Drury Metropolitan Centre Fast-track

Auckland Council Specialist Memo

Annexure 11:

Regional Earthworks

Matthew Byrne

11 August 2025

Regional Earthworks Memo

Prepared by: Matthew Byrne - Erosion & Sediment Control Consultant to Earth, Streams and Trees Team, Auckland Council

Date: 11 August 2025

Executive Summary

1. The following memorandum assesses the applicant's proposal to undertake approximately 410,000m^3 of earthworks over 20.85ha associated with the development of Stage 2 of the Drury Metropolitan Centre. Earthworks are required to create suitable gradients for the creation of lots, to establish foundations for commercial buildings, to construct retaining walls and complete ground improvements, to install underground infrastructure which integrates with existing services and capacity requirements, to construct retaining walls, and to generally prepare the site for future residential and commercial development.

2. To manage the potential effects of earthworks, the applicant has proposed erosion and sediment control measures in accordance with GD05 and industry best practice, including the implementation of an Adaptive Management Plan throughout the proposed land disturbance.

3. The assessment concludes that provided the earthworks are undertaken in accordance with the application documents, including the proposed conditions of consent, the potential effects associated with all land disturbance will be appropriately managed.

Qualifications, Experience and Code of Conduct

4. My full name is Matthew Charles Byrne. My qualifications are a Bachelor of Environmental Studies from the University of Waterloo, Ontario, Canada.

5. I am a director of Babington & Associates (2004) Limited, an environmental consultancy that specialises in environmental management, including erosion and sediment control, ecology, civil and environmental engineering design, and implementation.

6. I am a Consultant Earthworks & Streamworks Specialist, contracted to the Earth, Stream and Trees Team which is part of the Specialist Unit in Resource Consents at Auckland Council. Up until December 2024, I was also contracted to the Environmental Monitoring Team, part of the Council's Licensing and Regulatory Compliance Unit.

7. I have held the above positions for the past thirteen years. Prior to that, from July 2004, I was employed by both the legacy Auckland Regional Council and the current Auckland Council in a similar role, undertaking processing and compliance monitoring of regional earthworks and streamworks consents.

8. From 1993 I was employed as a Project Manager for an environmental consultancy, Soilcon Laboratories Ltd, which specialised in the investigation, assessment, and remediation of contaminated land in British Columbia, Canada.

9. I have over 29 years' experience in the field of environmental protection. This includes over nine years' experience as a contaminated land expert, including all aspects of site investigation and remediation of predominantly petroleum contaminated sites, and over 20 years' experience as an erosion and sediment control and streamworks management consultant.

10. I am a member of the International Erosion Control Association (Australasia). I have prepared expert evidence and technical assessments for resource consent applications, plan changes, notices of requirement for designation and fast-track applications, and have appeared as an expert witness before consent authorities and the Environment Court on multiple occasions.

11. I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses (Code) and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.

Documents Reviewed

- Assessment of Environmental Effects Drury Metropolitan Centre Stages 1 and 2
- Appendix 2 – Legal Opinion – Management Plans and Adequacy of Information
- Appendix 5 – Proposed Draft Consent Conditions
- Appendix 9 – Engineering Drawings Part 2
- Appendix 10 – Infrastructure Report
- Appendix 12 Geotechnical Investigation Report Part 1
- Appendix 15 – Ecological Impact Assessment
- Appendix 21 – Rules Assessment
- Appendix 25C – Chemical Treatment Management Plan
- Appendix 25D – Adaptive Management Plan
- Appendix 25E – Erosion and Sediment Control Management Plan
- Appendix 29 – Decision and Approved Plans for Stage 2 Bulk Earthworks LUC60435472

Specialist Assessment

Site Description & Existing Environment

12. Section 5.0 of the applicant's Assessment of Environmental Effects (AEE) contains a description of the site and its surrounding area. I have accepted and adopted these descriptions when completing my assessment below.

13. Potential sediment discharges associated with the proposed earthworks will be overland to either the Hingaia stream, located along the site's western boundary, to a central stream identified by the applicant as Stream A, located in the northeastern portion of the site, or north to the Fitzgerald Stream located along the site's northern boundary. Stream A discharges into the Fitzgerald Stream at the site's northern boundary and the Fitzgerald Stream discharges into the Hingaia Stream approximately 200m northwest of the site. The streams within and adjacent to the site discharge to the Pahurehure Inlet of Drury Creek approximately 2 km downstream of the site. The intertidal marine areas of Drury Creek are recognised as significant marine ecological areas.

