Submission No 560

INQUIRY INTO IMPACT OF THE WESTERN HARBOUR TUNNEL AND BEACHES LINK

Name: Diane Thakur

Date Received: 6 September 2021

The Hon Daniel Mookhey MLC
Chair
Parliamentary Inquiry into the impact of the Western Harbour Tunnel and Beaches Link

Dear Honourable Member Mookhey,

I attach my main submission (which is in two parts) outlining my concerns about the Western Harbour Tunnel (**WHT**) and Beaches Link (**BL**) Projects, together with appendices which provide more detail (collectively referred to as "Submissions").

1. The Submissions address **terms of reference (e) the impact on the environment** by outlining:

- potential detrimental impacts of the WHT and BL Projects on the **health and well being of children,** both during their construction and during their operation; and

- the inadequacy of proposed mitigation measures to keep children safe: see Main Submission and Appendix 1.

- risk of harm to children living, playing sports and going to school in close proximity to the construction site at Cammeray Golf Course **from exposure to respirable crystalline silica** (**RCS**) dust and additional mitigation measures recommended by Ian Bridge, an environmental scientist, university lecturer, and expert on non-occupational exposure to **RCS** dust, to keep children safe (**Recommended Mitigation Measures**): see the separate paper on this issue in Appendix 2.

- the risks of exposure to of sensitive user, including children, to contaminants in relation to the BL and WHT Projects, and the inadequacies of the Contamination Reports (Detailed Site Investigation Reports), in relation to the WHT and WFU Early Works: see Main Submission.

Mr Bridge is willing to be contacted by the Public Works Committee to discuss the RCS paper and the Recommended Mitigation Measures.

The Main Submission discusses:

- the risk of exposure to construction dust, which includes RCS dust, as seen during the WestConnex Projects: see section 6.1

- the inadequacies of proposed mitigation measures to control dust: see section 6.3

- the Environmental Impact Statements which confirm that the proposed mitigation measures cannot control dust exposures on dry, windy days, and children will be impacted: see section 6.4

- the lack of a buffer zone between the construction sites and schools and parks and playing fields needed to keep children safe: see section 6.5

- the undertakings sought from EPA, TfNSW and DPIE in relation to the Recommended Mitigation Measures: see section 5

- the inadequacies of the decision by TfNSW not to require the implementation of the Recommended Mitigation Measures in its tender documents: see section 8 and the failure by the DPIE to respond concerning the Recommended Mitigation Measures in relation to the WHT Projects: see section 11

- the inadequacies of the EPA's decision not to implement the Recommended Mitigation Measures in the EPL licence: see section 10

- the risks of exposure to contaminants in relation to the BL and WHT Projects, and the inadequacies of the Contamination Reports (Detailed Site Investigation Reports), in relation to the WHT and WFU Early Works: see sections 12 - 13 inclusive.

Additional Experts

Dr Brian Plush

I have contacted Dr Brian Plush, a silica and respirable dust mitigation scientist and particulate matter expert: linkedin.com/in/dr-brian-plush-72b77a1b Dr Plush has indicated that he is willing to be contacted by the Public Works Committee to discuss potential particulate exposure of school children from the construction site and from diesel trucks, as well as the limitations water misting/suppression as the mitigation measures for RCS dust exposure.

Dr Wayne Davies

Dr Wayne Davies, is a PhD chemical engineer and director of his company SN2 Pty Ltd. He has consulted on contaminated sites and their remediation, a highly relevant report of 2012 being on coal tar contamination at Barrangaroo, a legacy of AGL's gasworks.

He would be pleased to take questions on notice, from the Public Works Committee on the nature of the contaminants at the dive sites at Cammeray and Northbridge. He is particularly aware the synergistic adverse health affects of mixed contaminants, notably toxic metals. In plain terms, this is where the combined toxicity of two or more contaminants can be significantly greater than that of each considered individually.

2.The Submissions also addresses **terms of reference (d)** as it considers (**poor) governance** in the decision making processes. In particular:

2.1 The WHT and BL Projects have the potential to be contrary to human rights

The WHT and BL projects have the potential to be contrary to Article 24 of the Convention on the Rights of the Child, which states that all children are entitled to "the enjoyment of the highest attainable standard of health".

Ses Appendix 1 to Main Submission.

2.2 The WHT and BL Projects have the potential to be contrary to Sharma's decision

A court is likely to apply *Sharma's* decision to the exercise of any powers under NSW legislation which control environmental impacts of activities such as infrastructure projects. Accordingly:

- The EPA and DPIE must consider harm to children, and have an ongoing duty of care to children, to ensure that they are not harmed by the WHT/WFU Project - the EPA in exercising its powers to grant Environmental Protection Licences and the DPIE in approving Construction Environmental Management Plans and Monitoring Plans under the WHT/WFU Conditions of Approval.

- The Minister for Planning, Industry and the Environment should not approve the BL Project unless the Minister considers whether the Project will harm children and unless there are sufficient mitigation measures to ensure that children will not be harmed by the project during, and after, its construction.

See *Sharma by her litigation representative Sister Marie Brigid Arthur v Minister for the Environment [2021] FCA 560 at para 404 and 491*, discussed at Section 7 and 12 of the Main Submission.

2.3 The WHT is inconsistent with planning precedents, including:

- **planning rules** which require a 500 metre buffer zone between schools and sites with RCS dust emissions: see section 6.5 and 11.2
- **Social Impact Assessment** guideline: see section 11.1
- **previous planning decisions** which have prohibited projects where schools are less than 500 metres from silica dust exposure sites : see section 11.2.

2.4 contrary to best practice

Ambient RCS limits and monitoring are required by Victoria's EPA and in California: see section 10.3

The **Northside Storage Tunnel** stored all tunnelling spoil underground and had no spoil removal by trucks in the same urban areas as are affected by BL project: see section 8.

3.The Main Paper also addresses **terms of reference (b) - the adequacy of the consideration of alternative options**.

The Main Submission shows that there has been inadequate consideration of alternatives to removing the tunnelling spoil by trucks, as required by Condition E134. See the precedent of **Northside Storage Tunnel** which removed spoil by long haul conveyors, barges and rail - discussed in section 8.

There was also no consideration of public traffic alternatives to the BL and alternative alignments to the WHT - both are feasible as demonstrated by plans drawn up by tunnelling expert, Ted Nye. I understand that public transport alternatives are considered to WEPA's submission to the Parliamentary Inquiry (attaching a light rail/electric bus connection between Chatswood and Frenchs Forest drawn up Ted Nye) and diagrams of the alternative alignment to the WHT are attached to Ted Nye's submission to the Parliamentary Inquiry.

If trucks are to be used, no consideration has been given to using EV trucks or retrofitting trucks with batteries.

4. The Main Paper also addresses **terms of reference (i) - dealing with lack of transparency**.

There has been a lack of transparency as TfNSW have not shared with the public, nor with the DPIE and EPA:

- internal reports and audits on the safety of past road infrastructure projects (also acting contrary to the Recommendation 16 of the WestConnex Parliamentary Inquiry Report): see section 16.

- all contamination testing results relating to the WHT and BL Projects (soil and groundwater), contrary to **RMS Contaminated Land Management Principles** to openly disclose information relating to the contamination status of land: see section 14.

5 The Main Paper also addresses terms of reference (a) - the adequacy of the business case for the project, including the cost benefits ratio

The Main Paper deals with health environmental impacts of the Projects which will need to be taken into account in any analysis of the business case for the Projects. Additional matters that need to be taken into account are outlined below.

5.1 Health impacts

The WHT business case, and the BL business case (if available), do not appear to take into account, or underestimates, the health impacts associated with the Projects, particularly the disproportionate impacts on children attending school, using playing fields and living in close proximity to the construction works.

Public Health Association of Australia previously recommended that any business case analysis for major road infrastructure projects take into account detrimental health impacts: https://www.phaa.net.au/documents/item/2973 PHAA has outlined the nature of the health impacts which should be taken into account in their submission on the WestConnex Projects and their analysis is also applicable to the WHT and BL Projects.

The Projects' impacts on children will not only have short term, but may have long term, impacts. Research shows that exposing children to environmental hazards has lifelong impacts. see *Early environmental exposures and life-long risk of chronic non-respiratory disease* Vilcins, Dawn & Cortes-Ramirez, Javier & Currie, Danielle & Preston, Paige, (2021) Paediatric Respiratory Reviews. 10.1016

5.2 Costs of remediating dive sites located in old landfills at Northbridge and Cammeray

The WHT Business Case does not take into account the costs of remediating the construction site and disposing of hazardous/restricted waste, at Cammeray Golf Course, where there is widespread contamination, reflecting its probable former use as a landfill. This is because the WHT EIS did not assess this risk.

The EPA in 2000, and a Section10.7/149 Planning Certificate obtained in 2014, raised the possibility that Cammeray Golf Course was formerly used as an old landfill. Contamination has been found throughout Cammeray Golf Course in previous investigations (in 2014, 2017 and

2018) and in recent testing by Jacobs and SMEC (in 2020 and 2021), suggesting the whole site is contaminated. Unless rigorous testing shows otherwise, the **precautionary approach requires the whole site be remediated before further work is carried out**.

Contaminated spoil with elevated benzo(a)pyrene levels found at the Golf Course in 2018 was classified as hazardous/restricted waste, and, accordingly, excavated spoil should not be stockpiled on-site. Contaminated spoil should be moved as soon as possible to a landfill authorised to deal with such waste. Works should not proceed until a confirmed landfill for a potentially large volume of contaminated spoil has been found. Additional testing is needed to determine the nature of the coal combustion waste on site and if there is PFAS.

In relation to the BL Project, the business case (if any) either does not take into account, or under estimates, the costs of remediating Flat Rock Gully site as the BL EIS does not identify potential industrial and medical waste (as detailed in WEPA's submission) nor has there been testing for PFAS, Dioxins and Chromium 6 which is likely to be there based on historical records.

There are restrictions on stockpiling PFAS spoil in flood prone areas (as is the case at Flat RockGully) and the spoil will need to be moved as soon as possible to a landfill authorised to deal with such waste (and other contaminants). Works should not proceed until a confirmed landfill for a potentially large volume of contaminated spoil from the Flat Rock Gully site has been found.

5.3 Property Damage

Correspondence with WHTBL team indicates that the costs of property damage from the BL tunnel has not been assessed, and will only be done post approval. This could be significant given that there is potential groundwater drawdown is up to 35m in some areas of Willoughby/ Northbridge.

Consideration should be given as to whether the WHT business case has taken into property damage from the WHT/WFU Project, or whether this was a unquantified cost when the business case was prepared.

5.4 Pollution Incidents

The Business case for the both Projects do not appear to take into account the costs of dealing potential pollution incidents. This could arise given that:

- the AMSA considers that the mitigation measures for dealing with re - dispersal of toxic sediments during the dredging of the Harbour are not fully effective; and
- the dive sites in Northbridge and Cammeray are in flood prone areas and the site at Northbridge is a former landfill Northbridge (with PFAS and Dioxins as likely contaminants) and the site at Cammeray is in a likely former landfill (with contamination associated with coal combustion products). The risks could be dealt with through remediation, although this has not yet been proposed by TfNSW.

There is no obligation for contractors to provide a bond to deal with pollution incidents so currently the cost of any pollution incident would be borne by the tax payer.

5.5 Anticipated increase in costs following recent Court decisions

Bushfire Survivors for Climate Action Incorporated v Environment Protection Authority

The Business case for the both Projects also do not take into account possible increases in project costs following the decision in *Bushfire Survivors for Climate Action Incorporated v Environment Protection Authority* where the EPA was ordered to develop objectives, policies and guidelines that ensure environment protection from climate change. Although the EPA has a discretion as to the specific content of the instruments it develops, it is possible that the Projects ' costs could increase. By way of example, the Projects costs could increase if the EPA were to impose a price on carbon (noting the Project will result in an increase in GHGs), or if the EPA were to regulate emissions via licences by requiring more sustainable building materials to be used during the project, such as requiring cement with lower CO2 emissions.

Further court decisions requiring governments to do more to to ensure environmental protection from climate change can be anticipated following recent Australian and international precedents.

Sharma's case

The Projects have been costed on the basis that they only need to minimise, rather than prevent, environmental harm, and have adopted the standards of the WestConnex projects. As noted above, following *Sharma's* decision, the Projects may need to be carried out in a manner which prevents, rather than minimise, impacts on children so as to avoid harming them eg in implementing the recommendations to prevent respirable silica dust emissions. Additional costs involved in meeting these higher standards should taken into account in assessing the Project's business case.

5.6 Impacts on trees and sea grasses

A distinction needs to be drawn between the legally permissible offsets for trees and the real costs of the Projects in the short to medium term from removing mature tress and replacing them with saplings/young trees. Replacing trees at a ratio of 1:2 will not necessarily replace the value of a mature tree in terms of carbon capture and cooling from canopy spread.

Additional trees can be anticipated to die/suffer as a result of groundwater drawdown, which in the Willoughby/Northbridge Area will be significant. The impact of groundwater drawdown in other areas should be considered. The Projects are in essence mines and studies have shown that modifying "groundwater levels can affect trees and ecosystems several kilometres away from mine sites. ...We know Australian trees, such as eucalypts, can extend roots 30m or deeper into the ground to find water...the water use of trees some several kilometres away from mine sites was sensitive to changes in groundwater levels": https://www.theguardian.com/environment/2015/sep/08/diverted-groundwater-near-mines-may-cause-trees-to-die-of-thirst-study-finds

Seagrasses will be impacted by the Projects: https://www.planningportal.nsw.gov.au/major-projects/submission/712526; https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SUB-15429410%2120210301T071554.593%20GMT

The costs of the Projects should take into account the Project's full harm to the trees and the environment, which are not addressed by biodiversity offsets.

5.7 Increased project costs arising from ESG responsibilities

The Projects will result in an increase in GHG emissions and has the potential to result in significant environmental harm - to important Wildlife Protection Areas, to Sydney and Middle Harbour from the dispersal of contaminants (on the assumption that the mitigation measures are not effective), and from potential pollution incidents at Northbridge and Cammeray (assuming remediation is not required). To the extent that the Projects will need to obtain external funding, or insurance for construction activities, this may be refused because of ESG responsibilities, or involve additional costs to reflect the risks involved with the Project.

5.8 Impact on workers

The health impacts on workers from working in tunnels which go through old landfills and which are located in flood prone areas could be significant based on the WestConnex experience.

During the WestConnex Project, there were reports of:

- workers being exposed to a "black sludge material that stank and which ate away at the bottom of their work boots" and which were found to be "a toxic soup of contaminants at the former landfill site including asbestos, lead, carcinogenic polycyclic aromatic hydrocarbons (cPAHs), PCBs, and dioxins": https://www.medianet.com.au/releases/191527/

- Extreme contamination from mould outbreaks from the tunnel flooding: See Case Study 1 in ETU's submission to the Fair Work (Registered Organisations) Amendment (Ensuring Integrity) Bill 2019 [Provisions] Submission; https://cityhubsydney.com.au/2019/04/westconnex-mould-found-in-ear/

5.9 Consideration of alternatives

Any business case analysis should compare the Projects as proposed to alternatives. Tunnel engineer and expert, Ted Nye, has drawn up plans which show it is feasible to:

- have a public transport alternative to the BL - including a light rail/electric bus connection between Chatswood and Frenchs Forest; and

- alternative alignment for the WHT tunnel - with a bored tunnel which goes under, rather than through, Sydney Harbour, and with no dive site at Cammeray nor Northbridge. The environmental harm to Sydney Harbour from dredging, and to Wildlife Protection Areas at Northbridge and Manly Dam, would be avoided. I understand that the savings from realigning the tunnel would be significant.

Thank you for considering my Submissions.

Yours sincerely,

Diane Thakur

Parliamentary Inquiry into the Impact of the Western Harbour Tunnel and Beaches Link

The purpose of this submission is to outline:

- the potential detrimental impacts of the Western Harbour Tunnel (**WHT**) and Beaches Link (**BL**) Projects on the health and well being of children, both during their construction and during their operation; and
- the inadequacy of proposed mitigation measures to keep children safe.

1. Potential Human Rights Breach

The WHT and BL Projects have the potential to be contrary to Article 24 of the Convention on the Rights of the Child, which states that all children are entitled to "the enjoyment of the highest attainable standard of health". Under Article 24, children are arguably entitled to the right to clean air, the right to a clean and healthy environment and the right to a sustainable environment.

I attach my submission to the BL EIS which comprehensively considers the impacts of the BL Project on the health and well being of children, intergenerational impacts and mitigation measures needed to keep children safe: see Appendix 1. The WHT will have similar detrimental impacts to the BL as the construction site at Cammeray Golf Course is used for both the WHT and BL Projects and both Projects use immersed tubes.

The Lung Foundation of Australia and Asthma Australia have also raised concerns about "human health and health economic impacts of the BL Project during its construction" and note that the BL Project will "disproportionately affect children and young people during its construction and into the future": https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=EXH-11439174%2120210310T211916.024%20GMT

Sydney Children's Hospital have also outlined their concerns about the impacts on the WHT and BL Projects on children's health: https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=EXH-11439174%2120210308T213814.260%20GMT

2. Supplementary information concerning impacts of the WHT and BL Projects on the environment, with particular reference to school children living, playing sports and going to school in close proximity to construction sites.

This submission below provides supplementary information on the detrimental impacts of the WHT and BL Project on the health of children, focussing on:

- risk of exposure to respirable crystalline silica dust and the inadequacies of proposed mitigation measures (see sections 3- 11 inclusive)
- risk of exposure to contamination from the construction works to date as well as the inadequacies of the DSI Reports prepared to date (see sections 12-14 inclusive).

3. Risk of exposure to respirable crystalline silica (RCS) dust

I attach a paper at Appendix 2, which outlines the risks of harm to children living, playing sports and going to school in close proximity to the construction site at Cammeray Golf Course from exposure to respirable crystalline silica (**RCS**) dust.

Children going to school at Anzac Park Public School, Cammeray Public School, KU Cammeray Preschool, Cammeraygal High School (Senior Campus) and Neutral Bay Public School, and children exercising at Green Park and Cammeray Oval and Tennis Courts, are potentially affected: see Map 1.

Although this paper focuses on the construction site at Cammeray Golf Course, the risks of harm from exposure to RCS is the same in respect of the construction sites at Flat Rock Reserve in Northbridge and Balgowlah Golf Course. Accordingly, children using playing fields at Flat Rock Baseball Diamond, Bicentennial Netball Courts and Ovals and Shore Oval (their proximity to the Flat Rock Reserve site is shown in Map 2), and children going to school at Balgowlah Boys High School, St Cecilia's and Seaforth Public School, are also potentially affected.

4. Recommended Mitigation Measures in RCS Paper

The RCS paper in Appendix 2 has been reviewed by Ian Bridge, an environmental scientist, university lecturer, and expert on non-occupational exposure to RCS dust: https://www.linkedin.com/in/ian-bridge-5639908/

Ian Bridge recommends the application of additional mitigation measures (**Recommended Mitigation Measures**) in order to keep children safe:
- a negative pressure acoustic shed
- tunnelling spoil be loaded into trucks using a method to prevent the emission of particulates during loading operations
- ambient RCS levels are limited to 3ug/m3 with stop work requirements when exceeded
- monitoring of particulates in areas where children may be exposed
- stockpiles from surface works should be contained in a second shed; if temporary stockpiling is required, it should be covered at all times
- monitoring, including cameras, with real time data feed, be installed and with results accessible by the Community.

See Section 2.7 and 2.8 of the attached RCS paper for more detail.

Mr Bridge is willing to be contacted by the Public Works Committee to discuss the RCS paper and the Recommended Mitigation Measures.

5. Undertakings sought from EPA, TfNSW and DPIE

On 19 May 2021, I wrote to:

- Minister Stokes requesting that the DPIE does not approve relevant Construction Environment Management Plans (**CEMPs**) and Construction Monitoring Plans; and

- Minister Kean requesting that the EPA does not grant any relevant environment protection licence (**EPL**),

unless (1) the relevant EPL stipulates a total exposure limit of 3ug/m3 for ambient RCS; and (2) the Recommended Mitigation Measures have been implemented.

I also wrote to the Transport Minister, Andrew Constance, seeking confirmation that the Recommended Mitigation Measures will be implemented prior to the commencement of construction activities (or earlier activities which involve the excavation, blasting, breaking or crushing of rocks or other materials containing silica) for both the WHT and Warringah Freeway Upgrade (**WFU**).

I have not received a response from any Minister.

However, I met with TfNSW on 15 June 2021 to discuss the RCS paper. I also received a response from the Environment Protection Authority dated 22 June 2021 (which I attach). The inadequacies of their responses are discussed below.

I have sought an internal review of the EPA response which is under consideration.

6. Need for Recommended Mitigation Measures

6.1 Dust complaints, storms and exceedances made in relation to WestConnex Projects

There has been inadequate protection of school children and other sensitive users from construction dust, including RCS dust, on previous road tunnel infrastructure Projects (the WestConnex Projects).

(a) WestConnex Parliamentary Inquiry

The WestConnex Parliamentary Inquiry noted many complaints about construction dust, including a reported dust storm:

> 'On 9 April 2018, during school pick-up, the Haberfield Public School community were confronted by 'strong winds carr[ying] copious amounts of dust' with parents reporting that the dust 'was so extreme they needed goggles and face masks to deal with the pollution. Many locals attest to seeing the dust blowing off the construction sites'.

At the peak of the dust storm the air quality monitoring station at the school recorded particulate matter (airborne particles) **eight** times higher than the recommended air quality target' : see para 4.101. A video of the storm can be accessed in the article by Wendy Bacon: https://wendybacon.com/2018/haberfield-dust-storm-not-just-a-regional-event

The WestConnex Parliamentary Inquiry also noted that: "The CFMMEU along with community groups have made representations to the principal contractors and SafeWork NSW about **the amount of silica dust being produced on the project, the effect this dust has on workers and the surrounding community, and the lack of attention given to minimizing the risk"**: see para 4.93.

(b) WestConnex Construction Compliance Reports

The WestConnex Construction Compliance Reports also refers to dust complaints. The Construction Compliance Report M4-M5 Mainline Tunnels 28 November 2019 - 27 May 2020 notes that, in relation to the Campbell Road site, there was **three** times the annual maximum dust depositional levels of 4 g/m2/month and "when investigated the high levels were attributed to the **high generation of dust from the sandstone stockpiles** within the adjacent New M5 site".

Table 5-3 Annualised Average Dust Values

Construction Site	PREW	Campbell Road	PBR	Northcote	Wattle Str
Annualised Avg	3.05	11.98	6.20	7.79	7.57

Construction Compliance Report: 28 November 2019 – 27 May 2020 M4-M5 Link Mainline Tunnels
https://www.westconnex.com.au/media/jnulr4gw/m4m5-lsbj-prw-en-ge01-rpt-0044-01-ndifi.pdf

Similarly, the Construction Compliance Report: M4-M5 Link Mainline Tunnels, 28 May 2020 – 27 November 2020, notes that, in relation to the Campbell Road Site, "**where spoil is handled outside an acoustic shed**", there was again **three** times the annual maximum dust depositional levels of 4 g/m2/month.

