

**This Report has been cleared
for submission to the Board by
the Senior Inspector, Brian Meaney
Signed: N. Keavey Date: 30/09/10**



**OFFICE OF CLIMATE,
LICENSING &
RESOURCE USE**

INSPECTORS REPORT ON A LICENCE APPLICATION

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| TO: | DIRECTORS | |
| FROM: | Michael Owens | - Environmental Licensing Programme |
| DATE: | 29/09/10 | |
| RE: | Application for a Waste Licence from Roadstone Wood Ltd, Fortunestown, Tallaght, Dublin, 24. Licence Register W0269-01 | |

| | |
|---|---|
| Type of facility: | Inert Waste Recovery Facility |
| Class(es) of Activity (P = principal activity): | 4 th Schedule: 4 (P) & 2, 3, 13 |
| Quantity of waste managed per annum: | 550,000 tonnes (maximum) |
| Classes of Waste: | Inert soils & stones for land restoration; inert construction & demolition waste for recycling. |
| Location of facility: | Fassaroe Waste Recovery Facility, Fassaroe Avenue, Bray, Co. Wicklow. |
| Licence application received: | 26/05/09 |
| Third Party submissions: | None |
| Article 14 Notices sent: | 23/07/10 (Article 14(2)(a) acknowledgement) |
| Article 14 compliance date: | 23/07/10 |
| Article 16 Notice sent: | 06/09/10 |
| Article 16 Compliance date: | 28/09/10 |
| Site Inspection: | 09/06/10 |

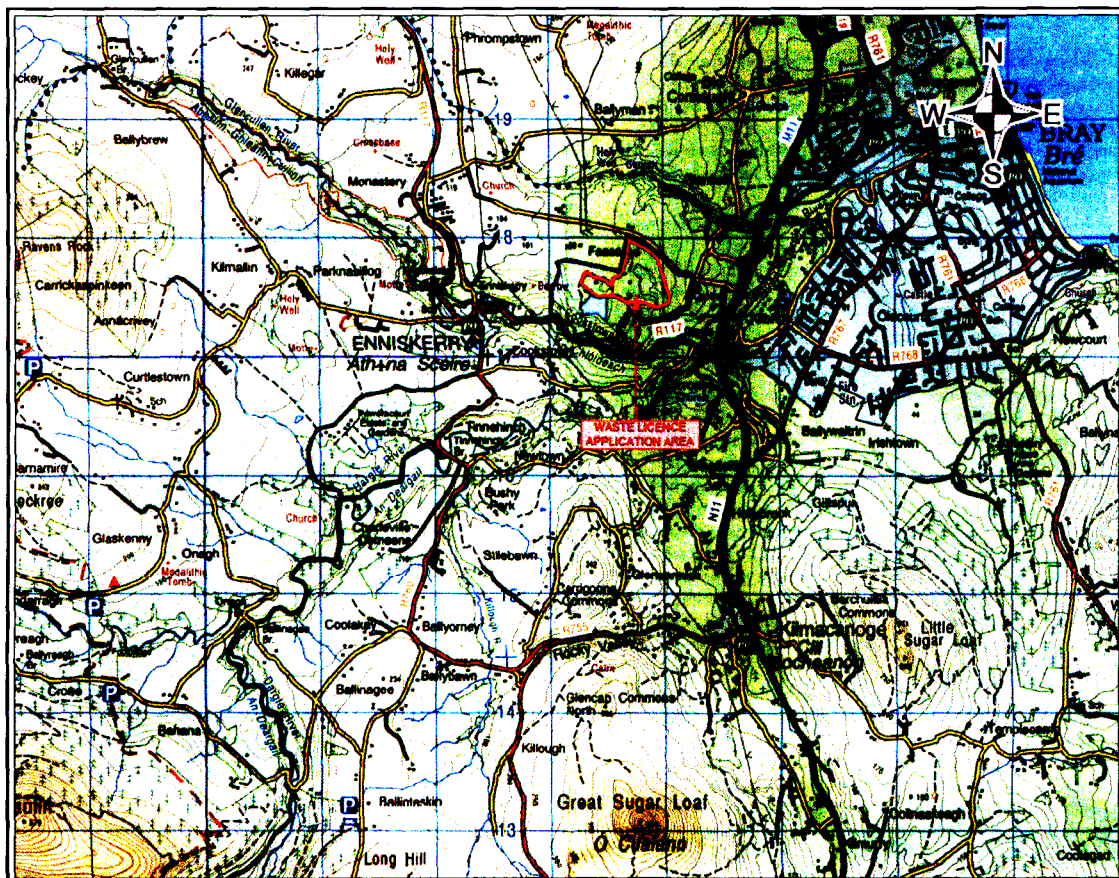
This waste licence application relates to (i) the continued restoration of a former sand and gravel quarry using imported and stockpiled inert natural materials such as soils, stones and broken rock; and (ii) the continued operation of an existing construction and demolition waste recycling operation at a facility at Fassaroe Avenue, Bray, Co. Wicklow. The facility currently carries out these activities under 2 separate waste permits as well as under planning permissions issued by Wicklow County Council. The site has exceeded the 100,000 tonnes threshold set in its current waste permit and therefore now requires a waste licence. Activities at the site will eventually result in complete infilling of a large open void and restoration of the landscape to its original pre-extraction level. The restored land will, in the medium term, be used as agricultural grassland, which is in keeping with much of the character of the

surrounding area. However, the future long term land-use is, as set out in the Bray Environs Local Area Plan 2009 – 2015, for mixed residential and commercial development

