New South Wales Government
Independent Planning Commission

DIANNA PORTER		**OBJECT**	Submission ID: 218453
Organisation:	*N/A*	Key issues:	*Social impacts,Visual impacts, design and landscaping,Land use compatibility (surrounding land uses),Traffic,Other issues*
Location:	*New South Wales NSW*		
Attachment:	*Attached overleaf*		

Submission date: 11/25/2024 4:23:36 PM

Hi,

My speaker notes are already up, I am hoping I can still make a written submission. If only 1 is allowed please remove my speaker notes and just use the attached file.

Dianna Porter

Re: Proposed Plasrefine Plastics Recycling & Reprocessing Facility

74-76 Beaconsfield Road Moss Vale NSW 2577 (Lot 11, DP 1084421)

SSD Application No – 9409987

This submission is made by Dianna Porter [redacted]

I strongly object to the approval of the above State Significant Development by Plasrefine Recycling Pty Ltd. Whilst I support, in principle, the need for recycling and importantly reducing plastic waste, I have formed the view that the proposed location is inappropriate for numerous reasons detailed in the following pages.

1. Overview

There are two primary considerations

a) health & safety,
b) adequate approval process that protects the local community and the wider Greater Sydney water supplies

1.1. Health Safety & Environment

The Zoning classification for this type of facility is E5; heavy industrial due to the high risk of fires and environmental pollutants. The current zoning for the proposed site is partly IN2 (Light Industrial) and partly C4 (Environment Living). The proposed site is located in a bush fire prone zone and plastic recycling is a known hazardous industry with a high fire risk; the Department of Planning is required to assess these risks and uphold the protection of the community under the Environmental Planning and Assessment Act 1979. These risk criteria are related to fatality, injury, property and environmental damage.

This proposed refinery and reprocessing facility will:

- be in continuous operation (7 days per week, 24 hours per day).
- be designed to recycle a massive 120,000 tonnes per annum (TPA) of mixed plastic and polyvinyl chloride (PVC)
- manufacture plastic fibres and resins
- store up to 4,800 m³ of feedstock material at any one time in Building 1.

The proposed facility:

- is clearly a high-impact development, likely to generate hazardous pollution,
- has a high potential for fires and is located in a bush fire prone zone,
- is located in the Sydney Water Catchment area, and
- is adjacent to sensitive land uses.

It is clearly not the right site.

1.2. Incomplete Approval Processes

The development of Plasrefine is a prohibited development pursuant to Wingecarribee Local Environment Plan (WLEP). Although the Department of Planning Housing and Infrastructure (DHPI) has asserted the proposal is permissible "with consent", the required processes to determine and demonstrate that this assertion is correct **have not** been undertaken. For the proponent to utilize an innominate prohibited use, an assessment detailing that the use they propose is not one of the prohibited uses in the zone would need to be provided.

After careful review of the DPHI Assessment, I believe there are significant failures in the evaluation process that warrant rejection of this proposal: The documentation falls short on numerous occasions including:

- the architectural documentation,
- no land surveys,
- no civil or storm water surveys,
- inadequate detail on plant design,
- vague references to state-of-the-art technology but without detail,
- no explanation of how the site was selected as appropriate for this scale of industry,
- no Bush Fire Attack Level Assessment (BAL),
- no fire safety study,
- no hazard and operability study,
- no assessment of available emergency services,
- no Fire Brigade Intervention Model (FBIM),
- inadequate assessment on traffic and safety management with movement of heavy vehicles,
- no estimate of required volume of potable water for the operation of the facility,
- no designated fire-fighting water supply on site,
- a limited rainwater retention system,
- little information regarding contamination and site remediation
- discrepancies regarding the amount of waste water discharged and how nano and microparticles will be filtered,
- inadequate details on waste management,
- no details on the topographical difficulties to construct on this site,
- little or no assessment on visual impact of buildings and acoustic and vibration impact,
- inadequate details on processing flow sheets,
- nebulous details on air quality other than fast opening and closing of doors.

I am concerned about the huge number of conditions that have been relegated to conditions of consent which should be an integral part of the assessment process and the fact the proponent has no history of safely operating this type of facility in an environmentally accountable manner.

Furthermore, the proponent has been afforded 1140 days to submit information, whilst we, the community, have been granted 86 days to research, disseminate and present our arguments.

The DPHI in conjunction with Wingecarribee Shire Council needs to consider the Local Planning Policy in combination with the Southern Highlands Innovation Park (SHIP) Master Plan and:

- the relationship with the adjoining land zones, specifically the relationship with existing sensitive land use areas,
- consider the effect the recycling plant will have on existing and proposed residential areas including:
    - how the use will detrimentally affect the amenity of the neighbourhood with transport of material in heavy vehicles to and from the land,
    - the visual aspect of the buildings,
    - the emission of noise, artificial light spill and glare from a 24/7 operating facility, vibration, air-borne smells, fumes, vapours and dust, fires, waste water and waste product emission to land and water.
    - Devalue existing and future land and property values; there should be zero negative impact to local amenity and aesthetic enjoyment, with adequate separation distance between an industry and sensitive land uses

Any decision regarding land use should support the basic human right of health and wellbeing, and the DPHI must surely need to review emerging data on micro and nanoplastics in relation to human and environmental health; there is no evidence that has been done. Further, the community as well as the wider and local population should not suffer, or be subject to health risks, if it is shown that subsequent "**remedial action to alleviate off-site effects may be uneconomic for the operation.** If this is the case, clearly the proposed location is the wrong site.

