Hazard in the entry and exit areas are generally low at H1.
- The proposed Sevington podium and entrance staircase are flood free (i.e. protected by the proposed flood gates/barriers) in the PMF event assessed.
- The crest at the entrance to the basement areas of the proposed Sevington building is not overtopped by floodwater, hence the basement areas of the building is flood free in the PMF event assessed.
- Flooding within the detention area at the south-east sporting fields reaches around 1.6m, at H4 hazard (unsafe for people and vehicles). This area should be avoided in a flood event.
- All existing school buildings located along the south-west corner of the Senior Campus site is free from flooding in the PMF event assessed.
- Hazard within the Senior Campus site is generally low at H1 (generally safe for people and vehicles), however small patches of H2-H6 hazards are observed around the steep drop in surface elevation along the edge of sporting fields where flow velocities are estimated to be high. These high hazard areas should be avoided in a flood event.
- Some sections of Newington Road are impacted by H5-H6 hazards just south and south-east of the Senior Campus site. Making these areas unsafe for travelling.

- Majority of the sections of Stanmore Road north of the Senior Campus and a section near the intersection with Merchant Street to the north-east are impacted by H5-H6 hazards, which are unsafe for travelling.
- Surrounding roads including England Avenue (i.e. to the south-east), Agar Street (i.e. to the south-east) and Browns Avenue (i.e. to the east) are also impacted by H5-H6 hazards.

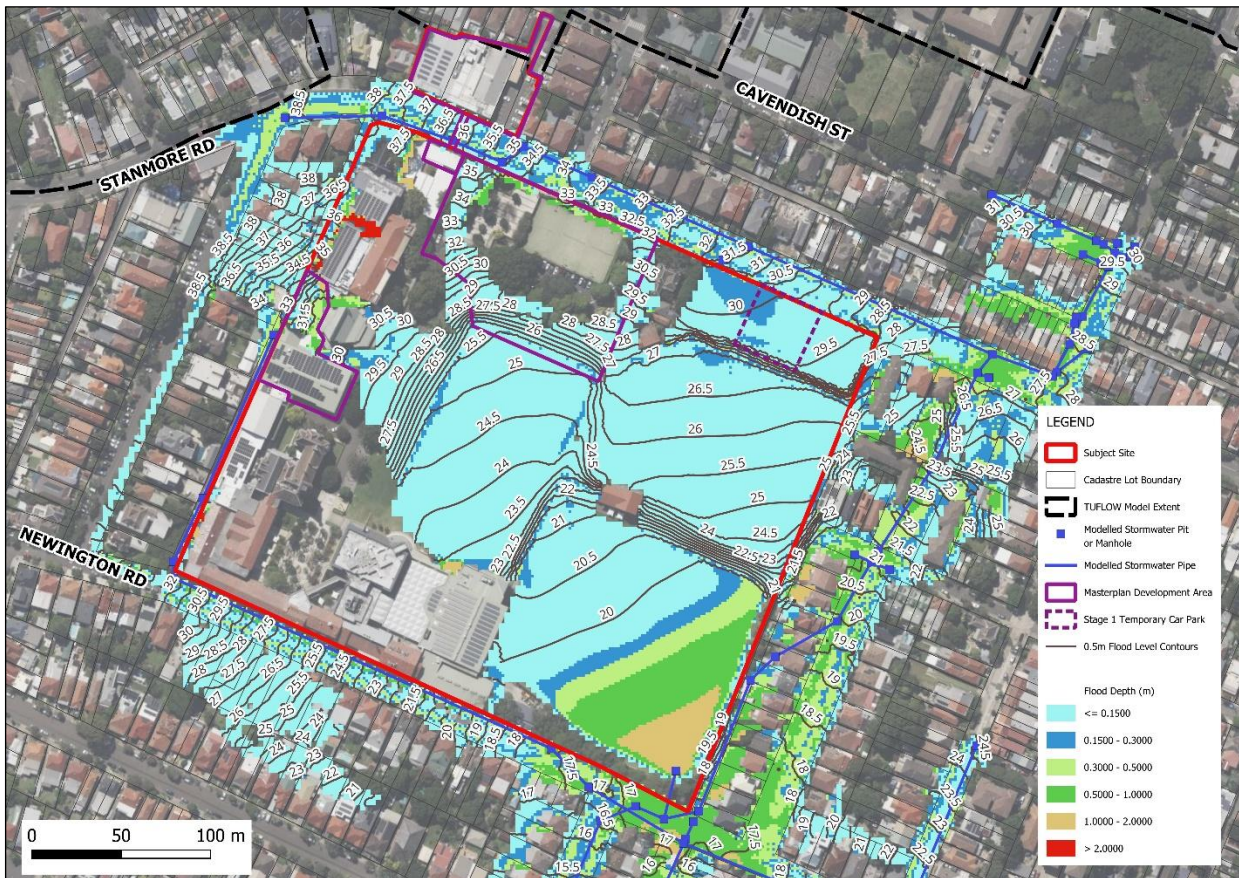


Figure 7: Post-Development Stage 1 scenario - peak flood levels and depth at the site in the PMF event