1. Facility

The site comprises a worked-out sand & gravel quarry and some surrounding land of approximately 21.4 hectares in a largely rural area in the townland of Fassaroe, Co. Wicklow. The site lies in close proximity to the N11 National Primary Route between the towns of Bray and Enniskerry at a distance of approximately 2 km from each. The site is owned and operated by Roadstone Wood Ltd (formerly Roadstone Dublin) and lies within a larger (~65 Ha) landholding in the area also owned by Roadstone Wood. Sand and gravel extraction activity ceased in the mid 1990's when the resource was largely worked out. The location of the facility is set out in Figure 1 below. The extent of the lands owned by Roadstone Wood Ltd is outlined in blue and the extent of the facility to which this licence application relates is outlined in red.

Figure 1: Site location



The existing C&D waste recovery area is located at the northern end of the site on lands that have been already partially filled and levelled. The quarry void to be backfilled is located at the eastern end of the site. Ground levels across the site follow that of the (original) surrounding ground, falling south-eastwards from approximately 95mOD to 74 mOD (Malin), toward the nearby Cookstown and Dargle rivers. The existing quarry void covers an area of approximately 4.5 Ha. Its depth from existing ground level varies from 18m at its northern/north-eastern end to 10m at its southern/south-eastern end.

Roadstone Wood have carried out C&D waste recycling at the site since 2004 under waste permits issued by Wicklow County Council in 2004 (Ref. No. ESS/15/8/12) and in July 2008 (Ref. No. ESS/15/8/12-339). A separate waste facility permit was obtained in March 2009 to provide for commencement of soil backfilling activities at the site (Ref. No. ESS/15/8/12-

343). However, in August 2010, Wicklow County Council moved to revoke this waste permit as the site had exceeded the amount allowable under the permit for quarry restoration. The site ceased intake of soils and stones on the 6th August 2010.

All permits were issued under the now revoked Waste Management (Permit) Regulations 1998 (SI No. 165 of 1998).

Planning permission for the backfilling and restoration activity was granted by Wicklow County Council in January 2009 (Planning Register Ref. No. 08/1258).

The current hours of operation are set at 08.00 to 18.00 Monday to Friday inclusive and 08.00 to 13.00 hours on Saturdays. No waste acceptance or recovery activities are carried out on Sundays or on Bank/Public Holidays. **Condition 1.7** of the RD ensures that these arrangements will be met.

The facility is staffed by 10 employees. There is a fully serviced permanent site office located at the entrance to the facility, which is used for all site administration and management functions. There is also a small retail shop operating at the entrance to the site, which sells tiles and slabs for use in landscaping works.

Electric power, lighting and heating are all provided via the electricity network to the existing site offices. Landline telephone, fax and email are also available at the facility.

The Dublin City Council water main, which carries drinking water from the Roundwood reservoir to Dublin City, runs through the middle of the facility. Aside from internal water supply and wastewater pipework and a short section of buried electrical cable west of the block yard there are no other buried services at the facility.

Vehicular access to the site can only be obtained via a single private road (Fassaroe Avenue), which lies close to the Fassaroe Junction on the N11 National Primary Route. There are a number of isolated residences located along the opposite side of Fassaroe Avenue, to the east and south-east of the overall landholding. A number of private residences also lie in closer proximity on the northern boundary of the site. An EPA-licensed materials recovery facility (MRF), which is operated by Greenstar Ltd (Reg No. W0053-03), is located approximately 400m beyond the north-eastern boundary of the site.

The principal class of activity at the facility is Class 4 of the Fourth Schedule to the Waste Management Acts 1996 to 2010:- *recycling or reclamation of inorganic materials*, which relates to the importation and backfilling of inert soils and stones at the site and the recycling of C&D waste. The applicant has also sought authorisation for the following classes of activities from the Fourth Schedule:

- (i) Class 2:- *recycling or reclamation of organic substances which are not used as solvents* – which relates to the importation and placement of topsoil for site restoration purposes.
- (ii) Class 3:- *Recycling or reclamation of metals and metals compounds* – Which relates to the separation of metal elements recovered during recycling of construction and demolition waste.
- (iii) Class 13:- *storage of waste pending recycling* – which relates to the stockpiling of imported soils and stones prior to recovery at the site as well as stockpiling of construction and demolition waste prior to processing.

2. Operational Description

The wastes to be accepted at the facility are shown in Table 1 below. Only inert, uncontaminated soils/stones and C&D waste will be accepted. The applicant has provided expected annual average quantities of each waste type, with an estimated total maximum intake of 570,000 tonnes of inert wastes per annum.

Table 1: Waste Types & Quantities

| EWC Code | Description | Quantity | |
|---------------|--|--------------------------|---------------------------|
| | | Average tonnes per annum | Maximum tonnes per annum |
| 17 05 04 | Soils and stones (other than those mentioned in 17 05 03). | 200,000 | 550,000 ^{Note 1} |
| 17 05 06 | Dredging spoil other than those mentioned in 17 05 06 | | |
| 20 02 02 | Soils and stones | | |
| 17 01 01 | Concrete | 20,000 | 20,000 ^{Note 2} |
| 17 01 02 | Bricks | | |
| 17 01 03 | Tiles | | |
| 17 01 07 | Mixtures of concrete, bricks, tiles and ceramics (other than those mentioned in 17 01 06) | | |
| 17 09 04 | Mixed construction and demolition wastes (other than those mentioned in 170901, 170902 and 170903) | | |
| Total: | | 220,000 | 570,000 |

Note 1: For deposition in quarry void

Note 2: For processing in C&D recycling facility.

