

**INSPECTORS REPORT
WASTE LICENCE REGISTER NUMBER 75-1**

APPLICANT: Waterford Co. Council

**FACILITY: Tramore Waste Disposal Site, Tramore Intake & Tramore Burrows,
Tramore, Co. Waterford**

Recommendation: That a licence be granted subject to Conditions

(1) Introduction

Tramore landfill site is located in Tramore, Co. Waterford approximately 1 km east of Tramore town. The nearest urban areas are Tramore town 1km, Waterford City, 10 km to the Northeast and Waterford Airport, 5-km east. The existing landfill site covers an area of approximate 12 hectares and has been in operation since about 1939. To-date approximately 400,000 tonnes of non-hazardous waste has already been deposited at the facility. The quantity of inert waste deposited is unknown. It is estimated that the landfill will remain open to accept waste for approximately another two and a half to three years under the terms of the draft Proposed Decision (PD). This excludes the proposed extension, which would have enabled the landfill to continue landfilling upto 2007. The maximum annual tonnage applied for in the application is 15,000 tonnes. It is estimated that the facility currently accepts circa 12,000 tonnes per annum of household, non-hazardous, commercial, industrial and construction and demolition waste and a small quantity of sewage sludge. There is no leachate or landfill gas management infrastructure at the facility. The applicant has applied for Classes 1,4,12 and 13 under licensed waste disposal activities and Classes 2,3,4,11 and 13 under licensed waste recovery activities in accordance with the Third and Fourth Schedules of the Waste Management Act, 1996.

The old Tramore racecourse previously operated in this section of the estuary but was flooded when the sea wall was breached. The existing landfill is located on low-lying ground, in a high amenity area approximately 100m north of Tramore beach. The facility is bounded on the landward side by a caravan park and on the seaward side by the estuarine and coastal habitats associated with Tramore Dunes and Backstrand, which are designated as a candidate Special Area of Conservation (cSAC), proposed Natural Heritage Area (pNHA) and a Special Protection Area (SPA). Close to the facility entrance an apartment block has been built over the past two years. A map (TRA-LF-002) showing the location of the facility to which the application relates is provided in Appendix 1.

There are special concerns in relation to this site and these are discussed further in sections seven and eight of this report.

Site Visits:

DATE	PURPOSE	PERSONNEL
30 October 1998	Site Notice Check	T. O' Mahony
18 December 1998	Site Visit	T. O' Mahony
6 May 1999	Site Notice Check/Visit	T. O' Mahony
23 February 2000	Groundwater/surface water monitoring	D. Shannon/C. Nolan
28 March 2000	Site Visit	T. O' Mahony
22 May 2000	Joint/Agency Duchas Visit	T. O' Mahony
13 September 2000	Site Visit	T. O' Mahony/B. Wall/B. Foley

29 November 2000	Site Visit	T. Nealon/B. Foley
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General Information:

Quantity of Waste (tpa)	15,000 tonnes per annum
EIS required	No
Number of Submissions received	4

(2) Facility Development

The only infrastructure at the facility is the office adjacent to the entrance gate. Under the draft PD effective site roads are to be provided and maintained. A weighbridge, wheel cleaning equipment and a waste inspection and quarantine area are also conditioned to be installed at the facility.

A clothes bank and an area for collection of white goods are located within the facility boundary. Glass and can recycling banks (also part of the civic waste facility) are operated in an uncontrolled manner outside the facility boundary in the public car parking area. Section 41(4) of the Waste Management Act, 1996 caters for control of waste activities (plant and lands) adjacent to the facility boundary. The Civic Waste Facility will be controlled under Conditions 5.2 and 5.9 of the draft PD.

Scrap metal and end-of-life vehicles are also collected within the boundary of the facility. The draft PD prohibits the acceptance of abandoned vehicles at the facility due to their unsightly nature in a scenic area and it would be difficult to provide a facility, which would allow them to be collected in a controlled manner.