For Greater Sydney to meet its 80% recycling target by 2030, a more appropriate site location must be found for a facility of this nature.

Reference sources:

Check if you're in bush fire prone land - NSW Rural Fire Service (checked on 24/11/2024, 74-76 Beaconsfield Road, Moss Vale - the parcel of land is within a designated bush fire prone area).

LGASearch | Planning Portal - Department of Planning and Environment

A reminder of the Court's approach to characterising development | Lindsay Taylor Lawyers

Industrial Planning and Approvals NSW

Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning

NSW Waste and Sustainable Materials Strategy 2041

2. SPECIFIC CONSIDERATIONS

2.1. FIRE RISK

Historically, fire brigades have attended numerous fires at waste facilities in Australia and these fires are usually large with consequently detrimental risk to the environment, the local community and the waste industry itself. Processes undertaken at waste facilities have higher risks than for other industries and result in great frequency and severity of fires. Plastic good manufacturing and processing (where plastic is one of the basic material in operations) including recycling and sorting waste plastics as being in the category of “High Hazard - Process Risks”(AS2118.1.2017 Table A4.1) seems the most appropriate for this facility. Plastic waste is a combustible material with a high volatile fire load with significant challenges for firefighting interventions and is classified under “Special Hazards” provisions under Clause E1.10 and E2.3 of the National Construction Code 2022 (NCC). Plastic fires spread quickly, burn very hot (up to 1200°c) and generate large amounts of dense, toxic smoke. Performance requirement CP9 of the NCC requires access to the building function, potential fire intensity, fire hazard, active fire safety systems and fire compartment size.

The most commonly recycled plastics are Polyethylene terephthalate (PET) and high density polyethylene (HDPE). These types of thermoplastics are ideal for recycling as they are easily softened, melted, reshaped and hardened by cooling. However, they need extremely high temperatures to melt – hence the high risk of fire incidences in plastic recycling facilities, which firefighters state are extremely hard to extinguish due to the high heat release rate.

Fires are highly likely to occur during several stages in the plastic recycling process.

a) During the initial storage stage. Before cleaning the compressed plastic has a high thermal core temperature and can combust releasing noxious fumes. Plasrefine state a ceiling sprinkler system will be installed in Building 1 and states that for Building 2 it is not mandatory as it is designated for reprocessing. Both buildings should have an in-rack sprinkler system. These systems are a network of pipes used in taller storage buildings with high hazard commodities. They continuously monitor for smoke and

release water to targeted areas for a quick response. The problem with only a ceiling sprinkler system, is that burning or smouldering plastic at the top of a stack may then harden as the water cools down, forming a plastic shield, making water penetration to lower levels impossible.

b) During the shredding process. Another source of fires is combustible dust cloud formation, which is a by-product of the process and when combined with the heat friction from the shredding machine creates a high risk of fires, igniting nearby materials.

c) During the Moulding process. The documents state that Building 2 will not contain combustible waste, however, it will contain combustible materials in the form of plastic flakes, pellets or powders or more advanced products such as PET sheets, plastic composites. These materials are also highly combustible. Extremely high temperatures are employed for moulding and extrusion of pellets into end products. The heating temperature for PET and HDPE is 270°c, although the heater bands on the machines are set to this temperature, the bands can reach temperatures of up to 500°c, well above the ignition temperature for PET and HDPE which is 340-440°c. This can also cause ignition of the products being melted or ignition of nearby materials. This building also requires fire and smoke detection and an in-rack sprinkler system for the stored combustible materials.

The **fire load density** of a plastic recycling facility is around **10 times** that of a plastic manufacturing facility. Large fires generate a lot of smoke and therefore visibility at 2m above floor level is only good for around 5 minutes. The maximum internal stockpile size in a building fitted with an automatic sprinkler system should be 1000m³not 4800m³as stated in Plasrefine documentation. With a stockpile of 4800m, including plastic for prewashing and shredded plastics in hoppers and taking into account other items including furniture and general waste I would estimate the fuel load per Building 1 would be 20GJ/m³. This is an extremely high fuel load, which would result in a catastrophic large-scale uncontrollable fire.

The facility should cater for a large emergency service response (e.g. multiple alarm and multiple agency). Are the access road designed to accommodate sufficient load bearing capacity for a fire brigade aerial appliance?

The local fire agencies in Wingecarribee Shire Council do not have the operational capacity, or possess the operational facilities to fight these types of serious chemical fires. Additional help is too far away for a good outcome. The Fire Stations of Moss Vale, Bowral and Mittagong are not permanently manned; they operate as retained fire stations. This means firefighters are on call and respond from their homes or workplaces via a pager system when emergencies arise. Moss Vale station is not only unmanned but is staffed entirely by public volunteers with only 1 pump truck. There is only have 1 Hazmat in the shire and a total of 4

trucks. Additional help is at least 76 kms away at Campbelltown or Shellharbour. A fire in a plastic recycling and refining facility of this capacity cannot be contained or extinguished as they generate their own fuel with catastrophic impacts and devastation, For example, a fire in a plastic recycling facility in Indiana, USA, in 2023 required mass evacuation of 2000 residents due to the heat and release of dioxin into the air. Dioxin is a highly toxic pollutant linked to cancer.