Waste is delivered to the site in heavy goods vehicles (HGVs). HGVs arriving at the site are required to stop at the weigh bridge in front of the existing site office before gaining access to the facility. Within the site, trucks travel to and from the active restoration and C&D recycling areas over a limited network of paved and unpaved roads. The applicant has proposed to extend the paved road network. **Condition 3.4.2** of the RD sets out a requirement for the licensee to complete construction of the paved road network.

All soils/stones imported to the site will be end-tipped from the delivery vehicles at the active backfilling face. The existing C&D recovery activity currently recycles approximately 20,000 tpa of imported waste (principally concrete blocks, bricks, paving stones, ceramics etc.) and uses mobile crushing equipment to generate secondary (recycled) aggregates. Mobile crushing plant is brought on site periodically when sufficient C&D waste has built up on site. The C&D recovery activity is located on a temporary hardstanding area to the west of the worked out quarry. The secondary aggregates are mainly for sale as hardcore for off-site construction works but a certain amount will be used for construction of internal haul roads and additional hardstanding areas within the site. In 2009, the site sold approximately 5,000 tonnes of secondary aggregates.

Recycling of C&D waste will continue while backfilling and restoration activities progress at the site and it is envisaged that C&D waste recycling activities will continue for some time following completion of quarry restoration.

Currently, in so far as is practicable, the source of each consignment of imported waste is known in advance based on pre-agreed contracts with nominated suppliers supplying waste

from known sources. Where detected at the site gate, contaminated consignments of waste are rejected at the site entrance. However, there is no testing of waste consignments at present. The applicant has outlined its proposed waste acceptance procedures in the application. These include:

Level 1: Basic Characterisation

All wastes listed in Schedule A of the RD to be accepted at the facility are included in Section 2.1.1 of Council Decision 2003/33/EC Council Decision 2003/33/EC¹. (List of wastes acceptable at landfills for inert waste without testing). These wastes are considered acceptable for recovery at this facility without prior testing, provided they are imported from known sources. Although there may be an exemption from testing, there is still a requirement to collect and record some basic characterisation information in advance to demonstrate that the waste is inert (e.g. source & origin of waste, description of the waste, waste type and EWC code, physical form, colour and odour). Prior to the acceptance of any waste consignment at the facility, the documentation accompanying the waste will be checked by a site operative. Any unacceptable waste consignments will be rejected at the site gate and removed off-site.

Level 2: Compliance Testing

The applicant proposes to undertake compliance testing on a representative sample of 1 in every 500 loads of waste. Nonetheless, it is recommended in **Schedule A.2: Acceptance criteria for materials to be used at the facility** of the RD that one sample in every 250 loads be taken. This will involve laboratory testing of soil samples, focusing on key contaminant indicators². Test data will be used to confirm that the accepted soils are inert and comply with limit values and acceptance criteria as set out in Council Decision 2003/33/EC.

Level 3: On-site Verification

Visual and odour inspections will be carried out by site operatives to ensure that the load is consistent with the characterisation data provided and that there is no intermixed non-hazardous or hazardous waste.

Schedule A: Limitations of the RD sets out all requirements regarding limits on waste types to be accepted at the facility, waste characterisation and waste acceptance criteria. In addition, **Condition 8.9.2** of the RD requires the licensee to submit for approval procedures for the acceptance and handling of all wastes at the facility.

An existing large concrete-floored shed at the former concrete production yard, which is located at the western end of the site (see Figure 2 below), is proposed by the applicant as a location for the waste quarantine and inspection area. Suspect waste loads will be diverted to the waste quarantine area for closer examination pending removal off-site to a suitable waste disposal/recovery facility. **Condition 3.6** of the RD sets out the requirements with regard to the operation of the waste inspection and waste quarantine areas.

A wheel wash unit is located on the road exiting the waste recovery area. **Condition 3.7.2** requires all vehicles leaving the site to use the wheel wash unit. **Condition 3.7.3** requires the submission of a proposal to manage the water and silt from the wheel wash unit.

On site plant and machinery comprise mechanical excavators and/or bull dozers and mobile crushing plant. Fuel for site vehicles and equipment is stored at the existing maintenance sheds on site and/or in mobile double skin bowsers. HGVs can refuel at the existing refueling facilities adjacent to the existing concrete production yard. Vehicle maintenance will be undertaken at existing maintenance sheds. **Condition 3.9** sets out the requirements in relation to bunding of fuel storage tanks.

The applicant submitted an 'Environmental Contingency Plan' as part of the application, which outlines arrangements to be implemented in the event of an accident or emergency at

² Principally arsenic, cadmium, lead, mercury, zinc, total organic carbon, BTEX, diesel range organics and mineral oil.

the facility and addresses matters such as fire, spills, backfill stability and site security. **Condition 9** of the RD sets out the requirements regarding accident prevention and emergency response.

3. Restoration

Backfilling of the quarry void has been sub-divided into 4 separate phases to facilitate progressive restoration and reinstatement to agricultural land. The applicant proposes that backfilling will proceed from the northern to the southern end of the former quarry. The total estimated amount of material to be backfilled is approximately 750,000 tonnes (for a void space of approximately 375,000 m³), 130,000 tonnes of which will be sourced from existing overburden stockpiles at the site.

