

Composting Facilities
Wood Farm, Marsham, Norfolk

**Environmental Report
Executive Summary**



Issue
November 2007

Crane and Sons (Farms) Ltd.

1 Proposal

1.1 Background

- 1.1.1 The application by Crane & Sons (Farms) Ltd is for a permanent composting site of 3.565 hectares capable of processing up to 45,000 tonnes per annum locally generated organic waste, primarily green garden waste, along with some kitchen and catering waste. Part of the Site (1.5 hectare) is currently consented for small scale composting (Planning Ref no. C/5/2004/5016), and is operated by Land Network (Norfolk) Ltd. The remainder of the expanded site includes a disused piggery, other miscellaneous farm buildings, and about 2 hectares of arable land. Under the proposal, Norfolk Environmental Waste Services Ltd (NEWS) would operate the composting facility. The proposal includes constructing a fully enclosed waste reception and sorting building, enclosed active composting vessels, and a concrete maturation and storage area for windrows; a bungalow adjacent to the existing site would be converted to office use. A new weighbridge and minor improvements to allow vehicle passing along Buxton Road are also proposed.
- 1.1.2 Composting is regulated under current waste management legislation. The site currently operates under an exemption but the increased capacity would require a licence from the Environment Agency. In addition, Defra would oversee an extra level of compliance required by the Animal By-products Regulations in order for the site to be able to take kitchen waste. These requirements, as well as adherence to an environmental management system (ISO 14001), would ensure that the operation is run efficiently and with a high degree of external regulatory oversight.
- 1.1.3 It is important to note that this facility will not in anyway be taking any animal waste that is normally associated with rendering plants. It is only designed to process segregated food waste from household kitchens and restaurants etc. along with green garden waste and some commercial organic waste.

1.2 Need for local composting facilities

- 1.2.1 Most of the green waste that would be processed at Wood Farm is currently collected by local authorities (such as North Norfolk and Broadland) and processed at sites such as Mayton Wood. However the composting operation at Mayton Wood is scheduled to close in 2009, and a replacement site(s) is needed. Ideally, this site should be located as close as possible to both the sources of green waste and final destinations for the compost to reduce road transport.
- 1.2.2 Another objective of composting is to help meet the need to reduce disposal to landfill of biodegradable waste, as very little new landfill capacity is being created either in Norfolk or nationally. As part of a larger national and EU waste strategy, the goal is to reduce greenhouse gas emissions, such as methane, from waste decomposition in landfills; this strategy translates at the County and local levels to finding ways to increase organic recycling and re-use the material and energy in wastes so that there is virtually no residual needing disposal at all.
- 1.2.3 Current national policy encourages innovation in solving the problems of waste generation (refer to the latest revisions to the National Waste Strategy issued in May 2007); composting and both aerobic and anaerobic digestion are preferred technologies due to the high degree of material and energy recovery possible. These objectives support the creation of locally owned and managed businesses, using partnerships to combine complementary skills and assets, and establishing suitable development sites as near to sources of origin as possible. Wood Farm is such a site, located in a traditionally rural area but possessing key features such as good access to a main road (the A140), proximity to points of waste generation, a suitable existing site with similar use and enough space for the new construction, and a large area of available agricultural land that would benefit from the product

1.3 Phased site development

- 1.3.1 The application is for aerobic composting facilities with 45,000 tonnes per year capacity when fully built out (Phase 1). Future plans for the site include other improvements that are currently

at a conceptual stage but which would respond to sustainability concerns and the drive toward waste elimination. The development concept is summarised below:

- Phase 1, Stage 1: Construct an 8-vessel (approximately 25,000 tonne per year) capacity facility that would accept local area green and commercial biodegradable wastes
- Phase 1, Stage2: Expand composting capacity by constructing an additional 8 compost vessels and enlarge the concrete maturation area
- Phase 2, Stage 1: Develop visitor and educational facilities on site. This may include renovating the Dutch barn, adding viewing areas, and providing guided site tours.

1.3.2 Additional considerations: Over time and as incentives and technology develop, the site and processes may be modified to increase the potential for sustainable use, for example, the possibility of generating electricity and for producing other products from compost may be explored. These concepts are not part of the current application, and would be proposed through the planning process with input from local communities and stakeholders.

1.4 Waste input

1.4.1 The facility is primarily designed to produce a top quality 'PAS-100' compost from separately collected household green and kitchen waste along with segregated organic waste from restaurants, canteens, shops etc. (all at one time fit or intended for human consumption). In addition the site is also designed to accommodate, in parallel, a small proportion of selected commercial waste suitable for composting but which technically cannot claim the PAS 100 standard as it may not be considered to come from an entirely source separated feedstock. For example this commercial organic material might be selected from a waste transfer station where it could have come into contact with other mixed non-hazardous waste.

