

Under the Resource Management Act 1991 (**RMA**)
In the matter of an application by **Dunedin City Council** to develop a
Resource Recovery Park Precinct at Green Island, Dunedin.

Statement of evidence of Laurence Patrick Dolan

6 November 2024

Applicant's solicitors:

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**anderson
lloyd.**

Qualifications and experience

- 1 My name is Laurence Patrick Dolan and I am the National Environmental Manager at Enviro NZ Services Limited (**Enviro NZ**), based at Auckland.
- 2 I hold the qualifications of Master of Science (Hons) in chemistry from the University of Canterbury and Postgraduate Diploma in Natural Resources from Lincoln College.
- 3 I have over 35 years of experience in waste management, including the application of the Resource Management Act, predominantly in the waste industry.
- 4 My role involves responsibility for policies, strategies and systems to govern Enviro NZ's environmental management. As part of this role, I manage planning and consent requirements and consent applications for Enviro NZ's facilities.
- 5 I have had involvement with transfer station, resource recovery centre and composting operations and consenting since 1989 and have prepared consent applications for the Enviro NZ transfer station sites in Auckland, Tauranga and Christchurch and composting operations in the Waikato and Timaru.
- 6 I am also responsible for implementing Enviro NZ's Environmental Management System, which includes internal audits of Enviro NZ's sites (collections depots, resource recovery centres, composting facilities, transfer stations, landfills and waste treatment facilities).
- 7 I have oversight of all consent applications for company facilities, environmental management plan preparation, internal monitoring of consent conditions, external reporting of compliance.

Scope of evidence

- 8 I have been asked to prepare evidence in relation to the operation of the Resource Recovery Park Precinct (RRPP). This includes:
 - (a) Enviro NZ's role as operator of the RRPP;
 - (b) The RRPP site, buildings and layout; and
 - (c) The management of the RRPP.

Executive summary

- 9 Enviro NZ has extensive experience operating the types of facilities proposed for the RRPP site – including transfer stations, materials recovery facilities, and aerated static pile composting systems.
- 10 Enviro NZ has been contracted by Dunedin City Council to develop and operate the Green Island RRPP, as well as undertake household collections for refuse, recycling and organics.
- 11 The key components of the RRPP redevelopment are:
 - (a) Materials recovery facility (MRF), an enclosed building for the processing of recyclable materials (paper and cardboard, plastics, glass and steel and aluminium cans) from commercial council kerbside and recycling collections;
 - (b) Glass bunkers, to contain and store glass from council kerbside collection, commercial glass collection and drop-off by the public;
 - (c) Bulk waste transfer station (BWTS), an enclosed building to receive, consolidate and load out to landfill general waste from residential, commercial, and industrial sources to landfill;
 - (d) Construction and demolition (C&D) waste sorting pad, a concrete slab adjoining the BWTS for the deposit and sorting of C&D waste from commercial and industrial customers;
 - (e) Hazardous waste drop-off and storage facility, which is designed to accept, sort and store household quantities of hazardous wastes from domestic sources only;
 - (f) Organics receivals building (ORB), a building that currently receives and consolidates the organic waste (food organics and green organics FOGO), collected by council kerbside organics collections, on site for transfer to an off-site composting facility;
 - (g) Green waste drop-off, a dedicated pad for green waste, or garden waste, drop-off and later transfer to the ORB for shredding and mixing with FOGO for composting; and
 - (h) Organics processing facility (OPF), an aerated static pile composting system for the composting of organic materials transferred from the ORB.

- 12 The RRPP will be operated in accordance with the management plans submitted with the application. The management plans have been developed to be consistent with successful good practice operations undertaken at other ENVIRO NZ facilities, expected resource consent requirements (based on those in consents at similar ENVIRO NZ facilities) and in the case of the ESC composting system, manufacturers and recommended operating parameters.

Enviro NZ's role as operator

- 13 Enviro NZ has extensive experience operating the types of facilities proposed for the RRPP site – including transfer stations, materials recovery facilities, and aerated static pile composting systems.

Transfer stations

- 14 Enviro NZ owns and/or operates a number of transfer stations throughout New Zealand. Of these, those relevant to the proposed Dunedin redevelopment are described in **Table 1** (provided in **Appendix 1**).
- 15 With the exception of Constellation Drive and Lincoln Street, all of the transfer stations use a building, with doors that can be closed at the end of each working day. In the company's experience, handling waste within a building, as proposed for the Green Island redevelopment, has proven to be effective in minimising adverse effects from odour and dust on site neighbours. Odour complaints are rare and dust complaints non-existent.
- 16 The existing operations also demonstrate that Enviro NZ has experience operating transfer stations with a range of sizes and designs. The methods Enviro NZ has successfully employed to control dust and odour at these sites are also proposed for the Green Island site.
- 17 The odour and dust management and monitoring procedures employed at Enviro NZ operated transfer stations are in each site's Environmental Management Plan. Environmental Management Plan provisions are consistent across all sites so that they are operated to the same high standard, whether or not resource consent for air discharge is required.

Materials recovery facilities

- 18 Enviro NZ owns and operates four materials recovery facilities (MRFs) for the processing of household and business recyclables in New Plymouth (5,700 tonnes per year), Hamilton (10,900 tonnes per year, Taupo and Christchurch).

- 19 Enviro NZ also operates the Timaru MRF under contract with the Timaru District Council.

