CWTP Odour Mitigation Plan March 2026

Please note, this is a live document. It will be updated as required.

Odour Source

Odour monitoring at the Christchurch Wastewater Treatment Plant (CWTP) has strongly indicated that the current source of odour is Oxidation Ponds 1, 2a and 2b. Since the beginning of the event (January 2026), Christchurch City Council (Council) has been in constant communication with Environment Canterbury (ECan) around the measures it is taking in response to managing these discharges. Council continues to implement the Odour Mitigation Plan while medium-to-long term solutions are sought regarding the reduction of organic loading received by the ponds to return them to good health.

Pond 1, with the aerators, is generating some odour, with the majority of the odour coming from Ponds 2A & 2B.

Aerial photo showing the pond labels

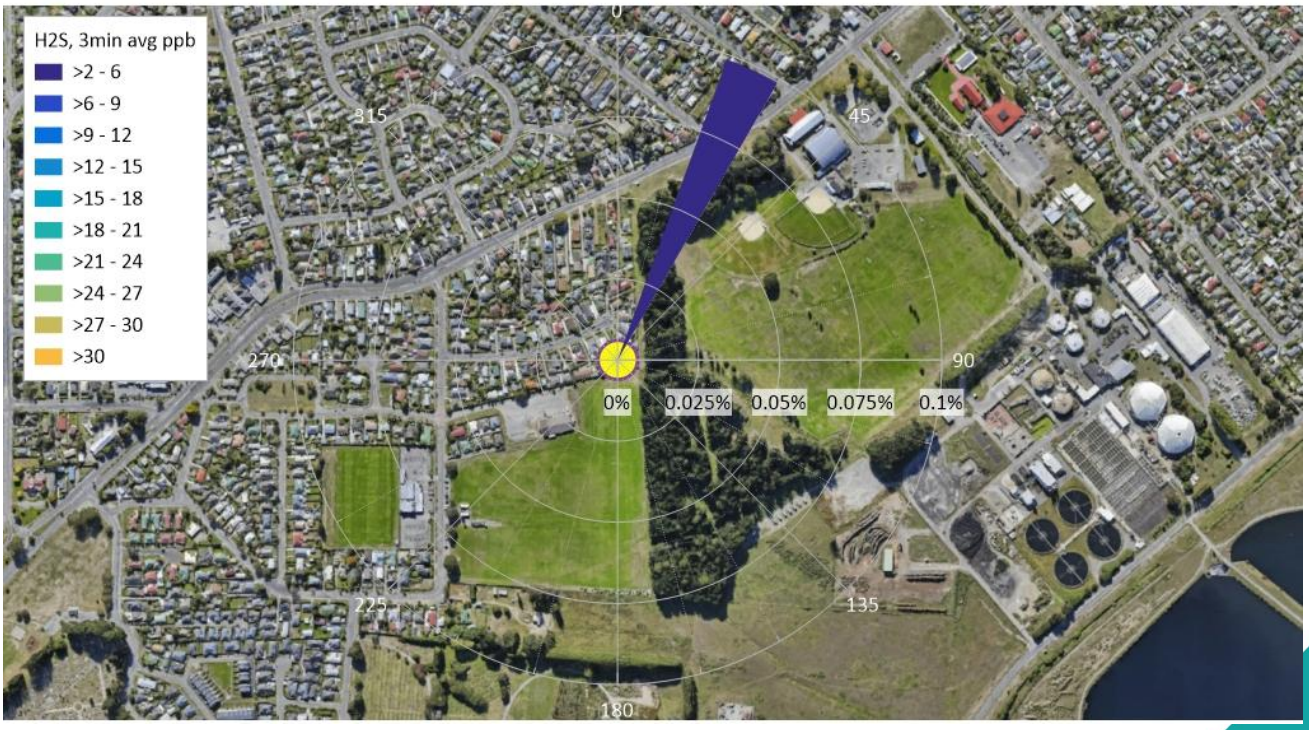
March 2026

Christchurch City Council

Odour source graphs from the community monitoring locations 8-15 March 2026.