On completion of each restoration phase a cover layer of subsoil and topsoil will be placed and graded across the backfilled soil/stones and will be planted with grass in order to promote stability and minimise soil erosion and dust blow.

Near the end of the 4th (and final) phase of the quarry backfilling works, all plant and equipment will be removed off site and all temporary infrastructure and/or services progressively removed or decommissioned. On completion of restoration, the site will be graded to give a landform similar to that which existed prior to extraction of sand and gravel and will be profiled to facilitate rain water run-off and percolation to groundwater while preventing any ponding of rainwater.

The duration of backfilling activities at the quarry will therefore be largely dictated by the rate at which the remaining 620,000 tonnes of materials can be sourced and imported to the site. It is estimated that the rate of importation of inert materials to the quarry will vary between 100,000 tonnes and 550,000 tonnes per annum with the result that the duration of backfilling activities will vary from just over 1 year to around 6 years depending on availability of backfill materials.

Given the inert nature of the materials to be used for restoration, it is not necessary to require the installation of basal or side slope liners, a basal drainage system, or leachate or landfill gas management systems.

Some topsoil and subsoil have already been imported to the facility and have been stockpiled separately pending re-use in the final restoration of the site.

The applicant is proposing to carry out annual stability and settlement monitoring in backfilled areas at the end of each restoration phase. Visual inspection of backfilled materials on an on-going basis is also proposed by the applicant. **Condition 6.11** of the RD requires the applicant to carry out an annual topographical survey of the quarry void while **condition 6.12** requires an annual stability assessment of backfilled areas.

4. Emissions

There is an on-going environmental monitoring programme at the site which records emissions from the established C&D waste recovery facility and which complies with the existing waste permits issued by Wicklow County Council. Currently, environmental sampling, monitoring and testing is largely undertaken by onsite staff.

4.1 Emissions to Air

There will be no process emissions to air. The principal air quality impact of existing and proposed activities relate to fugitive dust emissions which are likely to arise during HGV movement over unpaved surfaces, end-tipping of wastes, stockpiling, handling and compaction of soils, and crushing/screening of C&D waste. The applicant currently undertakes dust monitoring using Bergerhoff gauges at 2 locations within the owner's landholding (close to, but outside of, the facility boundary) at positions between existing sources of dust emissions and sensitive receptors. Results show that total dust deposition rates

associated with ongoing activities are currently well below the TA Luft threshold limit of 350mg/m²/day.

Dust mitigation measures proposed by the applicant and specified in the RD include the expansion of the site's paved road network, spraying of site roads with water in dry weather, and seeding of restored areas as soon as practicable after soil placement. These techniques are BAT for this type of activity and will ensure the additional proposed quarry restoration activity will not significantly impact air quality. **Condition 6.8** of the RD sets out the requirements regarding control of dust levels.

The applicant is proposing the addition of a third dust monitoring station close to the nearest sensitive receptors, all of which are private residential properties, at the northern boundary of the site. **Schedule C.8 Dust Monitoring** of the RD requires dust deposition monitoring at 3 locations around the facility one of which must be at a third location to be agreed with the Agency. **Schedule B.6 Dust Deposition Limits** of the RD sets a dust deposition limit of 350mg/m²/day at each dust monitoring location.

No landfill gas management infrastructure is required by the RD on the basis of the inert nature of the wastes. There is negligible risk of odour nuisance as the facility will not be handling odour-forming waste.

4.2 Emissions to Sewer

There will be no emissions to sewer. The site has 3 septic tanks, all of which are within the site boundary, and which serve existing canteen and welfare facilities provided for staff and truck drivers. **Condition 3.18** of the RD requires that the septic tanks and percolation areas comply with the Agency's Code of Practice.

4.3 Emissions to Surface Waters

The nearest watercourse to the site is the Cookstown River (also known as the Glencullen River), which is a tributary of the River Dargle, and is located within the Eastern River Basin District. The Cookstown River runs in an easterly direction along and beyond the southern boundary of the applicant's landholding (area marked in blue in Figure 1 above). At its nearest point, the Cookstown River is approximately 200m south of the facility boundary. The Cookstown River joins with the Dargle River at a point approximately 500m south east of the site boundary. There will be no process emissions to surface waters.

The Agency's river biological monitoring programme recorded a Q4 rating (unpolluted) at Station 0500 on the Cookstown River at a point which is just upstream of the point of confluence with the Dargle River and approximately 250m downstream of the nearest point of the Cookstown River to the facility. A Q rating of 4-5 has been recorded at a monitoring station on the Cookstown River located approximately 5.5km upstream of the site.

According to the Water Framework Directive Characterisation Report for the Eastern River Basin District (2004) the Cookstown and Dargle Rivers are currently classified as 'good' and 'moderate' respectively. In addition, that the Cookstown River is considered to be 'probably not at significant risk' whereas the Dargle River is considered to be 'at significant risk'.

Given the site setting, it is not considered that waste activities have the potential to impact on surface waters as (i) there are no process emissions to offsite surface waters (ii) there are no natural surface water features (other than ponded rainwater – see below) on the site that are connected to offsite surface water features, and (iii) runoff from the completed site will percolate to groundwater within the applicant's landholding.

