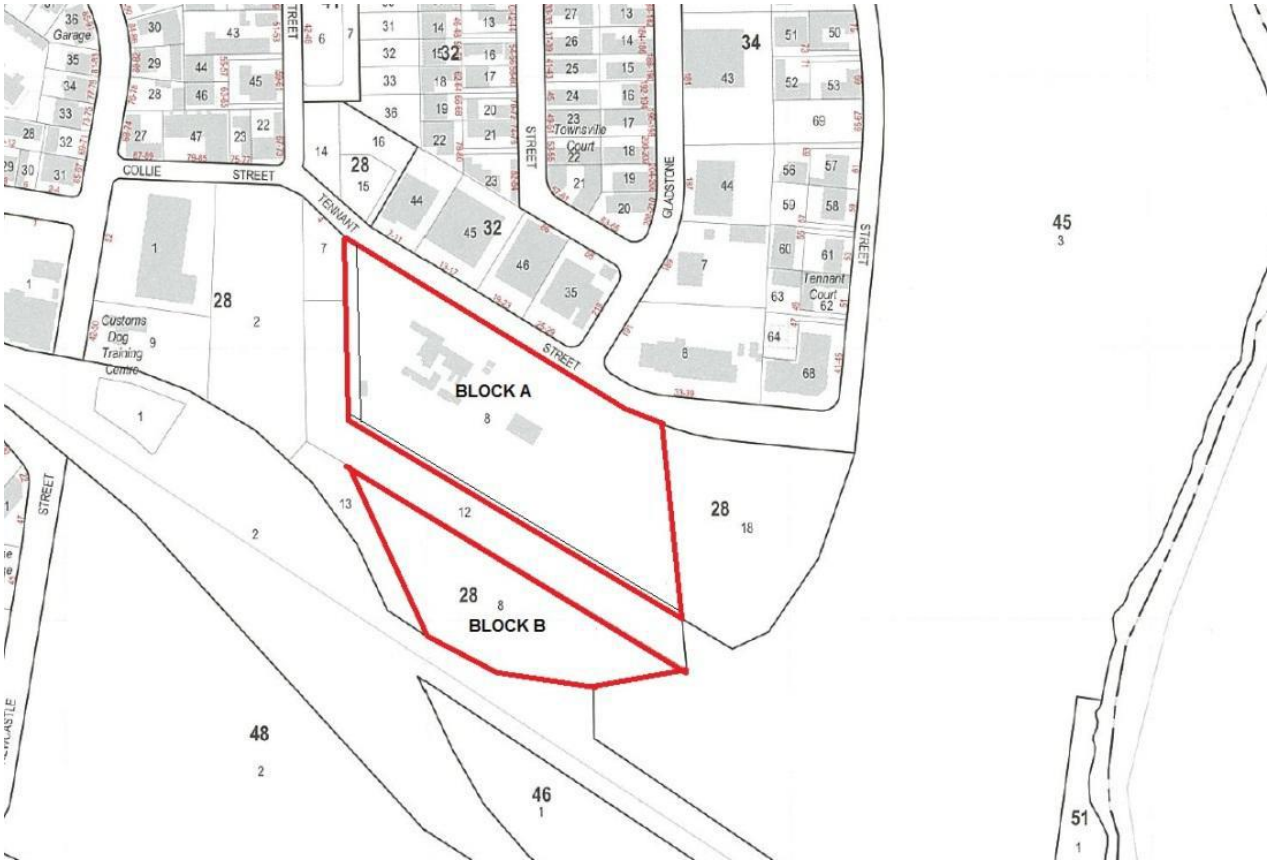
Notes on Hi Quality EIS for recycling facility at 6-14 Tennant Street Fyshwick

Background facts and data

Application 201900001 lodged for an Integrated Resource Recovery Facility (IRRF) on 20 February 2019 by Golder Associates Pty Ltd on behalf of Hi Quality Pty Ltd.
Scoping Document NI2019-181 issued 4 April 2019
Draft EIS submitted on behalf of Hi Quality by Golder Associates, July 2020
Hi Quality has current approval for concrete manufacturing on site (App J, p. 5)

Proposed site:
Block 8 and Block 12, Section 28 Division of Fyshwick, 6-14 Tennant Street.
Block 8 incorporates Block A and Block B in the diagram below.
Block 12 is the high voltage electricity transmission line easement between Blocks A and B: it includes two 10m wide easements for access between blocks A and B (Appendix L, p. 6).
The southern side of Block B is bounded by the rail corridor.
Block A (7 ha) plus Block B (3.2 ha) = 10.21 hectares (Appendix J, p. 5)



Source: AECOM 8 June 2012 'Site Servicing Investigation Report' (EIS Appendix F, p. 2)

ENVIRONMENTAL IMPACT STATEMENT: MAIN DOCUMENT

Hi Quality Group operates quarries and waste recycling facilities in NSW (nine in Greater Sydney, and one in Oallen Ford and Windellama), Victoria (Sunbury), Queensland (Yatala) and the ACT (Fyshwick): pp. 4-5.

