Flood Impact Risk Assessment

Lot 208, 209 & 210 Automated Distribution Centre

475 Badgerys Creek Road, Bradfield
Lot 102 and Lot 105 DP1316278

11/05/2026

26-1394

Commercial in Confidence

Document Registration

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Sub-Consultant Statement

I Daniel Webber, confirm this Flood Impact Risk Assessment addresses the requirement of SEAR No. SSD-105499958 for WSI3 Automated Distribution Centre and relevant State and local legislation, policies, and guidelines including but not limited to:

- DPHI, Western Sydney Aerotropolis Precinct Plan, May 2023 (Aerotropolis Plan)
- DPHI, Western Sydney Aerotropolis Development Control Plan – Phase 2, August 2024
- Liverpool Development Control Plan 2008 (LDCP)
- Liverpool Local Environmental Plan 2008 (LLEP)
- State Environmental Planning Policy Precincts – Western Parkland City 2021
- IPG Master Plan
- Ingham Industrial Estate – Stage 1 and 2 – Civil Works Package, Stage 2 Earthworks & Stage 1 & 2 Infrastructure

I further confirm that none of the information contained in the Flood Impact Risk Assessment is false or misleading.

(Author of this Report)
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(Reviewed By)
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Executive Summary

This Flood Impact Risk Assessment (FIRA) report has been prepared by AT&L to accompany a detailed State Significant Development Application (SSDA) for the construction of a warehouse or distribution facility (as defined), referred to throughout this report as an automated distribution facility (ADC).

The land to which this report relates is referred to as 475 Badgerys Creek Road, Bradfield, which has direct interface with the Western Sydney International Airport (WSI), legally described as part Lot 102 and Lot 105 in DP 1316278. It is noted that the ADC will be located on future lots within the 475 Badgerys Creek Road landholding. For the purpose of this Report, reference to 'the site' will relate primarily to the area within the broader lot proposed to be developed for the ADC, unless otherwise specified.

This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-105499958).

This report concludes that the proposed development is suitable and warrants approval subject to the implementation of the following mitigation measures:

- Incorporate Draft Emergency Flood Action Table into future Flood Emergency Response Plan
- Incorporate and undertake necessary preparations into future Flood Emergency Response Plan

Following the implementation of the above mitigation measures, the remaining impacts are appropriate.

1. Introduction

This report has been prepared to accompany an SSDA for the construction of a warehouse or distribution facility (as defined) by an e-retailer at 475 Badgerys Creek Road, Bradfield (**the site**).

1.1. SEARs Response Framework

This report has been prepared in response to the requirements contained within the Secretary's Environmental Assessment Requirements (SEARs) dated 2 March 2026. Specifically, this report has been prepared to respond to the SEARs requirements identified below in Table 1:

Table 1 - SEARs Response Framework

SEARs Key Issue	Relevant SEARs Item	Primary Report / Document and Relevant Section(s)	Integrated Water Management Strategy Report Role
Statutory and Strategic Context	Justification for the proposal and the suitability of the site	**Civil Infrastructure Report**	Addresses the project context, Stage 2 framework, relationship to the IPG Master Plan and suitability of the Site for the proposed civil and infrastructure response.
Statutory and Strategic Context	Details of any proposed consolidation or subdivision of land	**Civil Infrastructure Report**	Addresses the Site landholding and site configuration to the extent relevant to the civil infrastructure response.
Statutory and Strategic Context	Detailed description of the history of the site, including the relationship between the proposed development and previous and current approvals, plans and regional stormwater infrastructure	**Civil Infrastructure Report**	Addresses the broader site history, relationship to the IPG Master Plan and precinct infrastructure framework, with detailed permanent drainage matters addressed separately in the IWMS.
Statutory and Strategic Context	Detailed description of the relationship between the proposed development and the IPG Master Plan, including timing for delivery of supporting infrastructure and services and relationship to future land uses	**Civil Infrastructure Report**	Addresses the broader precinct and infrastructure framework applying to the Site, including precursor works and servicing context.
Water Management	Integrated water management strategy	**Integrated Water Management Strategy Report**	Cross-refers to the IWMS as the primary permanent water management report.
Water Management	Proposed interim and ultimate stormwater / wastewater drainage design, including detention, sewage	**Integrated Water Management Strategy Report**	Addresses only the civil infrastructure interface with

	management and measures to treat, reuse or dispose of water		the adopted permanent water management framework.
Water Management	Details of how the proposed stormwater drainage system will connect to Sydney Water's regional stormwater system, including any interim solution	**Integrated Water Management Strategy Report**	Addresses only the civil tie-in and infrastructure interface with the broader precinct and regional drainage framework.
Water Management	Full hydraulic details and detailed civil plans and specifications for drainage / water infrastructure to be handed over to council or Sydney Water	**Civil Infrastructure Report**, supported by detailed civil / hydraulic plans	Provides the umbrella civil infrastructure response and identifies the relevant infrastructure interfaces, with detailed hydraulic and drawing information addressed in the supporting design documentation.
Water Management	Assessment of potential surface and groundwater impacts, including impacts on watercourses, riparian areas, waterfront land, groundwater and groundwater-dependent communities	**Integrated Water Management Strategy Report**	Cross-refers to the IWMS as the primary water impact assessment report.
Water Management	Surface water discharge assessment, including MUSIC water quality model	**Integrated Water Management Strategy Report**	Cross-refers to the IWMS as the primary operational stormwater performance report.
Water Management	Surface and groundwater mitigation, management and monitoring activities and methodologies	**Integrated Water Management Strategy Report**	Cross-refers to the IWMS as the primary permanent operational management framework.
Water Management	Construction-phase erosion and sediment control, temporary drainage and dewatering	**Soil and Water Management Plan Report**; cross-referenced in Civil Infrastructure Report	Cross-refers to the SWMP as the primary construction-phase soil and water management report.
Flooding	Flood impact and risk assessment, including flood planning level, flood risk, flood emergency management and response strategy	**Flood Impact and Risk Assessment**; cross-referenced in Civil Infrastructure Report – Section 3	Cross-refers to the FIRA as the primary flood report, with this report addressing only the relevant site grading, level and infrastructure interfaces where required.
Soils	Assessment of potential impacts on soil resources and riparian land, including soil	**Civil Infrastructure Report**, supported by **Soil and Water**	Addresses earthworks, grading, retaining walls and civil site / riparian interface

	erosion, salinity and acid sulfate soils	**Management Plan Report** and geotechnical input	considerations, with construction erosion controls addressed in the SWMP and subsurface conditions supported by geotechnical input.
Soils	Details and civil plans of earthworks, including cut and fill volumes	**Civil Infrastructure Report**	Addressed through the bulk earthworks, grading and retaining wall response.
Soils	Description of proposed erosion and sediment controls during construction	**Soil and Water Management Plan Report**; cross-referenced in Civil Infrastructure Report	Cross-refers to the SWMP as the primary construction-phase response.
Soils	Geotechnical assessment providing comprehensive analysis of development capability of the site	**Geotechnical Report**; cross-referenced in Civil Infrastructure Report	Cross-refers to the geotechnical report, with this report relying on that specialist input where relevant to civil design.
Infrastructure Requirements	Existing capacity of the site to service the proposed development and any extension or augmentation, property tenure or staging requirements for utilities, drinking water, wastewater and recycled water	**Civil Infrastructure Report**	Addresses the umbrella infrastructure and servicing framework for the Site, with detailed permanent water servicing matters supported by the IWMS and broader servicing documentation.
Infrastructure Requirements	Demonstration that satisfactory arrangements for drinking water, wastewater and recycled water services have been made, including consultation outcomes with Sydney Water	**Civil Infrastructure Report**, supported by **Integrated Water Management Strategy Report** and servicing investigations	Addresses the broader servicing and infrastructure integration framework, with detailed supporting investigations referenced where relevant.
Infrastructure Requirements	Electrical substations, on-site switch yards and related utility / servicing interfaces	**Civil Infrastructure Report**	Addressed through utility servicing and infrastructure coordination, with supporting plans from electrical and servicing consultants as required.

1.2. Site Description

The land to which this report relates is referred to as 475 Badgerys Creek Road, Bradfield, which has direct interface with the Western Sydney International Airport (WSI). It is noted that the ADC will be located on

proposed Lots 208, 209 and 210 within the broader 475 Badgerys Creek Road, Bradfield landholding. These lots are not yet formally registered.

The broader landholding has an area of approximately 184 hectares and is subject to an approved Master Plan prepared by Inghams Property Group (IPG). The proposed ADC will be located in Stage 2 of the IPG master plan precinct. The application site has an area of approximately 172,000 m². The location of the application site is shown below.

Figure 1: Application Site Location

The broader master plan site was formerly used for intensive poultry farming and previously contained a series of sheds and ancillary structures and associated internal road network, which have now been demolished. Earthworks and other site establishment works have commenced across the broader IPG master plan site.

1.3. Project Description

It is the e-retailers intent to construct and operate a new ADC. The ADC will be a distribution centre for goods storage and distribution direct to offsite third-party sortation service providers.

The proposed description of development is as follows:

"Construction, fit-out and operation of a warehouse or distribution facility (automated distribution centre) with associated car parking, landscaping, driveway accesses, utility service connection, minor earthworks and other related works".