Aerated static pile composting

- 20 Enviro NZ has developed and operates two aerated static pile (ASP) composting facilities of the type and design proposed for Green Island, at the Hampton Downs Landfill in the Waikato, and the Redruth Resource Recovery Park in Timaru. These facilities use designs, aeration infrastructure and computer control systems supplied by Engineered Composting Systems.
- 21 The Hampton Downs composting facility has 12 ASP bunkers and processes 30,000 tonnes per year of food waste and green waste. The facility first opened in 2015, using GORE covered windrows. Six bunkers were installed and began operation in 2019 and a further six bunkers were installed in 2021. There have been no odour complaints from the Hampton Downs facility since it began operating.
- 22 The Timaru composting facility has six ASP bunkers (with consent to develop and operate up to 10). The facility was constructed in early 2024 and commissioned in June 2024.

Enviro NZ's contract with DCC

- 23 Enviro NZ has been contracted by Dunedin City Council to develop and operate the Green Island RRPP, as well as undertake household collections for refuse, recycling and organics.
- 24 When complete the development will involve an investment of some \$70 million and employ approximately 23 staff for the Green Island RRPP, in addition to the current 58 staff employed at Enviro NZ's Green Island Branch.

The RRPP site, Buildings and Layout

- 25 The key components of the RRPP redevelopment are:
- (a) Materials recovery facility (MRF);
 - (b) Glass bunkers;
 - (c) Bulk waste transfer station (BWTS);
 - (d) Construction and demolition (C&D) waste sorting pad;

- (e) Hazardous waste drop-off and storage facility;
 - (f) Organics receivals building (ORB);
 - (g) Green waste drop-off; and
 - (h) Organics processing facility (OPF).
- 26 The site layout is shown in **Figure 1, Proposed Site Layout Plan** (provided in **Appendix 1**).

Materials Recovery Facility (MRF)

- 27 The MRF footprint will be approximately 70m x 40m for the technical building and about 60m x 30m for the apron. The building will be roofed and clad in prefinished profiled metal cladding fixed to galvanised girts and purlins. There will be large commercial motorised roller doors to allow the movement of vehicles and waste material in and out of the building as well as hinged personnel doors for day-to-day use and fire egress doors.
- 28 The purpose of the Materials Recovery Facility (MRF) building is to facilitate the effective sorting, processing, and recovery of recyclable materials (paper and cardboard, plastics, glass and steel and aluminium cans) from commercial council kerbside and recycling collections. The MRF building houses the following operations:
- (a) **Material Sorting:** The MRF will provide a dedicated space for sorting different types of recyclable materials.
 - (b) **Material Processing:** Once the materials are sorted, the MRF building will provide an area for further processing. This involves baling the recyclables to prepare them for transportation to recycling facilities or end markets.
 - (c) **Storage and Temporary Holding:** The MRF Apron will be the storage area for holding the sorted and processed materials before they are transported to their next destination.
 - (d) **Administrative Operations:** The MRF building will include administrative offices to support the day-to-day operations of the facility.
 - (e) **Employee Facilities:** The MRF building will provide facilities for employees.

- 29 A one-way ring road around the MRF will be built for access to both intake and offtake traffic.
- 30 After sorting and baling the recyclable materials will be loaded into shipping containers for transport.
- 31 Bins are also be provided for public drop off at Transfer Stations recycling drop-off area, these will be transferred to the MRF using Gantry or front-end loader (FEL) trucks.
- 32 The MRF is expected to process approximately 5 tonnes per hour (TPH) or 9,300 (tonnes per annum (TPA)).

Glass Bunkers

- 33 The glass bunkers will safely contain and store glass from council kerbside collection, commercial glass collection and drop-off by the public. Within the bunkers, glass will be organised based on colour or type to facilitate efficient recycling processes.
- 34 The consolidated glass will be transported to other facilities for recycling or other appropriate treatments.
- 35 Glass bunkers are constructed using reinforced concrete to ensure structural integrity.
- 36 Three glass bunkers (#10 on the layout plan) will be located near the existing northern leachate pond. Bunker walls will be 3m high and the total footprint of the bunkers will be 400m².

Bulk Waste Transfer Station

- 37 The proposed BWTS will be an industrial building designed to receive, consolidate and load out to landfill general waste from residential, commercial, and industrial sources. The waste transfer operation is undertaken within a building (in preference to the current open roofed pit transfer station at the site) to reduce potential for odours, dust and noise nuisance on site neighbours.
- 38 The building footprint will be approximately 30m x 55m with a portal knee height of 12m and the roof ridge at a maximum of 16m. The height required within this building is determined by the dimensions and size of the mechanical plant undertaking the sorting and loading of the incoming waste stream. The building will be constructed of steel portal positioned and fixed to an engineered concrete slab and foundation system.

- 39 The concrete slab will include falls to drainage channels intended to collect and control all internal liquids and any vehicle washed down. These liquids will be managed as leachate and disposed of via the existing leachate collection system. Precast concrete walls will be used as push walls inside the building. The building will be roofed and clad in prefinished profiled metal cladding fixed to galvanised girts and purlins.
- 40 There will be large commercial motorised roller doors to allow the movement of vehicles and waste material in and out of the building as well as hinged personal doors for day-to-day use, and fire egress doors. The opening and closing of the doors will depend on specific operational requirements.
- 41 To separate domestic and commercial customers the North façade will be for domestic drop off (car and trailers) and the East façade will allow access for commercial drop off (trucks) within the building. There will be a drive through lane along the south side for loading and offtake (semi-trailers) inside the building. The facade will be painted a Karaka Green colour to blend in with the surrounding environment and minimise visual effects.
- 42 Inside the building a handling machine will load the waste from the piles inside onto off take trucks. The offtake lane will join back with the MRF ring road to exit the site.
- 43 The MRF building will have an internal lining to prevent birds from perching or nesting on the internal building structure.
- 44 The BWTS is designed to process 50,000 tonnes of waste per annum.
- 45 From my experience, handling waste within a building, has proven to be effective in minimising adverse effects from odour and dust on site neighbours. At Enviro NZ's existing facilities odour complaints are rare and dust complaints non-existent.
- 46 The existing operations listed in **Table 1** (provided in **Appendix 1**) also demonstrate that Enviro NZ has experience operating transfer stations with a range of sizes and designs. The methods Enviro NZ has successfully employed to control dust and odour at these sites include the methods also proposed for the Green Island site, and detailed below in respect of the BWTS.
- 47 The odour and dust management and monitoring procedures employed at Enviro NZ operated transfer stations are in each site's Environmental Management Plan. Environmental Management Plan provisions are

consistent across all sites so that they are operated to the same high standard, whether or not resource consent for air discharge is required.