There are no lined cells at the facility. Four existing Areas 3, 6, 7 and 9 (Drawing No. TRA-LF-007 Rev. A, Appendix 1) have previously been filled but there is sufficient void space (under the terms of the draft PD) left in these to allow landfilling to continue for approximately another two and a half to three years. Area 3 has a life span of approximately six months. Areas 6 and 7 have a limited operational life of circa two and four months respectively. Area 9 has been filled in the past to a level of 6mOD and has remained inactive in recent years. The licensee has however identified this area as a possible future filling area. Final contours in all areas will however be consistent with the adjacent filling in cells 1 and 2 in this area which is conditioned in 4.1. Filling should be completed in this area in approximately eighteen months. No filling is to be allowed in Area 10 for reasons that are outlined in the recommendations in section 10.

A significant proportion of the current intake at Tramore is construction and demolition waste primarily consisting of soil. The licensee has proposed to stockpile this material as it is received and to use it progressively as required in site development and restoration. Two areas have been identified (Areas 5 and 8) for the temporary stockpiling of this material as shown on the attached Drawing No. TRA-LF-007 Rev.A.

Operational practices (See photos, Appendix 2) at the facility are poor. Operational practices have been acknowledged by the licensee as being poor and requiring major improvements. These include:- inadequate application of daily cover; poor litter control; surface and groundwater intrusion into cells; absence of bird control

measures; lack of suitable supervision of waste activities and the unauthorised deposition of inert waste outside the site boundary, etc. I have concern regarding the stability of the cells and the potential for damage due to tidal inundation. This has been addressed under Condition 8.11.1 of the draft PD. Other poor operational practices have also all been addressed under the draft PD.

3. Waste types and Quantities

Condition 1.3 of the draft PD controls the quantities and types of waste to be accepted at the facility. The total quantity of waste to be landfilled at the facility shall not exceed 15,000 tonnes per annum. No liquid waste, hazardous wastes, animal wastes, animal by-products or sludges will be accepted for disposal at the facility.

4. Emissions to Air

- **Landfill Gas**

Currently, there is no landfill gas management at the facility. The draft PD requires the installation of infrastructure for the active collection and flaring of landfill gas.

- **Noise**

Noise surveys to date have indicated that daytime and night-time noise levels are not significant at the facility. The draft PD specifies noise limits of 55 dB (A) and 45 dB (A) under Schedule D.

- **Dust**

Dust measurements carried out to date show dust deposition levels in excess of 350 mg/m².day near the access road (D1) (1272mg/m².day). The elevated levels are attributed to the presence of the nearby beach, the loose surface of the unpaved car park and also from sand blowing onto the public road surface along the strand. Because of this interference ELV's for dust have not been set in the draft PD. However, the frequency of dust inspections to be carried out under Condition 8.12 of the draft PD has been increased to twice weekly. The number of Inspectors visits to the facility has also increased to verify that operational practices are being implemented to adequately address dust emissions from operations on-site.

- **Nuisance Control**

Potential nuisances are controlled by Condition 7 – Environmental Nuisances. As the area is designated as a SPA it is important that any bird control measures implemented would not adversely impact on the use of the estuarine habitats by birds. Bird Control is conditioned under Condition 7.6.

5. Emissions to Groundwater

There are no leachate control measures on-site. The draft PD specifies leachate management measures including preparation of a groundwater and surface water protection plan for the facility.

Under the Local Government (Water Pollution) (Amendment) Regulations 1999, S.I.No.42 of 1999, groundwater at the facility is considered to be permanently unsuitable for agricultural, commercial, domestic, fisheries, industrial or recreational uses. This is due mainly to the salinity of the groundwater from tidal intrusion from the estuary and to leachate contamination from the facility.