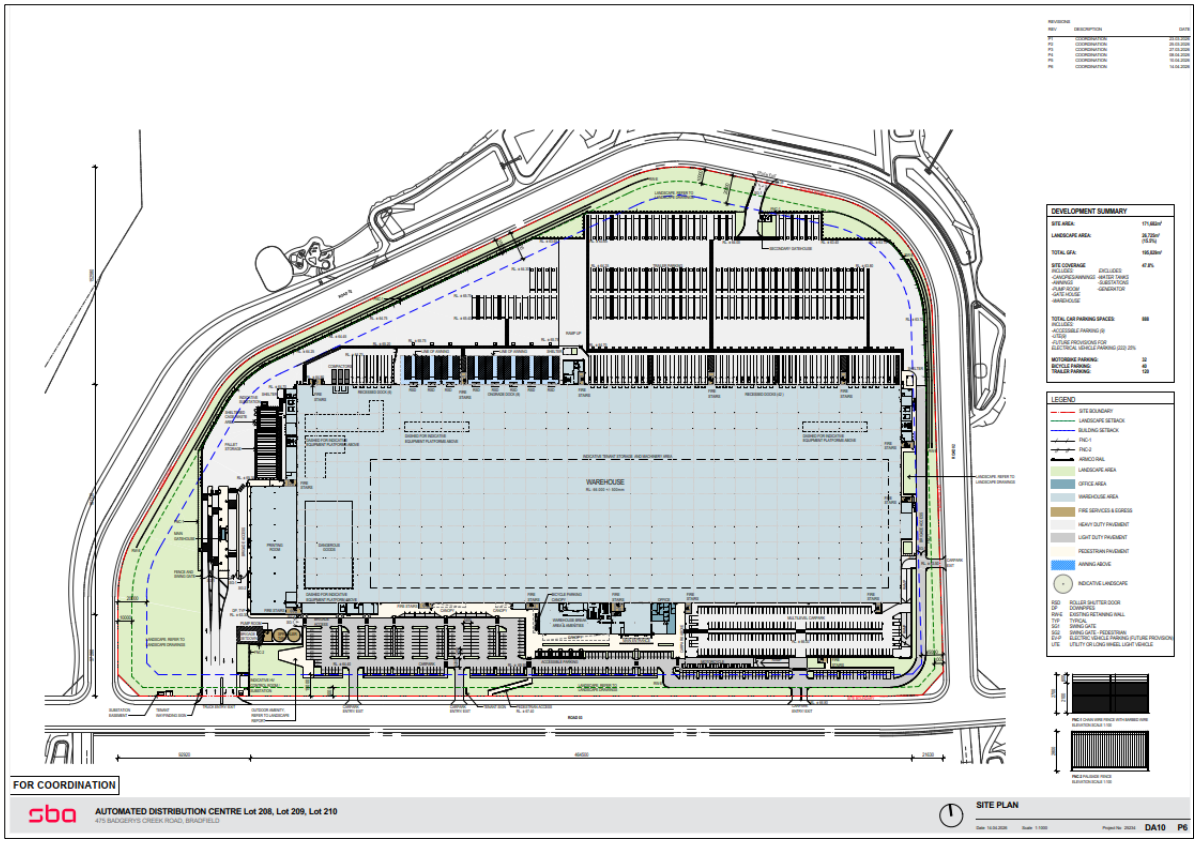
The proposal includes:

- development of a warehouse / ADC facility over multiple levels
- integrated office accommodation
- integrated Print On Demand (POD) component

- hazmat storage / operational area
- multi-level car parking structure
- on-grade, recessed and ramped recessed loading dock facilities
- trailer parking areas
- internal access roads, circulation aisles and manoeuvring areas
- truck entry and exit arrangements
- staff and visitor vehicle access points
- pedestrian access and associated frontage works
- on-lot earthworks and site regrading
- retaining walls and level transition structures, where required
- stormwater drainage infrastructure, including on-lot collection and conveyance systems
- stormwater treatment and discharge interface measures
- utility servicing connections and associated infrastructure
- frontage, boundary and interface works to adjoining roads and precinct infrastructure
- landscape interface works relevant to the civil design.

Refer to the figure below which shows the proposed site plan layout.

Figure 2 - Site Plan Layout (Courtesy SBA)



1.4. Relevant Guidelines

This report has been prepared in accordance with the following guidelines and policies:

- City of Liverpool Council, *Development Control Plan,* 2008
- Commonwealth of Australia (Geoscience Australia), *Australian Rainfall and Runoff – A Guide to Flood Estimation*, 2019
- Department of Planning and Environment, *Flood Risk Management Manual,* 2023
- State Environmental Planning Policy – Precincts - Western Parkland City 2021
- Western Sydney Aerotropolis Precinct Plan
- Western Sydney Aerotropolis Development Control Plan – Phase 2, 2022

2. Site Description and Background Data

2.1. Location

Figure 3 below shows the WSI3 ADC site of Lot 208 -210 on the IPG Master Plan located at 475 Badgerys Creek Rd, Bradfield. It is encompassed by Road 3 proposed in the master plan. To the west of the WSI3 site is Badgerys Creek while there is an unnamed minor watercourse to the east.

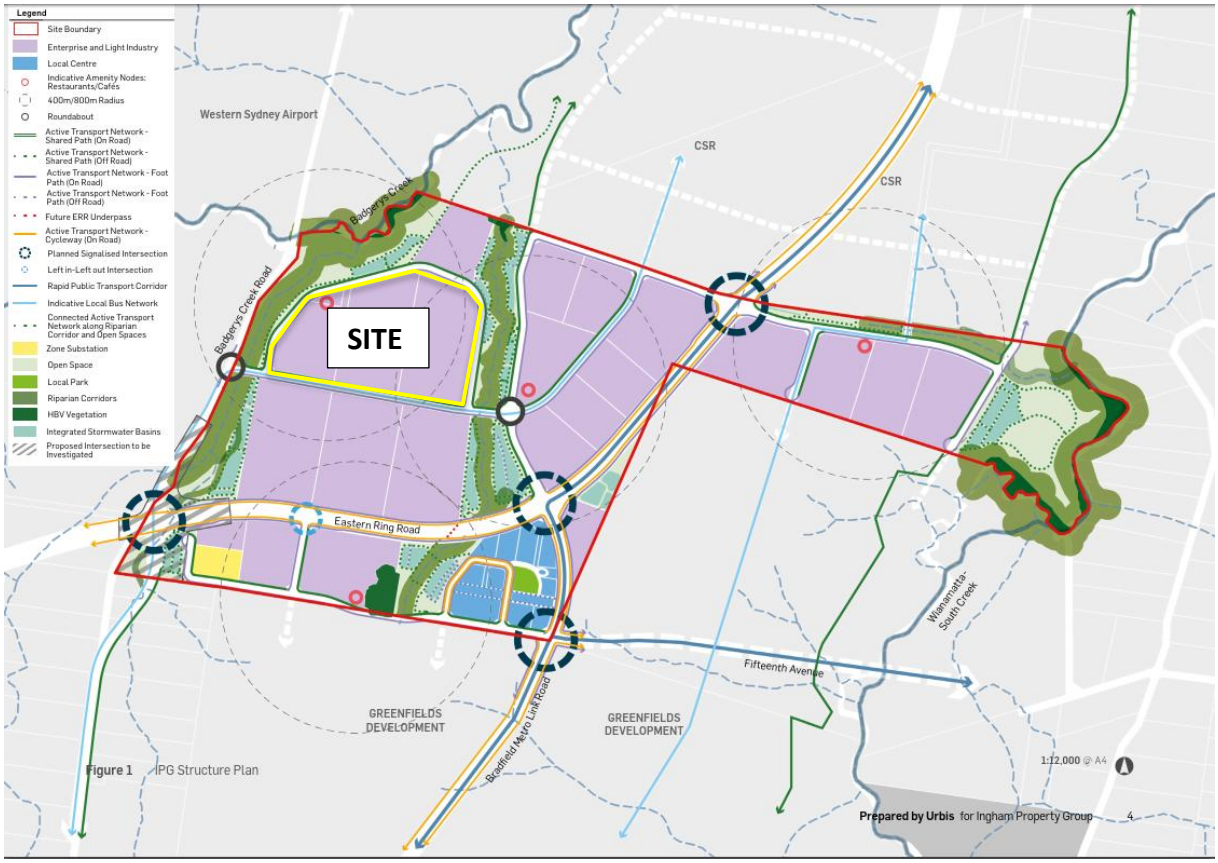


Figure 3: Site location as part of the IPG Master Plan

2.2. Proposed Works

The proposed development will be subject to a State Significant Development Application (SSDA) as an automated robotics distribution centre site. It is part of the wider Ingham Property Group (IPG) precinct being developed under the IPG Masterplan.

The IPG Masterplan will include major earthworks, regional infrastructure, and local access roads for the entire Ingham precinct including the WSI3 application site. These works are being undertaken by IPG via a separate planning pathway. The applicant for the current SSDA is inheriting an existing benched development pad as the predeveloped WSI3 site conditions. The total WSI3 site area is 171,682 m².

The proposed warehouse will have a footprint area of 65,000 m² and a total floor area of 193,000 m² across three levels. Other key areas include an office, carparking, trailer parking, docking bays, and a gatehouse.

Site access is via the south of the WSI3 site to Road 3 proposed as part IPG Masterplan. A secondary site access to the north joining Road 3 is being considered. This site access and driveway is configured for heavy rigid and articulated vehicles. An exit from the multistorey carpark is also proposed along the eastern side onto Road 02, and multiple entrances and exits to the carpark onto Road 03.

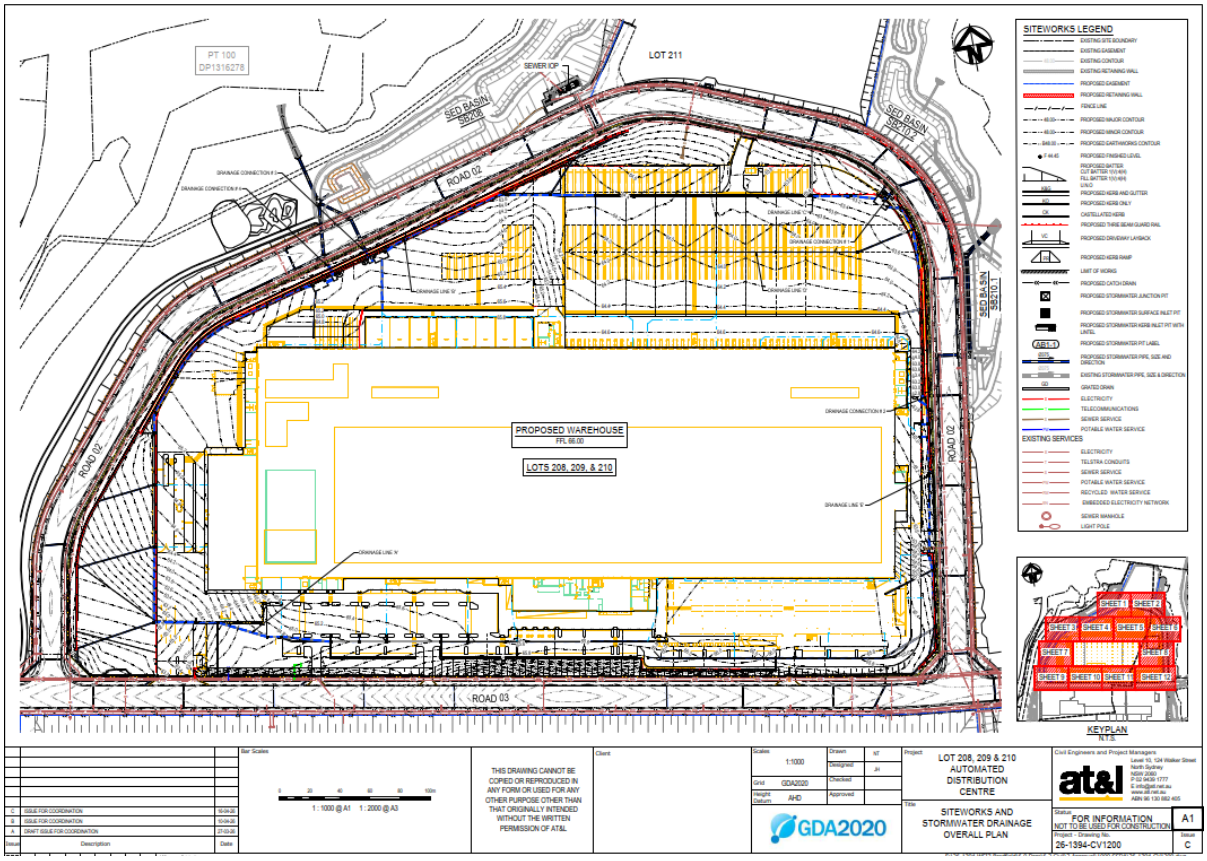


Figure 4 – Draft Site Plan for Proposed Works

The inherited earthworks pad in existing conditions has a single direction fall across individual lots. Lot 210 falls to the north and stormwater will discharge into regional water quality and detention ponds before being discharged to the unnamed watercourse to the east of the lot. Lot 208 and 209 each fall to the north. Stormwater will be conveyed into regional water quality and detention basins along Badgerys Creek, where water will then discharge to Badgerys Creek. Refer to Figure 5.

