

Attachment B

Submissions from NSW State Emergency Service and the NSW Department of Climate Change, Energy, Environment and Water

Our Ref: ID2864
Your Ref: PP-2024-255

10 February 2025

Gibran Khouri
City of Sydney Council
Town Hall House
Gadigal Country
Sydney 2000

email: gkhouri@cityofsydney.nsw.gov.au
CC: helen.slater@ses.nsw.gov.au

Dear Gibran,

Planning Proposal for 242-258 Young Street, Waterloo

Thank you for the opportunity to provide comment on the Planning Proposal for 242-258 Young Street, Waterloo. It is understood that the planning proposal seeks to enable development on the site for an independent 6 storey vertical primary and secondary school for 800 students in a 10,609 m² building, including:

- 45 General Learning Spaces (GLS), 13 specialist / classrooms
- A basement including 60 car parking spaces and end-of-trip facilities
- Multi-purpose hall / auditorium, Library, Canteen, Administration, lobby and circulation spaces
- An active green roof
- Incorporation of a film school of 2,935 m² within the new vertical school building
- A total of approximately 13,543 m² of gross floor area which equates to a floor space ratio of 2.94:1. The gross floor area comprises approximately:
 - 10,608 m² education floor area
 - 2,935 m² commercial (film school) floor area
- Outdoor spaces totalling approximately 4,978 m².

The NSW State Emergency Service (NSW SES) is the agency responsible for dealing with floods, storms and tsunami in NSW. This role includes, planning for, responding to and coordinating the initial recovery from floods. As such, the NSW SES has an interest in the public safety aspects of the development of flood prone land, particularly the potential for changes to land use to either exacerbate existing flood risk or create new flood risk for communities in NSW.

The consent authority will need to ensure that the planning proposal is considered against the relevant Section 9.1 Ministerial Directions, including 4.1 – Flooding and is consistent with the NSW Flood Prone Land Policy as set out in the Flood Risk Management Manual 2023 (the Manual) and supporting guidelines, including the Support for Emergency Management

Planning. Key considerations relating to emergency management are outlined in Attachment A.

The site is a low flood island, becoming isolated by floodwater in a 5% Annual Exceedance Probability (AEP) flood event¹ before becoming partially inundated events equal to or greater than a 1% AEP event. In a Probable Maximum Flood (PMF), the ground floor of the school becomes inundated for over 1.5 hours² to depths of up to 1.5m, and the open space on the site becomes inundated to depths of 3.2m.³ The high hazard flooding on the site in a PMF is unsafe for people and vehicles, and all buildings exposed to this hazard may be vulnerable to structural damage.⁴

In summary, we:

- **Recommend** further consideration should be given to determining the suitability of the site for the intended land use.
- **Recommend** undertaking further modelling to demonstrate the locations of flooding in the school, as the flood maps provided do not appear to show the flood hazard on the site as described in section 7.2.1 of the Flood Assessment.⁵
- **Recommend** further consideration of safety features for proposed lifts, to ensure that floodwater does not enter the lift and ensure people do not exit into flooded areas. This includes ensuring that all openings to the basement (including vents, stairwells, lift wells etc) are situated above the PMF, or reconsidering basement carparking if this is not feasible, as the current proposal appears to have a risk to life and property due to the location of the proposed lifts. See Principle 4 in Attachment A for further details.
- **Note** that a 'shelter in place' strategy is not an endorsed flood management strategy by the NSW SES for *future development*, which is also echoed in the NSW Government's Shelter-in-place guideline for flash flooding which states "*shelter-in-place for greenfield development is not supported.*"⁶ If the proposed site does go ahead, we **recommend** reconsidering the proposed evacuation strategy in the Operational Management Plan,⁷ as it may be more dangerous for people to attempt to evacuate during flash flood events due to short time to onset of flooding.⁸ Several

¹ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Appendix A, Figure A10, page 45.

² WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.3, Diagram 6, page 19.

³ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.1, Table 4, pages 17-18.

⁴ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Appendices A and B, Figures A12 and B12, pages 47 and 60.

⁵ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.1, pages 17-18.

⁶ NSW Department of Planning, Housing and Infrastructure, 2024, *Shelter-in-place guideline for flash flooding*, page 4.

⁷ Amina Consulting, year unknown, *Operational management plan for proposed School redevelopment at 242-258 Young Street, Waterloo*, page 30.

