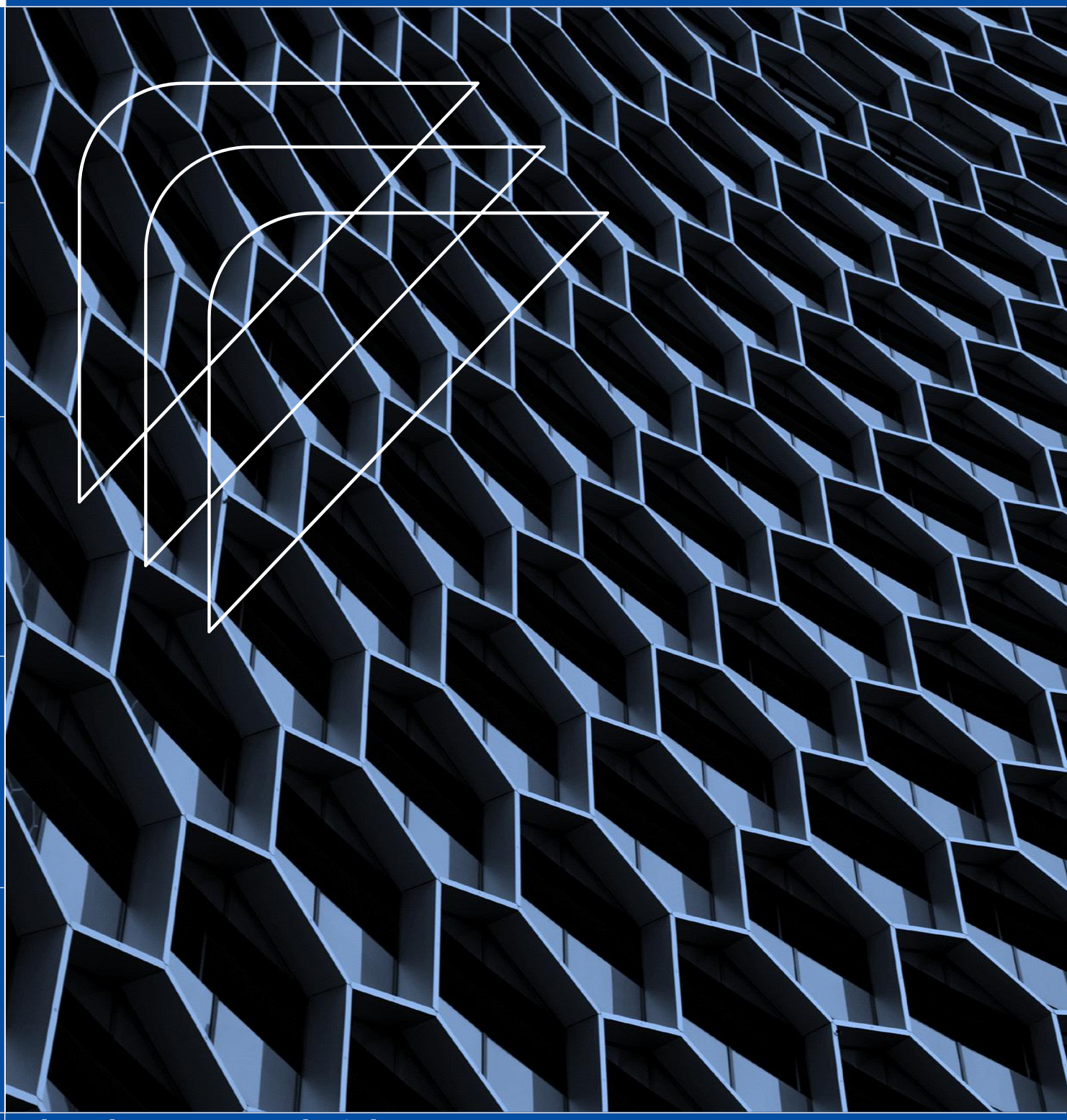
CIVIL

FLOODING

STORMWATER

STRUCTURAL

REMEDIAL



Flood Impact and Risk Assessment

Newington Boulevard Newington 2127

deboke
ENGINEERING CONSULTANTS

Prepared For

School Infrastructure NSW

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Document Approval

Name	Andrew Arida
Title	Director
Client	SINSW
Signature	

Limitations

This report has been prepared by Deboke solely for School Infrastructure NSW (SINSW) for the purpose of assessing potential flood risks associated with proposed Activity works at Newington Public School. The report scope is defined by SINSW's project brief, timelines, and site access conditions.

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Deboke has relied on third-party information, including data from Parramatta Council and other relevant authorities. While this information is considered reliable, Deboke has not independently verified all sources. No guarantees are offered regarding future changes or unobserved site conditions. This report should not be used beyond its intended purpose without prior written consent.

Glossary

ANNUAL EXCEEDANCE PROBABILITY (AEP)
The chance of a flood of a given or greater magnitude occurring in any one year, usually expressed as a percentage (e.g., 1% AEP flood has a 1 in 100 chance of occurring in any given year).

AUSTRALIAN HEIGHT DATUM (AHD)
A common national reference datum for elevation, approximately equivalent to mean sea level.

AVERAGE RECURRENCE INTERVAL (ARI)
The long-term average interval between occurrences of floods of a given magnitude or greater. Note: ARI has largely been replaced by AEP in modern flood studies.

CATCHMENT
The geographic area from which rainfall and surface runoff flow into a river, drainage system, or other body of water.

CLIMATE CHANGE FACTOR
An adjustment applied to rainfall or flood levels to account for the potential impacts of future climate change scenarios.

CRITICAL DURATION
The rainfall duration that produces the highest flood peak or volume at a particular location in a catchment.

DESIGN FLOOD EVENT (DFE)
A flood event (typically defined by an AEP or ARI) adopted for the purpose of design and planning. It is used to determine required levels, drainage capacity, and flood mitigation measures.

FLOOD
Relatively high stream flow which overtops the natural or artificial banks of a watercourse, or overland flow that inundates normally dry land.

FLOOD EXTENT
The spatial area covered by floodwaters during a specific flood event.

FLOOD HAZARD
A classification of the degree of danger to life and property due to floodwaters, considering depth, velocity, and evacuation difficulty.

FLOOD LIABLE LAND / FLOOD PRONE LAND
Land susceptible to inundation by the Probable Maximum Flood (PMF) or defined flood events.

FLOODPLAIN
An area of land adjacent to a watercourse or coastal waterbody that is subject to periodic inundation.

FLOODPLAIN RISK MANAGEMENT
A process of identifying, assessing, and managing flood risks to reduce adverse impacts on the community, environment, and infrastructure.

FLOOD PLANNING LEVELS (FPLs)
The combination of a defined flood level and freeboard adopted for land use planning and development control purposes.

FREEBOARD
A vertical distance (usually in millimetres) added above the defined flood level to provide a safety margin for uncertainties in flood estimation and risks.

FLOOD STORAGE AREA
Areas on the floodplain that store floodwaters and help attenuate downstream flooding. Loss of these areas can increase flood risk elsewhere.

FLOOD VELOCITY
The speed at which floodwaters move across land or within a watercourse.

HABITABLE ROOM
In residential or commercial settings: a room intended for human occupation or use, including offices, bedrooms, kitchens, or any space where valuable possessions are stored.

HYDRAULIC CATEGORY
A classification of land based on its function in conveying floodwaters—typically includes floodways, flood storage, and flood fringe areas.

HYDROGRAPH
A graph showing how streamflow or water level changes over time during a flood event.

HYDROLOGICAL MODELLING
A method for simulating the rainfall-runoff processes within a catchment to estimate flows at various points.

INFRASTRUCTURE AT RISK
Includes essential services and assets (e.g. roads, bridges, power substations) that may be impacted during flood events.

OVERLAND FLOW
Surface water flow over the land that occurs before the water reaches a defined channel or pipe network, often resulting from intense localised rainfall.

PEAK DISCHARGE
The maximum flow rate (usually measured in cubic metres per second) recorded during a flood event at a particular location.

PROBABLE MAXIMUM FLOOD (PMF)
The largest flood that could conceivably occur, derived from the Probable Maximum Precipitation (PMP) and assuming worst-case hydrological conditions.

PROBABLE MAXIMUM PRECIPITATION (PMP)

The greatest depth of rainfall for a specified duration that is theoretically possible over a particular area at a given time of year, based on meteorological conditions.

RUNOFF

That portion of rainfall that is not absorbed into the ground and instead flows across the land surface into watercourses or drainage systems.

SOFACS

Statement of Facts and Contentions – A document used in legal or planning proceedings summarising agreed facts and disputed matters.

STORMWATER

Rainwater that flows over impervious surfaces (e.g., roads, roofs) and is conveyed through drainage systems to downstream catchments, rivers, or oceans.

TAILWATER LEVEL

The water surface elevation downstream of a structure (e.g., culvert or channel) which can influence flow capacity and upstream flooding.

TWO-DIMENSIONAL (2D) MODELLING

Hydraulic modelling that calculates water flow in both horizontal directions (x and y axes), providing a more detailed simulation of overland flow and flood extents.

WATER SURFACE ELEVATION

The height of the water level at a given location, usually referenced to AHD.

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Executive Summary

This Flood Impact and Risk Assessment has been prepared by Deboke Engineering Consultants Pty Ltd on behalf of School Infrastructure NSW (SINSW) in support of proposed upgrade works at Newington Public School, located within the Parramatta Local Government Area. The assessment evaluates the flood risk context of the site to determine whether it is affected by flooding and if the proposed Activity is likely to alter existing flood behaviour or trigger additional flood-related planning or design requirements.

This assessment forms part of the early-stage planning and feasibility process, aiming to inform design decisions and ensure alignment with applicable floodplain risk management and planning controls. It included a detailed desktop review of the following:

- Published flood studies and flood maps issued by Parramatta City Council and relevant authorities.
- Historical flood data, including the 1% Annual Exceedance Probability (AEP) and Probable Maximum Flood (PMF) extents.
- Local and regional topography using LiDAR and site-specific survey data.
- Conditions observed during a site walkover inspection.
- Planning instruments relevant to floodplain risk.

Parramatta Council have received NSW government grant to update the Haslams Creek Flood Study in 2024. After consultation with Parramatta Council via a phone call, we have been informed that this flood study will be put on exhibition by the 3rd quarter of 2026. The main purpose for this updated flood study is predominantly due to the upgrade works along hill road which is on the opposite side of the creek from the subject site. For this reason, the flood risk analysis was based on the most up to date Haslams Creek Overland Flood Study (2016) – Draft, prepared by Royal HaskoningDHV for Auburn City Council. The study utilised advanced 2D hydrodynamic modelling and LiDAR data to define flood behaviour across a range of storm events, from frequent AEP events to the PMF.

Deboke has prepared an updated flood model to determine the impact the proposed works will have on the flood regime. It was found that the proposed upgrade works will not result in any increased risk to life nor any adverse impacts to neighbouring properties.

While not formally designated within a mapped Flood Risk Precinct under the Parramatta DCP 2023, the site supports a sensitive land use and warrants a conservative design approach. Deboke recommends incorporating flood-resilient strategies, such as setting finished floor levels above the PMF, using flood-compatible materials, and preserving overland flow paths.

The assessment concludes that the proposed works are feasible from a flood risk perspective and may proceed with implementation of appropriate mitigation measures and an updated flood management and evacuation strategy.