1.4.2 The following wastes types would be accepted at the facility:

- Locally collected green waste
- Timber waste (crates, pallets, branches, wood)
- Kitchen waste (past spec. foods from supermarkets, shops and restaurants)
- Commercial organic waste, not actively source segregated (see above)

1.4.3 The facility would not accept carcasses, contaminated or diseased materials, or animal parts that carry risk of infection.

1.5 The process

1.5.1 The facility normal operating hours would consist of a single shift within the hours of 07.00 – 19.00 with half days on Saturdays. Waste for composting may be accepted outside of these hours to meet specific collection requirements, but activity would be limited to necessary internal operations (except for maintenance) outside of normal working hours. The following steps are proposed:

- Reception: unloading, sorting and short term waste storage would be inside the main building, except for dry timber waste which may be stored and managed outdoors; reception building air is exhausted through biofilters
- Active composting: waste is loaded from the building directly into vessels where it remains for one week, and is transferred to second stage vessels for a further week. Extracted air is exhausted through the biofilters. Most of the active biodegradation takes place at this stage
- Maturation: compost is set out in windrows to mature for approximately 6 weeks, is turned approximately weekly by a windrow turner operating on average 3 hours per day.
- Sorting and finishing: Compost is shredded to ensure end products meet suitable size and composition requirements, any remaining foreign particles (plastics, stones etc.) are removed.

1.6 Products and product uses

- 1.6.1 The main product is PAS-100 grade compost. This material is intended for spreading on surrounding agricultural holdings either owned or controlled by Crane & Sons (Farms) Ltd. Approximately 980 hectares are available and would receive the locally produced organic compost as partial replacement for mineral fertiliser. The benefits of organic compost in comparison with mineral fertiliser to soil and water quality are well recognised by organisations such as Defra, the Environment Agency, the Soil Association, and others.
- 1.6.2 A secondary material would be produced from the separate but parallel process for composting organic waste that cannot by definition meet the PAS 100 standard. Whilst the PAS 100 standard material may be used in agriculture without restrictions, this material would be more suited to topsoil blending, landscaping and other non-food crop applications.

1.7 Transport and access

- 1.7.1 The site is located on Buxton Road between the A140 to the east, and Holt Road to the west. Waste vehicles would use either the A140 to the east turning west on Buxton Road, or the B1149/Holt Road to the west, turning east onto Buxton Road (Figure 2.7-01). Established passing places on Buxton Road would be improved on the section from the A140 to the Site sufficient to allow vehicles to safely pass. No improvements are needed on the section between the site and the A1149.
- 1.7.2 Signs would be erected to direct site traffic along Buxton Road; no other roads in the area would be affected.
- 1.7.3 Approximately 24 heavy goods vehicle trips per day would be required to serve the site, when fully built out, representing an increase of approximately 21 trips per day. Either 20-tonne bulk vehicles or smaller 7.5-tonne local collection vehicles would be used for transport. Farm vehicles mostly on small off-road tracks would distribute the compost for land application.

1.8 Environment and amenity considerations

- 1.8.1 The proposal would potentially result in impacts on community noise, odour, air quality (bioaerosols, dust and ammonia), water quality, ecology and wildlife, archaeology, and the visual appearance of the area. The facility would employ some (approximately 5) staff at inception with potential for more as it develops.
- 1.8.2 Impacts and mitigation are as follows:
- **Noise:** There would be an increase in use of outdoor equipment such as a windrow turner a Trommel screen, and occasional shredding. (Shredding already takes place at the site, the frequency is likely to increase.) Noise would be mitigated as much as possible by limiting the times at which noisy equipment may be used outdoors, by appropriate sound insulation, and by creating an approximately 3m-high soil bund at the north perimeter of the site. Noise limits at the applicant's property boundary are also suggested pending results of a background noise survey with the intention of avoiding annoyance to local residents during day and night time hours
 - **Odour:** The processes would generate some odour, but enclosure of the reception area and active composting vessels, use of biofilters, and a rigorous monitoring and maintenance regime would prevent formation and release of significant odorous by-products
 - **Air quality:** A risk assessment has been completed for bioaerosols and dust, and a desktop study conducted for nitrogen compound emissions. No significant issues have been identified associated with air quality when the required mitigation measures are taken into account
 - **Ecology and wildlife:** Ecological surveys including a bat survey have been conducted of the site, and no wildlife occupancies identified. The surrounding area includes several protected habitats and special sites, with one SSSI/SAC (Buxton heathland mire) at

approximately 1 km distant, which may be vulnerable to nutrient loading. No significant impacts are identified with respect to any of these habitats or sites

