

Appendix F

Flood Risk Assessment

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ib vogt Development Australia Pty Ltd

Giddi Battery Energy Storage System and Trafalgar East Hybrid Solar Farm

Hydrology and Flood Assessment

March 2026



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Giddi Battery Energy Storage System and Trafalgar East Hybrid Solar Farm Hydrology and Flood Assessment

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WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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1 Introduction

ib vogt Development Australia Pty Ltd (the Client) has engaged WSP Australia Pty Ltd (WSP) to provide hydrology consultancy services in support of a planning application for a Giddi Battery Energy Storage System (BESS) and Trafalgar East Hybrid Solar farm located in Trafalgar East, Victoria – collectively referred to as the project.

The project spans two properties and to meet grid connection requirements, the project will be delivered across two stages broken down into:

- Giddi BESS – Stage 1 (360-megawatt (MW) BESS, substation and 220 kV connection works)
- Trafalgar East Hybrid Solar – Stage 2 (additional 200 MW BESS and solar array).

This study considers both Stage 1 and Stage 2 locations (the sites).

1.1 Project background

WSP are preparing an Application for a Planning Permit on behalf of the Client to support the statutory approval requirements for the project. The Application for a Planning Permit includes reports to respond to the statutory planning objectives, and to summarise the potential environmental impacts and appropriate management measures during the construction and operation phases of the project.

This pre-development hydrology and flood study (this study) summarises the pre-development hydrology and flood assessment at the project in line with the scope of services outlined in WSP's proposal (document reference: PP217303-MEL-ENV-LTR-001 Rev2, dated 06 June 2025).

It is anticipated the construction contractor will complete the detailed design phase of the project generally in accordance with the development layout plan presented in the Application for a Planning Permit.

1.2 Objective

The objective of this study is to evaluate the existing flood conditions at the project based on the latest site information and regulatory requirements/guidelines, providing sufficient detail for submission as part of the planning permit application. This assessment provides the following key advice:

- 1 **Identify Base Case Conditions:** Characterise existing/pre-development (base case) flood conditions at the site area, including the floodplain extent, water levels and flow velocities for the 1% annual exceedance probability (AEP) event, with considerations of climate change.
 - 2 **Provide Design Guidance:** Based on the modelled flow regime, identify suitable bench levels for the proposed BESS based on the 1% AEP plus selected climate change scenario and recommend high level flood mitigation measures.
-

1.3 Methodology

To undertake this study, WSP applied the following approach:

- **Information Review:** Reviewed relevant datasets and documents including:
 - Draft Concept Layout.
 - Supplied Survey Data.
 - Rainfall Data and Catchment Hydrology Information.

- Australian Rainfall and Runoff Version 4.2 (ARR V4.2), particularly the climate change guidance.
- **Model Development:** A TUFLOW 2D rain-on-grid model was set up to simulate 1% AEP conditions with climate change impacts, applying ARR 4.2 guidance including Shared Socioeconomic Pathway (SSP) scenarios, increased rainfall intensities, and adjusted storm losses.
- **Flood Assessment:** Assess the 1% AEP flood characteristics at the site and upstream catchment for the pre-development conditions.
- **Design Advice:**
 - Estimated indicative bench levels for the proposed development by overlaying the updated layout onto pre-development flood mapping.
 - Identified potential flow diversions and high-level mitigation measures to manage flood risks.

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2 Information review

2.1 Site locality

The project is situated in Trafalgar East, approximately 130 kilometres (km) east of Melbourne. Stage 1 of the project is located at 59 Rowells Road, Trafalgar East, which is currently used for growing commercial feed for cattle and sheep and includes a goat dairy. Stage 2 portion of the project is located across the remainder of the Rowells Road property and the adjacent property at 363 Embleton's Road which is currently used for grazing beef cattle. The combined area of the project is approximately 360 hectares.

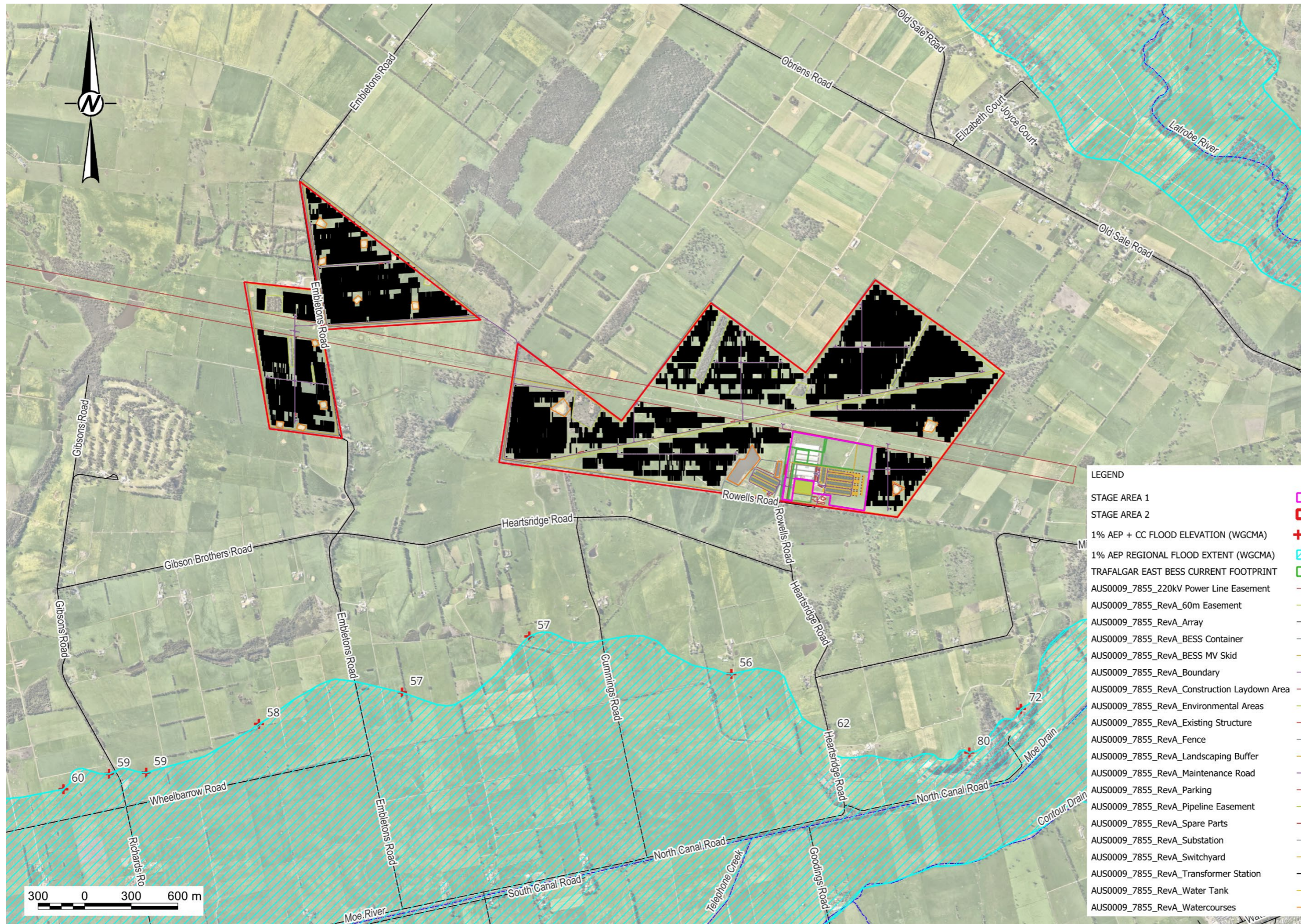
The site is located within the Latrobe River catchment with the key referral agencies being Baw Baw Local Government Area (LGA) and West Gippsland Catchment Management Authority (WGCMA).

The project is in rural, undulating land and according to planning information (source VicPlan), land use is designated as Farming Zone (FZ).

Contours within the project area slope towards natural drainage lines intersecting the site. The property contains a large holding dam and associated irrigation infrastructure. These drainage lines discharge to Moe Drain, which subsequently flows into Narracan Creek – a tributary of the Latrobe River. Figure 2.1 presents the site locality plan.

According to the WGCMA interactive flood mapping portal, the site is not subject to regional flooding under the 1% AEP event, considering both existing conditions and the 2100 climate projection (<https://flood.wgcma.vic.gov.au/>). However, inundation mapping indicates floodwaters could extend to approximately 1 km downstream of the sites.