1 Introduction

1.1 Purpose and Scope of the Report

The purpose of this report is to deliver a Flood Impact and Risk Assessment for the proposed Activity of Newington Public School, as commissioned by School Infrastructure NSW (SINSW). This assessment supports the early design and planning phases of the upgrade project by identifying any potential flood risks that could impact the site's feasibility, safety, or compliance with statutory floodplain regulations.

The scope of this assessment aligns with the requirements outlined in the Scope of Works provided by SINSW, and it serves to inform decision-making for infrastructure planning, approval pathways, and design risk mitigation. This includes the identification of flood-related planning controls, the feasibility of the upgrade in terms of flood risk, and preliminary advice for managing potential flood hazards associated with Haslams Creek and local overland flow paths.

The core activities completed under this report include:

- Review and analysis of regional and council flood maps, flood studies, stormwater drainage infrastructure, and available as-built documentation;
- Liaison with Parramatta City Council to obtain flood levels and supporting information for the site;
- Site inspection to verify drainage conditions and assess contributing overland flow characteristics;
- Evaluation of applicable planning controls, environmental constraints, and local drainage features;
- Development of preliminary recommendations to support flood-safe design integration;
- Preparation and submission of a draft and final report.

1.2 Background and Proposed Works

This Flood Impact and Risk Assessment has been prepared by Deboke Engineering Consultants (Deboke) on behalf of the Department of Education (the Proponent) to assess the potential environmental impacts that could arise from the redevelopment of Newington Public School at 49A Newington Boulevard, Newington Lot 320 DP1285196 (the site). This report has been prepared to assess the potential impacts of the proposed activity on local overland flooding and to identify appropriate measures to mitigate any potential impacts or risks to life.

This report accompanies a Review of Environmental Factors (REF) that seeks approval for the redevelopment of Newington Public School, which involves the following works:

- Construction of a new two (2) storey building comprising:
  - General and specialist learning areas
  - Staff facilities
  - External stairwell and lift
- Construction of a new covered walkway and partial demolition of an existing covered walkway
- Landscaping
- Civil work upgrades
- Ancillary services and infrastructure upgrades

For a detailed project description, refer to the Review of Environmental Factors (REF) prepared by EPM Projects.

1.3 Objectives

The objective of this Flood Impact and Risk Assessment is to evaluate the flood exposure of the Newington Public School site under both current and proposed conditions. The flood assessment aims at various flood scenarios including 1% AEP, PMF as well as climate change scenarios. This is to develop the following: extreme flood conditions, including the Probable Maximum Flood (PMF) and a range of Annual Exceedance Probability (AEP) events and proposed conditions to:

- Provide post-developed flood results
- Incorporate climate change scenarios for the year 2100
- Identify applicable planning and design implications arising from known flood risks;
- Determine if further detailed modelling or flood impact analysis is required;
- Determine the extent of impact caused by the proposed activity
- Determine if the proposed activity poses an unacceptable risk to life for the students and staff

1.4 Guidelines and Standards

This assessment has been undertaken in accordance with relevant industry guidelines and planning controls to ensure accuracy, consistency, and regulatory compliance. The key documents and standards referenced in the preparation of this report include:

- **NSW Floodplain Development Manual (2005)**
- **Australian Rainfall and Runoff (ARR 2019)**

- Parramatta Development Control Plan (DCP) 2023
- NSW Planning Guidelines for Development on Flood-Prone Land

These documents have informed the hydrology assessment for the proposed activity.

1.5 Limitations and Assumptions

The sole purpose of this report and the associated services performed by Deboke is to provide an assessment of the overland flow at the subject site in accordance with the scope of services set out in the contract / quotation between Deboke and SINSW. That scope of works and services were defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to the site.

Deboke derived the data in this report primarily from a number of sources which included site inspections, correspondence regarding the proposal, examination of records in the public domain, interviews with individuals with information about the site or the project, and field explorations conducted on the dates indicated. The passage of time, manifestation of latent conditions or impacts of future events may require further examination / exploration of the site and subsequent data analyses, together with a re-evaluation of the findings, observations and conclusions expressed in this report.

In preparing this report, Deboke may have relied upon and presumed accurate certain information (or absence thereof) relative to the site. Except as otherwise stated in the report, Deboke has not attempted to verify the accuracy of completeness of any such information (including for example survey data supplied by others).

The findings, observations and conclusions expressed by Deboke in this report are not and should not be considered an opinion concerning the completeness and accuracy of information supplied by others. No warranty or guarantee, whether express or implied, is made with respect to the data reported or to the findings, observations and conclusions expressed in this report. Further, such data, findings and conclusions are based solely upon site conditions, information and drawings supplied by the Client etc. in existence at the time of the investigation.

This report has been prepared on behalf of and for the exclusive use of the Client and is subject to and issued in connection with the provisions of the agreement between Deboke and the Client. Deboke Engineering accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.

2 Site Description & Background Information

2.1 Site Description and Location

The site has frontage to Newington Boulevard (76 metres along western lot boundary), public open space (140 metres along the eastern boundary) and medium density residential development (179 metres along the northern lot boundary and 181 metres along the southern boundary). The site comprises a single allotment, legally described as Lot 320 in deposited plan (DP) 1285196 with an approximate site area of 2ha.

The site is located in the suburb of Newington on the western side of Haslams Creek, opposite the Sydney Olympic Park Precinct and Auburn waste resource facility. The site's location is approximately 5.2km southeast of the Parramatta central business district, approximately 2.5km north of the Lidcombe town centre and approximately 3km southwest of the Rhodes town centre.

Table 1 Site Description Summary

Summary	Site Description
Address	49A Newington Blvd, Newington NSW 2127
Lot/DP	Lot 320 DP1285196
Topography	Gently grades towards the Eastern Boundary and Haslams Creek
Proximity to Haslams Creek	Rear Boundary is approximately 75m West of Haslams Creek

The site is surrounded by residential buildings on the North and South boundary. The property fronts Newington Boulevard and Haslams Creek lies to its' rear. The existing lot is currently occupied with Newington Public School.

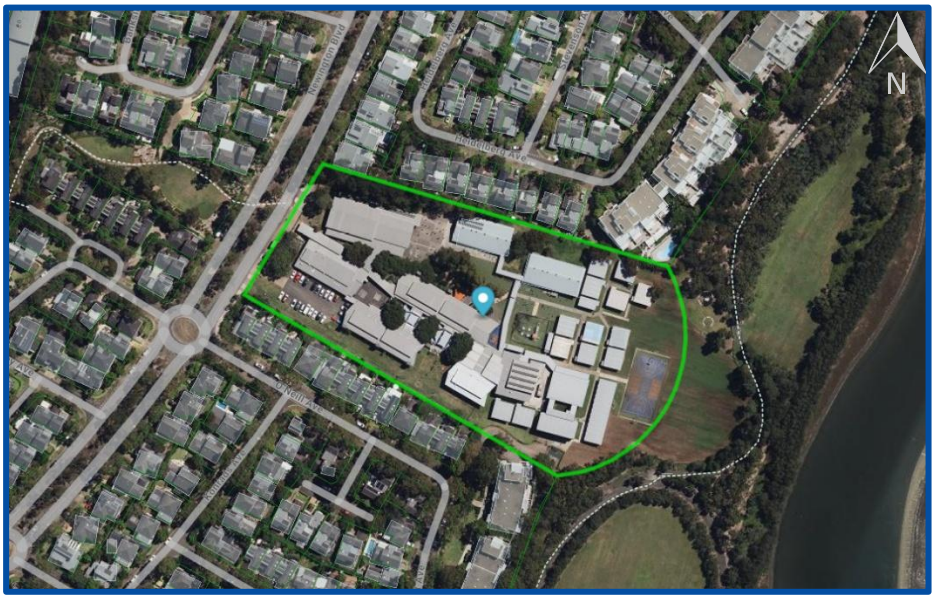


Figure 1 Site Locality (Source: Mecone Mosaic)

2.2 Site Inspection

A site inspection was undertaken by flood engineers from Deboke on 7 May 2025, under the supervision of the acting school principal. The inspection indicated that the existing site drainage system appears to be functioning effectively, with no observed evidence of pooling, erosion, or flood-related damage around built infrastructure.

During the walkover, the grassed open spaces at the rear of the site were noted to be saturated and muddy underfoot, suggesting prolonged soil moisture retention in lower-lying areas. Along the South-East boundary of the school grounds, a large detention tank was identified, into which the school appears to be connected. Survey markings on the structure confirmed the presence of a substantial 1800mm diameter pipe entering and exiting the tank, with discharge directed towards Haslam's Creek.

Discussions with the acting principal indicated that the school has not experienced any significant flooding impacts during recent heavy rainfall events. The demountable buildings currently on site are elevated on block piers, with minimum clearances of approximately 500mm. While this is standard practice for demountable construction, it may also reflect an effort to achieve compliance with applicable Flood Planning Levels (FPL).

Photographic documentation from the inspection is provided in Appendix A.

2.3 Existing Site

Newington Public School occupies a site with a layered historical context and evolving land use. Originally constructed as a medical facility to support the Sydney 2000 Olympics, the campus was later repurposed to serve as a permanent educational facility. This adaptive reuse has influenced both the layout and functionality of the current school environment.

The school comprises a mix of building types, including pre-2000 permanent structures and newer single-level classrooms delivered under the Building the Education Revolution (BER) program.

The site lies within a shallow valley landform that grades towards Haslam's Creek. This natural slope informs the distribution of facilities across the campus. The upper section of the site contains smaller outdoor spaces and pedestrian pathways, while the lower portion supports a playing court and sports field. During the site inspection, a functional drainage system was observed, including a large detention tank located on the south eastern boundary of the site. Overland flow from the site appears to follow natural grading patterns, ultimately discharging to Haslam's Creek.

2.4 Proposed Activity

The proposed activity includes the construction of 10 new permanent teaching spaces in a two-storey building with integrated amenities, partial demolition of an existing covered walkway, landscaping and civil work upgrades and ancillary services and infrastructure upgrades. Due to onsite constraints, the proposed activity has been located within the extents of the PMF flood event, as such a comprehensive Pre-Post assessment is required to determine if the proposed activity will cause an unacceptable risk to future students and staff.

3 Planning & Authorities Requirements

3.1 Haslams Creek Overland Flood Study (2016) – Draft Issue

As part of the due diligence process for this assessment, Deboke obtained a copy of the Haslams Creek Overland Flood Study (2016) – Draft, prepared by Royal HaskoningDHV for Auburn City Council, with support from the NSW Office of Environment and Heritage (OEH). The study provides a comprehensive update to the earlier 1999 flood investigation and represents the first detailed analysis extending across the entire Haslams Creek catchment through to its confluence with the Parramatta River.

The purpose of the study was to inform future floodplain risk management activities and planning controls by incorporating contemporary data and methods, including two-dimensional (2D) hydrodynamic modelling and LiDAR-derived surface topography. It accounts for flooding from multiple sources such as local stormwater runoff, creek flows, and tidal backwater influences.

The investigation involved:

- Review and analysis of historical flood data;
- Calibration of hydrologic and hydraulic models using observed data;
- Estimation of design flood behaviour under existing catchment conditions;
- Sensitivity testing of model parameters;
- Assessment of potential impacts from climate change; and
- Production of detailed flood mapping outputs including peak levels, velocities, hazard categorisation, and flood planning extents.

