

Our Ref: CC180099



ENGINEERING
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PROJECT MANAGEMENT

ABN 26 134 067 842

21 March 2025

General Manager
Central Coast Council
91-99 Mann Street
GOSFORD NSW 2250

Attn: Nathan Burr

**DA/161/2024 - Lakes Ridge Development at Lake Munmorah
Response to Council DA Assessment Report - Sewer**

I refer to Council's draft DA Assessment report for the above project, received via email on 20 March 2025.

In response to the sewer matters raised we enclose for your consideration an alternative concept sewer layout and design commentary for Council's assessment.

We consider that the application has now been satisfactorily documented to address the sewer concerns raised by Council. We would appreciate your timely review of the submitted documentation.

Please do not hesitate to contact our office to discuss any of the above further, and we look forward to a positive resolution of this application in due course.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Scott Brisbin', is written over a faint, light blue circular stamp.

Scott Brisbin | Design Manager
Barker Ryan Stewart Pty Ltd

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Summary of Council's Comments/Concerns

Extract from page 28 of Council's DA Assessment

The proposed development includes the construction of a sewer main connection to the existing sewer system adjacent to 24 Kemira road across the northern boundary of the Council reserve 6W Kemira Road which is works within the mapped wetland. The aerial photograph below depicts the extent of the mapped wetland and the location of the sewer.

Extract from page 29 and 30 of Council's DA Assessment

The proposed sewer works are considered to be designated development. The development application does not address the presence of designated development and has not been lodged as designated development with the appropriate supporting documents under Section 4.12(8) of the Act. And consent can not be granted to the proposed sewer works.

Response to Council's Comments/Concerns

We acknowledge importance of avoiding impact to the wetland and have considered alternative options that achieve the requirements of the sewer without impacting the wetland.

[Previous Investigations](#)

A Sewer Capacity Assessment was undertaken by Barker Ryan Stewart and presented in the Sewer Capacity Report at 285-335 Pacific Highway, Lake Munmorah, Revision 2, dated 29/7/2022.

The proposed development has an eastern catchment and a western catchment.

The western catchment is proposed to discharge to the existing Council gravity sewer Line BM. The proposed connection point was SMH BM/10.

[Alternative Options Review](#)

To connect the western catchment of the site to Line BM but avoid works within the wetland, alternative options were considered.

Option A

Option A broadly considered:

- a. Discharging the proposed internal developed sewer network west, parallel with the road extension from Chisolm Avenue.
- b. Proposed sewer to pass under the proposed road box culvert set.
- c. Proposed sewer to connect to existing SMH BM/13.
- d. All works within the approved BDAR footprint for the project.

A review of Council supplied work-as-executed (WAE) data confirmed that the sewer invert levels at SMH BM/13 are too high to accept discharge from the proposed sewer that passes under the road box culvert set.

Option B

Option B broadly considered:

- a. Discharging the proposed internal developed sewer network west, parallel with the road extension from Chisolm Avenue.
- b. Proposed sewer to pass under the proposed road box culvert set.

- c. Proposed sewer to connect to new SMH within the proposed northern road reserve.
- d. New SMH approximately 15m downstream of existing SMH BM/13.
- e. All works within the approved BDAR footprint for the project.

A review of Council supplied work-as-executed (WAE) data confirmed that the sewer invert levels at the proposed SMH location, downstream of existing SMH BM/13, are suitable to accept discharge from the proposed sewer that passes under the road box culvert set.

Preferred Arrangement

With consideration to the above, Arrangement B is preferred.