Table 5-2 Annualised Average Dust Values (g/m2) (November 2019 - October 2020)

Construction Site	PREW	Campbell Road	PBR	Northcote	Wattle St
Annualised Avg	2.52	11.88	5.22	6.47	9.16

https://www.westconnex.com.au/media/y5dlp401/m4-m5-link-mainline-tunnels-construction-compliance-report-4-rev-01_redacted.pdf

Given that the EIS states that the majority of land-based spoil generated by the Project would be **crushed sandstone** from tunnelling, it reasonable to conclude from the dust complaints, dust storms and air quality exceedances on previous projects that:

- there is a risk of exposure to RCS dust from road tunnel infrastructure projects; and
- the mitigation measures used to date have not been been adequate at preventing Community exposure to construction dust (including RCS dust).

6.2 Dust emissions from acoustic shed on Cross River Tunnel

Work recently stopped at the Cross River Rail worksite in Brisbane because of concerns about the potential release of dangerous silica dust from the conveyor belt carrying tunnel spoil to the surface. Photos and videos show plumes of dust emerging from the acoustic shed. This demonstrates the limitations of acoustic sheds at containing dust from tunnelling spoil.

Dust being released into the air from the Woolloongabba Cross River Rail worksite. - the acoustic shed could not contain the dust.

https://www.brisbanetimes.com.au/national/queensland/deadly-dust-fears-prompt-walk-off-at-cross-river-rail-worksite-20210628-p584y2.html

Section 6.1 and 6.2 shows that school children can be exposed to RCS dust from emissions from construction sites from a variety of sources: the handling of spoil in the acoustic shed, including the unloading of dump trucks carrying spoil from the tunnel and the loading of trucks for removal by road haulage, the use of exposed conveyors and the stockpiling of spoil outside. In addition, RCS dust could be emitted into the atmosphere through vents and extraction fans, if unfiltered, which are used in providing ventilation or airflow in the the tunnels and acoustic sheds.

6.3 CEMPs and EPLs provisions dealing with dust are inadequate to protect children from risks of exposure to RCS

(a) Stockpiling outside

The WHT project permits the stockpiling of tunnelling spoil outside the acoustic shed in an urban dense area near sensitive users (including schools) - up to 4500 cubic metres at Cammeray Golf Course. The BL project also permits up to 4500 cubic metres to be stockpiled at Cammeray Golf Course and 500 cublc metres to be stockpiled outside the acoustic shed at Flat Rock Gully. In theory, if the WHT and BL overlapped, 9000 cubic metres could be stockpiled at Cammeray Golf Course.

There are no provisions under the Conditions of Approval, CEMPs or EPLs which prevent the stockpiling of tunnelling spoil outside the acoustic shed. The obligation to cover spoil outside only arises if the spoil is left 'exposed and undisturbed' for more than 10 days.

The EIS, and WestConnex Compliance Reports referred to above, acknowledge that tunnelling spoil can be stockpiled outside the acoustic shed.

By contrast, TfNSW have made representations to the public, in webinars and in correspondence, that tunnelling spoil will be stockpiled only in the acoustic shed. TfNSW should be kept to this representation and the DPIE and/or the EPA in EPLs should prohibit tunnelling spoil, or any other spoil which contains RCS dust, being stockpiled outside the acoustic shed. This should be the case even if the acoustic shed is not built while the tunnel access decline (for accessing the main tunnel) is being excavated.

(b) Acoustic shed

The acoustic shed will not be sufficient to prevent emissions of RCS dust as:
- trucks will enter the acoustic sheds every few minutes and be filled with trench spoil, re-dispersing, and making airborne, the harmful RCS dust contained within the crushed rock
- doors of the acoustic shed are unlikely to be kept closed during the day because of the number of heavy truck movements at Cammeray Golf Course and at Flat Rock Reserve
- water misting/sprays would not be effective at controlling ultra fine particles.

As shown in the Cross River Rail Project, unless the acoustic shed is a negative pressure shed, there is a risk the shed will not prevent RCS dust emissions resulting from the handling of RCS spoil within the shed/tunnel.

(c) Use of dump trucks

The RCS paper attached at Appendix 2 does not address the risk of harm from the proposed use of dump trucks to bring the spoil from the tunnel to the acoustic shed, as opposed to conveyors. Given the large quantities of tunnelling spoil that will be "dumped" into the acoustic shed by these trucks, there is a risk of RCS emissions from the dumping process.

Recommendation

The EPA should:

- undertake a review of risk to the Community from exposure to RCS dust arising from using dump trunks to transport spoil from the tunnel to the acoustic shed

- make sure that measures are put in place to ensure that the handling of spoil by the dump truck does not expose the Community to RCS dust.

6.4 EIS acknowledges that dust cannot be controlled by current dust management measures

The EIS for the WHT and BL acknowledges that "***dust management measures may not be fully effective all the time***" and that sensitive users will be exposed to dust generated as a result of construction works, even with best practice management measures in place, "***during dry weather where the wind is blowing towards a receiver".***

The EIS concludes that in situations where dust management measures/construction air quality management measures are not fully effective,"*impacts on the community would generally be temporary and short-term and are not considered to be significan*t": see section 13.4.1 Chapter 13 https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201220T232635.441%20GMT

There is no basis for this conclusion on medical grounds.

6.5 There is no 500 metre buffer zone between the site and schools needed to keep children safe - as recommended by Victoria's EPA and required by NSW Councils **for sites involving the crushing and stockpiling of RCS.**

A buffer or minimum separation distance is needed between industrial users and sensitive users to **minimise the off-site impacts** on sensitive land uses arising from **unintended** dust emissions. See 1518: Recommended Separation Distances for Industrial Residual Air Emissions – Guideline: https://www.epa.vic.gov.au/about-epa/publications/1518

Anzac Public, Cammeray Public, and KU Cammeray are less than 500 metres from the construction site and insufficiently protected from RSC dust emissions. The EIS and the WestConnex experience shows that RCS dust emissions from the construction site will be inevitable.

Please note that the buffer zones are **minimum** recommended distances, and a larger distance may be appropriate. Studies show that silica dust levels remain high 750 metres downwind from sites that may release silica particles - and so Cammeraygal High School and Neutral Bay Public School could also be impacted.

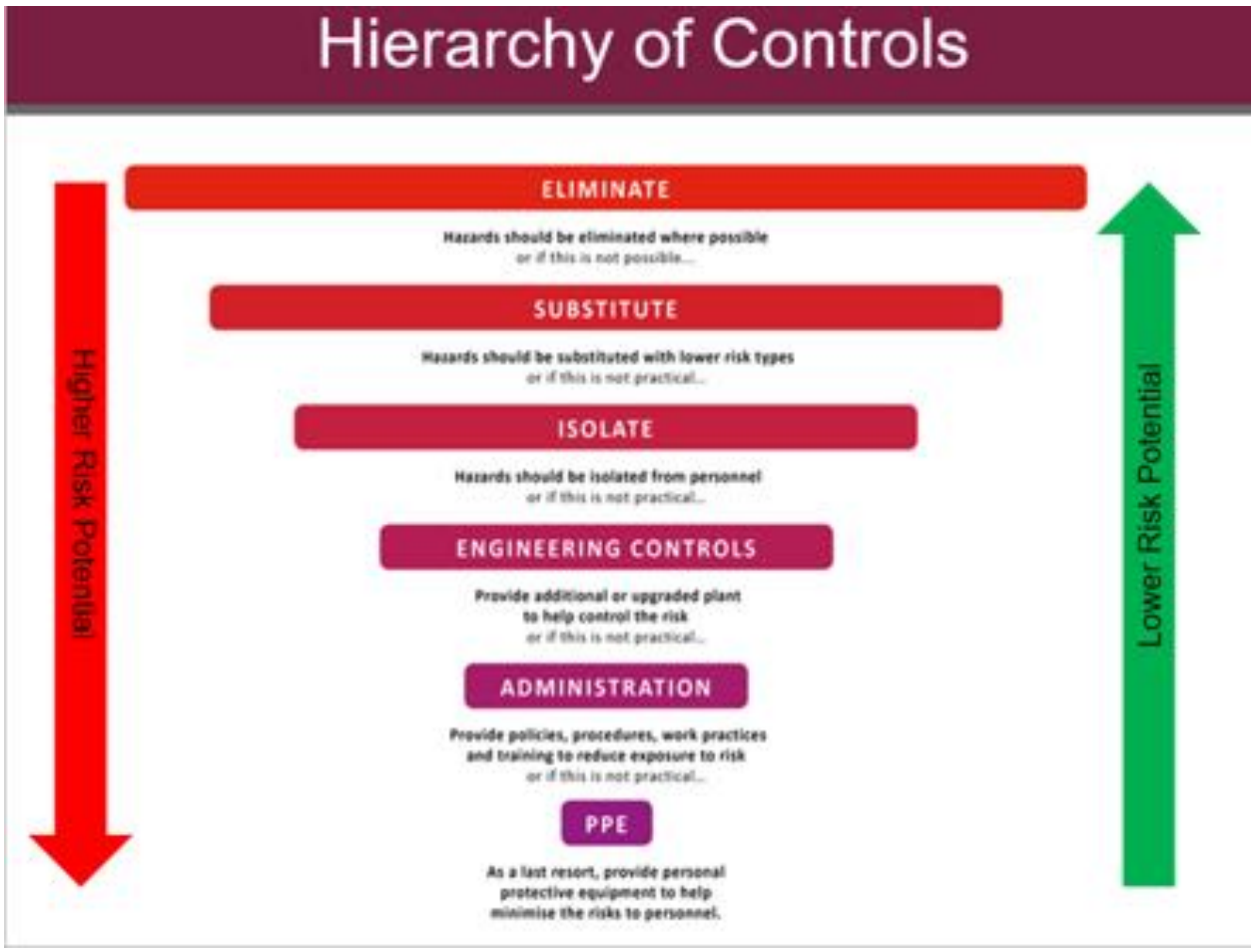
6.6 Views of particulate expert - Dr Brian Plush

I have contacted Dr Brian Plush, a silica and respirable dust mitigation scientist and particulate matter expert: linkedin.com/in/dr-brian-plush-72b77a1b. Dr Plush has indicated that he is willing to be contacted by the Public Works Committee. Dr Plush provided the following comments on the WHT and BL Projects:

- Respirable and Silica dust control is a complex science. Engineering controls for Respirable and Silica dust mitigation are the current method for minimising risk of exposure to workers and the community on this project. However, for this project, the efficiency of the installed controls are not measured, nor is it a Condition of Approval, to quantify if the installed controls are actually working.

- Personal sampling of site workers for exposure to silica dust does not identify the risk of potential of lung disease to the surrounding community once it enters the atmosphere from the source of generation. Simply being in compliance with statutory levels does not protect a site worker, nor a community member not associated with the project, from adverse health effects, debilitating lung disease and death.

- It is not sufficient for engineering controls to aim to minimise silica dust exposure, as shown below by the hierarchy of controls for dealing with hazards. **Removing** the hazard significantly lowers the risk of adverse health effects, debilitating lung disease and death. Installed engineering controls MUST be tested to QUANTIFY how much hazardous dust the engineering controls actually remove and prevent from entering the atmosphere, exposing surrounding communities to silica dust.



- More specifically, as water suppression is the principal environmental measure for 2.5 micron dust mitigation for this project, it makes sense to know how much actual 2.5 micron dust the water removes ie by testing to quantify whether the control is efficient or effective.

- Water suppression as the main environmental dust control measure has significant limitations and may not protect sensitive users (including children) from silica dust emissions from the site. Water suppression relies on the agglomeration of particles to increase their relative density and then relies on gravity to remove them from the atmosphere to the ground. For agglomeration to occur, the **water particles need to be the same size as the dust particle** in order to relieve the water tension on the droplet, allowing the dust particle to bond with the water particle, increasing relative density as described above.

- The cumulative impacts of particulate exposure should be taken into account. As there is no known safe level of 2.5 micron size particles that can enter the lungs, it is critical to understand the amount of 2.5 microns that enter the atmosphere from all sources, increasing the risk potential of significant health and lung problems to the surrounding community.

- The ultra fine particles of diesel trucks are hazardous and can and should be measured. Ventilation stacks will also contain particles less than 2.5 micron in size and the emissions

of PM 2.5 from the stack also should be measured, to determine whether controls on emissions should be installed.

- PM 2.5 monitors should be installed on schools to measure the cumulative impacts of particulate exposure for children attending the school.

7. Sharma's decision - obligation to consider harm to children from the Projects and duty to ensure that children are not harmed

The Federal Court has recognised that a Minister, in exercising powers under legislation which control environmental impacts of activities:

- must consider the safety of children (a mandatory consideration for the purposes of administrative law)

- has a duty to take reasonable care to avoid causing personal injury to children: see *Sharma by her litigation representative Sister Marie Brigid Arthur* v *Minister for the Environment* [2021] FCA 560 at para 404 and 491.

Sharma's decision concerned the Federal Environment Minister. However, a court is likely to apply Sharma's decision to the exercise of any powers under NSW legislation which control environmental impacts of activities such as infrastructure projects.

It would follow from this decision that:

- the Minister for Planning, Industry and the Environment should not approve the BL Project unless the Minister considers whether the Project will harm children and unless there are sufficient mitigation measures to ensure that children will not be harmed by the project during, and after, its construction.

- the DPIE and the EPA should consider harm to children, and have an on going duty of care to children, to ensure that they are not harmed by the WHT/WFU Project in exercising their powers - the DPIE in approving CEMPs and Monitoring Plans under the WHT/WFU Conditions of Approval and the EPA in exercising its powers to grant EPLs.

- the DPIE's Planning Secretary should consider the WHT Project's impacts on children as implemented, and exercise its broad powers under Condition A4(a) of the WHT Conditions of Approval if necessary to ensure that children are not harmed by the WHT Project as carried out (including from exposure to RCS dust or from other contaminants during construction works). Condition A4 provides that "**the Proponent must comply with all written requirements or directions of the Planning Secretary, including in relation to: (a) the environmental performance of the CSSI".**

8. Northside Storage Tunnel stockpiled and handled tunnelling spoil underground, and did not use trucks to remove spoil, to avoid harm to sensitive users in urban dense areas

The DPIE should also exercise its regulatory compliance functions diligently and ensure that provisions under the WHT Conditions of Approval that require consideration of alternatives that will lesson impacts on the Community are adhered to. For example, E134 requires:

> "Opportunities to maximise **spoil** / dredging material **removal by non road methods must be investigated and implemented** where reasonably practicable to minimise movements by road."

This provision could arguably require the WHT project to be redesigned so that there is no spoil removal by trucks in urban dense areas. There is a precedent for this with the Northside Storage Tunnel.

The Northside Storage Tunnel involved tunnelling between Lane Cove to North Head, with the tunnel crossing Artarmon, Tunks Park in Northbridge, Middle Harbour, Balgowlah and Manly

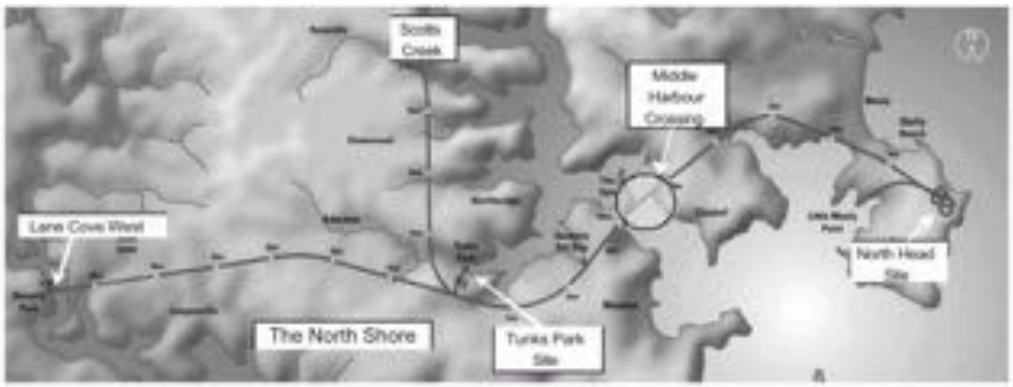


Figure 1 Alignment of Storage Tunnel System

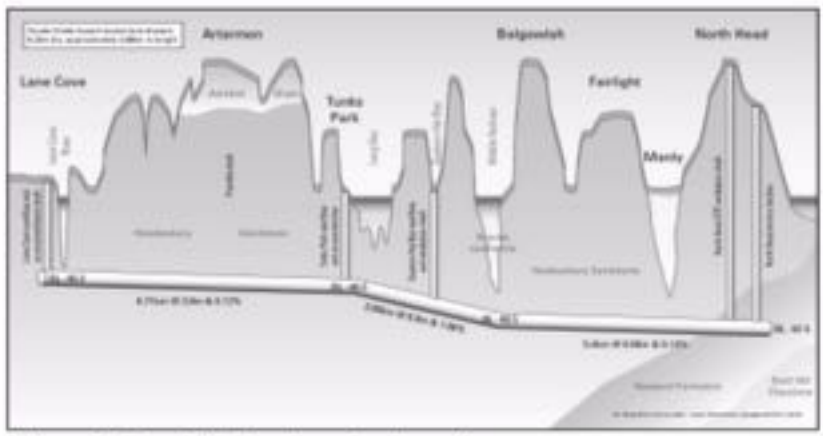


Figure 2 – Longitudinal section of main tunnel

The Proponents of the Northside Storage Tunnel specifically ruled out spoil removal by road haulage" because of the location of the major tunnelling worksites in highly developed residential areas" as noted below:

> "Removal of spoil from the tunnelling operations was a major issue on the project. **Because of the location of the major tunnelling worksites in highly developed residential areas,** an alternative to spoil removal by road transport had to be found. The final arrangement entailed spoil removal from the tunnel boring machines by continuous conveyors and removal from the underground works by a combination of inclined, vertical and horizontal conveyors to barge loading points on the harbourside. **Eventually there were over 25km of conveyors employed on the project. Barges transported the spoil some 18 km across Sydney Harbour to a commercial railhead in White Bay. From there spoil was transported, predominantly by rail, to points on the western outskirts of Sydney where it was used for industrial development earthworks."**

http://alliancecontractingelectroniclawjournal.com/wp-content/uploads/2017/04/Gee-R.-Parker-C.-and-Cuttler-R.-1999-'Northside-Storage-Tunnel-Sydney-Investigation-Design-and-Construction'.pdf

The Proponents of the Northside Storage Tunnel also stored all tunnelling spoil underground in caverns.

WHT EIS

In considering spoil transport alternatives, the WHT EIS did not consider:
- long haul conveyors to minimise double handling
- the storage of tunnelling spoil in caverns during the day and the transport of spoil at night (as there are no passenger trains at night)
- the use of existing rail connections, such as the Lavender Bay rail connection, or other rail lines with the possibility of using spur lines.

Recommendation

The DPIE should direct the Proponent to consider the practicality of using a conveyor, rail and barge alternative for spoil removal.

9. Inadequacies of TfNSW's tender process

9.1 Refusal to stipulate Recommended Mitigation Measures in RCS paper in tender documents for the construction works

At a meeting dated 15 June 2021, I asked TFNSW whether their tender documents for the WHT construction activities will specify the mitigation measures in section 2.7 and 2.8 of the RCS paper as a minimum requirement for the tender. TfNSW indicated verbally they would not. I am still waiting for their written response.

TfNSW indicated that they leave it up to the tenderers to determine how they will comply wth the Conditions of Approval, licences and any relevant legislation. **It is of concern that the tenderers determine how they will comply without any effective oversight or guidance from TfNSW.** TfNSW's primary concern is to minimise its own liability, rather than protecting the Community (including children).

In the absence of making safety the primary criterion for the selection of tenderers, and in the absence of TfNSW providing guidance on the level of safety measures needed to be adopted, the tenderer are likely to choose the cheapest, and usually the least safe, way of complying with "outcome based" conditions of approval and imprecise standards in legislation in order to win a bid.

A tenderer is unlikely to adopt safety measures other than a water cart and a rumble grid, unless there are ambient RCS limits set which can be accurately measured (preferably using real time RCS monitoring equipment when available) in schools and on the construction sites.

As a result, children will not be adequately protected from exposure to RCS dust and the tender will be won on price at the expense of children's health. It should be remembered that schools are not even 500 metres away from the construction sites and playing fields are located next to these sites.

9.2 The WestConnex experience - price over safety chosen

The Parliamentary Inquiry into the Impact of the WestConnex Project reveals what happens when price is chosen over safety. The CFMEU noted in their submission to the WestConnex Parliamentary Inquiry that insufficient funds had been allocated to keeping workers and the Community safe from exposure to RCS dust.

> *'The CFMMEU along with community groups have made representations to the principal contractors and SafeWork NSW about the amount of silica dust being produced on the project, the effect this dust has on workers and* ***the surrounding community****, and the lack of attention given to minimizing the risk. We believe that* ***the project has allocated insufficient funds to appropriately manage the safety of the workers and the surrounding communit****y.': see para 4.93 and CFMEU submission at https://www.parliament.nsw.gov.au/lcdocs/submissions/62471/0555%20CFMEU_Redacted.pdf*

9.3 Recommendations for tender process

TfNSW should be required to make safety and the prevention of harm to children, other sensitive users, workers and the environment, the key criteria for the selection of the tenderer, rather than price. In doing so, TfNSW should specify the mitigation measures in section 2.7 and 2.8 of the RCS paper as a minimum requirement for the tender.

TfNSW should ensure that the tenderer considers maximising the extent to which tunnelling spoil can be kept underground in caverns and minimising the handling of spoil above ground. This could perhaps be done in the context of addressing Condition E134 of the WHT Conditions of Approval.

TfNSW should require the tenderer to clearly address how they will respond to Condition E134 ie maximising spoil removal by non road methods using a conveyor, rail and barge alternative.

TfNSW should make it clear in their tender documents that no tunnelling spoil can be stockpiled outside.

The public should be given the opportunity to comment on TfNSW's tender documents for the construction activities for the WHT Project. This is to determine their adequacy for keeping the Community safe.

TfNSW's tender documents for the construction of previous road infrastructure projects should also be published.

10. Inadequacies of EPA's response to RCS Paper

The EPA has indicated that it will not implement the Recommended Mitigation Measures in section 2.7 and 2.8 in the RCS paper in the Environmental Protection Licence (**EPL**) in a letter dated 22 June 2021 (attached). The reasons given by the EPA are inadequate, as outlined below.

As already noted, I have sought an internal review of the EPA response which is under consideration.