The nature of the overburden in the area is such that the groundwater flow will occur mostly in the sand and it is where sand underlies the landfill that there is greatest risk of leachate migration. Permeability is generally low and a moderate to low vulnerability has been assigned to the area. Groundwater levels within the site and in the immediate vicinity fluctuate in response to tidal variations but the magnitude of the fluctuation is related to the distance from Tramore strand.

The bedrock is described as part of the Tramore Shale Formation which is classified as a poor aquifer and generally unproductive (Pu) under the groundwater protection scheme for County Waterford (GSI). Water flows from the southern side of the facility to the Southeast and is likely to discharge into the sea in Tramore Bay. Groundwater flows from the east edge and the north edge of the landfill facility towards the east and is likely to discharge into the Back Strand tidal flood plain area.

The monitoring results for the year 2000 submitted by Waterford County Council show that ammonia concentrations are highest in the landfill boreholes BH7 (61.60 mg/l N), BH10A (49.80 mg/l N), on the landfill boundary RC4 (6.50 – 23.70 mg/l N), and in the estuary adjacent to the landfill RC5, (29.30-32.80 mg/l). Nearly all monitoring points exceeded the EU Standards (MAC) for quality of water intended for human consumption (SI No 81 of 1988) for ammonia on all sampling dates. Lower ammonia concentrations were detected in the proposed extension area RC1/BH8 (0.3-5-0.84mg/l N), upstream of the landfill and at the seawall boundary BH5 (0.83-1.52 mg/l-N). The ammonia levels have increased in 2000 suggesting that groundwater underneath the facility continues to be effected by leachate from the landfill. However, as mentioned previously these groundwater boreholes are subject to saline intrusion and are permanently unusable. A high chloride and/or salinity value is a common feature of these wells.

Groundwater analysis of heavy metals also shows some slight contamination at the facility and in the estuary. List 1 (Cadmium and Mercury) substances have been detected in groundwater at the facility, monitoring results submitted by the applicant show that concentrations are however, below the MAC for these parameters as listed in the European Communities (Drinking Water) Regulations 1988, (SI No.81 of 1998). Elevated levels of Arsenic (upto 63ug/l) were detected both upgradient and downgradient of the existing facility. The levels are c.20% higher than any Arsenic levels detected in a recent UK study on the composition of leachates. The limit set for proposed Arsenic in all waters in the EPA EQO/EQS document is 50ug/l. Bi-annual

monitoring of Arsenic has been included in Schedule D, Table D4.1 to establish whether or not this is a transient phenomenon. However, there is a possibility of marine/saline interference in the monitoring results.

Under Conditions 3.13 and 3.14 of the Draft PD the licensee is required to ensure the protection of surfacewater and groundwater resources in the vicinity of the facility from pollution generated within the facility during site development, operation, restoration and closure. The draft PD requires under Condition 5.5 that within three months appropriate cover material shall be placed across the whole landfill other than waste suitable for specified engineering works or waste on the working face during operational hours. The installation of this effective cap will minimise the quantities of leachate generated.

6. Emissions to Surface Water

Results of monitoring for surface waters show some evidence of leachate contamination in the immediate vicinity of the facility but overall levels further downstream of the landfill are low. The results indicate that there are other contributory sources such as sewage/industrial/agricultural activities in the estuary.

The impacts of the existing landfill on the estuary have also been assessed based on sediment sampling and sampling of benthic microfauna. The study suggests that the existing landfill is not having a major impact on the flora and fauna of the estuary. However, any expansion of the existing landfill may upset this delicate balance. Under the draft PD the licensee is required to ensure the protection of surface water resources in the vicinity of the facility from pollution.