Construction and Demolition (C&D) Waste Sorting Pad

- 48 The C&D sorting pad will be a concrete slab adjoining the BWTS for the deposit and sorting of C&D waste from commercial and industrial customers.
- 49 Construction skip bins will be dropped off and their contents will be sorted on the pad. Remaining waste that cannot be recycled or reused will be pushed into the BWTS for landfill disposal.
- 50 The footprint of the C&D pad will be approximately 1200 m². The north side of the C&D pad will be fenced to prevent access by the public.

Household Hazardous Waste Drop-off and Storage Facility

- 51 The household hazardous waste drop-off and storage building is designed to accept, sort and store household quantities of hazardous wastes from domestic sources only.
- 52 The building will be separated into two areas. The public facing zone (#8A on the layout plan) will provide for hazardous waste drop-off and separation, and a staff only zone (#8B) for further sorting and storing of hazardous waste. The footprint of the two areas will be approximately 48 m².
- 53 The building will be steel framed with prefinished profiled metal cladding and roofing, reinforced concrete slab and foundations.
- 54 A designated drop-off area will be provided within the building to facilitate the safe and organised unloading of hazardous materials from vehicles.
- 55 This facility will be similar to the existing household hazardous waste collection facility present on site and will have the same function.

Organics Receptions Building (ORB)

- 56 The organics reception building (ORB), subject of different consent applications, has already been constructed and receives and consolidates the organic waste (food organics and green organics) collected by council kerbside organics collections on site before it is taken offsite for processing at a facility in Timaru.
- 57 When the organics processing facility is commissioned the processing will be undertaken on-site.

- 58 The ORB has a footprint of approximately 18m x 33m. The superstructure is a steel portal frame with single skin light external metal cladding over steel framing plus concrete block walls of approximately 3m.
- 59 The building has 3 main openings:
- (a) North façade: two openings with a width between 5 and 6m and height between 7 and 8m, with motorised roller doors; and
 - (b) South façade: an opening width between 5 and 6m and height between 7 and 8m, with a motorised roller door.
- 60 The ORB can be fully enclosed to prevent air flowing through the building. This assists in odour management and prevents ingress by birds.
- 61 The building will have an internal wall lining so birds will not be able to find supports on the building structures to perch or nest.

Green Waste Drop-off

- 62 A dedicated pad for green waste, or garden waste, drop-off will be provided for domestic customers to bring their garden waste for composting.
- 63 The new drop-off area will be made by reusing and upgrading the existing transfer pit (#9 and #D on the layout plan). The garden waste will be periodically collected and transferred to the ORB for processing.
- 64 The garden waste drop-off area will be integrated within existing traffic flows. Public vehicles will go through the existing weighbridge, turn left directly after the weighbridge, before the newly created round-about, and go through the paid zone to the garden waste drop off area.

Organics Processing Facility (OPF)

- 65 The proposed organics processing facility (OPF) is an ASP composting system. This is the same type of system currently operating effectively and compliantly at ENVIRO NZ's Hampton Downs and Timaru composting facilities.
- 66 The facility will comprise 12 bunkers constructed with concrete / concrete block retaining walls for placement of the organic materials. Each bunker has aeration channels in the base with a computer controlled system of ducts and blowers exhausting into a biofilter. The facility design capacity is 20,000 tonnes per year of organic materials.

- 67 Initially six bunkers (#11 on the layout plan) of approximately 140m² each will be built on a concrete slab and the organic waste will be contained within three walls (all 3m height), the south wall will include penetrations for the mechanical aeration system.
- 68 The bunkers will open to the north and a concrete apron (14m in width) level with the floor of the bunkers will provide a manoeuvring zone for the loader that fills and removes organic materials from the bunkers.
- 69 Liquids from the bunkers and apron will be collected and discharged to the leachate collection system for treatment and disposal via the GIWWTP.
- 70 Organic waste from the kerbside collection, which is primarily green waste and food waste, will be unloaded on the ORB floor and inspected for contamination.
- 71 The kerbside collected organics will be blended with additional shredded green waste, from the green waste drop-off, to obtain the correct carbon to nitrogen ratio, before the material is loaded into the ECS ASP bunkers.
- 72 It will take from one to four days to achieve the critical volume in the pile for composting depending on the rate of incoming raw material. The compost pile is then capped with a 150 – 300 mm layer of screened compost overs (this is material post composting), or mature compost, as the pile is filled, to act like a biofilter to help suppress any odours.
- 73 During the filling of the bunkers the aeration system is operated manually in a positive aeration mode (air is blown up through the aeration holes and into the material) until the minimum pile volume is reached. Running in positive mode during loading and unloading helps prevent the aeration holes from clogging.
- 74 Once the pile is complete, the system begins automated operation with reversing aeration mode, controlled by the automatic aeration control and temperature monitoring system.
- 75 The temperature probes have two sensors, one at the tip of the pile and another one metre up the shaft, that monitor the temperatures of the piles. When the system detects that the temperature between the two temperature sensors has stratified beyond an operator selected set-point, the aeration mode automatically reverses direction. The aeration directions are called “positive” (positive pressure at the base of the pile forcing air up through the pile) or “negative” (negative pressure at the base of the pile sucking air down through the pile). In addition to controlling the aeration direction, the control system also modulates the volume of air flowing

through the pile for oxygenation and cooling (temperature control). Air-flow volume is controlled by opening and closing motorized dampers and varying the fan speed. The minimum aeration amount (for oxygenation) and the temperature set-points are user selected Operator inputs in the automated control system.