The Fyshwick site is currently occupied by the proponent for operation of a concrete batching plant (p. 1). The batching plant operations will continue and materials used and produced by it are included as part of the EIS. It is not clear whether any Development Application will also include the batching plant.

The proposal is for a multi-operational waste management facility for processing and storing:

- Dry Commercial and Industrial (C&I) waste: inert, solid or industrial waste generate by businesses and industries including shopping centres, restaurants, offices, schools, hospitals, etc. (p. 25)
- Construction and Demolition (C&D) Waste: bricks, concrete, plastics, glass, metals, and timber (p. 25).
- Liquid waste (grease trap, drilling mud, and oily water)
- Wood waste
- Soil;
- Asbestos Containing Material (ACM)

As well as continued operation of the concrete batching plant, site activity based on use of recycled materials will include a retail and trade landscape yard (mulch, wood chips, sand soil, aggregates, etc), and a concrete pre-cast plant (p. 1). Operations would be 24 hours a day all year round, including public holidays with processing occurring between 6am and 6pm (p. 35). Wood processing and crushing and screening would not operate between 6am and 7am.

The proponent anticipates transporting about 1.1 million tonnes per annum (tpa) to the site. Of this, about 500,000 tpa of non-waste materials would be used as input to the existing concrete batching plant, the pre cast concrete yard and the landscape yard (p. 1). More detail on material volumes to be processed on site is available in Table 6.1, p. 29, of Appendix E, but the total tonnage there is given as 1,346,000 per annum. About 950,000 tpa of saleable and beneficial reuse product is expected to be produced on site (p. ii).

Incoming loads are to be inspected at the weighbridge by CCTV cameras, and a National Association of Testing Authorities (NATA) laboratory will be established to test soils, aggregates and sands (p. 16).

Reprocessing of materials (summary)

The concrete batching would use recycled aggregate. And water from the stormwater storage dams would be used, as well as mains water. Cement and fly ash are currently purchased from local suppliers. (p. 18)

The wood processing will separate clean and contaminated (painted, stained, chemically treated and manufactured timber) wood. Clean wood will be screened and chipped. Contaminated timber 'may be shredded for transport outside of the ACT as Refuse Derived Fuel (RDF)' or sent to landfill. It is estimated that 9,000 tonnes of contaminated timber material will be received per annum, with stockpiling limits applying. [is there a stockpile limit for clean timber??] (pp. 20-21)

Grease trap waste. Following flocculation and removal of sludges and solids in a bunded facility, the water will be clarified. About 15,000 kL of clarified liquid waste will be discharged into the sewer system under an agreement with Icon Water. About 10,000 tpa of solids and sludge will be disposed of at a licensed facility. (pp. 21-22)

Drilling mud. Drilling mud is a mixture of naturally occurring rock and soil and drilling fluid during drilling or non-destructive hydroexcavation operations. About 30,000 tpa will be processed, with 20,000 tpa recovered and transferred to the on-site soil recovery area. About 9,000 kL liquid waste per annum will be tested and then used either for on-site dust suppression or discharged to sewer. (p. 22-23)

Oily water. Oily water is wastewater that contains fats, oils and grease. About 5,000 tpa will be strained and filtered to remove solids and oil. 2,000tpa of oil will be sent to an appropriate facility for treatment and reuse. The remaining liquid would be discharged to sewer. (p. 23) [why is water be expressed in tpa rather than kL???]

Soil processing and recovery. About 250,000 tpa to be accepted for processing and recovery. About 121,000 tpa [this is a typo, because p. 23, says "21,000"] form on-site drilling mud processing, and 100,000 tpa of soil and fines from the on-site recycling facility. Unusable material to be disposed of at landfill like Windellama.