7. Tramore Dunes and Backstrand (Site Code 671)/EU Complaint (P98/5008)/Correspondence from Duchas

Tramore Dunes and Backstrand (site code 671)

The existing unlined landfill site is on formerly reclaimed estuarine habitat in the inner reaches of Tramore Back Strand. Tramore Dunes and Back Strand (excluding the landfill facility and the immediately adjoining estuarine habitats), (Drawing No. 001 and Duchas map site code 00671) is designated as a candidate Special Area of Conservation (cSAC), proposed Natural Heritage Area (pNHA) and a Special Protection Area (SPA). This area has been included in a list of sites forwarded to the EU Commission in accordance with the Habitats Directive. The site receives full protection under national legislation (S.I. 94/97) – European Communities (Natural Habitat) Regulations 1997. The intertidal area is also a Ramsar site under the Ramsar Convention on the protection of wetlands and there are proposals to designate it a statutory Nature Reserve.

Tramore dunes and back strand is an area of ecological significance. The backstrand is an area of great importance for waterfowl on the southcoast and is a designated SPA. The lagoon type saltmarsh area is listed as a habitat on Annex I of the EU Habitats Directive and is the rarest type of this habitat in Ireland. The intertidal mud

flats and sand flats are another important habitat listed in Annex I of the EU Habitats Directive. The macrofauna is well developed with large patches of mussel and periwinkles, which are collected for consumption by locals.

Duchas in their assessment of the site originally stated in a letter sent to Waterford Co. Council and copied to the Agency (received 30 May 2000) their opposition to both the encroachment of the 'dump' into the SAC and to any further expansion of the landfill. In the main text of the letter they state that *“both the existing damage and planned expansion must, on their initial assessment be opposed by their Department”*. Part of the existing landfill and the proposed extension originally encompassed the cSAC area, which had previously been advised to the Agency (TRA-LF-006, Appendix 1) by Duchas. Amended maps submitted by Duchas and the applicant to the Agency in November 2000 now show the boundary of the cSAC to exclude the landfill facility and the immediately adjoining intertidal mudflats (Drawing No. 001 and Duchas map site code 00671, Appendix 1). This excluded area (which would incorporate the proposed extension) however, provides a buffer area and a zone of attenuation between the existing facility and the cSAC and on this basis **it is my view that no development should take place within this area.**

Duchas in their latest assessment (letter to the Agency dated November 2000) of the site state that the landfill must be managed, in a way which will **not impact negatively on the integrity of the cSAC adjoining it** and expresses the view that **leaching of nutrients and toxic material from an unlined facility may potentially adversely effect the flora and fauna of the cSAC.**

The proposed unlined extension into estuarine mudflats adjoining the existing landfill footprint area would cause the further destruction of this habitat. During consideration of the application the landfill was extended into an area of the proposed extension. Following discussions with the Agency this practice ceased pending a decision on this application. This whole area as discussed is an important area for wildlife and birds, and should be protected from further adverse impact.

An annual ecological assessment of the habitats within and adjoining the facility i.e. cSAC, NHA, SPA are required in the draft PD.

EU Complaint:

The Agency was forwarded a complaint (P98/5008) from the EU in relation to the Tramore Landfill on 7 March 2000. The complaint refers to the Tramore landfill adversely impacting on a place of special interest. Reference is made in the complaint to the Tramore landfill being close to the SPA. It should be noted that this complaint referred to the SPA, which while is in close proximity to the landfill, does not adjoin the landfill boundary.

8. Other Significant Environmental Impacts of the Proposed Extension

Visual Aspect

I consider that the proposed extension at the landfill would adversely affect, to a significant extent a place of special interest as it is highly visible from the adjacent

pNHA's and cSAC's and it is also in a highly developed tourist and amenity area. Tramore is one of Ireland's premier seaside resorts. Tramore town is strategically placed on the coastal touring route from Dunmore East to Dungarvan. The proposed extension will have a significant visual impact. Primary views into the site are from the west where development has taken place, from the direction of Tramore town and its surrounding holiday developments. (See Fig. 1 Visual Impact, Appendix 1).