This study forms the foundational flood mapping reference for Newington Public School and identifies sections of the site, including areas within the proposed activity footprint, as being located within the low-to-medium flood risk precinct.

3.2 Local Flood Planning Context

Flood planning for the proposed activity at Newington Public School is governed by the Parramatta Development Control Plan (DCP) 2023, which categorises Educational Establishments as "Sensitive Uses and Facilities" under Table 5.1.1.1 – Land Use Category Definitions. Under Table 5.1.1.2 – Floodplain Matrix Planning and Development Controls, such land uses are deemed not permissible within low, medium, or high flood risk precincts.

While no Flood Planning Level (FPL) has been formally assigned to the site under current zoning overlays, flood mapping provided in the Haslams Creek Overland Flood Study (2016 – Draft, prepared by Royal HaskoningDHV) identifies portions of the school grounds-including areas of the proposed activity footprint-as being within the low-to-medium flood risk precinct.

4 Existing Flood Behaviour Assessment

4.1 Overview of Flood Information Sources

The assessment of existing flood behaviour at Newington Public School draws upon the Haslams Creek Overland Flood Study (2016) – Draft, prepared by Royal HaskoningDHV for Auburn City Council. This comprehensive study utilises 2D hydrodynamic modelling informed by high-resolution LiDAR data to evaluate overland flow, stormwater runoff, creek-based flooding, and tidal backwater effects from the Parramatta River. The study replaces the previous 1999 flood assessment, which was limited in extent and used 1D modelling.

From an engineering perspective, the application of a minimum depth threshold (e.g., 0.1 m) would refine the flood extents and better reflect genuine flood risk zones. These modelling nuances were taken into account during the overlay analysis of the proposed activity footprint against flood mapping outputs.

4.2 Design Flood Events Assessed

As part of this assessment Deboke has prepared a 1D/2D Tuflow assessment to develop the existing flood conditions and model the proposed scenario to determine the impacts. Key storm events assessed included the 1% AEP, 1% AEP plus climate change and PMF scenarios. These events were selected to provide a representative understanding of site susceptibility across a range of potential flood conditions. The results of this overlay assessment are summarised in the table below:

Table 2 Flood Event Summary Table

Flood Event	Site Affected	Impact
1% AEP	Yes	Overflow from existing stormwater infrastructure causing minor encroachment on the proposed new two-storey building with depths estimated at approximately 50 mm.
1% AEP + CC	Yes	Overflow from existing stormwater infrastructure causing minor encroachment on the proposed new two-storey building with depths estimated at approximately 50 mm. Estimated to increase by 33% by the year 2100.
PMF	Yes	Combination of mainstream flooding and overflow from existing stormwater infrastructure causing minor encroachment on the proposed new two-storey building, with depths estimated at approximately 50–500 mm.

4.3 Site Impact Summary

Flood mapping prepared by Deboke indicates that the proposed activity footprint is located within areas of low-to-medium flood risk. However, mapping outputs suggest that flood depths across the activity area remain shallow and are primarily associated with surface runoff and overland flow from adjacent catchments.

Figures 2 through 4 illustrate the estimated post developed flood extents for the 1% AEP, 1% AEP + CC and PMF respectively. These figures confirm minimal encroachment of deeper floodwaters into the proposed building zones, with the most notable impacts confined to peripheral landscape areas.

While the site is not classified within a high-risk precinct, the precautionary design measures recommended in Section 3.2 will help safeguard future infrastructure and operations against flood-related impacts under extreme event conditions.

