

5 April 2024  
Ref: 22035

Shire of Gingin  
PO Box 510  
Gingin, WA, 6503

Dear Sir/Madam,

**Re: Proposed Composting Facility – Lot 7779 Wannamal Rd West, Cullalla**

We act for the owners of the above property. As you are aware, an application for a composting facility on this site was recently withdrawn from the SAT. Our clients are still keen to progress with an application but have agreed to a significant reduction in the size of that proposal. This application reflects that reduction. In support of this we submit this letter and the following documents.

- Completed Application for Development Approval form
- Copy of Certificate of Title
- Plans of the proposed development
- Flora Survey
- Fauna Survey
- Traffic
- Bushfire Management Plan

Please invoice our client, Wannamal Road Organics Pty Ltd for the application fee. It can be sent c/- Statewest Planning and we will arrange payment direct by our client. We would also request that consideration be given to the \$12,311.00 fee paid previously (22/6/22, Inv-37475), the application for which was ultimately withdrawn. Our client requests that the new fee for the significantly reduced proposal be credited against that paid fee.

**Site Description**

Lot 7779 is a 1,660ha, mainly bushland property. It contains a long-standing dwelling and shed in its north-western corner.

There is a Resource Enhancement Wetland (REW) in the north-east corner of the property and another approximately 1.5km south of the road frontage extending into the property from the neighbouring lot to the east. Further south again there are 5 pockets of Conservation Category Wetland (CCW).

Much of the northern portion of the land has historically been cleared and used for grazing. This activity ceased some years ago and this has allowed native regeneration. A flora study has been carried out. This is discussed below.

Topographically the site is relatively flat at around 172-176m AHD apart from three hillocks – one in the north-west corner that rises to 198m AHD, one in the centre (210m AHD) and one at the southern boundary (222m AHD). This is consistent with Bassendean sands prevalent in this area at the southern end of the Dandaragan Plateau.

The area the subject of this proposal is located at the Wannamal Rd West road frontage and is effectively level at around 175m AHD.

- **Surrounding land uses**

The property to the west of Lot 7779 is a 'Parks & Recreation' reserve known as Boonanarring Nature Reserve. To the north and east the land is zoned 'General Rural' and is mainly undeveloped bushland with some farming land on the eastern side. The property adjoining the southern boundary of the subject site is zoned 'Special Use' SU5 to accommodate a waste management facility. The nearest residence is over 4km away. There are 3 piggeries closer than that.

- **Planning Framework**

The subject property is zoned 'General Rural' under the Shire of Gingin LPS 9. The proposed use, Composting, is an 'A' use in the Zoning Table of that Scheme.

**Proposal**

The area the subject of this proposal takes up approximately 25ha. It will comprise a 10m wide one-way internal perimeter driveway system. This will be accessed from a crossover at the western end of the proposed development that will be constructed to Main Roads WA standards.

Compost materials will be delivered to a 7ha hardstand area comprising 100mm thick asphalt surface over a 300mm thick subgrade constructed of crushed recycled building material with sand added as necessary to optimize compaction. The composting area will comprise three separate areas:

- Receiving & sorting;
- Composting; and
- Final product storage

A 100 mm thick asphalt lined collection basin will be constructed in the centre of the facility to service the composting facility. This collection basin, or dam, will be 2ha in area and 4m deep. It will collect run-off from the composting area for re-use in the operation.

A transportable site office is proposed to be placed inside the perimeter driveway adjacent to the composting area. This will be supplemented by a transportable toilet. Potable water will be carted to site and stored in a 10,000 litre tank set on top of the site office

For security purposes, a 1.8m high cyclone mesh fence will be installed on the outside of the perimeter driveway. The development will be set back 20m from Wannamal Rd West and a 3m wide x 1.5m high landscaped earth bund will be installed in that setback area.

### **Operational aspects**

#### **- Volumes**

It is proposed that the site will receive 200,000 tonnes of composting material per annum and 40ML of liquid waste per annum resulting in an output of 100,000 tonnes of compost per annum. The impacts of this are discussed in the Transport Impact Assessment that forms part of this application. The TIA also describes the type of vehicles used to deliver and remove the product.