10.1 Refusal to stipulate a total exposure limit for ambient RCS to protect children

The EPA in its letter dated 22 June 2021 states:

> *The EPA does not set ambient air limits or require ambient air quality monitoring in environment protection licences for major transport infrastructure construction*

projects ***as multiple emission sources may contribute to ambient air quality and it is difficult to attribute results to a specific source****.*

The EPA is refusing to stipulate in the EPL that construction activities must carried out so that:

(1) they comply with a total exposure limit of 3ug/m3 for ambient RCS dust; and
(2) there is a stop work requirement at the construction site if, and for as long as, ambient RCS dust levels are exceeded.

The EPA is also refusing to require monitoring for ambient RCS dust levels.

In doing so, the EPA is acting contrary to its legislative duties and the duties outlined in *Sharma*'s case. The EPA:

- notably has failed to consider potential harm to children
- is arguably in breach of its duty of care to children to ensure that children are not harmed by exposure to RCS dust. See section 7 above.

10.2 Total ambient limit is needed to protect children with stop works measures

The difficulty in attributing results to a specific source does not justify the EPA's refusal to act in the public interest and set a total ambient silica limit to avoid harm to children.

Stop work should occur, if, and for as long as, ambient silica levels are exceeded, at schools in Cammeray, irrespective of the source. This is because a total exposure limit for ambient RCS dust of 3ug/m3 is needed to avoid harm to school children and other sensitive users: see the calculations for estimating the ambient silica exposure limit on pages 14-15 of Ian Bridge, *Crystalline Silica: A review of the dose response relationship and environmental risk*, http://www.yatala.info/ewExternalFiles/Bridge-2009-environmental-silicosis-risk045.pdf

Furthermore, studies do not support the statement that 'it is difficult to attribute results to a specific source", in an urban context. Studies have shown that the amount of background silica dust in an urban context is likely to be negligible: https://www.sciencedirect.com/science/article/pii/S1352231018301912. Accordingly, exceedances would only be caused by construction works relating to the WHT and WFU Projects. Any concerns about background levels of RCS dust in an urban setting can be dealt with by baseline monitoring prior to the commencement of construction works.

Any remaining concerns about attributing exceedances from construction works to a specific site can be dealt with if:

- consistent conditions are imposed on all licensees involved in the WHT and WFU projects; and
- real time silica dust monitors are placed in schools as well as at each of the construction sites for the WHT and WFU Projects.

10.3 Victoria's EPA and California sets ambient limits and requires monitoring

The NSW EPA is not following best practice, as it is required to do under section 7(2)(a) of the Protection of the Environment Operations Act 1991 (**POEO Act**). Victoria's EPA has set an exposure limit of 3ug/m3 for ambient RCS dust for extractive industries and requires ongoing monitoring at the nearest sensitive locations. The amount of tunnelling spoil being extracted, crushed and stockpiled during the WHT and BL Projects is equivalent to an extractive mine.

Victoria's EPA notes:

> *"Respirable crystalline silica require control to the **Maximum Extent Achievable (MEA)** due the seriousness of the potential health effects associated with exposure to these substances. MEA goes beyond best practice and considers what can be done on a site-specific basis rather than an industry wide scenario."*

https://www.epa.vic.gov.au/about-epa/publications/1191

California has also adopted the recommended ambient RCS limit.

10.4 CEMPs and EPLs provisions dealing with dust are inadequate protection for children

The EPA refers to the provisions in CEMPs and EPLs dealing with constructions dust. These are inadequate to protect school children from RCS dust.

(a) CEMPs

The inadequacies of CEMPs have been discussed above at section 6.

(b) EPL conditions do not meet statutory requirements

The EPA refers to the current conditions in EPL # 21528 granted to John Holland. The dust control provisions are as follows:

> *"O3 Dust*

*O3.1 All activities occurring at the premises must be carried out in a manner that will **minimise** the emission of air pollution from the premises.*

*O3.2 The premises must be maintained in a condition which **minimises** the emission of air pollution from the premises.*

*O3.3 Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, **except during loading and unloading**."*

These conditions are inadequate as they have the objective of only **minimising** the emission of air pollution in the form of RSC dust from the construction site, rather than **preventing** RCS dust emissions, which will have the potential to harm school children.

These conditions do not meet the standard imposed under the *Protection of the Environment Operations Act 1991* (**POEO Act**) which requires owners to **prevent** air pollution "by such practicable means as may be necessary". Section 128(2) provides:

128 Standards of air impurities not to be exceeded

*(2) The occupier of any premises must carry on any activity, or operate any plant, in or on the premises by such practicable means as may be necessary to **prevent** or minimise air pollution if--*
(a) in the case of point source emissions--neither a standard of concentration nor a rate has been prescribed for the emissions for the purposes of subsection (1), or
*(b) th*e emissions are not point source emissions.

The EPA is also acting contrary to its statutory objective in section 6(1)(b) of the Protection of the Environment Administration Act 1991 which is "***to reduce the risks to human health …*** by … promoting pollution ***prevention***".

By contrast, the Recommended Mitigation Measures in section 2.7 and 2.8 of RCS paper:

- have the objective of **preventing** air pollution in the form of RSC dust from being released into the environment from the construction site (inside and outside the acoustic shed).
- are accompanied by a measurable outcome - a total ambient RSC limit. This is important as it is easier to enforce an objective, measurable standard. Furthermore, in the foreseeable future (predicted by the end of 2021), the ambient RCS levels can be measured by real time silica dust monitors: https://www.safework.nsw.gov.au/news/safework-media-releases/world-first-real-time-silica-detector-helps-clear-the-air

10.4 EPA's outcomes based approach is only meaningful where the EPA (or the DPIE) has specified a measurable outcome

The EPA also states:

> *"Neither the POEO Act nor licence #21528 specifies how particle emissions should be controlled or minimised. Contemporary regulation adopts an* ***outcomes based approach*** *that allows flexibility in achieving the desired outcomes, which can lead to operational innovations with better results for the environment and the community."*

It is acknowledged that the prevention of the particle emissions in the form of RCS dust during the construction activities can be achieved by other means. For example, as noted above, the Northside Storage Tunnel prevented air pollution in urban dense residential areas, from both RCS dust and diesel trucks, by storing all tunnelling spoil underground in caverns, and transporting the spoil by a combination of conveyor, barge and rail, rather than by trucks.

The Recommended Mitigation Measures also acknowledges that there may be more than one method of loading tunnelling spoil into trucks "***using a method to prevent the emission of particulates during loading operations***".

However, adopting an outcomes based approach to licence conditions is only meaningful where the EPA (or the DPIE) has specified **a measurable outcome.** Here the EPA is refusing to set an ambient RCS dust level.
It is disingenuous to refer to an "outcomes based approach" in relation to the WHT Project given:

- no measures have been proposed in the WHT EIS to achieve the outcome of preventing particle emission
- the WHT EIS acknowledges it cannot control dust using the measures put forward in the EIS in all situations
- the EPA has failed to specify a **measurable outcome** such as ensuring levels do not exceed 3ug/m3 for ambient RCS dust.

10.5 EPA's powers to impose conditions on EPLs

In practice, the EPA has imposed outcome based conditions and non outcome based conditions. The non outcome based conditions are imposed where there are significant risks to the Community from failing to comply with such conditions eg in EPL # 21528, the EPA requires that truck loads be covered when transporting spoil.

It is disappointing that the EPL # 21528 does not also require the the licensee to ensure that no material, including sediment, is tracked from the premises onto the surface of

roads in the vicinity of the premises. This is a condition imposed in licences for other road infrastructure projects. See Condition O3.3 in EPL 20772: https://www.westconnex.com.au/media/h2plgfje/environmental-protection-licence-20772.pdf
It is noted that there are no rumble grids or wheels washes at the temporary constructions sites established to date as part of the early works for WFU/WHT, with the result that there appears to have been mud tracking of soil /sediments with a range of contaminants onto residential roads next to schools. This poses a significant risk to the Community and should have been prohibited by the EPL.

Given the experience with the WestConnex Projects where tunnelling spoil was stockpiled outside, with the result that the Community was exposed to construction dust, including RCS dust, it also is entirely appropriate for the EPL to prohibit stockpiling of spoil outside which may contain RCS dust.

In conclusion, the EPA has powers under Part 3.4 of the POEO Act, and a duty, to ensure children are not harmed from RCS dust exposure by attaching conditions on the EPL for the tunnel construction activities. This can be done by imposing the suggested outcome based and non outcome based conditions aimed at **preventing** (rather than minimising) dust emissions and protecting the Community from harm.

Unless the Proponent, or the appointed contractor, can show that it has operational innovations which with result in better results for the environment and the Community, than a negative pressure acoustic shed, then the licence should stipulate the method for **preventing** emissions of RCS dust from the acoustic shed ie the requirement for a negative pressure acoustic shed.
Prescriptive non-outcome based rules are more appropriate in the WHT and BL Projects given there is no 500 metre buffer zone between the construction sites and sensitive users, including schools, to minimise the harmful effects of RCS dust emissions from the site.

10.6 Acceptance of the status quo is contrary to the EPA's statutory responsibilities

In accepting the status quo in respect of the management of RCS dust at construction sites, the EPA is acting contrary to:

- its statutory responsibilities outlined in section 7(2) of the POEO Act which provides that the EPA has general responsibility for:

  (a) ensuring that the **best practicable measures** are taken for **environment protection** in accordance with the environment protection legislation and other legislation,
  (b) **co-ordinating the activities of all public authorities** in respect of those measures,

(c) **inquiring into and reporting on the efficacy of those measures.**

Environment protection includes anything which furthers the objectives of the EPA as set out in section 6 and as noted above this includes **reducing risks to human health by promoting pollution prevention.**

As noted above best practice requires:

- the setting of an ambient silica limit and monitoring as in Victoria and California
- a buffer zone of 500 metres or more between extractive mines/industries and sensitive users.

The EPA also appears to be replicating the EPL conditions on other road infrastructure projects without considering whether they have been efficacious at preventing Community exposure to RCS dust.

- Section 45 of the POEO Act

Section 45 provides that in issuing an environmental protection licence, the EPA is required to take into consideration…

- **the objectives of the EPA** as referred to in section 6 of the Protection of the Environment Administration Act 1991 (which includes **reducing risks to human health by promoting pollution prevention**).

- the practical measures that could be taken to to **prevent**, control, abate or mitigate that pollution.

The practical measures to prevent air pollution have been demonstrated by the RCS paper at Appendix 2 and the Northside Storage Tunnel precedent.

In accepting the status quo, the EPA is also acting contrary to:

- DPIE's new Social Impact Assessment Guideline which make clear that
  - priority should be given to **avoiding** negative impacts of a project (including dust), including by redesigning the project and exploring alternatives, and only if this is not possible, should mitigation measures which aim at minimising its impacts be adopted.
  - there should be monitoring of the effectiveness of mitigation measures for negative impacts, against baseline values.

- the intent of SafeWork NSW's Dust Strategy Campaign 2020-2022 which has prioritised the **elimination** and reduction of exposures to respirable silica dust.

- the views of occupational hygienist, Kate Cole, an expert on RCS dust.

> *"**Crystalline silica is carcinogenic.** We need to make sure that we are controlling exposure as far as reasonably practicable, as low as possible, and **it is a chronic acting health hazard**….*
>
> *I drive past lots of construction sites and I see these dust clouds all the time …….. but just because it might be quite common to see it does not mean that it is acceptable, and **it doesn't mean that we can't change and do something about it**."*

10.7 Recommendations

The EPA should act in accordance with its statutory objective which is "**to reduce the risks to human health** by promoting pollution **prevention** and include conditions on the EPL for the tunnel construction activities:

- setting **total exposure** limit of 3ug/m3 for ambient RCS dust, with a stop work requirement at the construction site if, and for as long as, ambient RCS dust levels are exceeded
- imposing obligations to monitor, record, and publish on a real time basis, RCS levels within construction sites used as dive sites for tunnelling and outside at each of the schools within 750 metres of those construction sites
- requiring the use of real time silica dust monitors as soon as they are available at TFNSW's cost
- prohibiting the stockpiling of tunnelling spoil outside the acoustic shed
- prohibiting mud tracking.

11. DPIE - no response

It is disappointing that the DPIE have not responded to the RCS Paper in relation to the WHT Project.

11.1 DPIE's new Social Impact Assessment Guideline

As noted in section 10.6 above, the Recommended Mitigation Measures are consistent with the DPIE's new Social Impact Assessment Guideline. This makes clear that:

- social impacts include impacts on health from dust
- consideration should be given to impacts on the vulnerable which include children

- priority should be given to **avoiding** the negative impacts of the project, including by "amendments to, or refinement of, the project design and exploration of alternatives", and only if this is not possible, should mitigation measures which aim at minimising its impacts be adopted.
- there should be monitoring of the effectiveness of mitigation measures for negative impacts, and baseline values are needed against which the mitigation measures can be assessed.

11.2 Planning decisions and rules recognise the health impacts on children from RCS dust exposure and require a buffer zone for extractive mines and industries involving RCS dust

Planning decisions and rules have recognised the health impacts on school children and other sensitive users from being in close proximity to "extractive mines or industries" with the risk of RCS dust exposure. For this reason:

- The DPIE did not approve the Somersby sand mine as a school was situated only 200 metres from the mine and there were concerns about the high levels of quartz in Hawkesbury sandstone (as in Sydney): https://www.parliament.nsw.gov.au/Hansard/Pages/HansardResult.aspx#/docid/HANSARD-1323879322-78384/link/2121 The WHT will tunnel through the same Hawkesbury sandstone and stockpile it next to playing fields and adjacent to schools.

- Hunter & Central Coast Regional Planning Panel refused this Extractive Industry 5 staged development on similar grounds: https://www.planningportal.nsw.gov.au/planning-panel/extracive-industry-5-staged-development The EPA and the Central Coast Public Health Unit (CCPHU) Department of Health expressed concerns about the impacts of silica dust and, should the project go ahead, **recommended monitoring for $PM_{2.5}$ and PM_{10} crystalline silica** for the life of the quarry.

- Extractive industries, that obtain extractive materials by methods including tunnelling or quarrying or that store or stockpile extractive materials by methods including crushing must have a 500 metre buffer zone between the site and a residential dwelling: Clause 19, Schedule 3 of the Environmental Planning and Assessment Regulation.

Victoria's EPA also requires a 500 metres buffer or minimum separation distance between a mine or extractive industry with respirable crystalline silica and sensitive users ***to minimise the off-site impacts on sensitive land uses arising from unintended dust emissions***. See 1518: Recommended Separation Distances for Industrial Residual Air Emissions – Guideline: https://www.epa.vic.gov.au/about-epa/publications/1518 at page 5 and 9.

The amount of tunnelling spoil being extracted, crushed and stockpiled during the WHT and BL Projects is equivalent to an extractive mine and the risks to children and other sensitive users from exposure to RCS dust should not be treated less seriously just because the Projects are labelled as road infrastructure projects.

As there is no 500 metre buffer zone between the Cammeray construction site and schools and playing fields, even stricter controls are needed to avoid harm to children by preventing RCS dust emissions.

11.3 Implications of planning guideline, decisions and rules on WHT approval and recommendatons

The DPIE should have not approved the WHT as the decision is inconsistent with previous planning decisions and rules. However, having done so, the DPIE should:

- not approve relevant WHT Construction Environment Management Plans and Construction Monitoring Plans unless the Recommended Mitigation Measures in section 2.7 and 2.8 are implemented.

- require consideration of alternatives to minimise or eliminate the stockpiling and handling of tunnelling spoil above ground in urban dense residential areas, as occurred in the Northside Storage Tunnel.

This is possible using the Planning Secretary's powers to give directions under Condition A4(a) which requires the Proponent to **"comply with all written requirements or directions of the Planning Secretary, including in relation to: (a) the environmental performance of the CSSI".** A minimisation of handling of tunnelling spoil through the transportation of spoil in trucks is already required by Condition E134.

11.4 Implications of DPIE guidelines, decisions and planning legislation for BL and recommendations

The DPIE should not approve the BL Project as it is inconsistent with planning decisions and rules. There is no 500 metre buffer zone to minimise impacts from RCS dust on school children and consideration has not been given to preventing RCS dust exposure.

11.5 Recommendation

The DPIE does not approve relevant WHT Construction Environment Management Plans and Construction Monitoring Plans unless the Recommended Mitigation Measures in section 2.7 and 2.8 have been implemented.

The DPIE should require consideration of alternatives to minimise or eliminate the stockpiling and handling of tunnelling spoil above ground, and the transportation of spoil by trucks, in urban dense residential areas, as occurred in the Northside Storage Tunnel.

The DPIE should not approve the BL project because of potential harms to the health and well being of children, consistent with previous planning decisions and rules.

The DPIE should require consideration of alternatives to the BL project which will have less harmful impacts on school children. These include public transport alternatives.

If the BL were to be approved, then the recommendations above with respect to the WHT Project should be adopted.

12. The WHT Project as implemented, does not adequately consider, and prevent, harm to children from potential exposure from contaminants, as required by Sharma's decision

To date, early works to establish construction sites and to carry out utility works have occurred, and DSI Reports for the sites have been prepared. These reports, and the mitigation measures recommended in those reports, are inadequate, with the result that there is the potential for sensitive users, including children, to be exposed to contaminants.

The DPIE have failed to act in a timely manner, and to take sufficient steps, to protect children from potential exposure to contaminants, as required by *Sharma's* decision.

12.1 Early Works at Cammeray Golf Course

12.1.1 Disturbance of an old landfill

The EPA, and the Section10.7/149 Planning Certificate, raised the possibility that Cammeray Golf Course was an old landfill. Contamination has been found throughout Cammeray Golf Course suggesting the whole site is contaminated.

Unless rigorous testing shows otherwise, the precautionary approach requires the whole site be remediated before further work is carried out.

12.1.2 Implications for the business case

The WHT EIS does not:

- refer to the (likely) possibility the Golf Course having been used as an old landfill;
- refer to the coal ash and slag found at Cammeray Golf Course in 2014; and

- identify other potential contaminants from local industries at the dive sites at Cammeray Golf Course (including coal tar from the former gas work industries at North Sydney).

Contaminated spoil with elevated benzo(a)pyrene levels found at the Golf Course in 2018 was classified as hazardous /restricted waste, and, accordingly, excavated spoil should not be stockpiled on-site. Contaminated spoil should be moved as soon as possible to a landfill authorised to deal with such waste. Works should not proceed until a confirmed landfill for a potentially large volume of contaminated spoil has been found.

The cost of remediating the whole site, and disposing of the hazardous/restricted spoil, could be significant and should be taken into account when evaluating the business case for the WHT Project.

12.1.3 Potential harm from Early Works at Cammeray Golf Course

The site at **Cammeray Golf Course** is carved out of the rest of the golf course which continues to operate, is directly opposite sports fields used by local schools, and in close proximity to schools (a preschool and primary and secondary schools).

This photo was taken on 29 August 2021 from the sports fields at Cammeray Golf Course which shows the proximity of the construction site to the sports fields which are used by local schools. Widespread contamination was found under the sports field in 2014 and subsequently capped with artificial turf.

There is the potential for children and other sensitive users to be harmed during the early works as potentially contaminated land is being disturbed by diggers and excavators, and pits or trenches have been, and will be, excavated for utilities work.

In particular, there is a risk of harm to sensitive users, including children using adjacent sports fields and attending local schools:

- from exposure to asbestos fibres (as **known** asbestos was found at only 0.05-0.25m from the surface in an earlier investigation, but excluded from the DSI Report).

- from harmful odorous contamination as there is a risk that works may disturb an identified **hot spot with high levels of the carcinogenic benzo(a)pyrene and a 'distinct asphalt odour'**.

- from benzo(a)pyrene and other toxic contaminants by **disturbing fly ash and slag** located at shallow depths at the Golf Course. In 2014, fly ash and slag were found at 0.0 to 1.1 metre from the surface in the now artificial turf playing fields - the utility works will run under this contaminated area, potentially disturbing the encapsulated contamination: see section 12.3.3. The construction site could also disturb fly ash and slag which is potentially on land where the site is being established, exposing schoolchildren to contamination at the adjacent sports fields.

- by disturbing **known** PAHs (found in earlier investigations, but excluded from the DSI Report).

- **mud tracking disturbed contaminants** onto roads near neighbouring schools, as there are no wheel washes and rumble grids despite commitments from TfNSW.

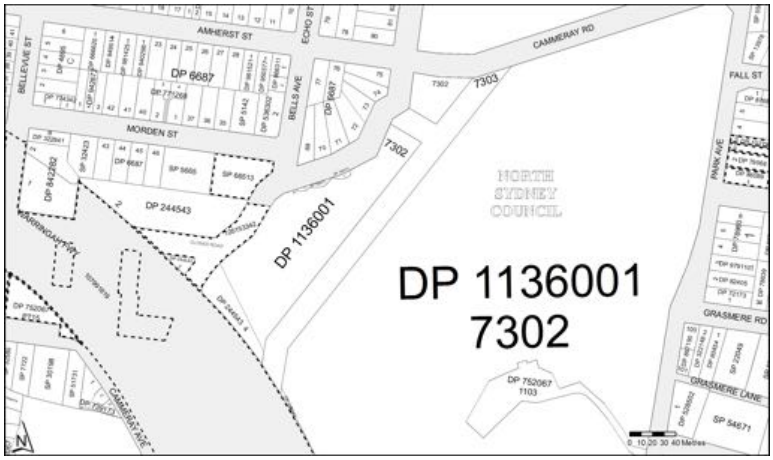
12.2 Planning Certificate and EPA letter recommend considering whether Cammeray Golf Course was formerly used as a landfill

12.2.1 Section 149 Planning Certificate indicates Cammeray Cammeray Golf Course may have been an old landfill

A "Section 149" Planning Certificate obtained from North Sydney Council in respect Cammeray Golf Course (Lot 7302 DP 1136 001) indicates that **Cammeray Golf Course may have been used as an old landfill.** In particular, the Certificate states:

"**Council records indicate that that this land may have been used in the past for a potentially contaminating activity. The question of whether the land is contaminated will be considered whenever zoning is proposed to be changed and for every proposed development of the land**".

The "Section 149 Certificate is attached at Appendix 4.The parcel of land to which it relates (Lot 7302 DP 1136 001) is shown below:



It is standard practice, and arguably a requirement of the NEPM B2 Guidelines, to obtain a Section 149 (now section 10.7) Planning Certificate: https://www.ehansw.org.au/documents/item/798; page 2 and 7 NEPM B2 Guidelines. Despite this, there is no reference to the possibility of Cammeray Golf Course being an old landfill in the WHT EIS.

12.2.2 EPA refers to potential use as a land fill

The NSW EPA in a letter addressed to North Sydney Council dated 29 December 2000 suggested that **"it was considered prudent that North Sydney Council assess if the site was ever developed as a landfill**". The EPA was referred to in the 2014 Report - see section 12.3.3 below.

12.3 Widespread contamination found in investigations - 2014, 2017, 2018, 2020 and 2021

Contamination has been found throughout Cammeray Golf Course as detailed below.