⁸ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2, page 17.

other changes to the Operational Management Plan are recommended, particularly for Section 7. See Principle 1 in Appendix A for detailed recommendations. Any proposed refuge location should be above the height of the PMF and aligns with the design criteria in the NSW Government Shelter-in-place for flash flooding Guideline⁹ and the Red Cross Preferred Sheltering Practices for Emergency Sheltering in Australia,¹⁰ including water supply, waste management, sanitation, food, and shelter and space management.

- **Recommend** that building design considers the potential flood and debris loadings of the PMF so that structural failure is avoided during a flood, especially considering the flash flood nature at the site. We note the current proposed “Shelter-in-place” area appears to be located above the outdoor space¹¹ which would become flooded to depths of up to 3.2m during a PMF, and all buildings exposed to this hazard are vulnerable to structural damage.¹²
- **Recommend** consideration is given to the resilience of facilities likely to become flooded, for example by installing washable finishes or removable infrastructure which would otherwise be likely to be damaged or contaminated by flood water, and locating power outlets above the PMF level.
- **Recommend** considering the impacts of climate change. It is estimated that the actual probability of a 1 in 100 AEP for this catchment area is approximately a 1 in 41 AEP event for the current 2025 scenario.¹³ For the proposed development site, this could result in more frequent inundation and isolation than what is currently expected based on previous modelling.

You may also find the following Guidelines available on the NSW SES website useful:

- [Reducing Vulnerability of Buildings to Flood Damage](#)
- [Managing Flood Risk Through Planning Opportunities](#)
- [Create an emergency plan](#)

Please feel free to contact Claire Flashman via email at rra@ses.nsw.gov.au should you wish to discuss any of the matters raised in this correspondence. The NSW SES would also be interested in receiving future correspondence regarding the outcome of this referral via this email address.

⁹ NSW Department of Planning, Housing and Infrastructure, 2024, *Shelter-in-place guideline for flash flooding*, page 6.

¹⁰ Claire Smith and Carolyn Parsons, 2015, ‘Preferred Sheltering Practices for Emergency Sheltering in Australia’. <https://www.redcross.org.au/globalassets/cms-assets/documents/emergency-services/2015-preferred-sheltering-practices-for-emergency-sheltering-in-australia.pdf>

¹¹ Amina Consulting, year unknown, *Operational management plan for proposed School redevelopment at 242-258 Young Street, Waterloo*, page 26.

¹² WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Appendix B, Figure B12, page 60.

¹³ WMAwater. 2024. Climate Change Calculator. Retrieved 23 January 2025 from <https://ccc.wmawater.com.au/>

Yours sincerely,



Peter Cinque
Senior Manager Emergency Risk Management
NSW State Emergency Service

ATTACHMENT A: Principles Outlined in the Support for Emergency Management Planning Guideline¹⁴

Principle 1 Any proposed Emergency Management strategy should be compatible with any existing community Emergency Management strategy.

Any proposed Emergency Management strategy for an area should be compatible with the evacuation strategies identified in the relevant local or state flood plan or by the NSW SES. According to the NSW State Flood Plan¹⁵ and the Sydney Local Flood Plan,¹⁶ evacuation is the preferred emergency management strategy for people impacted by flooding.

We recommend several changes to the Operational Management Plan. In summary, we recommend:

- the removal of the sections of pages 31-34 discussing modelled flood extents from the Operational Management Plan, as proposed strategies must not be based on flood likelihood. As stated in the Flood Assessment provided, *“there will be no way of accurately predicting the duration of flooding or the extent of flooding.”*¹⁷
- clarity of the proposed flood response strategies for the site, as the Flood Emergency Response Plan (FERP) within the Operational Management Plan appears to alternate between suggesting evacuation and shelter-in-place strategies, with no clear triggers for either strategy.
- implementing early triggers in the FERP such as monitoring Severe Weather Warnings and Severe Thunderstorm Warnings, and **consider closing the school down ahead of the start of the school day**, particularly considering the site is intended for sensitive uses and the flash flooding risk in the area. This is particularly challenging and likely to result in many “false alarms” as there are currently no formal warning systems for flooding at the site. However, the strategy of isolation or sheltering in buildings surrounded by flood water are not equivalent, in risk management terms, to evacuation. This is particularly dangerous for schools, where carers may attempt to enter floodwater to retrieve children.
- removing the statement in the FERP which states for people to *“gather in...the Ground Floor Multi-Purpose Hall”*,¹⁸ as this would become flooded to 1.8m which is unsafe for all people and **poses a significant risk to life.**¹⁹

¹⁴ NSW Government. 2023. Principles Outlined in the *Support for Emergency Management Planning Guideline*

¹⁵ NSW Government, 2024, *NSW State Flood Plan*, Section 5.1.7, page 34.

