



**This Report has been cleared for submission to the Board by the Programme Manager F Clinton**  
**Signed: N. Keavey Date: 8/2/2011**

**LICENSING & RESOURCE USE**

**Environmental Licensing Programme  
 Addendum to Inspectors Report**

<b>To:</b>	Directors
<b>FROM:</b>	Michael Owens - Environmental Licensing Programme
<b>DATE:</b>	31/01/11
<b>RE:</b>	Application for a Waste Licence from Roadstone Wood Ltd, Fortunestown, Tallaght, Dublin, 24. Licence Register W0269-01

Application Details	
Type of facility:	Inert Waste Recovery Facility
Class(es) of Activity ( <b>P</b> = principal activity):	4 <sup>th</sup> Schedule: 4 ( <b>P</b> ) & 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:	28/10/10 (Inland Fisheries Ireland); 16/11/10 (Dublin City Council)
Article 14 Notices sent:	23/07/10 (Article 14(2)(a) acknowledgement)
Article 16 Notices sent:	06/09/10; 07/10/10; 17/12/10
Article 16 replies received:	17/09/10; 21/10/10; 21/01/11
Site Inspection:	09/06/10

**1. Introduction**

On the 05/10/10 a Recommended Decision (RD) for the above application was presented to the Board. As a result of this presentation the Board sought clarity on two matters, as follows:

- (i) Management of the water features that lie both within and just outside the facility boundary, and
- (ii) Assessment of the risks to, and protection of, groundwater.

Three Article 16(1) notices were issued to the applicant seeking additional information. This supplementary memo discusses the additional information received from the applicant regarding those matters and seeks to provide clarity on the queries raised. It should be noted

that the RD has also been amended since the Board first considered it, due to more up-to-date information having been received from the applicant in response to the Article 16(1) requests for additional information.

## **2. Summary update on designation of water features in the RD**

According to the additional information received from the applicant, it is necessary to provide an update on the situation regarding the nature of the various water features in and around the facility (refer to Figure 1 attached to this report).

- (i) Northern quarry pond - Originally designated as SW1 in the RD. This pond no longer exists as all water has been pumped to the southern quarry pond (see (ii) below). The area where the northern quarry pond was located has been backfilled. This backfilling was carried out under a waste facility permit. All reference to the northern quarry pond is now removed from the RD.
- (ii) Southern quarry pond - Originally designated as SW2 in the RD. Water in the quarry now remains only in the southern quarry pond at the southern end of the existing quarry void. The southern quarry pond is now designated as S1 in the RD. See Section 3(i) below for more detail on the southern quarry pond.
- (iii) Storm water in the collection sump in the concrete production yard - Originally designated as SW3 in the RD. This sump collects storm water that runs off the hard surface of the concrete production yard. This feature remains unchanged but is now designated as S2 in the RD. See Section 3(ii) below for more detail on the concrete production yard sump.
- (iv) Supply pond – This pond lies due south of the concrete production yard. This pond was left outside the original licence application boundary; however, following direction from the Agency in the Article 16 Notice issued on the 17/12/10, the licence boundary has been amended so that the supply pond now lies *within* the licence boundary. See Section 3(iii) below for more detail on the supply pond.

## **3. Updated description of water features**

### **(i) Southern quarry pond (S1)**

The soils underlying the facility are relatively permeable with the result that much of the rainfall which falls on the site percolates directly through the unvegetated and unsealed ground to the underlying aquifer. Hence the absence of natural water features in the area. However, some rainfall in the vicinity of the quarry void will run over ground to collect in the southern quarry pond (S1).

Water levels in the southern quarry pond are shallow and vary with seasonal rainfall. There is no over-ground drainage from it and the water either evaporates from it or drains slowly through the underlying unsaturated sands and gravels to the deeper aquifer. Based on experience with backfilling operations to date, it is expected that the volume of run off to the southern quarry pond will be relatively minor. Water from the facility has not been discharged to any external natural surface water bodies; neither is the applicant proposing to do so.

Previously, water in the southern quarry pond was reused/recirculated in aggregate washing. However, as aggregate processing has now ceased at the site the water will no longer be utilised or re-circulated. It is planned that, as backfilling of the quarry progresses, water will be pumped intermittently from the southern quarry pond to the supply pond.