Figure 5 - Proposed CDC 4 Cut and Fill Plan

Figure 5 - Inherited Existing Conditions Cut and Fill Plan

The pad levels have been set at levels ranging from 67.8 – 66.5m AHD which is above the 1% Annual Exceedance Probability (AEP) level + 0.5m - referred to as the Flood Planning Level (FPL). This definition of the FPL is taken from the Western Sydney Aerotropolis Development Control Plan (DCP) 2022.

The WSI3 site is not inundated by 1% AEP flooding in the inherited existing conditions and there are no changes to the flood affectation once the warehouse and other proposed development activities have taken place. Refer to Section 3.3 for further information on flood extents and affectation.

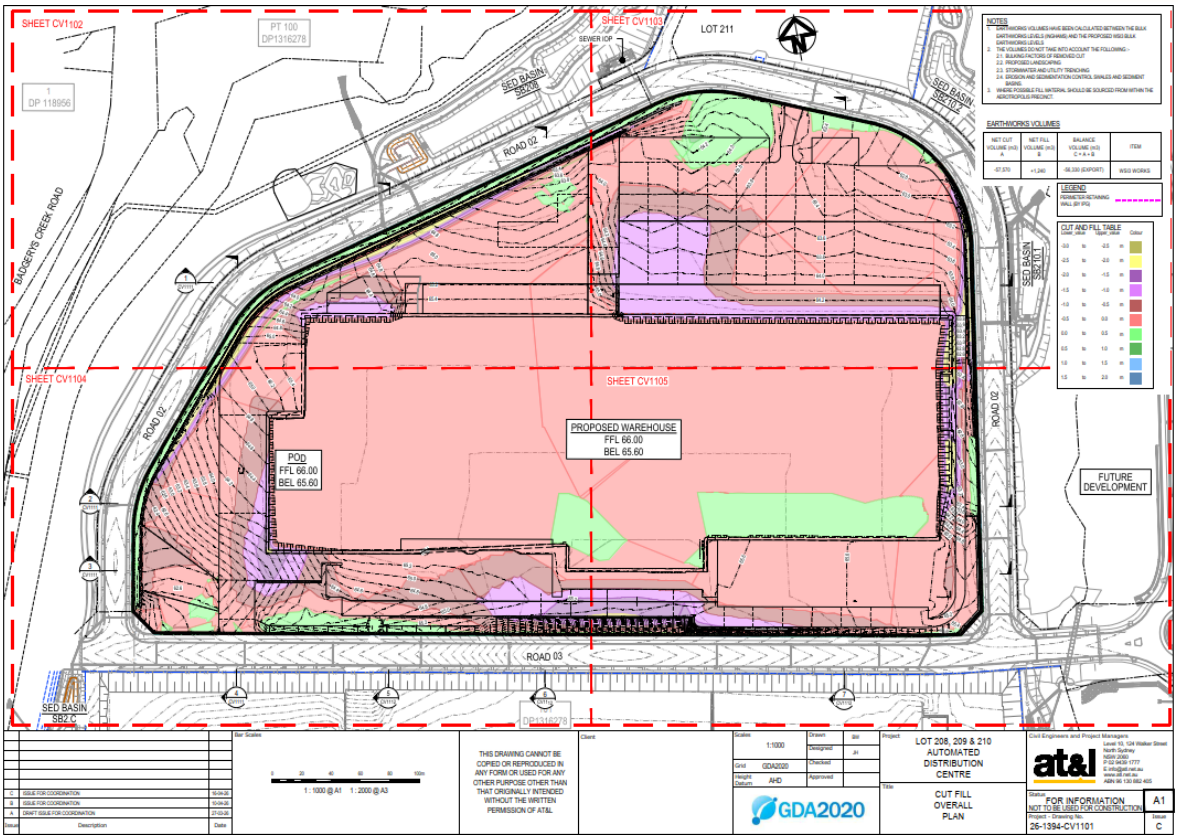


Figure 6 – Existing Inherited Earthworks Levels and Cut / Fill balance

2.3. Current Land Use

The WSI3 site is currently zoned as ENT Enterprise and is shown below in Figure 7. The zones surrounding the site include ENZ – Environmental and Recreation and SP2 - Infrastructure.

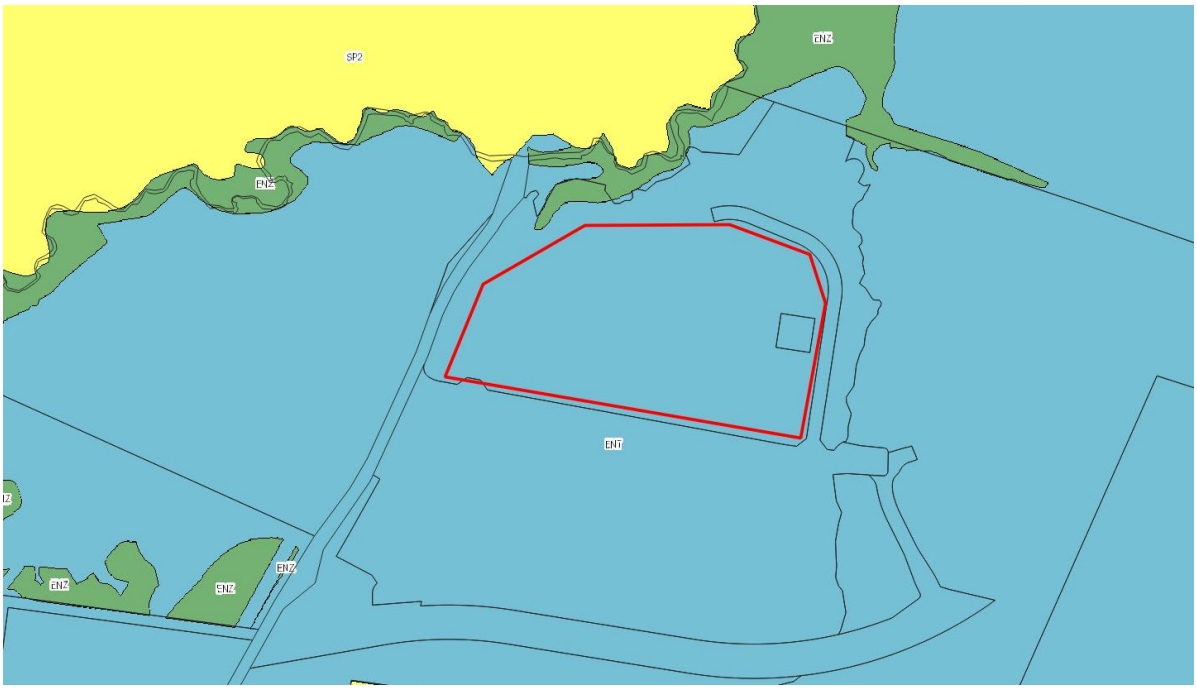


Figure 7: Current Land Use Zoning

2.4. Catchment Characteristics

The WSI3 site is situated within the Badgerys Creek catchment. To the west of the site, flood levels are driven by mainstream flooding along Badgerys Creek while on the eastern side the flood levels are driven by flooding along a minor unnamed watercourse.

The entire WSI3 site in the pre-developed conditions was greenfield with some scattered farm dams. The land use was agricultural and the entire WSI3 site was pervious. The pre-developed catchment plan for the IPG precinct is shown in **Figure 8**.

Figure 8 - Pre-developed Conditions for IPG Precinct

In inherited existing conditions, extensive earthworks have occurred on the WSI3 site. The site is now a brownfield undeveloped site with bare earth. The site is fully pervious; however sediment runoff is high. The inherited existing conditions catchment plan for the IPG precinct in shown in **Figure 9**.