SNB School Pollution Rose 8 - 15 March 2026

Mecca Pl Pollution Rose 8 - 15 March 2026



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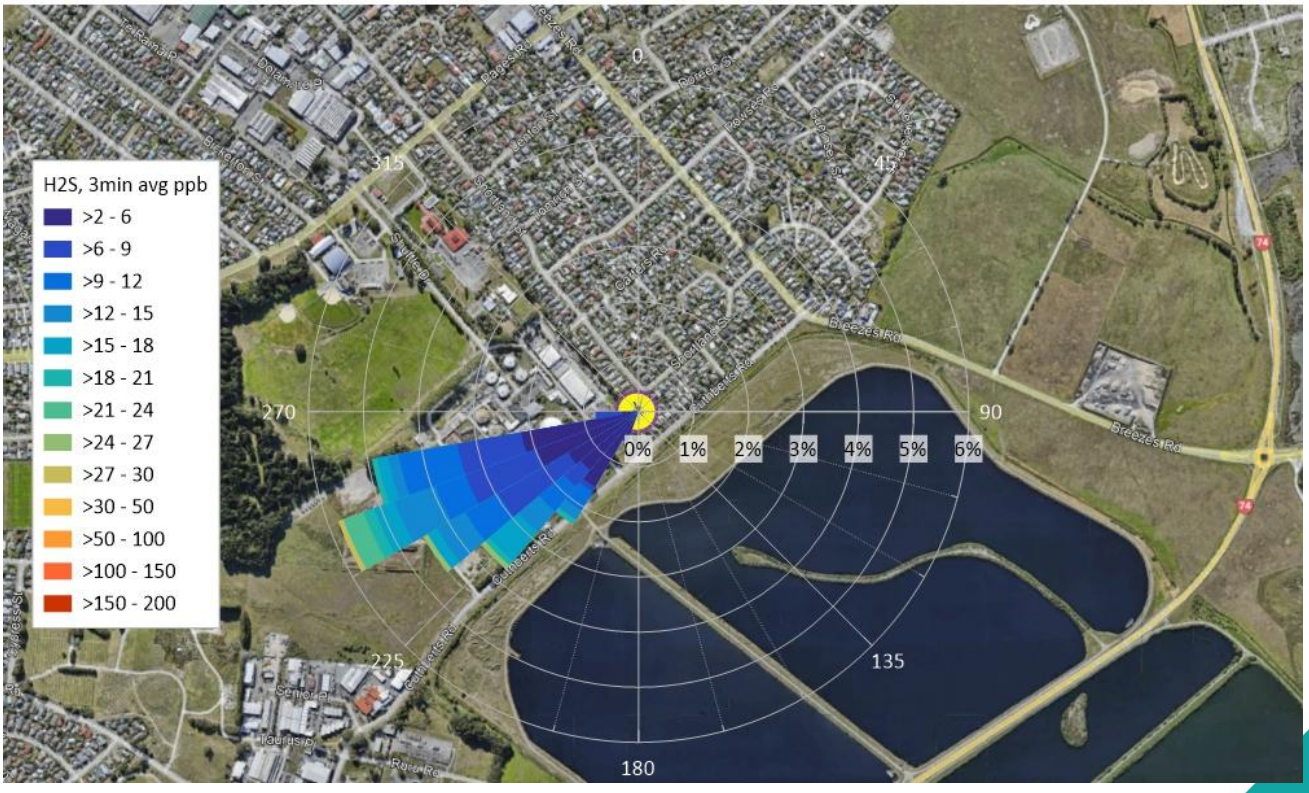
Shortland Street (North) Pollution Rose 8 - 15 March 2026

Shortland Street (South East) Pollution Rose 8 - 15 March 2026



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Action Plan

This action plan outlines measures that have been implemented or are being investigated in response to current odour conditions at the Christchurch Wastewater Treatment Plant. Actions and indicative timeframes may be refined as further information becomes available and do not represent guarantees of outcome	**Problem / Issues**	**Actions**	**Progress**	**Estimated timeframe**
Oxidation Ponds	Low dissolved oxygen (DO) levels, particularly in Ponds 2A and 2B, **contributing to increased odour risk**.	Flow balancing between ponds to redistribute loading and support pond recovery.	Underway. Flow balancing actively being managed by operations staff.	Ongoing
		Use of jet boat to introduce additional oxygen into affected ponds.	Implemented. Jet boat oxygenation undertaken.	Immediate / as required
		Increased monitoring of pond health indicators, including dissolved oxygen, drone aerial imagery, and laboratory sampling (including algae counts).	Underway. Sampling and aerial monitoring ongoing.	Ongoing
		Hydrogen Peroxide dosing investigation.	The effectiveness of Hydrogen Peroxide was determined to be negligible. Chemical dosing does not represent a viable long-term operational method for managing DO levels.	Complete
	Limited understanding of algae species variation and contribution to oxygen recovery.	Algae samples to be sent to Hamilton laboratory for detailed analysis, including development of sampling, storage, transport, and payment processes.	First report received from the algae specialist.	Short term