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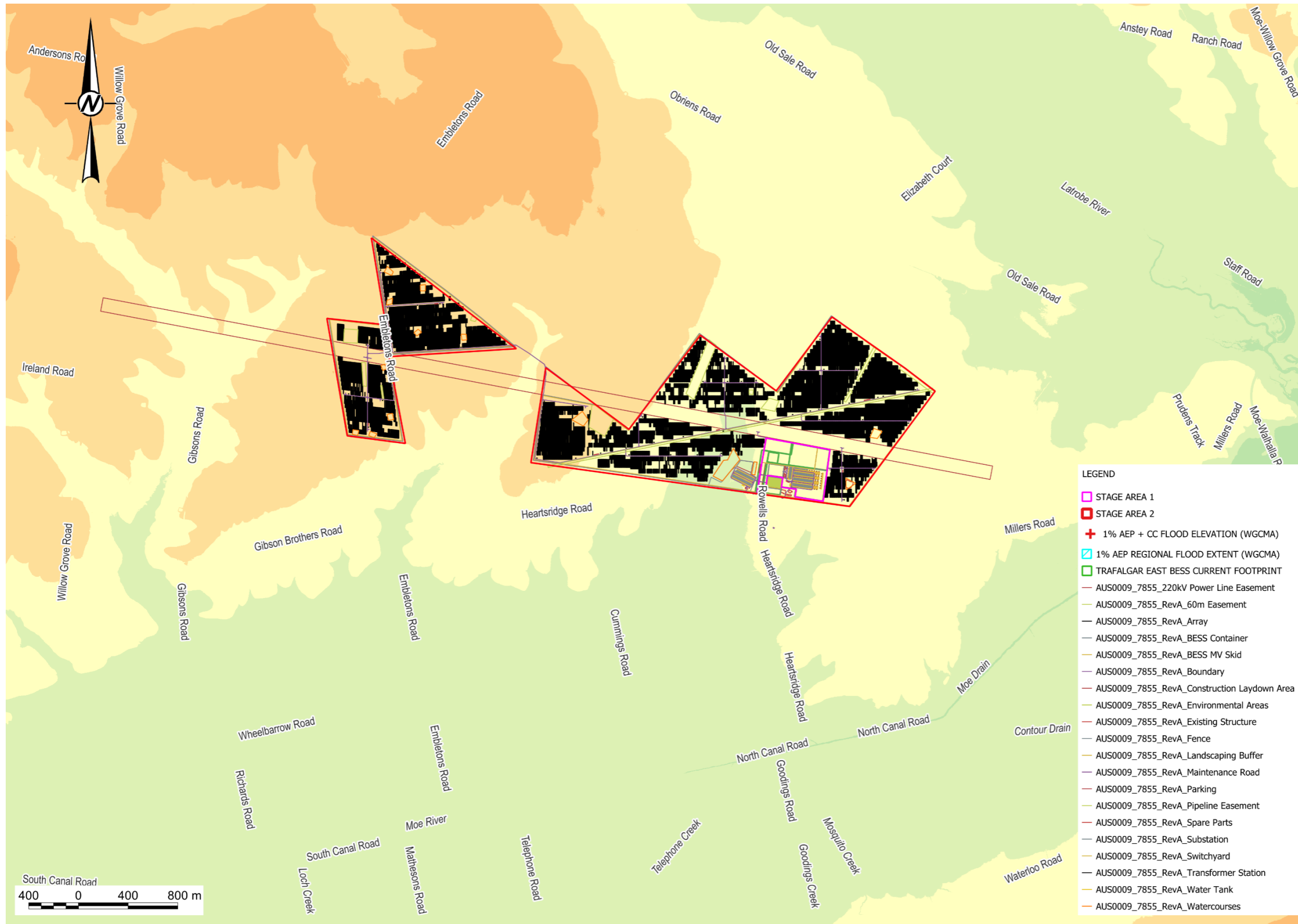
LEGEND	
STAGE AREA 1	□
STAGE AREA 2	□
1% AEP + CC FLOOD ELEVATION (WGCM)	+
1% AEP REGIONAL FLOOD EXTENT (WGCM)	▨
TRAFALGAR EAST BESS CURRENT FOOTPRINT	▨
AUS0009_7855_220kV Power Line Easement	—
AUS0009_7855_RevA_60m Easement	—
AUS0009_7855_RevA_Array	—
AUS0009_7855_RevA_BESS Container	—
AUS0009_7855_RevA_BESS MV Skid	—
AUS0009_7855_RevA_Boundary	—
AUS0009_7855_RevA_Construction Laydown Area	—
AUS0009_7855_RevA_Environmental Areas	—
AUS0009_7855_RevA_Existing Structure	—
AUS0009_7855_RevA_Fence	—
AUS0009_7855_RevA_Landscaping Buffer	—
AUS0009_7855_RevA_Maintenance Road	—
AUS0009_7855_RevA_Parking	—
AUS0009_7855_RevA_Pipeline Easement	—
AUS0009_7855_RevA_Spare Parts	—
AUS0009_7855_RevA_Substation	—
AUS0009_7855_RevA_Switchyard	—
AUS0009_7855_RevA_Transformer Station	—
AUS0009_7855_RevA_Water Tank	—
AUS0009_7855_RevA_Watercourses	—

Figure 2.1 Site locality plan

2.2 Topography

Light Detection and Ranging (LiDAR) Digital Terrain Model (DTM) data was sourced from the Elevation Foundation Spatial Data portal (<https://elevation.fsd.org.au/>). The original dataset has a resolution of 0.5 m, which was resampled to 1 m for this study. The downloaded data covered an area of approximately 138 km², including the site and its surroundings. The dataset provides a vertical accuracy of ± 0.1 m and a horizontal accuracy of ± 0.3 m. Figure 2.2 illustrates the topographic variation across the site and adjacent areas.

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Figure 2.2 Site topography

2.3 Climate

The Trafalgar East region is characterised by a temperate, moderately high-rainfall climate. Long-term averages indicate an annual rainfall of approximately 917 mm, distributed over approximately 181 rain-days per year, according to the climate history summary for Trafalgar East. Monthly rainfall shows elevated amounts from April through November (e.g., July ~88.6 mm, August ~98.9 mm) and lower totals in the warmer summer months of January (~52.6 mm) and February (~43.3 mm). Rainfall distribution is relatively well-spread compared to semi-arid climates, with more frequent rain-days and less extreme dryness between events. However, the variability in individual storm intensity and timing still requires attention for flood modelling.

Mean maximum temperatures range from about 26.6°C in January to around 13.2°C in July, as per the long-term averages. Mean minimums vary from ~13.9°C in January to ~4.4°C in June. In summer (Dec–Feb) conditions are warm but not extreme compared to inland arid zones; winter nights can be quite cool. These seasonal contrasts influence catchment antecedent moisture, soil infiltration capacity, and vegetation conditions, impacting runoff responses.

2.3.1 *Implications for catchment hydrology and flood generation*

As rainfall is relatively frequent and spread through much of the year, antecedent soil moisture is likely to remain moderate rather than extremely dry for long periods. In wet months (especially late winter to spring), saturation of soils may enhance runoff generation.

Flood risk in this region is therefore influenced by intense rainfall events – particularly during the mid-year months – combined with the moderate rainfall baseline and vegetative cover. While the climate is not semi-arid, the moderately high rainfall and cool-season frequency means that both short-duration storm events and persistent rainfall episodes may contribute to flood hazard.

For hydrologic modelling in this catchment, critical storm durations may span short convective bursts as well as longer frontal rainfall periods. Australian guidance from ARR Version 4.2 remains appropriate – especially attention to 1 h to 6 h durations for flash-flow responses, and longer durations for sustained rainfall in wetter months.

2.3.2 *Design rainfall estimates*

The rainfall intensity-frequency-duration (IFD) data for the site area (nearest rainfall data grid to the site at -30.7375S, 121.4875 E) was sourced from the Bureau of Meteorology (BoM)'s computerised design IFD rainfall system (CDIRS). Figure 2.3 and Figure 2.1 summarise the rainfall depths associated with selected design storms for durations up to 168 hours and AEP events down to 1% for the site.