The USA recorded 390 fires in plastic recycling facilities in 2022, with 3 deaths and 63 direct injuries as a direct result. Fires occur regularly in these facilities; it is not if, but when they happen! In reference to a facility at Hume, ACT, which caught fire in December 2022 the temperatures reached over 1000°C and the facility burned to the ground after 4 days, as firefighters were unable to extinguish it. Moreover, the Hume facility only had a capacity of 150 TPA and not the 120,000 TPA being proposed. It is not unusual for much smaller waste recycling facilities to require 80+ firefighters, 15 pumps trucks and 6 Hazmat vehicles, yet still they cannot be extinguished, and have to burn out in their own time, meanwhile toxic plumes billow for days. In the interim residents, schools, and businesses require evacuation due to the thick black toxic fumes and smoke which can be lethal to health. The smoke from these fires cannot be contained, releasing dioxins, benzene, hydrogen cyanide, chlorine, carbon monoxide and VOCs into the atmosphere. Breathing in these fumes has the potential to cause asthmatic deaths, sarcoidosis, cancer, nervous system disorders, genetic impacts, developmental impacts, leukaemia and reproductive disorders. Quite simply, one death is one too many.

Failure to contain fire water run-off will result in significant pollution of the environment and Sydney Water Catchment. The buildings should have concrete bunds surrounding them to contain fire water run-off, but how can a facility be designed for such unknown quantities?

The proposed site is in a **Bush Fire Zone.** Consent conditions state a fire assessment would be submitted one month prior to construction commencement with the capacity of emergency services to also be assessed then. This is far too late!

- Is a Fire Engineer approved under the NCC involved?
- Has a BAL Assessment for the building been conducted.
- Has a Fire Brigade Intervention Model (FBIM) assessed the time between fire detection and application of water by the fire brigade.

According to an assessment for a proposed small recycling facility at Menangle, time for application of water by the local fire brigade (which are similar distances away than ours) would be in the vicinity of 60 minutes (considering travel time, time to don protective equipment, communicate with Fire Warden, assess the

property, connect and charge hoses) . **Help from other fire stations would be almost 100 minutes away** based on the FBIM.

Any fire that occurs would therefore spread very quickly without immediate mitigation measures. It seems that the fire risk assessment falls short in a number of areas. and I guide you the following document, in particularly page 4 (2) A) "Consideration of fire safety in all stages of a waste facility **including site selection,** planning design, assessment and operation.

B) Fire safety systems to be adequate to special hazards identified within a waste facility, taking into account the size of the facility and also additionally **meet the operational capacity of local fire agencies**.

Plasrefine should be required to have water tanks specifically for firefighting not relying on town water for fighting a large-scale fire.

Plasrefine documentation states plastic for processing will be washed with a patented mixture containing tea tree oil and essential oils. These are both highly flammable, potentially adding to the fire load. The water from the processing will be recycled and each washing process will increase the volume of these flammable plant oils. Additionally, plant oils may potentially leach into the environment with detrimental consequences.

Reference sources:

Please refer to the following documents:

Microsoft PowerPoint - FRNSW Waste Recycling Facilities SFS Seminar June 2018.
guidelines_fire_safety_in_waste_facilities.pdf
Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning (General Principles of Risk Assessment Page vii)
Check if you're in bush fire prone land - NSW Rural Fire Service
Hazardous Industry Planning Advisory Paper No 2 – Fire Safety Study Guidelines
Why Recycling Plants Keep Catching on Fire | TIME
Literature review and hazard identification relating to fire safety in commercial plastic recycling facilities - Courtney Devine, Natalia Flores, Richard Walls, 2023
https://www.thesafetymaster.com/fire-load-calculation-and-fire-risk-assessment/#:~:text=Fire%20load%20calculation%20involves%20determining%20the%20amount%20of,and%20make%2

2.2. NO BUFFER ZONE:

The proposed facility is too close to sensitive residential areas, being less than 150 metres away from existing dwellings. This type of hazardous industry with a high risk of fires and environmental pollution (air, noise, vibration, water safety) should have a buffer zone of several kilometres and be located in a specific sub zone as per the facility in Parkes, NSW. Newly zoned residential areas are located only 90 metres away.

Documents state Plasrefine will be approved to process 120,000 TPA (mixed plastic, PVC and plastic films) and to **manufacture plastic fibres and resins** of up to107,000 TPA of 'various plastic products, recovered metals or mixed plastic solids' This will impact the natural environment of WSC. Health risks for nearby residents include mucocutaneous and respiratory symptoms.

Noise & vibration impact, air quality, lighting impact and waste from the proposed refining and recycling facility will require an environment protection licence from the EPA under the Protection of the Environment Operations Acts (POEO Act).