4.4 Storm Water Runoff

There is no drainage infrastructure to collect and/or remove rainwater from around the quarry void. Rain falling in the vicinity of the quarry void either percolates through previously

backfilled or natural soils to the underlying groundwater or simply runs over-ground to the bottom of the quarry. A low permeable layer of silt and clay materials, derived from previous on-site aggregate washing activities, has led to the formation of two rainwater ponds on the quarry floor; one at the northern end and one at the southern end of the quarry void (see Figure 2). Rainwater in the southern pond was re-used and re-circulated for sand and gravel washing, although this activity is not currently being carried out. Loose silt has deposited and built up between the ponds over many years.

Some of the rainwater ponds ultimately recharge to groundwater and therefore management of these features is required in order to protect local groundwater. As backfilling of the former quarry progresses southwards from the northern end, the applicant is proposing a number of measures to effect a gradual lowering of the water levels in the ponds to facilitate steady placement of inert materials in the quarry void as water levels in the ponds are lowered. These include (i) diversion of falling rainwater to the southern pond (ii) pumping of water from northern pond to the southern pond and (iii) pumping of water from southern pond to a third pond (known as the silt pond and which is located to the south of the concrete production yard outside of the facility boundary - see Figure 2 at the end of this IR). However, as a clear and final plan to manage the rainwater ponds was not included in the application **condition 3.13** of the RD requires the applicant to submit a proposal for the management of the ponds during backfilling phases.

The waste inspection and quarantine area, which is located in the concrete production yard, situated at a low level within the site, is roofed. Rainwater that collects in the concrete production yard is also normally pumped, via a sump, to the silt pond referred to above. However, during the site inspection of 09/06/10, rainwater was seen to have collected in the concrete production yard and on the floor area of the waste quarantine and inspection area. To address this **condition 3.6.4** of the RD sets out a requirement for the applicant to submit a proposal to install infrastructure to divert rainwater away from the waste inspection and quarantine area.

As part of the application sampling was carried out on the northern rainwater pond for a range of solvents and fuel-derived organics but did not reveal any contamination. **Schedule C.4 Monitoring of Rainwater Ponds** of the RD sets out the requirements in relation to the ongoing monitoring of both northern and southern quarry rainwater ponds and of the rainwater in the concrete production yard (The rainwater that gathers in the concrete production yard or in the sump in the concrete production yard is also referred to as a rainwater pond in this IR and in the RD). The monitoring of the rainwater ponds includes a requirement to carry out quarterly monitoring of Total Organic Carbon (TOC). **Condition 6.9** requires the agreement of the Agency for (i) determining back ground levels of TOC in all rainwater ponds, (ii) the setting of a trigger level for TOC in the rainwater ponds, and (iii) establishing the nature of the response onsite should TOC trigger levels be exceeded. Overall, the monitoring will reveal any contamination of the rainwater ponds should it occur, will prompt the necessary response onsite and will act to offer protection to groundwater and to the silt pond.

In addition, **Schedule B.4 Emissions to Silt Pond** of the RD sets an emission limit value for suspended solids of 35 mg/l in the discharge.

As refueling of HGVs takes place in the concrete production yard, **condition 3.11** sets out a requirement to install a silt trap and oil separator in the area to treat rainwater in the yard before it is pumped to the silt pond.

There are no records of historic flooding recorded in the vicinity (within 1 km) of the site and the site is unlikely to flood given its elevated location above the Cookstown and Dargle rivers.

4.5 Emissions to ground/groundwater

The geology and hydrogeology are described in the EIS. The site is located above a 'Locally Important' sand/gravel aquifer within an area having a 'High Vulnerability' status, which

reflects the presence of sand and gravel deposits in the area. The lack of natural surface water features across the area indicates that the underlying unsaturated sand/gravel aquifer has a high permeability and a consequently high recharge rate. The remaining undisturbed ground in the site is underlain by glacial till. No karstic limestone features occur within the site.

Groundwater flow contours indicate that groundwater flows in a south-easterly direction, roughly following the gradient of the ground surface. There is no evidence of local abstraction of groundwater for drinking water in the area.

From an assessment, carried out by the applicant, of the behaviour of the quarry rainwater ponds, it has been concluded that they consist of rainwater that is perched over the silt and clay deposits (referred to above in Section 4.4), at approximately 5 to 7m above the groundwater table. Ponding occurs after heavy rainfall as the layer of silt and clay retards the rate of seepage to the unsaturated zone beneath. Even though there is seepage from the quarry rainwater ponds to the aquifer, both the overlying layer of silt and clay and the unsaturated sand and gravel zone below offer protection to the underlying deeper aquifer.

The ground/groundwater investigation carried out as part of the licence application did not reveal any contamination. Three groundwater monitoring wells were installed at the site in December 2008 and monitoring results from 2 wells (one up gradient, one down gradient) indicate that overall groundwater quality is good when compared to the EU Drinking Water Standards. The third well, a well also down gradient of the backfilling areas, dried out thus preventing sampling. **Condition 3.12.1** of the RD requires the full and proper decommissioning of the dry well and its replacement with a new monitoring well at a location down gradient of backfilling activities.

Groundwater in the underlying aquifer has not been intercepted by the former quarry workings and there will be no direct emissions to ground. However, in the absence of appropriate controls, activities at the site could introduce a risk of soil and groundwater contamination. Sources of potential risks include fuel spillages, run-off of contaminated rain water and inadvertent importation and deposition of contaminated materials. The applicant has proposed a number of mitigation measures, including those relating to quality control of waste imports, traffic management, vehicle maintenance and refuelling and drainage of quarry ponds prior to backfilling.