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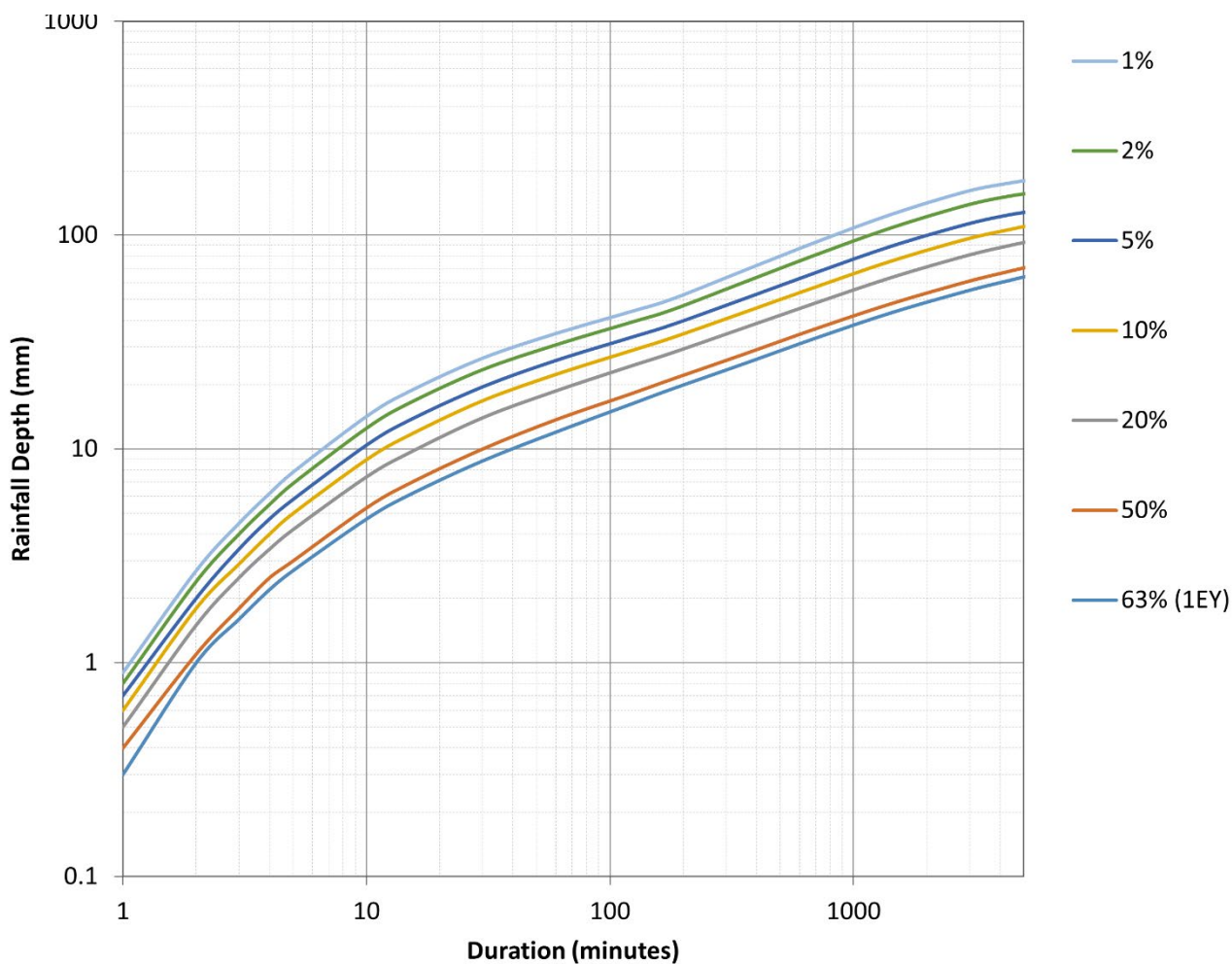


Figure 2.3 Rainfall depth versus rainfall duration for selected annual exceedance probabilities (AEPs)

Table 2.1 Rainfall depths (mm) for selected durations and annual exceedance probabilities (AEPs)

Duration (min)	1EY*	50%	20%	10%	5%	2%	1%
10	4.7	5.3	7.4	8.9	10.4	12.5	14.2
15	6.1	6.9	9.6	11.6	13.6	16.4	18.6
30	8.8	10	14	16.8	19.5	23.5	26.6
60	12	13.7	18.7	22.3	25.9	30.7	34.7
120	16.1	18	24.3	28.6	33	38.9	43.7
180	19.1	21.2	28.2	33.1	38.1	44.8	50.3
360	25.2	27.9	37.1	43.7	50.6	60.6	68.8
720	33.4	36.9	48.8	57.8	67.5	81.9	93.9
1,440	43.5	47.9	63.6	75.7	88.9	108.6	125.5
2,,880	54.6	60.2	80	95.3	111.9	137.7	159.6
4,320	61.3	67.5	89.3	105.7	124.1	152	175

Notes: * Exceedance per Year

2.3.3 Rainfall losses

Storm loss parameters were sourced from the ARR Datahub (Babister et al., 2016). Regional values for Initial Loss (IL) and Continuing Loss (CL) were referenced as 18 mm and 0.7 mm/h respectively. However, WSP applied event-dependent loss parameters using the ARR Datahub plugin integrated within the hydraulic modelling software to better reflect temporal variability across design events.

2.3.4 Climate change scenario selection

Climate change considerations were incorporated into the surface water assessment in accordance with ARR Version 4.2 guidance and current industry best practice. Consistent with ARR recommendations, the assessment adopted the **SSP5-8.5** scenario – a conservative approach appropriate for flood risk and planning studies – and applied a **2030** projection horizon to reflect near-term development conditions.

The IL and CL values were adjusted using intensification factors of 1.05 and 1.11 respectively, as specified in ARR Version 4.2 climate change loss adjustment guidance. These factors correspond to the SSP5-8.5 scenario for the 2030 projection horizon.

Table 2.2 summarises the ARR Version 4.2 climate change rainfall intensity factors corresponding to the SSP5-8.5 scenario for the 2030 projection horizon, sourced from the ARR Datahub (Babister et al., 2016).

Table 2.2 ARR Version 4.2 climate change rainfall intensity factors corresponding to the SSP5-8.5 scenario for the 2030 projection horizon

Duration	2030 Design Horizon
<1 Hour	1.2
1.5 Hours	1.18
2 Hours	1.17
3 Hours	1.16
4.5 Hours	1.14
6 Hours	1.13
9 Hours	1.13
12 Hours	1.12
18 Hours	1.11
>24 Hours	1.11

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3 Hydraulic assessment

The hydraulic assessment was undertaken using the TUFLOW software package (Version 2023-03-AC) (BMT WBM, 2018), adopting the Rainfall-on-Grid (RoG) approach.

3.1 Catchment delineation

A catchment analysis was undertaken to delineate the contributing areas for surface water runoff at the site and its surroundings. The contributing catchments and associated surface water flow paths are presented in Figure 3.1. The total catchment area corresponding to delineated flow paths that traverse or lie adjacent to the site – including the site footprint – is approximately 19.63 km². The predominant flow direction is from the north towards the south.

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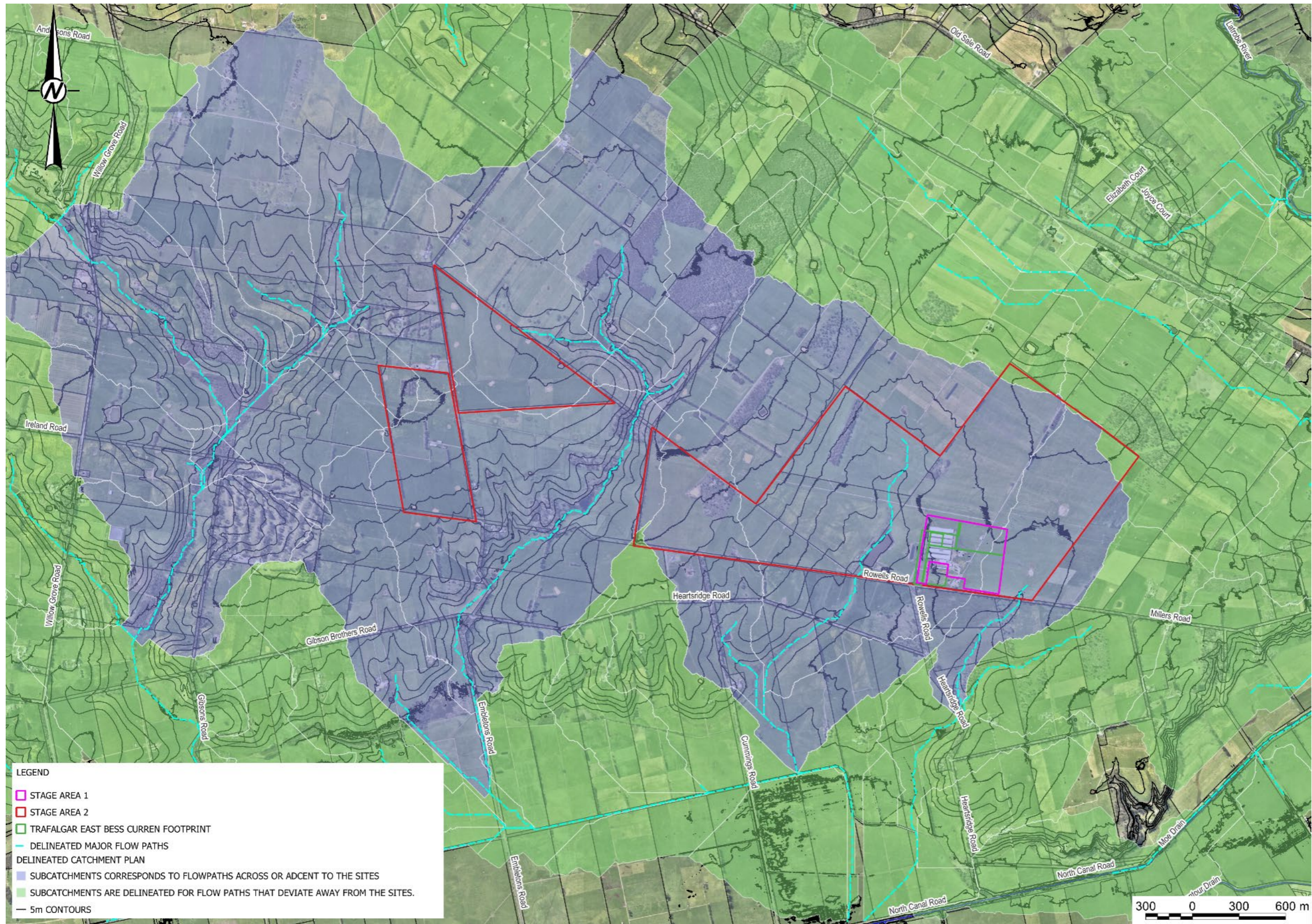


Figure 3.1 Catchment and surface water flow paths

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3.2 Hydraulic model

WSP developed a two-dimensional (2D) RoG hydraulic model using TUFLOW, to analyse pre-development 1% AEP plus climate change surface water characteristics at the site. As noted in Section 3.1, the model extent includes the contributing upstream catchment and associated surface water flow paths.