Asbestos Containing Materials (ACM). Acceptance of about 2,500tpa of secured (packaged) ACM for temporary storage on site, prior to disposal at licensed landfill (p. 25) such as Windellama (p. 89). [there appears to be no explanation of why asbestos could not go directly to an appropriate landfill, rather than transiting through the ACT] Where customers who deposit unobserved asbestos as part of a waste load cannot be identified, Hi Quality intends to wet and package it for appropriate disposal (EIS, p. 87). However, it is not clear how other customers or nearby businesses are to be protected during this process, especially if the asbestos is friable and conditions are windy.

Selection of Tennant Street site

Three locations in Hume, two in Queanbeyan and four in Fyshwick were considered. The selection criteria included permissibility, compatibility with surrounding land use, proximity to markets, site suitability (e.g. size, contamination remediation requirements), and environmental constraints. Each of the Hume sites was rejected due to environmental constraints, as well as the haul distance from the majority of potential customers within the ACT. The Queanbeyan sites were considered too small, and would require 'additional legislative considerations' because they are not located in the ACT. Size and zoning issues ruled out all the Fyshwick sites except for Tennant Street. (pp. 41-43)

Risk analysis

All pre-mitigation risks were categorised as medium (Table 11, pp. 65-68). All residual risks were classified as low or very low (pp. 69-168) by the author of the EIS.

Community consultation

Pages 171-250 record issues raised during the community consultation process. They have not been summarised here due to time constraints.

APPENDIXES TO THE ENVIRONMENTAL IMPACT STATEMENT

The documentation involved with the appendixes is voluminous. Only the six most relevant ones are summarised below.

Appendix E Peopletrans 2019 Transport Impact Assessment

- Three vehicle access locations: Eastern (for trucks using weighbridge), middle (public landscape yard customers), Western (infrequent service access only): p. 17.
- Queuing for weighbridges at both the Eastern (double weighbridge) and middle (landscape weighbridge) entrances is modelled as being contained within the site: pp. 24-25. All roads southward after the weighbridge will be unsealed (p. 26).
- It is not clear how many additional vehicle movements will occur because of the proposed facility. Table 6.1 (p. 29) shows a total of 231,124 vehicles required annually to move materials, 'with each of these vehicles entering and leaving the site' which is to operate 52 weeks, 7 days a week, 24 hours per day. This equates to 8,890 vehicle movements along the Tennant Street site frontage per week, or 53 per hour and one each minute.
- Busy times and days would see a much higher frequency of vehicle movement. Simulation based on a similar site at St Mary's (NSW) indicates that hourly peaks around midday would see 73 vehicles per hour moving in and then out of Tennant Street entrances (Table 6.2, p. 31). [However, the St.Mary's site is smaller and in a heavy industrial area, so that the nature of the traffic is different.] The estimate rises to a range

of 76-81 seconds when 84 parking spaces for employees' vehicles are included (Table 6.3, p. 34).

- Traffic is assumed to approach the Collie Street intersection from both the north and south of Newcastle Street, partly because 'Windellama Landfill [near Goulburn] is expected to be a substantial generator of traffic associated with materials arriving or leaving the site' (p. 36). Approximately 50% of the total generated traffic in Fyshwick is expected to be from ACT residents disposing of light waste and customers of the landscape materials yard (p. 36). Based on population density in the north and south of Canberra and Queanbeyan, it was assumed that traffic generated by the site would arrive approximately evenly from the north and south of the site (Table 6.4, p. 37). No allowance appears to have been made for the growth of existing intra-Canberra traffic levels, or proposed new housing developments in Eastlake and Dairy Flat Road.
- Detailed modelling (Table 6.6, p. 44) for major intersections shows that the worst case (conservative) additional delay caused by the proposed facility on Tennant Street will be between 4 and 36 seconds.
- Traffic modelling typically involves assigning a Passenger Car Unit (PCU) value to trucks. PCU factors are readily available for free-flow traffic on highways, but their value will depend on local conditions in urban areas. It is not clear what PCU value has been used for heavily-laden B-doubles in peak traffic in Fyshwick, but estimated intersection delays are likely to be sensitive to this parameter.
- One effect of traffic generated by the site will be increased emissions, including PM_{10} and $PM_{2.5}$ from diesel engines. Despite the large number of trucks involved, this effect does not appear to have been modelled as part of particulate emissions in Appendix K.
- Existing traffic would have been modelled on the basis of an Origin-Destination Matrix, but information about the source of a matrix, or the date of traffic data collection used to compile it, do not appear to have been provided. Moreover, local Canberra traffic is likely to grow over time, and it is not clear whether this has been considered in the simulations carried out.
- The report concludes that 'there is sufficient capacity in the existing surrounding road network to cater for the anticipated traffic generated by the proposed development once it is operational with no additional upgrades required' (p. 47).