- Archaeology: The potential has been identified for a Roman Road close to and north of the proposed site. A geophysical survey is planned to confirm the location of this feature, appropriate mitigation measures would be implemented pending the results of the survey
- Visual impacts: A full landscape and visual impact assessment has been conducted, along with consultation with the County and local Parish Council. Views from the north have been assessed and suggestions for building colour and planting are proposed to reduce the visual aspects of the development. Lighting would be the minimum needed for security and safety. The general location is currently developed with fairly extensive commercial and agricultural structures, and it is intended that the proposal would be complementary with these, and not intrusive.

1.9 Assessment against policies

1.9.1 Current National and emerging policies for managing waste are central to the proposal, and fully support it. At the County level, the Adopted Norfolk Waste Local Plan (2000) is the principal guiding planning policy document^{See link}. Key associated policy areas are suitability of the location, landscape character and visual impacts, amenity, human health, ecological and archaeological resources, water resources, and traffic.

1.9.2 WAS 1 – 7 cover land use strategy and countryside protection. Key policies are:

- WAS 1 (BPEO/regional self sufficiency and proximity to source): The proposal meets both these criteria, it moves waste 'up' the hierarchy and strongly supports the proximity principal which are central objectives of the Plan
- WAS 2 (recovery of materials and energy): The proposal meets the recovery criteria, but would better support this policy if the design included electricity generation
- WAS 3 (preference for industrial or brownfields land): The proposal meets this criteria in part, although part of the proposal involves uptake of agricultural land
- WAS 4 (preference against development in open countryside): The proposal could be construed as counter to this policy, however the existing waste site consent, and surrounding commercial and agricultural developments are positive indicators further supported by sensitive design. No 'unacceptable' harm is likely
- WAS 7 (preference against incompatible development): The proposal is highly compatible with its surroundings.

1.9.3 WAS 8 – 21 cover environmental protection. Key policies are:

- WAS 10 (landscape and visual protection): The proposal will be visible when viewed from the north. However, sensitive design treatment and use of colour based on prior consultation with the County, and additional planting will mitigate visual impacts and avoid intrusion. No significant contradiction with this policy is identified
- WAS 11 (protection of internationally designated sites): The Buxton heathland mire site is an SSSI/Special Area of Conservation approximately 1 km distant. The potential for damage to this site from nutrient loading attributable to the proposal has been assessed, and the possible proposal impacts are considered insignificant assuming mitigation is in place
- WAS 12 (protection of local ecological sites and woodlands): Ecological studies including habitat and bat surveys have been completed. No significant impacts are identified

See link

http://www.norfolk.gov.uk/consumption/idcplq?IdcService=SS_GET_PAGE&ssDocName=NCC029937&ssSourceNodeId=&ssTargetNodeId=3395

- WAS 13 (protection of amenity and human health): WAS 13 covers potential for exposure to harmful air emissions, noise, and odour. These aspects of the operation have been assessed, and mitigation proposed for both odour and noise control. Noise limits may be appropriate at the land ownership property boundary, and would be agreed with the District Environmental Health Officer. A Bioaerosol Risk Assessment has concluded there would be no significant likelihood of harm to the public or employees from the proposal assuming appropriate mitigation (to include use of biofilters) is in place
- WAS 14 and 15 (archaeological resources): A preliminary archaeological study has identified the potential for a Roman Road in the area. This would be confirmed by undertaking a geophysical survey prior to construction, and appropriate mitigation agreed
- WAS 16 (traffic): The applicant has consulted with the County Highways Department; while road traffic would increase on the local access road (Buxton Road), it is considered adequate for the proposed traffic with minor adjustments to passing areas, no other traffic or transport issues are identified
- WAS 18 (protection of water resources): Measures are proposed to contain all water that has been in contact with compost or compost liquor. Rainwater harvesting and water storage capacity are proposed to minimise the need for well water. No conflicts are identified
- WAS 19 (flood protection): A Flood Risk Assessment has identified no significant flooding issues, the site is in a low-vulnerability zone. Runoff would drain to soakaways. The proposal is therefore considered compliant with policy
- WAS 20 (prime agricultural land preservation): The proposal involves uptake of approximately 2 HA of agricultural land, however the agricultural benefit from use of compost and the relatively small uptake are not considered to be significant in policy terms.

1.9.4 This planning approach assumes that the existing consent for composting, which is held by Land Network (International) Ltd effective September 2005 (Ref no. C/5/2004/5016) would be superseded by consent for the proposal described in this document.