- 76 The automated reversing aeration system ensures a relatively uniform environment throughout the material pile and that all parts of the pile reach a minimum temperature of 55°C for at least three days to ensure pathogen destruction. When the piles are under negative aeration the odorous air is discharged via a biofilter to treat odour.
- 77 The piles will be aerated for at least 21 days. After 21 days the compost is tested to confirm that the composting process is complete to maturity using the Solvita test. If the test indicates the compost is not yet mature it will remain in the aerated pile until the test indicates maturity.
- 78 When the process is complete the material will be transferred to the curing area.
- 79 During the curing process, the microbial activity decreases and so do the temperatures within the pile, and therefore the rate of decomposition slows. During this period the organic material still continues to slowly decompose into humus over a periods of weeks before being screened and transported off-site. The minimum curing period is 21 days.
- 80 I have reviewed the recommended air discharge consent conditions in respect of the OPF and have the following comments and suggested amendments, based on recent experience with the operations and consent conditions at both the Timaru and Hampton Downs facilities.
- 81 Condition 5 limits the raw materials for composting only to those collected at the kerbside. This will prevent acceptance and composting of green waste from the transfer station green waste drop-off area and from remote transfer stations, as is currently the case. In addition the list of acceptable materials is inconsistent with the DCC organics bin acceptance instructions (see **Figure 2**, provided in **Appendix 1**).
- 82 Condition 14 e) requires a biofilter medium moisture content of 40-60% on a dry weight basis. The intent of the condition is to find out how wet the media is. Therefore, the moisture content needs to be calculated on a **wet** weight basis. (This is also an error in the Hampton Downs and Timaru composting consents, for which we will be seeking this variation.)

- 83 Condition 19 a) requires the recording of the date, time and volume of any raw material brought onto the site for the manufacture of compost. This is an oversight in the draft proposed conditions. It is appropriate to record the date and volume that raw material is brought onto the site. However, I do not consider that recording the time of each load provides any additional useful data.
- 84 Condition 19 b) requires recording of the bunker ventilation flow rate. This is not possible. The computer control system monitors the temperature within each bunker and varies the aeration rate to maintain temperature within the prescribed range. It doesn't have the facility to measure the flow rate and am unsure as to why this information could be considered necessary for compliance.
- 85 The requirement to include the method of recording bunker ventilation flow rates in the CFMP should also be removed as a consequential amendment.
- 86 The following has resulted from an oversight in the draft proposed conditions. Conditions 19, 20 and 21, also require the submission of the following extensive amounts of historical electronic raw data in the annual report:
- (a) Whether a bunker is in positive or negative or no aeration status;
 - (b) Information on the temperature within each operational aerated static pile; and
 - (c) Continuous instrumental monitoring of the temperature and pressure of inlet air into the biofilter.
- 87 From recent checking of the data recorded at the Hampton Downs facility this raw data amounts to tens of thousands of lines and hundreds of pages of data which has no compliance benefit after the fact. This data is recorded by the computer control system and available upon request should it be needed to inform a compliance issue or complaint investigation, or if specific historical information is sought. However, I question whether a requirement to supply this quantity of raw data on an annual basis serves any resource management purpose. Compliance can be adequately assessed by the other daily, weekly and monthly information required to be reported.
- 88 It is proposed that these annual reporting requirements in conditions 19, 20 and 21 be deleted.

Planned Management of the RRPP

- 89 The RRPP will be operated in accordance with the management plans submitted with the application. The management plans have been developed to be consistent with successful good practice operations undertaken at other ENVIRO NZ facilities, expected resource consent requirements (based on those in consents at similar ENVIRO NZ facilities) and in the case of the ASP composting system, manufacturers and recommended operating parameters.
- 90 Specific details of key operational issues are as follows.

Hours of Operation

- 91 The site will be open to the public between 8:00am – 5:30pm Monday to Saturday and 9.00am - 5.30pm Sunday. Closed Good Friday, Christmas Day and New Year's Day. Gates will be locked after hours.
- 92 The hours of operation for the Materials Recovery Facility (for operations within the building) are 7.00am – 11.00pm Monday to Saturday.
- 93 The automated aeration system at the composting facility will operate 24/7.
- 94 Other activities may occur at night as required by operational needs between 1700 and 0700.

Traffic

- 95 General traffic circulation within the site is shown in **Figure 3** (provided in **Appendix 1**). All vehicles will enter the site via the Brighton Road main entrance and will go through the existing weighbridge and exit the site via the weighbridge. The majority of commercial heavy vehicles access and egress the various activities on site via a proposed roundabout to the west of the existing weighbridge.
- 96 Domestic vehicles will access and egress the recycling, green waste and general refuse areas via a priority controlled T intersection that is located to the immediate west of the weighbridge. Domestic vehicles (mostly light vehicles) egress via a right turn at this intersection.
- 97 Light vehicles are typically restricted to the areas in front of the BWTS, Green waste drop-off. Heavy vehicles are typically restricted to the areas around the OPF, glass bunkers and the rears of the BWTS and MRF buildings. Separation of light domestic and heavy commercial vehicles is maximised with the vehicles only interacting when egressing via the proposed roundabout.