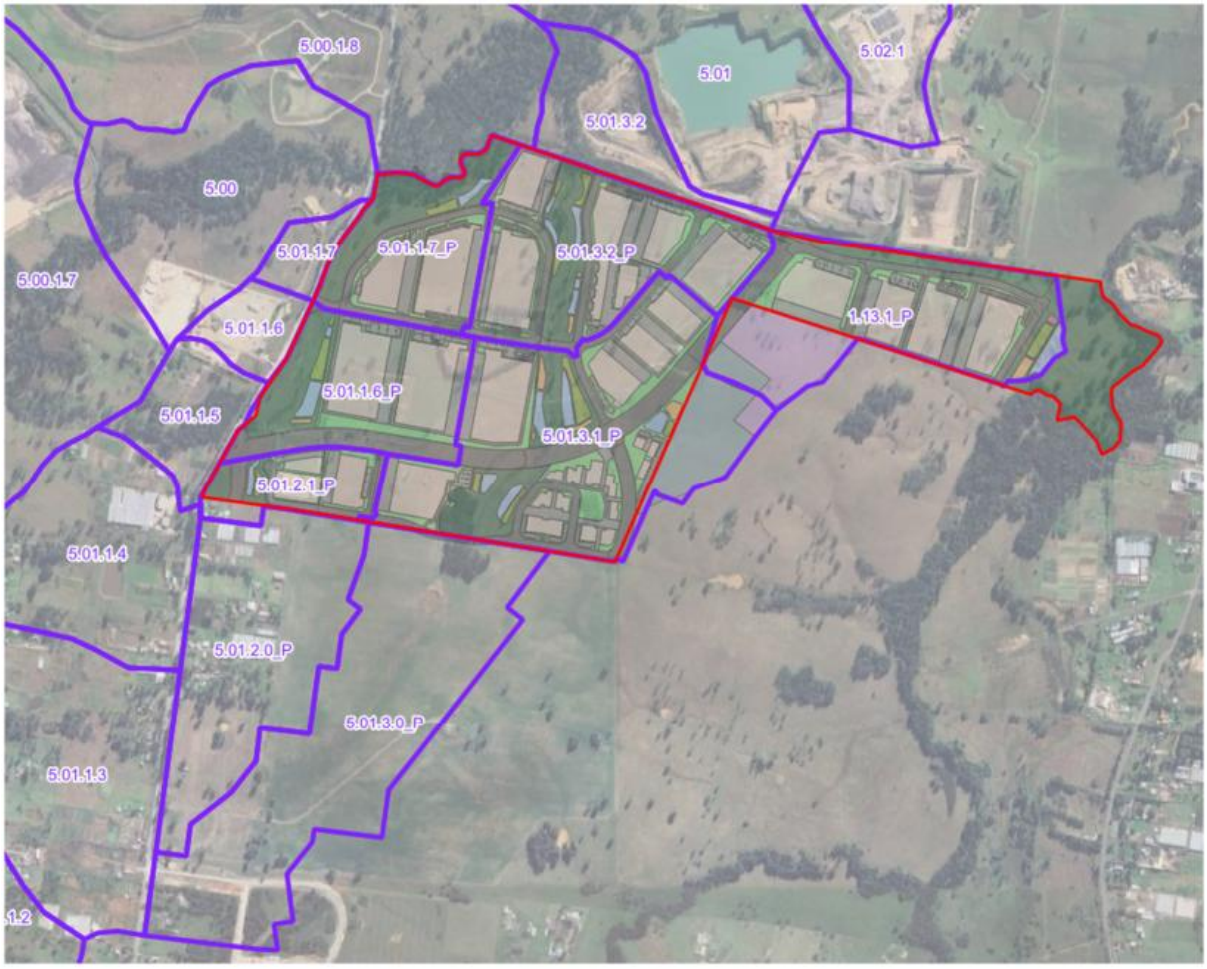


Figure 9 - Inherited Existing Conditions for IPG Precinct

The inherited existing internal catchment plan for the precinct has been included in the IPG Master Plan and is presented in **Figure 10**.

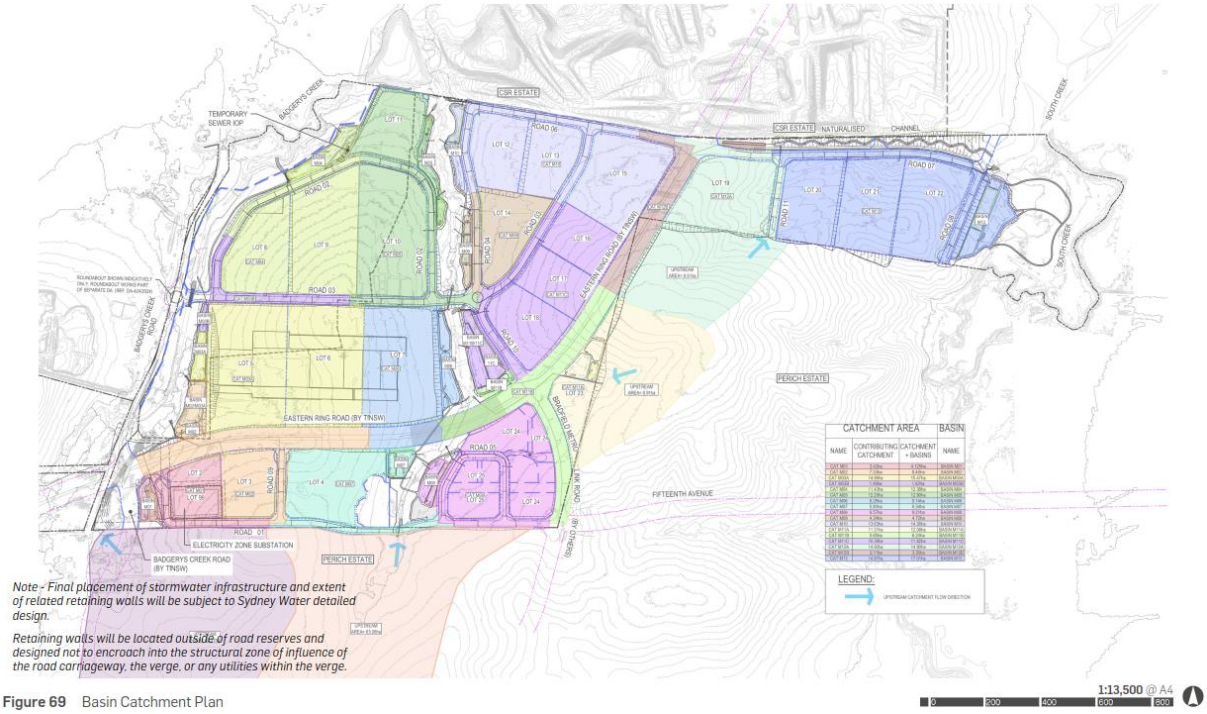


Figure 69 Basin Catchment Plan

Figure 10: Catchment plan under inherited Existing Conditions

2.5. Available Flood Studies

A review of available flood studies was undertaken to understand the likely local flood behaviour and characteristics for the WSI3 site. The main flood study relevant to this assessment is detailed below.

2.5.1. Flood Impact Assessment – CDC4 Stage 2 Earthworks Package (IDC, 2025)

The Flood Impact Assessment (FIA) for the entire Ingham precinct was based on the Wianamatta South Creek Flood Study completed by Advisian in 2022. The Wianamatta South Creek Flood Study was completed in 2022 for Infrastructure NSW. The TUFLOW model which was used for this study was made available for assessment of the Ingham precinct master plan.

The IPG precinct assessment adopted a 4m grid size and reduced the model extent to a section of Badgerys Creek that centres around the Ingham precinct. The report documented the extents of flooding along Badgerys Creek and the unnamed watercourse for a range of design storm events from the 20% AEP (Annual Exceedance Probability), 10% AEP, 5% AEP, 2% AEP, 1% AEP, 0.2% AEP and Probable Maximum Flood (PMF) events.

The key results found from the flood modelling in this study were:

a) The surface water level in the creek adjacent to the western boundary of the IPG precinct varies between 64.00m AHD in the Southwest corner near the Eastern Ring Road to approximately 57.5m AHD at the northern boundary outlet.

b) The surface flows through the central drainage corridor vary between 67.30m AHD in the Southern limit of the IPG precinct to approximately 58.9m AHD at the Basin outlet at the northern boundary.

c) Flood levels in Wianamatta South Creek along the eastern edge of the IPG precinct vary from 50.3m AHD at the southern boundary to 49.4m AHD at the northern boundary.

d) All proposed building pads are suitably set above the adjacent 1% AEP flood level + 500mm freeboard.

The conclusions from this study were:

a) The IPG precinct's Integrated Water Cycle Management Plan has made sufficient land use allocations for the required water management infrastructure for both the development of the IPG and the future development of the upstream catchments.

b) Upstream developers may need to provide some water management infrastructure, depending on the specific site designs that they implement.

c) All IPG development lots are above both the 1%AEP + 0.5m freeboard and 0.2%AEP flood levels.

d) Minor encroachment of floodwaters exists in some isolated lots in the PMF event.

e) There are negligible adverse impacts to upstream or downstream flood levels and properties due to the proposed development.

f) In the Wianamatta South Creek catchment, all works are above the PMF flood levels and therefore no further analysis is required.

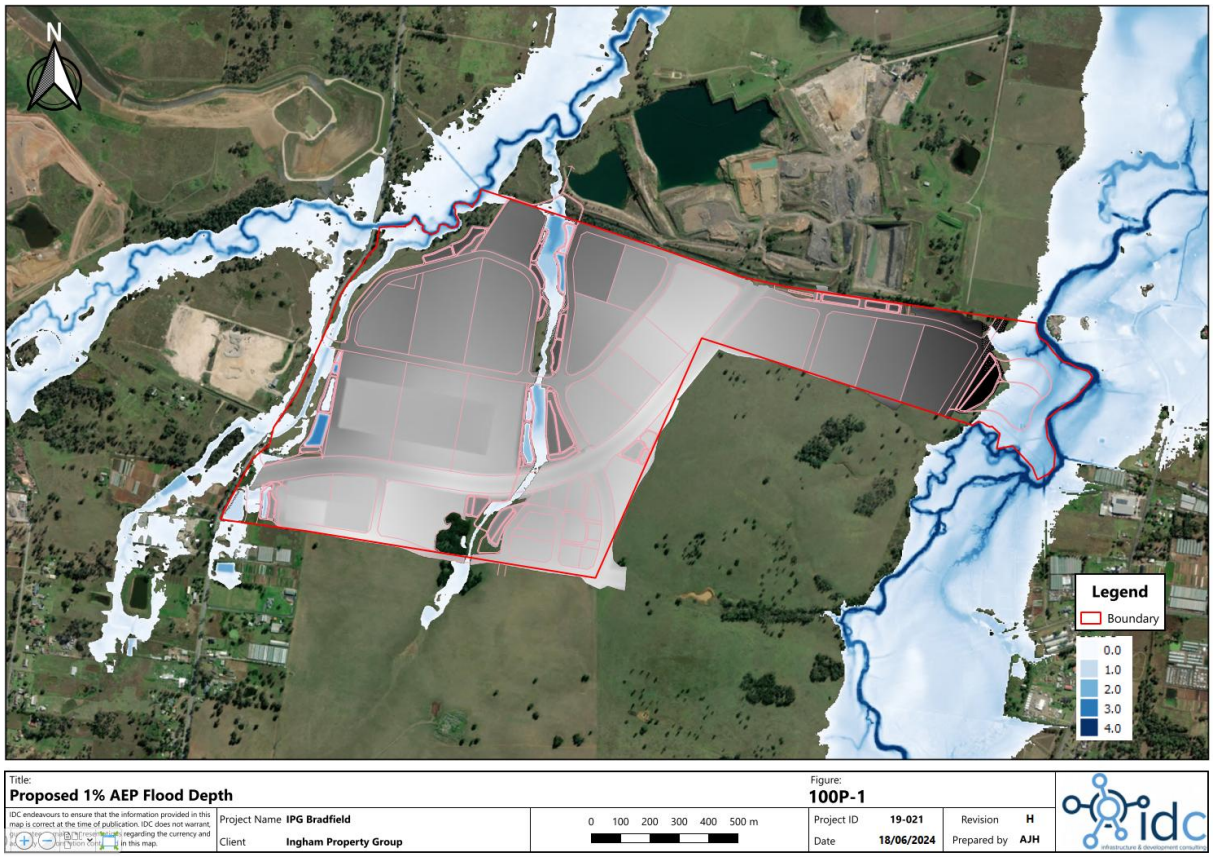


Figure 11 - 1% AEP Flood Depth Results for Inherited Existing Conditions (Post IPG Earthworks)

2.5.2. Integrated Water Cycle Management Plan – Ingham Property Group, Badgerys Creek Road, Aerotropolis (IDC, 2025)

The Integrated Water Cycle Management Plan (IWCMP) for the entire Ingham precinct was developed to address water quality, water quantity, and flooding requirements. The Flood Impact and Risk Assessment (FIRA) section specifically addresses how the Ingham Precinct development addresses the flooding requirements set out in the Western Sydney Aerotropolis DCP 2022.