The RD also specifies a range of requirements that will minimise the risk of groundwater contamination from activities at this facility. **Condition 3** of the RD deals with fuel storage, bunding and the operation of the waste quarantine and inspection area. The applicant is also required to implement robust waste acceptance and inspection procedures to ensure that only inert wastes are used in site restoration works. It is not considered that activities at the facility will negatively impact groundwater in the vicinity of the site. Monitoring measures specified in the RD include monitoring of groundwater up- and down-hydraulic gradient of the site to enable early detection of any deterioration in quality or change in groundwater elevations. Ultimately, the backfilling of the quarry void with inert soils will provide protection to the aquifer over and above that which exists at present, and will afford a level of protection similar to that which was present before the extraction of the sand and gravel commenced.

It is stated in the application that the applicant is giving consideration to enhancing downward percolation of rainwater ponds to groundwater by way of excavation of sumps through the silt layer at the bottom of the quarry void. As I consider that this enhanced percolation may pose a risk to groundwater **condition 3.14** of the RD specifically prohibits this proposal.

In addition, the applicant has also proposed the construction of a swale down gradient of backfilled areas to promote infiltration of rainwater to groundwater post completion of backfilling activities so as to minimise any potential impact on aquifer recharge. **Condition 3.15** of the RD requires the submission of a proposal for the construction of the swale.

4.6 Waste

No process wastes will be generated at the facility, with the exception of any non-inert waste unintentionally imported to the site, e.g. metal, timber, plastic, non-inert soils/stones. These wastes will be segregated and removed off-site to authorised waste disposal or recovery facilities. Any wastes leaving the site will also be weighed before departure. Waste oils are stored in a bunded tank in the maintenance shed.

4.7 Noise

The applicant carried out measurements at 4 locations to determine current noise levels in the vicinity of the site. Typical sources of noise included traffic movement on nearby roads, site vehicles and site equipment. The measurements demonstrated that current noise levels at the site can be significantly affected by nearby road traffic and are typical of a area that lies in the vicinity of a busy major national road and commuter route. It is not considered that current activities at the site are causing significant noise nuisance.

During the restoration works, the principal sources of additional noise at the site will be associated with vehicle movements, end-tipping of materials and operation of equipment such as crushing and screening plant. A noise impact assessment was conducted at the site to predict noise levels at 3 nearby noise sensitive receptors due to the proposed site restoration works. A worst-case scenario was assumed whereby all site restoration works would take place at locations closest to the receptors and equipment would run continuously. It was predicted that average ambient noise levels at the northern boundary will be in the order of 56 - 59 dB(A) LA_{eq}, a level which is marginally in excess of the 55 dB(A) LA_{eq} limits recommended in the EPA's guidance note¹. This represents a worst-case scenario and is unlikely to occur in reality.

The applicant proposes to monitor noise levels at 4 locations close to noise sensitive receptors, i.e. neighbouring residences, as restoration work proceeds. In addition, the applicant has proposed a number of noise mitigation measures in the EIS, which include the use of temporary screening embankments where measured noise levels indicate possible nuisance. The nature of the restoration scheme is such that there will be no long-term impacts in relation to noise. After restoration is complete noise levels will return to current levels.

The RD sets noise limits of 55/45 dB(A) during daytime/night-time, measured at the noise monitoring locations. Condition 6.5.1 requires a noise survey to be undertaken where requested by the Agency, while condition 6.5.2 requires that temporary screening embankments/barriers shall be used at the facility in order to achieve the specified noise limits, where necessary.

4.8 Nuisance

As this is an inert waste facility, it is not expected to give rise to nuisance from odour, scavenging birds, vermin, windblown litter, or to present a fire/explosion risk. In addition to the mitigation measures outlined under 'Emissions to Air' above, the applicant also carries out periodic sweeping of internal paved roads and of the existing local road leading to the facility in order to reduce the amount of dust carried onto the public road network. Conditions 5 and 6 of the RD specify controls in the event of potential nuisance arising from the waste activities.

The risk of fire is considered to be very low given the lack of combustible waste materials at the site. It is highly unlikely that fire will break out during backfilling activities. Any flammable waste that is unintentionally imported to the site will be transferred to the waste quarantine area pending removal off-site. **Condition 9** of the RD sets out the requirements regarding preparedness for emergency situations.

¹Guidance Note for Noise in Relation to Scheduled Activities (2nd Edition) – EPA (2006)

5. Use of Resources

Electric power, lighting, and heating are all currently provided via the electricity network connection at the existing offices at the site. Onsite water is provided from the mains supply. Condition 7 of the RD deals with energy efficiency at the facility.

The only raw materials consumed by site activities are diesel fuel, which is used to power plant and equipment, and engine oils. **Condition 3.9** of the RD requires that fuel storage facilities be appropriately bunded and secured. **Condition 8.5** of the RD requires that all vehicle and machinery re-fuelling and maintenance operations take place in designated areas protected against spillage and run-off.

6. Cultural Heritage, Habitats & Protected Species

The habitats present at the site include abandoned quarry faces, re-colonised ground and artificial ponds. These habitats support little flora or fauna and are of low conservation interest or value. According to a baseline study carried out as part of the EIS, no protected, rare or other species of particular scientific interest were identified at the site

There are no designated or proposed SACs, SPAs or NHAs within or contiguous to the application site or to the larger surrounding landholding. The nearest SACs to the site are the woodlands of Ballyman Glen (approx 600m to the north) and Knocksink Wood (approx 2km to the west). The Dargle River valley and Powerscourt Woodland, both proposed NHAs, lie approximately 1km southeast and 1.5km south-west respectively, of the site. Due to the nature of the activities, it is considered that the continued operation of the facility would be highly unlikely to have any effect on the SACs or the proposed NHAs.