Reference sources:

GHD Pty Ltd,Moss Vale Plastics Recycling and Reprocessing Facility Amendment Report dated September 2023 p.iii.

Planning circular – PS 21-031 – Planning and assessment guidelines for hazardous industry

Hazardous Industry Planning Advisory Paper No 10 – Land Use Safety Planning

Evaluating the Effects of Air Pollution from a Plastic Recycling Facility on the Health of Nearby Residents - PubMed

Does open-air exposure to volatile organic compounds near a plastic recycling factory cause health effects? - PubMed

(PDF) Assessing the environmental and health impacts of plastic production and recycling

Noise Policy for Industry (2017)

The potential for a plastic recycling facility to release microplastic pollution and possible filtration remediation effectiveness - ScienceDirect

Presence of airborne microplastics in human lung tissue - ScienceDirect

Index models for ecological and health risks assessment of environmental micro-and nano-sized plastics

The potential for a plastic recycling facility to release microplastic pollution and possible filtration remediation effectiveness - ScienceDirect

(PDF) VOC EMISSIONS FROM WASTE PLASTICS DURING MELTING PROCESSES

Compositions of Volatile Organic Compounds Emitted from Melted Virgin and Waste Plastic Pellets

Plastic pollution, explained - EHN
https://www.epa.nsw.gov.au/your-environment/noise/industrial-noise/noise-policy-for-industry-(2017)
Act summaries

2.3. INTER-INDUSTRY SEPARATION DISTANCES:

The proposed Plasrefine Recycling Facility location is adjacent and therefore too close to the existing Australian Bio-Rescources Institute (ABRI) (part of the Garvan Institute). The ABRI is a state-of-the-art facility for breeding Specific **Pathogen Free** Lab Mice to support medical research facilities in Australia. It is critical for animal based medical research, and staff need no disruption to access the ABRI facility. Additionally, breeding cycles can by severely impacted by noxious chemicals, noise and vibration and ABRI needs to be protected from any additional operating costs resulting from the construction and subsequent operation of the Plasrefine facility. The ABRI facility currently operates with minimal environmental impact. A fire at the proposed Plasrefine facility would have a significant impact on the air quality provided to ABR mice and may pose a **significant threat to the entire ABRI building**. Planning authorities need to ensure that their policies and controls are appropriately framed for managing incompatible inter-industry uses. Sub-precincts, dedicated to specific types of industry, within the SHIP Master Plan are a way of preventing and managing incompatible industries by ensuring separation distances.
Environmental Impact | Australian Bio Resources

2.4. ENVIRONMENTAL IMPACT:

2.4.1. Plastic is made of petrochemical products; the recycling of plastic releases these same chemicals, thereby creating a severe risk of air pollution, dust pollution, water pollution and odour pollution. These fumes, fine dusts and nanomaterials are extremely harmful to health; inhalation can cause permanent lung damage. The finer the particles, the more deeply they can be inhaled. Particles in the nano scale may exhibit characteristics unlike similar materials on a larger scale and must be classified appropriately.

2.4.2. The proposed facility is too close to sensitive land uses including several schools and childcare centres. GHD state all processes which may generate emissions would be located within fully closed buildings. There are 24 windows on the submitted plans for light and ventilation. Building 1 has four roller doors for trucks entering and exiting. These roller doors will be open for a minimum of 5 hours per day based on GHD's statement of 10 trucks movements per hour. Quoted from GHD's senior technical director, David Gamble – *"The factory's roller doors would be open for 2-3*

minutes per truck movement, totalling five hours per days between 7.00am and 6.00pm. Production would be halted when a door is open and resume once closed". Who will police this? If there are trucks queuing will all roller doors be open at once. He is also quoted as saying "*negative air pressure would prevent microplastic from escaping but acknowledged a small risk of microplastics breaking off during the bailing of crushed materials".* Clearly a risk assessment needs to be completed to identify how to eliminate these risks. **GHD states, "*If it is a windy day, residents are advised to limit time outdoors".***

This is a clear breach of a basic human right!

Residents, children at schools and at childcare centres have a basic human right to be outside and to breathe fresh uncontaminated air. Even with state-of-the-art pollution control, technology and practice, unintended emissions must be allowed for. Equipment failure, staff failure, accidents and abnormal weather conditions are among the causes leading to emissions affecting sensitive land use beyond the boundary of the facility.

This facility is not in the right zone. Separation distance or buffer zones may help to avoid the repercussions of industrial residual air emissions. However, if these emissions occur regularly the EPA must impose remedial action and these solutions may be costly for the proponent making the **facility not economically viable**. Responsible planning now by the DPHI needs to consider the potential impact of pollution and dust on sensitive land use taking into account the **size of the plant** (being the second largest in Australia, after Parkes, NSW facility) **near sensitive land use**.

To quote Dr Amanda Cohen, Greens MP, "*The status quo of private companies making development applications in a broken planning system that does not prioritise health and environmental outcomes—and that overrides councils—is delivering terrible outcomes, like this one in the Southern Highlands."*

2.4.3. WSC's Declaration of a Climate Emergency in 2020 is striving to obtain net zero emissions target to be met before 2050 and to effectively reduce carbon emissions. How will this facility be designed and operated to contribute to the zero emissions target?