Considerations

With consideration to Arrangement B above, the following considerations apply:

1. Capacity of downstream network
 - a. The existing DN150 pipe downstream of the proposed SMH between existing SMH BM/13 and existing BM/12) is laid at 1.13% grade.
 - b. Modifications were made to the existing sewer hydraulic model prepared as part of the BRS Sewer Assessment (2022) to assess the proposed Option B arrangement.
 - c. Model results confirm that the existing DN150 pipe has suitable capacity to convey existing and proposed catchment flow. Upgrade to the DN150 sewer is not required.
2. Encasement of sewer under stormwater culverts
 - a. The proposed sewer pipe will be located under the stormwater box culvert base slab.
 - b. Concrete encasement of the sewer pipe will be provided to ensure the sewer is 'maintenance-free' under the culverts.
 - c. Encasement to be provided to the satisfaction of Central Coast Council.
 - d. Encasement to be designed in conjunction with the culvert base slab.
3. Piering of culverts adjoining sewer
 - a. The proposed sewer pipe will be located under the stormwater box culvert base slab.
 - b. Piering of the stormwater culvert will be provided to ensure the loads from the culvert are transferred below the sewer.
 - c. Culvert piering will be provided to the satisfaction of Central Coast Council.
4. Coordination of Utilities in Verge
 - a. The allocation of utilities within the northern and southern verge will be undertaken as part of the next stage of design.

Preliminary Arrangement

The preliminary arrangement of the proposed sewer is presented below and is subject to further design development as part of the next stage of the design.