#### **- Materials**

The majority by volume of the material to be composted will be greenwaste which results from the pruning and chipping of mostly trees. This material contains leaves, bark and woody materials and typically has high ratios of carbon to nitrogen (80-90).

FoGo (Food organics/Garden organics) is the contents of the “third bin”, increasingly being supplied to domestic houses to reduce putrescible waste going to landfill. It is variable in content, depending on the household, but typically contains kitchen scraps and garden waste (weeds and prunings) and has a carbon to nitrogen ratio around 20.

High nitrogen waste is from a very wide range of sources of mostly proteinaceous materials commonly called putrescibles. It includes materials such as animal manures, animal processing waste liquids (e.g. egg washing). Such materials are classified as K materials under DWER’s Controlled Waste (Appendix 2) category list.

Grease trap waste is a controlled waste consisting of about 95% water and 5% fats and grease. It assists composting by providing water and by elevating windrow temperatures as grease and fat is metabolised, but leaves no composted residue.

The composting materials outlined above are not considered contaminated within the meaning within the Environmental Protection Act or the Contaminated Sites Act. There is a possibility they may contain pathogenic organisms or weed seeds however the composting process itself “pasteurises” in moderate heat, destroying such potential pathogens and weed seeds. The raw materials may sometimes contain non-compostable materials such as soil, metals, glass and plastics. Most of these are removed in Licensed Waste Transfer facilities. Any such materials that are not removed will be picked up by daily inspection of windrows when they will be removed and placed in skip bins. When such bins become full, they will be removed to a recycling facility (for metals and glass) or to a Licensed landfill facility. Such skip bins will be located in the materials receival area. As windrows are turned, should non-compostable materials be discovered, they will be removed by the machine operator and transferred to skip bins.



Should animal carcasses be available as a composting material, they will be applied by burial within active windrows immediately upon receipt. Received animal carcasses will have a maximum size of 0.5 Kg.

- **Hours of operation & staffing**

The composting facility will be open for waste acceptance at the following times:

- Monday to Friday: 7:00 AM – 5:00 PM

The composting will be open on public holidays (excluding Good Friday and Christmas Day) except for exceptional circumstances.

Due to the nature of the operations, it is possible that windrow watering may extend beyond the opening hours for waste acceptance by approximately 90 minutes.

It is anticipated that there will be up to 6 staff on site depending on workloads.

- **Composting Process**

It is proposed that tip truck semi trailers will enter the Premises via an access road from Wannamal Road West and proceed to the receival and storage area to deliver green waste and other raw material feedstock. Each load is segregated according to their composition on the receival and storage area floor by manual screening and separating oversized waste (e.g. logs) from waste that is immediately suitable for the composting process.

Oversized waste will be ground into smaller sizes which are suitable for composting using a tub grinder. All equipment will be transportable so that it can be moved around the site as needed.

Waste will be removed from the receival and storage area within 48 hours of delivery. A frontend loader will blend the ground waste material in the receival and storage area which will then be transported to the composting area to be stockpiled into open windrows for processing. Windrows will be 8 metres wide, 4 metres high and will not exceed 50 metres long.

The static compost piles will be aerated by using a front-end loader to turn/relocate the stockpiles. The temperature and moisture of the windrows will be measured in the early morning to determine the stage of composting and the required frequency of turning. Windrows will be closely monitored for temperature and moisture content throughout the composting process, to ensure the composting material has a moisture content between 45- 50%.

To ensure windrows maintain a 45-50% moisture content level, the water collected into the collection basin, bore water and grease trap waste will be added as necessary. The owners have an existing bore license to take 111,430 kL per annum.

Windrows will be formed by progressive layers, with each layer being wet by a water carts retained on site. Grease trap waste will be immediately applied to windrows when received at the Premises and mixed into windrows with a front-end loader.