12.3.1 Contamination 'hot spot' at Cammeray Golf Course reported in Jacobs DSI Report

The Jacobs DSI Report identifies a significant hot spot at BH15 with 'distinct asphalt odours' and with **benzo(a)pyrene at 88 mg/kg. This is nearly 30 times the safe exposure level for human health for recreational users** (which is 3mg/kg) and more

than double the the safe exposure level for industrial/commercial use (40mg/kg). The **Total PAHs at BH15 (1900 mg/kg)** also exceeded the recreational HILs (300 mg/kg).

Jacobs made the following recommendations

> *For areas in the vicinity of BH15, no sub-surface works are to be undertaken until either of the following options are implemented:*
>
> *1. Further investigations to assess the extent and degree of odorous materials at and in the vicinity of location BH15; or*
>
> *2. The Construction Environmental Management Plan should clearly identify the area around BH15 as a 'known area of contamination' with strict restrictions on subsurface excavation in this area without approval and supervision of an environmental consultant."*

The Report recognises that similar hot spots may be found elsewhere on the site.

12.3.2 Elevated levels of benzo(a)pyrene throughout Cammeray Golf Course

Health investigation levels (**HILs**) are the national health-based levels set in the Site Contamination NEPM for contaminants that trigger the need for further investigation and reporting obligations under the Contaminated Land Management Act.

The Jacobs and SMEC borehole locations where carcinogenic benzo(a)pyrene (**BaP**) was found at levels higher than the HILs for recreational use at Cammeray Golf course (3mg/kg) are marked in red on the maps below. The Hot Spot (**HS**) in Jacobs Report at BH15 is in the top right hand corner of the first map.

The contamination area investigated in 2014 is marked as a rectangle on the second map.

The utilities work shown in the map goes through the rectangular sport field where contamination was found in 2014, and capped with artificial turf.The works could potentially disturb the encapsulated contamination.

https://caportal.com.au/rms/wht/documents-and-notifications?hview=media-089671-cammeray-early-work-update-fact-sheet

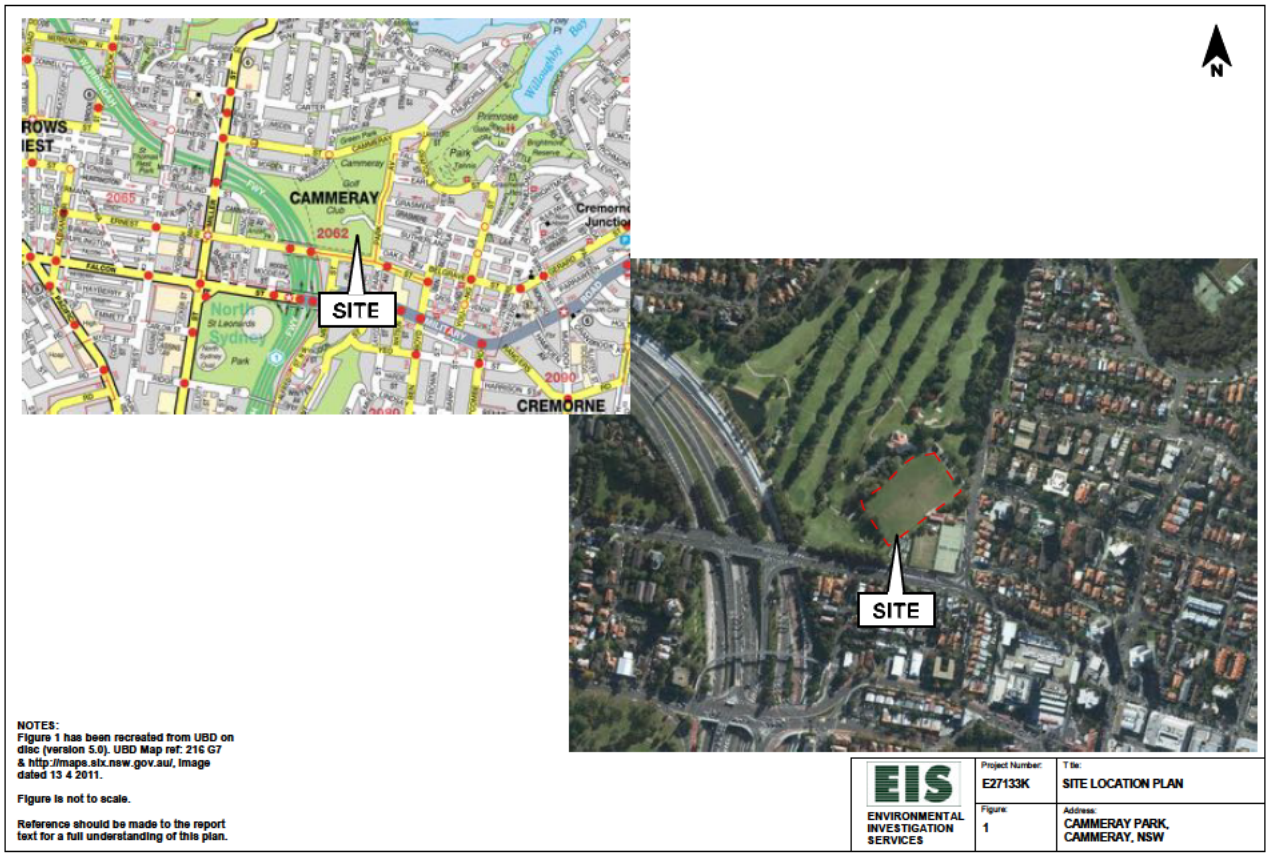
The BaP contamination in Jacobs Report was found at **shallow depths** as indicated in the table below. The contamination values at each borehole is also given:

Borehole	BaP mg/kg	Depth of sample in metres
BH7	7	1
BH11	15	0.25
BH16	13	0
BH17	13	0.5
BH18	7.3	0.5
BH19	5.2	0.25
BH077	3	0-0.5
BH078	6	0-0.5
BH089	38.8	1
BH100	8.3	3.65
BH108	3.7	0-0.5
BH15 - hot spot	88	1

In addition to the hot spot at BH15, BH089 also has very high BaP levels at ***38.8mg/kg.***

12.3.3 Environmental Investigation Services in 2014 found coal ash/slag

Environmental Investigation Services prepared a Stage 1 and 2 Environmental Site Investigation for a Proposed Cammeray Park Upgrade in the Golf Course in 2014. During the investigation, 19 evenly spaced sampling points were taken for the proposed development area of approximately 8,500 square metres.



Source: Environmental Investigation Services Report 2014

Environmental Investigation Services:

- found widespread contamination (which included benzo(a)pyrene, Total Petroleum Hydrogen and zinc). Eight of 19 samples taken showed elevated concentration of benzo(a)pyrene TEQ above recreational HILs.

- considered the PAHs, including benzo(a)pyrene, present in the samples taken from the site are associated with **ash/slag** generated from the burning of coal.

- formed the view that the contamination encountered at the site poses a risk to the receptors and that remediation or management would be required to reduce this risk. The site was later covered with synthetic turf.

Note the maximum concentration of benzo(a)pyrene was **50mg/kg** found at shallow depths at (DUPC/ BH11 (0-0.3m). This exceeded the HIL for both recreational and industrial and commercial use. All the elevated benzo(a)pyrene samples were found at shallow depths (from 0.15m to 1.1m).

According to the Environmental Investigation Services Report:

> "Historical site information indicated that the site was developed prior to and has been occupied since at least 1930. ***Based on this information some historical filling of the site was considered likely to have occurred in the early 1900's. Slag and ash was frequently used as fill material during this period in Sydney. The slag and ash may have originated from various metal processing***

industries and from coal burning, respectively. EIS has undertaken a number of investigations in the area that have identified similar fill material types and associated contamination conditions."

B(a)P and PAHs are contaminants found in "ash, ash-contaminated natural excavated materials or coal- contaminated natural excavated material".

"Beryllium, Chromium (VI), lead, nickel, PAHs and B(a)P are contaminants found in "metallurgical furnace slag".

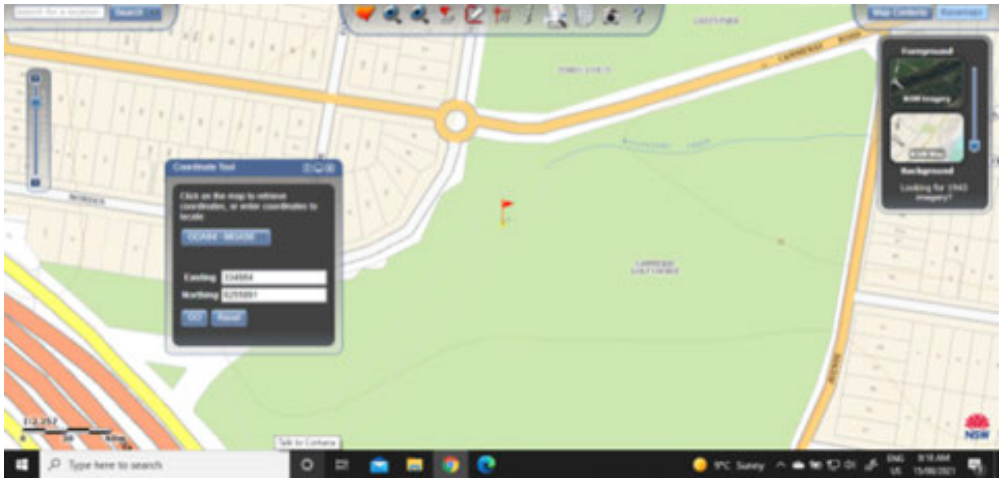
"Some PAH compounds, including benzo(a)pyrene, are of toxicological concern because they are known to be precursors to cancer causing metabolites."

12.3.4 Ausgrid Borehole testing in 2018

In 2018, there was borehole testing at Cammeray Golf Course as part of an Ausgrid project and a geotechnical report was prepared which can be found at https://www.ausgrid.com.au/-/media/Documents/In-your-community/Construction-projects/Artarmon-to-Mosman/REF/Appendix-F.pdf?la=en&hash=184DC8166320E2E9085CECBAFE3CCC76917C84CC

The Report states that there is contamination at BH126. The Borehole log for BH126 distinguishes between contamination in the first 0.65m, and the contamination below that level which is higher (16.6 mg/kg for sample BH126B) which is presumably from an earlier period. The waste for BH126B is classified as **Hazardous/Restricted Waste**.

The location of Borehole BH126 is marked on the maps below with a red golf flag (near Cammeray Road and Warringa Road).



Groundwater seepage at 0.5m was noted in the borehole log for BH126.

Please note that Early Works are occurring at locations along Warringa Road.

12.3.5 Coal tar as potential contaminant at the Cammeray Golf Course

No consideration been given in the EIS, nor in the DSI report, to potential contamination at Cammeray Golf Course from local industries which may have disposed of waste at the site, including prior to the establishment of Cammeray as suburb in 1909 and prior to the establishment of the gold course. For example, HMAS Platypus was used as a gasworks between 1877-1932 and tar was a by product of coal gas production. Given the reporting of odorous contamination and very high levels of benzo(a)pyrene at the hot spot at BH15 in Jacobs Report, and presence of widespread benzo(a)pyrene, contamination testing of phenols, cyanide and ammonia are needed to rule out coal tar from local coal gas industries.

Coal tar has harmful odours and remediation work is complex and expensive: see remediation work in relation to coal tar contamination at the HMS Platypus site in North Sydney, which involved building an odour enclosure: https://www.harbourtrust.gov.au/media/1380/platypus-management-plan.pdf/ page 26

12.3.6 AECOM and Coffey 2018 Report also found PAH and asbestos

WHT Environmental Impact Statement refers to the AECOM and Coffey 2018 Report, which found Polycyclic Aromatic Hydrocarbons (PAHs) (at two locations) and asbestos containing materials (at one location) at a shallow depth. However, this data was excluded from the DSI Report.

12.3.7 Evidence of dumping of waste from different time periods

The samples also show the presence of building waste/debris such as asphalt, building rubble and PVC pipes. This indicates that waste may have been dumped not only during the early 1900s but also much later as PVC was not manufactured until the 1950s.

12.4 Inadequacies of Jacobs DSI Report for Cammeray Golf Course

12.4.1 Condition of Approval E115 requires a DSI Report to be prepared before any disturbance of the site

E115 provides that a DSI report must be prepared "Prior to the commencement of ***any work*** that would **result in *the disturbance* of moderate to high risk contaminated sites** as identified" in the EIS. The EIS identifies Cammeray Golf Course as a moderate to high risk contaminated site. Work is defined as including low impact work and utilities work. Low impact works includes site establishment work.

The DPIE's assertion that there has been no disturbance of the site "within the meaning of E115", and therefore the Conditions of Approval do not need to be complied with fully, should be rejected. Early works, undertaken by excavators, diggers

and microtunnelling boring equipment, clearly has resulted in a disturbance of the site as seen in the photos below:

Photo taken on 15 August

Photo taken on 29 August

Wide areas of grass have been cleared by diggers and excavators - it is possible for known asbestos to be disturbed as the asbestos at borehole 340 (whereever located) is only 0.25 - 0.5 metres from the surface.

Deep pits excavated have been excavated.

Photo taken on 15 August

Photo taken on 22 August

And now extensive trenches

Photo taken on 5 September

12.5.2 Report does not comply with Conditions E116 and E117

WEPA has prepared a comprehensive complaint outlining in what respects the DSI Report does not comply with Conditions E116 (including guidelines made or approved by the EPA under section 105 of the Contaminated Land Management Act 1997) and E117. This report has been prepared after receiving feedback from a a retired site auditor (**WEPA expert**).

12.5.4 Failure to appoint a site auditor, despite TFNSW commitment (SG6)

TfNSW made a commitment in the EIS to appoint a site auditor to review all DSI reports, as part of Environmental Management Measure SG6. This is an enforceable Condition of Approval (by virtue of Condition A1-A3). The EPA recommended the appointment of a site auditor **for the duration of the works** in their WHT submission.

No site auditor has been appointed to review DSI reports.

It is essential that a site auditor is appointed immediately as:

- the NEPM Schedule B2: Guidelines on Site Characterisation are complex

- WEPA's expert suggests that more sampling is needed to identify the hot spot at BH15 (in the order of 45 samples, in comparison to the 28 samples taken) and the failure to correctly apply these rules **may result in the hotspot at BH15 being incorrectly identified and children and other sensitive users being exposed to harmful odours**

- According to WEPA's expert, averaging is not permissible where there is heterogeneous fill, so that there will be an obligation to notify the contamination at the BH15 hotspot to the EPA under the Contaminated Land Management Act.

- there is a conflict of interest in having Jacobs prepare the DSI Report whilst also (1) being part of SPA carrying out the early works and (2) being part of the consortium, Harbour West Partners, tendering to be a Development Partner.

12.5.5 Exclusion of asbestos

The DSI Report excludes "**known** asbestos" in the EIS on the basis that the location of these sample points was not clear. However, the WHT EIS states that the asbestos was found at a borehole in Cammeray Golf Course (B340_0.05-0.25) - see Appendix M, section 4.4.4, at page 65. It is my understanding that boreholes are surveyed on major

projects and if so, the precise location of the borehole within Cammeray Golf Course can be determined.

12.5.6 Inadequate consideration of off site impacts and transmission pathways

The Detailed Site Investigation report does not adequately consider off site impacts and transmission pathways as required by the Conditions of Approval in E117 and NEPM Guidelines. Elevated benzo(a)pyrene levels have been found which is likely to be associated with other coal combustion by products, such as fly ash or slag (as found in the 2014 investigation) or even coal tar.

Fly ash can be dispersed in air, presenting a health risk to children: “Tiny fly ash particles, which are often microscopic in size, contain high concentrations of arsenic, selenium and other toxic elements, many of which have been enriched through the combustion process….When soil contaminated with fly ash is disturbed or dug up, dust containing the ash can be transported through the air into nearby homes and other indoor environments. Inhaling dust that contains fly ash particles with high levels of toxic metals has been linked with lung and heart disease, cancer, nervous system disorders and other ill effects.” https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=303257&org=NSF&from=news.

Coal ash, which includes fly ash, can be dispersed in surface and ground water. Its toxic constituents can “leach” or dissolve out of the ash into water. Contamination was found from its use as “fill” at a golf course in Chesapeake, Virginia. When groundwater at the golf course was tested, arsenic, boron, chromium, copper, lead and vanadium were detected: *https://www.psr.org/wp-content/uploads/2018/05/coal-ash-hazardous-to-human-health.pdf*

Exposure pathways and negative health impacts of coal cash are discussed at pages 12-15 of the EJA Report: *https://www.envirojustice.org.au/wp-content/uploads/2019/07/EJA_CoalAshReport-lr.pdf*

12.5.7 Relevant Health based investigation levels (HILs)

Jacobs reports contamination against generic health based investigation levels for industrial/commercial users rather than for more rigorous residential/recreational values. It is submitted that recreational HILs should be used:

- given there are transmission pathways, and exposure routes, off site
- parts of the construction site are to be returned for recreational use as public land.

12.5.8 Exclusion of SMEC Report and Sampling

The report only contains a summary of the testing results for soil samples taken by SMEC within the sub-area covered by the Early Works, and does not address its reliability. The SMEC soil testing results have not been given in other areas of the construction site.

The Report does not contain SMEC's groundwater testing results for sub-areas affected by the early works and for the whole site.

It is critical that the SMEC Report and testing results (soil and groundwater) for the whole site be made available to the public, as:

- it may provide further information on the extent, and degree, of contamination at Cammeray Golf Course and its suitability as a dive site
- It may show leaching from contaminated fill from coal ash which appears to be wide spread throughout the golf course.

I requested the SMEC report and sampling results (soil and groundwater) for the whole site from the TFNSW at a meeting on 15 June but TFNSW still have not responded to the request. I take this to amount to a constructive refusal to supply this information.

12.5.9 DSI Report needs to be prepared for the whole of the site

A report has only been prepared for part of the site affected by the early works, rather than the whole site. However, Condition E115 is a clearly worded mandatory precondition and requires a DSI Report for the whole site to be prepared prior to the disturbance of the site at Cammeray.

The failure to prepare a DSI for the whole site is contrary to TfNSW's internal guidelines which requires risks of contamination to be identified early: https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/documents/guides-manuals/guideline-management-contamination.pdf

12.6 Recommendations in relation to Cammeray Golf Course

TfNSW should immediately appoint a site auditor in accordance with its commitment in the EIS and in accordance with the Conditions of Approval.

Before further work is carried out, a DSI Report should be prepared for the whole site to determine whether the site is suitable (1) as a dive site and (2) for its final land use or can be made suitable by remediation, as required by Condition E117. The Report should take into account the possible former use of the site as an old landfill, as well as contamination found in previous investigations. **The site should also be tested for phenols, ammonia**

and cyanide to determine if coal tar is present at the hot spot at BH15 or other locations. The site should also be tested for PFAS: see section 13 below.

The asbestos at B340 should be treated as a hot spot and work on site should cease until the extent of the hot spot is determined after further investigation under the supervision of an EPA accredited site auditor and an asbestos expert.

The DPIE should perform their regulatory functions and require SPA to prepare a DSI Report that is compliant with the Conditions of Approval before works continue.

Work should cease until sufficient baseline groundwater data has been obtained. The EPA in its WHT submission stated that the samplings that had been undertaken do not establish a satisfactory baseline for the quality and quantity of groundwater: see page 7 https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PAE-1961%2120200312T064027.397%20GMT Groundwater seepage has been detected at only 0.5 metre from the surface a previous investigation.

Groundwater should be regularly monitored to detect the off-site migration of toxic contaminants from the coal ash. This should include monitoring groundwater quality at the point of discharge from the golf course at the headwaters of Willoughby Creek.

12.7 Other DSI reports

Concerns raised about the Cammeray Golf Course DSI generally also apply to other DSI Reports. Specific concerns about the other DSI Reports are outlined below.

12.7.1 Anzac Park site

The construction site at **Anzac Park** is in a block directly opposite Anzac Park Public School. Construction work is underway but there are no dust curtains.

Photo taken on 5 September

Contamination was found at shallow depths - benzo(a)pyrene at WFU_BH072 / 0.3 to 0.4m and bonded **asbestos** fragment at WFU_BH072 / 0.3 to 0.4m; the **benzo(a)pyrene** level is **70.8 mg/kg** and the **Total PaH** is **898mg/kg** at BH072. Benzo(a)pyrene and Total PAHs both exceed the HILs for industrial and commercial use, as well as for recreational use and should be notified to the EPA under section 60 of the Contaminated Land Management Act.

The Report acknowledges that **the fill across the site is potentially similarly contaminated (given the heterogenous nature of the fill)**.

Although the Report states that the Construction Environmental Management Plan should clearly identify the area around WFU_BH072 as a 'known area of contamination' with strict restrictions on subsurface excavation in this area without approval and supervision of an environmental consultant, there has been no sampling to determine the scope of the "hotspot" at BH072.

12.7.2 Rosalind St site - exclusion of known asbestos and PAHs

The **Rosalind St** site is just around the corner from Anzac Park Public School and Anzac Park.

The WHT Environmental Impact Statement states that there is known asbestos and PAHs referring to AECOM and Coffey 2018 investigation. Jacobs excludes this from its report on the basis that the location of the sample points was not clear.

A precautionary approach is needed to protect children and sensitive users from exposure to asbestos fibres. Rosalind St is only a small site and, rather than excluding known asbestos due to uncertainty, the whole site should adopt best practice measures to prevent exposure to asbestos, which I understand includes:
- prohibition on work occurring at the site during school hours
- air monitors to pick up microscopic asbestos fibres
- keeping the soil damp at all times
- covering excavated soil
- rumble grids and wheel washes to prevent mud tracking of fibres
- retesting soil once excavated.

The unexpected finds procedure is inadequate as asbestos fibres may not be picked up by the human eye during site establishment works.

The AECOM and Coffey Report should be published so the location of previous contamination testing can be viewed by the public and by regulators.

12.7.3 Ridge St site

The **Ridge St** site is in St Leonards Park where:

- children attend the preschool, KU Grandstand
- young children play at the popular playground; and
- school children play sport.

The construction site is directly opposite basketball courts, a popular unleashed area for dogs, lawn balls and The Greens with extensive outdoor seating for food and drinks.

The Ridge St site exits onto streets where there are a number of schools/preschools (including Wenona, Jacaranda Cottage preschool, St Mary's Primary School, Marist Brothers and North Sydney Boys).

Samples of Benzo(a)pyrene TEQ at the Ridge St site are up to three times the safe exposure level for human health for residential and recreational users. The results from the Ridge St DSI Report show a number of heavy metals and other contaminants (including PFAS) in the soil. Although contaminants may not exceed the relevant health based investigation values requiring contamination to be reported, it is unacceptable that sensitive users, including children, should be exposed to contaminants **of any level** as a result of the excavation works at the Ridge St temporary construction site (or any other construction site).