3.2.1 Hydraulic model parameters

Table 3.1 lists the hydraulic model parameters used in the assessment, which are generally consistent with those applied to rural undeveloped catchments.

Table 3.1 Hydraulic model parameters

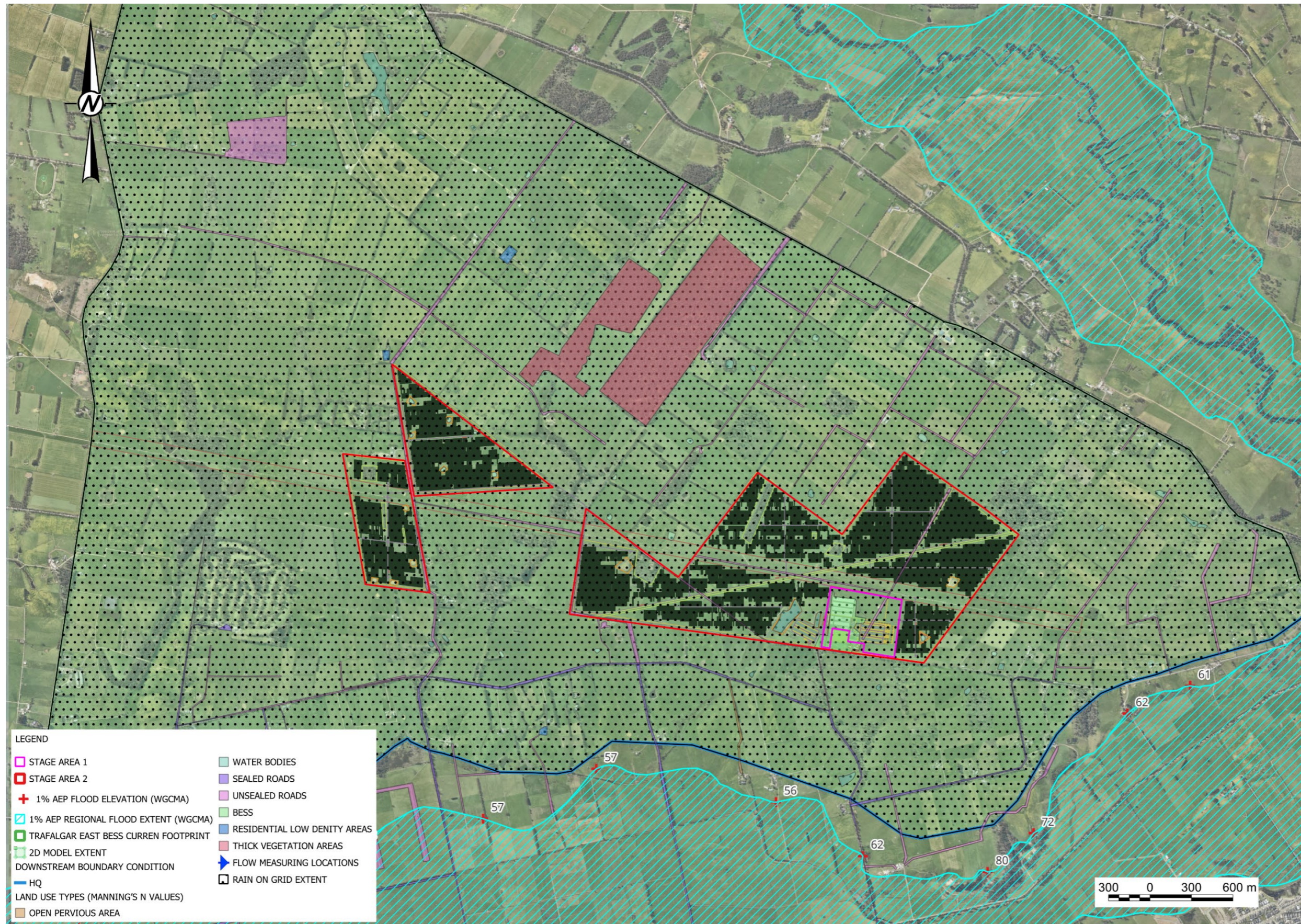
Model Parameter	Description
Model Extent	The model extent includes the site area and the relevant catchments upstream of the site, and covers an area of approximately 36 km ² .
Cell Size	A 10 m x 10 m cell size, combined with sub-grid sampling, was adopted for the hydraulic model to provide sufficient resolution for capturing flow mechanisms across the site and surrounding areas during the critical duration analysis. Following this, a 5 m x 5 m cell size was used to re-simulate the identified critical duration. The modelled extent does not include any defined creeks or channels that would necessitate a finer grid.
Boundary Conditions	Water level versus flow (i.e., HQ boundary in TUFLOW) was applied at the downstream of the site boundary.
Inflow	A rainfall versus time boundary condition (i.e., 2d_rf in TUFLOW) was applied to the whole catchment.
Roughness	The following Manning's <i>n</i> values were adopted: <ul style="list-style-type: none"> — Open previous areas minimal vegetation: 0.05 — Water bodies: 0.02 — Sealed roads: 0.02 — Unsealed road: 0.03 — BESS: 0.5 — Residential low-density areas: 0.2 — Thick vegetation area: 0.12 The <i>n</i> values have been adopted considering the provided site photos and the aerial imagery.
Culverts	No culvert locations were identified (refer 4.5 Assumptions and limitations).
IFD – Rainfall	1% AEP IFD design rainfall data sourced from the BoM and summarised in Table 2.1 were adopted.
Storm Duration	Storm durations ranging from 10 minutes to 72 hours have been simulated for each event to identify the critical duration(s). For each duration, ten temporal patterns were applied in accordance with ARR Version 4.2 guidance.
Rainfall Loss	Rainfall losses were sourced from the ARR Datahub (Babister et al., 2016) and applied in the model as described in Section 2.3.3. However, for ponds and both sealed and unsealed roads, IL and CL were assumed to be 0 mm and 0 mm/hr respectively.

Model Parameter	Description
Scenarios	<p>The surface water assessment incorporated the following climate model scenario, corresponding to pre-development conditions:</p> <ul style="list-style-type: none"> — Climate change scenario: Rainfall intensity factors provided in Table 2.2, were applied on top of the IFD baseline values, corresponding to the critical storm duration identified for the site (refer to Section 3.2.3).

3.2.2 *Model schematics*

Figure 3.2 presents the overland flow model schematisation. The model was developed under the conservative assumption that any underground drainage network is fully blocked, resulting in catchment runoff being conveyed entirely via overland flow.