Reference sources:

NSW Plastics: The Way Forward | NSW Environment Protection Authority

https://www.parliament.nsw.gov.au/Hansard/Pages/HansardResult.aspx?fbclid=IwY2xjawGuQZlleHRuA2FlbQIxMAABHSt9uXj8tI5H3_W9vtgAaXsv20exUX_joRxGy4EtjyIR4lKGSisOTwWldg_aem_JV7Q
https://www.cowellclarke.com.au/insights/the-epas-position-on-land-use-interface

2.5. SOCIAL & ECONOMIC IMPACT:

The Southern Highlands, touted recently as the Hamptons of Sydney, is a bucolic area located just a 90 minute drive south of Sydney - picture rolling green hills which were the backdrop for the movie “Babe”, featuring a pig of the same name. During Covid-19 many Sydneysiders made the move to the Southern Highlands, many deciding to make the area their forever home.

Moss Vale, with a population of 9310 in the last census of 2021, has a median age of 45 with an average of 1.8 children per family. This proposal will have a detrimental effect on the health, mental well-being and property values of these residents as well as residents in nearby suburbs and villages. The area is growing exponentially - in 2022 WSC approved another residential development, Ashbourne, Moss Vale, situated on a 124-hectare site that will have a total of 1,200 new houses. This is in addition to the Darraby Estate on the southern side of Moss Vale. Moss Vale town centre, which had many vacant commercial properties several years ago, is enjoying a revitalisation with new businesses and retail outlets, restaurants and refurbished hotels to cater for the increased population and popularity of the area for young families. Consequently, child-care centres have long waiting lists, and schools have higher enrolments than previously recorded. Moss Vale High School has become one of the best public schools in the state, subsequently attracting families from Sydney and beyond to make the move to our beautiful area. Current Socio-Economic Index Ranking for WSC is 108 on a scale of 1-128, with 1 being low and 128 high.

The Southern Highlands are renowned for agriculture, agritourism, viticulture, and tourism. It also has the largest equine stud industry in the state. This proposal will have a detrimental effect on these industries, including 50 vineyards, creating economic downturns and deleterious effects on attracting business, tourists and new residents to the Southern Highlands. This proposal will have a damaging impact on the growth and community dynamics of Moss Vale and surrounding areas.

Current scientific evidence shows terrestrial plants can potentially absorb micro and nanoplastics via the root system, translocating them to above ground portions via the vascular system, primarily driven by the transpiration stream. Livestock can ingest these particles and transmit to humans. Studies have

linked ingested particles with impacts on cell function, chronic inflammation and disruptions to the endocrine system. Our current 'clean and green' status will lose impact with direct effects on our viticulture, tourism, agriculture and farming industries. The proposed site is simply not the right one, being so close to these sensitive uses.

Reference sources:

2021 Moss Vale, Census All persons QuickStats | Australian Bureau of Statistics

Ashbourne by Novm | Now Selling | Mossvale

https://www.afr.com/property/residential/the-rich-list-region-that-s-become-sydney-s-hamptons-20241113-p5kqfy

The school that rocketed up the HSC rankings by 200 places

Discover the Southern Highlands wine sub-region of Australia

Australian Tourism Awards | Berrima, NSW

Maugers Paddock to Plate Tours | Tour | Robertson | Wingecarribee area | New South Wales

Robertson Truffles | Truffle Hunt Tours

Bendooley Estate | Berrima Southern Highlands | Wedding Venue

- Destination Southern Highlands

Assessing the environmental footprint of recycled plastic pellets: A life-cycle assessment perspective - ScienceDirect

2.6. LIGHT POLLUTION OR PHOTO POLLUTION (APPENDIX J IN PLASREINE FIRST EIS, NOT AMENDED IN SUBSEQUENT STATEMENTS):

There are proposed to be 48 outside lights on Building 1, 32 outside Lights on Building 2 and 8 outside lights for the administrative building - 88 in total, plus 100+street lights on the proposed north-south access road. The buildings are up to 17 metres in height and fill more than 50% of the 7.7 hectare site. The glare from this lighting combined with potential reflected brilliance from construction materials constitute light pollution for nearby residents. Presently these residents step outside to admire the star-studded sky, however, the proposed artificial illumination will only allow them to observe the glow of artificial lights. Scientific evidence documents 'artificial light at night (LAN) can disrupt circadian rhythm impacting health leading to cancers due to disruptions to the immune system'.

Reference sources:

Light pollution: Environmental impact and health risks | Live Science
Blinded by the Lights: The Impacts of Light Pollution - The Royal Society of Victoria
Artificial Light at Night and Cancer: Global Study - PMC
Artificial light at night and breast cancer risk: The findings from CECILE study (France) | European Journal of Public Health | Oxford Academic
Health Effects of Disrupted Circadian Rhythms by Artificial Light at Night - Lourdes K. Davis, Jacob R. Bumgarner, Randy J. Nelson, Laura K. Fonken, 2023

2.7. THE EFFECT OF INCREASED HEAVY VEHICLE MOVEMENTS:

Statements from the proponent regarding access roads are conflicting. Braddon Road is not a realistic option for heavy vehicles, with an estimate of one heavy vehicle every seven minutes. Trucks would need to accelerate up a ramp at the egress point on Braddon Road creating an unacceptable noise impact.