Temperatures of the windrows will be maintained above 50 degrees for six weeks to ensure pasteurisation. The duration for windrows to be composted is between 8 to 12 weeks. The adequate decomposition of the composting process will be determined by the temperature of the windrows dropping below 40 degrees.

Once mature, the final product will be tested to meet the standard requirements of AS 4454 certification. A mechanical trommel screen may be brought on site to screen final products to create coarse (mulch) and fine (compost) materials. Once material meets the end product specifications of AS 4454, it is anticipated it will be used mostly for broad acre agriculture.

- **Spontaneous combustion**

Regular monitoring of temperatures within the composting windrows is not only important for efficient composting, but also to prevent spontaneous combustion. Moisture content of the composting windrows will be maintained at above 45% as part of the composting process, and by virtue will reduce the risk of spontaneous combustion.

Moisture content of the greenwaste received on site will not exceed 20% to prevent the generation of heat occurring through biological activity and in turn resulting in spontaneous combustion.

A 21 m separation distance between the final product storage area and composting area will be implemented to prevent fire spreading should it occur.

The composting operations will involve open windrows. These do not produce flammable biogas. The processes used will be aerated composting, however in a practical sense, because of the intense microbial activity, and oxygen added by windrow turning becomes steadily depleted by microbial activity. Facultative anaerobic conditions thus predominate. Biogas is a mixture of methane and carbon dioxide which is produced under strictly anaerobic conditions in a closed system. Commercial biogas systems use compression to remove carbon dioxide. Although some methane is produced under facultative (partially anaerobic) conditions, it is consumed by other organisms, (methanotrophs). Accordingly, as distinct from landfill disposal of organic waste (which form completely anaerobic cells), composting does not cause a risk of flammable biogas.

The major risks of fire are from the self-heating of moist, (but not wet) woody greenwaste when piles are of sufficiently large dimensions to cause convective heat cells which result in temperatures sufficiently high to promote combustion. As per the FEMP, such conditions will be minimized.

A Fire Management Plan has been prepared by Bioscience to deal with this issue and fire fighting on site in the event of any fire on the site. This has been incorporated into the Bushfire Management Plan prepared by Bushfire Prone Planning that forms part of this application.

- **Pest & vermin management**

Livestock (the primary source of stable flies, along with horticultural crop residues) will not be on site. Stable flies and vermin are not considered to be a risk in composting operation, indeed the WA (3/8/2019) Stable Fly Management Plan lists composting as a preferred control option for stable flies. Similarly, according to AQIS (14/3/2001) on Pest and Vermin Control Procedures, composting is unlikely to attract rodents due to the non-availability of food. The only likely place for vermin to be attracted will be the staff amenity building which will be equipped as necessary with standard rodent baiting stations.

Should raw materials such as untreated poultry manure be received, and be subsequently found to be infested with fly larvae of any Genus, such material will be treated by the application of 0.5% by volume with sodium borate, consistent with WA (3/8/2019) Stable Fly Management Plan. To this end 50 kg of sodium borate will be kept on the site. Likewise rodenticide (brodifacoum wax blocks -) will be kept on site to ensure rodent bait stations remain charged, with monthly inspection and reporting of bait station status by the site manager.

- **Off-site impacts**

Off-site impacts will be minimal due to the remoteness of the site (refer surrounding land uses above). A 20,000 litre "dinosaur" water cart will be kept on site for the purposes of wetting the compost windrows, dust suppression and firefighting, should it be needed for that. Noise and odour will dissipate before reaching sensitive human receptors due to the separation distance (over 4km).

There will be an increase in traffic, which will impact on the road system. This is discussed below and detailed in the attached TIA, which has determined that the proposed volumes of traffic are able to be safely sustained on the existing road system.

Potential impacts on the environment are discussed below.

**Environment**

- **Flora**

Lot 7779 has been the subject of a number of flora surveys. These have taken place in 2015, 2017, 2018, 2018 (again) & 2019 over all seasons of the year, the 2019 being a spring survey. A report on these has been prepared by Bioscience and forms part of this application. The Flora survey found no Declared Rare Flora or priority species.