¹⁶ NSW SES, 2023, *City of Sydney Council Flood Emergency Sub Plan*, Section 5.8, page 16.

¹⁷ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.3, page 19.

¹⁸ Amina Consulting, year unknown, *Operational management plan for proposed School redevelopment at 242-258 Young Street, Waterloo*, page 40.

¹⁹ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.1, Table 4, page 18.

- that references to flood warnings in the FERP are removed.²⁰ As stated in the Flood Assessment, *“There will likely be very little warning of flooding, apart from very heavy local rainfall. General warnings about severe storms will be available for the Sydney Metropolitan region provided by the Bureau of Meteorology (BoM) but these will not provide specific information for this site.”*
- that references to ‘Evacuation Warning’, ‘Evacuation Order’ and ‘Flood Bulletins’ are removed as this terminology is no longer in use. The Australian Warning System uses three categories of hazard warnings: Advice, Watch and Act, and Emergency Warning. These categories replace the previous terminology. However, although the NSW SES may issue Severe Weather Warnings, it should be made clear that NSW SES does not currently issue flood warnings for this site.
- that the FERP clearly outline how notifications will be delivered to all persons on site once the FERP has been activated, and how it would ensure that people do not become trapped in flooded areas such as the proposed basement, which may be at risk of flooding due to lift wells/vents.
- Referring to the NSW SES website <https://www.ses.nsw.gov.au/plan-and-prepare/emergency-kit> regarding the proposed emergency kit²¹
- developing a testing, monitoring and review schedule for the flood emergency plan. FERPs should be regularly exercised, similar to building fire evacuation drills and updated at regular intervals and whenever additional flood information is available or highlighted during the drills or flood events.

Development strategies relying on deliberate isolation or sheltering in buildings surrounded by flood water are not equivalent, in risk management terms, to evacuation. A 'shelter in place' strategy is not an endorsed flood management strategy by the NSW SES for *future development*. Such an approach is only considered suitable for existing sites where the risk of staying is lower than the risk of evacuating, without increasing the number of people subject to such risk/s.

However, if the development proceeds, we recommend reconsidering the proposed evacuation strategy in the Operational Management Plan,²² as although sheltering in place has several risks associated with it, it may be more dangerous for people to attempt to evacuate from the site during flash flood events due to the short time to onset of flooding.

Principle 2 Decisions should be informed by understanding the full range of risks to the community.

²⁰ Amina Consulting, year unknown, *Operational management plan for proposed School redevelopment at 242-258 Young Street, Waterloo*, pages 34, 39 and 40.

²¹ Amina Consulting, year unknown, *Operational management plan for proposed School redevelopment at 242-258 Young Street, Waterloo*, page 25.

²² Amina Consulting, year unknown, *Operational management plan for proposed School redevelopment at 242-258 Young Street, Waterloo*, page 30.

Decisions relating to future development should be risk-based and ensure Emergency Management risks to the community of the full range of floods are effectively understood and managed. Further, risk assessment should consider the full range of flooding, including events up to the Probable Maximum Flood (PMF) and not focus only on the 1% AEP flood. Climate change considerations should also be included, in line with NSW Government Guidelines. It is noted that the site itself is isolated during a 5% AEP event²³ and partially inundated during a 1% AEP event, with depths of up to 3.2m on the site and 1.5m on the ground level of the building in a PMF.²⁴

The site is a low flood island, becoming isolated by floodwater in a 5% AEP flood event²⁵ before becoming inundated during events at or greater than a 1% AEP event. In a PMF the ground floor of the school becomes inundated for over 1.5 hours²⁶ to depths of up to 1.5m, and the open space on the site becomes inundated to depths of 3.2m.²⁷ The high hazard flooding on the site in a PMF is unsafe for people and vehicles, and all buildings exposed to this hazard may be vulnerable to structural damage.²⁸ We also note the Hunter Street sag point immediately adjacent to the site becomes inundated by over 0.5m of floodwater as frequently as a 50% Annual Exceedance Probability flood event, and depths of over 4m in a Probable Maximum Flood (PMF) event.²⁹

We further note the current modelling included in the Flood Assessment appears to block out the building footprint, showing no flooding on the site itself. This does not align with the flood behaviour described in section 7.2.1 of the Flood Assessment.³⁰ We recommend additional modelling is undertaken showing the flood depth, velocity and hazard within the site itself. Of particular significance are areas surrounding any lift wells, stairs or ramps.

