



Your ref: PP-2023-414  
Our ref: DOC24/433184

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By email: david.kiernan@goulburn.nsw.gov.au

Dear Mr Kiernan

**Subject: PP-2023-414 Planning Proposal 407 & 457 Crookwell Rd Kingsdale**

Thank you for the opportunity to review the updated flooding information for the Planning Proposal for 407 & 457 Crookwell Rd Kingsdale. From 20 January 2025, the former Biodiversity, Conservation and Science (BCS) Group is now known as the Conservation Programs, Heritage and Regulation (CPHR) Group. CPHR has reviewed the documentation provided and has the following comments to make.

Reference is made to the updated flood risk assessment information provided through the planning portal for the planning proposal on 9 January 2025 (PP-2023-414).

The Flood Impact and Risk Assessment (FIRA) has been updated by council and additional separate flood investigations undertaken since our prior advice (8 July 2024 DOC24/537120). The key issues identified include adverse flood impacts post development and emergency management. Adverse flood impacts include flooding to proposed residential lots and off-site impacts including to public roads.

The FIRA states “this FIRA is a preliminary assessment” and further advice is yet to be provided by the NSW SES. The FIRA document should be updated to address these issues and explicitly demonstrate how the flood impact and risk assessment meets the requirements of the section 9.1 Local Planning Direction 4.1 Flooding.

Detailed comments are provided in Attachment A to enable council as the planning proposal authority to satisfy itself that the planning proposal is supported by a fit for purpose FIRA consistent with current planning requirements.

If you have any further questions, please contact Ms Allison Treweek, Senior Team Leader Planning, Conservation Programs, Heritage and Regulation, at [rog.southeast@environment.nsw.gov.au](mailto:rog.southeast@environment.nsw.gov.au).

Yours sincerely

A handwritten signature in blue ink that reads "Allison Treweek". The signature is fluid and cursive, with the first name "Allison" written in a larger, more prominent script than the last name "Treweek".

Allison Treweek 10/02/2025  
**Senior Team Leader Planning**  
**Biodiversity and Conservation Division**  
**ATTACHMENT A**

## Floodplain Risk Management Comments

Further to our last advice (8 July 2024 DOC24/537120), the following documents have been provided through the planning portal for review and advice:

- Flood Impact and Risk Assessment – Goulburn Mulwaree Council – 9 January 2025 (FIRA-GMC).
- Local Flood & Overland Flow Study (SOWDES) - 10 December 2024.
- North Goulburn Planning Proposals - Overland Flooding Affection of Roads (Worley) - 13 Sept 2024.
- Planning Proposal to rezone and amend Minimum Lot Size at 407 & 457 Crookwell Road Kingsdale - Gateway Version (REZ\_0001\_2223) - 16 May 2024.

The FIRA-GMC document is yet to adequately demonstrate how flood related impacts and how risks including those related to public safety and emergency access will be managed. This includes disjointed reporting of flood risk information including modelling undertaken in SOWDES showing off-site adverse impacts. To progress the planning proposal consistent with the requirements of the section 9.1 Local Planning Direction 4.1 Flooding and the principles of the Flood Risk Management Manual (FRMM, 2023), the FIRA should be updated to address the following issues.

### 1. Flood impact assessment

As per previous advice, the flood maps provided show significant changes to flood depths and extents offsite which is not reflected in clear pre and post development scenario analysis. The flood modelling assessment in SOWDES does not include flood velocity or a velocity impacts assessment as advised previously. The assessment should include clear pre and post development comparison maps (i.e. afflux maps) with sufficient qualifications to identify adverse impacts over the range of flood events that will cause adverse off-site impacts. This includes hydraulic flood impacts due to proposed infrastructure in the floodplains as well as managing hydrologic impacts due to urbanisation of the catchment. There are no proposed changes or modification to the proposal to manage identified adverse offsite impacts which left unaddressed creates flood related liabilities to adjoining landholders and council.

The information provided shows that there will be adverse hydraulic off-site impacts including on neighbouring properties public roads which will compromise flood access and cause damages (Figure 09, page 34 and Figure 23 page 48 in SOWDES). The FIRA-GMC conclusion is based on a separate SOWDES Local Flood and Overland Flow Study report that is not included within the FIRA-GMC document. SOWDES has used an unconventional modelling approach, not considered cumulative development impacts on hydrology or future design state conditions of the waterway including stream treatments, vegetation changes and farm dams as previously advised. The model has not been verified against council's flood study or justified if it is a conservative approach. The FIRA should include and appropriately reference all relevant source documents and include recommendations or amendments to ensure measures will be implemented to prevent adverse off-site impacts from this development.

Council should also be satisfied that cumulative impacts from other planning proposals in the catchment, storm water and riverine corridor management are adequately assessed to enable it to sustainably manage flood related liabilities from catchment development. This would benefit from the preparation of a catchment specific management strategy that ensures the impacts of development on catchment hydrology including flooding, stormwater and receiving waterways are managed over the full range of flood events, to address cumulative development impacts.

## 2. Model selection and methodology

The Local Flood & Overland Flow Study (SOWDES) has elected the use of independent modelling methodology and software compared to Council's adopted study, the 2022 Goulburn Mulwaree Floodplain Risk Management Study and Plan (FRMSP). The model has not been validated against the adopted FRMSP, provides no evidence of sensitivity analysis of modelling parameters or consideration to issues such as blockage of hydraulic structures. It is not clear if the approach taken is conservative or potentially underestimates flood risk on the site. Council should ensure it is satisfied that flood modelling undertaken to support a planning proposal, is undertaken in accordance with relevant guidance and compared with best available information including Council's adopted flood studies and plans prepared under the Floodplain Management Program.