Other matters – Streamworks & Wetland Works

14. The application documents also include an Ecological Impact Assessment which has identified four natural inland wetlands on the site. Earthworks within 100m of these freshwater features are proposed as are earthworks within and within 10m of some features.

15. The proposal also includes earthworks associated with the installation of an arch culvert over Stream A for access purposes as well as the reclamation of a natural inland wetland. Where appropriate, an assessment of the earthworks within 100m, within 10m, and within natural inland wetlands has been completed below, however, a streamworks and wetland works rules assessment of the proposal on these freshwater features, i.e., earthworks aside, has been undertaken by Council's Freshwater Ecology expert under separate cover.

Background Matters Relevant to this Application

16. Section 3.2 of the application's Infrastructure Report contains details of two existing earthworks consents, one associated with Stage 1 of the Drury Metro Centre Development (LUC60435472), granted in 2024, and a second associated with the construction of a shared user path for the Drury Centre development (LUC60431681). The earthworks associated with the Stage 1 consent are fully within the Stage 2 boundaries of the development (this fast-track application), however, rather than undertake additional bulk earthworks over this area, the current application proposes to undertake civil / subdivision earthworks over this area.

17. Civil / subdivision earthworks typically include the installation of underground services, the formation of roads, berm areas and final building platform levels. The earthworks associated with the shared user path are mostly located within the Stage 2 boundaries, with small areas

near the site's northern and southwestern boundaries being outside of the Stage 2 boundaries. The current application includes civil earthworks to install underground services associated with the shared user path.

18. Two further earthworks operations, one for the construction of a SH1 overpass and offramp to the Drury Centre development, and one for earthworks within the national grid corridor overlay, also have minor overlaps with the Stage 2 development. Where necessary, erosion and sediment control measures will incorporate the catchments of these overlapping earthworks operations. Full details of all relevant background matters are included in section 4.0 of the Stage 2 AEE, and in section 3.2 of the Infrastructure Report.

Assessment of Effects on the Environment - Earthworks

19. The potential environmental effects of the proposed earthworks are those primarily associated with erosion of exposed surfaces at the site and the subsequent sedimentation of the receiving environment, being streams within and adjacent to the site that discharge to the Pahurehure Inlet of the Drury Creek approximately 2 km downstream of the site.

20. Sediment can degrade aquatic values such as water quality, smother habitat for aquatic fauna within these receiving environments, and directly impact aquatic fauna by blocking their breathing apparatus. The applicant has stated that the project will utilise erosion and sediment control (ESC) measures, designed in accordance with GD05, to help ensure the earthworks are appropriately managed.

21. Earthworks in brief:

- Approximately 212,225m^3 of cut and 195,873m^3 of fill over approximately 20.85ha are proposed.
- A set of erosion and sediment control plans (ESCPs) in accordance with Auckland Council guideline document number 5, *Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region*, June 2016 (GD05), have been provided with the application.

22. All ESCPs provided are draft only and the applicant has proposed the provision of final ESCPs ahead of earthworks commencing at a given stage or civil / subdivision stage of the project.

Erosion and Sediment Controls

23. The main method of sediment control proposed during Stage 2 is via the construction of six (6) chemically treated sediment retention ponds (SRPs), and the utilization of one (1) existing SRP. All seven (7) SRPs will manage catchments of between 0.5ha and 4.86ha and all have been designed (or constructed) based on a 3% criteria, having 3m^3 of storage volume for every 100m^2 of contributing catchment. Given the gradients at some portions of the site, this design is over and above that which is recommended in GD05 and as such, it is considered robust. I support the applicant's proposal in this regard.

24. Additional erosion and sediment control (ESC) measures include the installation of super silt fence (SSF) along all stream margins, which will manage runoff that cannot be directed to an SRP. These SSF will also act as secondary control measures providing a "last line of defense" in the unlikely event of primary ESC measures failing. Dirty water diversion bunds / channels have been proposed to direct dirty runoff to a respective SRP. Clean water diversion bunds / channels have been proposed to divert clean runoff from upgradient areas, around exposed areas so that clean water does not affect sediment controls. These measures represent industry best practice and are in accordance with the guidance contained in GDD05. I support the applicant's proposal in this regard.