Current evidence suggests that flood events will become more frequent due to climate change. The projected increase in heavy rainfall will increase flood risk in cities, built-up urban areas, and small catchments. A Climate Change Calculator has been developed to address the updated ARR climate change guidelines (Wasko et al, 2024), recommending the adjustment

²³ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Appendix A, Figure A10, page 45.

²⁴ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.1, Table 4, pages 17-18.

²⁵ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Appendix A, Figure A10, page 45.

²⁶ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.3, Diagram 6, page 19.

²⁷ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.1, Table 4, pages 17-18.

²⁸ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Appendices A and B, Figures A12 and B12, pages 47 and 60.

²⁹ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 2.2, page 5.

³⁰ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.1, pages 17-18.

of the BoM 2016 IFDs to account for the warming that has occurred since the mid-point of the data used for their development (1961-1990). This results in a significant increase in existing conditions flood levels.³¹

The change in flood probabilities with climate change for this catchment area results in the new probability of the 1 in 100 AEP to be approximately 1 in 41 AEP event for the current 2025 scenario, becoming even more frequent in the future.³² For the proposed development site, this could result in more frequent inundation and isolation than what is currently expected based on previous modelling.

Principle 3 Development of the floodplain does not impact on the ability of the existing community to safely and effectively respond to a flood.

The ability of the existing community to effectively respond (including self-evacuating) within the available timeframe on available infrastructure is to be maintained. It is not to be impacted on by the cumulative impact of new development.

Risk assessment should have regard to flood warning and evacuation demand on existing and future access/egress routes. Consideration should also be given to the impacts of localised flooding on evacuation routes. Evacuation must not require people to drive or walk through flood water.

Development strategies relying on an assumption that mass rescue may be possible where evacuation either fails or is not implemented are not acceptable to the NSW SES.

Principle 4 Decisions on development within the floodplain does not increase risk to life from flooding.

We recommend ensuring that all openings to the basement (including vents, stairwells, lift entrances etc) are situated above the PMF, or reconsidering basement carparking if this is not feasible, to reduce risk to life and property. The Flood Assessment states the crest level of the basement entry would be protected to the PMF,³³ however the ground floor would become flooded to depths of 1.5m during a PMF event,³⁴ which may inadvertently lead to flooding of the basement through other openings (such as lift wells or vents). **This may pose a risk to life** for anyone located either in the basement or on ground floor, as they may become trapped by floodwater and unable to safely evacuate to higher ground.

³¹ Babister et al. 2024. Climate Change Calculator: Estimating Changes to Flood Probability Under Different Climate Change Scenarios, page 1

³² WMAwater. 2024. Climate Change Calculator. Retrieved 23 January 2025 from <https://ccc.wmawater.com.au/>

³³ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 6, Table 3, pages 14-15.

³⁴ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.1, Table 4, pages 17-18.

Managing flood risks associated with low flood islands requires careful consideration of development type, likely users, and their ability respond to minimise their risks. This includes consideration of:

- Isolation – There is no known safe period of isolation in a flood, the longer the period of isolation the greater the risk to occupants who are isolated. Even relatively brief periods of isolation, in the order of a few hours, can lead to personal medical emergencies that have to be responded to.
- Secondary risks – This includes fire and medical emergencies that can impact on the safety of people isolated by floodwater. The potential risk to occupants needs to be considered and managed in decision-making.
- Consideration of human behaviour – The behaviour of individuals such as choosing not to remain isolated from their family or social network in a building on a floor above the PMF for an extended flood duration or attempting to return to a building during a flood, needs to be considered.

A basic principle of emergency management is to separate people from hazards. Given that it is rare to be able to move the hazard, the most widely accepted method of doing so is to implement evacuation. When the option for evacuation is denied and the hazard cannot be moved then a dangerous situation remains that requires the highest level of monitoring and intervention. This will be at a time when resources are in abnormally high demand.

Principle 5 Risks faced by the itinerant population need to be managed.

Any Emergency Management strategy needs to consider people visiting the area or using a development.

Where possible, new 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 school building for school students, staff and visitors where the facility is not intended to be evacuated outside the floodplain.

We recommend that any proposed refuge location is above the height of the PMF and aligns with the Red Cross Preferred Sheltering Practices for Emergency Sheltering in Australia,³⁵ including water supply, waste management, sanitation, food, and shelter and space management.

Principle 6 Recognise the need for effective flood warning and associated limitations.

