

From: "Shelly Sharma"
Sent: Fri, 20 Jun 2025 12:39:43 +1000
To: "John Single" <john.single@nceng.com.au>; "Benjamin Collings" <bnc@bncplanning.com.au>
Cc: "Paul Viero" <Paul.Viero@townsville.qld.gov.au>; "Kate Wilkes" <Kate.Wilkes@townsville.qld.gov.au>
Subject: FIA Update : BNC0091 (MCU25/0011) Flood Impact Assessment - 94 Bergin Road, Cranbrook

Hi Ben/John,

I refer to your recent communication with Paul Viero with regards to FIA for MCU25/0011.

Upon further discussion of the proposed flood mitigation strategy, Council advises that carpark area filled to 250mm resulting in average depth of 228mm over the carpark during 1% AEP event and no off-site impacts is the option to be analysed with the scope in email from John dated Tuesday, 10 June including the following requirements:

1. Assessment of full suite of events (50%, 20%, 10%, 2% and 1% AEP) to understand the frequency of potential flooding of carpark.
2. A flood management plan for carpark, including but not limited to, signage, notifying the residents of risk and necessary action is assessed as part of application process.
3. The required number of carparks are able to be accommodated onsite. This may require further discussion with assessing officer to determine minimum acceptable carparking for the development proposal.

Note that the above does not guarantee an approval as the due assessment process has to be undertaken.

Additionally, it is requested that all correspondence is sent to the Assessing Officer Kate Wilkes and others Cced, to ensure information is conveyed to all.

Kind Regards,

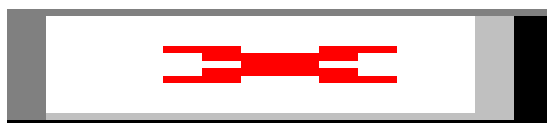
Shelly Sharma

Senior Development Engineer - Engineering Assessment
Planning and Development

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P 07 4727 9363 **E** shelly.sharma@townsville.qld.gov.au

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From: Paul Viero <Paul.Viero@townsville.qld.gov.au>
Sent: Tuesday, 17 June 2025 12:57 PM
To: Kate Wilkes <Kate.Wilkes@townsville.qld.gov.au>; Shelly Sharma <shelly.sharma@townsville.qld.gov.au>
Subject: FW: BNC0091 (MCU25/0011) Flood Impact Assessment - 94 Bergin Road, Cranbrook

FYI

From: John Single <john.single@nceng.com.au>
Sent: Tuesday, 17 June 2025 12:50 PM
To: Paul Viero <Paul.Viero@townsville.qld.gov.au>
Cc: Benjamin Collings <bnc@bncplanning.com.au>; Clayton Abel <clay.abel@outlook.com>
Subject: RE: BNC0091 (MCU25/0011) Flood Impact Assessment - 94 Bergin Road, Cranbrook

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Hi Paul,

As discussed yesterday, please find attached additional information in relation the car park.

[250617-BNC0091-250mm fill-Zonal Stat.pdf](#)

- Illustrates the flooding depth with the car park area is filled by 250mm, without causing impacts beyond the site.
- Over the car park area, the average depth is 228mm.

250617-BNC0091-400mm fill-Zonal Stat.pdf

- Illustrates the impacts in the surrounding area when the car park area is filled by 400mm to provide an average depth of 94mm.

As mentioned, we believe the risk to vehicles can be minimised via the emergency evacuation requirement and hazard and risk analysis scopes proposed in my original email below, i.e. measures to support evacuation including signage, early warning systems, or integration with Council alert systems.

Prior to carrying out the full scope of works to address the Further Advice Notice (FAN), we are seeking Council's acceptance that either filling the car park area to 250mm; so no impacts are observed beyond the site, with risk minimisation as per the above; or filling to 400mm knowing the impacts that are anticipated to the surrounding area, will be suitable to address the car parking concern raised in the FAN.

We look forward to your response.