The proposal will also increase vehicle movements along Beaconsfield Road by 280 movements per day. Residents' amenity would be detrimentally affected by increased workers' traffic, heavy vehicular traffic from 7.00am to 6.00pm from the proposed refinery, noise, dust, diesel fumes, vibration, potential accidents or fatalities, importation of weeds and degradation of roads. The north end of Beaconsfield Road is only 4 metres wide for a distance of 800 metres and would require significant upgrade to take this amount of traffic. Furthermore, there is a childcare centre located in this Road.

The proposal would generate an extra 50 truck movements from Douglas Road, turning right into Berrima Road, increasing the likelihood of collisions.

The traffic movements of the proposed development should be modelled against a baseline scenario of full development of the surrounding area of the SHIP precinct to verify the suitability, or not, of the proposed traffic management measures. The applicant should demonstrate that the proposed design of the railway crossing will be viable and safe. Are appropriate arrangements in place for approvals, funding and ongoing management of the railway crossing? The proposed Parkes, NSW facility is perfectly positioned at the intersection of multi-modal transport infrastructure with enabling access to 80% of Australia's population within 12 hours. The Parkes facility will be located in a 4,800 hectare master-planned industrial estate located within a transport hub. The proposed site is not the right site given the number of large vehicle movements to and

from the site, accessibility, transport constraints, and safety for the general community.

Reference Sources

What's protected under the EPBC Act - DCCEEW
[Health risk assessment of traffic-related air pollution near busy roads] - PubMed
(PDF) Weed seed spread by vehicles: A case study from Southeast Queensland, Australia
Plastic recycling in the Parkes Special Activation Precinct

2.8. BIODIVERSITY LOSS:

Under the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC) Subdivision C – 'Listed threatened species and communities' – actions with significant impact on listed threatened species are prohibited without approval. The proposal site contains areas with biodiversity values of significance.

The construction of this refinery would require removal of habitat for:

- the Southern Myotis, a species of vesper bat, recorded by the EPA. This bat is on the **red** list for endangered species.
- the large bent-winged bat **listed as vulnerable**.

Its proposed location also requires the removal of tableland swamp meadows and mountain grey gums causing direct and indirect impacts on birds, insects, frogs, reptiles, koalas and kangaroos. It is well known that native habitat is essential for carbon storage and the protection of biodiversity.

Run-off from truck hard stand areas and uncontained runoff containing fire retardants during fires and clearing of riparian habitat will cause riverbank erosion and increased sedimentation in the Wingecarribee River, a habitat for local platypus. Platypus are endangered and any degradation of freshwater is a major threat for their survival. The State Government recently awarded the WSC $500,000 for monitoring and collecting data on the local platypus population. Additionally, a PhD candidate from Western Sydney University recently found high levels of nano and micro plastics in livers of deceased platypus (this is without an adjacent plastics recycling plant!). Water not contained at this facility during construction, during fires and when operating will be detrimental to the local platypus habitat and their long-term survival, potentially causing a significant increase of micro and nano plastics in organs of platypus.

Reference Sources:

platypus: evolutionary history, biology, and an uncertain future | Journal of Mammalogy | Oxford Academic
(13) Facebook
Southern Highlands Platypus Conservation Project | Wingecarribee Shire Council
Industry | Australia state of the environment 2021
Australia's biodiversity crisis and the need for the Biodiversity Council - Dielenberg - 2023 - Ecological Management & Restoration - Wiley Online Library
Pioneering research discovers PFOS chemical pollution in platypuses

2.9. LOCATED WITHIN THE SYDNEY DRINKING WATER CATCHMENT AREA:

Most of the drinking water supplied to Sydney, Illawarra region, Southern Highlands and beyond originates from rain stored in lakes surrounded by unspoilt native bushland in the Southern Highlands and Blue Mountains. The Southern Highlands, with its high rainfall supplies a disproportionate amount of water for Sydney to Warragamba Dam – Water NSW protects and manages this catchment which covers 16,000 square kilometres, and provides potable water to more than 4 million people in Sydney, Wollongong, Goulburn, Lithgow, Blue Mountains, Southern Highlands and Nowra (DPIE 2020a).

Four ponds are located in the low points of the proposed site and two watercourses run along the western and eastern boundaries. Four detention ponds are located at the low points of the site to capture storm water and other water run-off from the site. These ponds provide a significant risk of contaminating the two streams passing the site that feed into the Wingecarribee River and the regional drinking water supply system. , In accordance with the Strahler stream ordering system, the western watercourse is a second order stream which enters a concrete channel where it joins the eastern watercourse. The eastern watercourse, as per the Strahler stream ordering system, is a first order stream. The watercourse passes the eastern boundary of the site, then through a large dam shared with the neighbouring site (ABRI) and enters a concrete channel. The combined watercourse flows along the concrete channel, passes an industrial site and flows in a north-easterly direction, under Collins Road, until it reaches the Wingecarribee River which outflows to the Wingecarribee Reservoir. If any of the four ponds overflow there is potential for water run-off from hard-stand areas for trucks io infiltrate the water supply system. During fires Perfluoroalkyl Substances (PFAS) can soak into concrete and be released slowly into waterways, including the Wingecarribee River which is part of the Sydney Water Catchment. Therefore, micro and nanoparticles of plastic have the potential to enter the dam servicing Greater Sydney. The NSW government recently alerted us to the fact our drinking water

is carcinogenic due to presence of PFAS and are initializing research into minimizing this hazard, not increasing this risk!