12.4.1 Failure to prepare and publish the Detailed Site Investigation Report at St Leonard Park near Ridge St before the commencement of work

Works at Ridge St were commenced on or around 8 April, however, the DSI report was not finalised until 15 April 2021 and not published until on or around 10 May 2021.

12.4.2 Soil management practices at Ridge St were inadequate

The CEMP for the Stage 1A Early and Enabling Works - Critical utility installation, relocation and protection works states that there will be standard construction air quality mitigation and management measures such as "**dust screens, site exit controls (eg wheel washing systems and rumble grids), stabilisation of exposed areas or stockpiles**, and surface treatments".

The photos below show that these protections do not appear to have been adequately implemented.

(a) Commencement of works - photos taken on 8 and 9 April

There were no dust curtains around the site except in a small area at the entrance to the site. There were mounds of soil left uncovered and exposed to the rain despite the soil having PFAS.

(b) Photos taken on 12 May

Some attempt to cover the mounds of soil occurred after I called the Environmental Representative two days after excavation commenced on 10 April and requested for this to occur. However, there were still many excavated areas which had not been covered and still no dust curtains around the whole perimeter of the site.

(c) Photos taken on 21 June

The site is muddy with no hard surfaces except for a concrete lip at the entrance. Following further complaints, a wooden “fence” or hoarding has been built around part of the perimeter but a large gap has been left to preserve the views of The Greens, rendering ineffective the protection from the hoarding.

(d) Mud tracking

Prior to asphalt being laid (which I understand was in July), heavy vehicles and cars drove in and out of the site. There was only cement at the entrance into the site. There were no wheel washing system or rumble grids to prevent mud tracking, despite a commitment from TfNSW (see EMM AQ1 which is stated to apply to the pre-construction phase).

12.10 Other recommendations - WHT Project

TFNSW should make all contamination testing results (soil and groundwater) and reports available which relate to the WHT and WFU Project, in accordance with its internal guidelines.

Best practice measures should be implemented to control microscopic fugitive dust/ particles from the site and protect sensitive users, including children from exposure to contaminants such as fly ash and asbestos fibres. These include ambient air monitoring for particles less than PM2.5 placed around the site, with real time data available to the public and real time alarm style alerts when monitors are triggered.

A bond or financial assurance is needed from SPA (and subsequent contractors) to protect communities from bearing the cost burden of pollution incidents from poorly managed sites.

I understand that fly ash has been found throughout the parks and recreational land in North Sydney LGA (eg in recent upgrades to St Leonards Park). It is recommended that the contaminants tested for in soil and groundwater at all sites in the North Sydney LGA be broadened to include all coal ash indicators.

There is emerging technology to detect coal ash in fill and the testing regime for coal ash should use best technologies available: https://pubs.acs.org/doi/10.1021/acs.est.1c01215 ; https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=303257&org=NSF&from=news.

Given imported fill has been used throughout the parks and recreational land in North Sydney LGA, it is recommended that the contaminants tested for in the North Sydney LGA be broadened to include PFAS.

13. PFAS and Dioxins - lack of testing at the legacy landfill at Flat Rock Drive, Northbridge and Cammeray Golf Course

13.1 PFAS

The risk of contamination from the dive site at the legacy landfill at Flat Rock Reserve is too high and has been underestimated. Of particular concern is the failure to test for PFAS (which does not degrade, bioaccumulates and is both soluble and very mobile in surface water and ground water). As WEPA points out in their submission on the BL EIS, the EIS did not consider industrial waste at the site from the Hallstrom refrigerator plant which discharged effluent from chrome plating. According to NEPM PFAS 2000, “high concentration PFAS mist suppressants were used to reduce chromium exposure to

workers": https://www.environment.gov.au/system/files/resources/2fadf1bc-b0b6-44cb-a192-78c522d5ec3f/files/pfas-nemp-2.pdf at page 106.

There is flooding risk at Flat Rock Drive construction support site (BL2), where depths of flow are greater than 0.5 metres in a 10% AEP flood event: see section 5.1.1 and Table 5.1 Beaches Link EIS https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-8862%2120201204T023830.146%20GMT

Given that (potentially contaminated) spoil excavated for the tunnel access decline is to be stockpiled on site (and some spoil will be stored on site for the duration of the BL Project) and given the Flat Rock reserve site is next to a creek leading to Long Bay in Middle Harbour, it is essential that Flat Rock Reserve site is tested for PFAS prior to approval. NEPM PFAS recommends that stockpile sites of spoil containing PFAS should not be in flood prone areas (page 55).

Other major dive sites such as Cammeray Golf Course should also be tested for PFAS, noting that project has the risk of increasing flooding to neighbouring residential properties.

The Ridge St site was tested for PFAS. The Ridge St DSI Report states that "the inclusion of PFAS was determined by the potential for PFAS to be present in fill from unknown sources" which was used at the site. There also appears to be fill from unknown sources at the Cammeray Golf Course site, and therefore as a major dive site, it should also be tested.

PFAS contamination poses litigation, regulatory and financial risks for major projects.and PFAS testing is needed to minimise those risks: https://www.nortonrosefulbright.com/en-au/knowledge/publications/3c6031e0/pfas-and-major-projects-mitigating-the-risks-for-construction-contracts

13.2 Dioxins

Flat Rock Gully operated as an incinerator of waste. Dioxins can be expected at the landfill and should be tested for given they are persistent environmental pollutants: https://www.who.int/news-room/fact-sheets/detail/dioxins-and-their-effects-on-human-health

Recommendation

Flat Rock Reserve should be tested for PFAS and Dioxins prior to any approval decision.

Cammeray Golf Course also be tested for PFAS as part of the WHT Project. As already noted, testing needs to be broadened to include all coal ash indicators as well.

14. RMS Contaminated Land Management Principles

The RMS Internal Guidelines for the Management of Contamination contains RMS Contaminated Land Management Principles which are not being followed.

14.1 Open disclosure of contamination testing

RMS Contaminated Land Management Principles states that:
- RMS staff (now TfNSW) and its contractors are to "openly disclose information relating to the contamination status of land and any contamination management works that have been completed."
- RMS currently stores information about contaminated land that it owns or manages in the Property Information Management System (PIMS).

See: https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/documents/guides-manuals/guideline-management-contamination.pdf

I requested that a copy of the results all contamination sampling and reports relating to the WHT and BL Projects be provided in accordance with RMS Internal Guidelines for the Management of Contamination at a meeting at TfNSW on June 15. I am still waiting for a response.

14.2 TfNSW's responsibility for management of contamination

In addition, RMS Contaminated Land Management Principles states that RMS staff (now TfNSW) and contractors will:

- Actively respond to the identification of previously unknown contamination.
- Manage contamination to meet its statutory obligations, including reporting of potentially significantly contaminated land to NSW EPA.
- Ensure that any contamination investigation is of a standard that:
  - meets the requirements of regulatory authorities, including the EPA
  - is written in a manner that provides clear understanding of the issue by inexperienced readers
- Would meet the technical requirements of a 3rd party audit, if required.

See page 5 https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/documents/guides-manuals/guideline-management-contamination.pdf

Recommendation

Transport for NSW, and its contractors, should share all contamination testing result**s** (soil and groundwater) and reports on the locations and sites where works will occur in relation to the WHT and WFU with North Sydney Council, as well as DPIE and the EPA. This will allow more effective decisions on whether to take enforcement action for non-compliance with Conditions of Approval or CEMPs. The same information should also be made available to the public.

TfNSW should take responsibility for the preparation of DSI Reports and investigate contamination whether or not it was identified in the WHT EIS or not.

15. Tenders are on the basis of insufficient sampling

It is of concern that tenderers are preparing tenders on the basis of only limited contamination testing results. I understand that tenders were on the basis of SMEC testing results, but these are not sufficient to amount to a Stage 2 contamination investigation. For example, Jacobs states in its Ridge St Report:

The objective of the SMEC (2020) investigation was to collect and provide factual data to TfNSW for the purpose of informing prospective tenderers of the project of the contamination and geotechnical conditions along the proposed WFU alignment.
It also makes it more likely that insufficient money will be set aside if there are "unexpected finds" when the projects are subsequently carried out, making pollution incidents more likely and inadequately protecting the Community.

Recommendation

The tenders are prepared after a full Stage 2 contamination investigation and relevant Detailed Site Investigation Reports have been prepared.

In relation to the BL Project, then project should not be approved without a Stage 2 Site Investigation and relevant reports prepared which have been made publically availablefor comment. This is to avoid works commencing without full DSI Reports being prepared and tenders being prepared on the basis of insufficient sampling.

16. Failure to disclose WestConnex Safety Review Documents to the Public Accountability Committee, government agencies (including the DPIE and EPA) and the public

Recommendation 16 of the Parliamentary Inquiry into the Impact of the WestConnex project dated June 2018 provided that the NSW Government:

- immediately review the safety measures and conditions relating to the construction of WestConnex to ensure that these measures and conditions are being complied with

- publicly disclose any instances of non-compliance found during the review, including a response as to how these issues will be remedied.

The government's response stated that it was to arrange for an independent safety review of the WestConnex Project Construction activities and respond accordingly, subject to the review findings).

16.1 Non - compliance with Recommendation 16 of WestConnex Parliamentary Inquiry

The government never provided a response to the WestConnex Public Accountability Committee following the safety review, including disclosing any instances of non-compliance. In doing so, the response was not made publicly available.

The government also did not provide a copy of the Safety Review report to other government agencies such as the DPIE and the EPA.

16.2 Importance of the disclosure of the Safety Review Report

The Safety Review report (and subsequent safety audits) are relevant to a consideration of:
-the adequacy of proposed mitigation measures for the Beaches Link and Western Harbour Tunnel
-whether the Conditions of Approval as implemented are adequate in achieving their objective in protecting the public, including children from harm
- whether the Minister needs to make directions under Condition A4(a) of the WHT Conditions of Approval to ensure children, other sensitive users and the workers are not harmed.

If the proposed mitigation measures and Conditions of Approval are the same as those required for the WestConnex Project, and they have proved to be ineffective, then additional or different mitigation measures would be needed for the Beaches Link Project and the Western Harbour Tunnel Project.

The DPIE and EPA are making decisions with respect to the WHT and BL Projects without having the information it needs about the effectiveness of safety measures.

Recommendation

TfNSW publish and/or provide to the DPIE and EPA the Safety Review Report and subsequent audits.

Diane Thakur

Disclaimer: This is not legal advice and independent legal advice should be sought.

Beaches Link Project EIS SSI - 8862

Objection Based on Beaches Link's impact on children - Consideration of Article 24 of the Convention on the Rights of the Child

I object to the Beaches Link Project ("Project") on the basis of its impacts on children.The Project has the potential to be contrary to Article 24 of the Convention on the Rights of the Child, which states that all children are entitled to "the enjoyment of the highest attainable standard of health".

Overview

1. Australia is a party to the Convention on the Rights of the Child (the "Convention"). By ratifying a treaty, a country voluntarily accepts legal obligations under international law.

2. The Beaches Link Project has the potential to be contrary to Article 24 of the Convention. Article 24 states that all children are entitled to "the enjoyment of the highest attainable standard of health". Under Article 24, children are arguably entitled to:
- the right to clean air;
- the right to a clean and healthy environment; and
- the right to a sustainable environment.

See section 1 under Analysis.

3. The Beaches Link Project has the potential to be detrimental to the respiratory health of children, noting:

- children are likely to be exposed to high levels of **construction dust**, at levels significantly exceeding the national maximum limit, based on the WestConnex experience). This dust may include **silica dust**.

- there is a significant risk that children will be exposed to **contamination**, including from **asbestos** and **leachate gas**. Several construction sites have a moderate to high contamination risk and one is located at a legacy landfill site (Flat Rock Reserve) adjacent to Australia's Largest Netball Club, a Baseball Diamond, walking tracks and in a catchment upstream from additional playing fields.

- diesel emissions will increase from additional construction vehicle movements - 900 per day at Flat Rock and 580 per day at Cammeray (in addition to 965 per day for the Western Harbour Tunnel Works).

- there will be an **increase in roadside pollution** from surface traffic, not only before, but **after** construction (in the vicinity of schools and playing fields).

- "safe" levels of particulate particles (PM 2.5 and PM 10) are already high, and the Beaches Link and related projects will be see them exceeded.

- the combined Western Harbour Tunnel/Beaches Link projects will create an increase of CO 8.4%, NOx 6.5%, PM10 7.1% and PM2.5 7.1% across the project ten years after opening (2037).

See section 2.1 and 3.2 under Analysis.

Other impacts on children include:

- loss of green spaces (20.9 Ha) and poorer quality ovals and green spaces (from noise exceedances, dust risks and access issues during construction)
- the restriction on use of the harbour recreationally (for swimming and sailing)
- noise at a level disturbing sleep and affecting mental health
- a significant increase in GHG emissions (a form of air pollution) and a contributor to climate change

In addition to the ongoing impacts on clean air affecting school children, there will be additional intergenerational impacts because of:

- significant biodiversity loss/impacts.

- Sydney Harbour, a public asset of national and heritage significance, will be impacted and has the potential to be contaminated through the use of immersed tubes for the harbour crossing which requires dredging of the harbour (displacing the contaminants which have been identified). Transport NSW previously **rejected** the use of immersed tubes as a harbour crossing for the Sydney Metro in 2016 because of environmental impacts.

See section 2.2 under Analysis.

4. The Beaches Link Project will involve construction over a 5 year period. However, the Beaches Link Project will overlap with, and continue, after the Western Harbour Tunnel and Warringah Freeway Projects. The **cumulative impacts** must be considered when assessing if there is a breach of the Convention. Schools in Cammeray (3), Neutral Bay (2) and North Sydney (4) will be impacted by construction activities for at least 7-8 years.

5. There is no express legislative intention to exclude the rights of children under the planning rules or under the SEARS.

6. The EP&A Act requires a consideration of the **social impacts** of the Project. Social impacts includes **changes in health and wellbeing** and negative social impacts include the **increase in dust and noise impacts affecting community health, surroundings and wellbeing**: see section 1.4(a) under Analysis.

7. EP& A Act is broad enough to require the Minister to consider the impacts of the Project on the health and well being of children and Article 24 of the Convention: see section 1.5 under Analysis.

8. The potential infringement of Article 24 of the Convention is not reasonable as there is a public transport alternative which has not been considered by Transport NSW eg a rail link between DeeWhy and Chatswood.

9. There are currently no effective mitigation measures proposed to deal with dust suppression or contamination: see section 3 under Analysis.

10. The Premier, Transport NSW and the DPIE have been presented with submissions from numerous health organisations and medical experts concerning the risk of serious and irreversible harm to young people resulting from the Beaches Harbour Tunnel, the related Western Harbour Tunnel and other similar infrastructure projects. Accordingly, under the precautionary principle, this Project should not be allowed to proceed until there is an epistemological study to show children's health would not be affected: see section 4 under Analysis.

11. The consultation and decision making procedure on its own has the potential to amount to a breach of Article 24. In particular, the Proponent's request to properly scope and identify risks to the environment and health, and then determine mitigation measures to deal with those risks, **after** the Project is approved is contrary to Article 24: see section 5 under Analysis.

12. Before the Project is approved, the DPIE should:

(1) consider the public transport alternative;

(2) require the Proponent to identify in sufficient detail:

- the risks of, and extent of, contamination after a Stage 2 Investigation
- the mitigation measures it proposes to deal with dust suppression, and contamination as identified in the Stage 2 Investigation
- the risks of subsidence from groundwater drawdown of more than 20 metres (to determine the likely number of properties which will be impacted in Northbridge and Willoughby area)
- the risks of harm to trees and vegetation from groundwater drawdown
- a full study of the biodiversity impacts and consultation with Industry groups to identify mitigation measures to minimise harm to flora and fauna

- full baseline data on water, groundwater, soil and sediments (eg in the harbour, at the tip, in creeks and boreholes).

(3) re-advertise the EIS so the public have a right to comment on these properly scoped risks and proposed mitigation measures.

(4) at the very minimum, modify the Project to:
- provide for filters on ventilation stacks
- not permit spoil to be stockpiled outside acoustic sheds at any time
- move the dive site at Flat Rock Gully away from children, and especially out of the Long Bay Catchment area (ie Bicentennial Reserve/ Flat Rock Reserve and Gully), due to the high level contamination risks and proximity to children's activities.
- not permit contaminated spoil to be retained on the construction site - it should be immediately taken away after excavation
- require real time dust monitors at construction sites, as well as at schools and playing fields in close proximity to construction sites
- require **real time silica dust monitors** in and outside acoustic sheds on construction sites and at schools and on playing fields in close proximity to construction sites. The commencement of works on the Beaches Link (and the Western Harbour Tunnel) should be delayed until such monitors are available
- re-assess the need for an immersed tube design due to the need to dredge (and if still relevant) require full length silt curtains anchored to the sea floor to prevent the spread of contaminants in the Harbour and Middle Harbour.

(5) The Conditions of Approval should require that contractors/private entities engaged to carry out construction activities that may cause material harm to the environment pay a **security deposit**, and take out a **pollution legal liability policy**. This is to ensure that there will sufficient funds available to pay for the remediation of pollution or contamination incidents eg pollution or contamination of Sydney Harbour whilst dredging, and to rehabilitate the land after construction finishes.

(6) There is the potential that failure to approve a Project that reduces, rather than increases, GHG emissions amounts to a breach of human rights. Accordingly, the DPIE should consider a public transport alternative that would reduce GHG emissions: section 6 below under Analysis.

(7) The DPIE should follow the other recommendations in section 5 -7 below under Analysis.

Disclaimer: This is not legal advice and independent legal advice should be sought.

Analysis

1 The Project in its current form has the potential to be contrary to Article 24 of the Convention on the Rights of the Child

1.1 Background

Australia is a party to the Convention on the Rights of the Child ("Convention"). By ratifying the treaty, a country voluntarily accepts legal obligations under international law.

The Australian Government has stated that:

> "The Australian Government is committed to protecting and promoting traditional rights and freedoms, including freedom of speech, opinion, religion, association and movement. These rights and freedoms are protected by **the common law principle that legislation should not infringe fundamental rights and freedoms unless the legislation expresses a clear intention to do so and the infringement is reasonable" :**https://www.ag.gov.au/rights-and-protections/human-rights-and-anti-discrimination/human-rights-protections**.**

The NSW Parliament's website states:

> The UN Convention on the Rights of the Child sets out children's human rights. This includes children's civil and political rights as well as their economic, social and cultural rights. The Convention is not part of the law in Australia but complaints can be made to the Human Rights and Equal Opportunities Commission about breaches of the Convention by the Federal Government. **The Federal Government has a duty under international law to implement the Convention and to ensure that the States and Territories also implement it.** The UN Committee on the Rights of the Child monitors Australia's compliance with the Convention.

https://www.parliament.nsw.gov.au/researchpapers/Pages/childrens-rights-in-nsw.aspx

1.2 Article 24 Convention on the Rights of the Child

Article 24 of the Convention states that all children are entitled to "the enjoyment of the highest attainable standard of health".

The Australian Human Rights Commission has confirmed that "in order for children to be healthy, they need access to **clean air**": https://humanrights.gov.au/about/news/every-childs-right-good-health-focus-2019-national-childrens-week

Article 24 is broad enough to to include the right to a **healthy and clean environment** and the right to a **sustainable environment**.

1.3 Government Decision Making

Australia's commitment to the Convention gives rise to a legitimate expectation that Governments will take into account the best interests of children in making key public policy decisions that will affect children; and in this case that the NSW Government will take their best interests into account in deciding whether, and how to, approve the Beaches Link Project. A failure to do so would be a breach of our obligations under international law.

1.4 SEARS and Part 3 of Schedule 2 to the Environmental Planning and Assessment Regulation 2000

There is no express legislative intention to exclude the rights of children.

Indeed, to the contrary:

(a) EP&A Act requires a consideration of social impacts of the Project

The Environmental Planning and Assessment Act 1979 requires **social impacts** to be assessed and considered as part of the overall environmental impact assessment of all State significant projects.

The objectives of the EP&A Act include:
- to promote the **social and economic welfare** of the community and a better environment by the proper management, development and conservation of the State's natural and other resources
- to facilitate **ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making** about environmental planning and assessment: see section 1.3.

Cases and draft DPIE Social Assessment Guidelines for State significant projects recognise that:

- **social impacts** include **changes to people's health and wellbeing**, including physical and mental health, as well as **changes to overall public health**.

- **negative social impacts** include the **increase in dust and noise impacts affecting community health, surroundings and wellbeing**.

https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/00+-+Planning+Portal+Exhibitions/SIA/SIA+Publication+for+Publication+Online+20201022.pdf

See also *Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC 7

(b) Principles of ESD must be addressed

In justifying the Project, the Proponent must address the principles of **ecological sustainable developmen**t (EDS): see requirements of the EIS in Part 3 of Schedule 2 to the Environmental Planning and Assessment Regulation 2000; SEARS requirement 1. ESD principles include:

- **intergenerational equity** - namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations.

- the **precautionary principle** - namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:
  (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
  (ii) an assessment of the risk-weighted consequences of various options.

- **conservation of biological diversity and ecological integrity** - namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration.

See clause 7(4), Part 3, Schedule 2 to the Environmental Planning and Assessment Regulation 2000.

(c) Regard must be had to the public interest

In particular, where multiple reasonable and feasible options to avoid or minimise impacts are available, they must be identified and considered and the proposed measure justified taking into account the public interest: see SEARS requirement 3(3)

1.5 EP& A Act is broad enough to be interpreted to require the Minister to consider Article 24 of the Convention

Mason CJ and Deane J in Teoh's case noted that:

> "If the language of the legislation is susceptible of a construction which is consistent with the terms of the international instrument and the obligations which it imposes on Australia, then that construction should prevail."

The references to “social impact” and “”social welfare” in the EP &A Act are broad enough to include the health and well being of children. A Court could therefore adopt a construction of the EPA & Act that at least requires the Minister to consider children’s rights under Article 24 of the Convention as part of the mandatory relevant consideration of “social impacts” under the EPA & Act, in order to uphold Australia’s obligations under the Convention.

The principles of ESD permit a consideration of how the Project will affect future generations of children.

2 Impacts on children

The Project has the potential to be contrary to the children’s right to the highest attainable standard of health, including the right clean air, under Article 24 of the Convention.

2.1 Respiratory health

The Beaches Link Project has the potential to be detrimental to the **respiratory health** of children, noting:

- children living, attending schools, or using playing fields, in close proximity to construction sites are likely to suffer from exposure to **high levels of dust pollution (including silica dust).** This is based on the WestConnex Project and the findings of the NSW Parliamentary Inquiry into the impact of the WestConnex Project: see below.