## 3. Risk to public safety

The FIRA indicates all dwellings are planned to be above the PMF and therefore will not be inundated. However, upon review of the flood maps, three lots including the proposed internal Road 01 to the north of Chinamans Lane is shown to be impacted by the PMF floodway. This poses a risk to public safety including the future occupants of those lots and therefore inconsistent with the Local Planning Direction 4.1 Flooding 3(a). The FIRA should be updated to include proposed design measures that demonstrate how the impacts of the PMF floodway on the lots can be mitigated and how flood related risks to the future occupants of these lots are managed.

## 4. Consistency of the proposed zoning

On proposed land use zones there is conflicting information with the FIRA (Figure 14 page 17), the planning proposal document (REZ\_0001\_2223) and the SOWDES report (Figure 6, page 31). The documentation supporting a planning proposal should be consistent with proposed land use zones and the FIRA should clearly articulate consistency of proposed land-use zones with the local planning direction.

## 5. Emergency management

The FIRA proposes for evacuation to Mistful Park Commercial Area, which is currently being developed as the evacuation to central Goulburn will be completely cut in the 0.2% AEP event. The FIRA noted that emergency management issues linked to flood isolation is still present and stated that further consultation with NSW SES will be undertaken. The FIRA document however is not clear on the need to evacuate all residents if they are located above the PMF and access roads are likely to be affected by short duration extreme rainfall events. As per earlier advice Council should consult with the NSW SES on the proposed emergency management measures and include outcomes of the consultation with respect to the adequacy of the proposed emergency management measures and that they are consistent with the planning direction in the FIRA.

## 6. Impacts of existing farm dams and the implications of failure

It is proposed that the existing farm dams within the site be retained and appropriate controls to maintain the integrity and function of the dams are to be included in the DCP currently being developed for the area (i.e. Sooley Precinct DCP). Dam safety requirements including any implications for placing people, property, and infrastructure downstream i.e. potential of dam break on flooding downstream should be assessed. The need to mitigate increased flows from catchment development on stormwater, channel stability and flooding is also relevant to the treatment of the waterways and existing dams. It therefore remains relevant to our earlier advice that Council should satisfy themselves that the implications of the dams including failure are considered consistent with Direction 4.1(3)(b) and (g) for this proposal and that there are appropriate strategies in place to

address the impacts of this proposal (and cumulative development) on flooding, stormwater and farm dam failure.

**Conclusion:**

The FIRA prepared by council has identified flood information from external sources however there are issues with interpretation of relevant data, model validation and modelling approaches that confuse the objective of a fit for purpose FIRA to assess and manage risks in line with the local planning direction. As a minimum, the FIRA supporting the planning proposal must refer to and demonstrate consistency with the local planning direction requirements, including measures to manage off-site flood impacts and public safety. This would avoid any confusion with elements of the planning proposal and inconsistency between the FIRA, and numerous other studies and reports as currently presented. The advice provided previously and above aims to support council in this task. We note that flood impact and risk assessment to date has been complicated by referring to information from various sources. To avoid confusion in future, it is recommended for efficiency and effectiveness that future FIRAs for planning proposals are prepared by a suitably qualified flood risk management specialist as set out in the FIRA guideline.

## **APPENDIX A**

### **1. Site Design**

The current design aims to avoid all of the best quality vegetation on the site by including it in a Conservation Reserve (RE1). However only approximately 50% of the hollow bearing trees are within the conservation reserve. These hollow bearing trees need to be protected, as threatened species of bird and bat are utilising the area.

The current design proposes to use slightly larger lots to encourage the retention of the remnant trees onsite. These lots would also need to be large enough to be designed with a building envelope, to site any dwelling away from trees, and with enough room to allow the trees to be retained away from fences. The current size of the larger lots is not big enough to allow the realistic ongoing retention of the trees.

The current design also features small residential lots directly abutting the proposed conservation reserves. The proponent will need to give consideration to how to protect the reserve from the impacts of sharing a boundary with that intensity of development, both in the construction and operational stages.

The proponent will need a Voluntary Planning Agreement to ensure the protection of the hollow bearing trees at DA stage.

### **2. Appropriate Zoning**

The proposal nominates RE1 for the Conservation Reserve as appropriate zoning to protect the area into the future. This may be achieved with a suitable Vegetation Management Plan for the area, as suggested in the BDAR, which will need to be approved by BCS. The Plan should detail what the management will be for the site, including installation and use of paths and other infrastructure, mowing regimes, etc.

### **3. Development Controls**

The Planning Proposal suggests that the draft Sooley Development Control Plan will protect important environmental features and other considerations. However the Appendix containing the DCP was not included with the Planning Proposal. BCS will need to review the environmental controls in the DCP.

The use of covenants to ensure the protection and conservation of the hollow bearing trees on Future Lots 50-52 will need to be combined with lot design regarding buildings and fences, as discussed under point 1 above.

### **4. Final BDAR**

At DA stage, the BDAR will need to be updated to accurately reflect the requirements of the Biodiversity Assessment Methodology. Items needing to be updated include:

- The case must be finalised and submitted in the BAMC
- All GIS data must be provided to the assessing body and BCS
- Section 8.2 completed with further assessment of indirect impacts, as stated
- Surveys for *Keyacris scurra* should be completed
- If all hollow bearing trees are not retained, then the ecosystem credits required will need to state that hollow bearing trees are present (Table 30)
- The number of hollow bearing trees being removed should be referred to in the document
- The Assessor may wish to reconsider the assumed presence of Koala. BCS does not consider it likely that koalas are utilising the property.
- Native vegetation cover (section 2.1.2) should include natural and derived grasslands, not just woodland cover