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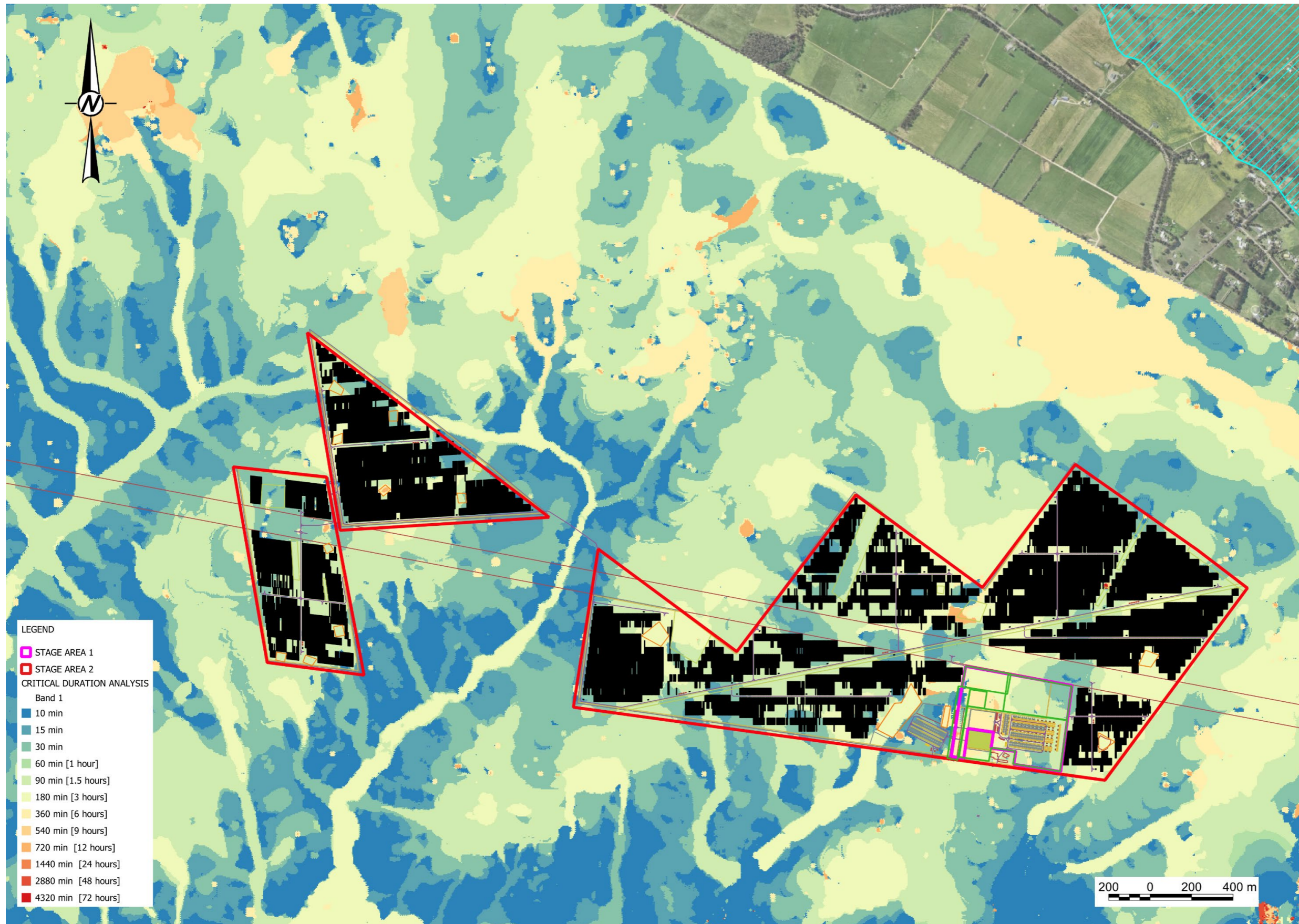
Figure 3.2 Model schematisation

3.2.3 Critical duration analysis

A critical duration analysis was undertaken to identify storm durations and temporal patterns that produce the most severe flood conditions for the 1% AEP climate change scenario. Storm durations ranging from 10 minutes to 72 hours, with 10 temporal patterns for each duration, were assessed. The results are summarised in Figure 3.3.

The model results indicate the critical durations vary spatially across the model extent. For this study, the critical duration adopted corresponds to the Stage 1 site and the current footprint of the Trafalgar East BESS. The analysis indicated a *360-minute duration* is critical, based on estimated maximum flood depths primarily along the Stage 1 area and the BESS footprint. The associated temporal pattern for this critical duration was identified as TP02.

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Figure 3.3 Critical duration analysis

3.2.4 *Model calibration and validation*

Although the WGCMA portal provides regional flood extent mapping, it does not supply specific flood elevation data for the modelled area. Furthermore, no information is available publicly regarding the methodology or DTM dataset used to generate the flood maps. Consequently, validation and calibration of this model using publicly available data could not be undertaken.

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4 Model results

4.1 Flood depth and flood level

Figure 4.1 illustrates the maximum flood depths for the 1% AEP climate change scenario. A zoomed-in version of the Stage 1 flood depths is provided in Appendix A.

Note the indicative proposed site layout has been overlaid on the pre-development flood map to illustrate the relationship between the proposed development footprint and existing flood extents, i.e., these maps do not represent the post-development conditions.

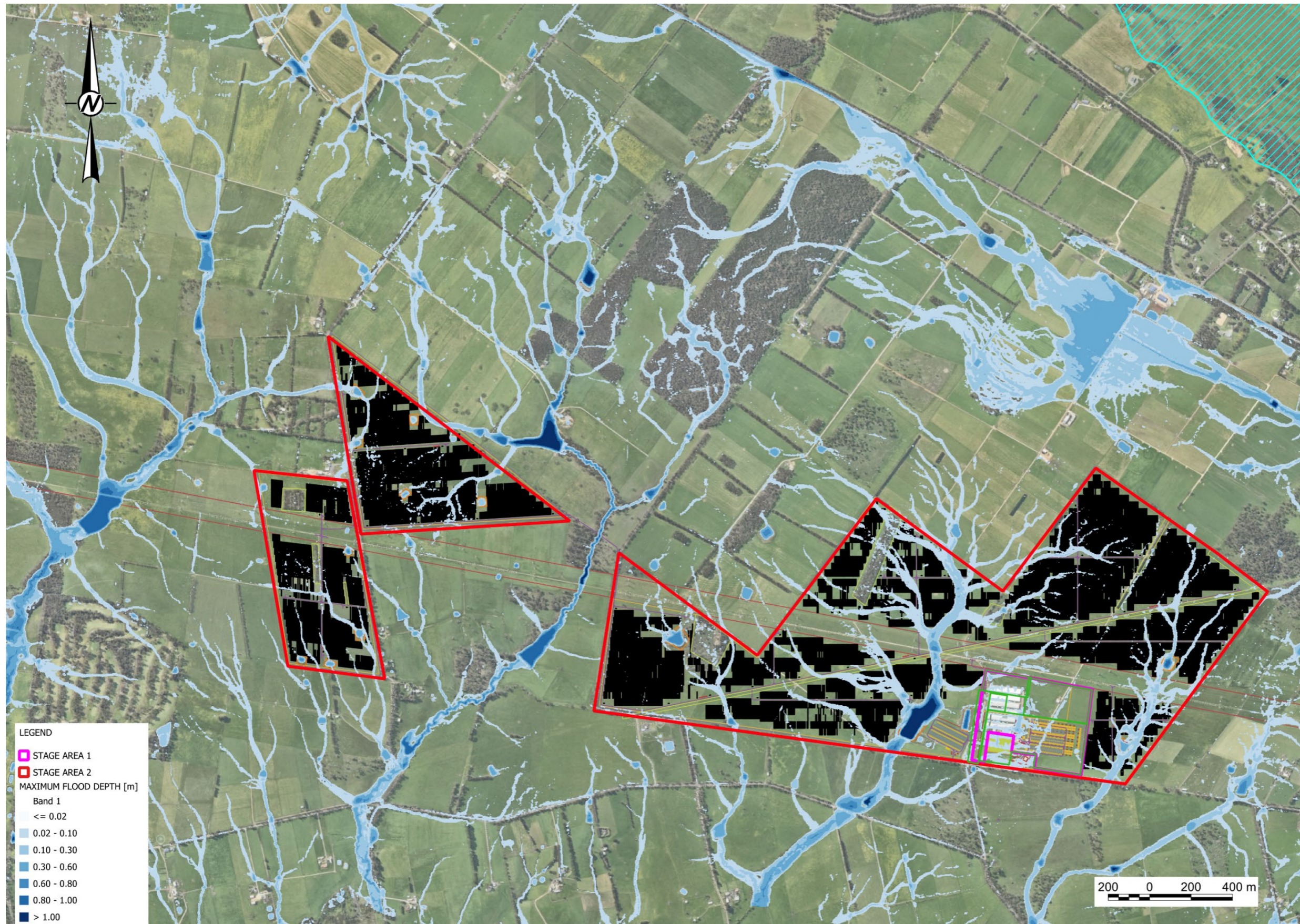
Based on the maximum flood depth results for both the baseline and climate change scenarios, the maximum 1% AEP plus climate change flood depths across majority of the site generally are less than 600 mm, except at the major flow paths.

4.1.1 Bench levels

Figure 4.2 illustrates the maximum flood levels for the 1% AEP climate change scenario, including spot levels at selected locations. A zoomed-in version of the Stage 1 flood levels is provided in Appendix A.