³⁵ Claire Smith and Carolyn Parsons, 2015, *Preferred Sheltering Practices for Emergency Sheltering in Australia*. <https://www.redcross.org.au/globalassets/cms-assets/documents/emergency-services/2015-preferred-sheltering-practices-for-emergency-sheltering-in-australia.pdf>

An effective flood warning strategy with clear and concise messaging understood by the community is key to providing the community an opportunity to respond to a flood threat in an appropriate and timely manner. As the site is affected by flash flooding little to no warning time likely to be available, Severe Weather Warnings and Severe Thunderstorm Warnings from the Australian Bureau of Meteorology are likely to be the only warnings currently available for the site.

Principle 7 Ongoing community awareness of flooding is critical to assist effective emergency response.

The flood risk at the site and actions taken to reduce risk to life should be communicated to all site users (includes increasing risk awareness, community connections, preparedness actions, appropriate signage and emergency drills) during and after the construction phase. However, it is important to note that the NSW SES is opposed to the imposition of development consent conditions requiring private flood evacuation plans rather than the application of sound land use planning and flood risk management.

Development in a floodplain will increase the need for NSW SES to undertake continuous community awareness, preparedness, and response requirements. Residents and users of the proposed development should be made aware of their flood risk, the [Hazards Near Me](#) app (a tool to receive flood warnings as part of the Australian Warning System) and the [NSW SES website](#) which contains comprehensive information for the general community about what to do before, during and after floods as well as in-language resources and HazardWatch (NSW SES interactive information and warnings site).

Our Ref: ID 3037 (reissue)
Your Ref: PP-2024-255

10 April 2025

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CC: helen.slater@ses.nsw.gov.au

Dear Gibran,

Planning Proposal for 242-258 Young Street, Waterloo

Thank you for the opportunity to provide comment on the Planning Proposal for 242-258 Young Street, Waterloo. It is understood that the planning proposal seeks to enable development on the site for an independent 6 storey vertical primary and secondary school for 800 students in a 10,609 m² building, including:

- 45 General Learning Spaces (GLS), 13 specialist / classrooms
- A basement including 60 car parking spaces and end-of-trip facilities
- Multi-purpose hall / auditorium, Library, Canteen, Administration, lobby and circulation spaces
- An active green roof
- Incorporation of a film school of 2,935 m² within the new vertical school building
- A total of approximately 13,543 m² of gross floor area which equates to a floor space ratio of 2.94:1. The gross floor area comprises approximately:
 - 10,608 m² education floor area
 - 2,935 m² commercial (film school) floor area
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The NSW State Emergency Service (NSW SES) is the agency responsible for dealing with floods, storms and tsunami in NSW. This role includes, planning for, responding to and coordinating the initial recovery from floods. As such, the NSW SES has an interest in the public safety aspects of the development of flood prone land, particularly the potential for changes to land use to either exacerbate existing flood risk or create new flood risk for communities in NSW.

The consent authority will need to ensure that the planning proposal is considered against the relevant Section 9.1 Ministerial Directions, including 4.1 – Flooding and is consistent with the NSW Flood Prone Land Policy as set out in the Flood Risk Management Manual 2023 (the Manual) and supporting guidelines, including the Support for Emergency Management Planning.

The site is a low flood island, becoming isolated by floodwater in a 5% Annual Exceedance Probability (AEP) flood event¹ before becoming partially inundated events equal to or greater than a 1% AEP event. In a Probable Maximum Flood (PMF), the ground floor of the school becomes inundated for over 1.5 hours² to depths of up to 1.5m, and the open space on the site becomes inundated to depths of 3.2m.³ The high hazard flooding on the site in a PMF is unsafe for people and vehicles, and all buildings exposed to this hazard may be vulnerable to structural damage.⁴

NSW SES previously provided advice regarding the proposal, dated 10 February 2025. A meeting was held with representatives from NSW SES, the City of Sydney Council (Council) and the Department of Climate Change, Energy, the Environment and Water (DCCEEW) on 27 March 2025, 11:30am – 12:00pm via Teams. This updated response clarifies the position of NSW SES.

In summary, we recommend further consideration should be given to determining the suitability of the site for the intended land use. There are significant flood hazard risks associated with the site which are unlikely to be adequately removed by redesigning the proposed development, and we therefore do not consider an educational facility for children to be a suitable use of the site.

We also note that a 'shelter in place' strategy is not an endorsed flood management strategy by the NSW SES for *future development*, which is also echoed in the NSW Government's Shelter-in-place guideline for flash flooding which states "*shelter-in-place for greenfield development is not supported.*"⁵

Please feel free to contact Claire Flashman via email at rra@ses.nsw.gov.au should you wish to discuss any of the matters raised in this correspondence. The NSW SES would also be interested in receiving future correspondence regarding the outcome of this referral via this email address.