Condition 3.16 of the RD requires that the applicant implement all of the mitigation measures set out in Section 4.4 of the EIS. These include retention of boundary hedgerows and avoidance of bird nesting season where removal of any shrubs/hedgerows is necessary. In addition, **condition 6.13** of the RD requires the applicant to carry out an annual bird breeding survey for birds of conservation value that may be using the quarry area.

The Geological Survey of Ireland (GSI) has confirmed that there are no proposed geological NHAs in the vicinity of the site. In addition, there is no indication of any items or structures of cultural heritage at the site.

7. Waste Management Plan

The County Wicklow Waste Management Plan 2005-2010 states that approximately 0.5 million tonnes of C&D waste were collected within the County in 2004. The Plan recognises that a considerable amount of additional C&D waste is likely to be imported to waste recovery sites across County Wicklow from construction sites elsewhere outside the county, particularly in the Greater Dublin area. The Plan also acknowledges that insufficient capacity for management of C&D waste at authorised facilities has resulted in fly-tipping of C&D waste and unauthorised backfilling of quarries. The Plan therefore set a number of objectives regarding management of C&D waste in County Wicklow, which included (i) the promotion of provision of permitted and/or licensed facilities for recovery of C&D waste and soils/stones and (ii) the promotion of provision of mobile crushing systems at existing waste recovery facilities.

The continuation of existing backfilling, restoration and waste recovery activities at the former quarry is therefore in accordance with the stated objectives of the County Wicklow Waste Management Plan.

8. Compliance with Directives/Regulations

8.1 Groundwater Directive

The Groundwater Directive (2006/118/EC) provides for the control of releases of List I and List II substances to groundwater. The European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. 9 of 2010), give effect to the requirements of the Groundwater Directive. The Directive does not apply to discharges which are found by the competent authority of the Member State concerned to contain substances in Lists I or II in a quantity and concentration so small as to obviate any present or future danger of deterioration in the quality of the receiving groundwater. In any case, there will be no direct discharge to groundwater from the activity; therefore there will be no impact on groundwater or soil. The C&D recovery activity, which is located on a temporary hardstanding area on higher ground on the western side of the facility in an area underlain by backfilled soils, poses no significant risk to groundwater. **Condition 3.18** of the RD requires that the 3 septic tanks and percolation areas comply with the Agency's relevant Code of Practice

Schedule C.9 *Groundwater Monitoring* of the RD sets out the monitoring requirements for groundwater at the site which will serve as a tool to reveal any contamination of groundwater should it occur.

8.2 Surface Water Regulations

There will be no discharge to surface waters consequently the Surface Water Regulations¹ do not apply.

Overall, mitigation measures as proposed by the applicant and as set out in the RD satisfy the requirements of both sets of regulations. I consider that backfilling of the existing quarry void will provide for better protection of the underlying aquifer, which is currently vulnerable due to the absence of any protective soil cover. The Landfill Directive and IPPC Directives do not apply to this facility.

Cross Office Liaison

I consulted with ELP Inspectors Marie O'Connor and Aoife Loughnane in matters related to waste and groundwater. Advice was also sought from ELP Inspector Ewa Babiarczyk on the Surface Water and Groundwater Environmental Objective Regulations. Their advice was followed in my assessment of this application.

Best Available Techniques (BAT)

BAT for this activity is taken to be represented by the guidance given in the Agency's *Draft BAT Guidance Note for the Waste Sector: Landfill Activities (April 2003)*, insofar as it relates to the waste recovery activities at this facility.

I have examined and assessed the application documentation and I am satisfied that the site, technologies and techniques specified in the application and as confirmed, modified or specified in the attached Recommended Decision comply with the requirements and principles of BAT. I consider the technologies and techniques as described in the application, in this report, and in the RD, to be the most effective in achieving a high general level of protection of the environment having regard - as may be relevant - to the way the facility is located, designed, built, managed, maintained, operated and decommissioned.

¹European Communities Environmental Objectives (Surface Water) Regulations, S.I. No. 272 of 2000

The Agency's guidance document on environmental management in the extractive industry was also reviewed¹. I am satisfied that the technologies and techniques specified in the application and RD meet the recommendations as set out in the guidance document.

Environmental Impact Statement

I have examined and assessed the EIS and having regard to the statutory responsibilities of the EPA, I am satisfied that it complies with Article 94 and Schedule 6 of the Planning and Development Regulations 2001 (SI 600 of 2001) and EPA Licensing Regulations (SI 85 of 1994, as amended).

Fit & Proper Person Assessment

The Fit & Proper Person assessment requires three areas of examination:

(i) Legal Standing

Roadstone Wood Ltd (formerly Roadstone Dublin Ltd) has one conviction under the Local Government (Water Pollution) Acts 1977 – 1990, for a water discharge in breach of permitted limits at one of its quarries in County Kildare.

(ii) Technical Ability

The facility manager, Fearghal Philips, who will be responsible for all aspects of site management and operation, is an engineer with qualifications in quarry management. Although, he does not have any formal training or qualifications in waste management, he has a number of years experience in managing a C&D waste recovery facility in another Roadstone quarry. **Condition 2.1.2** of the RD requires the facility manager to attend an appropriate training course within 6 months of date of grant of licence. He has, in fact, committed to attending the FAS Waste Management Course that is being run from October 2010 to February 2011. He will be supported by a team of full time staff employed by Roadstone Wood Ltd at the facility.