9. Waste Management, Air Quality, Water Quality Plans & Tramore Development Plan.

Waterford County Council's Waste Management Plan (1997-2002) was published in February 1998. It states that the facility at Tramore being of the 'attenuate and disperse' type landfill has no longer any application and indeed is not allowable under the proposed EU Directive on the Landfill of Waste, which requires all landfills to be of the 'containment type' and will have to comply with the stringent planning, environmental, design and construction requirements of the EPA's. 'landfill manuals'

Another objective of the Waste Management Plan is 'the closure of existing outdated 'landfills facilities' and the implementation of measures in order to reduce any environmental impact of such facilities. Waterford County Council are also investigating the development of new disposal facilities for Waterford City and County, in order to meet the requirements of the Waste Management Act 1996, EU Directives and relevant EPA Guidelines.

The Plan also mentions the possible development of a Waste Transfer Station at Tramore.

Tramore Development Plan

Under the Tramore Development Plan 1997 it is the objective of the council to decommission, cover and seal the waste disposal site, and to reserve the site for some other beneficial use. The plan also aims to construct a solid waste transfer station with compactor and recycling facilities so as to provide an economic and an environmentally acceptable solution to the collection and disposal of solid waste arising in the area. These plans did not form part of the waste licence application submitted to the Agency.

One of the Councils policies in the Tramore Development Plan is to protect and preserve the areas of scientific, botanical, and ornithological interest in Tramore namely the Burrows, Backstrand and Woodland at Newtown Cove and to phase out the existing landfill.

10. Recommendations

I recommend the grant of a licence that will allow the continuation of the landfilling in areas 3, 6, 7 and 9 (giving the facility a landfilling lifespan of approximately two and a half to three years under the terms of the draft PD) as shown in the proposed operational layout drawing *No. TRA-LF-007 Rev. A* and to **refuse the proposed extension (Area 10) into the saltmarsh/estuarine mudflats.**

Monitoring data submitted by the licensee to-date has shown that the existing landfill facility is not having a major effect on the estuary. The tide is probably a significant factor in the lack of impacts. Almost all the water in the estuary is exchanged twice a day due to the tide and the shallow water, flushing a considerable amount of contaminants out of the estuary.

I recognise that operational practices at this facility are unsatisfactory. In allowing the existing facility to continue to receive waste, significant improvements in operational practices will have to be implemented and these are conditioned in the draft PD. I propose to carry out a minimum of eight inspections consisting of six Inspectors visits, one Agency monitoring team visit and one annual audit. These will be increased if required. Under the draft PD the licensee is also required to monitor the effects the facility is having on the surrounding environment. I am proposing the refusal of the proposed extension into the estuarine mudflats for the following reasons.

I consider that the proposed **extension (i.e. Area 10 Drawing No. TRA-LF-007, Rev. A) of the facility into the intertidal mudflats** would not comply with the requirements of Section 40(4)(b), and have had regard to the following matters;

1. Landfilling in the proposed extension would constitute environmental pollution as it would cause an “adverse affect on the countryside or places of special interest” in this case Tramore Back Strand which is a cSAC, pNHA and SPA and would result in the destruction of adjoining intertidal mudflats which are directly linked with the habitats within the cSAC. **In reaching this conclusion I have taken into account the extreme vulnerability of the cSAC / pNHA / SPA designated area i.e. the ecological significance of the site and potential for impact on the cSAC including the likelihood of a deterioration in water quality.**
2. **Lack of any proposals from the licensee to upgrade the facility and infrastructure to meet BATNEEC standards.**

Under Sections 5 (1) and Section 40 of the Waste Management Act 1996 environmental pollution is described as follows: “environmental pollution means, in relation to waste, the holding, transport, recovery or disposal of waste in a manner which would, to a significant extent, endanger human health or harm the environment, and in particular;

- (a) Create a risk to waters, the atmosphere, land, soil, plants or animals,
- (b) Create a nuisance through noise, odours or litter, or
- (c) **Adversely affect the countryside or places of special interest.**

Section 40(4)(b) of the Waste Management Act provides, *inter alia*, that a waste licence shall not be granted unless the activity concerned, carried out in accordance with such conditions as may be attached to the licence, will not cause environmental pollution.

