MEMORANDUM

DATE	14 April 2026
TO	Environmental Regulation, Approvals – Statewide Delivery
FROM	[redacted] for CEO, City of Kalgoorlie – Boulder (CKB)
COPY	[redacted], CKB [redacted], CKB
PROJECT	EPN202503 South Boulder WWTP Upgrade 2026 – Ponds 1C, 1D
SUBJECT	APP-0033918 - APPLICATION FOR A WORKS APPROVAL – REQUEST FOR FURTHER INFORMATION
DOC NO	1034-03-12-MEM-002

Hello,

The following pages include further information within the DWER Request table format with additional attachments to this memo.

Some assumption has been made that reports submitted within the current Environmental Protection Notice 202503 and the previous License L8560 annual reports are available to the works approval reviewer(s). Copies can be provided if required.

The current works approval application is progressing under EPN 2020503 Requirement 18 for interim measures to resolve WWTP capacity. The two additional ponds will increase the total treatment capacity to 8.0 ML/day, including the inlet works installation.

Schedule 1

Relevant part of application form	Information requirements	Rationale	City of Kalgoorlie – Boulder Response
Part 3.3 **GPS coordinates determined using the GDA 2020**	Revised prescribed premises boundary map with GPS coordinates in correct format. Please provide a shapefile of the premises boundary in GDA 2020.	Submitted premises boundary map has GPS coordinates in decimal degree format which does not meet DWERs required standard. The premises map will form part of the legal document.	Please find attached revised **drawing 11-S-010** RevB Prescribed Premise boundary (unchanged) with inset works area outlined and associated shapefile.

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Part 4.2 **Proposed Activities**	Limited details have been provided regarding the proposed activities. The design documentation provided consists only of a schematic indicating that the pond will be HDPE-lined. However, aside from this layout no further detailed design drawings were included. To enable a comprehensive assessment of the application, we require provision of additional information and drawings, including but not limited to: • Earthworks diagram/drawing with full details. • Embankment drawings (detailing slopes anchor trenches, liner integration). • Description of the proposed sub-grade preparation (soil type, compaction requirements, protection layer, and slope gradients for the pond base and side slopes). • HDPE liner installation drawings with full details. • A detailed installation methodology for the liner including leak detection, and any required inspection by an independent certifier. • Hydraulic grade design. • Pipe specifications and testing protocols.	This information is required to allow DWER to assess the environmental impact of the construction and ongoing operation of the premises.	Please find attached drawings for Ponds 1C and 1D construction works: ▪ 11-S-002 SITE PLAN ▪ 11-S-003 HYDRAULIC GRADE LINE ▪ 11-S-011 WWP1C, 1D PIPEWORK ▪ 11-S-012 WWP1C, 1D EMBANKMENT SECTIONS Additional work includes the installation of aerators in Ponds 1A and 1B. Refer Attachment 3B section 3.2 for specification of 1.5mm double-sided textured HDPE material with specification of ASTM product quality requirements and testing methods. A protective underlay of Bidim A64 or approved equivalent will be installed as underlay to the HDPE. Section 3.1 details the subgrade compaction to 95% MDD in accordance with AS1289 including embankment lifts at 300mm thickness where required. HDPE liner leak detection equipment is typically installed on waste cells (category 61A - 66) and mine tailings storage facilities (category 5). Liner leak detection is not proposed for the Kalgoorlie sewage treatment plant (category 54). The six (6) existing monitoring bores continue to be monitored for water levels and comprehensive water qualities at a monthly frequency. All data has been reported to the regulator since 2004. Under the EPN 2020503 Requirement 4e, CKB has submitted a groundwater assessment report by Rockwater (March 2026) to further evaluate seepage risk. As submitted in Works Approval application Attachment 3B, section 3.2 details all HDPE quality assurance and testing standards which are applicable. There are no Australian

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			Part 4.2 cont. Standards for this materials and ASTM (American) standards apply. Third party verification of the HDPE liner is not planned. Compliance with the specified standards is appropriate to quality assurance verification of the liner installation. Full liner installation details (panel layout plan) can only be completed 1-2 days prior to the liner installation as it is subject to local wind conditions. It is not possible to provide the panel layout plan prior to tender and contractor appointment. Works Approval application Attachment 3B, section 3.1 details HDPE pipe specifications. The pipe is gravity pipe (not pressurised) and ovality testing would apply as for gravity sewer installations.

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TWM, Sludge lagoons 3 & 4	Provide a detailed description of the sludge handling strategy relating to the lagoons to be refurbished (current volume, dedicated drying beds with leachate control, disposal/transport plan and timeline to clear ponds pre-refurbishment). Provide information on the current process used to store sludge at the site, and any infrastructure utilised for this process. Include details and containment capacity for the excess sludge from the storage pond.	Required to determine premises emission risk profile and inform risk assessment.	The aerial image below was taken on 6 March 2026. The red box outlines the planned works area. The existing sludge lagoons 3 and 4 (SL3, SL4) contain dried activated sludge from the IDEA plant only. The redundant TWM pond contains dried facultative pond sludge and algae. The area is currently bypassed by the ponds pipework arrangement. There are no operating ponds in the works area. No dewatering of the sludge is required and there will be no leachate. The dried sludge and any contained vegetation will be excavated and transported in covered trucks to the Yarri Rd landfill, in accordance with the solid waste license and all previous sludge disposal operations (since 2004). Wastewater stabilisation ponds do not have continuous sludge management requirements. 

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Section 9 **Emissions, discharges and waste** (within context of works approval)	Provide detailed information for all potential emissions and discharges from the premises, both for construction and operational phases, including specifications on any emissions management controls and/or infrastructure.	Only limited information on emissions has been provided in the application. However, based on the operation, it is likely that odour, leachate and contaminated wastewater are emissions/discharges that would occur. These need to be accurately identified and addressed in the Application to inform DWER's risk assessment. DWER notes there have been complaints relating to odour emissions from the SBWWTP and therefore request all the information and subsequent proposed controls relating to odour emissions be submitted. Given the limited distance to sensitive receptors further information is required to better inform DWER's risk assessment.	There are no planned emissions from the construction phase. As noted for Section 4.2 TWM, sludge lagoons SL3 and SL4, the dry sludge and vegetation disposal will be trucked to Yarri Rd landfill facility. The bulk earthworks construction of the center embankment and refurbishment of the existing embankments may create dust which is required to be controlled in accordance with DWER Guideline for managing impacts of dust This Works Approval application is based on submission to DWER for EPN 2020503 Requirement 18 South Boulder WWTP Management Report (August 2025) to **upgrade the ponds system from 6.5 ML/day to 8.0 ML/day** as an 'interim measure'. As the construction works exclude any water or sludge odour emissions are unlikely. The closest sensitive land use (residence) to the wastewater treatment plant at **1730m** is the Kalgoorlie Aboriginal Short Stay, Boulder Discovery Parks, Northern Star Village and Eastern Goldfields Regional Prison. The complaints were commencing at 5,000m from the WWTP. On this basis, odour complaints heat mapping lead to identification of sewer installation issues, particularly on newer urban developments. In response CKB has been installing sewer running traps and boundary traps commencing 19 Dec 2025 in accordance with WSAA Sewer Code of Practice and works are ongoing. In accordance with EPN 2020503 Requirement 10 the dual inlet screens were commissioned on the 19 Feb 2026 and have prevented further accumulation of screenings on the WWP1A and 1B surfaces. As directed under EPN 2020503 Requirement 8 CKB has been excavating floating screenings from the ponds into containers, dewatered back to the ponds, and disposed at Yarri Rd landfill.

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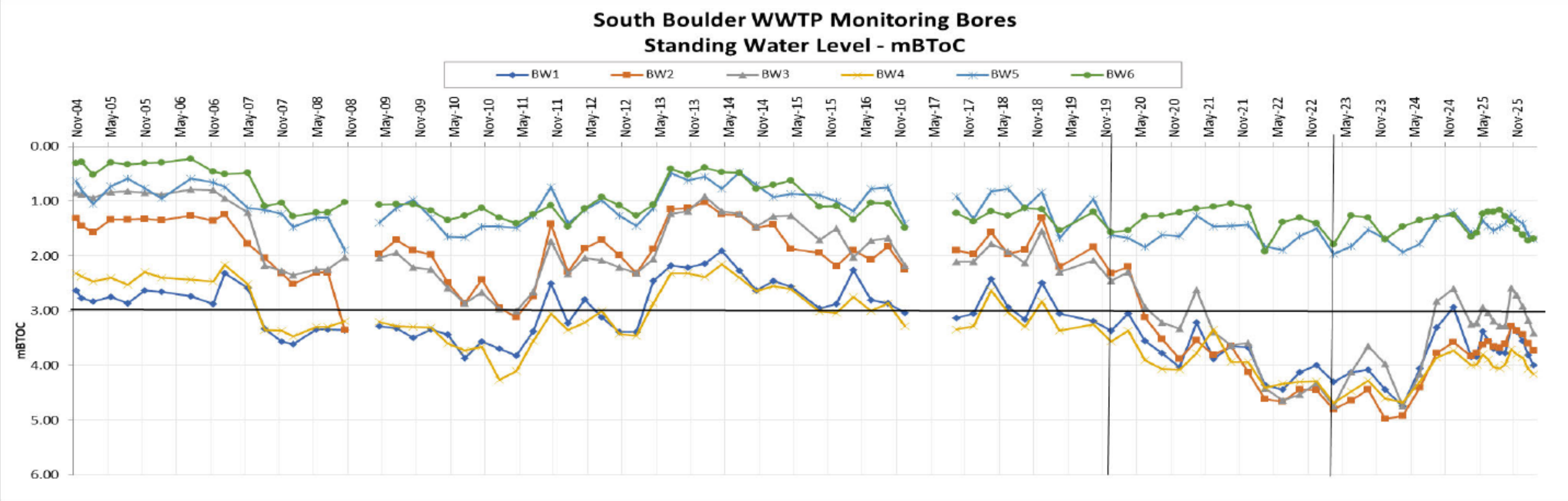
			Section 9 cont. CKB is monitoring the odour monitoring complaints (refer Figure 4) which have decreased since the above works. However, the data shows a downturn of complaints is common in Jan – Apr each year. CKB is progressing desludging of pond 1A in accordance with requirements of EPN 2020503 Requirement 12.
Section 10.2 Sensitive receptors	Provide available information on the depth of groundwater.	Required to inform risk assessment.	The South Boulder WWTP License L8560 requires groundwater level monitoring and sampling of six (6) groundwater monitoring bores, which were installed in 2004. Depth to saline groundwater is generally at 3m subject to rainfall events; refer Figures 1 and 2. Monitoring bore BW3 is closest to the planned WWP1C and 1D ponds construction works. Further data is available in previously submitted: ▪ License L8560 annual reports ▪ *South Boulder WWTP Groundwater Study*, Cardno 2015 ▪ *South Boulder WWTP Water Balance Report*, WISE 2018 ▪ *South Boulder WWTP Management Plan*, WISE Aug 2025, as submitted for current EPN 202503
Section 13.3 Works Approval Fees	Works Approval Fee data consistent with the information outlined in section 13.3 of the Application Form (i.e. a breakdown of component costs of the works).	There is no fee data for Construction Costs as outlined and required under section 13.3 – a single figure of $1,800,000 is not sufficient to determine the works approval fee.	Subsequent to the works approval detailed design of the construction works has progressed and market pricing checks of the planned works. Please find attached the preliminary quantities and cost estimate at $2,896,830 exGST. Subsequently the fees are revised to: 125 units plus 5 x 20 units = **145 units x $43.45 = $6300.35**

Figure 1 South Boulder WWTP – License L8560 monthly monitoring data (mBToC, meters below Top of Casing)



Note: Decline of groundwater levels at all downstream monitoring bores since Jan 2020 ponds offline and liner renewals. Groundwater levels are sensitive to incident rainfall.

Figure 2 Rainfall data – influence on shallow groundwater

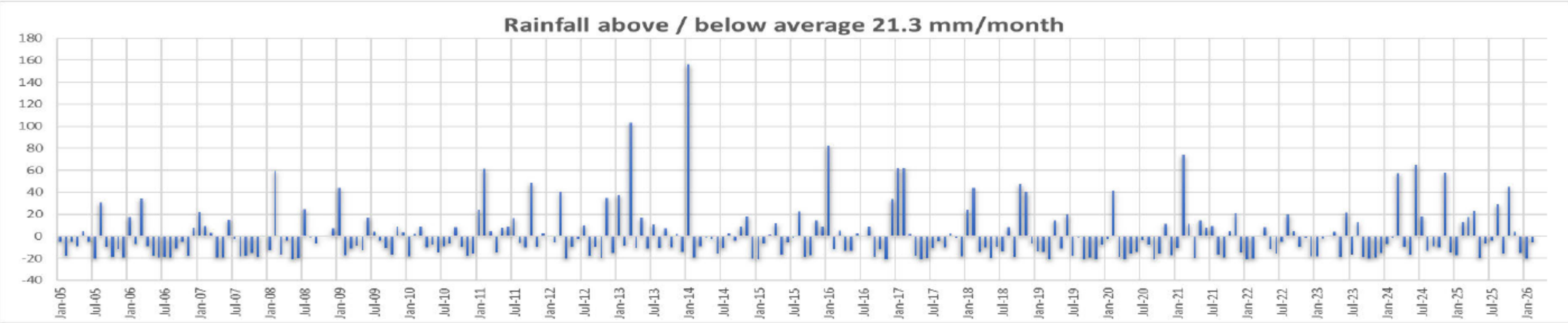


Figure 3 South Boulder WWTP groundwater monitoring bore locations & groundwater elevation contours

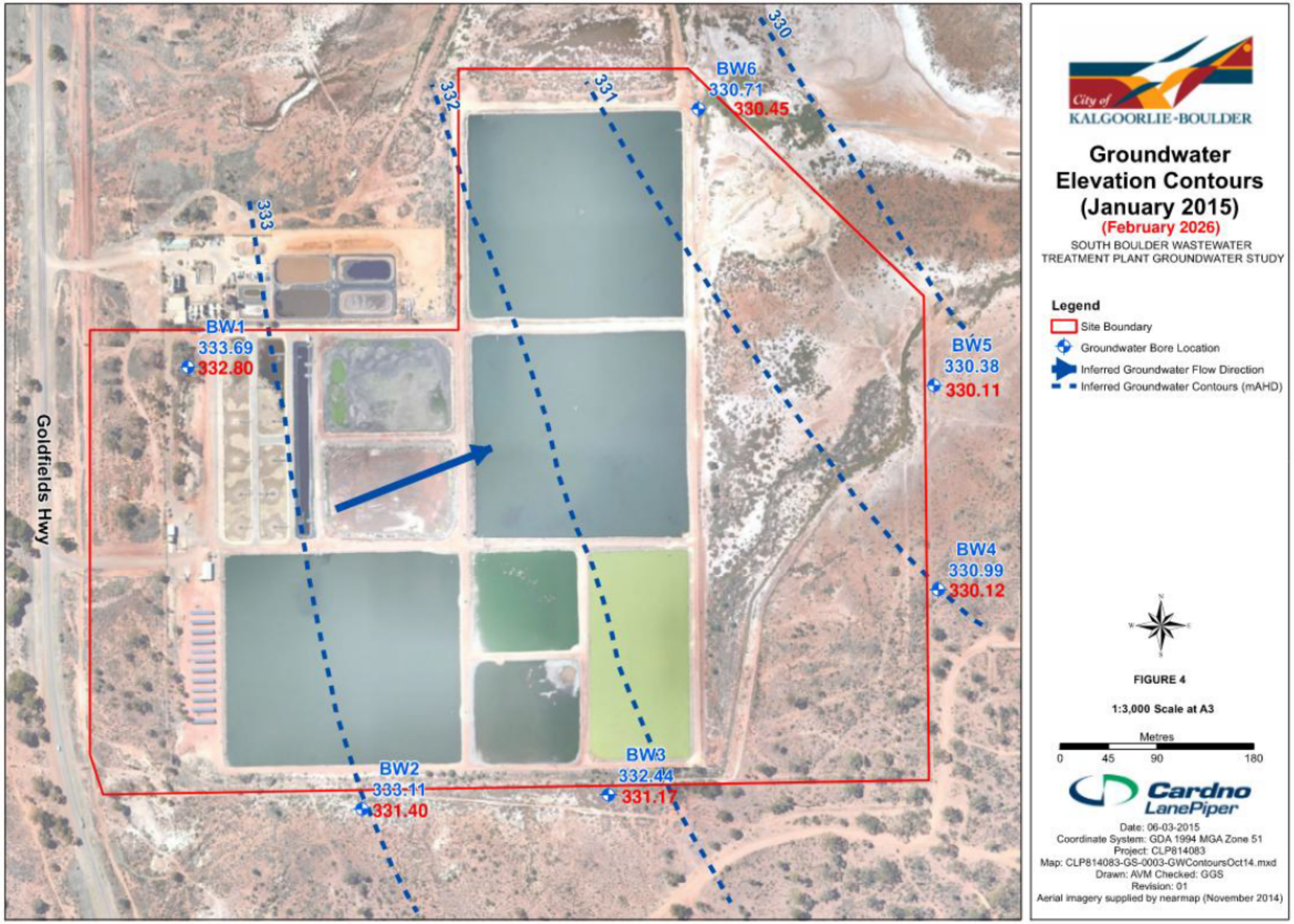
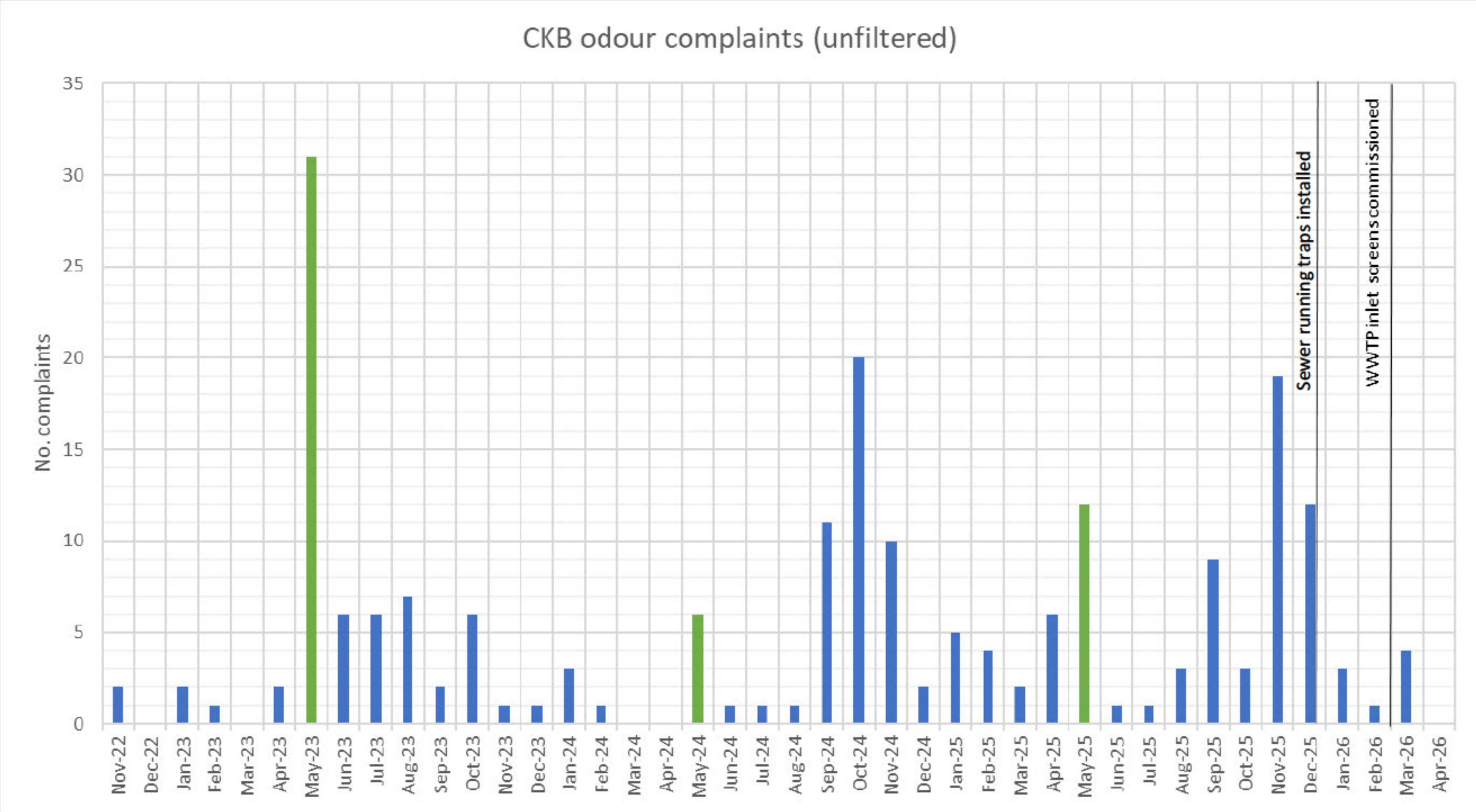


Figure 4 CKB odour complaints for 'sewage odours' across Kalgoorlie – Boulder



Note: green coloured bars simply denote May each year as potential higher complaints period, subject to ongoing investigations.