Appendix G Golder 2018 Phase I Site history and preliminary site assessment

- Focus is on existing contamination from previous uses.
- Groundwater is expected to be present at a depth between approximately 2.4 m and 4.8 m below ground level and is expected to flow towards the Molonglo River south east of site (p. i).
- Surface water flows are generally south east towards the Molonglo River tributary creek (p. i)

Appendix I Ramboll Australia 2019 Site Audit Report, p. 2

- Ironically, page 2 includes as one of the IZ1 zoning objectives in the Territory Plan 2008 as being to 'ensure that the use of the land for predominantly industrial purposes is not jeopardised by the uncontrolled development of higher rent commercial uses such as retailing and offices'. However, one can argue that scarce industrial land will also be gobbled up by bringing in waste from NSW.
- p. 4 lists objectives – one is the production of Refuse Derived Fuel.

Appendix J Golder 2020 'Stormwater Assessment'

- The main risk identified is runoff of existing site contamination into the Molonglo River if there is 'sedimentation due to land disturbance' (p. 17). However, water samples collected from the Molonglo under dry weather conditions, so they may be an underestimate. It is not clear why the design of drains (pp. 12-13) is based on an Annual Exceedance Probability (AEP) of 10 per cent.
- The AEP used for estimating onsite detention pond storage capacity (p. 17, table 11) is 1%. The apparent inconsistency in the use of 10% AEP for drain design and 1% AEP for sedimentation ponds is not explained. Table 11 (p. 17) is confusing because rainfall intensity is taken to be 2% AEP, based on ACT government standards (p. 16), but the table indicates that the calculation is for 1% AEP. Given that 1% AEP events are not uncommon, it is not clear why 2% AEP is used: clarification should be required.
- If predicted climate change leads to more severe thunderstorms, then a future-oriented assessment should include at least a 0.5% AEP scenario for both drain design and sedimentation ponds.
- Reference is made to Permissible Site Discharge (PSD) on p. 16. However, there is no discussion of the quality of water discharges, or how they may be affected if pond capacity is inadequate during a storm. Page 18 refers to vegetated channels – Stormwater Quality Improvement Devices (SQIDs) – 'close to the points where the runoff flows to the creeks' but no information is provided on testing runoff or the standard of water that is ultimately allowed to flow into the Molonglo River.
- Appendix K (Air quality assessment) includes information on Total Suspended Particles (essentially dust) that are likely to be produced onsite. Appendix J does not appear consider how this will affect pond sedimentation or run-off.
- Appendix K (Air quality assessment) includes suggested emission suppression by watering of unpaved roads and water sprays in loading and unloading locations (p.8). If the water source used is contaminated or not fully treated, groundwater quality may be affected negatively.
- The EIS is parochial in its focus on the nearby section of the Molonglo River alone. A critical, but omitted issue is the likely effect on Lake Burley Griffin which is fed directly by the Molonglo River. In other words, the centre of Canberra, including areas under the remit of the National Capital Authority could be affected: for example, proliferation of algae, or the killing of fish due to toxic waste.