The land based spoil to be generated by the Beaches Link project is as per the attached:

Table 24-6 Indicative land-based spoil generation

Construction site	Spoil volume (cubic metres)	Spoil composition
Cammeray Golf Course (BL1)	222,000	Sandstone
Flat Rock Drive (BL2)	929,880	Sandstone
Punch Street (BL3)	450,860	Sandstone
Balgowlah Golf Course (BL10)	673,940	Sandstone and soil
Wakehurst Parkway surface works	157,120	Sandstone and soil
Wakehurst Parkway east (BL13)	564,850	Sandstone
Gore Hill Freeway surface works	32,080	Sandstone and soil
Total land-based spoil generation	3,030,730	-

Please note that **construction spoil is permitted to be stockpiled outside** according to the EIS. This is of concern as all construction / dive sites sit in densely populated residential areas and are in, and around, schools and sporting fields. The EIS admits that dust is "difficult to contain".

The EIS states that:

- 4500 cubic metres of spoil from the construction site at the Cammeray Golf Course Site can be stockpiled outside. This is near schools, preschools and playing fields.

- 500 cubic metres of spoil from the site at Flat Rock Gully can be stockpiled outside - again near playing fields and areas used by children.

- All spoil from the tunnelling overnight will be stockpiled until trucks pick the spoil up in the morning.

Construction will take place over 5 years. The Flat Rock Gully site alone will involve the removal of 450 truck loads of spoil per day (with 900 truck movements in total).

- there is a significant risk that children will be exposed to other forms of **harmful dust (including asbestos)** from the excavation of old tip at Flat Rock Gully to be used as a dive point.

The Flat Rock Gully site is of particular concern as it has been confirmed as a legacy landfill with a risk of serious contamination (including asbestos), but a Stage 2 Contamination Investigation is yet to be completed. The dust risk assessment has therefore been done on the basis of "clean" fill presenting a dust issue rather than contaminated. Some of the contaminated spoil at Flat Rock Drive is to kept onsite for 5 years in flood prone areas before being reburied, and there is a significant risk that the dust will be spread by the movement of trucks (as occurred in the WestConnex Project) or by the elements. See also the discussion of contamination below.

- there will be an **increase in roadside pollution** from surface traffic **both before and after** construction (in the vicinity of schools and playing fields).

900 construction vehicle movements per day will be needed at the Flat Rock Gully site and will take spoil up a steep incline adjacent to Australia's largest Netball Club, the Willoughby Leisure Centre and Baseball Diamond - this site is also upstream from Tunks Park where thousands of children play sport. There are serious concerns about diesel pollution flooding the valley.

In Cammeray, there will be 580 construction vehicle movements per day for the Beaches Link, which is in addition to 965 per day for the Western Harbour Tunnel works.

The EIS notes the risk of increased diesel emissions to receiver's health.

- **“safe” levels of particulate particles (PM 2.5 and PM 10) will be exceeded.**

Our background levels already appear high, however, local monitors were not used to establish a baseline. They were installed but the results were disregarded.

The Human Health assessment in the EIS does assess asthma risk based on the known information in the EIS and states that the asthma risk is within a "tolerable" range: see Table 5-28 below. Given the large volume of students coming into the project footprint for school and sport, this is not acceptable. There are around 26 schools in the area, each with 500-1000 children each. The Project’s contribution in terms of health is also predicated on a redistribution of pollution from main roads to highly residential areas and assumes that surface level traffic will decrease - an assertion that has been challenged by both North Sydney and Willoughby Council due to the significant changes to the Warringah Freeway required to add in two tunnel ports and prioritise through traffic.

Table 5-28 **Maximum calculated risks associated with short-term residential exposure changes in $PM_{2.5}$ concentrations: regulatory worst case ‘Do something cumulative 2037" scenario**

Scenario	Maximum change in individual risk for the following short-term health endpoints					
	Cardiovascular hospitalisations (65 years+)	Respiratory hospitalisations (65 years +)	Mortality all causes (all ages)	Mortality cardiovascular (all ages)	Mortality respiratory (all ages)	Asthma ED admissions (1– 14 years)
The project						
Maximum annual risk – expected operations	$5x10^{-5}$	$1x10^{-5}$	$3x10^{-6}$	$9x10^{-7}$	$4x10^{-7}$	$1x10^{-5}$
Increase in risk for 1 day of worst case emissions (24 hours which is highly conservative)	$2x10^{-6}$	$4x10^{-7}$	$9x10^{-8}$	$3x10^{-8}$	$1x10^{-8}$	$4x10^{-7}$
Increase in risk assuming worst case event occurs 1 day each week (52 days per year)*	$9x10^{-5}$	$2x10^{-5}$	$5x10^{-6}$	$1x10^{-6}$	$7x10^{-7}$	$2x10^{-5}$
Maximum annual risk – expected conditions plus worst case event**	$1x10^{-4}$	$3x10^{-5}$	$8x10^{-6}$	$2x10^{-6}$	$1x10^{-6}$	$3x10^{-5}$
Negligible risks	$< 1x10^{-6}$					
Tolerable/acceptable risks	$\geq 1x10^{-6}$ and $\leq 1x10^{-4}$					
Unacceptable risks	$> 1x10^{-4}$					

Cumulative Impacts

The Western Harbour Tunnel was recently approved. The Western Harbour Tunnel connects with the Beaches Link and the cumulative impacts of both Projects must be

considered in relation to Cammeray, Naremburn, Northbridge and Middle Harbour. For example, there are additional truck movements associated with the construction site at Cammeray Oval and unfiltered ventilation stacks.

The "safe" levels of particulate particles (PM 2.5 and PM 10) are already high, and these projects will see them exceeded. By selecting a road-based option along a school corridor and increasing vehicles in an already congested area (the runway to the Harbour Bridge), the government is failing to address, and is exacerbating, the pollution issues. The EIS confirms that the combined WHTBL projects create an increase of CO 8.4%, NOx 6.5%, PM10 7.1% and PM2.5 7.1% across the project ten years after opening (2037).

Letter from Sydney Children Hospital

I attach a letter from Sydney Children's Hospital to the Premier dated 29 November 2018: See Attachment A. This letter discusses the ambient and traffic pollution (including particulate matter (PM2.5)) in affected areas and its likely impact on respiratory health (including asthma). The letter also comments on the high number of high schools, primary schools, preschools, hospitals and nursing homes which are a short distance from the unfiltered ventilation stacks and construction sites at Cammeray.

2.2 Other impacts

The Project also has the potential to be contrary to Article 24 as it will result in:

- loss of green spaces (20.9 Ha) **and** poorer quality ovals and green spaces (from noise exceedances, dust risks and access issues during construction)

- the restriction on use of the harbour recreationally

Sydney Harbour is a public asset and the Project will restrict accessibility to the use of the harbour or the foreshore, contrary to Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005. It is likely that the harbour foreshore will not be able to be used recreationally eg for swimming at Northbridge Baths, and the use of the harbour for sailing also will be restricted.

- noise at a level disturbing sleep and affecting mental health

- a significant increase in GHGs (a form of air pollution) and a contributor to climate change

2.3 Intergenerational impacts

In addition to the ongoing impacts on clean air affecting school children, there will be additional intergenerational impacts because of:

- biodiversity loss/impacts

23 vulnerable species will be affected and whole ecosystems in Middle Harbour/ Harbour, Flat Rock Gully and Manly Dam.

- Sydney Harbour, a public asset of national and heritage significance, will be impacted and has the potential to be contaminated through the use of immersed tubes for the harbour crossing (which requires dredging of the harbour, displacing the contaminants).

Transport NSW in the Sydney Metro (Chatswood to Sydenham) Project considered different alternatives to the harbour crossing (including using immersed tubes) and it recommended that the harbour crossing for the Sydney Metro (Chatswood to Sydenham) **should not be by immersed tubes because of the considerable environmental impacts** associated with dredging and cofferdam construction in the harbour: https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-7400%2120190227T104311.781%20GMT (page 74)

Sydney' Main Harbour (WHT) and Middle Harbour (BL) will both be dredged. There also is a significant risk that contamination will occur occur due to run off from the legacy landfill site at Flat Rock Gully.

- Urban Heat Island Effect

Hundreds of trees will be removed in, and around, the expressway and another 3000+ will be destroyed for the Beaches Link tunnel. The Warringah Freeway is a very large open area of concrete surrounded by schools, and the removal of trees is likely to have a significant heating effect.

- Loss of Indigenous and Local Heritage at 11 sites

There are 11 sites assessed as potentially suffering damage as a result of this Project. These areas are rich in local history, and it is important to retain these sites intact as much has already been lost to urban development.

The Project has the potential to expose known and unknown terrestrial and submerged Aboriginal sites to damage or destruction.

- Future generations of children will be locked into toll roads

Sydney has the the largest and most extensive toll road system in the world. Our children in the future will be dependent on using cars, because of the lack of an effective public transport alternative, which in the short to medium term will be a significant contributor to GHG emissions.

3 No effective mitigation measures

There are currently no effective mitigation measures to deal with:

3.1 Dust suppression

(a) WestConnex Project - findings of Parliamentary Inquiry relevant to respiratory health

This Project is similar to the WestConnex project which was subject to a NSW Parliamentary Inquiry: https://www.parliament.nsw.gov.au/lcdocs/inquiries/2497/Final%20report%20-%20Impact%20of%20the%20WestConnex%20Project%20-%20FINAL%20-%2014%20December%202018.pdf

The Final Report of the WestConnex Project Inquiry noted the following:

- high levels of particulate matter recorded in 2017 and 2018 by St Peters Public School's air quality monitoring station: see para 4.60.

- residents who live or work near WestConnex construction sites reported health impacts such as first-time diagnoses of asthma among children, worsening asthma or other respiratory symptoms, conjunctivitis and skin irritations since construction began. The view was put forward that these diagnoses were 'all consistent with exposure to airborne pollutants': see para 4.61.

- Dr Sarina Kilham noted that there was anecdotal evidence of 'children having more frequent asthma attacks, of children who did not previously have asthma starting to have asthma ... [and] children being diagnosed with dust allergies' which was associated with the WestConnex construction: see para 4.62.

- a dust storm in April 2018:

> 'On 9 April 2018, during school pick-up, the Haberfield Public School community were confronted by 'strong winds carr[ying] copious amounts of dust' with parents reporting that the dust 'was so extreme they needed goggles and face masks to deal with the pollution. Many locals attest to seeing the dust blowing off the construction sites'.
>
> At the peak of the dust storm the air quality monitoring station at the school recorded particulate matter (airborne particles) eight times higher than the recommended air quality target' : see para 4.101.

- numerous safety breaches. The CFMMEU expressed concerns about the safety of WestConnex construction sites, in particular, the level of dust emanating from work sites and an apparent lack of steps to ameliorate this risk:

'The CFMMEU along with community groups have made representations to the principal contractors and SafeWork NSW about the amount of silica dust being produced on the project, the effect this dust has on workers and the surrounding community, and the lack of attention given to minimizing the risk.': see para 4.93.

The Inquiry recommended a a review of safety measures.

(b) Complaints to EPA and SafeWork NSW

EPA informed the NSW Parliamentary Inquiry into the Impact of the WestConnex Project that it had received 120 dust complaints: https://www.parliament.nsw.gov.au/lcdocs/other/14178/AQON%20-%20Attachment%20A%20-%20EPA.pdf.

In addition, SafeNSW received numerous complaints about the amount of silica dust being produced on the Project, as confirmed by the CFMMEU's submission to the WestConnex Parliamentary Inquiry. See also https://www.theaustralian.com.au/breaking-news/westconnex-and-northconnex-workers-risked-exposure-to-dangerous-dust/news-story/34a0496c331ad2ea141ce5717ded960f.

(c) Recent experience

Dust measures still exceed national limits on the WestConnex Project (even after a review of safety measures following the WestConnex Inquiry). https://www.westconnex.com.au/media/jnulr4gw/m4m5-lsbj-prw-en-ge01-rpt-0044-01-ndifi.pdf see section 5.4 on final page of Report. Depositional dust exceedances are assessed against the annual maximum level of 4 g/m2/month. During the reporting period 28 November 2019 – 27 May 2020, the Construction Compliance Report: M4-M5 Link Mainline Tunnels, states there were 22 monthly dust results greater than 4 g/m2. At one location, there were exceedances which were three times the maximum limit (at Campbell Road). This was attributable to the **high generation of dust from sandstone stockpiles** within the adjacent New M5 site.

Please note these dust exceedances occurred even though it was stated the sites followed the dust mitigation measures proposed to be followed in the EIS. This shows that in practice, construction dust is difficult to contain, and breaches of dust mitigation measures are likely to occur, putting children's health at risk (as well as the health of the wider community).

(d) State initiatives to control silica dust in tunnelling

There has been a material increase in silica cases since 2017, and cases include workers on tunnelling projects. The NSW government is concerned that exposure to silica dust could pose even more serious risks to respiratory health than asbestos.

As a result, SafeWork NSW has:
- identified respirable crystalline silica as a priority chemical for the elimination and reduction of exposures to silica dust in the workplace; and
- launched a Dust Strategy Campaign 2020-2022

According to SafeWork NSW:

- it is estimated that one in every 100 workers exposed to silica dust will develop disease due to past exposures where the safety measures were not adequate.
- exposure to silica dust can lead to lung cancer, silicosis (which is an irreversible scarring and stiffening of the lungs), kidney disease and increase the risk of chronic obstructive pulmonary disease (such as emphysema).
- it is possible to breathe silica dust in without knowing it as it is more than 100 times smaller than a grain of sand

https://www.safework.nsw.gov.au/__data/assets/pdf_file/0004/923431/NSW-Dust-Strategy-2020-2022.pdf
https://www.safework.nsw.gov.au/__data/assets/pdf_file/0003/386445/Construction-sector-plan.pdf
https://youtu.be/cpaLhmoy1tg

3.2 Contamination

(a) Handling of contaminated spoil at Flat Rock Gully

At Flat Rock Gully, approximately 10,000 cubic metres of contaminated spoil is to be excavated from the landfill site of the old tip. This is required to build a dive point for the excavation of the tunnel and the acoustic shed, and this spoil includes **asbestos**. This site is opposite the Baseball Diamond (where baseball, netball and other sports are played and next to walking tracks through Flat Rock Reserve).

Some of the contaminated spoil will remain on site outside for 5 years in flood prone areas. I understand that some of the spoil will be encapsulated (I am not sure when), but before it is encapsulated, the spoil will be treated as detailed below.

Transport NSW has confirmed by email that:

- Excavated contaminated soil may be temporarily stockpiled or stored onsite before being removed to a licensed disposal location or before being encapsulated onsite.

- For spoil that is on site, but not encapsulated, depending on the contaminants found, measures to prevent impacts to non-contaminated soil and watercourses and also to mitigate health impacts to the community and workforce include:
· Contaminated stockpiles are to be covered at all times

· Weather events will be tracked to ensure stockpiles can be covered in time prior to rain or high wind events to prevent erosion or wind-blown dust
· Contaminated stockpiles are to be bundled with clean soil to prevent runoff
· Placing compacted clean soil to stabilise the site.

These measures have the potential to be inadequate to deal with contaminated spoil from excavation before its encapsulation as:

- there is the risk that spoil could spread when high winds blow suddenly and before the spoil can be covered.
- there also is the risk that covered stockpiles could spread contaminants if this area floods - this is an identified flood prone area: see 1995 Flat Rock Gully Plan of Management.
- placing compacted clean soil to stabilise the site will not stop groundwater in the spoil from leaching.

Leachate Gas

A risk of leachate gas release has been identified but not yet fully tested. Risks at the tip site are vastly under assessed. Gas was released at the St Peter's landfill site during the construction of WestConnex and had a detrimental impact on residents' health.

Given the Flat Rock site is in a valley, this may compound the health risk associated particularly for children who have asthma.

(b) Contamination of Sydney Harbour

In relation to the Western Harbour Tunnel which also poses contamination risks from the use of immersed tubes for the harbour crossing), NSW Australian Marine Sciences Association stated that shallow silt curtains will not be effective at full containment of contaminated resuspended sediments. **Full length silt curtains anchored to the sea floor** are needed: https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SUB-9777%2120200330T061320.656%20GMT. This has been confirmed by the Sydney Coastal Council in their submission on the Beaches Link: https://www.sydneycoastalcouncils.com.au/wp-content/uploads/2021/03/SCCG-Submission.pdf

Both submissions raised the issue of other contaminants being spread eg microplastics.

3.3 There are no filters on ventilation stacks

There are no filters for the four ventilation stacks in close vicinity to schools.

This is despite the Parliamentary Inquiry into the WestConnex project recommending " that the NSW Government install, on all current and future motorway tunnels,

filtration systems in order to reduce the level of pollutants emitted from ventilation stacks."

4 Precautionary Principle

The Premier, Transport NSW and the DPIE have been presented with submissions from numerous health organisations and experts concerning the risk of serious and irreversible harm to young people resulting from the Beaches Harbour Tunnel, the related Western Harbour Tunnel and other similar infrastructure projects.

Recommendation

Accordingly, under the precautionary principle, this Project should not be allowed to proceed until there is an epistemological study to show children's health will not be affected.
See letter from Sydney Children's Hospital attached below.

See presentation from Dr Nassar provided to the WestConnex Parliamentary Inquiry: https://www.parliament.nsw.gov.au/lcdocs/submissions/61864/0210 Dr Raymond Nassar.pdf

5 The consultation and approval procedure is contrary to Article 24

A UN Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment has suggested the following are needed for rights to be effective:

- States should provide public access to environmental information by collecting and disseminating information and by providing affordable, effective and timely access to information to any person upon request (Principle 7)

- To avoid undertaking or authorizing actions with environmental impacts that interfere with the full enjoyment of human rights, States should require the **prior assessment of the possible environmental impacts** of proposed projects and policies, including their potential effects on the enjoyment of human rights (Principle 8)

- States should provide for and facilitate **public participation** in decision-making related to the environment, and take the views of the public into account in the decision-making process (Principle 9)

- States should provide for access to **effective remedies** for violations of human rights and domestic laws relating to the environment (Principle 10)

- States should ensure the **effective enforcement** of their environmental standards against public and private actors (Principle 12)

The Report can be found at: https://documents-dds-ny.un.org/doc/UNDOC/GEN/G19/002/54/PDF/G1900254.pdf?OpenElement

The Framework Principles on Human Rights and the Environment can be found at https://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/FrameworkPrinciplesReport.aspx

Schools and sports fields should be given access information on air quality (and when available, silica dust particles) on a timely and effective manner

Recommendations

There should be real time alert style air quality monitoring during construction, as well as on a **ongoing basis.** The monitors need to be in the most highly impacted schools and sports fields (which is not provided for under the EIS).

There should also be real time alert style **silica dust monitors** in the same locations from December 2021, when they become available: https://www.safework.nsw.gov.au/news/safework-media-releases/world-first-real-time-silica-detector-helps-clear-the-air.

Construction on the Western Harbour Tunnel and the Beaches Link should be delayed until these real time silica dust monitors become available (to ensure that children are protected).

There has not been effective public participation in decision making

Recommendations

In this regard:

- the EIS should be re-advertised once a Stage 2 Contamination Investigation is completed and mitigation measures identified to deal with those risks, so that the Community can have an effective right of consultation.

- Steps to monitor and suppress dust should be outlined in detail with an opportunity for the community to comment. Ideally this should be before the Project is approved or prior to approval of relevant plans.

- Environmental experts and groups should be consulted on whether the mitigation measures proposed to deal with biodiversity impacts are effective. Ideally this should be before the Project is approved or prior to approval of the relevant plans.

There needs to be proper <u>prior</u> assessment of possible environmental impacts.

This can only be done by having the risks with the Project properly identified **<u>before</u>** approval of the Project. The Proponent's request to properly scope and identify risks to the environment and health after the Project is approved undermines an effective right to clean air and a healthy environment.

Recommendations

Before the Project is approved, the Proponent should identify in sufficient detail:
- the risks of, and extent of, contamination after a Stage 2 Investigation
- the mitigation measures it proposes to deal with dust suppression, and contamination as identified in the Stage 2 Investigation
- the risks of subsidence from groundwater drawdown of more than 20 metres (to determine the likely number of properties which will be impacted in the Northbridge and Willoughby area)
- the risks of harm to trees and vegetation from groundwater drawdown. The impacts on trees are much greater than stated in the EIS.
- a full study of the biodiversity impacts and consultation with Industry groups to identify mitigation measures to minimise harm to flora and fauna
- full baseline data on water, groundwater, soil and sediments (eg in the harbour, at the tip, in creeks and boreholes) so there is a reference point against which to assess harm to the environment.

There are currently no effective remedies for violations of human rights and domestic laws relating to the environment

Recommendations

The Conditions of Approval should require that contractors/private entities engaged to carry out construction activities that may cause material harm to the environment pay a **security deposit**, and take out a **pollution legal liability policy**. This is to ensure that there will sufficient funds available to pay for the remediation of pollution or contamination incidents eg pollution or contamination of Sydney Harbour whilst dredging, and to rehabilitate the land after construction finishes.

6 There is the potential that failure to approve a Project that reduces, rather than increases, GHG emissions amounts to a breach of human rights

UN High Commission for Human Rights states "governments have binding legal obligations, based on international human rights law, to undertake **strong reductions in emissions of greenhouse gases**".

Land and Environment Court

Preston CJ's comments in respect of a coal mine in the *Gloucester* decision are applicable to this Project, in particular, that:

> "Approval of the Project will not assist in achieving the **rapid and deep reductions in GHG emissions that are needed now** in order to balance emissions by sources with removals by sinks of GHGs in the second half of this century and achieve the generally agreed goal of limiting the increase in global average temperature to well below 2ºC above pre-industrial levels": para 697; and
>
> The Project was at the "**wrong time** because the GHG emissions of the [Project} will increase global total concentrations of GHGs at a time when what is now urgently needed, in order to meet generally agreed climate targets, is a rapid and deep decrease in GHG emissions: para 699.

Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7

Other decisions world world wide

The Netherlands' highest court upheld an earlier decision by the appellate court in *Urgenda Foundation* v. *Netherlands* that insufficient action to address climate change posed a "risk of irreversible changes to the worldwide ecosystems and liveability of our planet" and a "serious risk that the **current generation of citizens will be confronted with loss of life and/or a disruption of family life…** that the State has a duty to protect against".

The decision confirms that the Government of the Netherlands and, by implication, other governments have binding legal obligations, based on international human rights law, to undertake **strong reductions** in emissions of greenhouse gases.

Recommendations

DPIE should only consider a Project which would decrease GHG emissions. The DPIE should give proper consideration to alternatives to the Project, such as a public transport rail link between Dee Why to Chatswood. This would be preferable as it would not only reduce greenhouse gas emissions and have less harmful environmental impacts, but it would be easier to fund - this is because it presents less risks to investors who now must consider the Project's environmental impacts/impacts on climate change as part of their Environmental, Social, and Governance (ESG) responsibilities.

The DPIE should not consider approving road toll projects unless and until there has been a transition to electric cars, which are powered from renewable sources (assuming there are no other social or environmental impacts).

