Moss Vale Plastics Recycling Facility

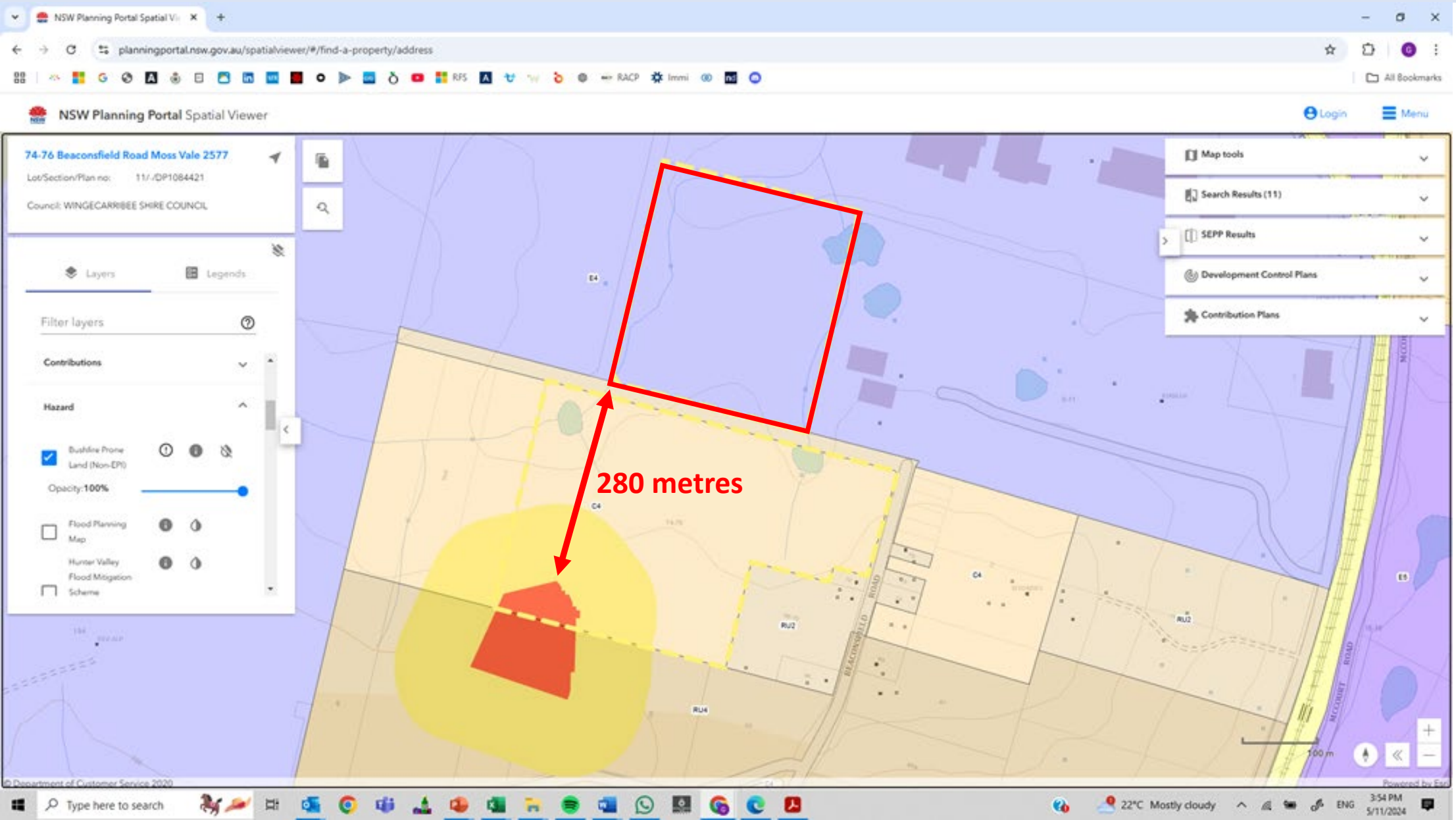
Submission to NSW Government Independent Planning Commission

12 November 2024

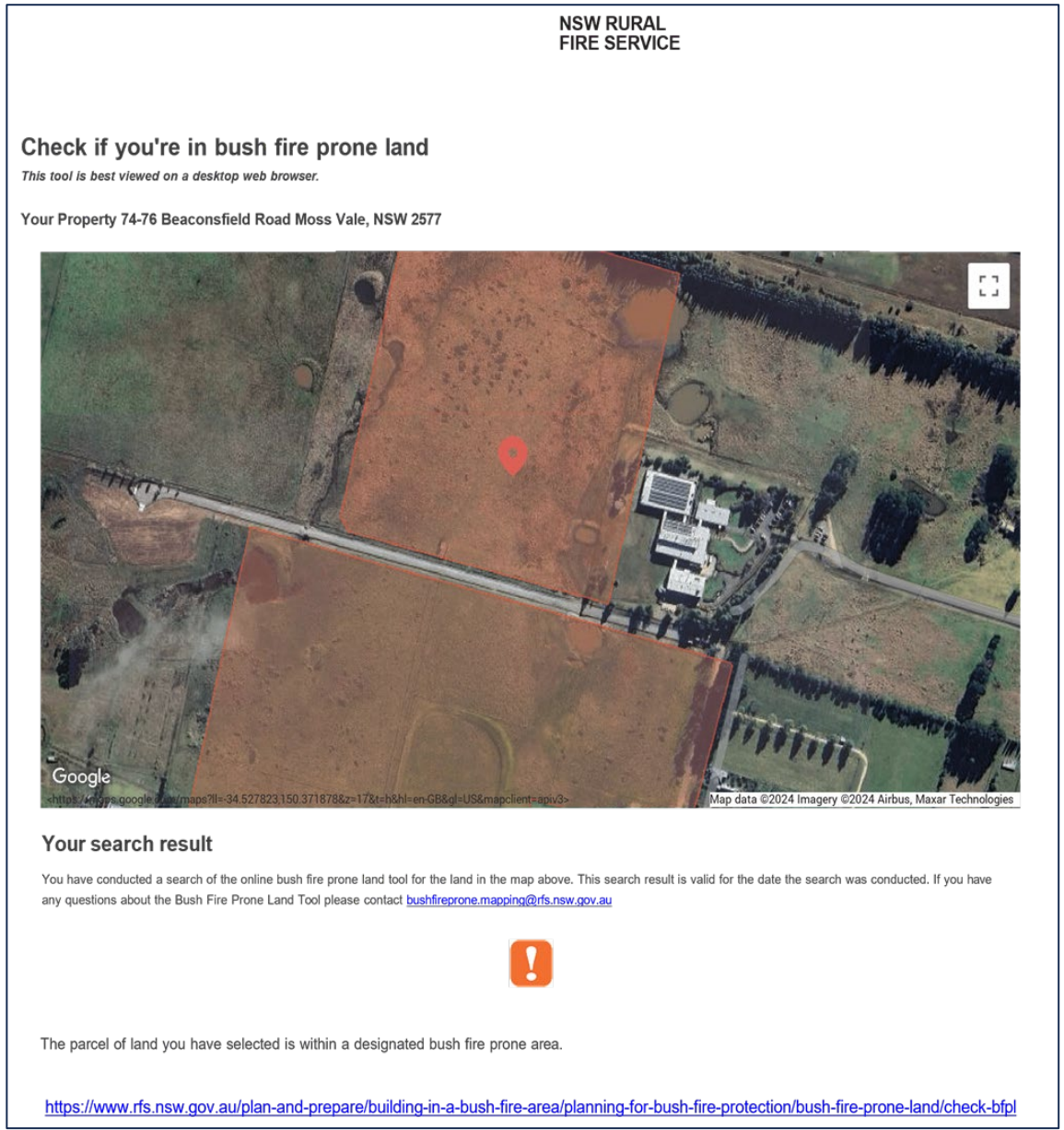
Greg Hickling- Moss Vale

Bushfire Prone Land

Site Location



Bushfire Prone Land



NSW RURAL
FIRE SERVICE

Check if you're in bush fire prone land

This tool is best viewed on a desktop web browser.

Your Property 74-76 Beaconsfield Road Moss Vale, NSW 2577

Your search result

You have conducted a search of the online bush fire prone land tool for the land in the map above. This search result is valid for the date the search was conducted. If you have any questions about the Bush Fire Prone Land Tool please contact bushfireprone.mapping@rfs.nsw.gov.au

The parcel of land you have selected is within a designated bush fire prone area.

https://www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area/planning-for-bush-fire-protection/bush-fire-prone-land/check-bfpl

- Letter from NSWRFS to NSW Dept of Planning and Environment dated 8 October 2020 erroneously stated *"….the site is not deemed to be located on bushfire prone land."*

- Planning Circular PS 21-010 - State significant developments (SSD) *"...will require a bush fire safety authority (BSFA) from the NSWRFS Commissioner under Section 100B of the Rural Fires Act 1997."*

- Draft Planning Circular PS23-xx (pending replacement of PS 21-010) will require *"…planning proposals …within 700 metres of land mapped as 'bushfire prone land' ….must consult with the Commissioner of the RFS under section 10.3 of the EP&A Act"*

- While SSD are not subject to these requirements, the Circular states *"..it is suggested that the development standards aims and objectives as specified in the PBP be considered" and "Seeking advice from the RFS is encouraged."*

Bushfire Protection

Property and first responders

- DPIE is required to consult with NSWRFS in respect of SSDs located in Bushfire prone land.

- Important concepts:
  - Bushfire protection measures
  - Asset Protection Zones
  - Building construction, siting and design
  - Access arrangements
  - Water supply and utilities
  - Emergency management arrangements
  - Landscaping
- NSWRFS guidance
  - Determine vegetation formation
  - Assessing remnant bushland and narrow vegetation corridors
  - Bush Fire Design Brief
  - Bush Fire Management Plan
  - Pre-DA advice and qualified consultation
- First responders
  - Safety and welfare first
  - Risk assessment

- **Key reference source: Planning for Bushfire Protection – A guide for councils, planners, fire authorities and developers, November 2019**.

Department of Planning Housing and Infrastructure

State Significant Development Report (SSD-9409987)

- **Plasrefine Application**
    - Fire risk identification, assessment and mitigation strategies summarised in “Fire Management” section consisting of three points

- **DPHI Assessment**

“*The Department considers the key assessment issues are:*

- *social impacts*
- *visual impact, design and landscaping*
- *impacts on the ABR facility*
- *operational traffic*

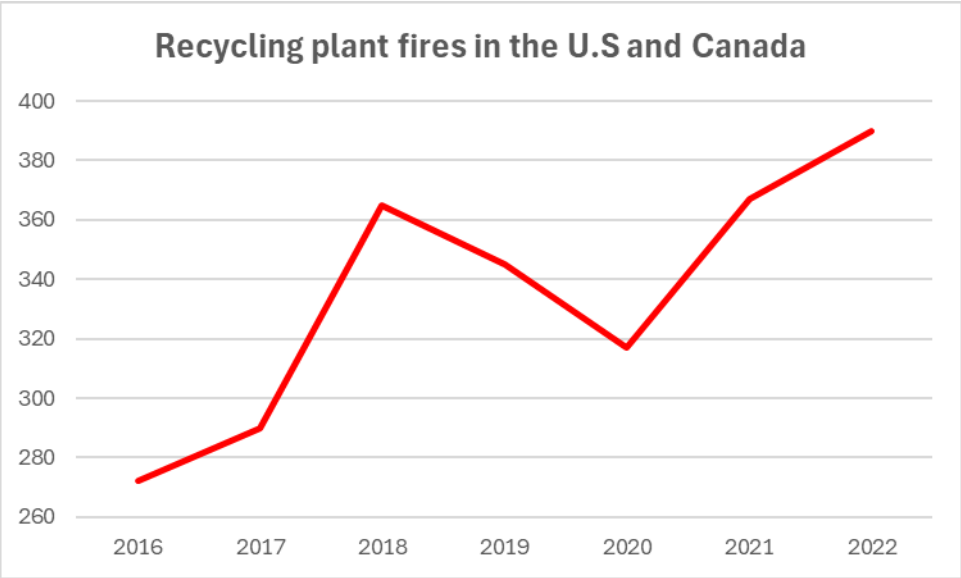
A number of other issues have also been considered. These issues are considered relatively minor…”

Bushfire risk has not been considered at all despite designated Bushfire Prone Location. NSW RFS has not been consulted.

No risk assessment of plant fire risk by Plasrefine and DPHI regards fire risk as relatively minor.

Fire Threat

Internal



Source: *Why Recycling Plants Keep Catching on Fire*, Ciara Nugent, Time Magazine, April 2023

- Historically underreported and significant lack of research data on fire in recycling facilities
- Increased number of recycling facilities
- Increased volume of materials
- Climate change

- Plasrefine application identifies "*20,000t of unprocessed plastic onsite at any one time*"
  - Plus undisclosed volume of processed plastic product
  - Plus undisclosed quantity of unidentified chemicals used in processing
  - Plus *"…10,000t p.a. of residual waste (wood, stones, etc…)"*

- 40 % of recycling fires caused by lithium battery combustion within recycling materials

- Fire loads in plastic can be as high as 20GJ/M^2 - equal to approximately 450 domestic gas fireplaces.
  - Proposed storage receiving area of 22,800M^2
  - Proposed processing facility of further 8400M^2

Fire Management

Resourcing

- **DPHI Assessment**

The Applicant advised there were three fire trucks near the site, which would be effective as first attack units. More fire trucks are available in Campbelltown and Wollongong, if required.

Incident	Resources Utilised	Notes
Deer Park, Vic (2024)	20 appliances, 80 personnel	Major arterial road closed, residents in 5 neighbouring suburbs ordered to lockdown
Smithfield, NSW (2023)	25 appliances, 100 personnel	
Keysborough, Vic (2023)	33 appliances, 120 personnel	Residents within a 4km radius ordered to lockdown
Richmond IA, USA (2023)	11 alarm fire – over 80 appliances and more than 300 firefighters	2000 residents within 1km evacuated 2 days to control fire and 6 to extinguish
Athens, Greece (2020)	10 appliances, 49 personnel, 2 helicopters	Major highway closed due to toxic smoke
Kilburne, SA (2010)	18 appliances, 70 firefighters	Residents within a 500m radius evacuated

Richmond Iowa, USA is the closest in size to the Plasrefine proposed site.

Fire Event

Impacts

- Specialist Hazchem response resources and aerial appliances at least 1 hr away in Wollongong and Campbelltown.
- Local NSWRFS and FRNSW CABA resources overwhelmed by anything other than a minor fire at this location.
- Similar incidents suggest defensive firefighting only ie. let it burn itself out and prevent spread to neighbouring properties.

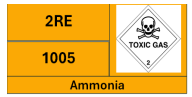
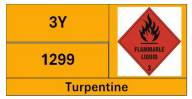
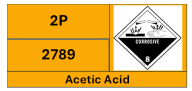
- Impacts are not limited to property damage and business interruption
- Long lasting impacts
  - Contamination of water supplies
  - Damage to plant life
  - Noxious fumes causing respiratory complications to surrounding population

Fire Management

Hazardous Chemicals

- **DPHI Assessment**

The Applicant undertook a preliminary risk screening in accordance with State Environmental Planning Policy (Resilience and Hazards) which identified there would be no hazardous materials stored on the site.

Chemicals Commonly Used In Plastic Recycling*		
Common Name	**Hazchem Code**	**Emergence Response Guidelines**
Methanol		Toxic. May be fatal if inhaled. Vapour may be explosive. Evacuate to at least 800m
Ethanol		Highly flammable. Explosion hazard. Toxic gases. Evacuate to at least 800m
Ammonia		Toxic and/or corrosive. Toxic gases. Pressurised cylinders may explode. Isolate to at least 1600m
Hydrocarbons		Vapours may form explosive mixtures with air. In case of fire, isolate for at least 800m
Turpentine		Vapour explosive hazard. Highly flammable. Evacuate to at least 800m
Acetic Acid		Toxic and/or corrosive. Fire may produce toxic gases

*Plasrefine has not disclosed in its application the chemicals to be used in the recycling process

Conclusion – Key questions

- Are the applicant, DPHI and IPC aware that the proposed site is designated “Bushfire Prone Land?”
- Is there any intention to consult with and seek planning guidance from the department of the NSWRFS Commissioner?
- Is the IPC satisfied that the likelihood and impacts of a major fire have been adequately assessed and addressed and that a detailed and robust facility and community disaster plan has been developed?
- Has a detailed study been completed to identify and quantify the resources that would be needed for a major fire response at the proposed facility?
- Are the applicant, DPHI and IPC aware of the limitations of local fire fighting resources and the location and required travel times of specialist, major incident response appliances?

References

- Letter from Alastair Patton, NSWRFS to Emma Barnett dated 8 October 2020
- "Construction of building in bushfire prone areas" Australian Standard AS 3959:2018
- "*Development on bushfire prone land*" Planning Circular PS 21-010, NSW Government, 2 December 2021
- "*Development on bushfire prone land*" Draft Planning Circular PS 23-xx, NSW Government – pending issue
- "*Planning for bushfire protection – A guide for councils, planners, fire authorities and developers*" NSW Government and NSWRFS, November 2019
- "*Standards for asset protection zones*" NSWRFS
- "*Literature review and hazard identification relating to fire safety in commercial plastic recycling facilities*" Devine, Flores and Walls, Journal of Fire Sciences 2023, Vol 41(6) 269-287
- "*Why recycling plants keep catching fire*" Nugent, Time Magazine, 13 April 2023
- "*Fire safety in waste facilities*" NSW Government and FRNSW, Version 02.02 issued 27 February 2020
- "*Fire safety in waste recycling facilities*" presentation by Jamie Vistnes and Michael Henly NSWRFS, 20 June 2018
- "*Access for fire brigade vehicles and firefighters*" NSW Government and FRNSW, Version 05 issued 4 October 2019