The proposed development states that 400g/per day of microplastic will be discharged to the Moss Vale STP, potentially doubling the amount received at present. This will result in an increase in the amount of microplastics making their way into the Sydney Water Catchment via treated effluent. It is therefore paramount that any source of microplastics from Plasrefine are resolved and treated at the source not by Moss Vale STP which has no filtration in place for nano and micro plastics.

'A secure and safe supply of drinking water is fundamental to public health'. The NSW Government has endorsed the Australian Drinking Water Guidelines 2011 (published by the National Health and Medical Research Council and the Natural Resource Management Ministerial Council). The guidelines provide a solid foundation for assessing drinking water quality, by specifying health-based and aesthetic criteria as well as the philosophy of a "multiple barrier approach" from catchment to tap, so to ensure safety of the water'.

To quote GHD's Dr Mark Bowman – *'I am passionate about helping communities to transition to a sustainable future by providing clean water, air, and food. Some real highlights for me include working with our clients on emerging contaminants including PFAS. We need to really not allow these chemicals into the environment in the first place. It often doesn't matter what the chemical is, we don't want it in our drinking water. We don't want it in our food. We want to have safe, breathable air. We want to have safe drinking water and it is best to ensure that we are not releasing chemicals into areas that are for food and water".* This statement from a senior figure of the company acting on behalf of Plasrefine to secure consent to build the facility in its proposed location seems very contradictory to the justification claims made by other parts of the same organisation. Almost hypocritical, one might say.

Reference sources

(25) Dr Mark Bowman | LinkedIn
5 Critical PFAS Insights Worth Remembering | GHD Insights
Safe drinking water
PFAS IN DRINKING WATER - Search
New draft limits on PFAS in Australia's drinking water released by national medical research body - ABC News
https://consultations.nhmrc.gov.au/environmental-health/australian-drinking-water-guidelines-2024-pfas/
PFAS forever chemicals above drinking water guidelines in global source water

Funck, M., Al-Azzawi, M. S., Yildirim, A., Knoop, O., Schmidt, T. C., Drewes, J. E., & Tuerk, J. (2021). Release of microplastic particles to the aquatic environment via wastewater treatment plants: The impact of sand filters as tertiary treatment. *Chemical Engineering Journal*, *426*, 130933.

2.10. MIXED RESIDENTIAL AND INDUSTRIAL ZONING:

The land purchased by Plasrefine consists of 2 lots, one zoned IN2 Light Industrial and the second zoned C4 Environment Living. Several residences will be built here within 90 metres, however, they were not aware that the Light Industrial zoning would mean they would have a petrochemical processing plant adjacent.

The Master Plan for the enterprise development referred to as the Southern Highlands Innovation Park (SHIP) identified the site for innovation and business park uses, ideally attracting biotech industries, research facilities, agri-research, light industry and biotechnology and is earmarked to become a major economic driver for the shire and future employment for next generations. The Plasrefine refinery will be detrimental to the long-term aims of the SHIP, deterring the SHIP from attracting sustainable businesses who will not desire to set up next to a heavy industrial refinery with hazardous materials, high potential for fires and pollution and large numbers of heavy vehicle movements on shared roads. The huge utilitarian scale of the buildings do not share the aspirations of the SHIP which aims to attract architectural design, sustainable materials and processes, and low scale built form to minimize visual impact.

Recycling facilities, due to high risk of fires and pollution from hazardous materials are usually zoned E5 Heavy Industrial and have a buffer zone from other land uses due to adverse effects. WSC secured funding from the State Government of NSW to undertake a masterplan and governance model for the delivery of the largest employment land south of the aerotropolis and Plasrefine will undermine the vision and critical strategic work. The WSC has stated that it is not opposed to a plastic refinery just **NOT AT THIS SITE** as it is not consistent with the overall masterplan. Council and Wendy Tuckerman, MP, Member for Goulburn, have proposed other sites in the WSC.

According to the DoP the risk criteria for land use safety planning must take serious account of community concerns.

Relevant general principles are:

- The avoidance of all avoidable risks;

- The risk from a major hazard should be reduced wherever practicable,even where the likelihood of exposure is low;
- The effects of significant events should, wherever possible be contained within the site boundary; and
- Where the risk from an existing installation is already high, further development should not pose any incremental risk.
- (HIPAP 4: Risk Criteria for Land Use Safety Planning).