7 Urgent Action

As noted above, EP& A Act is broad enough to to require the Minister to consider children's rights under Article 24 of the Convention as part of the mandatory relevant consideration of "social impacts" under the EP&A Act, in order to uphold Australia's obligations under the Convention.

The Convention also gives rise to a legitimate expectation that the Minister must take into account the best interests of children in making a decision to approve the Beaches Link Project.

Similarly, the Minister should have taken the best interests of children into account in making its decision to approve the Western Harbour Tunnel.

7.1 Recommendations

(a) The DPIE should not approve a Project unless and until he considers the impacts of the Project on the health and wellbeing of children who go to schools, live and use playing fields/parks in close location to constructions sites and ventilation stacks. This is a mandatory relevant consideration being a social impact.

(b) The DPIE should not approve a Project which has the potential to contravene:

- Article 24 of the Convention
- human rights by increasing GHG emissions.

(c) The Minister should not approve the Project until:

- there is an independent review of the impact on the health of children and residents of short term and ongoing exposures to silica dust, and repeated exposures to other construction dust
- A occupational health and safety expert, preferably with expertise in tunnelling, has reviewed the adequacy of the dust suppression measures.

(d) The Beaches Link will not proceed without the Western Harbour Tunnel. The Minister should also not approve the Beaches Link until the expiry of:

- the statutory time frame for bringing judicial review proceedings brought in respect of the Western Harbour Tunnel; and
- any judicial review proceedings brought in respect of the Western Harbour Tunnel.

7.2 Recommendations in respect of the Western Harbour Tunnel

(a) The Minister should not allow work to commence on the Western Harbour Tunnel until the expiry of:

- the statutory time frame for bringing judicial review proceedings brought in respect of the Western Harbour Tunnel; and
- any judicial review proceedings brought in respect of the Western Harbour Tunnel.

(b) Construction work on the Western Harbour Tunnel should not begin until there is a review of the dust suppression measures and contamination measures and the DPIE has received expert advice on the impact on the health of children and residents of short term and ongoing exposures to silica dust (and repeated exposures to other construction dust).

Diane Staats

Disclaimer: This is not legal advice and independent legal advice should be sought.

Respirable Crystalline Silica Dust in tunnelling spoil - Risks of harm to children living, playing sports and going to school near the construction site at Cammeray

1. Overview

School children living, going to school and playing in sports fields/parks, near the construction site at Cammeray Golf Course will be exposed to **respirable crystalline silica dust** (**RCS**) over **7- 8 years** (during the back to back Western Harbour Tunnel (**WHT**) and Beaches Link (**BL**) projects) unless there are appropriate mitigation measures.

Children at Anzac Park Public School, Cammeray Public School, KU Cammeray Preschool, Cammeraygal High School (Senior Campus) and Neutral Bay Public School, and children exercising at Green Park and Cammeray Oval and Tennis Courts, are potentially affected because of their proximity to the Cammeray site: see attached Map 1.

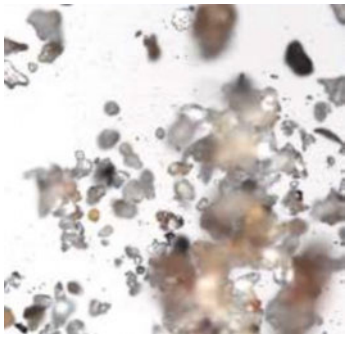
Ian Bridge, an environmental scientist and expert on non-occupational exposure to RCS dust, recommends the application of additional mitigation measures in order to keep children safe:

- a negative pressure acoustic shed
- tunnelling spoil be loaded into trucks using a method to prevent the emission of particulates during loading operations
- ambient RCS levels are limited to 3ug/m^3 with stop work requirements when exceeded
- monitoring of particulates in areas where children may be exposed
- stockpiles from surface works should be contained in a second shed; if temporary stockpiling is required, it should covered at all times
- monitoring, including cameras, with real time data feed, be installed and with results accessible by the Community.

2. Detailed Analysis

2.1 **Respirable crystalline silica** is:

- made of **crushed quartz** from sandstone
- can be breathed deep into the alveolar region of the lungs where it causes damage
- invisible (being less than 4 microns in size)
- can remain in the environment for days.



Magnified view of RCS

2.2 **Exposure to amounts of RCS above the 3 microgram annual average can be harmful:**

- RCS is a Class 1 carcinogen
- There is a causal link between RCS and **lung disease (including silicosis)**

- Beyond a critical level of exposure to silica, the body can no longer clear the silica and it produces an inflammatory response and irreversible damage to the lung occurs
- The dust next to the 5 cent coin is the daily exposure limit for a worker in a tunnel.

The NSW Government has a campaign to minimise exposure to RCS, following the alarming rise of silicosis in stonemasons dealing with engineered stone and coal miners.

2.3 **Tunnelling spoil with RCS dust at Cammeray site**

The WHT and BL will generate over 5 millions tonnes of spoil (630,000 tonnes at Cammeray), primarily from tunnelling over 7- 8 years. The tunnelling projects are similar to an extractive mine. Huge mounds of tunnelling spoil containing RCS will be stockpiled at the Cammeray site in acoustic sheds. The acoustic shed can store one days' tunnelling spoil.

Acoustic shed at WestConnex

Spoil (including crushed rock containing silica) can be stockpiled outside (up to 4,500 cubic metres at Cammeray) for each of WHT and BL projects.

2.4 **Risk of harmful exposure**

There is a risk of harm from **non-occupational** exposure to RCS dust, blown or otherwise dispersed from the stockpiles of ***freshly*** crushed sandstone spoil inside and outside the acoustic shed at the Cammeray site as:

- tunnelling spoil from Sydney's Hawkesbury sandstone contains very high levels of RCS (up to **95%** quartz)
- freshly fractured silica particles (less than 6 hours old) are particularly harmful
- trucks will enter the acoustic sheds every few minutes and be filled with trench spoil, re-dispersing, and making airborne, the harmful RCS contained within the crushed rock. Doors of the acoustic shed are unlikely to be kept closed during the day because of the number of heavy truck movements at Cammeray (485 daily)
- the BL EIS acknowledges that mitigation measures for suppressing dust may be ineffective, particularly on hot windy days, "where the wind is blowing towards a receiver".

During the WestConnex Project, recommended air quality targets were exceeded regularly from dust blowing from construction sites, including outside stockpiles. A dust storm from construction sites was even recorded: https://www.wendybacon.com/2018/haberfield-dust-storm-not-just-a-regional-event

2.5 **There is no 500 metre buffer zone between the site and schools needed to keep children safe -** as recommended by Victoria's EPA and required by NSW Councils for sites involving the crushing and stockpiling of RCS. Anzac Public, Cammeray Public, and KU Cammeray are less than 500 metres from the construction site.

Studies show that silica dust levels remain high 750 metres downwind from sites that may release silica particles - and so Cammeraygal High School and Neutral Bay Public School could also be impacted.

A sandmine at Somersby Fields was refused by the DPIE because of its impact on a primary school which was less than 200 metres from the site (the key issue was exposure to RCS with 95% quartz levels): https://www.smh.com.au/environment/scorn-at-sandmine-rejection-20090810-efmt.html

2.6 **It can be anticipated that children living, going to school and exercising within 500 metres of construction sites will suffer from more severe respiratory illnesses**.

Residents living next to the WestConnex Project experienced: first-time diagnoses of asthma among children, worsening asthma or other respiratory symptoms, conjunctivitis and skin irritations, as well as dust allergies. A study also showed similar symptoms were significantly greater for those living within 500m of a sand quarry as compared to those living farther away.

2.7 **Immediate mitigation measures needed to protect children**

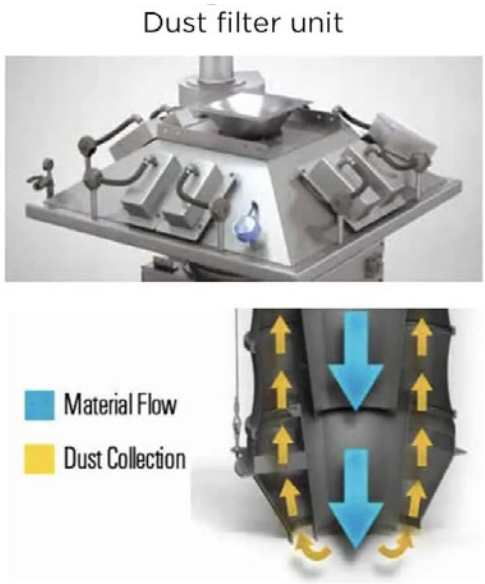
The risks of non-occupational exposure to RCS has been considered by environmental scientist and expert, Ian Bridge, in his peer reviewed paper:

http://www.superquarry.org.au/wp-content/uploads/2011/02/Bridge-2009-environmental-silicosis-risk045.pdf

Mr Bridge recommends the following mitigation measures to help keep children safe:

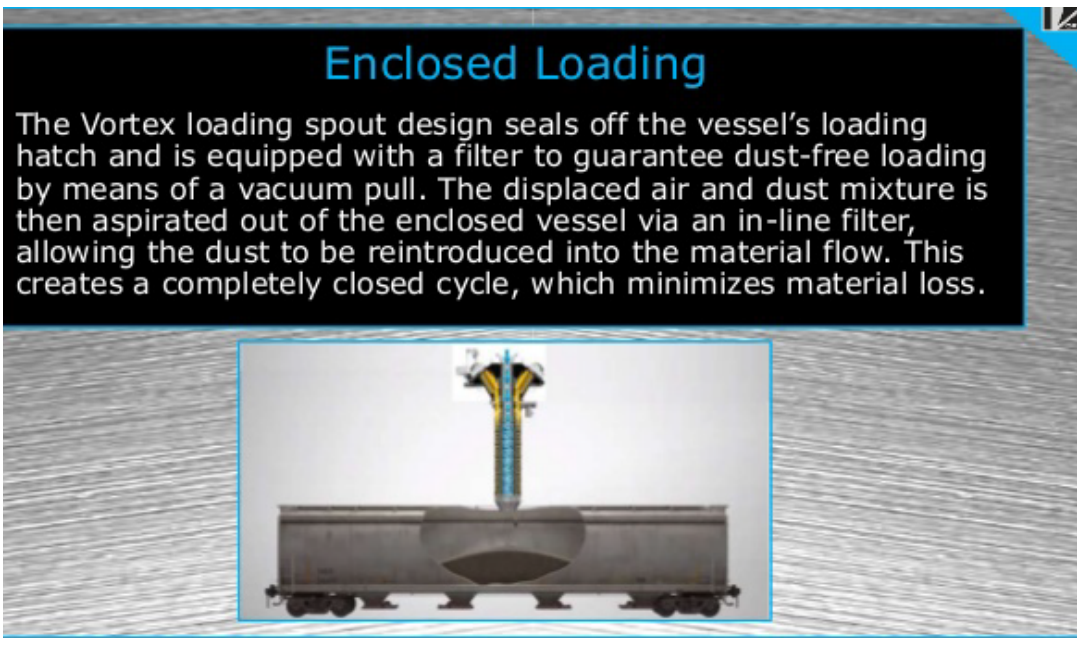
(a) The acoustic shed needs to be modified to a **negative pressure** shed

The pressure inside of the shed will be less than outside - with the result that air from outside will flow Into the shed but air from inside the shed will not flow out. The air in the acoustic shed would be exhausted outside though filters which will reduce emissions of particulates.



(b) Tunnelling spoil should be loaded into trucks using a method to prevent the emission of particulates during loading operations

The loading spout, in the example below, would be an appropriate technology.



Water misting/sprays would not be effective at controlling ultra fine particles.

(c) Ambient RCS levels should be 3ug/m^3 or less

The DPIE (under the Air Quality Management Plan), or the EPA (under a Environment Protection Licence), should implement Victoria's EPA recommendation for a total exposure limit of 3ug/m3 for ambient RCS to protect communities who are potentially exposed in the vicinity of peak sources.

(d)) High quality PM 2.5 and PM 10 monitors should provide real data to the Community and alert them if there is an exceedance of air quality standards

The monitors should be installed in playing fields adjacent to the construction sites and in all schools located within 750 metres from the construction site. Baseline data should be collected before the commencement of construction activities so that there are effective enforcement rights for breach of air quality standards.

This feed should be recorded and stored as a permanent public record as the health impacts of exposure to RCS dust and other particulates may become apparent much later if clusters of cancer or respirable diseases emerge.

(e) There should be stop work requirements when air quality standards are exceeded

The Air Quality Management Plan for the WHT, and the Conditions of Approval for the Beaches Link, should require a cessation of work at the construction site if, and for as long as, ambient RCS dust levels and other ambient air quality standards are exceeded. Stop work should still occur even if the exceedences are not caused by the tunnelling construction works eg by bushfires, and should only resume when air quality is within acceptable limits. This is because <u>total</u> exposure to ambient air quality particulates is the health risk concern.

(d) No stockpiles outside sheds and spoil from adjoining surface works must be tested

There should be a prohibition on:

- leaving uncovered stockpiles outside - stockpiles of surface works should be stored in a separate shed (without increasing the footprint of the construction site); if temporary stockpiles are required before the constructions of sheds, they should be covered at all times
- any silica dust in stockpiles
- stockpiling spoil from surface works in other areas because of contamination concerns (unless the spoil is re - tested after excavation to confirm no contamination).

(e) Installation of cameras and monitors with real time data accessible by the Community

Cameras with real time data feed on the website should be placed in the Cammeray construction site (both within and outside the acoustic shed). This is to ensure that there is compliance with Conditions of Approval.

2.8 Possible future mitigation measures (RCS monitors)

As soon as real time RCS monitors are commercially available, such monitors should be added as additional mitigation measures and installed:
- at the construction site (in and outside the acoustic sheds)
- in playing fields adjacent to the construction site
- In schools located within 750 metres from the construction site.

The monitors should provide real time data to the Community and alert them if there is an exceedance of the RCS levels. This feed should be recorded and stored as a permanent public record as the health impacts of exposure to RCS dust may become apparent much later if clusters of cancer or respirable diseases emerge.

Work at the construction site should cease if, and for as long as, ambient RCS dust levels are exceeded.

3 **Other comments**

3.1 **Additional mitigation measures**

Additional measures may be necessary to deal with particulates arising from construction activities or from the operation of the tunnel.

3.2 **Beaches Link - other affected areas**

The concerns about children's exposure to RCS also affects children using playing fields at Flat Rock Baseball Diamond, Bicentennial Netball Courts and Ovals and Shore Oval (their proximity to the Flat Rock Reserve site is shown in Map 2) and children going to school at Balgowlah Boys High School, St Cecilia's and Seaforth Public School.

Diane Staats

BA (Hons) Syd, LLB Syd, BCL (Oxon), DipLaw (Oxon)

Paper reviewed by Ian Bridge - environmental scientist, university lecturer and and expert on non-occupational exposure to RCS dust: https://www.linkedin.com/in/ian-bridge-5639908/

Crystalline Silica and Contaminated Dust Risks and Proximity to Children – Cammeray Major Construction Site for Beaches Link

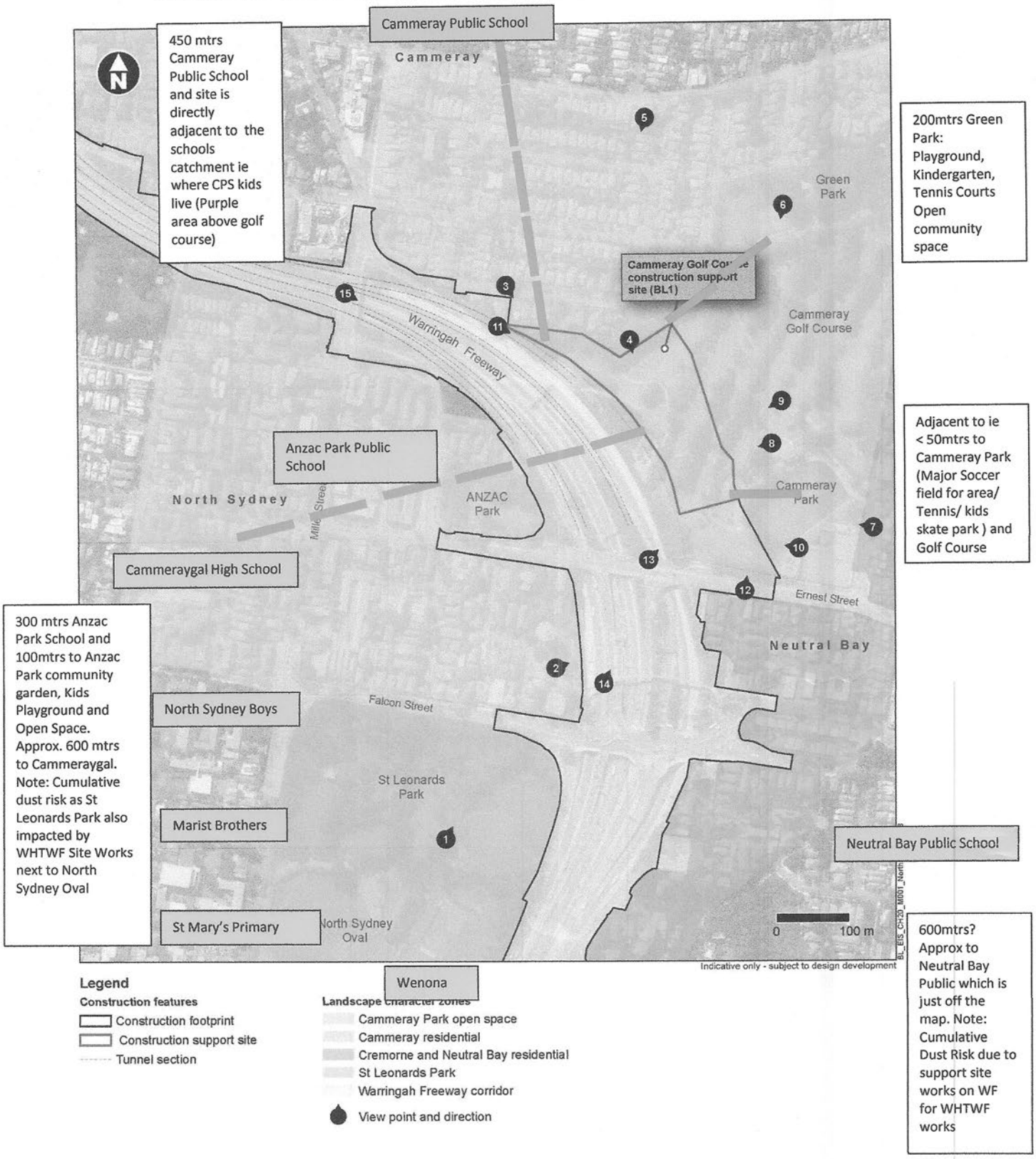
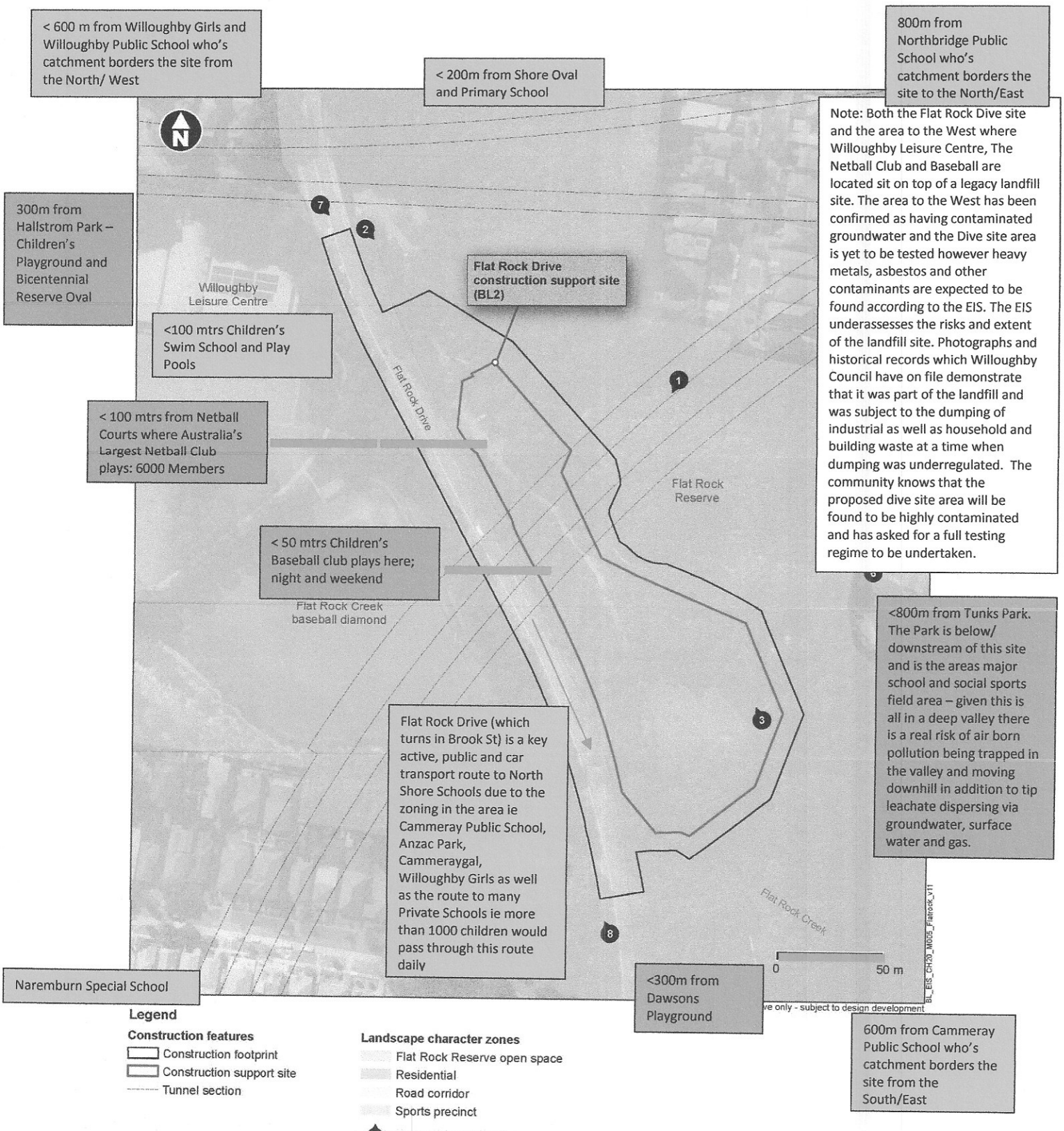


Figure 22-5 North Sydney precinct landscape character zones and viewpoints

Crystalline Silica and Contaminated Dust Risks and Proximity to Children

Flat Rock Gully Site



Industry Specialists State that harmful levels of construction dust such as silica can travel over long distances

Wind Speed	Travel Distance
5 km/h (3.1 mph)	0.9 km (.55 mile)
10 (6.2 mph)	1.8 (1.1 miles)
20 (12.4 mph)	3.7 (2.3 miles)
40 (24.8 mph)	7.4 (4.6 miles)
60 (37.3 mph)	11.1 (6.9 miles)
80 (49.7 mph)	14.8 (9.2 miles)

(Ref:http://www.citicite.com/files/Uploads/1220/Dust%20Particulant%20Distance%20Travel%20and%20Impacts%20on%20Adj%20Properties,%20incl%20Resp%20&%20Allergic%20Immune%20Responses.pdf)

Appendix 3

I attach below the EPA response to my Respirable Crystalline Silica Dust Paper. I sought an internal review which the EPA has confirmed they are considering.