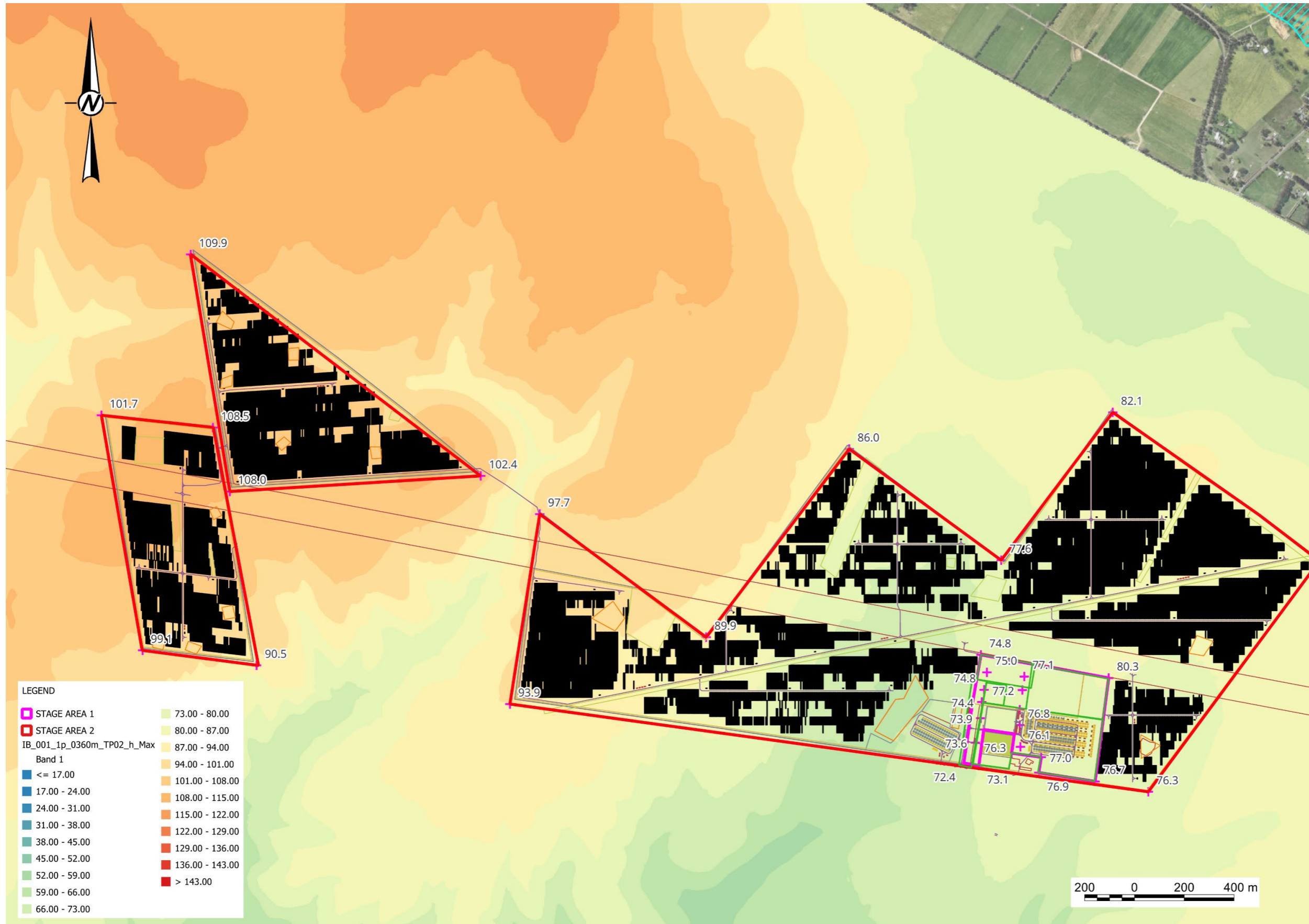
WSP recommends that all proposed infrastructure bench levels be set at least 600 mm above the demonstrated maximum flood elevations.

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Figure 4.1 Pre-development maximum flood depth for the 1% AEP climate change scenario



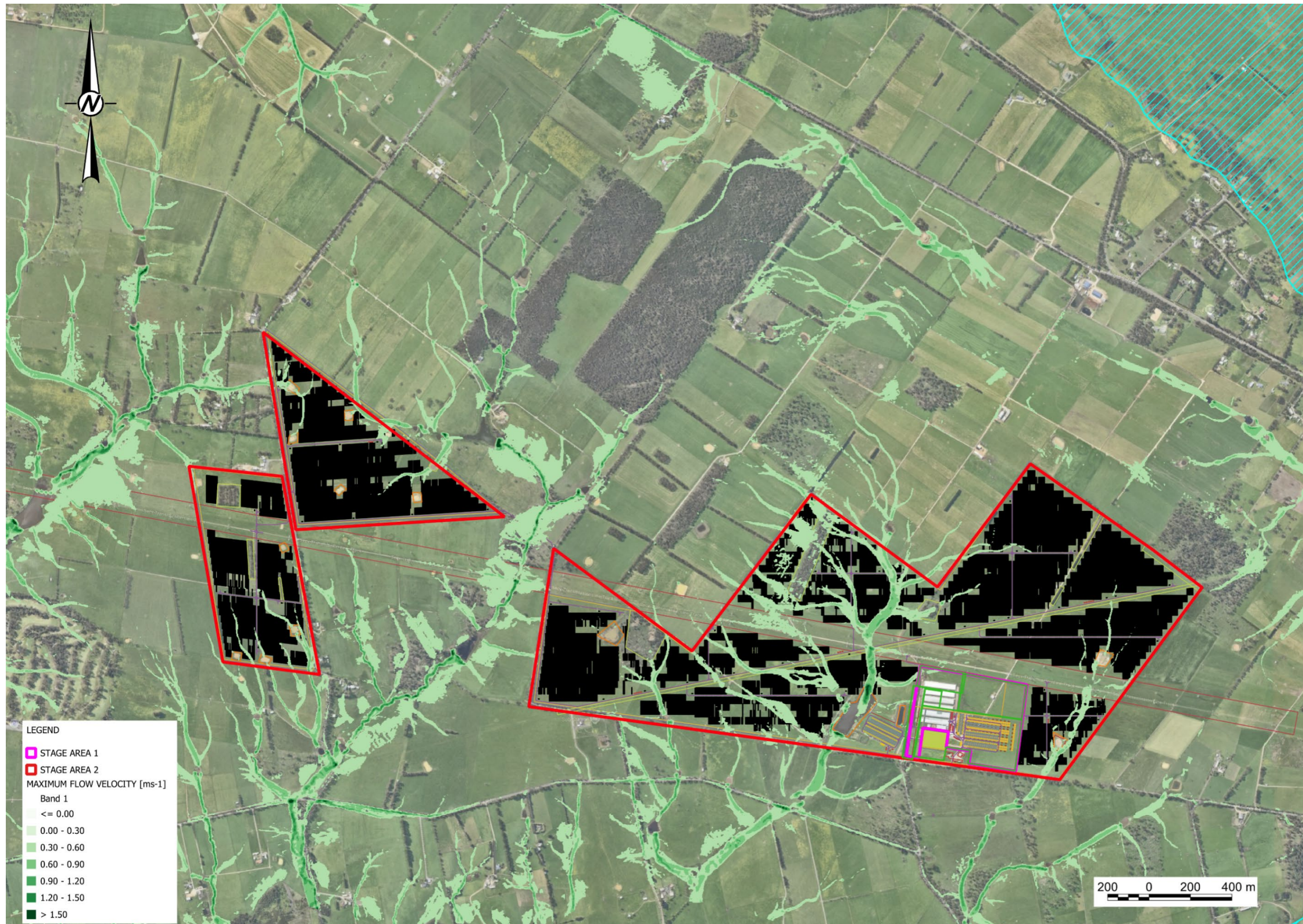
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Figure 4.2 Pre-development maximum flood elevations for the 1% AEP climate change scenario

4.2 Flow velocities

Figure 4.3 illustrates the maximum pre-development flow velocity map for the 1% AEP climate change scenario. A zoomed-in version of the Stage 1 flow velocities is provided in Appendix A. It provides a spatial representation of flow velocities across the model extent, supporting the assessment of hydraulic behaviour and informing the design of appropriate flood mitigation measures. Overall, flow velocities across the model extent remain below 1.5 m/s, except some patches along the major flow paths.

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Figure 4.3 Pre-development maximum flow velocity for the 1% AEP climate change scenario

4.3 Flood hazard

ARR V4.2 summarises the flow hazard regimes for people based on the product of flood velocity and flood depth ($v \times d$). It is recommended that when $v \times d < 0.4 \text{ m}^2/\text{s}$, the hazard is considered low. However, the guideline further specifies that under these conditions:

- For children, the depth should be less than 0.5 m and the velocity less than 3 m/s; otherwise, the hazard becomes extreme.
- For adults, the depth should be less than 1.2 m and the velocity less than 3 m/s; otherwise, the hazard becomes extreme.

Figure 4.4 presents the flood hazard map for the 1% AEP climate change scenario. A zoomed-in version of the Stage 1 flood hazards is provided in Appendix A. Under this scenario, most of the model domain remains within low hazard classifications.