Yours sincerely,



Peter Cinque
Senior Manager Emergency Risk Management
NSW State Emergency Service

¹ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Appendix A, Figure A10, page 45.

² WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.3, Diagram 6, page 19.

³ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Section 7.2.1, Table 4, pages 17-18.

⁴ WMAwater, January 2024, *Flood assessment for planning proposal for 242-258 Young Street, Waterloo*, Appendices A and B, Figures A12 and B12, pages 47 and 60.

⁵ NSW Department of Planning, Housing and Infrastructure, 2024, *Shelter-in-place guideline for flash flooding*, page 4.



Your ref: PP-2024-255
Our ref: DOC25/34455

Gibran Khouri
Specialist Planner
City of Sydney
Town Hall House, Gadigal Country
SYDNEY NSW 2000

Subject: Planning proposal PP-2024-255 – 242-258 Young Street, Waterloo

Dear Gibran,

Thank you for your referral received 14 January 2025, requesting advice from the Conservation Programs, Heritage and Regulation (CPHR) Group of the NSW Department of Climate Change, Energy the Environment and Water (DCCEEW) on the 242 – 258 Young Street, Waterloo Planning Proposal.

It is understood that the planning proposal seeks a site-specific amendment to the *Sydney Local Environmental Plan 2012* to increase in the height and floor space ratio to facilitate the development of the site for a new kindergarten to year 12 (K-12) independent school, multi-purpose hall and community space, and reaccommodate the existing film school on the site.

CPHR has reviewed the exhibited information and provides its comments and recommendations at Attachment A. In summary:

- the proposal is inconsistent with the requirements of Local Planning Direction 4.1 Flooding which states that new developments must not increase flood risks or expose occupants to significant flood hazards and avoid intensifying flood risk in vulnerable locations
- high-velocity floodwaters will create severe safety risks for children
- the flood modelling underestimates on-site flood risk
- the proposal presents emergency access and evacuation concerns and does not comply with NSW Shelter in Place for Flash Flooding guideline
- the proposal presents severe and unmitigated flood risks and therefore it is recommended that it be redesigned to fully mitigate flood risks, or alternative locations should be considered.

Should you have any queries regarding this matter, please contact Rachel Walker, Senior Conservation Planning Officer via rachel.j.walker@environment.nsw.gov.au.

Yours sincerely,

03/03/2025

Susan Harrison
Senior Team Leader Planning
Regional Delivery – Greater Sydney Branch
Conservation Programs, Heritage and Regulation Group

CPHR comments on the Planning Proposal for 242-258 Young Street, Waterloo (PP-2024-255)

In preparing this advice CPHR has reviewed the following documents:

- Planning Proposal Justification Report prepared by Ethos Urban dated 9 February 2024
- Flood Assessment for Planning proposal for 242-258 Young Street, Waterloo prepared by WMA dated January 2024.

Inconsistency with Local Planning Direction 4.1 - Flooding

The Local Planning Directions (Focus Area 4: Resilience and Hazards, Section 4.1 - Flooding) state that new developments must not increase flood risks or expose occupants to significant flood hazards and avoid intensifying flood risk in vulnerable locations. CPHR highlights the following issues:

- Flood depths in the 1% Annual Exceedance Probability (AEP) event reach up to 1.7 m, making the site hazardous for pedestrians, particularly young children.
- Probable Maximum Flood (PMF) depths exceed 4 m, with velocities of 3-4 m/s, meaning the site would be entirely inundated with deep, fast-moving floodwaters.
- The 20% AEP (1 in 5-year event) already results in H3 hazard levels in parts of Hunter Street, indicating that flooding poses a danger to children and pedestrians even in more frequent, moderate flood events.
- The development proposes an educational facility in an area with known high flood risk, including deep overland flow paths and localised ponding at the Hunter Street sag point. Table 2.8.3 in guideline FB01 [Understanding and Managing Flood Risk](#) lists schools as high vulnerability and suggests sensitive receivers should not be located on the floodplain, as evacuation challenges and high-velocity floodwaters increase risks to vulnerable populations.

High-Velocity Floodwaters Create Severe Safety Risks for Children

Children are particularly vulnerable in floods due to their lower body weight and reduced ability to navigate fast-moving water. Even adults struggle to stand in water moving at 1.5 m/s, meaning velocities of 3-4 m/s are life-threatening. Please refer to the NSW Government Flood Hazards Guidelines for further information. CPHR raises concerns with respect to:

- Floodwaters in the 1% AEP event exceed 2 m/s in some areas, reaching 3-4 m/s in the PMF event.
- Such high velocities make it extremely dangerous for children and parents, as:
 - Velocities above 1.5 m/s are unsafe for pedestrians.
 - At 2 m/s, small vehicles can be lifted off the ground.
 - At 3-4 m/s, floodwaters exert forces strong enough to destabilise structures.