EPA Response

I refer to your email to the Minister for Energy and Environment, the Hon Matt Kean MP, and Ms Tracy Mackey, Chief Executive Officer, about potential silica dust impacts resulting from tunnelling activities associated with the Western Harbour Tunnel and proposed Beaches Link projects. Your email was referred to the NSW Environment Protection Authority (EPA) and I have been asked to reply.

I appreciate you taking the time to bring these important matters to the EPA's attention.

The EPA and the Department of Planning, Industry and Environment (DPIE) both have roles in regulating environmental and community impacts from construction of major infrastructure transport projects in NSW. DPIE (Planning) issue the conditions of approval for such projects; the EPA issues environment protection licences under the *Protection of the Environment Operations Act 1997* (POEO Act). These licences include conditions that regulate pollution to land, water, noise and air.

The EPA has recently issued licence # 21528 to John Holland Pty Ltd for early works for the Western Harbour Tunnel/Warringah Freeway Upgrade (WHTWFU) project. The licence authorises John Holland to undertake enabling works only, such as utility works and construction of site compounds. The licence will be updated and additional conditions included before the main road construction activities commence. The licence is available on the EPA's public register (https://www.epa.nsw.gov.au/licensing-and-regulation/public-registers).

I note that many of the concerns raised in your letter relate to potential impacts from main road construction works for WHTWFU and the proposed Beaches Link project, currently under consideration by DPIE. Neither of these works have yet commenced; however, I have enclosed information about the EPA's regulation of air pollution generally and from early works of the WHTWFU project

General information about the EPA's regulation of air pollution can be found at https://www.epa.nsw.gov.au/your-environment/air.

The EPA's approach is ensuring particle emissions are adequately controlled. Licensees are required to implement suitable mitigation measures and controls to minimise particle emissions.

Whilst the POEO Act or the licence #21528 does not list requirements specifically related to crystalline silica, section 128(2) of the POEO Act requires the occupier of any premises to undertake all necessary and practicable means to prevent or minimise air pollution from their activities. This requirement is reflected in conditions O3.1, O3.2 and O3.3 of licence # 21528.

I appreciate you have offered a number of suggestions for managing and mitigating exposure risks to silica dust. Neither the POEO Act nor licence #21528 specifies how particle emissions should be controlled or minimised. Contemporary regulation adopts an outcomes based approach that allows flexibility in achieving the desired outcomes, which can lead to opertaional innovations with better results for the environment and the community.

The EPA does not set ambient air limits or require ambient air quality monitoring in environment protection licences for major transport infrastructure construction projects as multiple emission sources may contribute to ambient air quality and it is difficult to attribute results to a specific source.

Major transport infrastructure construction projects are required, through conditions of approval, to prepare and implement management plans for the effective management of particulate matter emissions.

The WHTWFU project is required to prepare a Construction Environmental Management Plan (CEMP), that includes an Air Quality and Odour Management Plan, under the conditions of approval (SSI-8863), Part C (Construction Environmental Management). The project prepared the CEMP in April 2021 for stage 1a early and enabling works (critical utility installation, relocation and protection works) to describe how environmental issues will be considered and managed during this stage.

The CEMP is required to be reviewed and updated for subsequent stages of the project to ensure the emission sources and mitigation strategies are relevant to each project stage, including main construction works.

The management plan for the main works are to include, at a minimum:

- proactive and reactive mitigation strategies of all significant, and potentially significant emissions sources and pollutants;
- key performance indicator(s);
- monitoring method(s);
- location, frequency and duration of monitoring;
- record keeping;
- response mechanisms and contingency measures;
- system and performance review for continuous improvement; and
- compliance reporting.

If you have any further questions about this issue, please contact [ ]

Environment Protection Authority

SYDNEY CHILDREN'S HOSPITAL RANDWICK

The Sydney children's Hospitals Network

High Street Randwick NSW 2031 Australia
Telephone +61 2 9382 1111

The Hon. Gladys Berejiklian, MP
Premier of New South Wales
Member for Willoughby
280 Willoughby Road
NAREMBURN NSW 2065

29th November 2018

Dear Premier,

We are writing as a group of concerned paediatricians and child health advocates. It has come to our attention that the NSW government is well advanced in planning for road tunnels linking the Northern Beaches via North Sydney to the WestConnex via Rozelle. It is our understanding that these will be 3 lane tunnels surfacing along the Warringah Freeway. The current design includes ventilation stacks at Cammeray immediately to the North of the North Sydney CBD. This would effectively release 15km of unfiltered vehicle emissions in a location which already frequently sees spikes in emissions related to freeway traffic. What is of grave concern is that this particular location is within a very short distance of a high concentration of educational and care facilities. Notably this includes 32 primary and high schools, 32 pre-schools and 15 hospitals and nursing homes. It seems beyond comprehension to us that the current design would be contemplated. There is no parallel of tunnels of this length being ventilated in an unfiltered fashion into such a densely populated and already polluted region anywhere else in Australia.

The health effects of airborne vehicle pollution impact a range of populations, ages and organ systems but our particular concern relates to the specific effects on children's health. There is clear and incontrovertible evidence in the literature that vehicle pollution, even at low levels, adversely affects child health. To support our arguments we have only included references from high quality studies published in the last ten years.

The World Health Organization has long been aware of the effects of traffic pollution on human health and in 2016 published a detailed report including recommendations(1). While national data for Australia was comparable with most developed nations in this report it did not report location specific data within Australia. In a robust analysis of particulate matter (PM2.5) exposure across 4 transportation modes (train, bus, automobile and ferry), readings were at least 4 times higher than urban data quoted for Australia in the WHO report(2). Of particular note the latter data was captured across transportation modes from North Sydney to Sydney CBD, the precise area of concern. Most alarming to us is the trend of increasing days per annum in Sydney East (including

North Sydney) where the National Environment Protection Measures Council maximum targets for PM10 and PM2.5 are exceeded, as reported by the NSW office of environment and heritage (3).

While multiple childhood health outcomes have been studied in relation to vehicle pollution exposure, the area that has received the most attention is respiratory health. The rising international incidence of childhood asthma is widely publicised. Whilst not the only factor, rising ambient pollution is felt to have played a major role in this. This has been very eloquently demonstrated in the medical literature. Direct correlations have been made between levels of particulate matter exposure and the prevalence of childhood asthma. This has been repeated across multiple locations and at multiple time points to control for weather and other fluctuations, with consistent patterns being seen(4). Of all the data published to date, the most compelling argument pointing to a link was the reduction in asthma presentations seen in Atlanta during the 1996 Olympics. (5). The study, published in the reputable Journal of the American Medical Association (JAMA) demonstrated that asthma presentations decreased across a range of health settings (19% to 44% reduction) while peak traffic counts and ozone concentrations were reduced due to traffic mitigation for the Olympics. Notably all other health presentations remained stable during the same time period.

The association between air pollution, specifically PM2.5 particulate matter derived from traffic emissions, and low birth weight has been well studied. A recent systematic review pooling study results, the highest level of available evidence, has confirmed this association (6). In terms of population health low birth weight rates are a crucial indicator of overall health status and affected individuals have significantly higher lifelong cardiovascular, neurodevelopmental and respiratory morbidity. A very large study from the United States (North-eastern and Mid-Atlantic region) conclusively demonstrated a link between the incidence of low birth weight infants and atmospheric PM2.5 concentrations (7). This article not only summarises the extensive literature on the topic but also makes the observation that PM2.5 traffic related emissions are derived from the burning of fossil fuels in internal combustion engines but also from road dust. The latter particles were also associated with increased rates of low birth weight, so that even as we transition to electric vehicles, dangerous particulate matter levels will remain problematic.

There is also a plethora of literature linking both childhood and adult cancer with traffic pollution. We will focus on the available evidence relating to increased incidence of childhood leukaemia, the most common of all childhood cancers. A very large and well-coordinated recent Spanish study elegantly demonstrated a relationship between the distance one lived from various road types and the risk of leukaemia (8). Furthermore in the USA the Centre for Disease Control (CDC) was concerned enough to commission a systematic review of the available literature. Again the pooled data (including several thousand leukaemia cases) demonstrated a positive association between childhood leukaemia and residential traffic exposure(9).

There has long been a concern that air pollution including particulate matter and nitric oxide (NO) may have a detrimental effect on the developing human brain. There is a growing body of literature which reports a link between air pollution and poor developmental, learning and behavioral outcomes. In the city of Los Angeles where there is a high rate of automobile use, air quality is

closely monitored and the rate of autism appears to have increases in areas where pregnant women are exposed to high levels of traffic derived pollution (10). Most compelling however was a study published on 19th November 2018, again in JAMA, which reported an association between Autism Spectrum Disorder (ASD) and prenatal exposure to NO (11). This study is powerful as it is a population-based cohort encompassing nearly all births in Metro Vancouver, British Columbia, Canada, from 2004 through 2009, with follow-up through 2014. It is robustly constructed both in terms of the measurements of air pollution and standardized diagnosis of ASD.

In conclusion we implore you to further explore the potential impacts of vehicle pollution relating to this project. We have grave concerns that the health impacts on children, who are the most susceptible to prolonged exposure due to the high concentration of educational facilities in the affected area, have been underestimated. There is a large body of high quality recent literature to substantiate our concerns. In addition we urge your government to follow the international trend of moving from automobile to more active forms of transport, with the lifelong health benefits of the latter being substantial.

We remain at your disposal to discuss our concerns further.

Yours sincerely,

Staff Specialist
Department of Neurology
Sydney Children's Hospital

Head of Department
Department of General Paediatrics
Sydney Children's Hospital

Head of Department
Department of Respiratory Medicine
Sydney Children's Hospital

Senior Staff Specialist
Department of Haematology and Oncology
Sydney Children's Hospital

Head of Department
Department of Developmental Medicine
Sydney Children's Hospital

References

1. WHO. Ambient Air Pollution: A Global Assessment of Assessment and Burden of Disease. 2016.
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AK

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13 JAN 2014

PLANNING CERTIFICATE UNDER SECTION 149 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Cert. No.: **57099/02**
Page No.: **1 of 6**

Parcel No: 62689

Date: 08/01/2014
Receipt No.: 1532216
Your REF:

Applicant:
Environmental Investigation Services

PO BOX 976
NORTH RYDE BC NSW 1670

Owner (as recorded by council):
Cammeray Golf Club Ltd & North Sydney Council
Park Ave
CREMORNE NSW 2090

Property Description:
Cammeray Road CAMMERAY 2062
LOT: 7302 DP: 1136001

The Title information shown on this Certificate has been obtained from the Land and Property Information NSW, therefore Council cannot guarantee accuracy.

The information required to be disclosed in this planning certificate is that prescribed by Schedule 4 of the Environmental Planning and Assessment Regulation 2000. If no response is provided in this planning certificate for an item listed in Schedule 4, that matter has been considered and determined as not applying to the land to which this certificate relates.

AS AT THE DATE OF THE CERTIFICATE THE FOLLOWING MATTERS APPLY TO THE ABOVE MENTIONED LAND.

PLANNING INSTRUMENT:

North Sydney Local Environmental Plan 2013, published on the NSW legislation website on 2 August 2013 and came into force on 13 September 2013

Zone: RE1 – Public Recreation
PERMITTED WITHOUT CONSENT
Environmental protection works
PERMITTED WITH CONSENT
Building identification signs; Business identification signs; Community facilities; Environmental facilities; Information and educational facilities; Kiosks; Recreation areas; Recreational facilities (outdoor); Roads; Water recreation structures
PROHIBITED
Any purpose, other than a purpose listed above, is prohibited in the zone

Exempt Development
Development for the purposes set out in clause 3.1 of *North Sydney Local Environmental Plan 2013* is exempt development, which may be carried out within the zone without the need for development consent.

Complying Development
Development for the purposes set out in clause 3.2 of *North Sydney Local Environmental Plan 2013* is complying development, which may be carried out within the zone without the need for development

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consent, provided that a complying development certificate is obtained.

DRAFT PLANNING INSTRUMENTS:

Planning Proposal – North Sydney Olympic Pool (4 Alfred Street South, Milsons Point)
This Planning Proposal seeks to amend *North Sydney Local Environmental Plan 2001* (NSLEP 2001) and any subsequent comprehensive LEP (i.e NSLEP 2013) by adding a site specific provision under Part 5 of NSLEP 2001 to enable *"commercial premises"* to be undertaken at the site known as the North Sydney Olympic Pool at 4 Alfred Street South, Milsons Point. The additional use of *"commercial premises"* is being sought to allow a designated portion of the site to be used for private/corporate functions.

Public exhibition of the Planning Proposal will take place from 28 February 2013 to 13 March 2013.

DEVELOPMENT CONTROL PLANS:

North Sydney Development Control Plan 2013
North Sydney Development Control Plan 2013 applies to all land to which *North Sydney Local Environmental Plan 2013* applies. The Development Control Plan was adopted by Council on 2 September 2013 and came into effect on 13 September 2013.

North Sydney DCP 2013 – Draft Amendment
At its meeting on 14 October 2013 Council endorsed a draft DCP amendment for the purpose of public exhibition. The draft amendment relates to certain land in St Leonards and seeks to ensure that new development incorporates the setbacks, podium heights and provision of awnings as recommended by the St Leonards / Crows Nest Planning Study - Precinct 1 which was adopted in 2012. Public exhibition of the draft DCP amendment will take place from Thursday 7 November 2013 to Friday 6 December 2013.

SECTION 94 DEVELOPER CONTRIBUTION PLANS:

North Sydney Section 94 Contributions Plan. Comprehensive contributions plan applying to all development in the North Sydney local government area. Effective from 20 June 2013.

HERITAGE CONTROLS:

The subject land IS NOT LOCATED within a CONSERVATION AREA, under clause 5.10 - Heritage Conservation to *North Sydney Local Environmental Plan 2013.*

The whole or part of the subject land IS A HERITAGE ITEM, under clause 5.10 - Heritage Conservation to *North Sydney Local Environmental Plan 2013.* Development consent is required for demolition (including partial demolition) or any change to the property, construction of a building on, or subdivision of, the land. Council may refuse consent to demolish a Heritage Item.

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The subject land is NOT IDENTIFIED as containing a HERITAGE ITEM under *Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005.*

OTHER CONTROLS:

The subject land is NOT AFFECTED by Section 38 or 39 of the *Coastal Protection Act 1979*.

Council is NOT AWARE of the subject land being subject to an Order made under Part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works undertaken on that land.

Council is NOT AWARE of any public land adjoining the subject land being subject to an Order made under Part 4D of the *Coastal Protection Act 1979* in relation to temporary coastal protection works.

Council is NOT AWARE of any notice issued under Clause 55X of the *Coastal Protection Act 1979* advising of the placement of temporary coastal protection works on the subject land.

Council is NOT AWARE of any notice issued under Clause 55X of the *Coastal Protection Act 1979* advising Council of the placement of temporary coastal protection works on land adjacent to the subject land.

The subject land is NOT PROCLAIMED as a Mine Subsidence District within the meaning of Section 15 of the *Mine Subsidence Compensation Act 1961*.

The subject land is NOT AFFECTED by any ROAD WIDENING OR ROAD REALIGNMENT under the *Roads Act 1993*.

The subject land is NOT AFFECTED by any ROAD WIDENING OR ROAD REALIGNMENT under any environmental planning instrument.

The subject land is NOT AFFECTED by any ROAD WIDENING OR ROAD RESERVATION under any Council resolution.

The subject land is NOT IDENTIFIED as BUSHFIRE PRONE LAND on Council's Bushfire Prone Land Map as certified by the NSW Rural Fire Service Commissioner dated 8 April 2009 pursuant to the requirements under the of the *Rural Fires Act 1997* and *Environmental Planning and Assessment Act 1979*.

The subject land is NOT SUBJECT to any reservation for LAND ACQUISITION by a public authority for any purpose under any environmental planning instrument applying to the land as set out in this certificate.

Contamination Information:
Council records indicate that the subject land may have been used in the past for a potentially contaminating activity. Council suggests that you should purchase a section 149(5) certificate so that you are aware of this information.

The subject land is NOT AFFECTED by a policy, adopted by the Council or adopted by any other public authority and notified to the Council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the Council, that restricts the development of the land by reason of the likelihood of landslip, bushfire, flooding, tidal inundation, subsidence, acid sulphate soils or any other risk

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except contamination.

THE FOLLOWING STATE ENVIRONMENTAL PLANNING POLICIES AND REGIONAL ENVIRONMENTAL PLANS APPLY:

State Environmental Planning Policies (SEPPs)
SEPP No. 6 - Number of storeys in a building
SEPP No. 19 - Bushland in urban areas
SEPP No. 22 - Shops and commercial premises
SEPP No. 32 - Urban consolidation (redevelopment of urban land)
SEPP No. 33 - Hazardous and offensive development
SEPP No. 50 - Canal estate development
SEPP No. 55 - Remediation of land
SEPP No. 56 - Sydney Harbour Foreshores and Tributaries
SEPP No. 64 - Advertising and signage
SEPP No. 65 - Design Quality of Residential Flat Development
SEPP (Affordable Rental Housing) 2009
SEPP (Building Sustainability Index: BASIX) 2004
SEPP (Exempt and Complying Development Codes) 2008
SEPP (Housing for Seniors or People with a Disability) 2004 - *formerly SEPP (Seniors Living) 2004*
SEPP (Infrastructure) 2007
SEPP (Major Development) 2005 - *formerly SEPP Major Projects & SEPP State Significant Development*
SEPP (Mining, Petroleum Production and Extractive Industries) 2007
SEPP (Repeal of Concurrence and Referral Provisions) 2008
SEPP (State and Regional Development) 2011
SEPP (Temporary Structures) 2007

Regional Environmental Plans (REPs) (Deemed SEPPs)
Sydney REP (Sydney Harbour Catchment) 2005

Note: summaries of the SEPPs and deemed SEPPs are provided on the Department of Planning's website at www.planning.nsw.gov.au

Draft State Environmental Planning Policies (SEPPs)
Draft SEPP No. 66 - Integration of Land Use and Transport
Draft SEPP (Application of Development Standards) 2004
Draft SEPP (Competition) 2010

Note: summaries of the SEPPs and deemed SEPPs are provided on the Department of Planning's website at www.planning.nsw.gov.au

FOR THE PURPOSE OF SECTION 149(2) AND CLAUSE 3 TO SCHEDULE 4 OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000, THE FOLLOWING INFORMATION IS PROVIDED:

General Housing Code

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Complying development types specified within the General Housing Code under Part 3 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* CAN NOT BE UNDERTAKEN ON THE SUBJECT LAND, as the subject land is wholly or partly identified as:

- comprising, or on which there is, a heritage item or a draft heritage item

Rural Housing Code
Complying development types specified within the Rural Housing Code under Part 3A of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* CAN NOT BE UNDERTAKEN ON THE SUBJECT LAND, as the subject land is wholly or partly identified as:

- comprising, or on which there is, a heritage item or a draft heritage item

Housing Alterations Code
Complying development types specified within the Housing Alterations Code under Part 4 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 CAN NOT BE UNDERTAKEN ON THE SUBJECT LAND, as the subject land is wholly or partly identified as:

- comprising, or on which there is, a heritage item or a draft heritage item

General Development Code
Complying development types specified within the General Development Code under Part 4A of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* CAN NOT BE UNDERTAKEN ON THE SUBJECT LAND, as the subject land is wholly or partly identified as:

- comprising, or on which there is, a heritage item or a draft heritage item

Commercial and Industrial Code
Complying development types specified within the Commercial and Industrial Code under Part 5 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 CAN NOT BE UNDERTAKEN ON THE SUBJECT LAND, as the subject land is wholly or partly identified as:

- comprising, or on which there is, a heritage item or a draft heritage item

Subdivision Code
Complying development types specified within the Subdivision Code under Part 6 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 CAN NOT BE UNDERTAKEN ON THE SUBJECT LAND, as the subject land is wholly or partly identified as:

- comprising, or on which there is, a heritage item or a draft heritage item

Demolition Code
Complying development types specified within the Demolition Code under Part 7 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* CAN NOT BE UNDERTAKEN ON THE SUBJECT LAND, as the subject land is wholly or partly identified as:

- comprising, or on which there is, a heritage item or a draft heritage item

Note. This part of the Certificate only addresses matters raised in Clauses 1.17A(c), 1.17A(d) and 1.19 of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.* It is your responsibility to ensure that you comply with any other relevant requirements of *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.* Failure to comply with these provisions may mean that a Complying Development Certificate issued under the provisions of the *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008* is invalid.

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FOR THE PURPOSE OF SECTION 59(2) OF THE CONTAMINATED LAND MANAGEMENT ACT 1997, THE FOLLOWING INFORMATION IS PROVIDED:

Council is NOT AWARE of the land (or part of the land) being declared SIGNIFICANTLY CONTAMINATED land, as defined under Section 11 of the *Contaminated Land Management Act, 1997*.

Council is NOT AWARE of the land (or part of the land) being subject to a MANAGEMENT ORDER, as defined under Section 14(1) of the *Contaminated Land Management Act, 1997*.

Council is NOT AWARE of the land (or part of the land) being the subject of an approved VOLUNTARY MANAGEMENT PROPOSAL, as defined under Section 17(1) of the *Contaminated Land Management Act, 1997*.

Council is NOT AWARE of the land (or part of the land) being subject to an ONGOING MAINTENANCE ORDER, as defined under Section 28(2) of the *Contaminated Land Management Act, 1997*.

Council is NOT AWARE of the land (or part of the land) being the subject of a SITE AUDIT STATEMENT, as defined under Part 4 of the *Contaminated Land Management Act, 1997*.

FOR THE PURPOSE OF SECTION 149(5) THE FOLLOWING INFORMATION IS PROVIDED:

The subject land IS NOT LISTED in the Register of the National Trust of NSW.

The subject land is NOT AFFECTED by the *HERITAGE ACT, 1977*.

A Tree Preservation Order applies throughout the North Sydney Council area. Contact Council for details.

CONTAMINATION INFORMATION:
Council records indicate that this land may have been used in the past for a potentially contaminating activity. The question of whether the land is contaminated will be considered whenever zoning is proposed to be changed and for every proposed development of the land. Any person relying on this certificate is advised to make their own investigations as to whether the land is contaminated.

For further information, please contact Council's
DIVISION OF PLANNING & DEVELOPMENT SERVICES

ACTING GENERAL MANAGER
per: