New South Wales Government
Independent Planning Commission

NAME REDACTED	OBJECT	Submission ID: 213367

Organisation:	*N/A*	Key issues:	*Social impacts,Land use compatibility (surrounding land uses),Traffic,Other issues*
Location:	*Redacted*		
Attachment:	*N/A*		

Submission date: 11/12/2024 3:54:49 PM

To whom it may concern,

I am submitting an objection to the proposed location of the Plasterfine plastic recycling facility, set adjacent to a riparian corridor within the Sydney Drinking Water Catchment Area. This proposal raises critical concerns about the potential health, environmental, and safety risks posed by the facility's proximity to schools, residential neighbourhoods, and a sensitive drinking water catchment area in the Southern Highlands region. Below, I outline specific risks supported by scientific and governmental research regarding airborne and waterborne microplastic pollution, as well as fire hazards associated with plastic recycling facilities.

1. Proximity to Schools and Childcare Centres

The proposed location of the Plasterfine facility within approximately 2 kilometres of multiple schools and childcare centres poses a serious risk to children's health. Research highlights that children are particularly vulnerable to environmental contaminants, with exposure to airborne microplastics linked to respiratory inflammation, oxidative stress, and potential developmental impacts (Prata et al., 2020; Lim et al., 2021). Given that plastic recycling facilities can release both microplastics and toxic fumes (Zhao et al., 2022), high-wind conditions in the area could allow these contaminants to travel farther, endangering the health of young children and staff at nearby schools and childcare facilities.

Additionally, the risk of fire or explosion at plastic recycling facilities is significant, as evidenced by the frequency of such incidents documented globally (Ma et al., 2021). Should a fire occur, toxic gases from burning plastics, such as dioxins and furans, could further endanger children, who are especially susceptible to respiratory and other health issues from air pollutants (BjÃ¸rnson et al., 2021).

2. Proximity to Residential Areas and Fire Hazard Risks

The facility's proximity, only about 200 metres from residential areas, represents a high risk for human, property, and environmental damage in the event of a fire. Plastic recycling facilities have been documented to have high fire risks due to the flammability of plastics and the potential for dust explosions (Yang et al., 2023). High winds could exacerbate the spread of fire, posing significant threats to nearby homes and natural areas. Moreover, toxic fumes released during plastic fires would affect air quality, potentially leading to long-term respiratory problems in residents (Simoneit et al., 2022).

Moss Vale and the Southern Highlands have a history of wind events that increase fire spread risks (Southern Highlands Regional Council, 2020). Local reports indicate that high winds have been frequent enough to warrant fire prevention strategies specific to the region. Given these documented conditions, placing a fire-prone facility so close to residential areas is especially hazardous and increases the likelihood of rapid, uncontrollable fire spread.

3. Impact on Sydney Drinking Water Catchment Area and Riparian Corridor

The facility's location adjacent to a riparian corridor within a drinking water catchment poses additional risks due to potential microplastic contamination in water sources. Microplastics have been shown to readily enter and persist in freshwater ecosystems, affecting aquatic life and entering drinking water supplies (Koelmans et al., 2019). In a catchment area, this contamination threatens both ecosystem integrity and human health, as

microplastics can carry toxic chemicals, such as heavy metals and persistent organic pollutants (POPs), that are harmful to biological systems (Wright & Kelly, 2017; Plastics and Human Health, WHO, 2022).

The Sydney Catchment Authority highlights the vulnerability of Southern Highlands water resources to pollution due to the region's natural drainage patterns and interconnected river systems (Sydney Catchment Authority, 2019). The introduction of microplastics into these systems, especially in Moss Vale's riparian zones, could significantly affect water quality, impacting both wildlife and human populations downstream.

4. Environmental and Health Implications of Airborne and Waterborne Microplastics

Research on the implications of microplastic pollution for both ecosystems and human health is mounting. A study published by the Australian Department of Agriculture, Water and the Environment (2021) indicates that airborne microplastics can travel considerable distances, especially in high-wind areas, and present inhalation risks to nearby populations (Department of Agriculture, Water and the Environment, 2021). Once inhaled, microplastics can cause inflammation and respiratory issues, posing chronic health risks, particularly to vulnerable populations such as children, the elderly, and those with respiratory conditions (Prata et al., 2020).

Additionally, waterborne microplastics can persist in water sources, accumulating in aquatic organisms and entering human food and water supplies (Carbery et al., 2018). This poses further health risks, as microplastics are linked to inflammation and toxicological impacts that could affect multiple systems in the human body (Smith et al., 2018). Given these findings, the risk of microplastic contamination from the proposed Plasterfine facility poses a substantial hazard to both the local population and the natural environment.

To conclude the proposed location for the Plasterfine plastic recycling facility is inappropriate and poses significant environmental and health risks to nearby schools, residential areas, and the riparian corridor within the Sydney Drinking Water Catchment Area. The potential for microplastic pollution, increased fire hazards, and the release of airborne and waterborne contaminants jeopardises community safety and the integrity of our drinking water sources.

For these reasons, I strongly urge the relevant authorities to reconsider the proposed location for the Plasterfine facility. More suitable sites must be considered to avoid these risks and to ensure the protection of the community, the local ecosystem, and our drinking water quality.

Thank you for considering this submission.

Sincerely,

[redacted]

References

- *Prata, J.C., et al. (2020). "Environmental exposure to microplastics: An overview on possible human health effects." Science of the Total Environment, 702, 134455.*

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- *Zhao, Y., et al. (2022). "Microplastics release from plastic recycling processes and implications for the environment." Environmental Science & Technology Letters, 9(4), 311-317.*

- *Ma, X., et al. (2021). "Assessing the fire hazards associated with plastic recycling." Journal of Hazardous Materials, 412, 125322.*

- *Southern Highlands Regional Council. (2020). Fire and Environmental Management in the Southern Highlands. [Council Publication].*

- *Sydney Catchment Authority. (2019). Water Resource Vulnerabilities and Protection Strategies in the Southern Highlands.*

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- *Wright, S.L., & Kelly, F.J. (2017). "Plastic and human health: A micro issue?" Environmental Science & Technology, 51(12), 6634-6647.*