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Figure 4.4 Pre-development flood hazard map for the 1% AEP climate change scenario

4.4 Natural flow paths and discharges across site boundary

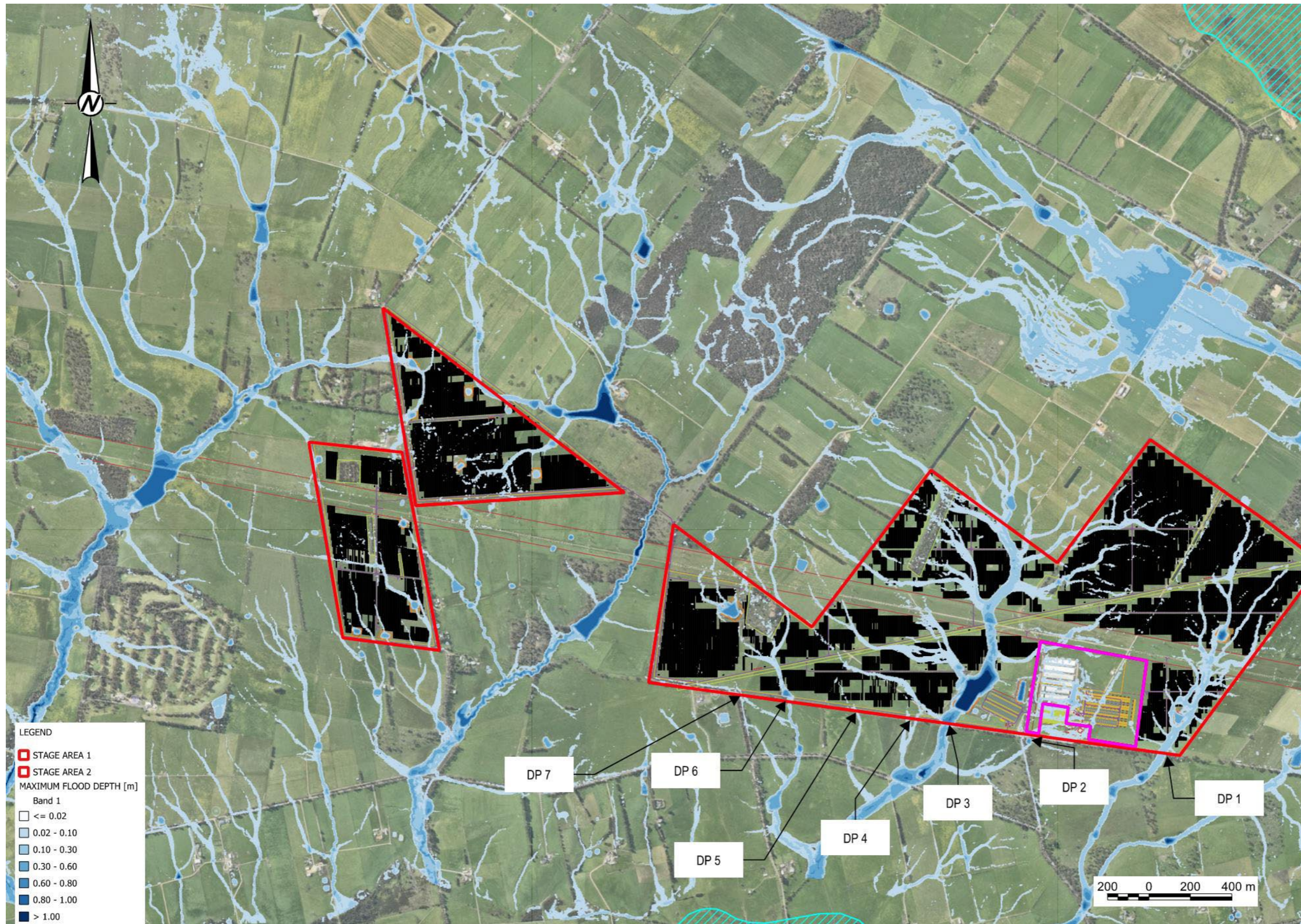
Based on the pre-development flood modelling, WSP identified several key natural flow paths across the sites, some are entering and discharging the site boundary.

Locations of the key natural flow paths discharging across the site boundary are marked in Figure 4.5. Table 4.1 provides the pre-development, 1% AEP climate change scenario, peak flows of natural flow paths discharging across the site boundary. WSP envisages that most of these discharge points and rates will remain unchanged post development. Discharge locations (DP) and rates will be compared against the future post-development flood model, which will be developed once the project layout and details are progressed beyond the preliminary stage.

Table 4.1 Pre-development, 1% AEP climate change scenario, peak flows of natural flow paths discharging across the site boundary

Location ID	Peak Flow [m ³ s ⁻¹]
DP 1	3.21
DP 2	0.47
DP 3	9.50
DP 4	0.57
DP 5	0.41
DP 6	1.11
DP 7	0.68

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Figure 4.5 Locations where main flow paths intersect with the site boundary

4.5 Study assumptions and limitations

The following assumptions and limitations are associated with this study.

- **Site Visit:** WSP engineers did not undertake a dedicated site inspection for this surface water assessment. Site conditions were assessed using aerial imagery, LiDAR data, photographs and information provided by the client. While suitable for this stage of assessment, on-ground verification during detailed design is recommended.
- **Hydraulic Model Calibration:** The hydraulic model has not been calibrated or validated due to unavailability of data. Model results should therefore be interpreted as conservative planning-level estimates.
- **Climate Change Assumptions:** Climate change impacts were assessed based on ARR Version 4.2 guidance, and adopting SSP5-8.5 scenario with 2030 horizon, representing a conservative projection in the immediate future. Other scenarios, emission pathways, or time horizons have not been modelled.
- **Upstream Flows:** It is assumed that any upstream development will implement stormwater management measures in accordance with regulatory requirements, maintaining a non-worsening condition at the site boundary. Any future departures from this assumption may affect local flood behaviour.
- **Sensitivity Analysis:** At this planning stage, no sensitivity analysis has been carried out for any of the selected parameters, including cell size and Manning’s roughness.
- **Drainage Network Assumption:** The modelling conservatively assumed that any underground stormwater infrastructure within or near the site is fully blocked. In practice, operational drainage may reduce surface flow depths.
- **Not a Post-Development Study:** This study was undertaken solely for the pre-development conditions. A preliminary project layout was overlaid on the pre-development flood map to illustrate the relationship between the proposed infrastructure, site boundary, and the modelled pre-development flooding. This should not be interpreted as a post-development assessment.
- **Storm loss parameters:** The storm loss parameters for this assessment were generated using the ARR Datahub plugin integrated within the hydraulic modelling software. The plugin applies event-dependent loss values sourced directly from the ARR Datahub; however, it does not incorporate region-specific recommendations from the Melbourne Water Benchmarking ARR2019 for Victoria report, including the use of the 75% pre-burst depth applicable to Loss Region 3. For this project, pre-burst rainfall depths were not adjusted beyond the default ARR Datahub values. As such, the model results should be interpreted with this limitation in mind, noting that the omission of region-specific pre-burst depth adjustments may influence the simulated runoff volumes for certain design events.

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5 Conclusion

WSP has undertaken a pre-development surface water assessment to inform planning and design of Giddi BESS and Trafalgar East Hybrid Solar farm and their proposed Stage 1 and Stage 2 areas. The flood modelling was undertaken by developing a 2D hydraulic model utilising TUFLOW. The flood assessment incorporated the best available topography data, BoM design rainfall data and recent climate change guidance from ARR Version 4.2.

The flood assessment was undertaken for the 1% AEP event, including climate change scenario of SSP5-8.5 with 2030 projection horizon.

The assessment was limited to the pre-development conditions at this planning stage. A preliminary project layout was overlaid on the pre-development flood map to illustrate the relationship between the proposed infrastructure, site boundary, and the modelled pre-development flooding.

Based on the flood modelling, WSP drafted flood depth, level, velocity and hazard maps for the site and Stage 1 (see Appendix A).

The pre-development flood assessment indicates that:

- Under 1% AEP climate change scenario:
 - Flood depths across most of the site are generally shallow (<0.6m).
 - Flow velocities remain below 1.5 m/s across the majority of the site, with higher velocities occurring only along the main flow paths.
 - Most of the site is classified as low hazard.
- Several key natural flow paths traverse the site and discharge across the site boundary at multiple locations.
- Proposed development footprint is likely to intersect with natural overland flow paths, and therefore flood mitigation infrastructure may be required at future design stages.

Overall, the results provide a conservative and suitable planning-level assessment to support the current planning application. Further post-development hydraulic modelling and stormwater management design will be essential to confirm flood mitigation measures and ensure the long-term resilience of the infrastructure at the proposed development.

5.1 Recommendations

- 1 Avoid obstructing natural flow paths with proposed infrastructure, as much as practicable. Where the development intersects these flow paths, appropriate flood diversion, detention and mitigation measures must be implemented to maintain safe flow conveyance and pre-development flow conditions at the downstream site boundary.
- 2 Indicative minimum bench levels for critical infrastructure should be set at least 600 mm above the estimated maximum pre-development 1% AEP climate change flood levels. This requirement may be reduced to a minimum of 300 mm, subject to risk appetite and confirmation through detailed post-development flood modelling.
- 3 Post-development flood modelling should be undertaken once the final project layout is available to:
 - a Confirm required bench levels and freeboard from 1% AEP maximum flood levels.
 - b Ensure adequate flood immunity for critical infrastructure.
 - c Demonstrate a no-worsening outcome for downstream flood conditions.

- 4 A detailed Drainage and Stormwater Management Strategy should be prepared to demonstrate compliance with permit conditions, including:
- 5 While this assessment has adopted the near-term climate change scenario to 2030, it is recommended that future design stages reassess climate change impacts using a broader range of SSP pathways and longer-term climate projections. Considering multiple SSPs (e.g., SSP2, SSP3, SSP5) and extended time horizons will provide a more comprehensive understanding of potential future hydrologic and hydraulic conditions and ensure the design remains robust under evolving climate scenarios.
 - a Providing flow detention and water quality treatment measures that achieve a no-worsening outcome for downstream flood conditions.
 - b Ensuring flood immunity for critical infrastructure.
 - c Identifying and sizing the flood mitigation infrastructure required to manage anticipated flood risks.
- 6 Engagement with West Gippsland CMA and the Baw Baw LGA, including submitting the pre- and future post-development flood models for review (as needed), should continue through the detail design phase to ensure alignment with regulatory expectations.