- 98 A small volume of heavy vehicles are occasionally required to interact with light domestic vehicles to move recyclable materials from the existing domestic recycling drop off area and green waste drop off area to other processing areas on site.

Stormwater Management

- 99 Stormwater from the buildings will be discharged into rainwater tanks that can be used to wash down areas as required. The rainwater tank overflow will be directed either to the on-site soakage system, or to the channel alongside the entrance road which discharges to the Kaikorai Stream via the constructed wetland.
- 100 Stormwater runoff from other areas of the site consists of three main catchments:
- 101 Catchment A including OPF Bunkers, OPF Maturation and its potential extension areas plus Glass Bunkers and Mechanical Plant. This catchment discharges to the northern treatment area (pond or swale wetland). From stormwater perspective, there are two different surface runoffs for this catchment. The runoff from the bunkers and maturation areas drains into the leachate system (and not into the stormwater system). The rainfall runoff from the remaining site including roads and access ways is conveyed to the stormwater system and treated as road surface with light vehicle movement.
- 102 Catchment B including the workers facilities, BWTS building, C&D sorting pad, hazardous waste storage (roof runoff) only and associated drop off area, office parking, Enviro NZ office, and the existing educational facility. This catchment discharges to the existing stormwater network passing through the current RRPP site. Currently the stormwater system discharges directly to the eastern constructed wetland, and it is proposed to divert the open drain to the pond. This catchment includes a truck wash pad area. Runoff from the truck wash pad area will discharge into the leachate system due to the contaminants expected to be present in the runoff.
- 103 Catchment C including the MRF building and apron, OPF building and the Transport Compound Area. This catchment collects rainfall runoff from roofs, paved and compacted gravel areas into a swale along the foot of steep slope border between the capped landfill and the south-west of the site. The swale carries discharges to the eastern sedimentation pond via a swale and a pipeline.

Leachate management

- 104 Activities that result in water coming into contact with refuse or green waste can generate leachate. The areas on which leachate can be generated are:
- (a) Organic bunkers and curing area;
 - (b) Glass bunkers;
 - (c) Wheel wash area;
 - (d) Construction and Demolition pad; and
 - (e) Pads within BWTS and MRF.
- 105 All of these locations are on concrete slab/hardfill to ensure that leachate generated won't seep into the underlying ground / groundwater. All leachate generated from these locations will be collected and contained through a new system of underground drains and pipes.
- 106 The collected leachate will be piped to one of three existing pump stations for direct pumping to the Green Island WWTP.

Odour

Organics Processing Facility

- 107 In addition to close control of the composting process described earlier the following odour control and contingency measures will be employed, as described in the Composting Management Plan:
- (a) If the weighbridge operator identifies an odorous load it will not be permitted entry to the site. Incoming compostable materials containing odorous material will be buried in the landfill.
 - (b) The emptying of a bunker for transfer to the curing area will not be started if the prevailing wind is blowing towards an immediate receptor.
 - (c) Staff will undertake odour monitoring following Enviro NZ odour monitoring procedures.
 - (d) If the material being composted "goes off" or becomes highly odorous or putrid, it will be removed from the composting site, using a covered vehicle, and immediately buried in the landfill.

- (e) In the event that odorous material is deposited, and/or odour can be detected off site, or a complaint is received, the Composting Facility Manager will undertake the following measures as required to mitigate the odour:
 - (i) Immediately cover and remove the odorous load if necessary; and
 - (ii) Report the odour incident using the SHE incident reporting and investigation procedures and investigate complaints in accordance with ENV-50-030, Environmental Complaint Handling Procedure
- (f) Further detail in respect of odour control will be provided by Mr Curtis.

Bulk Waste Transfer Station (BWTS)

108 The potential for odour nuisance from the BWTS will primarily be controlled through the undertaking of refuse acceptance and transfer operations within a building. In addition the following odour control and contingency measures will be employed, as described in the Green Island RRPP Management Plan:

- (a) Odorous loads will not be accepted at the site in accordance with the waste acceptance criteria. Signs specifying this will be clearly posted at the entry to the transfer station.
- (b) The staff will scrutinise all incoming loads for odour content and hazardous substances. Unacceptable loads will not be permitted entry.
- (c) Refuse containing odorous material will be removed from the site as soon as practicable.
- (d) In almost all circumstances waste will be resident in the BWTS for up to 24 hours. However, under a limited number of circumstances (for example, holiday weekends or unexpected events) waste may be retained in the BWTS for up to 72 hours). All putrescible waste will be removed from the site within 24 hours. If waste is to be held on site longer than 24 hours, putrescible waste will be covered and de-odourising spray used as required to prevent off-site effects.
- (e) The floor of the building will be washed down regularly to minimise potential odours. Biodegradable deodorant chemicals will be made available and used when necessary to aid in minimising the discharge of offensive odours from the site.

- (f) All staff working at the facility will have training, which will include the requirements of resource consents, control of odorous waste, odour monitoring, housekeeping procedures and contingency measures.
- (g) Staff will undertake odour monitoring following Enviro NZ odour monitoring procedures each day of operation.

109 In paragraph 37, 3 of her evidence, Ms Freeman refers to an unquantifiable risk of increased odour emissions when the BWTS is opened up for operation after a period when putrescible wastes have been stored overnight or over a Sunday/public holiday, and when those wastes are subsequently transferred into trucks for removal.