### **(ii) Storm water in concrete production yard sump (S2)**

The concrete production yard is located on the western side of the facility. It is a paved area. Storm water that falls on the concrete production yard collects in a sump. The sump water is pumped intermittently to the supply pond, which lies due south of the concrete production yard.

### (iii) Supply pond

The supply pond is not a natural water feature. It is an older worked out sand and gravel pit that has gradually filled with water. Previously water was pumped from the nearby Cookstown River to the supply pond to store water prior to use in concrete production and in sand and gravel processing activities. Overall, the water in the supply pond contains a combination of rainwater, previously pumped river water and water pumped from other areas of the facility (i.e. from the southern quarry pond and from the sump in the concrete production yard).

The pond retains water for two reasons:

- (i) The pond is underlain by a relatively low permeability natural silt deposit.
- (ii) The bottom of the pond is partially sealed by previously deposited fines which were generated by aggregate processing.

As the supply pond lies within a closed depression, there is no over ground drainage of water from it. A certain amount of water in the supply pond is being used for concrete production but other than that the water will slowly discharge through the unsaturated subsoil, sands and gravels beneath the pond to the underlying deeper aquifer. The base of the supply pond lies approximately 20m above the underlying aquifer.

It has been estimated that approximately 15,875 m<sup>3</sup> of storm water will require pumping from the southern quarry pond to the supply pond. The supply pond has a relatively large storage capacity estimated to be approximately 42,000 m<sup>3</sup>. It has been determined by the applicant that the supply pond has adequate capacity to store both the water pumped from other areas of the facility and rainwater generated by an extreme storm event. It has therefore been concluded that the supply pond does not present a risk of flooding. There are no records of flooding in the locality.

Given the expected intermittent and extended duration of pumping of water from the southern quarry pond to the supply pond, the large storage capacity of the supply pond, the use of supply pond water for concrete production and the slow discharge of the relatively uncontaminated water from the supply pond through the unsaturated zone to the underlying aquifer, there will be no requirement to discharge from the supply pond to the Cookstown River.

## 4. Assessment and management of risks to groundwater

The Groundwater Directive (2006/118/EC) provides for the protection of groundwater quality. The European Communities Environmental Objectives (Groundwater) Regulations, 2010 (SI No. 9 of 2010), give effect to the requirements of the Groundwater Directive.

Direct discharges to groundwater are prohibited by the Regulations. A 'direct discharge' is defined as a 'discharge of pollutants into groundwater without percolation throughout the soil or subsoil'. There are no direct discharges to groundwater at the facility. **Condition 5.5** of the RD prohibits the direct discharge of polluting matter to groundwater.

Discharges to groundwater within the facility meet the definition of indirect discharges (as defined in the Regulations). These are the downward migrations of water from the southern quarry pond and the supply pond. These two discharges therefore represent the only possible sources of groundwater contamination at the facility. It is contended that if these two water sources can themselves be protected, then groundwater quality will, by extension, also be protected. As discussed above, water is pumped from the southern quarry pond and from the sump in the concrete production yard to the supply pond. Therefore, the protection of water quality in the southern quarry pond and in the concrete production yard sump will provide protection to water in the supply pond and also to groundwater. Accordingly, the RD contains a wide range of measures and controls to ensure the necessary ongoing protection of water

quality in the southern quarry pond, the concrete production yard sump and the supply pond. These include:

- (i) Ensuring that the quarry void is backfilled with clean soils and stones only. The source of each consignment of imported waste will be known in advance based on pre-agreed contracts with suppliers from known sources. No peat, contaminated soils, unsuitable C&D waste or hazardous waste will be accepted at the facility. Where detected at the site gate, contaminated consignments of waste will be rejected. **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 and to ensure that only clean soils and stones are used for backfilling of the quarry void.
- (ii) **Schedule A: Limitations** of the RD sets out all requirements regarding controls and limits on waste types, waste characterisation and waste acceptance criteria.
- (iii) The development of procedures and measures to prevent, and where necessary, respond to, an incident or an emergency, e.g. a spill.
- (iv) Controls on fuel storage and designation of refuelling locations.
- (v) Measures to control quality of water pumped from the concrete production yard sump to the supply pond (i.e. use of silt trap and oil interceptor).
- (vi) **Schedule C.4 Monitoring of Storm Water** of the RD sets out all requirements regarding on-going monitoring of water in the southern quarry pond (S1) and in the concrete production yard sump (S2). These include weekly visual inspection, monthly testing for total organic carbon and other arrangements for monitoring of suspended solids, metals, organics and List I and List II substances.
- (vii) **Condition 6.9** requires the setting, with the agreement of the Agency, of warning and trigger levels for total organic carbon (TOC) and suspended solids for water in the southern quarry pond and in the concrete production yard sump. **Conditions 6.10** and **6.11** respectively set out how the licensee must respond to exceedances of the agreed warning and trigger levels. Generally, such exceedances must be regarded and treated by the applicant as an incident.
- (viii) **Schedule C.9 Groundwater Monitoring** of the RD sets out requirements for on-going groundwater monitoring. **Condition 6.12** requires the setting and agreement of groundwater trigger levels. These requirements will enable early detection of, and response to, any deterioration in groundwater quality in the vicinity of the facility.
- (ix) **Condition 6.13** of the RD requires annual screening of the water in the supply pond for organic substances and metals.

Aside from the measures above, it is considered that the transfer of water from the southern quarry pond to the supply pond will, of itself, result in an enhanced level of protection to the deeper aquifer. The supply pond sits at a higher ground level than the southern quarry pond. There is 19m to 20m of protective unsaturated subsoil, sand and gravel between the bottom of the supply pond and the aquifer as against only 5m to 7m underneath the southern quarry pond. Consequently, moving water from the southern quarry pond for storage in the supply pond represents a lower risk scenario for groundwater quality than exists by simply leaving it in the southern quarry pond.

Advice was obtained from Donal Daly of the Office of Environmental Assessment regarding the proposed activity and the likelihood of significant impact on groundwater. He advised that, given the nature of the water being managed at the facility and the controls proposed in the RD, activities at the facility do not pose a threat to groundwater either via the southern quarry pond or via the supply pond for the following reasons:

- (i) The water is relatively uncontaminated, containing only silt and sediment.

- (ii) The rate of seepage to groundwater is very low due to the relatively impermeable nature of the soils underlying the water in both ponds.
- (iii) The water will be cleaned as it filters through the underlying sands and gravels before reaching the aquifer.

It should be noted that the Groundwater Directive does not apply to discharges which are found to contain List I or II substances in quantities or concentrations so small as to obviate any present or future danger of deterioration in the quality of the receiving groundwater. It is contended that such a scenario exists at the facility as discharges of Lists I or II substances will not occur at the facility given the nature of the proposed activities and the full suite of relevant controls proposed in the RD. **Condition 8.12** of the RD specifically prohibits the import of hazardous or liquid wastes to the facility.

Testing of groundwater and of water in the southern quarry pond was carried out as part of the licence application. Results confirm that nearly 40 years of onsite activities (including quarrying, concrete production, aggregate processing and backfilling carried out to date) have not had a detrimental effect on the quality of the southern quarry pond water or on the deeper aquifer in the locality. The relevant provisions of the RD as described above will ensure that this outcome continues into the future.

## **5. Concrete production**

Concrete production has resumed at the site, although not at a level at which it was previously carried out. All relevant controls and measures set out in the RD in relation to noise, dust and storm water runoff will apply to the concrete production area and are considered to be sufficient to prevent any impact on the environment.

## **6. Water abstraction**

Previously water was pumped from the nearby Cookstown River to the supply pond to store water prior to use in concrete production and in sand and gravel processing activities. There is no abstraction from the Cookstown River at present. The Local Government (Water Pollution) Acts (1977 – 1990) require Local Authorities to maintain a register of water abstractions in their administrative areas. In addition, Schedule 2 of the European Communities Environmental Objectives (Surface Waters) Regulations (SI No. 272 of 2009) requires the development of measures to register, control and authorise surface water extractions. The applicant has determined that there is sufficient water in the supply pond to provide for current concrete production needs and has also confirmed that they will not recommence water abstraction in the future. No measures regarding water abstraction from the Cookstown River are proposed in the RD.

## **7. Submissions**

Since the Board meeting of the 05/10/10, two submissions on the application were received.