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6 Limitation statement

Your attention is drawn to the limitations statement, which is included in Appendix B of this report. The statements presented in that document are intended to inform a reader of the report about its proper use. There are important limitations as to who can use the report and how it can be used. It is important that a reader of the report understands and has realistic expectations about those matters. The limitations statement does not alter the obligations WSP has under the contract between it and its client.

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Bibliography

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- Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors). 2019, *Australian Rainfall and Runoff: A Guide to Flood Estimation*, © Commonwealth of Australia (Geoscience Australia), 2019.
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Appendix A

Stage 1 Flood Maps

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LEGEND

+ Maximum Flood Depths (mm)
 Flood Depth (m)
 □ ≤ 0.02
 □ 0.02 - 0.10
 □ 0.10 - 0.30
 □ 0.30 - 0.60
 □ 0.60 - 0.80
 □ 0.80 - 1.00
 □ > 1.00

REFERENCE(S)

1) IMAGERY AND TOPOGRAPHY PROVIDED BY NEARMAP AND ELVIS
 2) ADDITIONAL IMAGERY SOURCED FROM GOOGLE BASEMAP

Coordinate System: GDA 2020 MGA Zone 55
 Projection: Transverse Mercator
 Datum: GDA 2020



CLIENT	ib vogt Development Australia Pty Ltd	
CONSULTANT	YYYY-MM-DD	2026-03-19
DESIGNED	CA	
PREPARED	CA	
REVIEWED	AB	
APPROVED	AB	

PROJECT
 GIDDI BATTERY ENERGY STORAGE SYSTEM AND TRAFALGAR EAST HYBRID SOLAR FARM HYDROLOGY AND FLOOD ASSESSMENT

TITLE
Pre-Development Maximum Flood Depth - 1% AEP with Climate Change Scenario - Stage 1

PROJECT NO	REV.
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LEGEND
Maximum Flood Velocity [ms-1]

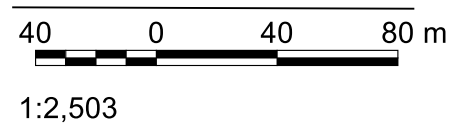
0.00 - 0.30
0.30 - 0.60
0.60 - 0.90

0.90 - 1.20
1.20 - 1.50
> 1.50

REFERENCE(S)

- 1) IMAGERY AND TOPOGRAPHY PROVIDED BY NEARMAP AND ELVIS
- 2) ADDITIONAL IMAGERY SOURCED FROM GOOGLE BASEMAP

Coordinate System: GDA 2020 MGA
Zone 55
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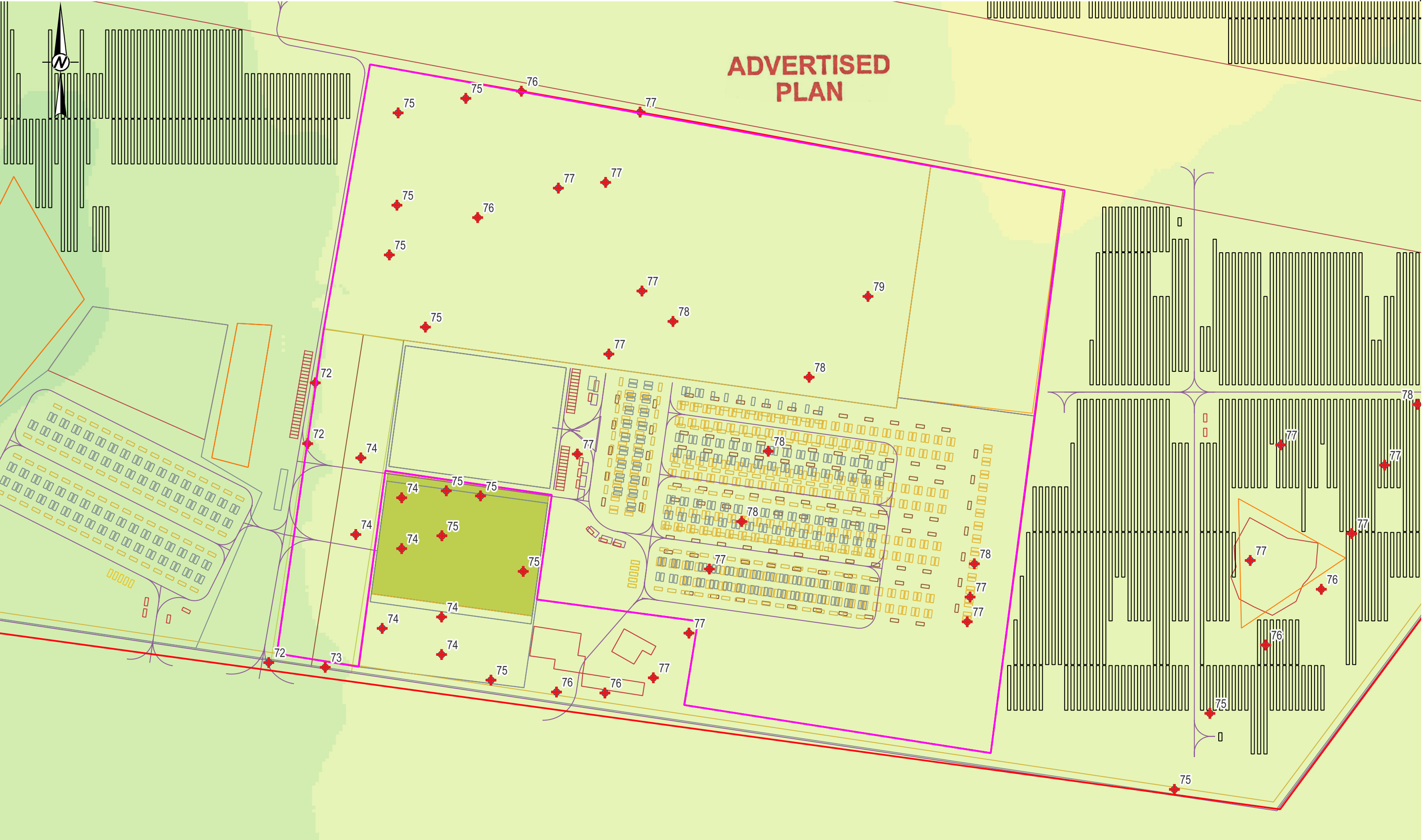
PROJECT
GIDDI BATTERY ENERGY STORAGE SYSTEM AND TRAFALGAR EAST HYBRID SOLAR FARM HYDROLOGY AND FLOOD ASSESSMENT

TITLE
Pre-Development Maximum Flow Velocity - 1% AEP with Climate Change Scenario - Stage 1

PROJECT NO	REV.
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LEGEND

Flood Elevation [m]

≤ 17	59 - 66	115 - 122
17 - 24	66 - 73	122 - 129
24 - 31	73 - 80	129 - 136
31 - 38	80 - 87	136 - 143
38 - 45	87 - 94	> 143
45 - 52	94 - 101	+ Maximum Flood Elevation [m]
52 - 59	101 - 108	
	108 - 115	

REFERENCE(S)

1) IMAGERY AND TOPOGRAPHY PROVIDED BY NEARMAP AND ELVIS
 2) ADDITIONAL IMAGERY SOURCED FROM GOOGLE BASEMAP

Coordinate System: GDA 2020 MGA
 Zone 55
 Projection: Transverse Mercator
 Datum: GDA 2020



1:2,500

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TITLE
Pre-Development Maximum Flood Elevation - 1% AEP with Climate Change Scenario - Stage 1

PROJECT NO
PS217303

REV.
0

Figure No. 3



LEGEND
FLOOD HAZARD [m2s-1]

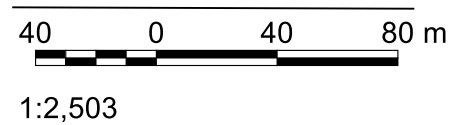
Yellow	0.00 - 0.40
Orange	0.40 - 0.60
Purple	0.60 - 0.80
Green	0.80 - 1.20
Blue	> 1.20

REFERENCE(S)

- 1) IMAGERY AND TOPOGRAPHY PROVIDED BY NEARMAP AND ELVIS
- 2) ADDITIONAL IMAGERY SOURCED FROM GOOGLE BASEMAP

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Coordinate System: GDA 2020 MGA
Zone 55
Projection: Transverse Mercator
Datum: GDA 2020



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PROJECT
GIDDI BATTERY ENERGY STORAGE SYSTEM AND TRAFALGAR EAST HYBRID SOLAR FARM HYDROLOGY AND FLOOD ASSESSMENT

TITLE
Pre-Development Flood Hazard - 1% AEP with Climate Change Scenario - Stage 1

PROJECT NO PS217303	REV. 0
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Appendix B

WSP Limitations Statement

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Limitation Statement

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PERMITTED PURPOSE

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