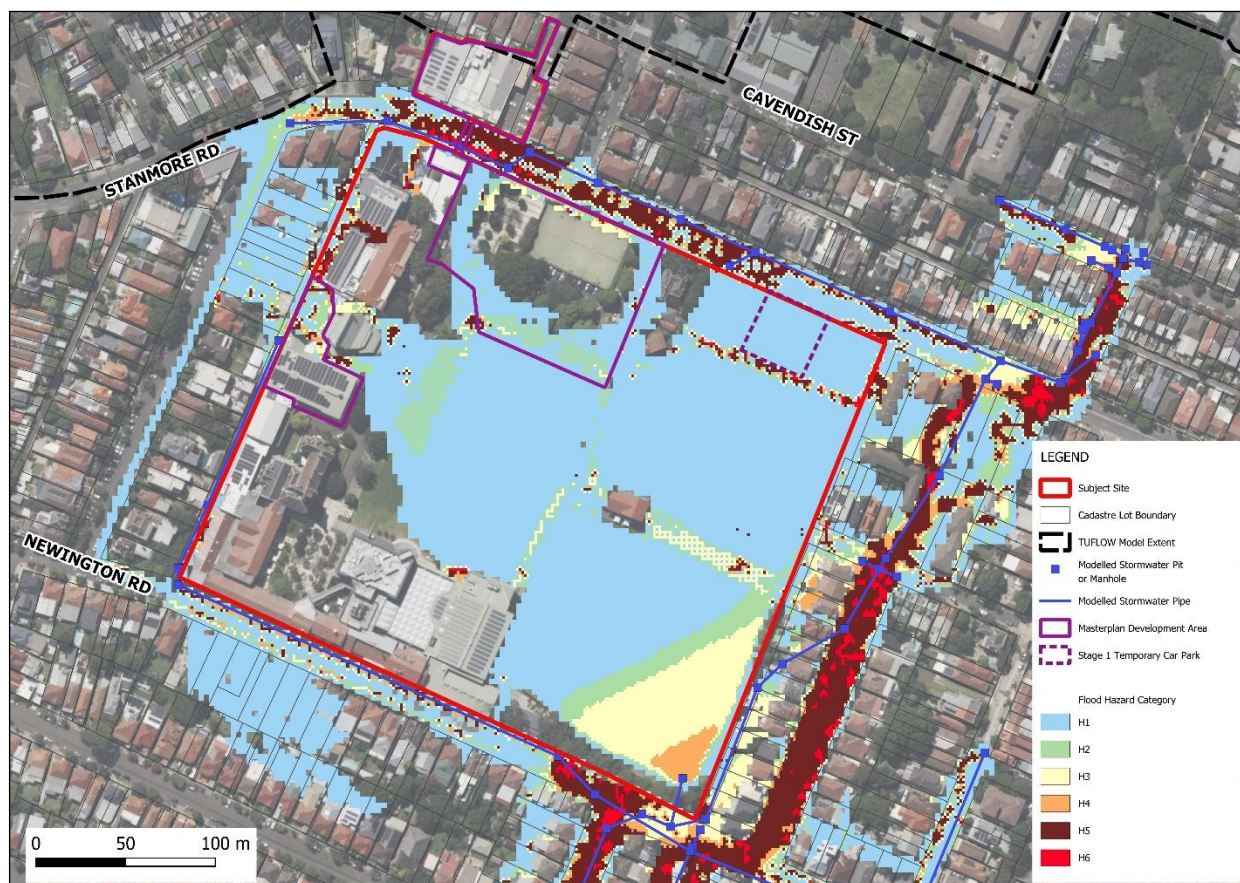


Figure 8: Post-Development Stage 1 scenario - peak flood hazard at the site in the PMF event

2.2 Inundation and Recession Times

Table 2 presents a summary of the inundation and recession times for a range of PMF storm durations, including the site critical duration storms (15-minutes). Longer PMF storm durations (i.e. 3-hours storm and 6-hours storm) have additionally been simulated and assessed, to consider the possibility of longer isolation periods.