(iii) Financial Standing

Roadstone Wood Ltd is a 100% subsidiary of Cement Roadstone Holdings (CRH), an international buildings materials group. The applicant has submitted a copy of the company's Annual Report for 2008. The size and scale of the company's assets and balance sheet demonstrate that the applicant has the financial strength to address any financial costs or liabilities incurred during the carrying out, or in consequence of ceasing to carry out, the proposed activity. No external funding will be required or sought.

It is my view that the applicant can be deemed a Fit & Proper Person for the purpose of this licence. I am satisfied that the applicant has the technical ability to satisfactorily carry out the site restoration works in accordance with the RD.

Submissions

There were no submissions made in relation to this application.

Charges

A charge of €5,577 is proposed in the RD, based on the enforcement effort predicted for the facility.

Recommendation

I have considered all the documentation submitted in relation to this application and recommend that the Agency grant a licence subject to the conditions set out in the attached

¹Environmental Management Guidelines – Environmental Management in the Extractive Industry (Non-scheduled minerals) – EPA (2006)

RD and for the reasons as drafted. I am satisfied that the conditions set out in the RD will adequately address all emissions from the facility and will ensure that the carrying on of the activities in accordance with the conditions will not cause environmental pollution.

Signed



Michael Owens
Inspector
Environmental Licensing Programme

Procedural Note

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2010.

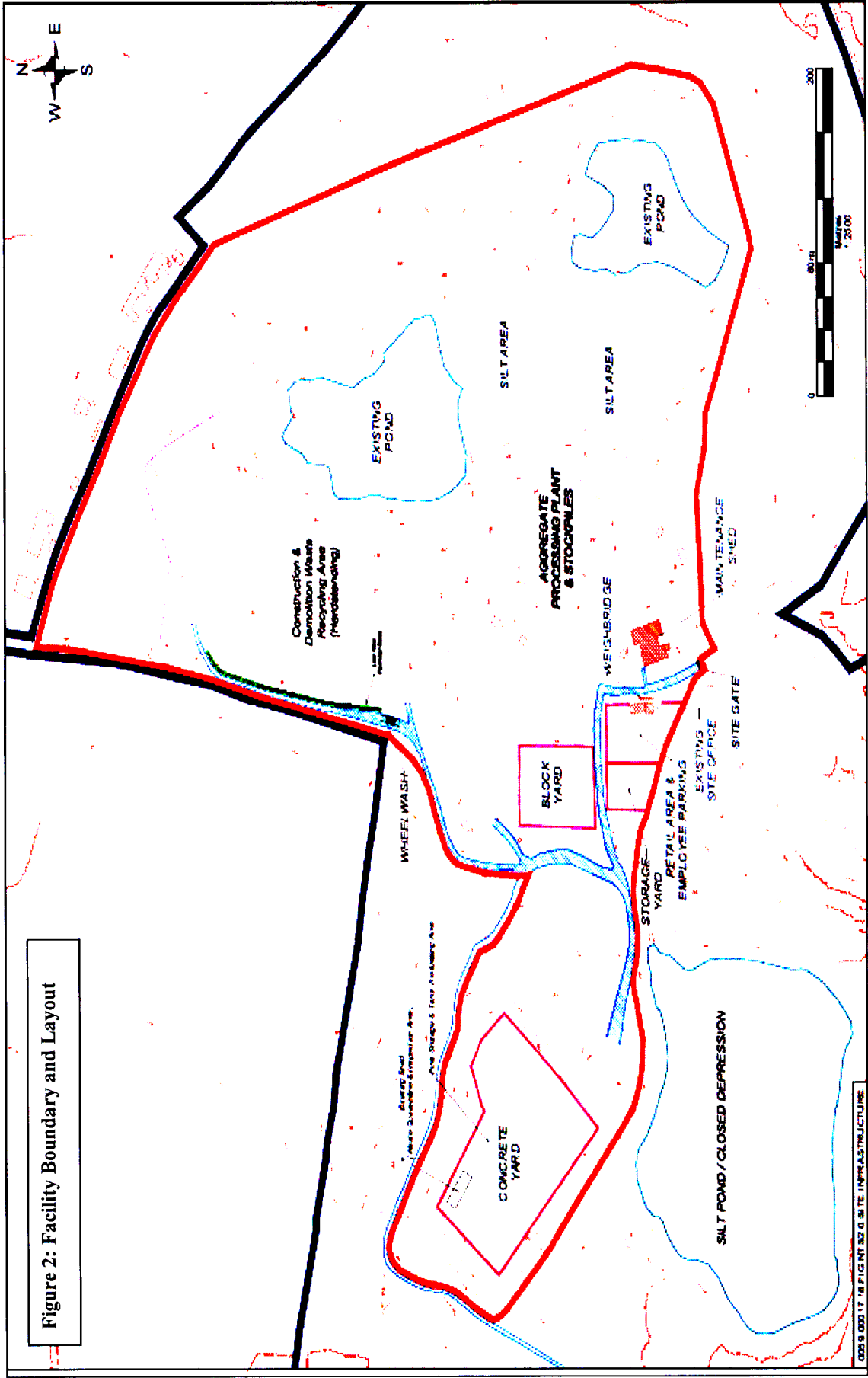


Figure 2: Facility Boundary and Layout