Appendix K ERM (formerly Pacific Environment) 2019 Air Quality Assessment

- The ACT is currently formalising its policy on air emissions, so ACT EPA has adopted South Australian policy and modelling guidelines. Because SA guidelines contain little model-specific guidance, model settings are based on NSW EPA modelling guidelines. (p. 3).
- Air quality is assessed as total ('cumulative') particulate emissions including the background (existing) level (p. 4). Dust deposition does not include current levels.
- There is no air quality monitoring station in Fyshwick so background (i.e. the existing level) emissions were estimated from concentrations in Civic (p. 5) in 2017, the closest station. Civic is 8km from the Hi Quality site (p. 1). No indication is given whether emission levels in Civic are higher or lower than at the proposed site in Fyshwick.
- Larger particulates (TSP: Total Suspended Particulates: up to 90 μm diameter, p. 47) are not recorded in the ACT air quality monitoring network, so their background concentration was included as double the PM_{10} (up to 50 μm diameter, Figure 11.12, p. 44) concentration (p. 6).
- TSP is largely dust. Although its deposition occurs closer to the site, it does affect businesses and parked cars in the surrounding area (Figure 11.16, p. 48).
- Wind data are based on measurements taken at the airport, 3km away (p. 23). At the edge of the valley, the Fyshwick site is more sheltered than the airport, reflected in lower wind speeds, higher frequencies of calms and some minor differences in wind direction (p. 23). Lower turbulence (p. 28, Figure 11.9) suggests higher concentrations of atmospheric particulates in Fyshwick, but no specific statement is made to that effect.
- Particulate emissions from vehicles entering and leaving the site have not been included in the modelling of site emissions, but no explanation is provided for this omission. Particulate emissions from vehicles operating within the site have also not been included.
- Emissions of TSP, PM_{10} and $PM_{2.5}$ were estimated for operations between 6am and 6pm for material loading and unloading, crushing, screening, wind erosion, wheel generated dust on paved and unpaved site roads, and air curtain incinerators. All roads south of the weighbridge area are unpaved, and wheel generated dust on them is estimated to account for 70% of PM_{10} and 65 % of $PM_{2.5}$ emissions Table 7.1, p. 86). No emissions were assumed for other activities like drilling mud reprocessing, which will be carried out inside buildings). (p. 31)
- Levels of emissions were estimated using factors in manuals such as the US EPA (p. 31).
- Odour levels from open composting on site are shown in Table 11.13, p. 41, with concentration (Figure 11.17, p. 49) effectively limited within the site.
- In the absence of ACT impact assessment criteria, modelling results were evaluated against NSW and SA EPA criteria for human health (Table 4.1, p. 4). A child care centre in Fyshwick was designated as a sensitive receptor. Appendix M (Noise and vibration assessment), p. 7, identifies the child care centre as 7 Maryborough Street.
- Emission suppression controls could include watering of unpaved roads and spraying of loading and unloading locations (p. 8). Appendix J does not appear to have considered the likely effects of this or dust run-off on groundwater and surface water quality.
- The conclusion on p. 14 is that the simulated impacts comply with 'relevant air quality impact criteria at the nearest sensitive receptor except for 24-hour PM_{10} concentrations'.

Appendix L Golder July 2020 Human Health Impact Assessment

- Table 1 summarises health impacts from particulate matter, noise and vibration, contamination, traffic, bushfires, and socio-economic factors. Unsurprisingly, all residual health impacts are negative, but rated as low or negligible.
- Contains more information (pp. 25-26) than Appendix M on general health effects of noise, but no further modelling data.
- Bunding will be employed at fuelling areas, in waste unloading and processing buildings, and the soil processing and recovery facility, and spill kits will be stored adjacent to all activities and made available to all vehicles (p. 33). Tyres will be shredded to prevent water collecting in tyres (breeding ground for mosquitoes), p. 43.
- No mention appears to be made regarding testing of contaminated soil or other materials on arrival and despatch from the site.
- Management of asbestos is discussed only in terms of remediation of existing on site fragments (p. 33).
- Trucks queuing for the weighbridge will be accommodated within the site (p. 37).
- The Bushfire Attack Level (BAL) was determined to be 12.5 for built elements, using a worst case scenario (p. 39). Access for firefighting and utility services is considered to be adequate.

Appendix M ERM (formerly Pacific Environment) 2019 Noise and vibration assessment

- Representation of a 15 minute "worst case scenario" was used by assessing all on-site equipment operating simultaneously (p. 16), including the then-proposed air burner Table 5.2, p. 17).
- Off-site noise (e.g. trucks travelling along Tennant Street) is not included, but trucks and light vehicles entering at night and during morning peak (6am to 7am) at the weighbridge are included, pp. 18-19, Table 5.3).
- The source used to model meteorological conditions (Table 5.1, p. 15) does not appear to be identified. The results (Table 5.3, p. 19) include a 3m/s Easterly wind, a 6am to 7am inversion, and a neutral daytime wind scenario.
- The ACT daytime noise standard for industrial areas is 65 $L_{A\,10,\,T}$ dB(A) , where T is more than 5 minutes but less than 15 minutes, and the noise level is exceeded for 10% of the time period T; Table 4.1, p. 12. A-weighted decibels dB(A) are noise levels adjusted to international standards (Glossary, p. 27). The night-time noise standard is 55dB(A).
- The 12 sites identified in the Fyshwick industrial zone IZ2 face noise levels that exceed limits during a morning inversion period between 6am and 7am, which technically falls within the night-time (10pm to 7am) standard of 55dB(A). The noise limit for child care centres is not exceeded at 7 Maryborough Street.