Although it is preferred for roads to be flood free for road users, it is also 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.

Table 2: 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 for site)	< 10 minutes until flows reach a H5 hazard level at Stanmore Road at the intersection with Merchant Street, north-east of Senior Campus site. < 10 minutes until flows reach H5 hazard along Stanmore Road, north-west of Senior Campus site. This impacted the vehicular entry and exit areas to the Sevington building. < 10 minutes until flows reach H5 hazard at Newington Road near the intersection with England Avenue, south-east of Senior Campus	Egress is possible about 40 minutes after the onset of the storm by travelling north, east or west, with only residual H1 flows remaining. Isolation time of approximately 30-40 minutes. Egress is possible about 60 minutes after the onset of the storm via existing access on the south by travelling west on Newington Road.

	site. The northern part of England Avenue is also impacted by H5 hazard less than 10 minutes from the onset of the storm. < 20 minutes until flows reach H3-H4 hazards at the detention area on south-east corner of the sporting fields.	Note that travelling south on Addison Road and other major roads is only considered safe approximately 90 minutes after the onset of the storm. Hazard at the detention area on the south-east corner of the sporting fields returns fully to H1 approximately 3 hours after the onset of the storm.
60 minutes	< 10 minutes until flows reach a H5 hazard level at Stanmore Road at the intersection with Merchant Street, north-east of Senior Campus site. < 10 minutes until flows reach H5 hazard along Stanmore Road, north-west of Senior Campus site. This impacted the vehicular entry and exit areas to the Sevington building. < 10 minutes until flows reach H5 hazard at Newington Road near the intersection with England Avenue, south-east of Senior Campus site. The northern part of England Avenue is also impacted by H4 or higher hazards less than 10 minutes from the onset of the storm. < 30 minutes until flows reach H3 or higher hazards at Newington Road, south-west of Senior Campus site. < 20 minutes until flows reach H3-H4 hazards at the detention area on south-east corner of the sporting fields.	Egress is possible about 90 minutes after the onset of the storm, via Stanmore Road or Newington Road to both east and west, with only residual H1 flows remaining. Isolation time of approximately 80-90 minutes. Hazard at the detention area on the south-east corner of the sporting fields returns fully to H1 approximately 3 hours and 40 minutes after the onset of the storm.
3 hrs	< 20 minutes until flows reach a H2 hazard level at Stanmore Road near the intersection with Merchant Street, north-east of Senior Campus site. < 20 minutes until flows reach H2 or higher hazards along Stanmore Road, north-west of Senior Campus site. This impacted the vehicular entry and exit areas to the Sevington building. < 20 minutes until flows reach H3 or higher hazards at Newington Road near the intersection with England Avenue, south-east of Senior Campus site. The northern part of England Avenue is also impacted by H4 or higher hazards less than 30 minutes from the onset of the storm. < 20 minutes until flows reach H2 or higher hazards at Newington Road, south-west of Senior Campus site.	Egress is possible about 100 minutes after the onset of the storm, via Stanmore Road to the west, with only residual H1 flows remaining. Isolation time of approximately 80-90 minutes. Egress via Newington Road is possible about 3 hours after the onset of the storm, while travelling east on Stanmore Road is possible about 3 hours and 10 minutes after the onset of the storm. Hazard at the detention area on the south-east corner of the sporting fields returns fully to H1 approximately 5 hours and 30 minutes after the onset of the storm.

	< 40 minutes until flows reach H3-H4 hazards at the detention area on south-east corner of the sporting fields.	
6 hrs (Long duration)	< 40 minutes until flows reach a H2 or higher hazards at Stanmore Road near the intersection with Merchant Street, north-east of Senior Campus site. < 40 minutes until flows reach H3 or higher hazards at Newington Road near the intersection with England Avenue, south-east of Senior Campus site. The northern part of England Avenue is also impacted by H4 or higher hazards less than 50 minutes from the onset of the storm. < 30 minutes until flows reach H2 or higher hazards at Newington Road, south-west of Senior Campus site. < 60 minutes until flows reach H2 or higher hazards at the detention area on south-east corner of the sporting fields.	Egress is always possible via Stanmore Road to the west and north (via Holt Street), with only H1 hazard flows anticipated. No isolation time is expected for this storm. Travelling east via Stanmore Road is possible about 5 hours and 30 minutes after the onset of the storm, with only residual H1 flows remaining. Egress via Newington Road to the east is possible about 5 hours after the onset of the storm. Hazard at the detention area on the south-east corner of the sporting fields returns fully to H1 approximately 8 hours after the onset of the storm.

Table 2 shows that there is no way in or out of the site's vehicular access points in the critical PMF event that does not go through high or medium hazard waters. The results above and short critical duration for the catchment indicates that roads are unlikely to be isolated for an extended period of time.

In all PMF storm events assessed, the main vehicular access and egress points at the north (i.e. via Stanmore Road) and south (i.e. via Newington Road) of the Senior Campus site are cut off, with the exception of travelling west on Stanmore Road (and north via Holt Street) in the 6-hours PMF storm event assessed.

Of all the PMF storm events assessed, the route that is deemed the first to return to a low hazard, trafficable state is by travelling west on Stanmore Road or north via Holt Street, with only residual H1 flows remaining. Analysis indicates that across the range of PMF durations assessed, the maximum time the school is isolated for is less than 2 hours.

3.0 Flood Response Strategy

3.1 Preferred Strategy

3.1.1 Pre-Emptive Closure

Section 1.6.2 of the Inner West Council Flood Emergency Sub Plan states that evacuation is the primary response strategy for people impacted by flooding. Section 5.8.3 similarly highlights pre-emptive evacuation as a potential flood emergency strategy in Inner West Council LGA. 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 weather forecast notice of the extreme rainfall experienced in a 1% AEP–PMF event. During the operational phase, where there is enough severe weather 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.

In this strategy, the Inner West Council Flood Emergency Sub Plan states that School administration offices (Department of Education) will coordinate the evacuation of schools in consultation with the NSW SES and Welfare Services, if not already closed.

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

3.1.2 Shelter-in-Place

While there is likely be advanced warning time of extreme rainfall events such as those endured in a 1% AEP–PMF event, this may not always be the case as severe weather events may lead to flash flooding with little to no warning time, and pre-emptive closure of the school cannot be accomplished, as was acknowledged by SES.

Shelter-in-place (SIP) guidance published by the NSW Department of Planning and Environment (DPE) in January 2025 provides considerations that can inform whether SIP is an appropriate response strategy in a flash flood environment, alongside design considerations that should be met. Table 3 outlines the varying factors that must be considered when proposing SIP, and how this site meets the recommendations.

Table 3: Department of Planning and Environment SIP Guidelines

SIP Guideline	Response
Initial assessment	
1. Does shelter in place align with existing emergency management strategies for the area, as determined through the flood risk management process and by the NSW SES?	The main flood mechanism impacting the immediate area around the site is flash flooding via overland flow. Pre-emptive closure of the site is recommended when there is advanced warning of a major storm event, which is consistent with the flood response strategy discussed in the Inner West Council Flood Emergency Sub Plan (Section 5.8.3 of the sub plan). However, flash flood events are characterised by minimal warning times and therefore there may not be sufficient warning time to accomplish evacuation of the site, as discussed below.

2. Has evacuation off-site (the primary emergency management strategy) been investigated and determined to be unachievable?	With the flashy nature of overland flow flooding, it is likely that there is little warning time to implement evacuation off-site. Current Council's Marrickville Valley Floodplains flood modelling show that there is no way in or out of the site's vehicular access points that does not go through medium or high flood risk areas in a PMF event. NSW SES state that evacuation of a site must not require people to drive or walk through flood water. It is therefore recommended that the school is prepared for a shelter-in-place strategy.
3. Does the development include medical centres, emergency service and community facilities, and sensitive and hazardous land uses, some of which may not be suitable for shelter in place?	While the proposed site is deemed a sensitive activity as an educational establishment, the new buildings are protected to the PMF level from overland flow flooding. It is deemed more hazardous to attempt to evacuate the site once a severe storm event has already commenced, as this would involve moving vulnerable site users from a safe environment into roads subject to medium to high flood risk.
4. Shelter in place for greenfield development is not supported	The proposed activity is not for greenfield development.
5. Whether there is existing government developed flood warning systems that give advanced detailed forecasts of flash flooding to allow sufficient time to evacuate to the proposed refuge locations ²	While there are flood warnings issued by the Bureau of Meteorology and the Australian Warning System, 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.
² Flash flood warning systems are not failsafe and should not be the only mechanism to get people to shelter in place.	Flood warning systems and flood forecasting is discussed in more detail in Section 4.0. It is important to note that the warnings outlined in Section 4.0 may not be available or occur with sufficient advanced warning.
6. Can the community effectively be informed of the risks associated with the emergency management strategy?	Section 6.1 of this FERP outlines the importance of education and signage in informing site users the flood risks present on site and the flood protocols and procedures involved in the SIP strategy.
Following satisfaction of the above, the following must be assessed:	
7. Detailed assessment of evacuation off-site (the primary emergency management strategy) to determine that evacuation off-site is not achievable	With relatively small upstream contributing catchment area and flashy nature of flooding, it will take less than 10 minutes from the onset of the critical PMF storm until inundation of the adjoining roads for the proposed school site, hence there is little warning time to implement evacuation off-site. Based on current Council's Marrickville Valley Floodplains flood modelling results, there is no way in or out of the site that does not go through medium or high flood risk areas during the PMF event. NSW SES states that evacuation of a site must not require people to drive or walk through flood water. It is therefore recommended that the school is prepared for a shelter-in-place strategy.
8. The flood behaviour at the site, with consideration of climate change and assessment of the potential maximum duration of isolation up to and including the PMF to identify that:	a) The site is impacted by flash flooding derived from rainfall runoff. The site is not impacted by mainstream creek or river flooding.

a) flash flooding is the only flood risk present at the site, whether it be from overland flooding, local creek or riverine flooding, and b) the flooding occurs within less than 6 hours from the commencement of causative rain and the duration of shelter in place due to isolation by floodwaters is less than 12 hours from the commencement of rainfall, and c) the development is not subject to high hazard flooding (e.g. floodways, high hazard H5 or H6 areas) or surrounding roadways are not subject to high hazard flooding.³ ³ Flood Risk Management Guideline FB03 Flood Hazard, DCCEEW, 2023.	b) There is less than 10 minutes from the onset of the critical PMF storm until inundation of the adjoining roads for the proposed school site. The duration of inundation of the school is short due to the flashy nature of flooding in the area, with a maximum isolation period of less than 2 hours expected in the PMF event. c) While the site itself is not subject to high hazard flooding in the PMF event, as indicated in Figure 8, the surrounding Stanmore Road to the north and Newington Road to the south are subject to medium-high flood hazards. It is deemed more hazardous to attempt to evacuate the site once a severe storm event has already commenced, as this would involve moving vulnerable site users from safe refuge into hazardous roads.
9. How shelter in place will be: a) used as part of the site's emergency management response, including actions before, during and after sheltering in place, and b) communicated to occupants and visitors of the building and how this communication will be maintained for the life of the development.	a) Section 7.0 of this FERP outlines how SIP will be implemented at the site, including actions before, during and after. b) Section 0 outlines how this will be communicated to the site users and how this will be maintained.
10. An understanding of the secondary risks and how the proponent proposes they will be managed is outlined in the FIRA. Secondary risks include medical emergencies, building fire, health and wellbeing. a) Table 12 of EM01 should be used to consider whether the risks could be effectively managed.	Secondary emergencies are considered in Section 3.2. a) Table 12 of the EM01 notes that for primary and secondary schools, a key consideration for SIP is as follows: <i>'Where possible, primary and secondary school classrooms should be located above the PMF level. However, at a minimum there should be access to adequate space above the PMF within a day hospital and school building for school students, staff and visitors where the facility is not intended to be evacuated outside the floodplain.'</i> With the proposed Sevington buildings protected against the PMF flood levels and those existing school buildings on the south-west corner of the Senior Campus site located outside the estimated PMF flood extent, these proposed buildings are safe to shelter in, in the event of a flood. Table 12 of the EM01 also notes <i>"Consider developing a PA system to communicate directions and safety messages to the population in the lead-up to and during a flood to assist in improving the safety of the community."</i> A PA system has been recommended in Section 4.4 of this FERP.
Design criteria for consideration	
i. the floor level of the shelter in place part of the development be above the PMF, and	With the Sevington entrance area protected by flood gates/barriers to provide PMF flood immunity to the Sevington buildings and the crest to the basement car parking area being

	set above the PMF flood level, the proposed Sevington buildings are therefore safe for refuge across all floors. Further, all existing school buildings on the south-west corner of the Senior Campus site are located outside the estimated PMF flood extent, hence are also safe for refuge in a flood event.
ii. structural soundness for conditions in a PMF event, considering flood and debris forces, be verified by a suitably qualified structural engineer, and	As a school site and the fact that the school is not impacted by any mainstream flooding, this will be achieved.
iii. area and access to the area does not rely on access to electricity, is self-directing, and have clearly marked internal access for all people on site, including consideration of access for potential occupants and/or visitors	As a school site, access and clearly marked internal access will be achieved.
iv. protection from weather and appropriate heating and cooling	As a school site, this will be achieved and the proposed Sevington buildings, provide sufficient indoor space to ensure those sheltering in place are protected from the weather.
v. access to personal hygiene facilities such as a toilet	Adequate bathroom facilities are provided in both the new Sevington buildings and existing school buildings, including accessible bathrooms.
vi. a minimum floor space of 2 m ² per person	Overall, the existing and proposed school buildings will provide refuge space well over 2 m ² per person. The 2 m ² per person is to include all students and staff in the calculations.
vii. items for self-sufficiency that are stored, maintained and are regularly updated in an accessible location above the PMF, including sufficient drinking water and food for occupants, fire extinguishers, radios and torches with spare batteries, and a first aid kit with an automated external defibrillator (AED)	As a school site this will be achieved. Refer to Section 6.3 for this recommendation. Further, a backup generator should be kept on site and maintained to ensure electricity is provided to the buildings in the event of a blackout during a flood event.
viii. centralised communal shelters may be considered but must be freely accessible internally at all times and externally accessible during events	As a school site this won't be required. The proposed Sevington buildings are set above the PMF level, with all rooms and spaces available for shelter.
ix. access is provided to onsite systems that generate power of the shelter in place location during and after the event for a full range of flood events up to the PMF	The proposed activity does not involve new substation. The existing substation is located near the south-east corner of the existing Taylor Sports Centre on the Senior Campus's southern boundary and it is located outside the PMF flood extent. Therefore, the substation should be protected against the PMF flood event.
x. detail how these requirements will be maintained and enforced for the life of the development.	Flood Emergency Response Plans are 'living documents' which need to be regularly reviewed once the proposed Sevington development is operational to ensure they remain appropriate to address the risk to the site, can be practically implemented, and consider changing information and lessons learnt from any floods since the last review. It is recommended that the FERP is

	reviewed following staff changes, flood drills as well as after flood events to ensure that the details remain relevant.
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With less than 10 minutes from the onset of the critical PMF storm until inundation of the adjoining roads for the school site, it is recommended that the school is prepared for a shelter-in-place strategy.

Analysis shows that there is no way in or out of the site that does not go through medium to high flood risk areas during the critical duration PMF event. NSW SES states 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 likely being cut off from access roads for less than 2 hours in the PMF event. It should also be noted that all proposed buildings are to be protected against the PMF flood event and will not experience above-floor inundation. As a result, all proposed buildings are safe to shelter in from the ground floor.

During the shelter-in-place strategy, all staff and students are to remain indoors. The Chief Warden must ensure that there are no site users outdoors.

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 all staff and students should be advised to stay in the proposed and existing school buildings (at least until the magnitude of the flood is clearer), if they insist on leaving or if there is a secondary emergency during a flash flood event, the first vehicular route to become trafficable is travel west on Stanmore Road and north via Holt Street, with only residual H1 flows remaining 40 minutes and 100 minutes after the onset of the critical 15-minutes and 3-hours PMF storm events.

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 **Severe Weather Warning** is issued by the BoM when severe weather is occurring or expected to develop, that is the direct consequence of a thunderstorm. For broad severe weather such as east coast lows or vigorous cold fronts, Severe Weather Warnings are aimed to be issued 24-36 hours ahead of the expected onset. This warning time may be reduced particularly for more localised severe weather. Once a severe weather warning is issued it is routinely updated every six hours until the threat has passed but may be updated more frequently for rapidly evolving situations.
- A **Severe Thunderstorm Warning** is issued by the BoM whenever there is sufficient meteorological evidence to suggest that severe thunderstorm development is likely, or when a severe thunderstorm has been directly reported or observed. Regional warnings are provided for one or more forecast areas and aim to give 3 hours warning before thunderstorms develop. Detailed thunderstorm warnings are provided for capital cities and aim to give 60 minutes warning before severe thunderstorms develop. Warnings are updated routinely every 30-60 minutes until the threat has passed or more frequently if required.

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 Chief Warden 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 'prepare now' and 'monitor conditions' at the Advice level, to 'stay indoors' at the Watch and Act level, to 'seek shelter 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.

As the site is affected by flash flooding, little to no warning time is likely to be available, with Severe Storm Warnings and Severe Thunderstorm Warnings likely to be the only warnings available.

It is also important to acknowledge that neither the NSW SES nor the Bureau of Meteorology can provide special individual flood warning services for each affected property or school. The more specific the warning requirement for individuals and sites becomes, the more difficult it is for the NSW SES to deliver warnings in the short time frames that often apply. Therefore, school operators must be weather aware and act early on publicly broadcast severe weather and flood warnings. The Chief Warden is responsible for monitoring warning information for the Stanmore and immediate surrounding areas.

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 school staff members, especially appointed flood wardens) refer to the HazardWatch website (<https://www.hazardwatch.gov.au/>) and the Hazards Near Me app for hazards/warnings of the area of concern (i.e. Stanmore and its immediate surrounding areas in this case).

4.4 Emergency Signals

The school site should also have a Public Announcement (PA) system that can be used by the Chief Warden 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 proposed development is in operation, these roles must be delegated to specific staff members.

Table 4: Staff Flood Responsibilities

Role	Responsibilities
Chief Warden (likely to be school principal)	- 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 and HazardWatch. - Monitor BoM radar and weather in the Stanmore area. - Inform staff and students/parents of flood risk. - Familiar with this FERP procedures. - Coordinate flood SIP drills and training. - Liaise with NSW SES and Department of Education in a flood event. - Review and update of this FERP on a regular basis, especially during significant school or staff change and after a flood event.
Flood Warden (nominated by Chief Warden)	- Assist and follow directions of the Chief Warden in a flood event. - Coordinate assistance for less able students and staff. - Familiar with this FERP procedures. - Prepare and maintain 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. - Check student register and visitor log so all site users can be accounted for in a flood event. - Report missing students or site visitors to Chief Warden.
Remaining Site Personnel	- Follow the directions of the Chief Warden and Flood Wardens in a flood event. - Site users to familiarise with the existence of this FERP and participate in site flood drills.

5.2 Key Contact Details

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

Table 5: Key Contact Numbers

<u>IMPORTANT TELEPHONE NUMBERS</u>	
Chief Warden	tba
Deputy Manager	tba
Safety/First Aid Officer	tba
Centre Staff	tba
<u>External Contacts</u>	
Police/Ambulance (for life-threatening emergencies)	000
NSW State Emergency Services (SES)	132 500
Fire & Rescue NSW – Newtown Fire Station	02 9493 1005
Fire & Rescue NSW – Marrickville Fire Station	02 9493 1028
Newtown Police Station	02 9550 8199
Marrickville Police Station	02 9568 9299
Royal Prince Alfred Hospital	02 9515 6111

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 area of the main school office. This FERP must be regularly reviewed by the Chief Warden (including after a flood event experienced by the school), or in the event of any staff restructure or other significant change, to ensure it is up to date.

6.2 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. The drill should also include testing of the flood gates at the Sevington entrance to ensure that the system is always in working condition. It is the responsibility of the Chief Warden 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 Chief Warden 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 (at a minimum but not limited to):

- 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 Response Plan; and
- Emergency contact numbers.

As noted in the SIP guidance published by the DPE in January 2025, items for self-sufficiency should include sufficient drinking water and food for occupants, fire extinguishers, radios and torches with spare batteries, and a first aid kit with an automated external defibrillator (AED). These must be stored in a waterproof container in an accessible location above the PMF flood level. It is the responsibility of the Flood Warden to make sure that this kit is maintained and regularly updated, and is readily available during an emergency event.

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	Emergency Protocols
1) Before a flood event	The following actions must be undertaken by the Chief Warden: 1) Monitor weather forecast and warning applicable to the site area (i.e. Stanmore and surrounding areas). 2) Ensure that the FERP procedures and arrangements are maintained and familiar by the site personnel. 3) Organise and carry out flood drills annually (i.e. before storm season) to determine issues with this FERP and areas that can be improved. Flood gates should also be checked and maintained to ensure that the system is in working condition.
2) Weather forecast predicts significant rainfall event in the Stanmore area or BoM issues a Severe Weather Warning or NSW SES issue a yellow "ADVICE" warning 	The following actions must be undertaken by the Chief Warden: 1) Notify all staff, site users and parents of the severe weather warning 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. If a significant storm is forecast with advanced warning (>6 hrs), the Chief Warden should pre-emptively close the school. Notify parents and staff via SMS and email.
3) Flash flooding is reported in the media / via visual observation or BoM issues a Severe Thunderstorm Warning or NSW SES issue an amber "WATCH AND ACT" or red "EMERGENCY" warning 	If the flood event is not anticipated to impact the site (either directly or indirectly), the Chief Warden is to continue hourly check-ins and postpone high risk activities (e.g. unnecessary deliveries and visitors etc.). Flood gates at the Sevington entrance should be engaged when floodwater reaches the top of kerbs at Stanmore Road and it is anticipated that rain is to continue. If flood event is anticipated to impact the site, the Chief Warden must undertake the following actions: • For life-threatening emergencies phone 000 immediately. If outside of operational school hours or where several hours of notice is given: • Implement pre-emptive closure of school. Send SMS to staff and parents to inform them and advise them of closure. If during school hours or where warning time is deemed insufficient: • 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, including the Sevington podium area. Once everyone is indoors, access outside should be closed off with temporary signage advising site users of the flood risk. • Send SMS to parents, advising them of SIP strategy & asking them not to travel to school. Notify the Department of Education and SES of the SIP strategy. • Direct all students and staff to shelter in their classrooms or buildings. 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 **Chief Warden** is to follow any action statements provided via the AWS or SES.

NOTE: Avoid driving or walking through floodwaters. These are the main causes of death during flooding.

- 4) Visual observation shows flood is receding or the alert has been downgraded by the relevant authorities and any flood event that occurred has passed.



- The **Chief Warden** 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 **Chief Warden** if required. Once it has been confirmed that the water level has reduced to a suitable level, and if determined safe, the **Chief Warden** 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. This FERP also cannot account for the behaviour of individuals (e.g. site visitors), such as choosing not to remain isolated in a building for an extended flood duration or attempting to enter dangerous areas during a flood event.

In addition, this FERP is based on the currently available information for the proposed Sevington development, and must be updated following the detailed design stage, prior to the development becoming operational. Flood Emergency Response Plans are 'living documents' which need to be regularly reviewed once the development is operational to ensure they remain appropriate to address the risk to the site, can be practically implemented, and consider changing information and lessons learnt from any floods since the last review.

It is the Newington College's 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.

Authorised by
TTW (NSW) PTY LTD



MICHAEL KOI
Associate (Flood)

Appendix A – Correspondence with SES

Michael Koi

From: NSW SES Risk Reduction
<rra@ses.nsw.gov.au>
Sent: Thursday, March 19, 2026 2:58 PM
To: Rachel Caldwell
Cc: Michael Koi; NSW SES Risk Reduction
Subject: Re: Flood Emergency Response Plan -
Newington College

You don't often get email from rra@ses.nsw.gov.au. [Learn why this is important](#)

[External Email]: Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon Rachel,

Thank you for your email, we appreciate you reaching out to NSW SES regarding Flood Emergency Management Plan consultation. We refer you to the EM01 Flood Risk Management Guideline: Support for Emergency Management Planning and highlight that NSW SES does not have the legislative authority to endorse or approve such plans.

Our role involves providing guidance to State and Local planning and consent authorities. Therefore, our usual process is to kindly request that any such enquiries to NSW SES regarding SSDs are to be coordinated through the Department of Planning, Housing and Infrastructure, via the Major Projects Portal.

Thank you again for reaching out, and I hope this information helps with your enquiry.

Kind regards.

Daniela



Daniela Mitreski
Program Support Officer | Emergency Risk Assessment |
Emergency Management Directorate
NSW State Emergency Service – State Headquarters
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OUR VISION: A TRUSTED VOLUNTEER-BASED EMERGENCY SERVICE, WORKING TOGETHER TO DELIVER EXCELLENCE IN COMMUNITY PREPAREDNESS AND EMERGENCY RESPONSE.

FOR EMERGENCY HELP IN FLOODS, STORMS AND TSUNAMI CALL THE NSW SES ON 132 500

The NSW SES acknowledges the traditional custodians of the lands on which we walk, work and live. We recognise their continuing connection to land, waters and culture and pay respect to Elders, past and present.

This message is intended for the addressee named and may contain confidential information. If you are not the intended recipient, please delete it and notify the sender. Views expressed in this message are those of the individual sender, and are not necessarily the views of the NSW State Emergency Service.

From: Rachel Caldwell <Rachel.Caldwell@ttwengineers.com>
Sent: Thursday, 19 March 2026 2:22 PM
To: NSW SES Risk Reduction <rra@ses.nsw.gov.au>
Cc: Michael Koi <Michael.Koi@ttwengineers.com>
Subject: Flood Emergency Response Plan - Newington College

EXTERNAL EMAIL: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Good afternoon,
TTW have prepared a Flood Emergency Response Plan (FERP) to accompany an SSDA for alterations and additions to the Newington College Senior Campus in Stanmore.

If you could review and respond with your feedback, that would be much appreciated.
Many thanks,
Rachel

Rachel Caldwell
Civil Flood Modeller



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