The IWCMP describes the flooding model set up, assumptions and results. The report considers flood impacts, loss of flood storage, climate change impacts, and flood evacuation. The impacts to flooding and flood storage were generally small or negligible. A climate change assessment found that while water levels in the watercourses rose by about 0.2m, there was no encroachment of flooding onto development lots.

Flood risk has been minimised across the precinct by ensuring that roadways and lots are protected from all storms up to the 1% AEP event. The primary flood evacuation route for the IPG precinct was identified as egressing west via Road 03 and then south along Badgerys Creek Road towards the Northern Road. It was noted that sections of Road 03, the Eastern Ring Road, and Badgerys Creek Road are affected by the Probable Maximum Flood (PMF). These roads may be inundated up to 0.3m in the PMF and cut off for up to 12 hours. Badgerys Creek Road is planned to be upgraded into a sub-arterial road between the Northern Rd to the future intersection with the Eastern Ring Road (ERR) at the SW corner of the Ingham Estate. The section between the ERR and the Badgerys Creek Road-RD3 roundabout is planned to be upgraded to a collector road. The upgraded section will have an immunity of 1% + 0.3m. Refer to Section 4.1.2 and Figure 20.

Figure 44 – PMF Impacts and Evacuation Strategy

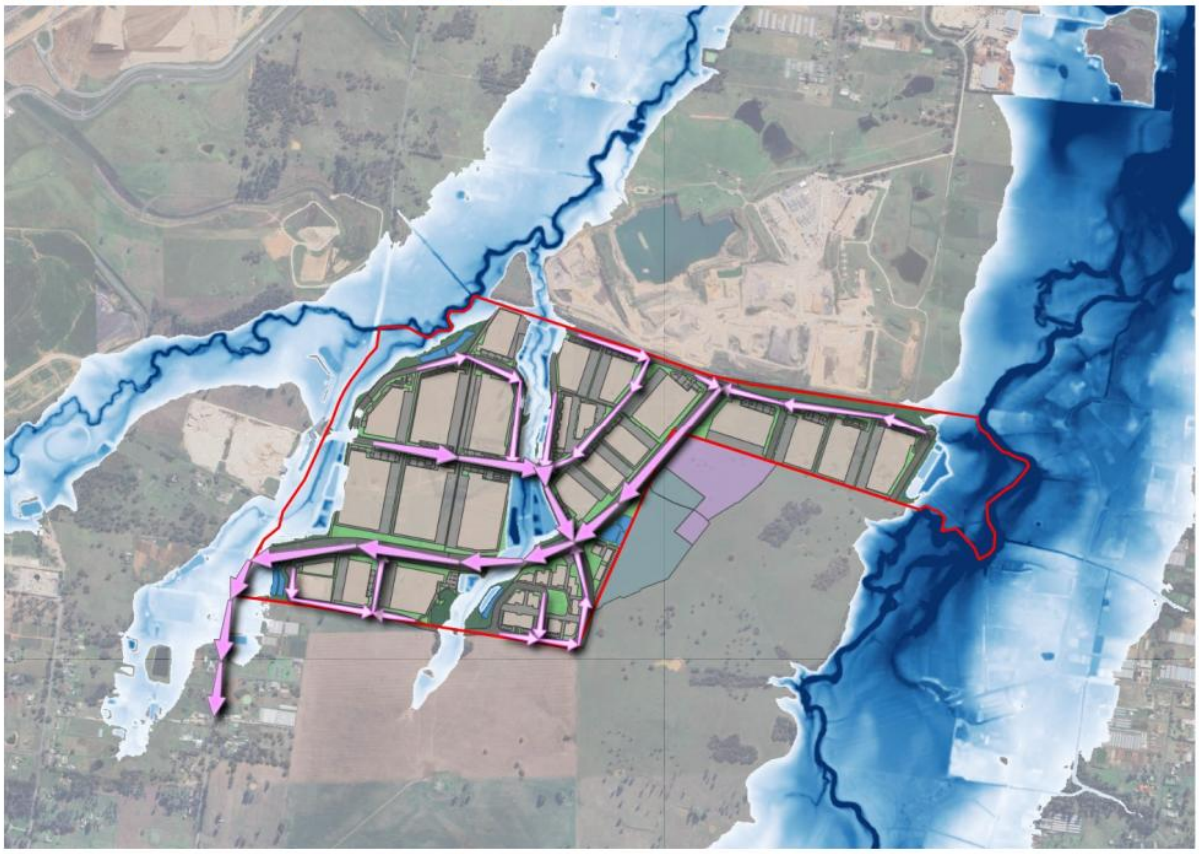


Figure 12 - Flood Evacuation Strategy proposed for Ingham Precinct

The IWCMP notes that site specific flood management plans for the individual lots must be prepared and take into account the site location, levels, road connections, etc. The flood management plan should monitor weather warning, water levels on and adjacent the site, and evacuation routes. The report reiterates that all lots within the precinct have a pad level above the PMF water level.

The key points of the study were:

a) The IPG precinct's Integrated Water Cycle Management Plan has made sufficient land use allocations for the required water management infrastructure for the development of the IPG Bradfield Master Plan.

b) On-site Detention is required for the central creek corridor to control run-off on to the downstream CSR site.

c) No on-site detention is proposed on the parts of the IPG precinct that drain directly to Badgerys Creek and Wianamatta South Creek. This has been modelled and determined to have no material impact on flood affectation and is in accordance with the recommendations of the Wianamatta South Creek Cumulative Impact Assessment.

d) Upstream and downstream developers will need to provide both water quality and water quantity management infrastructure.

e) All IPG development lots are above both the 1%AEP + 0.5m freeboard and 0.2%AEP flood levels.

f) Minor encroachment of floodwaters exists in some isolated lots in the PMF event in surrounding parts of the IPG precinct including landscape setbacks.

g) There are negligible adverse impacts to upstream flood levels outside the IPG precinct with no worsening of impacts on habitable buildings and properties due to the proposed development.

3. Flood Model Summary

3.1. Overview

The Wianamatta South Creek TUFLOW model was obtained and has been used as the basis for undertaking detailed hydraulic modelling for the WSI3 site at Lots 208-210.

3.2. Scenarios

The Hydraulic model was setup to represent the following flood condition scenarios:

a) Pre-developed Conditions: The pre-developed model prepared by Advisian, modified by IDC to represent existing conditions prior to IPG Master Plan earthworks, roads, or basins – i.e. greenfield conditions. The three events assessed included the 20% and 1% AEP and PMF events.

b) Inherited Existing Conditions: The model was amended to incorporate the works proposed in the IPG master plan including the proposed building pads, roads, and permanent basins. Adjustments were made to reflect modifications to the pads of Lot 208, 209, and 210 such as changes in elevation and surface Manning's values. The three events assessed included the 20% and 1% AEP and PMF events.

c) Climate Change sensitivity: Analysis was undertaken for this assessment to understand the impact that climate change may have on the 1% AEP event. Two scenarios were tested:

   i. The 0.5% AEP event was used to represent an increase in rainfall intensity of approximately 10%

   ii. The 0.2% AEP event was used to represent an increase in rainfall intensity of approximately 30%

A Developed Conditions scenario incorporating the proposed WSI3 SSDA development including the warehouse, carpark, landscaping, etc. was not run in the flood model because the proposed works on Lots 208, 209, and 210 are outside the floodplain and will not change or be impacted by flood behaviour in events up to and including the PMF.

Details of the works composing the IPG master plan that are included in the Inherited Existing Conditions can be found in the Integrated Water Cycle Management Plan – Ingham Property Group (IDC, 2025).

3.3. Flood Model Results

The following observations regarding the modelled flood behaviour were noted:

3.5.1 Pre-developed Conditions

The WSI3 site is completely flood free in all events up to the 1% AEP. A stormwater channel to the west of the WSI3 site conveys water north into Badgerys Creek without any inundation of the predeveloped WSI3 site area.

To the east of the WSI3 site, water is contained within the unnamed tributary of Badgerys Creek and does not spill out onto the WSI3 site.

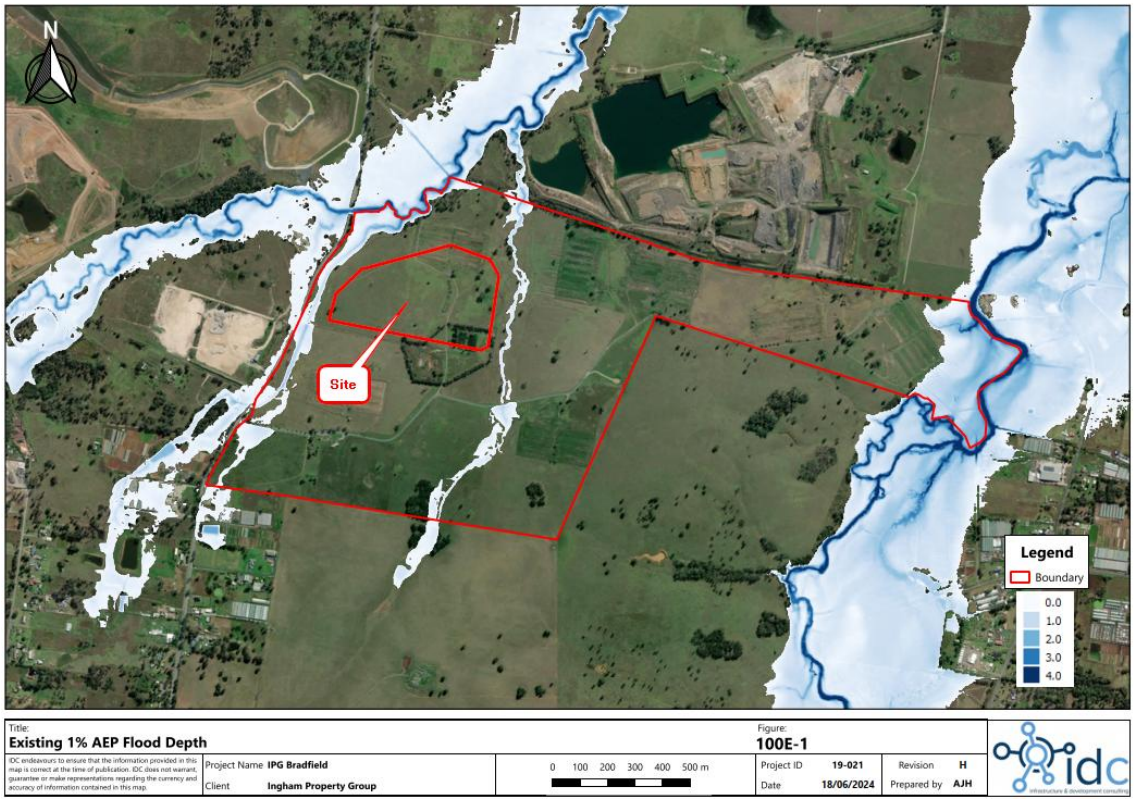


Figure 13 - 1% AEP Flood Depths – Pre-developed Conditions

In the PMF, floodwater is largely contained and conveyed to the east and west of the WSI3 site by the watercourses. A small amount of shallow inundation on the WSI3 site occurs along the western boundary.