110 Storage of putrescible wastes overnight, an on occasion over a Sunday or public holiday is business as usual at most Enviro NZ operated transfer stations. In my experience it has not resulted in increased odour emissions when operations are located within a building, as proposed at Green Island. The standard mitigation measures of covering with other wastes and use of odour sprays as outlined in the Green Island RRPP Management Plan has been found to be effective.

Dust

Green Island RRPP, including the ORB and OPF

- 111 The following dust control and contingency measures will be employed, as described in the Green Island RRPP Management Plan:
- (a) The site access and transfer areas will be sealed/ finished with hardstand in order to minimise dust from the site.
 - (b) Vehicle speeds on site will be limited to a maximum of 20 kilometres per hour in order to minimise dust from the site. This speed limit will be clearly sign posted around the Green Island RRPP.
 - (c) All refuse off-loading must occur in the designated area.
 - (d) Particularly dusty loads will not be accepted.
 - (e) The site will be kept free from waste spills and dusty material by regularly sweeping and hosing down of clear floor areas in the building as required.
 - (f) All unused and unsealed areas of the site will be grassed or planted.

- (g) A spray suppressant misting system, installed in the BWTS, will be operated when required. Site staff will wet down dusty loads with a hose.
- (h) The refuse loading area will be swept after each transport load to prevent excess dust and tracking through the area.
- (i) If dust is being emitted during off-loading, the transfer will be temporarily stopped until the load is dampened using water, or if in the opinion of the RRPP Operations Manager the load is unacceptable, the transfer will be stopped and the load refused entry.
- (j) When necessary Enviro NZ will employ either a water truck or road sweeper to keep the site clean.

Noise

- 112 The site infrastructure has been set out to minimise the potential for nuisance noise effects on site neighbours. The Enviro NZ Dunedin Branch Manager is responsible for ensuring that all equipment on site is adequately muffled and maintained. All machinery will be inspected after servicing to ensure the muffling is adequate and no unacceptably noisy equipment will be used on site.
- 113 If required, the noise levels will be measured and assessed in accordance with the requirements of the NZS 6801:2008 "Acoustics - Measurement of environmental sound" and NZS 6802:2008 "Acoustics - Environmental noise" or their replacements.

Litter

- 114 The following litter control measures will be employed, as described in the Green Island RRPP Management Plan:
- (a) All commercial waste carriers will be required to adequately cover their loads to avoid litter escaping from carrier vehicles.
 - (b) Most operations will take place inside a covered pit/ building, minimising nuisance litter. Perimeter fencing on site will act as an additional barrier.
 - (c) Litter checks of the property and the property boundary frontage will be undertaken by site staff as required.
 - (d) Any wind-blown litter will be recorded on the Odour and Litter Monitoring forms (found in ENV-50-025 Odour and Litter Monitoring

Work Instruction) and picked up and returned to the building for recycling or disposal.

- (e) Any complaints regarding litter nuisance will be investigated and reported internally and, if required, litter collected as soon as practicable

Pests (Rats and Mice)

- 115 The following measures will be employed to reduce the potential nuisance from pests, as described in the Green Island RRPP Management Plan:
- 116 A pest control contractor will be used by the landfill site to undertake vermin surveys and take action to control pests if required. The same contractor will be used to monitor for pests at the OPF.
- 117 All mixed organics will be shredded and placed in bunkers as soon as practicable, usually on the day of arrival at the facility.

Bird Management

- 118 The MRF, BWTS, and hazardous waste buildings will be fully enclosed and internally lined to avoid perching spots for birds.
- 119 If control measures are required in the future they will be implemented after consultation with the Enviro NZ local Environmental Advisor or a suitably qualified consultant/contractor. Any control measures are likely to focus on excluding birds from the building, and/or any roosting and loafing sites within the property.

Complaints

- 120 Complaints received by DCC in respect of the site will be directed to the RRPP Operations Manager, or Enviro NZ Dunedin Branch Manager.
- 121 Complaints regarding noise, litter, dust, odour, or pests received by the site will be logged and investigated in accordance with Enviro NZ's complaints handling procedure.
- 122 In addition, and acknowledging there is also a landfill operations contractor on the same Green Island site, complaints can also be directed to either the landfill contractors Operations Supervisor, or Regional Manager.
- 123 Complaints can also be directed to DCC Landfill Engineer or DCC Contracts Manager.

- 124 Whilst active landfill operations are occurring at the Green Island site, all complaints and follow-up will be shared between RRPP and the Landfill Operations Managers.
- 125 On receipt of a complaint the Green Island RRPP Operations Manager will note down all relevant information including:
- (a) Type of complaint (noise, litter, dust, odour or pests);
 - (b) Date and time of complaint;
 - (c) Complainant's name, contact number and location;
 - (d) Approximate wind direction and strength;
 - (e) Rainfall prior to complaint;
 - (f) The response and likely cause of the complaint; and
 - (g) Action taken or proposed as a result of the complaint.
- 126 The RRPP Operations Manager (or delegated person) will then inspect the site to determine the source of the complaint. Once identified, appropriate action will be taken to control the impacts.
- 127 If associated with the RRPP site the RRPP Operations Manager will then inform the complainant of actions taken to mitigate the problem and note down all actions.
- 128 On occasion complaints will be generated from the activities of others beyond the RRPP site boundary, including the adjacent landfill.
- 129 As with all environmental complaints the Enviro NZ environmental complaints handling procedure will be followed and the cause will be reviewed by the RRPP Operations Manager to determine whether further action, (e.g. a change to procedures, further training etc.) is needed to prevent a recurrence.

Conclusion

- 130 Enviro NZ has been contracted by Dunedin City Council to develop and operate the Green Island RRPP, as well as undertake household collections for refuse, recycling and organics.
- 131 The RRPP will include a materials recovery facility, bulk waste transfer station and aerated static pile composting facility.