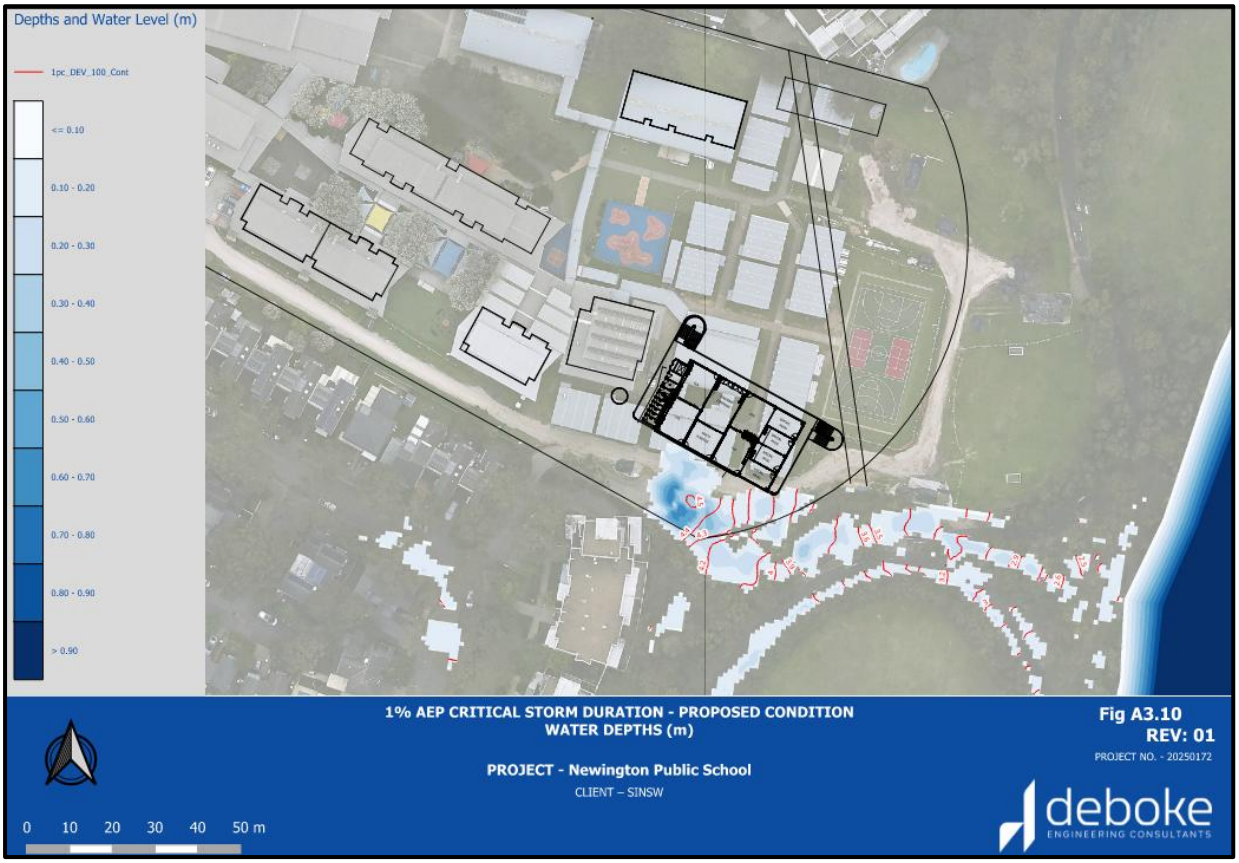


Figure 2 Peak Flood Depth (1% AEP Event) – Post Activity Scenario

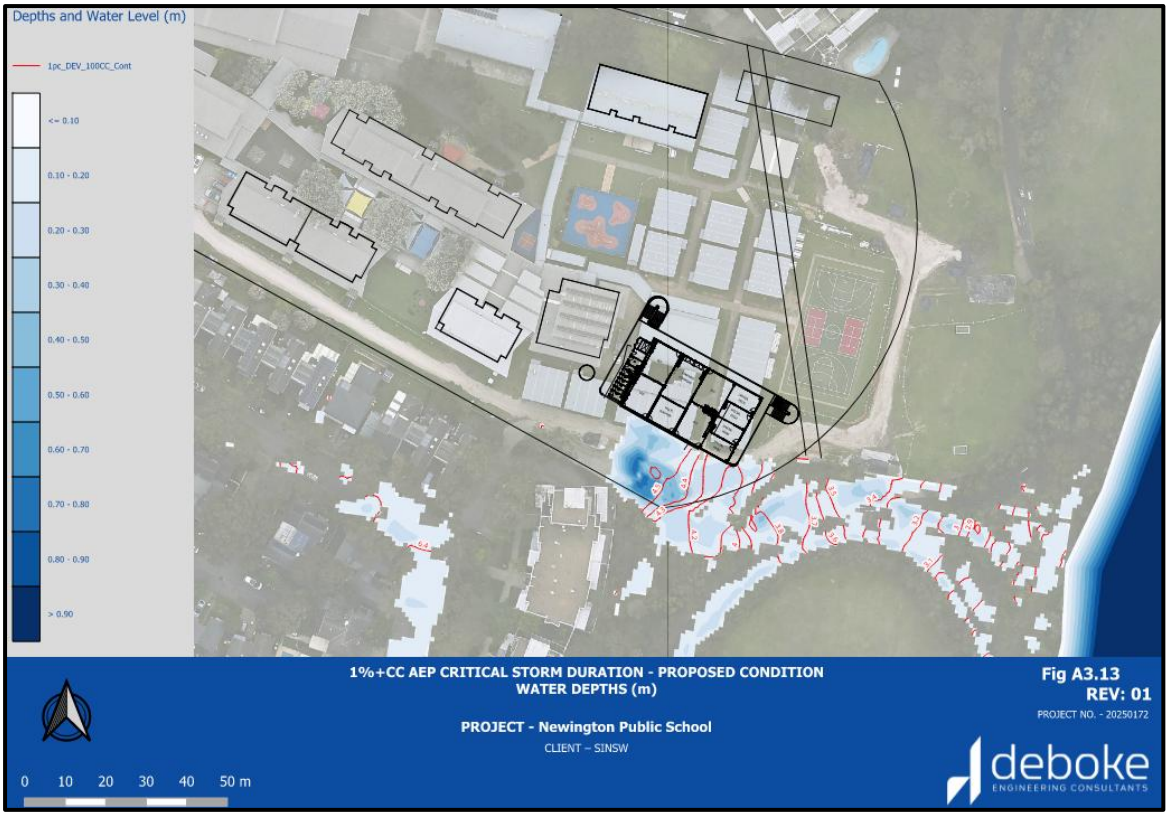


Figure 3 Peak Flood Depth (1% + CC AEP Event) – Post Activity Scenario

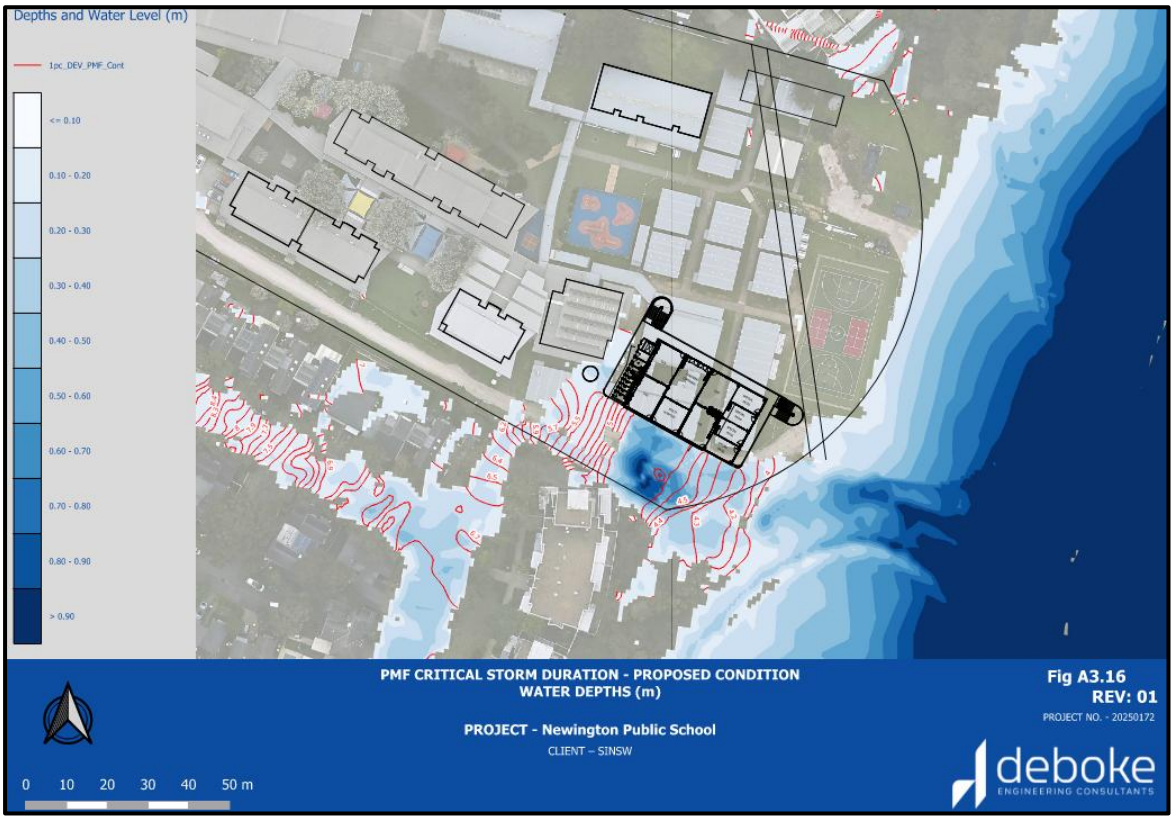


Figure 4 Peak Flood Depth (PMF Event) – Post Activity Scenario

5 Discussion and Interpretation

The analysis undertaken confirms that the site is located within a mapped low-to-medium flood risk precinct. While the proposed activity is subject to shallow flooding during critical design storm events, the impacts are limited in depth and extent. A summary of the impacts can be found in Appendix C

The Flood Impact Assessment shows that the two-storey teaching block may experience minor overland flow and ponding during the PMF event. However, these effects are manageable through strategic design interventions. Key considerations include setting finished floor levels above the PMF extent, ensuring flood-compatible materials are used, and maintaining overland flow paths.

The proposed structure has been designed to ensure no adverse impacts to neighbouring properties while maintaining compliance with flood management requirements. The finished floor level (FFL) has been set at RL 5.6m AHD, which is above the site's Probable Maximum Flood (PMF) level, and all entry and exit points are located within flood-free areas.

The proposed activity improves upon the current evacuation arrangements, as existing evacuation from the south-eastern classrooms requires traversing through low-risk flood zones, whereas the proposed design provides a safer outcome.

A portion of the natural ground level to the southeast of the proposed building has been cut down by 100mm to provide compensatory flood storage volume to ensure no impacts to neighbouring properties occur even in the PMF event. The natural ground level is to be cut down, and the perimeter of the cut is to be graded back into the surrounding turf to ensure continuous fall to the adjacent existing grated surface inlet pit.

In consideration of the school context, the structure has been designed as a solid obstruction, rather than adopting an open subfloor or suspended slab, to reduce the risk of student access beneath the structure and to prevent debris accumulation or the need for continual maintenance.

Climate change impacts have also been accounted for, ensuring the structure does not pose any future risks to occupants or neighbouring properties.

Standard mitigation measures for any new fencing that may be proposed in the future within the flood extents will need to be of an open style to allow the free passage of floodwaters, and the structure itself will be constructed from flood-compatible materials, with certification from a structural engineer required to confirm its capacity to withstand flood forces.

Overall, with the inclusion of the mitigation measures outlined in section 7 of this report, the proposed activity can proceed within the parameters of sound floodplain risk management, provided that the design responds appropriately to site-specific hydraulic conditions and incorporates resilience measures consistent with best practice.

Table 3 Required Flood Planning Levels

Location	Building Location Flood Levels (m AHD)	Flood Planning Level (m AHD)
1% AEP	3.9-4.5	N/A
1% AEP + CC	4.0-4.5	N/A
PMF	4.1-5.5	5.6

6 Sensitivity Analysis

6.1 Impact

Deboke has undertaken an existing condition flood impact assessment for Newington Public School, including the preparation of detailed flood mapping to illustrate the severity of inundation under the Probable Maximum Flood (PMF) event refer to Appendix B for the existing condition flood map prepared by Deboke.

The proposed location for the additional works lies within a designated medium-low risk flood zone. To mitigate this risk, the effects of climate change have been considered and modelled to ensure no long-term implications to impact of risk. Alongside Climate Change considerations within the model, additional flood storage has been proposed along the southeast corner of the site (100mm of cut to NGL) to compensate for the lost flood storage due to the structure being built on ground.

The inclusion of these mitigation measures ensures that the proposed works will have a negligible impact on the existing flood regime. The PMF assessment undertaken by Deboke modelled all existing school structures as complete blockages. This conservative methodology intentionally exaggerates flood levels relative to the actual conditions expected on site. The approach provides a worst-case scenario representation that reinforces confidence that the proposed works will not increase flood risk, compromise life safety or compromise evacuation of the region.

6.2 Evacuation

Although a portion of the proposed structure is situated within the medium-low risk zones, safe and flood free evacuation pathways are available during all flood events up to and including the Probable Maximum Flood (PMF). All points of ingress and egress from the proposed structure remain unaffected by inundation, thereby providing reliable flood-free egress routes in any scenario.

In the event of a PMF, occupants will be able to exit the structure via these flood-free pathways and connect to the established evacuation routes and designated meeting points within the school. This ensures that safe passage is maintained at all times. Refer to Appendix C for evacuation route.

Accordingly, the proposed works will not give rise to any evacuation challenges or increased risk to human life during flood events, including the Probable Maximum Flood (PMF). On the contrary, the proposed activity will enhance existing conditions by reducing the current level of risk to occupants.

In response to a submission from SES received during the exhibition period, further flood plans have been provided depicting the wider area and road network up to and including the 1% AEP and PMF level and consideration of climate change. It can be concluded that the activity has no impact or change to the wider road network. Please refer to Appendix B for further information

7 Recommendations and Mitigation Measures

Although only a small portion of the site is located within the defined Low or Medium Flood Risk Precincts under current flood planning controls, the site's classification as a sensitive land use under the Parramatta DCP recommends no development works. Educational establishments are not permitted in designated flood risk precincts; however, given this activity has appropriately been designed and this flood impact assessment has been prepared. It has been demonstrated that the proposed activity does not result in any increased risk to life nor any adverse impacts to the current flooding regime within the site.

The proposed structure does not prevent the overland flooding from safely entering Haslams Creek, nor does it lead to any unacceptable increases in flood risk or impact

In addition to the standard mitigation measures, the following site-specific mitigation measures are required:

Mitigation Measure	Where it is discussed within this report	Phase of development it is to be carried out
The finished floor levels of all new structures must be above the mapped PMF level at RL 5.60m AHD.	Section 5	Design
Any newly constructed fencing within the mapped PMF flood extents must be of an open style to allow for free passage of floodwaters.	Section 5	Design and during construction
Cut down natural ground level to the southeast of the proposed building to provide additional flood storage and alleviate impacts on neighbouring properties.	Section 5 and Figure A3.22 within Appendix B	Design and during construction

Figure 5 demonstrates the proposed additional compensatory flood storage required as part of the proposed works for this site (refer to Figure 3.22 within appendix B for further details).

Figure 5 Proposed Condition – Mitigation Measures

8 Conclusion

This assessment confirms that the proposed activity at Newington Public School is located within a low-to-medium flood risk precinct and will be subject to shallow inundation during significant flood events. These impacts primarily stem from overland flow surcharging from the existing On-site Detention location within the site.

The analysis, supported by the flood impact assessment/model prepared by Deboke Engineering and detailed site inspections, demonstrates that the proposed activity will not adversely impact existing flood behaviour. Flood risk to the proposed facilities is considered manageable through practical mitigation measures and appropriate site planning.

While the site is not subject to specific flood planning controls under the Parramatta DCP 2023, its classification as a sensitive land use requires that the design incorporates best-practice flood resilience and the mitigation measures outlined in this report.

With these strategies in place, the activity can proceed with minimal flood risk, supporting SINSW's objective of delivering upgraded educational infrastructure safely and sustainably.

9 Appendices

Appendix A – Site Inspection Log

Appendix B – Flood Maps prepared by Deboke Engineering

Appendix C – Evacuation Route from Proposed Structure Location

Appendix A
Site Inspection Log

Section A – Inspection Details

Date of Inspection	Inspector	Time	Weather
Wednesday 7th of May, 2025	Andrew Arida (AA) Joseph Dagher (JD)	8:30am – 9:00am	Cloudy Conditions

Section B – Photo Log

Photo/ Item No.	Image	Location	Orientation	Observation	Flood Impact Assessment
1		**Basketball Court (School Grounds)**	East	Flat concrete surface.	No visible signs of flooding.

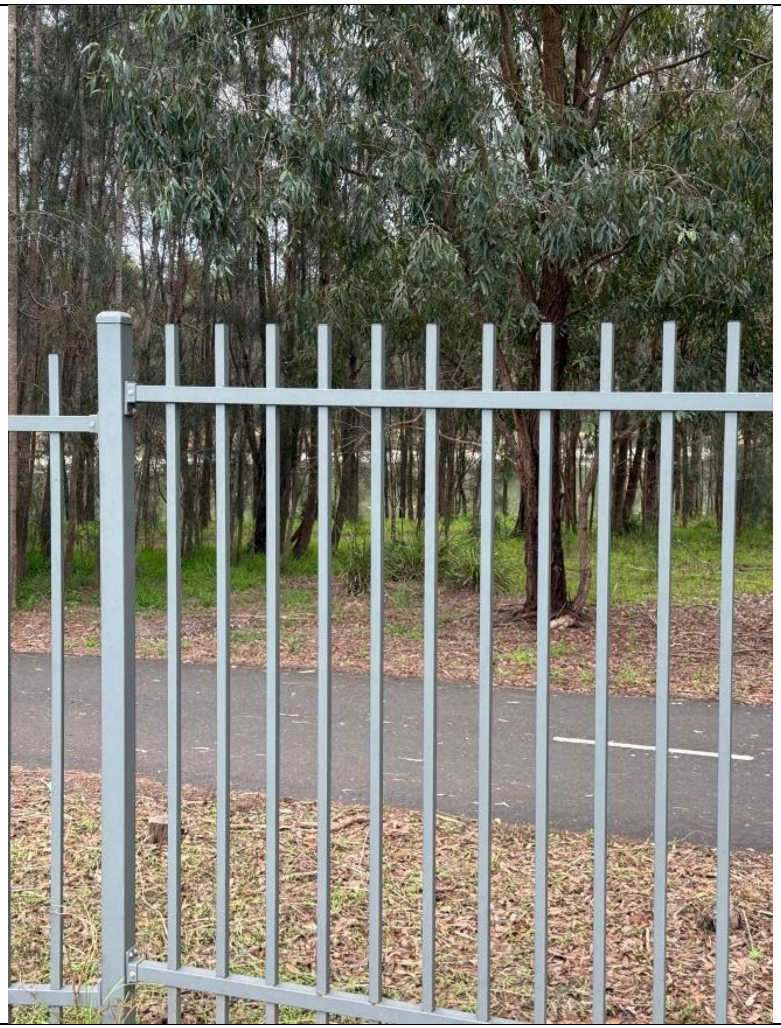
2		**Existing Demountable Building**	West	Elevated on block piers.	No evidence of flooding impact observed.