	Odour data not being reviewed frequently enough during active events.	Increase frequency of odour data assessment by external contractor from weekly to twice weekly.	Implemented. Contractor frequency increased.	Ongoing
	Delay in public visibility of air quality and odour data.	Work with Communications team to enable quicker updates to air quality and odour data, including uploading of back-catalogue data to the website.	Hydrogen Sulphide (H_2S) monitoring dashboard available to the public here. Customers can view the hourly averages of H_2S from the community monitoring locations.	Complete
	Increased odour risk during forecast cold, wet weather events.	Monitor weather forecasts and proactively manage pond flows ahead of significant cold/wet events.	Ongoing. Forecasts actively monitored by staff. Additional Comms ahead of odour generating weather conditions.	Ongoing
Whole Site (CWTP)	Complexity of odour generation mechanisms across the site under current operating and loading conditions.	International odour expertise for a site-wide technical review of odour sources on the CWTP.	Council still awaiting delivery of the draft report.	Ongoing (estimated March 2026)
Whole Site (CWTP)		Proactive communication and updates to the public via newsletters and social media.	Continue to provide updates to the public on monitoring and progress.	Ongoing
Whole Site (CWTP)	Limited spatial coverage of community odour monitoring data.	Progressive expansion of community odour monitoring network (two sites in 2022, four sites from 2023–2025, now five sites), with further expansion under investigation including procurement of an additional logger.	Additional monitoring under consideration.	Ongoing
Whole Site (CWTP)	Limited meteorological data to support odour source attribution.	Install an on-site weather station to improve understanding of wind direction and meteorological influences on odour dispersion.	Established API connection to nearby NIWA weather station to access meteorological data to help support response to odour event.	Complete

Oxidation Ponds	Limited oxygen transfer capacity under sustained loading conditions in Ponds 2a & 2B.	Three additional aerators have been procured and delivered to site.	All three aerators installed and running on Ponds 2A and 2B.	Aerators installed.
	Limited oxygen transfer capacity under sustained loading conditions in Ponds 2a & 2B.	Additional Aeration Option	Further work underway with a consultant regarding the Pond Resilience Project. To be presented to Council 1st April 2026.	Short – medium term
	Limited oxygen transfer capacity under sustained loading conditions in Ponds 2a & 2B.	Diversion of partially treated wastewater Option	Further work underway regarding the Pond Resilience Project. To be presented to Council 1st April 2026.	Short – medium term
SCT / Temporary Activated Sludge Plant	Risk of low oxygen conditions contributing to downstream odour.	Sodium Percarbonate dosing investigation	Trials undertaken. Oxygen generation could not be sustained/carried downstream to improve performance. Chemical dosing does not represent a viable long-term operational method for managing DO levels.	Complete
Whole Site (CWTP)	Interaction between operational performance and major capital works.	Work closely with on-site projects (clarifier refurbishment, dryer refurbishment, activated sludge project) to ensure appropriate operational support during delivery and to support future process resilience.	Ongoing. Active coordination in place.	Ongoing
Oxidation Ponds (Long-term)	Limited resilience of pond system to seasonal and loading shocks.	Develop and scope long-term options to improve pond resilience and odour performance. Pond Management Plan to be prepared, once decision has been made regarding the Pond Resilience Project.	Consultant onsite 12th and 13th February with CWTP staff. Focus on health of the ponds and algae through sampling/analysis and field observations. Continued engagement with specialist.	Short - medium term

Activated Sludge Plant		Our contractor HEB Construction is now active on site. Bulk earthworks are now underway, which involve site material being removed and gravel being brought on site, with commissioning targeted for 2028.	Project is running to program. Excavation is well advanced, sheet pilling has begun along the temporary pipeline. Vibration monitoring is in place to help minimise the impact of the ongoing works to the community.	Medium to Long Term (2028)

Odour generation can be influenced by a combination of operational and environmental factors. CCC continues to monitor conditions across the site and surrounding environment and will adapt management actions as understanding evolves.