Model Underestimation of On-Site Flood Risk

Hunter Street acts as a major flood collection area, meaning floodwaters will likely encroach onto the site more aggressively than the modelling suggests. The WMA Water flood modelling primarily shows floodwaters on roads, which is likely a limitation of the modelling approach rather than an accurate representation of real-world conditions. CPHR raises concerns that:

- 4 m of floodwater (as expected in the PMF) will not remain confined to roads. It is highly probable that floodwaters will spill across the site, affecting school buildings and increasing hazards to students and staff.

- The absence of designated floodways on-site does not align with best practices in flood risk management, as floodwaters must be accounted for within the site rather than assumed to remain on surrounding roads.
- The proponent must clarify the limitations of their modelling assumptions, particularly regarding whether floodwaters will truly remain confined to roads in extreme events.
- Please also note that whilst the assessment considers the relative building footprints, the Flood Assessment has not demonstrated pre and post development impacts to upstream properties as part of the assessment. However, this should only be undertaken once the modelling approaches to the buildings on the site and surrounds are assessed.

Emergency Access and Evacuation Concerns

- Flood depths of 1.5 m at the Hunter Street sag point make pedestrian and vehicle evacuation impossible during major flood events.
- The basement car park is highly vulnerable to water ingress, as PMF flood levels exceed the entrance threshold, making rapid inundation highly likely.
- Flash flooding risk means that floodwaters could rise quickly with little time for effective response, leaving students and staff trapped.
- With floodwaters reaching high velocities, emergency response efforts would be severely compromised, placing both the school community and rescue personnel at risk.

Finally, the proposed Emergency Strategy does not comply with NSW Shelter in Place for Flash Flooding guideline. The guideline states that shelter-in-place is only appropriate where flood depths remain below H5 and H6 Hazards. In contrast, the site experiences flood depths of up to 1.7 m in the 1% AEP event and velocities exceeding 3 m/s in the PMF, making sheltering unsafe and unfeasible. At these depths and velocities, structural damage and water ingress are likely, further compromising safety. Flash flooding events at this site could escalate rapidly, providing little time for authorities to implement a shelter-in-place strategy and students and staff may become trapped in floodwaters, leading to life-threatening conditions.

Emergency responders may be unable to reach the site safely due to high flood depths and velocities on surrounding roads, making external rescue efforts unfeasible. The guideline states that shelter-in-place should only be used when emergency services can aid if needed, which is not the case for this site due to its isolation during floods.

CPHR strongly recommends NSW State Emergency Service (SES) is consulted with respect to the emergency management concerns at this location. Please refer to Table 21 in Flood Risk Management Guideline EM01 [Support for Emergency Management Planning](#).

for further details on why evacuation is not feasible, and development should be reconsidered.