### **Inland Fisheries Ireland**

A submission was received from Inland Fisheries Ireland (Eastern River Basin District) in relation to this application. The main elements of the submission are dealt with in turn below:

- (i) Only clean, uncontaminated surface waters must be permitted to discharge to the surface water network in the area. The proposed development must be designed and operated in an environmentally sustainable manner and should not impact negatively on the salmonid status of the River Dargle or its tributaries.

### **Response:**

There will be no discharge of process emissions or foul water from the facility to nearby rivers or other surface water features. Due to the topography of the facility storm water cannot run off site to nearby rivers. Storm water will ultimately, as outlined above, be pumped to the supply pond. The RD contains a range of measures to protect the quality of storm water at the

facility and to protect the quality of the supply pond while backfill activities are being carried out. When the site has been restored to agricultural use, clean storm water runoff from the completed site will percolate to groundwater within the applicant's landholding. It is concluded therefore that licensed activities will not impact on the local river network or on their salmonid status.

- (ii) Local infrastructure must have capacity to cope with increased surface and foul water generated by the proposed development in order to protect the ecological integrity of any receiving aquatic environment. It is unclear where it is proposed to discharge foul water from the development. If the proposal is to treat effluent on site, proper site assessment and full compliance with the EPA Manual on Treatment Systems is essential.

**Response:**

There will be no discharge of foul water or storm water runoff from the facility to offsite rivers. The site has 3 septic tanks, all of which are within the facility boundary, and which serve existing canteen and welfare facilities. **Condition 3.17** of the RD requires that the septic tanks and percolation areas comply with the Agency's Code of Practice<sup>1</sup>.

- (iii) The release of any leachate into the local surface and groundwater system is unacceptable and must not be permitted to happen under any circumstances. The river may be at risk of suffering poor quality recharge from contaminated groundwater as a result of the proposal.

**Response:**

The quarry void will be backfilled with clean soils and stones only. The RD contains a range of measures to control and monitor the types of waste accepted at the facility to ensure that unsuitable wastes are not backfilled and no leachate is generated. Consequently, there will be no discharge of leachate to groundwater or surface waters. Measures specified in the RD include monitoring of southern quarry pond water quality and groundwater quality (both up- and down-hydraulic gradient of the facility) and ensuring an early and adequate response to detection of any deterioration in quality.

- (iv) Ground works, provision of infrastructure and buildings as well as importation of wastes have significant potential to cause the release of sediments and various pollutants into surrounding watercourses.

**Response:**

The quarry void will be backfilled with clean soils and stones only. There are no new buildings proposed for construction. Some recovered aggregate will be used for construction of hardstanding areas and haul roads. The RD requires the completion of the paved road network and the use of a wheel wash unit both of which will prevent the exportation of soils and dust to the external roads. As discussed above, there will be no discharges from the facility to the surrounding watercourses.

**Dublin City Council**

Feedback was sought from Dublin City Council regarding any concerns that they may have had in relation to the drinking water main that runs through the facility. Following contact with the Council on the matter a submission was made to the EPA.

- (i) Regarding the water main, Dublin City Council provided the following comment:

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<sup>1</sup> EPA Code of Practice - Wastewater Treatment and Disposal Systems Serving Single Houses (PE ≤ 10)

*‘Dublin City Council has no objection to the issuing of a waste licence at the above facility on the basis of the documentation submitted as the proposed works do not impact on the Dublin City Council 33inch arterial water main which crosses the site’.*

**Response:**

A response is not considered necessary on the matter.

- (ii) In their submission, the Council also outlined their concerns regarding the presence of a septic tank in close proximity to the water main. It is their consideration that the matter requires further investigation and that the septic tank will have to be moved.

**Response:**

The site has 3 septic tanks, all of which are within the site boundary, and which serve existing canteen and welfare facilities. **Condition 3.17** of the RD requires that all septic tanks and percolation areas comply with the Agency’s Code of Practice<sup>2</sup>. In relation to the particular septic tank referred to in the Council’s submission (designated SI2 in the application), **Condition 3.18.1** of the RD requires a risk assessment to be carried out of the potential impacts of the septic tank on the water main, while **Condition 3.18.2** requires the movement of the septic tank to another location if required by the Agency. It is possible that such a proposal, to remove one of the septic tanks to an alternative location, could require planning permission.