- **Fauna**

Fauna surveys were conducted on Lot 7779 in 2015, 2017, 2018, 2021 & 2021 (again). The only native fauna observed was a grey kangaroo and 2 emus in the 2021 surveys. The only other



evidence of fauna was kangaroo, dog and possibly fox scats and tracks and an abandoned sand monitor dugout.

Nine species of bird were observed, none of them black cockatoos. The vegetation doesn't provide suitable habitat for black cockatoos.

The 2021 Level 1 fauna survey prepared by Bioscience (attached) found no evidence of rare or endangered species.

- **Groundwater**

Bioscience has also investigated groundwater in the area. A review of the published hydrogeological reports and DWER monitoring bore data in the local area indicates the direction of groundwater flow is generally to the west. Nearby users that are downgradient (west) of the property are accessing groundwater from the Leederville-Parmelia aquifer and therefore not considered to be affected by groundwater discharge from operations at the site. As groundwater generally flows to the west it is not considered likely that a pathway via groundwater exists to the wetland areas to the east and south of the subject site.

It should be noted as well that the composting area, including the dam, will be sealed and incorporates a 200mm bund around the perimeter to contain any liquids within the area of operation and prevent liquid from escaping the operation area.

As an additional precaution, four groundwater monitoring wells (two up-gradient and two down-gradient) will be constructed on site to determine any potential impacts associated with the proposed activities on site.

- **Surface water**

There is a REW located 50m east of the proposed development. The proposed development will not impact on this wetland as all sealed areas will drain into the 2ha dam, which will itself be sealed. The sealed composting area will incorporate a 1:100 slope grading into the dam.

**Traffic**

Due to the nature of the activity, involving truck movements bringing greenwaste to the site and taking compost from the site, a Transport Impact Assessment has been carried out by i3 consultants WA. That TIA forms part of this application.

The site is serviced by Wannamal Rd West, which is sealed from Brand Hwy for a distance of approximately 10km. The entrance to the proposed development is approximately 17km east of Brand Hwy, meaning the last 7km is unsealed. Whilst the road is a designated RAV road it carries low volumes of traffic with approximately 32 vehicles per day past the subject site and 4 vehicles per peak hour.

The TIA has established that following recent works the unsealed section of road accessing the site from Brand Hwy was found to be safe and comfortable. The estimated traffic volumes for the

development are included in the TIA. They are based on the potential importing of greenwaste / FOGO and liquid waste and the exporting of compost to and from the site and the type of vehicle used to carry the product. It has determined that the number of vehicle movements do not exceed the Main Roads standards for an unsealed road.

### **Bushfire**

The site is mapped as being bushfire prone. Given this, a Bushfire Management Plan (BMP) has been prepared by Bushfire Prone Planning and accompanies this application. The BMP has determined that the proposal complies with the requirements of SPP 3.7. Key factors in establishing this position include:

- The development can achieve a BAL-29 rating or better without relying on other property owners for the maintenance of an APZ.
- There are two directions of escape and access by a constructed road.
- Adequate water supply is available for firefighting with:
  - o 2 x static 30,000 litre water tanks in the composting area;
  - o 1 x static 10,000 litre water tank (potable water) at the site office location; and
  - o 2 x 20,000 litre mobile 'dinosaur' water tankers, one exclusively for firefighting, to be located in the composting area.


A Fire Management Plan prepared by Bioscience is referenced in, and appended to, the BMP. This deals with fire related operations matters on site.

### **Summary**

This application is a modified and much reduced version of a previous application for this site. It responds to the concerns raised by Council in relation to the traffic volumes by reducing the scale of the development significantly to a level where Wannamal Rd West doesn't need to be sealed. Should the business prove successful and warrant expansion, a fresh application will be made and the question of the sealing of the road can be revisited.

We look forward to your assistance in supporting this worthwhile project. If you have any questions about this application, please contact the undersigned.

Yours faithfully,



**SIMON O'HARA**  
Director and Principal Planner

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