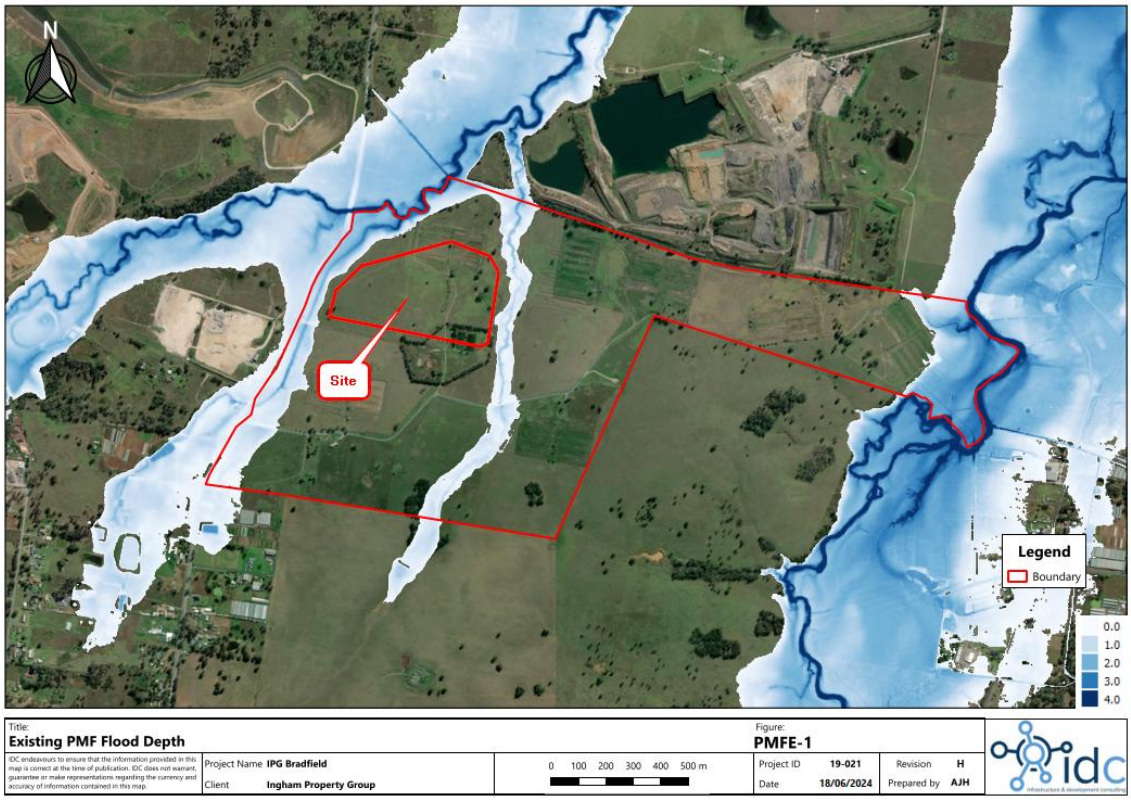


Figure 14 - PMF Flood Depths – Pre-developed Conditions

The 1% AEP and PMF flood level in the pre-developed conditions is approximately 60m AHD.

3.5.2 Inherited Existing Conditions

Under the Inherited Existing Conditions the WSI3 site remains completely flood free in all events up to the PMF. The 1% AEP level is 60.0m AHD at the southwestern corner of the WSI3 site and 61.7m AHD in the unnamed watercourse to the east of the WSI3 site. The PMF level is 62.0m AHD at the southwestern corner of the WSI3 site and 62.3m AHD in the unnamed watercourse to the east of the WSI3 site.

The WSI3 warehouse finished floor level (FFL) and POD area is proposed at 66.0m AHD. The WSI3 buildings will have several metres of freeboard above the PMF.

It is noted the Road 03 and the roundabout intersection with Badgerys Creek Road (at the southwest corner of the WSI3 site) have flood immunity greater than a 1% AEP event, however become inundated in the PMF.

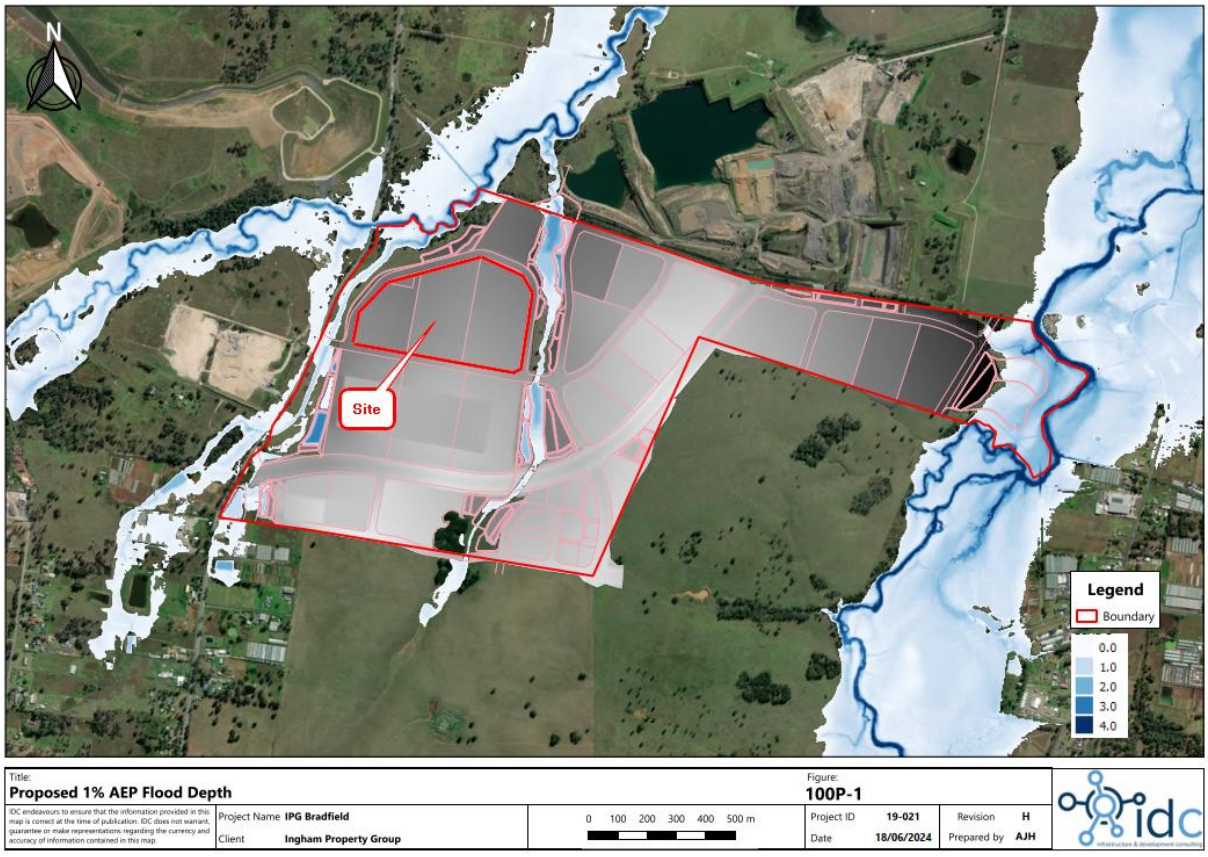


Figure 15 - 1% AEP Flood Depths – Inherited Existing Conditions

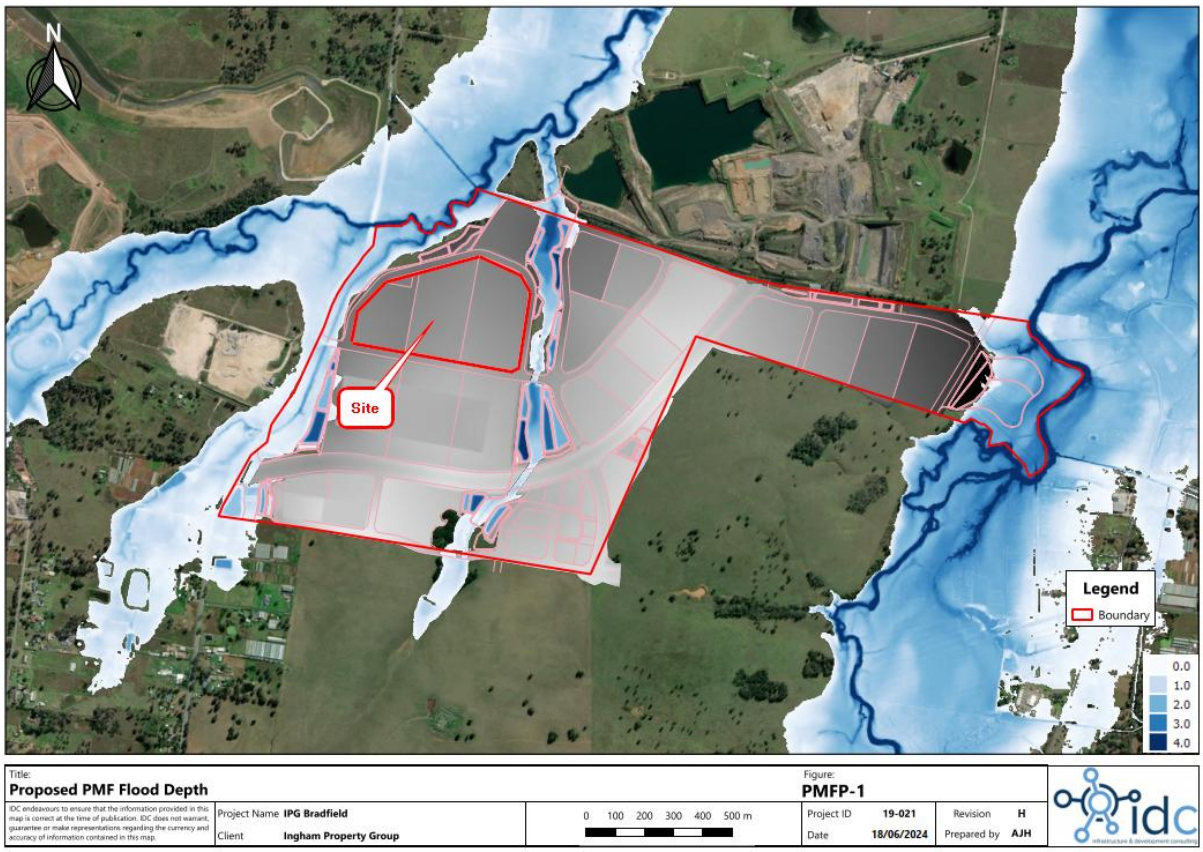


Figure 16 - PMF Flood Extent – Inherited Existing Conditions

3.3.1. Flood Planning Level

The Flood Planning Level (FPL) is defined as the 1% AEP flood level + 500mm freeboard. It is generally required that floor levels of buildings are at or above this level.