Kind regards,

JOHN SINGLE | Senior Civil Engineer | M: 0415 044 527 | E: john.single@nceng.com.au



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From: Paul Viero <Paul.Viero@townsville.qld.gov.au>

Sent: Thursday, 12 June 2025 4:36 PM

To: John Single <john.single@nceng.com.au>

Cc: Benjamin Collings <bnc@bncplanning.com.au>; Clayton Abel <clay.abel@outlook.com>

Subject: RE: BNC0091 (MCU25/0011) Flood Impact Assessment - 94 Bergin Road, Cranbrook [Filed 16 Jun 2025 15:31]

[EXTERNAL EMAIL] - Do not click links/attachments unless safe.

Hi John,

Sorry I haven't got back to you earlier.

I will review and give you a call on Monday.

Regards,

Paul Viero

Coordinator Engineering Assessment - Development Assessment
Planning and Development

M 0467340273 E paul.viero@townsville.qld.gov.au

Level 1, 143 Walker Street, Townsville QLD 4810 | PO Box 1268, Townsville QLD 4810

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From: John Single <john.single@nceng.com.au>
Sent: Tuesday, 10 June 2025 4:40 AM
To: Paul Viero <Paul.Viero@townsville.qld.gov.au>
Cc: Development Assessment <developmentassessment@townsville.qld.gov.au>; Benjamin Collings <bnc@bncplanning.com.au>; Clayton Abel <clay.abel@outlook.com>
Subject: FW: BNC0091 (MCU25/0011) Flood Impact Assessment - 94 Bergin Road, Cranbrook

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Hi Paul,

We've received the attached Further Advice (FA) notice in relation to the above-mentioned development and upon review of Item 1, confirm Council's position and extent of works they require in order to support the development. Based on the FA, the below scope has been derived; which is quite intensive; however, we'd appreciate your feedback if some of the works isn't required. Once you've had a chance to digest the below, can you please give me a call to discuss further.

Scope:

Hazard and Risk Analysis

- Undertake detailed flood hazard classification in accordance with the Townsville Flood Hazard Overlay Code, via an interrogation of TUFLOW model results for the 1% AEP flood event.
- Map and classify flood hazard using standard categories (H1–H6) per ARR 2019 and Townsville-specific guidance.
- Conduct a flood risk assessment considering:
 1. Site use vulnerability (e.g. residential density, aged care, etc.)
 2. Population at risk (day/night occupancies)
 3. Property and infrastructure exposure
 4. Duration, depth, and velocity of inundation

Time of Isolation by Floodwaters

- Determine the duration of isolation for the site for the 50%, 10% and 1% AEP events.
- Use flood hydrograph data to identify onset of flooding and time for which critical access routes are submerged.
- Assess safe evacuation windows.

Emergency Evacuation Requirements

- Provide an evacuation plan that includes:
 - Identification of safe external evacuation destinations.
 - Access to evacuation infrastructure (e.g. designated shelters, public roads)
 - Compatibility with Council's disaster response capabilities.
- Recommend measures to support evacuation including signage, early warning systems, or integration with Council alert systems.

Roads Trafficability for Various AEP Events

- Evaluate the flood trafficability of roads providing ingress/egress using the following thresholds:
 - Critical roads to remain passable during the 1% AEP
 - Compliance with emergency trafficability limits (e.g., depth < 300 mm, $V_{xd} < 0.4 \text{ m}^2/\text{s}$)
- Map transport corridors with flood depths and velocities, from Ross River Road to the site, during the 50%, 10% and 1% AEP events.

Car Parking Level Design

- Assess car park levels relative to 1% AEP event to demonstrate:

- Maximum filling that does not have an impact to water surface levels – it is anticipated that compliance with the FA requesting a maximum flood depth of 100mm will not be achievable without causing impacts to the surrounding properties and infrastructure. Subsequently it is proposed that we achieve the maximum fill level that doesn't cause impacts.
- Identify the maximum parking depth once filling works is carried out.
- Vehicle safety risks are minimized.

Deliverables

- Amended Flood Impact Assessment Report incorporating all above components
- Revised flood maps (hazard, depth, velocity, risk, isolation timing)
- Evacuation route mapping

Kind regards,

JOHN SINGLE | Senior Civil Engineer | M: 0415 044 527 | E: john.single@nceng.com.au



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