3		**Detention Tank (South-Eastern Boundary)**	South-East	Grated surface inlet pits connected to detention tank. Debris build-up and minor water marks present.	Minor flood impact evident around the detention area.

4			**Detention Tank**	North	Approx. 2100mm deep tank. Green survey markings indicate a 1800mm pipe entering from the west and exiting to the east.	No signs of structural or flood damage; designed for large stormwater storage.

5		**Haslems Creek**	East	Rock embankment secured with wire mesh.	No apparent flood damage or erosion.

6			**Observation Stands & Adjacent Demountable**	West	Elevated on block piers.	No signs of flood impact present.

7		**Perimeter Fencing**	East	Open-style palisade fencing.	No visible flood impact; fencing allows water flow-through.

8			**Grated Surface Inlet Pits (outside school, east of detention tank)**	East	Stormwater pit connecting 1800mm pipe, acting as directional junction prior to discharge into Haslems Creek.	Functioning as intended; no signs of overflow or blockage observed.

Appendix B
Flood Maps prepared by Deboke Engineering

1% AEP CRITICAL STORM DURATION - EXISTING CONDITION
WATER DEPTH (m)

Fig A3.01
REV: 02

PROJECT - Newington Public School

CLIENT – SINSW

PROJECT NO. - 20250172

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1% AEP CRITICAL STORM DURATION - EXISTING CONDITION
Velocity (m/s)

Fig A3.02
REV: 02

PROJECT NO. - 20250172

PROJECT - Newington Public School

CLIENT – SINSW

0 10 20 30 40 50 m

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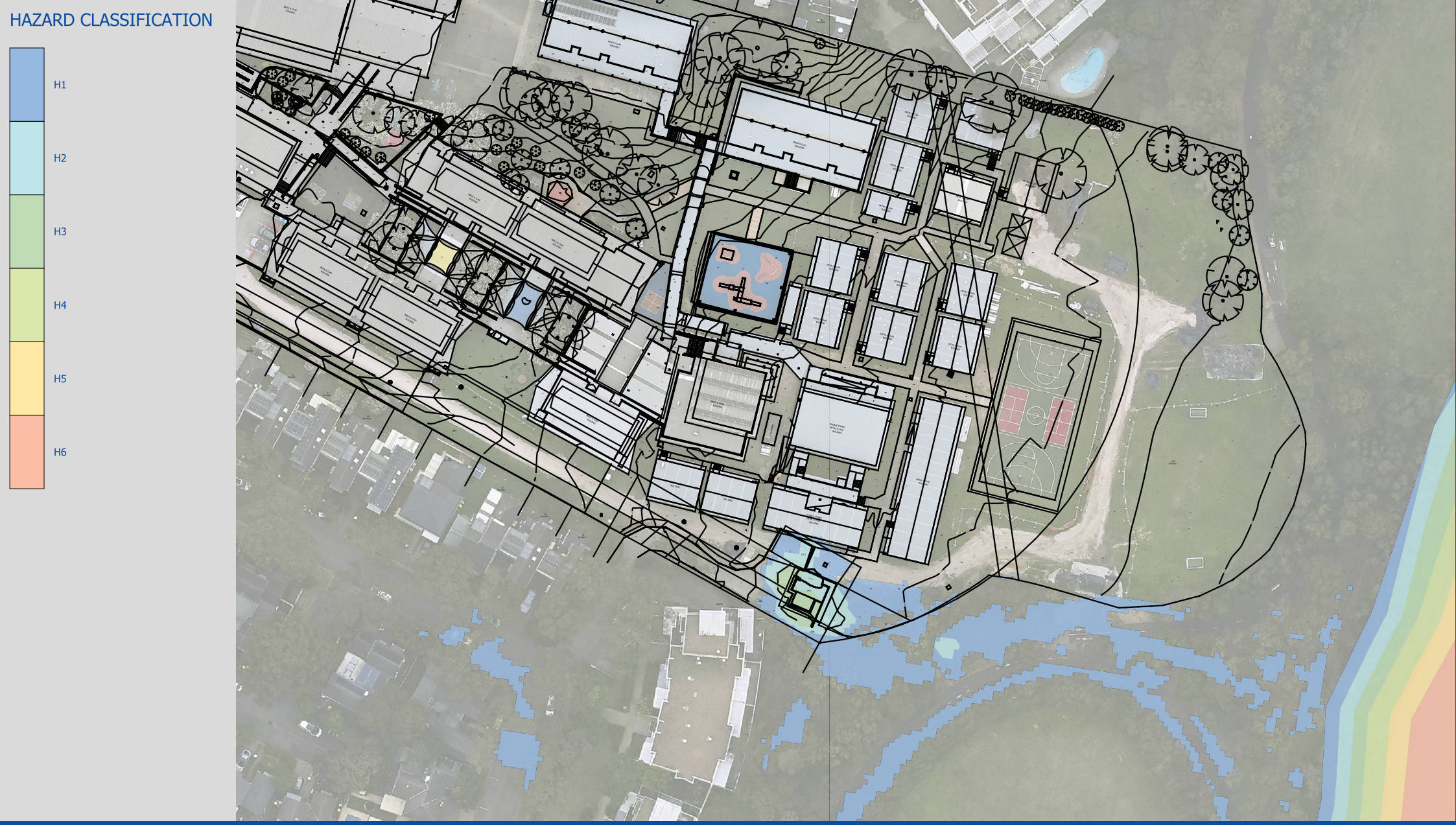

1% AEP CRITICAL STORM DURATION - EXISTING CONDITION
HAZARD CLASSIFICATION (H1-H6) AS PER ARR 2019

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Fig A3.03
REV: 02

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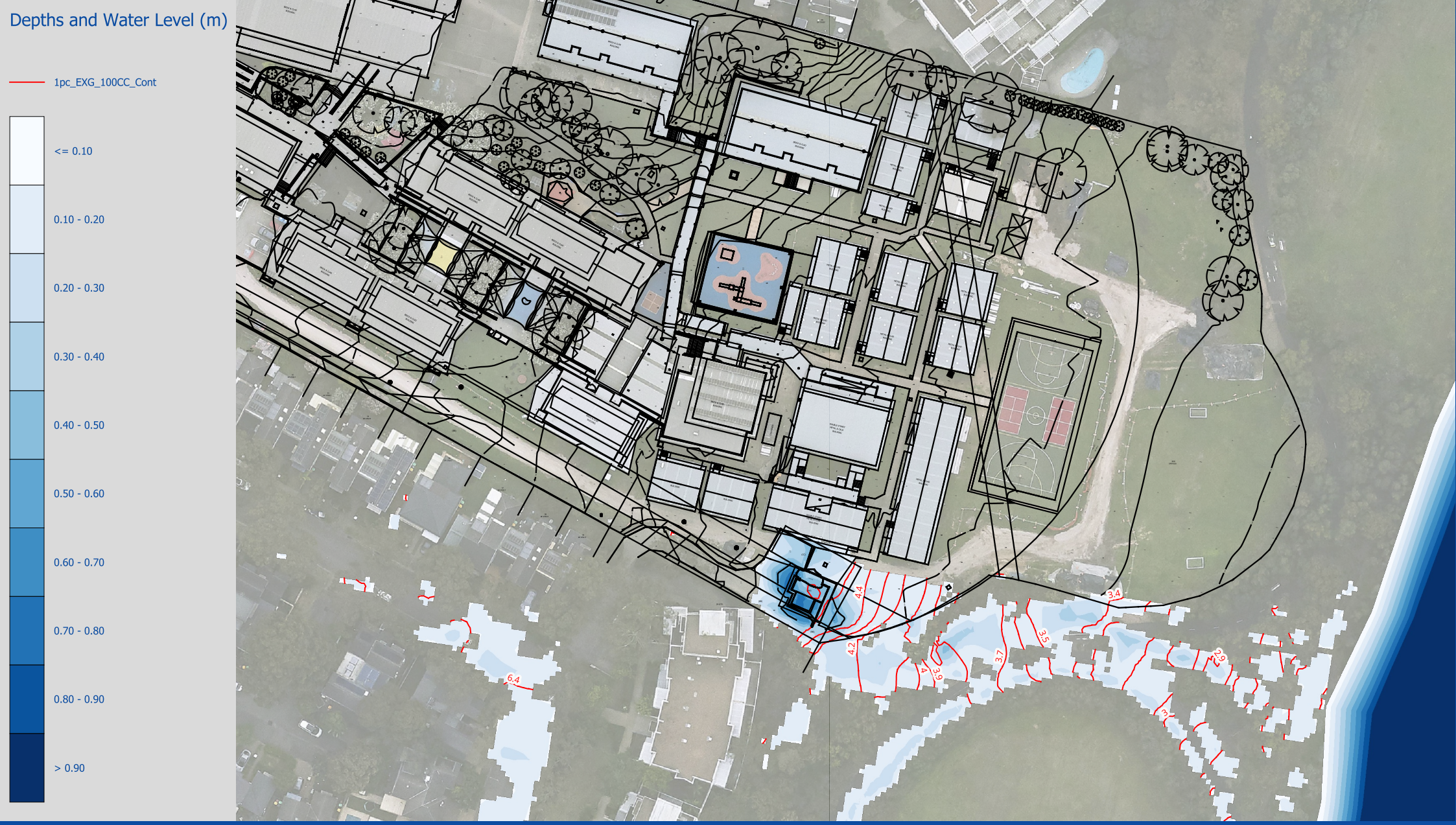

1% + CC AEP CRITICAL STORM DURATION - EXISTING CONDITION WATER DEPTH (m)

PROJECT - Newington Public School

CLIENT – SINSW

Fig A3.04
REV: 02

PROJECT NO. - 20250172

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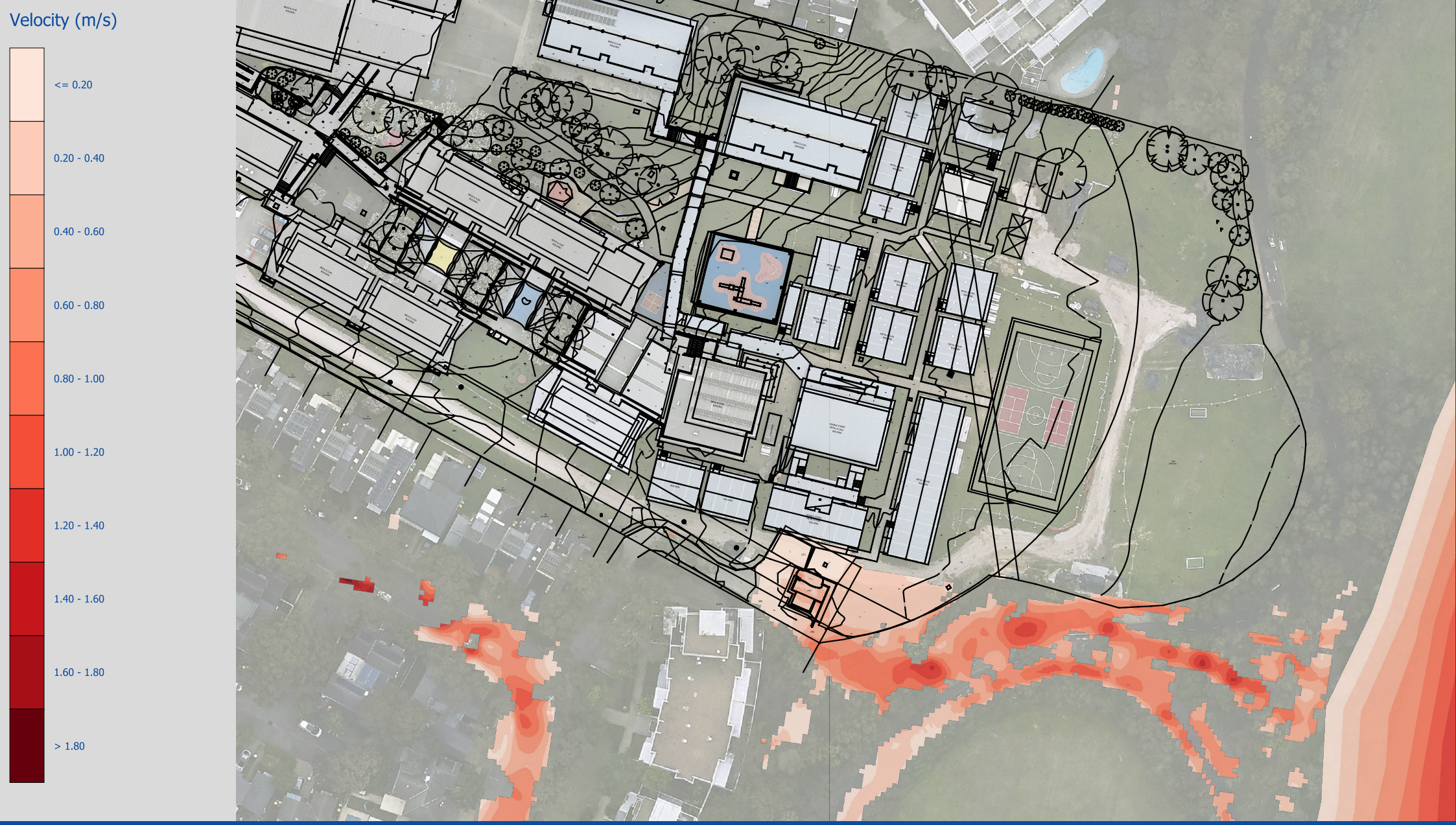

1% + CC AEP CRITICAL STORM DURATION - EXISTING CONDITION
Velocity (m/s)

Fig A3.05
REV: 02

PROJECT NO. - 20250172

PROJECT - Newington Public School

CLIENT – SINSW

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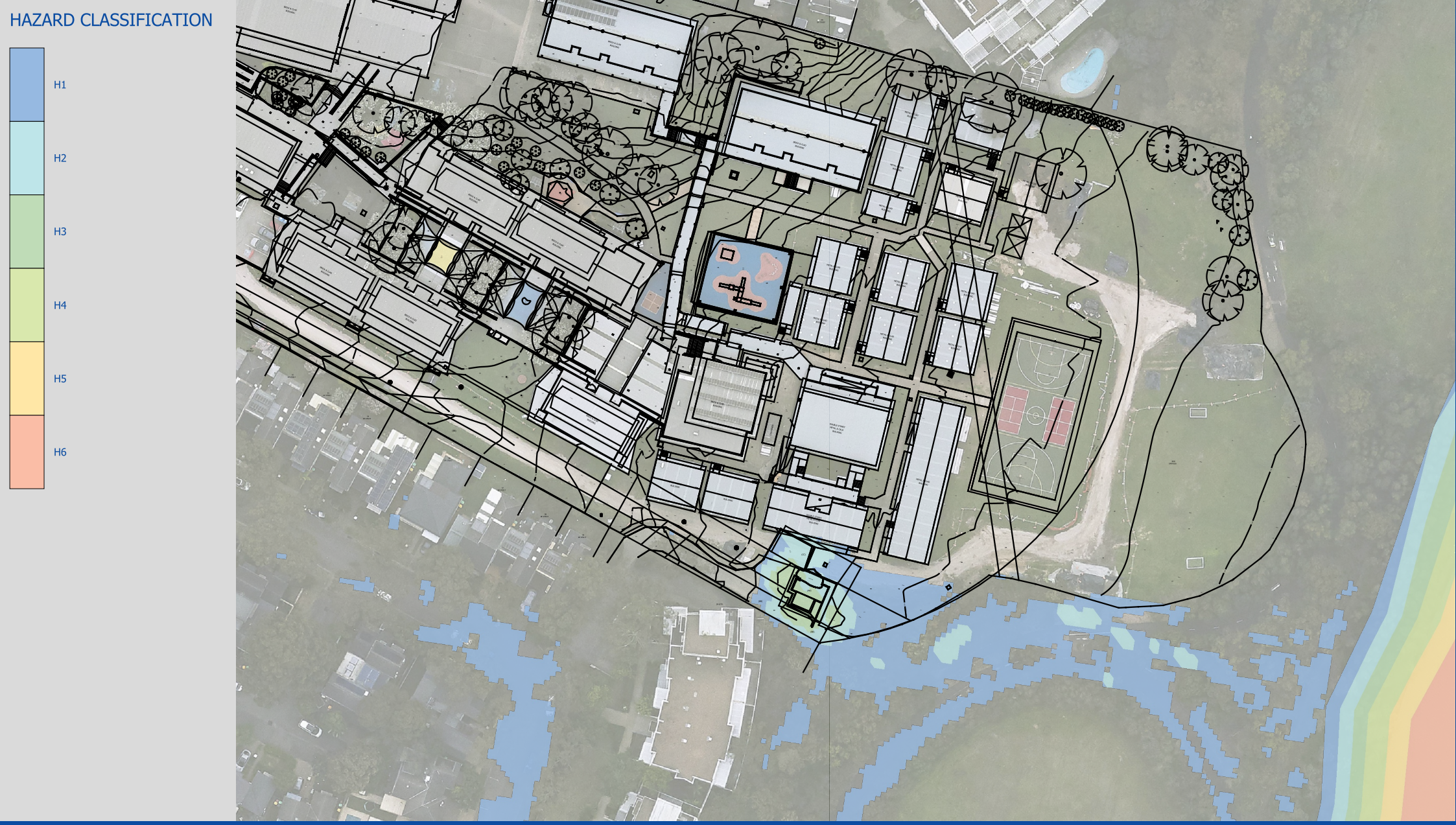

1% + CC AEP CRITICAL STORM DURATION - EXISTING CONDITION
HAZARD CLASSIFICATION (H1-H6) AS PER ARR 2019

Fig A3.06
REV: 02

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PROJECT - Newington Public School

CLIENT – SINSW

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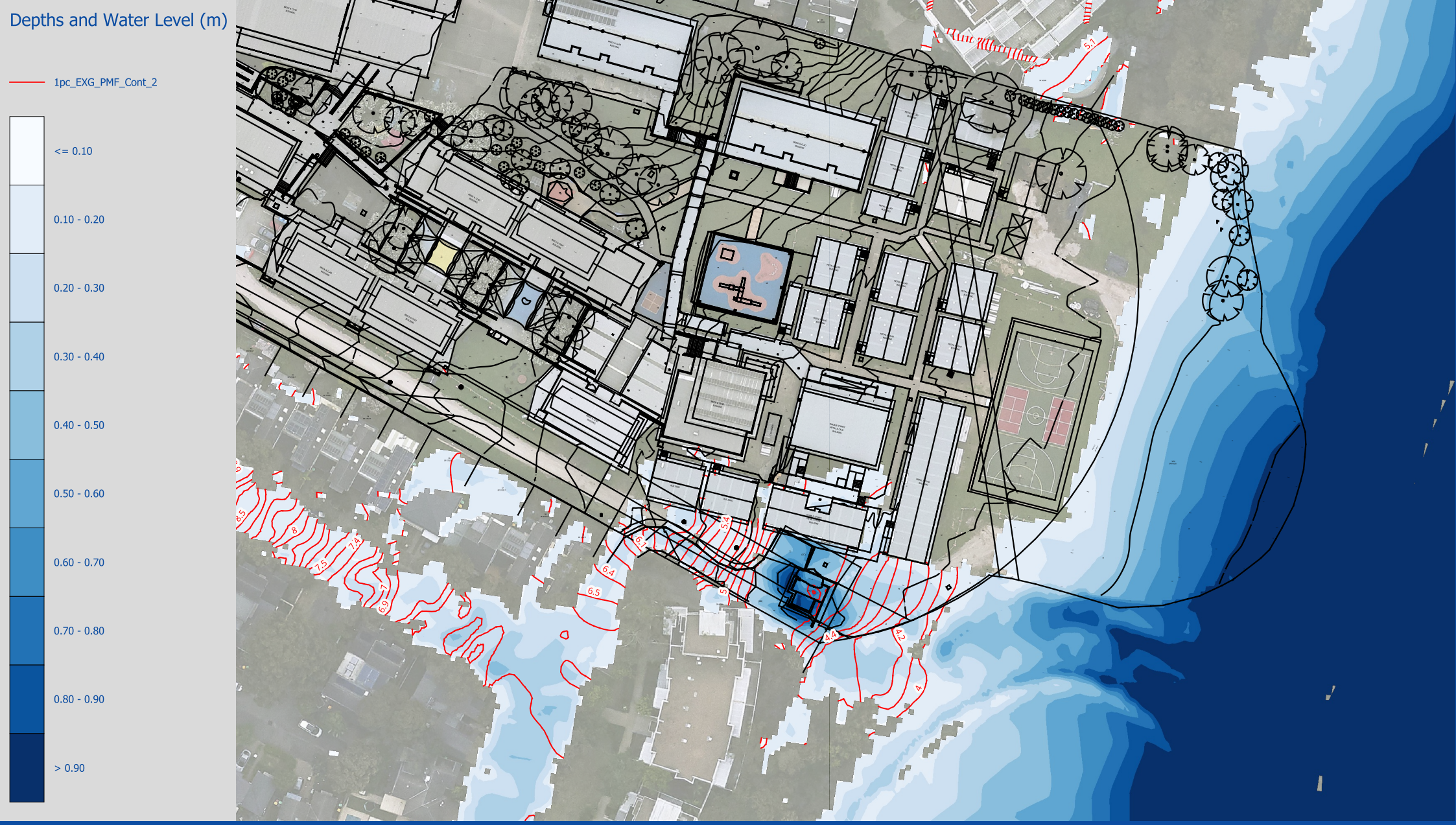

PMF CRITICAL STORM DURATION - EXISTING CONDITION
WATER DEPTH (m)

Fig A3.07
REV: 02

PROJECT NO. - 20250172

PROJECT - Newington Public School

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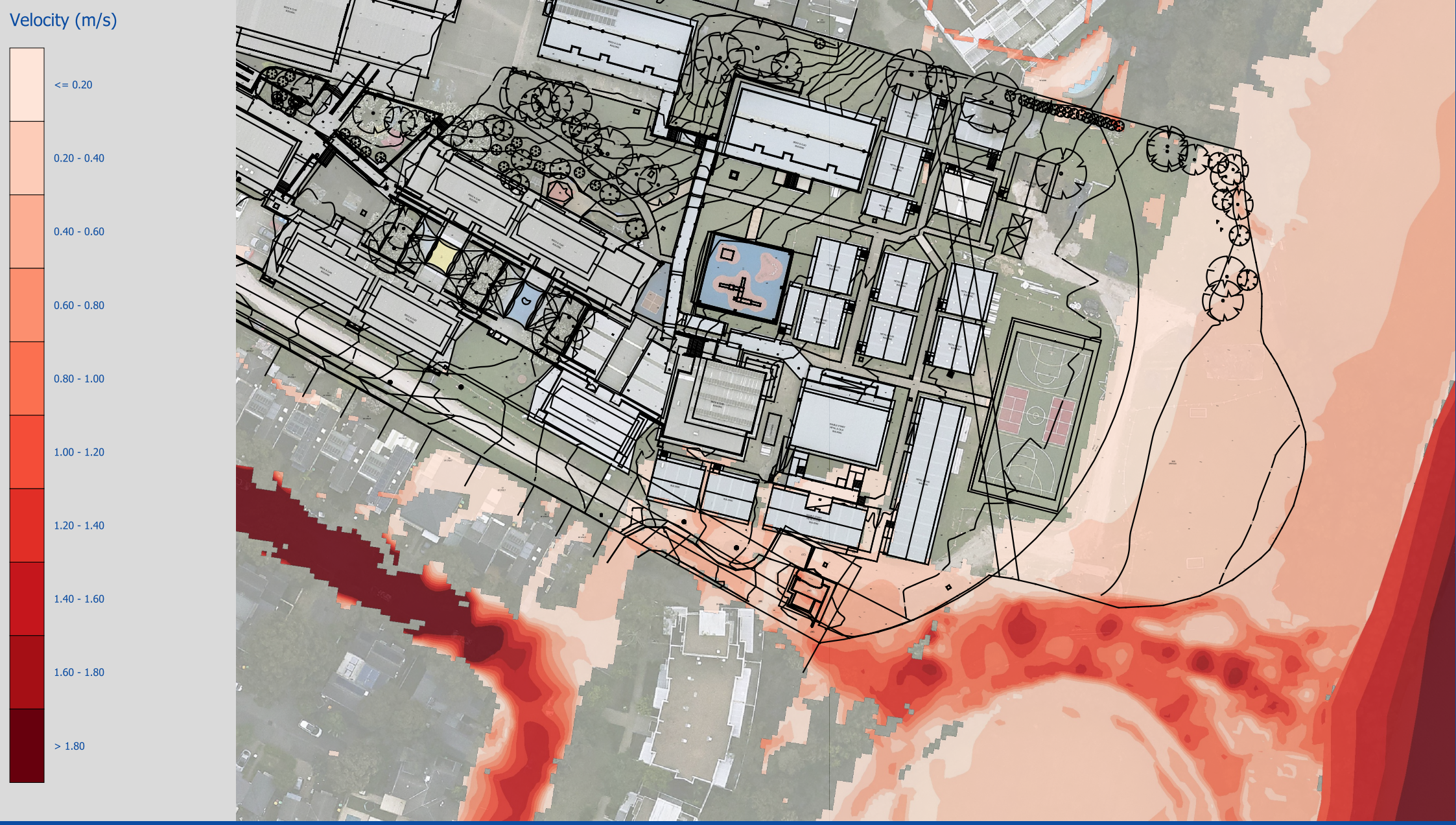

PMF CRITICAL STORM DURATION - EXISTING CONDITION
Velocity (m/s)

Fig A3.08
REV: 02

PROJECT NO. - 20250172

PROJECT - Newington Public School

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0 10 20 30 40 50 m

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1% AEP CRITICAL STORM DURATION - EXISTING CONDITION
HAZARD CLASSIFICATION (H1-H6) AS PER ARR 2019

PROJECT - Newington Public School

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Fig A3.09
REV: 02

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1% AEP CRITICAL STORM DURATION - PROPOSED CONDITION
WATER DEPTHS (m)

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Fig A3.10
REV: 02

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1% AEP CRITICAL STORM DURATION - PROPOSED CONDITION
Velocity (m/s)

Fig A3.11
REV: 02

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0 10 20 30 40 50 m

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1% AEP CRITICAL STORM DURATION - PROPOSED CONDITION
HAZARD CLASSIFICATION (H1-H6) AS PER ARR2019

Fig A3.12
REV: 02

PROJECT - Newington Public School

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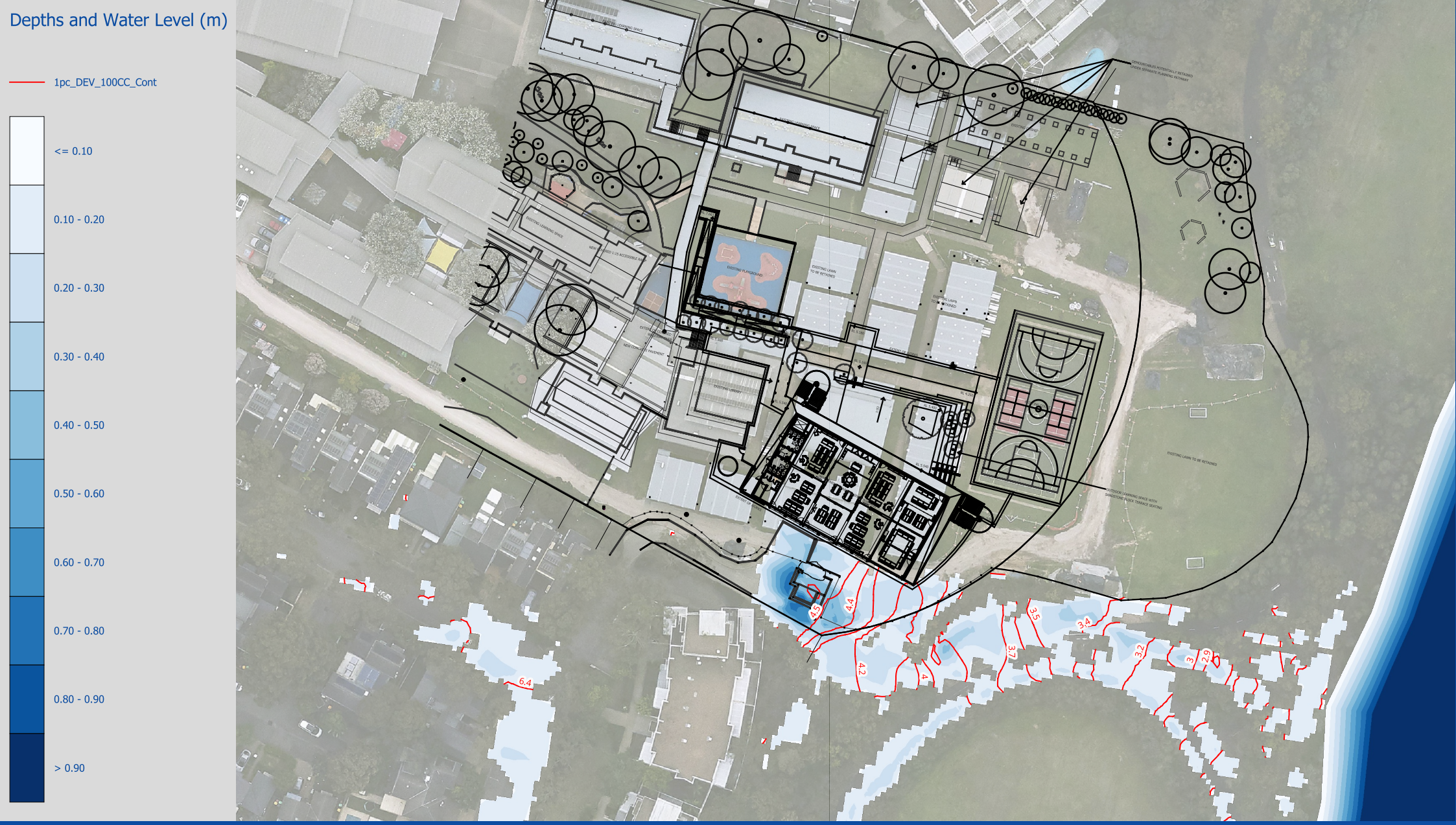

1% + CC AEP CRITICAL STORM DURATION - PROPOSED CONDITION WATER DEPTHS (m)

Fig A3.13
REV: 02

PROJECT NO. - 20250172

PROJECT - Newington Public School

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1% + CC AEP CRITICAL STORM DURATION - PROPOSED CONDITION
Velocity (m/s)

Fig A3.14
REV: 02

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1% + CC AEP CRITICAL STORM DURATION - PROPOSED CONDITION
HAZARD CLASSIFICATION (H1-H6) AS PER ARR2019

Fig A3.15
REV: 02

PROJECT NO. - 20250172

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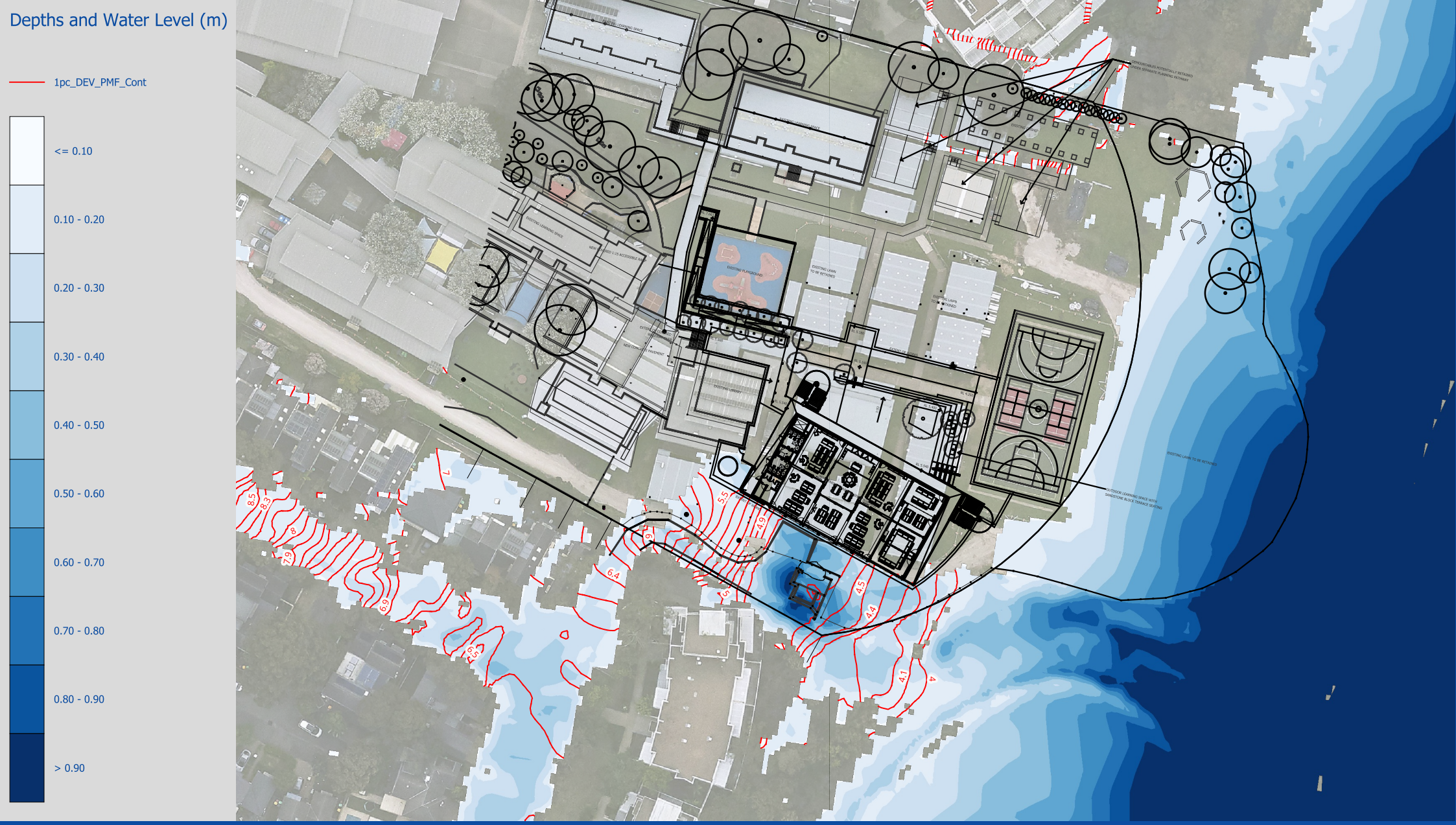

PMF CRITICAL STORM DURATION - PROPOSED CONDITION
WATER DEPTHS (m)

PROJECT - Newington Public School

CLIENT – SINSW

Fig A3.16
REV: 02

PROJECT NO. - 20250172

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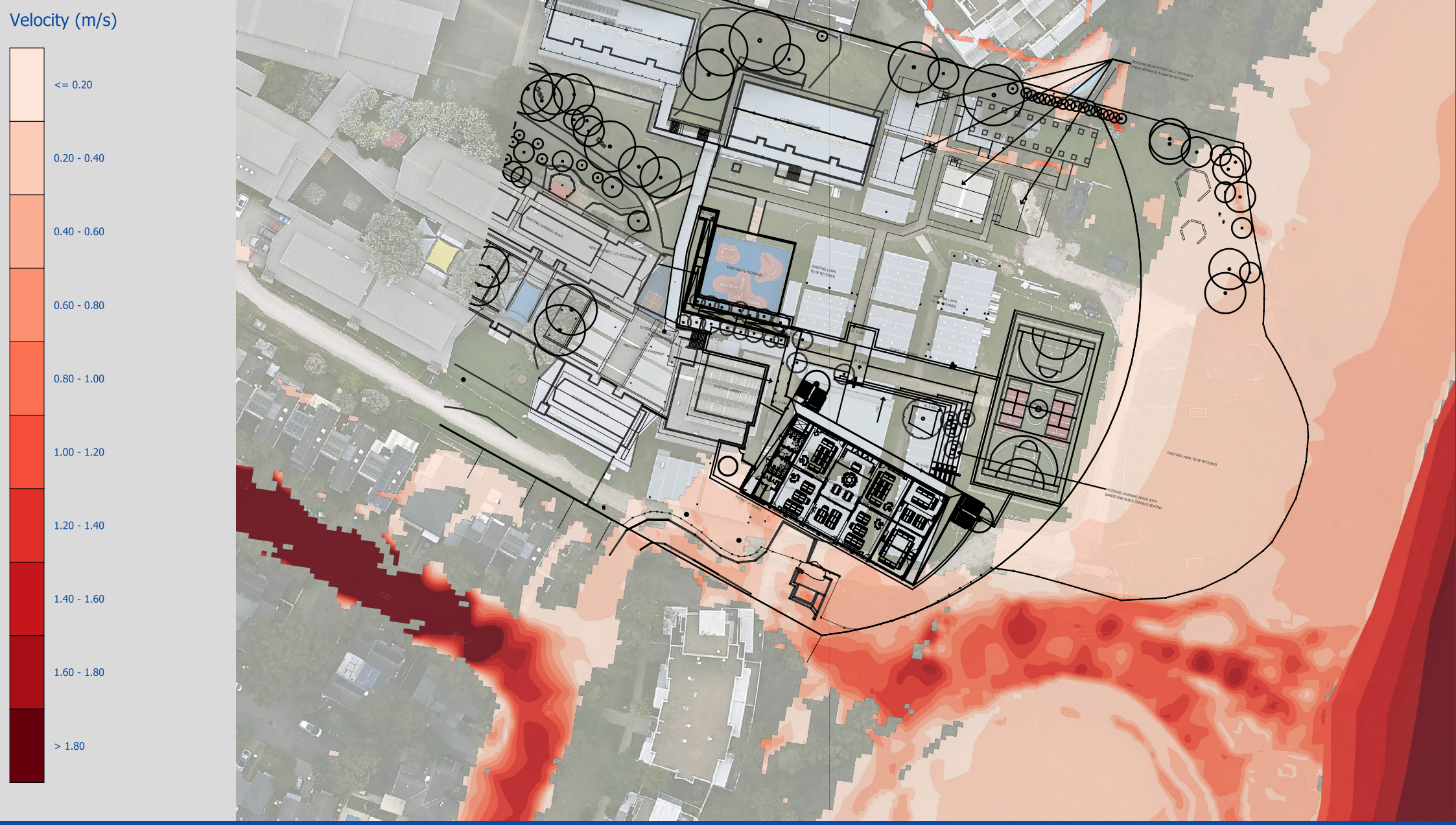

PMF CRITICAL STORM DURATION - PROPOSED CONDITION
Velocity (m/s)

Fig A3.17
REV: 02

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PMF CRITICAL STORM DURATION - PROPOSED CONDITION
HAZARD CLASSIFICATION (H1-H6) AS PER ARR2019

Fig A3.18
REV: 02

PROJECT NO. - 20250172

PROJECT - Newington Public School

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0 10 20 30 40 50 m

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1% AEP CRITICAL STORM DURATION - PROPOSED CONDITION
PRE TO POST FLOOD LEVEL IMPACT (m)

Fig A3.19
REV: 02

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1% AEP CRITICAL STORM DURATION - PROPOSED CONDITION
PRE TO POST FLOOD LEVEL IMPACT (m)

Fig A3.19.1
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0 50 100 150 200 250 m

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1% + CC AEP CRITICAL STORM DURATION - PROPOSED CONDITION
PRE TO POST FLOOD LEVEL IMPACT (m)

Fig A3.20
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1% + CC AEP CRITICAL STORM DURATION - PROPOSED CONDITION
PRE TO POST FLOOD LEVEL IMPACT (m)

PROJECT - Newington Public School

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0 50 100 150 200 250 m

Fig A3.20.1
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PMF CRITICAL STORM DURATION - PROPOSED CONDITION
PRE TO POST FLOOD LEVEL IMPACT (m)

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Fig A3.21
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PMF CRITICAL STORM DURATION - PROPOSED CONDITION
PRE TO POST FLOOD LEVEL IMPACT (m)

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Fig A3.21.1
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MITIGATION MEASURES

NGL to be cut

PROPOSED CONDITION
MITIGATION MEASURES

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0 10 20 30 40 50 m

Fig A3.22
REV: 02

PROJECT NO. - 20250172

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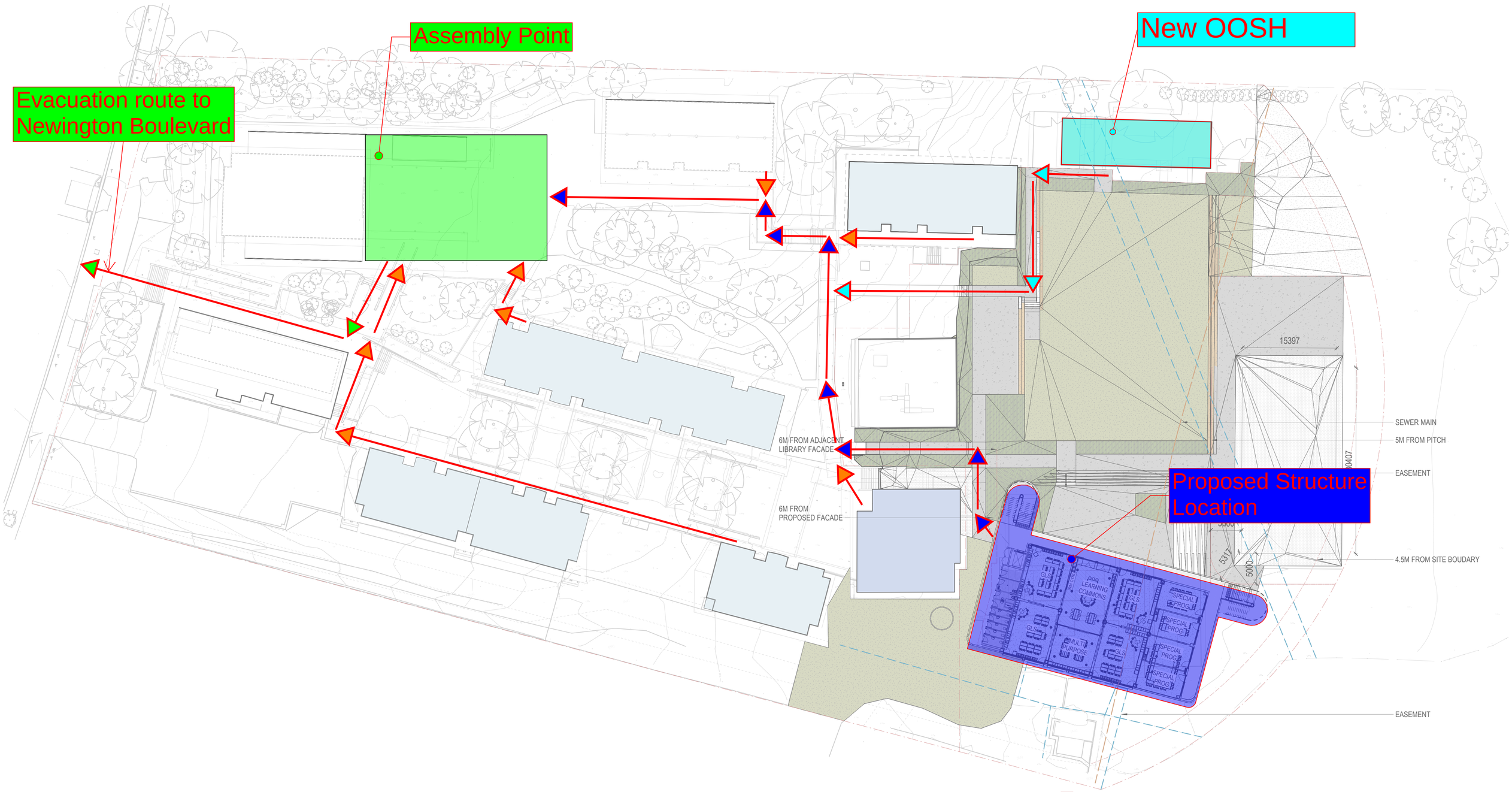
Appendix C
Evacuation Route from Proposed Structure Location



SINSW Newington Primary School

Project no:	250215
Drawing:	**SITE PLAN**
Drawing no:	NPS-ARC-DRW-SK10
Issue:	P05
Scale@A1:	1 : 300
Date:	01/10/25

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