Conclusion

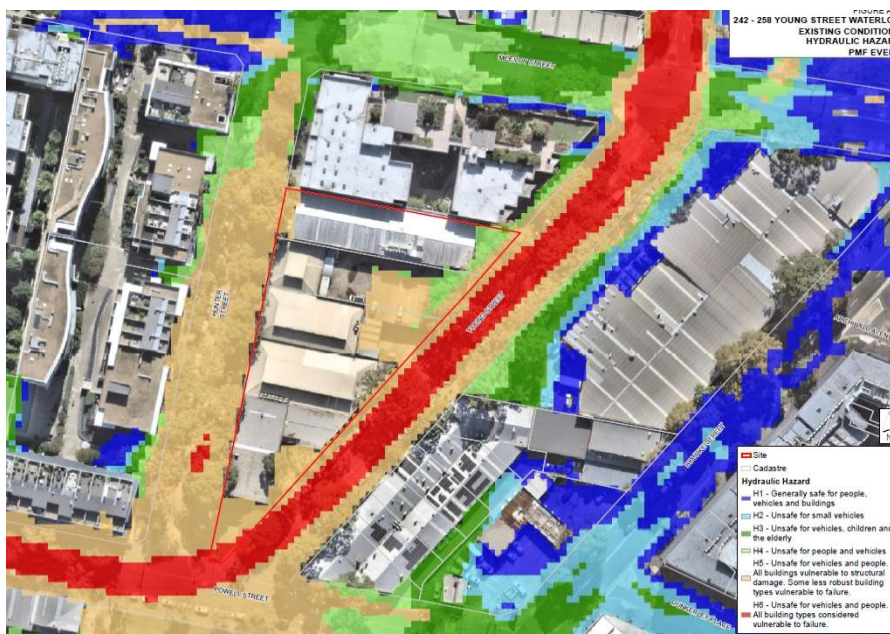
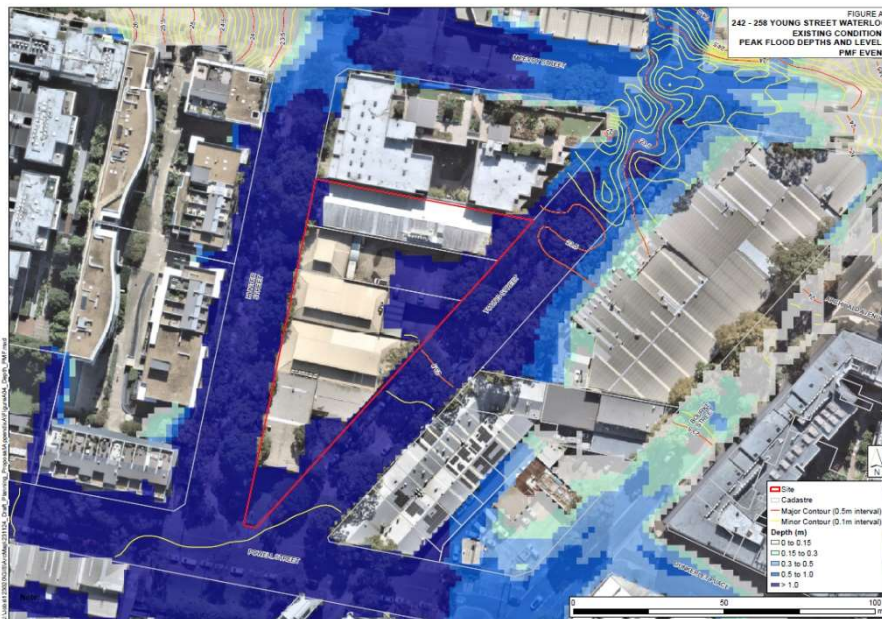
The planning proposal at 242-258 Young Street, Waterloo presents severe and unmitigated flood risks. It is inconsistent with Local Planning Direction 4.1: Flooding and does not comply with the NSW Shelter in Place for Flash Flooding guideline. To proceed, the proponent must either redesign the development to fully mitigate flood risks or consider alternative locations that align with flood risk management best practices.

References extracted from Flood Assessment –

Table 1: Peak flood levels and depths at the Hunter Street sag point and peak flows crossing McEvoy Street towards the site

Event	Peak Flood Level ¹ (mAHD)	Peak Flood Depth ² (m)	Peak Flow ³ (m ³ /s)
50% AEP	19.88	0.53	0.48
20% AEP	20.15	0.8	0.84
10% AEP	20.32	0.97	1.35
5% AEP	20.51	1.16	1.79
2% AEP	20.68	1.33	2.01
1% AEP	21.05	1.7	3.16
0.5% AEP	21.36	2.01	5.11
0.2% AEP	21.63	2.28	8.58
PMF	23.36	4.01	81.3

1. Sourced from Reference 1 modelling at the Hunter Street sag point
2. Calculated flood depth based on the surveyed surface level of the Hunter Street sag pit
3. Peak overland flows crossing McEvoy Street towards the site



End of Submission



Your ref: PP-2024-255
Our ref: DOC25/34455

Gibran Khouri
Specialist Planner
City of Sydney
Town Hall House, Gadigal Country
SYDNEY NSW 2000

4 April 2025

Subject: Planning proposal PP-2024-255 – 242-258 Young Street, Waterloo

Dear Gibran,

Thank you for your referral received 2 April 2025, requesting further advice from the Conservation Programs, Heritage and Regulation (CPHR) Group of the NSW Department of Climate Change, Energy the Environment and Water (DCCEEW) on the 242 – 258 Young Street, Waterloo Planning Proposal.

As discussed at the meeting held on 27 March 2025 with City of Sydney Council and the NSW State Emergency Service (SES), CPHR would like to confirm its position that the site is not considered suitable for the proposed development which is a sensitive land use, and design changes would not be sufficient to mitigate flood risks.

Should you have any queries regarding this matter, please contact Rachel Walker, Senior Conservation Planning Officer via rachel.j.walker@environment.nsw.gov.au.

Yours sincerely,

Susan Harrison
Senior Team Leader Planning
Regional Delivery – Greater Sydney Branch
Conservation Programs, Heritage and Regulation Group