25. The remaining measures proposed include the establishment of stabilised entry and exit points where necessary to help prevent the tracking of sediment onto surrounding public roads, the progressive stabilisation of completed earthworks area as the desired gradients are achieved, and appropriate monitoring and maintenance of all ESC measures throughout the duration of land disturbance at the site. Existing construction compound and laydown areas and topsoil stockpiling areas, established under existing consents, will be utilised where possible to avoid any unnecessary and/or additional earthworks. These measures represent industry best practice and are in accordance with the guidance contained in GD05. I support the applicant's proposal in this regard.

26. The application documents include draft ESCPs showing the location of all the ESC measures noted above, and the applicant has proposed provision of finalised ESCPs ahead of bulk earthworks commencing at the site as well as ahead of any given civil construction stage of the development. This is not unusual given the dynamic nature of the earthworks and when considering the earthworks associated with existing consents that overlap the Stage 2 area. As such, I support the applicant's proposal in this regard.

27. Chemical treatment of all SRPs and any other impoundment devices that are approved during the earthworks operation has been proposed. To support the current application, the applicant has provided a copy of the existing chemical treatment management plan (ChTMP) currently utilised for earlier stages of development, and whilst this plan is not specific to the earthworks associated with the current application, it is likely that the plan will be updated to incorporate Stage 2 earthworks. Regardless, the application has proposed a condition of consent that requires provision of a ChTMP for the Stage 2 earthworks, and I support the applicant's proposal in this regard.

Adaptive Management

28. Prior bulk earthworks associated with the Drury Town Centre have been subject to the implementation of an approved adaptive management plan (**AMP**). To support the current Stage 2 fast-track application, the applicant has provided a draft of an updated AMP, based on the existing AMP, which includes details of processes and procedures that will be followed, and it confirms how the ESC management, monitoring and reporting will be undertaken.

29. The draft AMP also includes the methods that will be used during construction to ensure that ESC performance is managed appropriately, that all conditions of consent are complied with, and that adverse environmental effects associated with the potential erosion and subsequent sedimentation of the receiving environment, remain within the range anticipated by the consent. The AMP will provide rapid and real time information and control to the project team to create a continuous feedback loop of the performance of the project's ESC measures and device management. I support the applicant's proposal in this regard.

Earthworks within 100m, within 10m, or within a Natural Inland Wetland

30. Notwithstanding the ESC measures proposed in any of the draft ESCPs provided with the application documents, the applicant has stated that specific ESC measures will be installed as appropriate around the earthworks area to mitigate any potential adverse effects on any adjacent wetlands. Provided any earthworks within 100m or 10m of a natural inland wetland are accompanied by ESC measures installed, monitored and maintained in accordance with GD05, I concur with the applicant's assessment in this regard, and support their proposal to undertake earthworks within 10m, 100m, or within the natural inland wetlands on the site.

Timing & Seasonal Restriction

31. The applicant has stated that the bulk earthworks will be completed within a single Auckland Council earthworks season (1 October to 30 April) to minimise the overall duration that bare earth is exposed, and to reduce the potential effects of sedimentation on the receiving environment. Whilst I consider this timeframe to be ambitious, completing the bulk earthworks in a single season is possible provided enough earth moving equipment is made available to complete the works.

32. Regardless, the applicant has also proposed a condition (2) stating that the land use consent, which includes earthworks, lapses fifteen (15) years from its date of commencement. Given the nature and type of earthworks proposed, I support the applicant's proposal in this regard.

33. The applicant has also proposed a condition (62) restricting earthworks to the standard Auckland Council earthworks season, being 1 October – 30 April of any year, I support the applicant's proposal in this regard.

Conclusion

34. With regard to the proposed earthworks, the applicant states that best practice ESC measures will be utilised to ensure the proper management of any potential sediment related effects, and that any resulting effects will be less than minor. An assessment of the technical aspects of the earthworks and sediment control methodology has been undertaken and provided the earthworks are completed in accordance with the application documents and all supporting

information, I concur with the applicant's assessment and consider that the potential effects associated with sediment discharge will be appropriately managed.

Proposed Conditions

35. I have reviewed the applicants' proposed conditions of consent regarding earthworks and consider that they are appropriate given the nature and type of earthworks proposed. As such, I support the applicant's proposal in this regard.