- 132 Enviro NZ will operate and monitor these facilities in accordance with the industry good practice procedures documented in the management plans submitted with consent applications.
- 133 I consider the recommended conditions are appropriate, apart from the minor changes proposed in my evidence above.



Laurence Patrick Dolan

6 November 2024

Appendix 1

Figure 1 - Green Island RRPP Site Layout

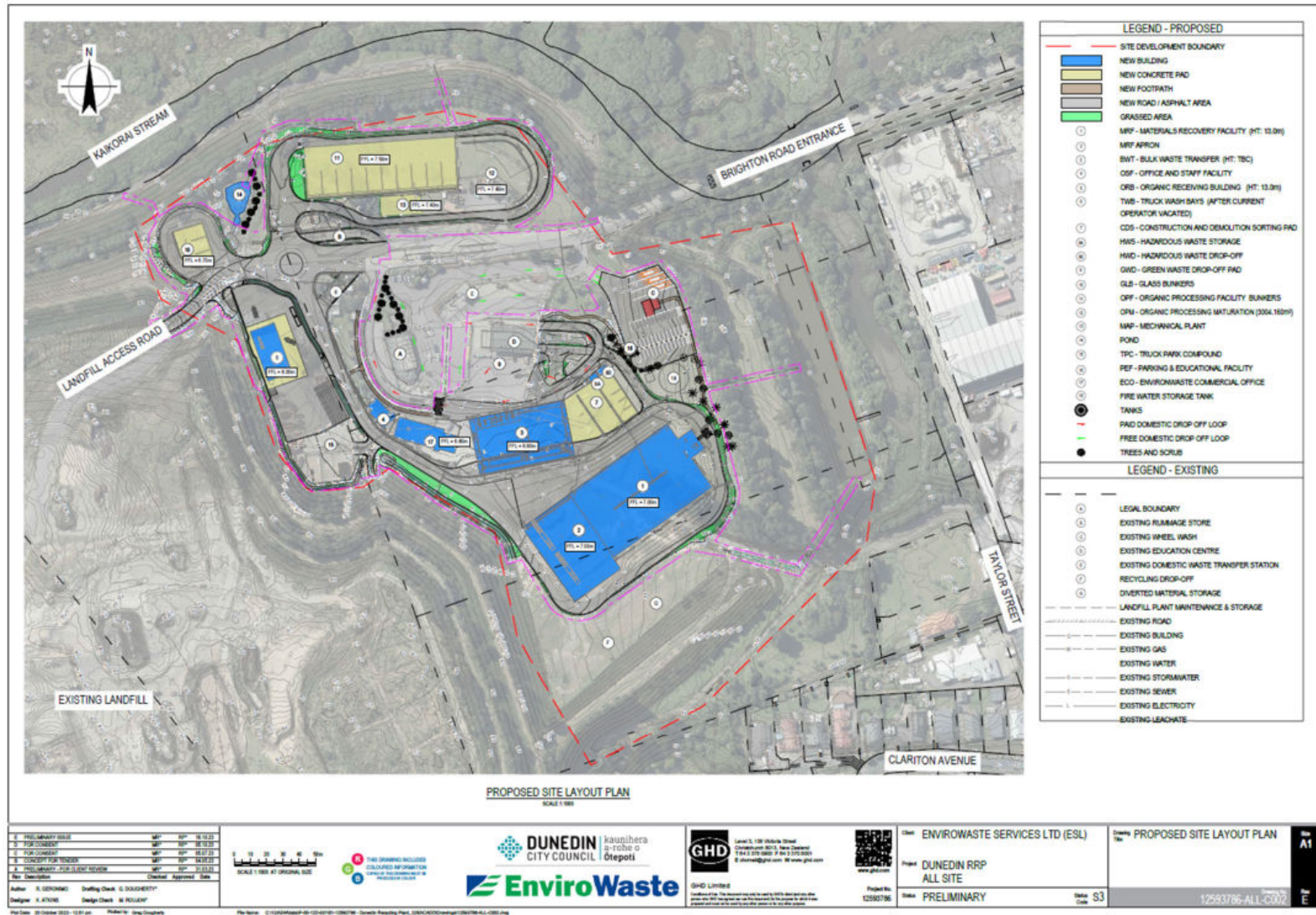






Figure 2 - Dunedin Food and Garden Waste Instructions

Green-lidded food scraps and garden waste bin

Tip
It is important to leave your kitchen benchtop bin in the kitchen - do not put it out for collection either in the food scraps bin or on its own.

What goes in your green-lidded food scraps and garden waste bin?

Yes

-  **Food scraps**
Fruit, vegetables | bread/pastries | baked goods | coffee grounds | loose leaf tea | cheese | eggs | butter
-  **Meat, bones and seafood**
Leftover meat | bones | shellfish | fish
-  **Garden waste**
Garden waste | lawn clippings | leaves | cut flowers | cuttings | small branches
-  **Hair and animal fur**

What can't go in your green-lidded food scraps and garden waste bin?