Reference Sources:

Hazardous Industry Planning Advisory Paper No 10 – Land Use Safety Planning
LGASearch | Planning Portal - Department of Planning and Environment

2.11. VISUAL IMPACTS, PSYCHOLOGICAL IMPACTS, AND PROPERTY DEVALUATION:

1. The conceptual design indicates buildings will be 17 metres in height and 120 metres long (the size of 3 Bunnings stores) and there is no buffer zone for nearby residents. The visual impact due to the bulk of the buildings which is exacerbated by the topography of the land to the north-east will present a view of abnormal bulk to nearby sensitive land users.

   Increased trucks and workers vehicles, numerous lights creating glare all night, operational and vehicular noise, operational vibration, fire threats and pollution will impact greatly on the property values of nearby residents and will also impact their enjoyment of their surroundings causing stress and subsequent mental health related issues. It is not good enough to quote the GHD consultant "*limit your time outdoors*". The proposed refinery in Parkes, NSW, has a buffer zone of at least several kilometres and located in a Sub-Precinct for like industries.

   The environmental stigma and public health concerns of this proposal should allow residents to claim diminution of property value.

   Waste Sites and Property Values: A Meta-Analysis | Environmental and Resource Economics

   Diminution of Property Value | Environmental and Toxic Tort Defense Insight

   Exposure to waste sites and their impact on health: a panel and geospatial analysis of nationally representative data from South Africa, 2008–2015 - The Lancet Planetary Health

2.12. RATEPAYERS BURDEN:

Increased heavy vehicle truck movements will increase the burden on ratepayers of the WSC for road maintenance.

There is also a potential burden on ratepayers for sewerage plant and water filtration upgrades.Presently the Moss Vale Sewerage Treatment Plant (STP) has no specific treatment element to remove micro and nanoplastics, which are an emerging contaminant. An upgrade is in process to be completed in 2026 and mainly to cater for an increase in population and hydraulic capacity. The new design has no infrastructure for microplastic removal.

This proposed development states that 400g/per day of microplastic will be discharged to the Moss Vale STP, potentially doubling the amount received at present. This will result in an unacceptable increase in the amount of microplastics making their way into the Sydney Water Catchment via treated effluent.

It is therefore paramount that any source of microplastics from Plasrefine are resolved and treated at the source, not by the Moss Vale STP.

2.13. HUMAN RIGHTS:

A basic human right is the right to have a clean, healthy, sustainable environment, now and for future generations. At present Australia is the only liberal democracy in the world that does not have a National Act to protect its citizens' basic rights. However, in an Australian first, the ACT introduced a Human Rights (Healthy Environment) Amendment Bill to the Legislative Assembly on 26 October, 2023. This law obligates the Government to address harm and to fulfil the rights to health, clean air, safe water, non-toxic environments to live in and a healthy eco-system. Other states will follow. How will the NSW government address this when it is legislated in NSW state law, close the refinery? A copy of the Bill and the Explanatory Statement is available at https://www.legislation.act.gov.au/b/db_68569/

2.14. PERSONAL IMPACT:

Living only 2.38km (in a straight line) from the proposed facility I feel that I will be detrimentally impacted for the following reasons:

a) Environmental impact from fires, I may have to evacuate
b) Increased heavy truck movements on suburban roads will directly impact the amenity of my suburb
c) Decreased property value directly due to an industrial facility of this size in my suburb

d) Increased council rates to pay for road maintenance and upgraded sewerage and water filtration due to the proposed facility
e) Risk of contaminated drinking water
f) Decreased population and potential decreased income streams of Southern Highlands residents will directly impact upon my income stream
g) Potential health impacts including cancer and respiratory disorders from air-borne dust, pollution and settling of microplastics in the environment, decreasing life expectancy
h) Environmental and visual impacts on my enjoyment and liveability of the Southern Highlands
i) Health anxiety and stress directly related to all the above

2.15. REMEDIATION PLAN:

When the recycling facility closes or is destroyed by fire, will Plasrefine remediate the land at their cost? Do we the taxpayers have to foot the bill twice, once to set up the waste and road infrastructure to facilitate the factory, and secondly to clean it up?

Clearly, society as a whole needs to reduce its use of plastic. I believe that **every shire** should be responsible for their own waste. Third world countries will not accept our rubbish; why should they? However, it seems the Southern Highlands and other regional areas of New South Wales are expected to become the dumping ground for waste from greater metropolitan Sydney and other areas.

3. SYNOPSIS:

1) The proposed site is not suitable for this type of industry, it is an innominate use and is not in keeping with the Master Plan for the SHIP Precinct.
2) It is too close, with no separation zone to sensitive land uses and housing.
3) It is located within the Sydney Water Catchment area.
4) It proposes significant physical hazards, i.e. fire and multiple categories of pollution.
5) There are insufficient resources in the WSC for fighting the type of fires which regularly seem to occur in these facilities.
6) There will be significant traffic impacts on local roads not designed for the type of use they will be subject to.
7) There will be a burden on WSC Sewerage and water filtration systems and ratepayers
8) There will be biodiversity loss

9) It will create health hazards i.e. toxicity and carcinogenicity

10) It will create environmental hazards - hazardous to the Sydney Water Catchment area, the aquatic environment and air-borne pollution risks

11) It will create a negative Socio-economic impact on existing industries and businesses.