**8. Recommendation**

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



Michael Owens

Inspector

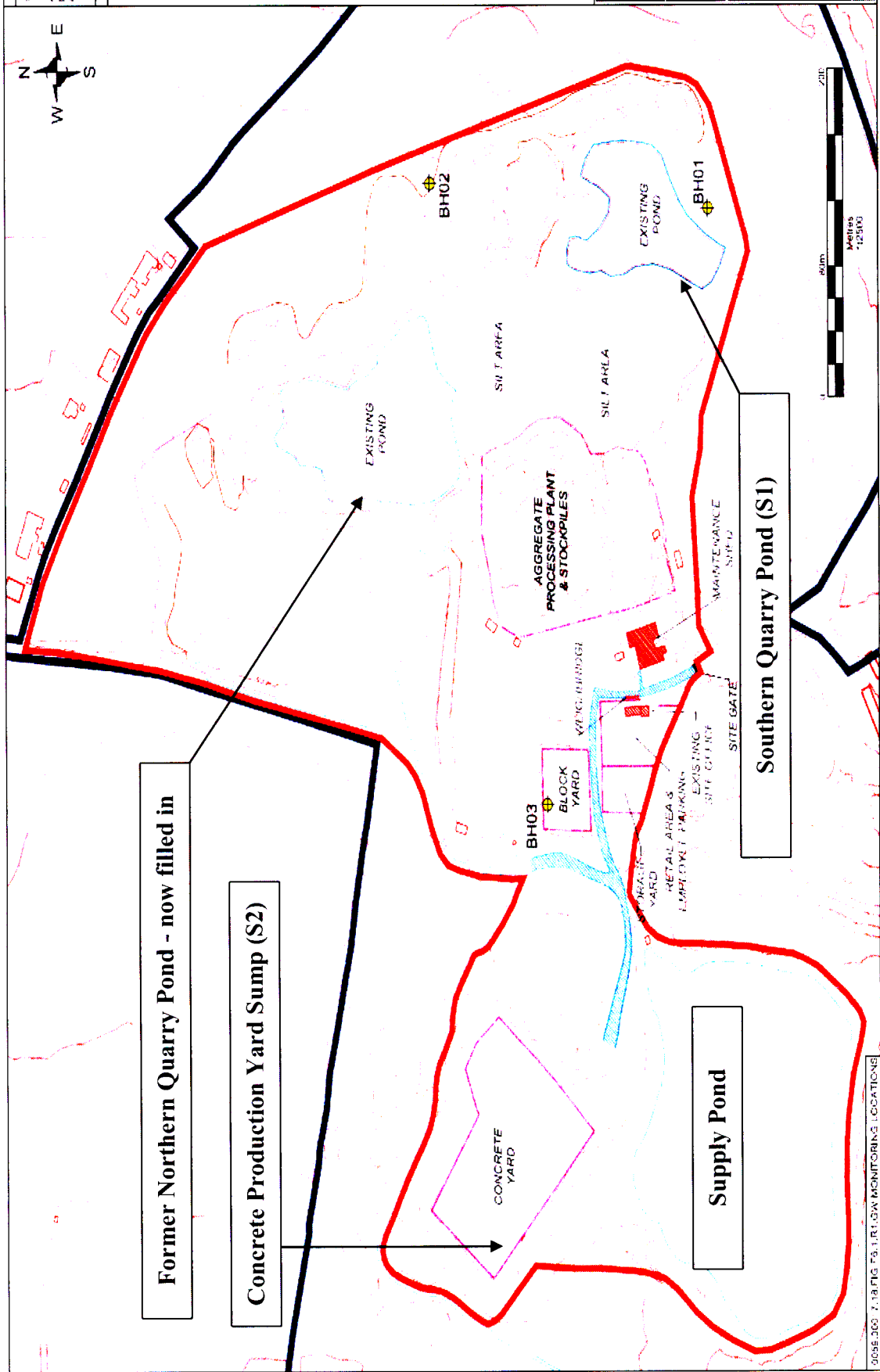
Office of Climate, Licensing and Resource Use

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<sup>2</sup> EPA Code of Practice - Wastewater Treatment and Disposal Systems Serving Single Houses (PE ≤ 10)







**Figure 1 – Site Boundary and Locations of Water Features**