No

✗ **Paper, cardboard** – these must go in the yellow-lidded recycling bin



✗ **Ash** – these must be cold, damp, wrapped and placed in the rubbish bin



✗ **Liquids***



✗ **Flax, cabbage tree, palm tree leaves*** – these jam the processing machinery

✗ **Tea bags** – because some have plastic glues



✗ **Treated timber, sawdust, shavings, soil***



✗ **Compostable containers** – even if they say “compostable”, place cups, trays, boxes, pottles in the rubbish bin



✗ **Bin liners**



✗ **Plastics** – even if they are “compostable”, please place plastic items in the rubbish bin (unless of course it is clean, rigid plastic with a recycling number 1, 2 or 5, which goes in the yellow-lidded bin)



✗ **Animal poo or kitty litter**

***Please take to Green Island Landfill Resource Recovery Park. A small fee may apply.**

Figure 3 - Green Island RRPP Traffic

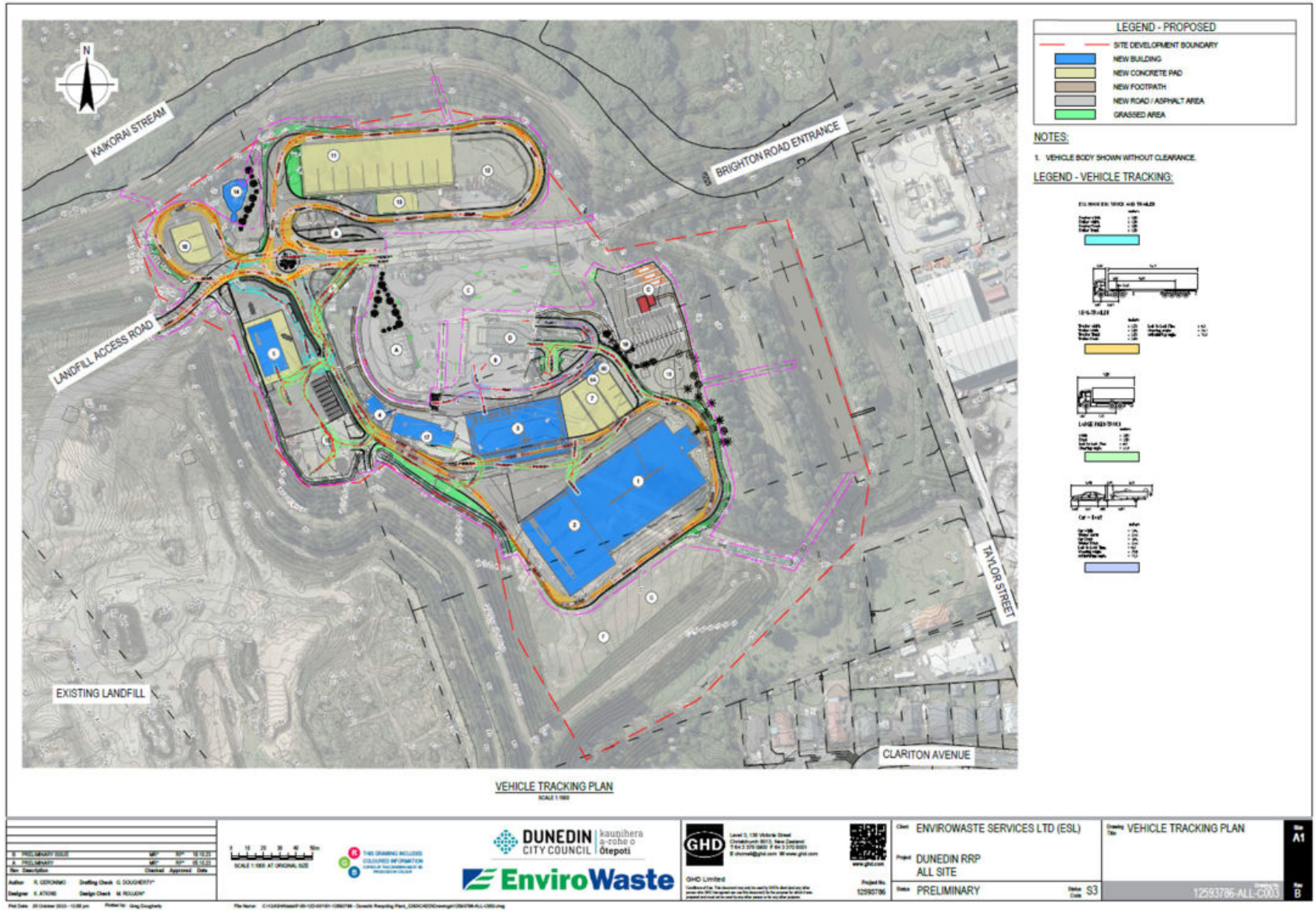


Table 1 - Selection of Enviro NZ Owned and/or Operated Transfer Stations

Transfer Station	Consented Annual Capacity (tonnes)	Consented term (date granted)	Description
Wiri – Auckland (Joint Venture)	200,000	25 years (2014)	Existing operation in a building
Pikes Point – Auckland (Joint Venture)	150,000	25 years (2022)	Existing operation in a building
Patiki Road - Auckland	90,000	24 years (2017)	Existing operation in a building
Pukekohe - Auckland	36,000	25 years (2020)	Existing operation in a building
Constellation Drive - Auckland	110,000	25 years (2020)	Existing operation in an open roofed pit
Cass Street - Christchurch	50,000	10 years (2015)	New operation in an existing building
Sunshine Avenue - Hamilton	Not applicable Approx. 40,000 tonnes processed	Not applicable Air discharge is Permitted Activity	Existing operation in refurbished building
Lincoln Street - Hamilton	Not applicable Approx. 41,000 tonnes processed	Not applicable Air discharge is Permitted Activity	Existing operation in an open roofed pit
Colson Road - New Plymouth	Not applicable Approx. 33,000 tonnes processed	Not applicable Air discharge is Permitted Activity	Existing operation in new building opened in 2022
Maleme Street - Tauranga	Not specified, but approx. 82,000 tonnes processed	20 years (2007)	Existing operation in an existing building
Te Maunga - Tauranga	Not specified, but approx. 64,000 tonnes processed	15 years (2006)	Existing operation in an open roofed pit