The FPL for the WSI3 project is **62.2m AHD**. This is based on the 1% AEP flood level to the east of the WSI3 site of 61.7m AHD.

The WSI3 warehouse FFL and POD area is proposed at 66.0m AHD. The WSI3 buildings will have more than 2 metres of freeboard above the FPL.

3.5.3 Climate Change

A climate change scenario for the inherited existing conditions was undertaken for the 1% AEP event. A 10% and a 30% increase in rainfall intensity were taken to represent a near term and long term climate change scenario. These scenarios were implemented in the Wianamatta South Creek Flood Study which was then adopted in the Flood Impact Assessment – CDC4 Stage 2 Earthworks Package. Refer to Figure 17 and Figure 18. It was found that:

- While the 0.2% AEP (representing a 30% increased rainfall intensity) produced larger increases in water level than the 0.5% AEP (representing a 10% increased rainfall intensity), both resulted in increases in water levels greater than 200mm in the watercourses to the west and east.
- In both climate change scenarios, the WSI3 site and the Road 03 remained flood free.

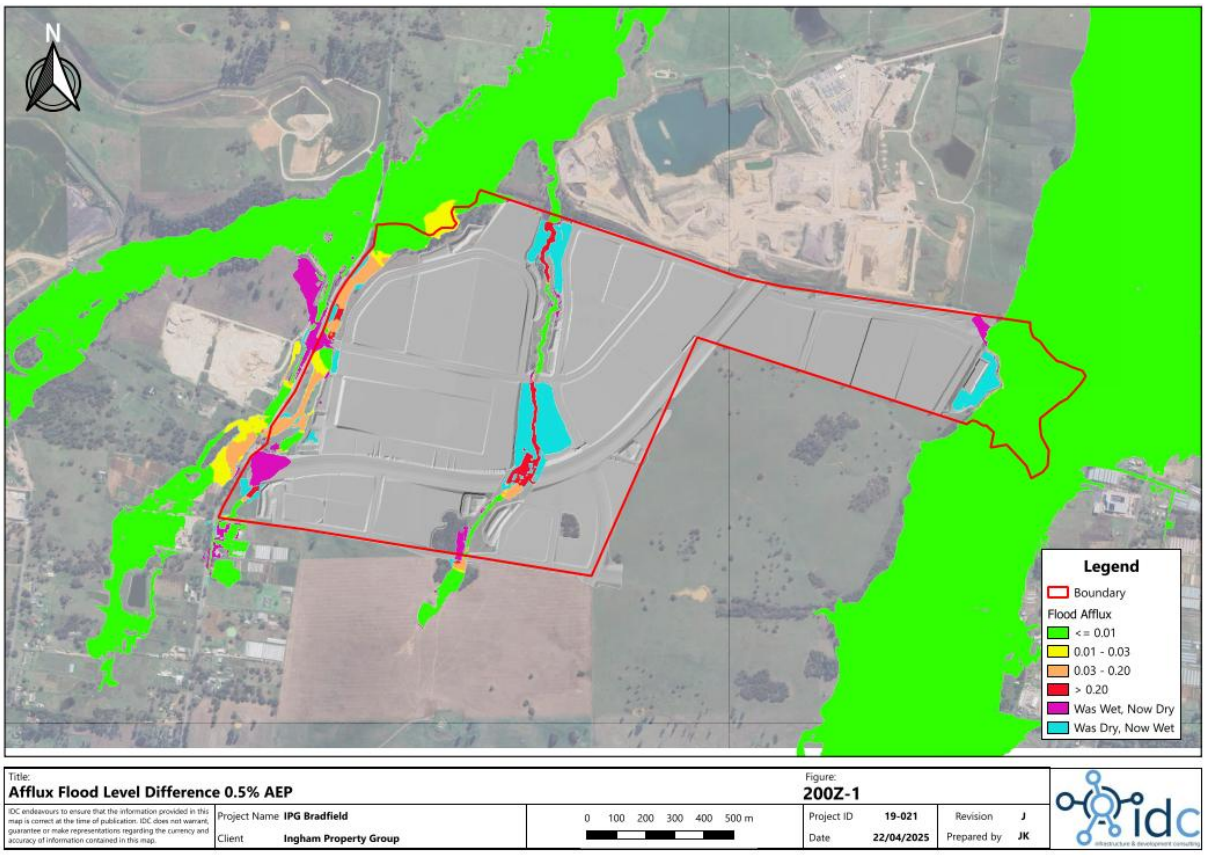


Figure 17 - Afflux Map showing a 10% increase in rainfall intensity for a 1% AEP event

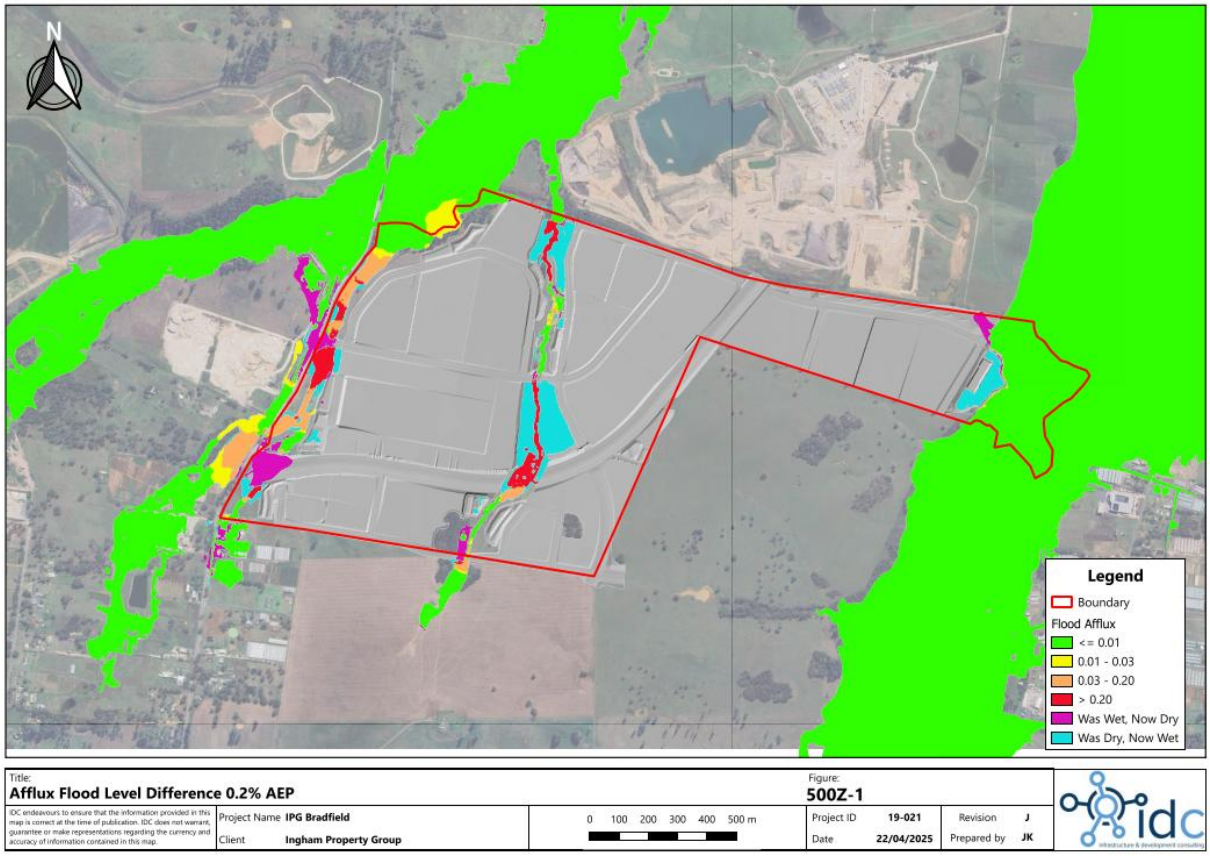


Figure 18 - Afflux Map showing a 30% increase in rainfall intensity for a 1% AEP event

A climate change scenario for the proposed conditions was not undertaken as the site is completely flood free in the inherited existing conditions. The proposed works within the site will not be impacted by mainstream flooding worsened by climate change in all events up to the 1% AEP event.

4. Flood Emergency Response

The WSI3 site is flood free in all events up to the PMF under proposed conditions.

The WSI3 site is considered to be a 'High Flood Island' in a PMF meaning it is above the PMF but surrounding areas will be inundated in a PMF event.

In order to develop a flood emergency response, items to be considered:

- The hazard onsite during a flood event
- The hazard of travelling during a flood event
- The length that hazardous conditions will endure

4.1.1. Evacuation Options

The two options for flood emergency response are to either evacuate the site or remain on site.

Evacuating the site removes workers and visitors from being exposed to the hazardous conditions in the area. However, of key concern is that to evacuate the site means driving along roads which are potentially inundated and highly dangerous.

Remaining on site removes the risk of driving through floodwaters. However adequate provisions and facilities need to be prepared in advance to ensure that people can remain on site for the duration of flooding. Also of key concern is that people may choose to try to leave for home while conditions are still hazardous or if they expect that they will be away from home for a long time.

4.1.2. Duration and Depth of Inundation of Road Network

Badgerys Creek has a large catchment and flooding will generally take place over hours rather than minutes. Figure 19 shows a hydrograph for a 1% AEP event along Badgerys Creek. It shows that the major flood producing flow generally occurs over the course of approximately 3-4 hours. The longest duration storm event run was the 36 hour event which inundates the road network for approximately 12 hours.

Figure 20 shows that the precinct roundabout that connects to Badgerys Creek Road has flood immunity better than a 1% AEP event. Similarly, Road 3 has immunity better than a 1% AEP event. Badgerys Creek Road is an existing road with several low points. The current flood immunity of Badgerys Creek Road less than a 1% AEP event but it is not known precisely which flood event will first cause inundation of the road.

In the PMF, Badgerys Creek Road, Road 03, and the roundabout intersection with Badgerys Creek Road will become inundated. The depth of flow over Road 03 at the roundabout junction is less the 0.25m. The depth of flow over Badgerys Creek Road at the roundabout in a PMF is 0.1-0.3m with isolated areas of 0.5m depth. The hazard classification is H1 to H2 within the road corridor of Badgerys Creek Road. The time of inundation for Road 03, the roundabout, and Badgerys Creek Road is approximately 4 hours for a 6hr critical storm (inundation times are shorter in shorter duration events). Refer to Figure 16 for sections of road inundated in a PMF event.

Figure 36 – Pre to Post Hydrograph Comparison - Node 5.01 (PO12) – 1% AEP

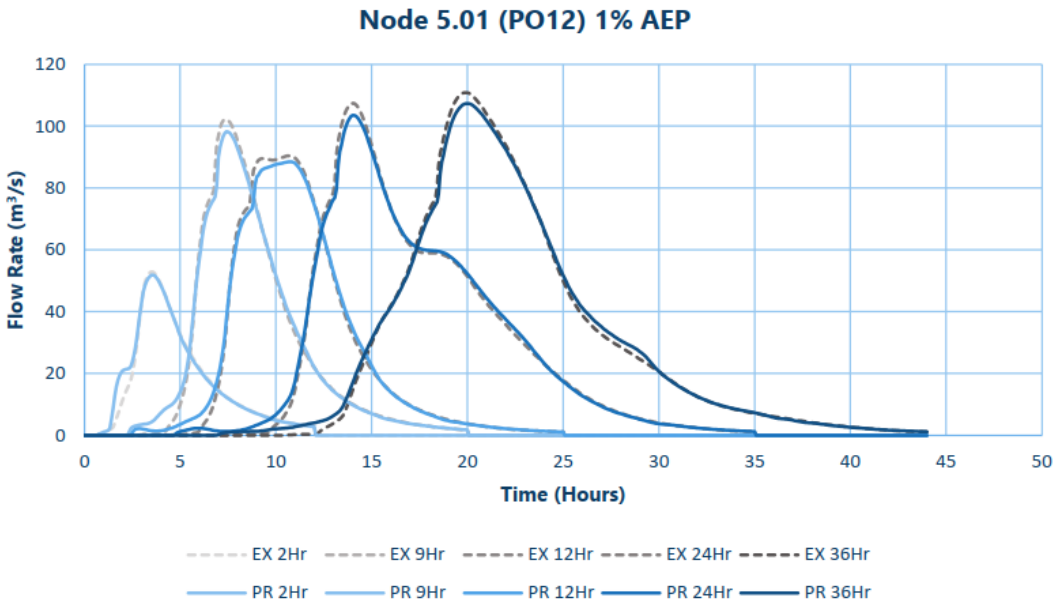


Figure 19 - 1% AEP Flood Hydrograph

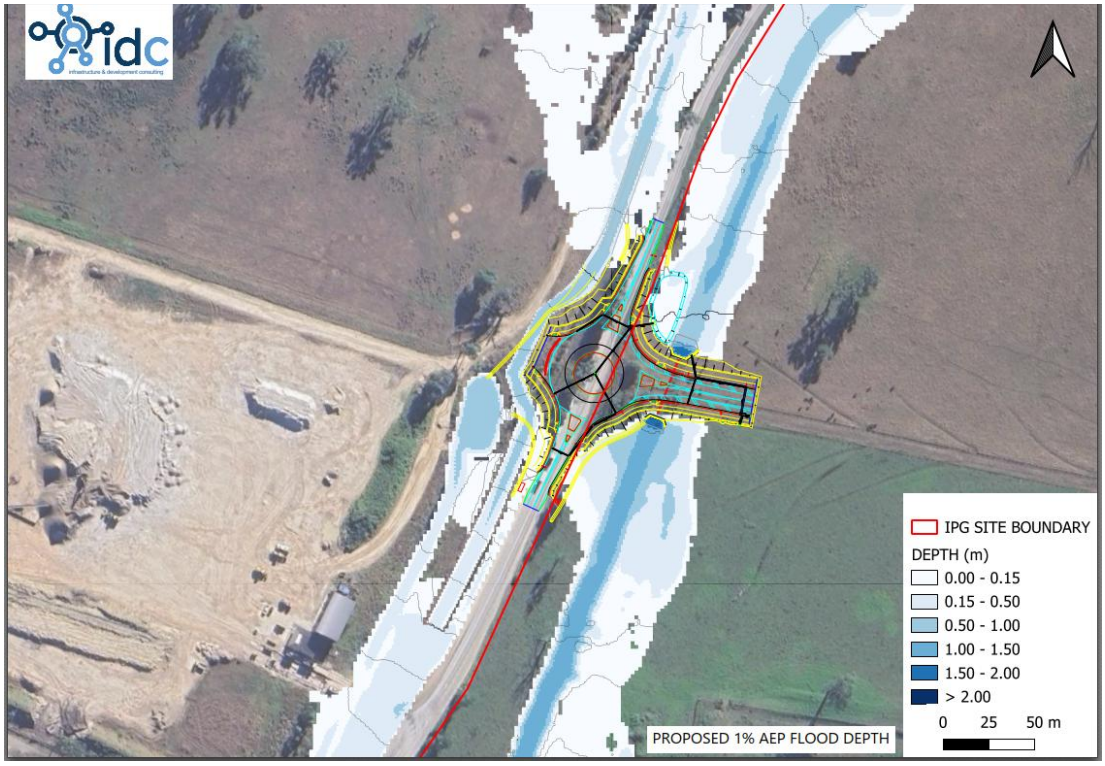


Figure 20 - 1% AEP Flood Depths – Road 3 and Precinct Roundabout to Badgerys Creek Road have 1% AEP immunity

4.1.3. Draft Emergency Flood Action Table

The following table has been prepared to help guide decision makers to an appropriate flood emergency response. This table can be adopted in a future Flood Emergency Response Plan (FERP) during commissioning or detailed design.

Table 2 - Flood Emergency Actions

TRIGGER	RESPONSE
Severe Weather Warning **Severe Thunderstorm Warning**	Employees and drivers not on site – monitor situation. Employees, drivers, and visitors on site – monitor situation.
Heavy Dangerous Rainfall	Postpone driving until after rain subsides AND if no flooding on road network.
Floodwater rising in Badgerys Creek (where situation has been monitored and flooding is expected to occur)	Evacuate site. Drive safely along Badgerys Creek Road south towards The Northern Road. Do not drive through floodwaters.
Flooding over Badgerys Creek Road while evacuating site	Return to site and shelter on site. Do not drive through floodwaters.
Major flooding occurring in area. Roads inundated or road condition unknown.	Shelter on site. Remain on site until road network is clear of floodwater. Do not drive through floodwaters.

4.1.4. Necessary Preparations

In order to facilitate the actions above to be undertaken, a number of preplanning actions need to be completed. These preplanning actions should be undertaken by the occupants as part of their flood emergency response plan. This includes:

- Education of workers and visitors about the Flood Evacuation Strategy. Do not drive through floodwaters.
- Identify a place with adequate space for shelter on site
  - Designated evacuation space must have facilities such as bathrooms, kitchen
  - Designated evacuation space must have food and water for 24hrs for all people
  - Designated evacuation space must consider accessibility and make reasonable accommodations.
  - Designated evacuation space must consider risk of additional emergencies occurring such as a medical emergency or fire risk.
- Provide signage to inform evacuation routes and flood risk areas.

4.2. Compliance with Aerotropolis DCP

The flooding conditions on the WSI3 site post development comply with the flood planning controls specified in the Western Sydney Aerotropolis DCP 2022. Specifically, the proposed works are:

- Compatible with the flood function and behaviour of the land.
- Have no adverse impacts to flood behaviour, floodplain function, and community.
- Allows safe occupation and evacuation of people in flood events.
- Will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood.

- Will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of riverbanks or watercourses (flood behaviour has not been changed).

4.3. Compliance with State Environmental Planning Policy (Precincts – Western Parkland City) 2021

A number of sections in the State Environmental Planning Policy (SEPP) Precincts – Western Parkland City 2021 are relevant to flood planning. The relevant sections include:

- Part 3.5 Development Controls – flood prone and major creeks land
- Part 4.4 Section 4.24 – Flood Planning

The WSI3 site is above the FPL and sits outside the flood planning area shown on the flood planning map. It is therefore not subject to the requirements of Part 4.4. The WSI3 site is not situated on flood prone land and therefore is not subject to the requirements of Part 3.5. However, the WSI3 development still complies with the flood planning controls specified in the SEPP and the general objectives of the relevant sections.

5. Conclusion

This flood impact assessment has been prepared to confirm the works for Lots 208, 209 & 210 at 475 Badgerys Creek Road, Bradfield are compatible with the applicable flooding requirements and SEARs. A detailed hydraulic model has been developed for the IPG Precinct using the Wianamatta South Creek Flood Study TUFLOW model.

The primary source of flooding in the vicinity of the site is attributed to riverine flooding from Badgerys Creek to the west and flooding of an unnamed tributary to the east.

The Site remains flood free in events up to and including the PMF event. The proposed earthworks pad level is set several metres above the PMF flood level.

The flood impacts due to the proposed works in all events up to the PMF will be negligible as the site in flood free in all events, and therefore there will be no significant changes to the flood levels, flood behaviour, or floodplain storage available.

Flood evacuation of the site is not necessary in an extreme flood event as it is not in danger of inundation. The site may become cutoff from flooding of the local road network. A clear action plan has been drafted to respond to potential flooding in the area which calls for site evacuation or shelter-in-place depending on circumstances. To provide a Shelter in Place evacuation option, a space adequate for staff and visitors with proper provisions and facilities will be provided.

For the Climate Change scenarios in the inherited existing condition, both flood depths and extent of inundation increase significantly compared to the 1% AEP event. The flood levels increased by more than 200mm in some areas of the creek to the west and east of the WSI3 site. The extent of flooding increased, but was contained within the creek overbank area. The WSI3 site and Road 03 remained flood free and was not impacted by flooding worsened by climate change in the 1% AEP event.

The proposed development complies with the relevant SEARs, the flooding aspects of the Aerotropolis DCP, and is consistent with the strategic flood management.

6. References

Advisian, *Wianamatta South Creek Flood Study,* 2022

Commonwealth of Australia (Geoscience Australia), *Australian Rainfall and Runoff – A Guide to Flood Estimation*, 2019

Department of Planning and Environment, *Flood Risk Management Manual*, 2023

Department of Planning, Housing and Infrastructure, *Western Sydney Aerotropolis Development Control Plan,* 2022

IDC, *475 Badgerys Creek Road - CDC 4 Stage 2 Earthworks Package Flood Impact Assessment Report,* December 2025

IDC, *475 Badgerys Creek Road – Integrated Water Cycle Management Plan,* April 2025

NSW Government, *State Environmental Planning Policy (Precincts – Western Parkland City)*, 2021

Urbis, *IPG Badgerys Creek Road Master Plan*, May 2025

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