Under the draft PD, Class 2 of the Third Schedule of the Waste Management Act, 1996 was refused as the applicant did not propose any lined cells for the acceptance of

sludge and under Class 10 because the applicant withdrew their proposal for this activity.

The waste activities allowed in the Proposed Decision will comply with the requirements of Section 40(4) of the Waste Management Act 1996 if carried out in accordance with the conditions of the draft PD.

11. Submissions

A total of four valid submissions were made in relation to the application. Appendix 3 contains a list of the submitters.

1 Submission from Duchas, the Heritage Service received 30 May 2000

Duchas in a written submission to Waterford Co. Council and subsequently this letter was also copied to the Agency by Duchas state their opposition to both the encroachment of the dump into the SAC and to any further expansion.

Response:

The background to Duchas assessment of the cSAC and the impact of the facility on this area is discussed in Section 7. This section also discusses the amended maps of the cSAC for the Tramore Dunes and Backstrand boundary as submitted by Duchas.

It is recommended under the draft PD that the proposed extension of the facility into the mud/saltmarsh flats not be allowed in order to protect the adjoining cSAC. The facility itself does not now lie within the SAC as Duchas amended the boundaries excluding the facility. Conditions controlling the operation and closure of the existing facility are intended to control any impact it is having on the surrounding areas. The draft PD requires monitoring of the estuarine habitat on an annual basis.

2. Submission from the Department of the Environment and Local Government. (Bernadette McCormick) received 18 August 2000.

The letter refers to an EU complaint about Tramore Landfill and requests an up-date on the status of the application and details of all actions taken the Agency to date.

Response:

The Agency replied to the Department by letter dated 28 September 2000 outlining the sequence of events to date with the Tramore application.

3. Submission from Steven Clancy 6 Seaview Park, Tramore, Co. Waterford. (Received 5 October 2000)

Mr. Clancy states that on October 2nd 2000 he saw a fire at Tramore landfill. He observed half an acre of burning waste and was forced to inhale smoke, which smelt strongly of burning rubber and the like. He considers this occurrence to be unnecessary and inappropriate, especially for an amenity such as Tramore Beach.

Response:

Under Condition 9.4.2 of the draft PD no waste is to be burned within the boundaries of the facility. A fire at the facility is to be treated as an emergency and immediate action is to be taken to extinguish it and notify the appropriate authorities.

4. Submission from the Tramore Bay Conservation Group (with a request for certain information under the Freedom of Information Act) received 27 November 2000

The Tramore Bay Conservation Group state that they are very concerned about the conservation of the local saltmarsh, known as the backstrand. This salt marsh is designated an SAC and a proposed NHA under EU Natura 2000. They state that they are very concerned about the likely detrimental and damaging effects of the adjacent municipal facility on the saltmarsh's ecosystem. They go on to say that it is their view that the County Council's Management of the site has been both lax and irresponsible and are aware of a number of complaints which have been forwarded to the EU Commission regarding the waste facility at Tramore. They also asked a number of questions about the site and the County Council's obligations regarding its management.

Response:

This correspondence was replied to on the 27 and 30 November addressing the questions raised. In addition under the draft PD no further extension of the facility is to be allowed into the saltmarsh area. Under Condition 8.10 the licensee is required to monitor the surrounding estuarine habitat. The restoration and aftercare plan for the facility will be required to be managed in consultation with Duchas in order to protect the habitats in the vicinity of the facility and in the cSAC, pNHA and SPA. This plan shall take into account the continued operation, closure and restoration of the facility.

Signed: Brendan Foley

Dated: 1 March 2001

APPENDIX I

MAPS

APPENDIX II

PHOTOGRAPHS OF SITE & OPERATIONAL PRACTICES

APPENDIX III

SUBMISSIONS