Figure 1: Sewer Plan



Figure 2: Proposed Sewer Longsection

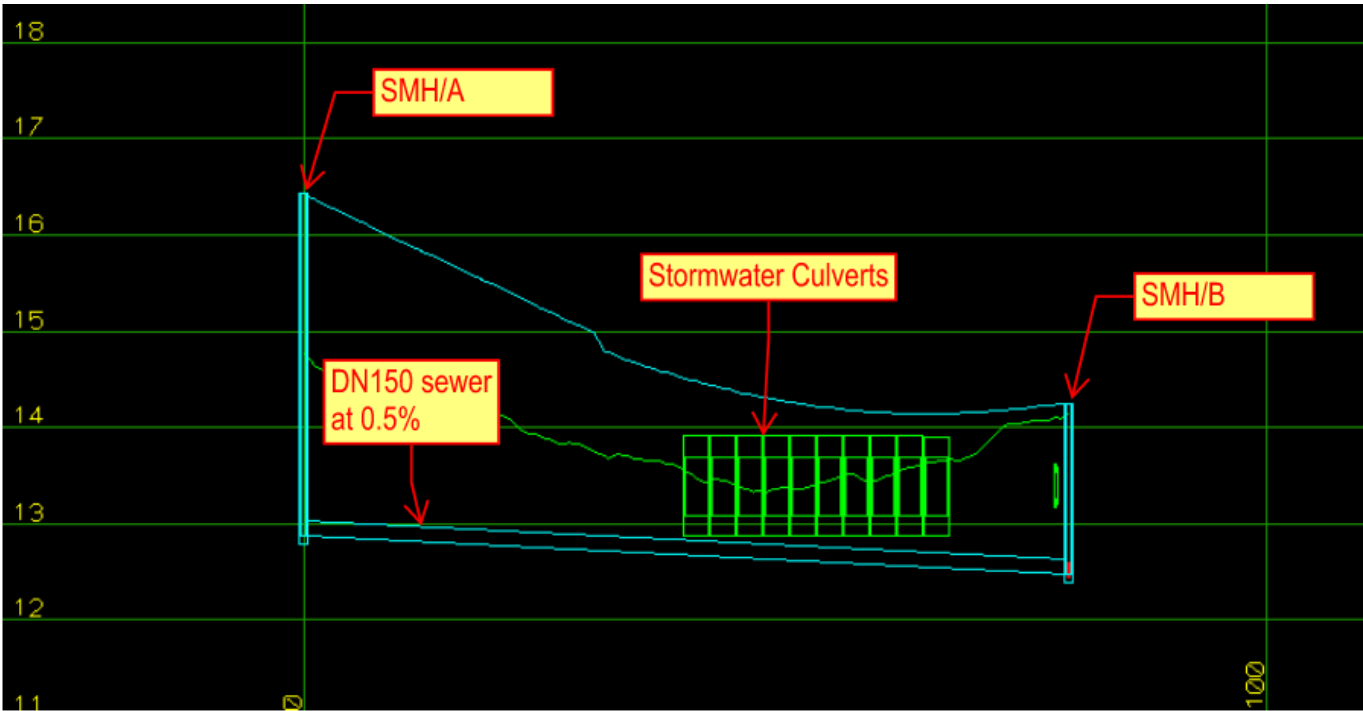
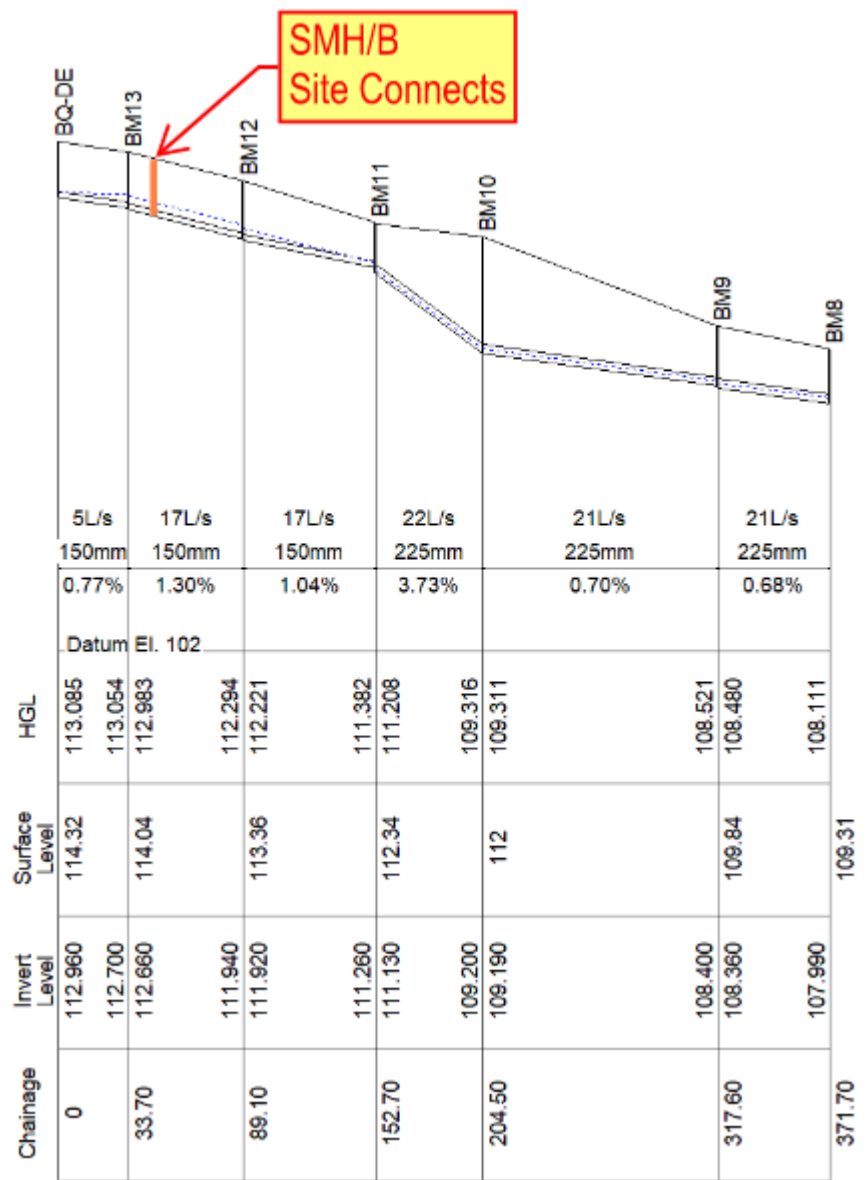


Figure 3: Existing Sewer Long-section with HGL



Summary

The above demonstrates the feasibility of the Arrangement B sewer.

Further details are to be developed in conjunction with Council as part of the next stage of the design.