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Environmental Licencing Programme
Office of Environmental Sustainability

14th April 2023

Article 14(2)(b)(ii) of the Waste Management (Licensing) Regulations, in respect of a licence review from Bord Na Móna Recycling Limited for a facility located at Bord Na Móna Recycling Limited, Solsborough, Springfort Cross, Nenagh, Tipperary, E45EH57

Dear Sir/Madam,

I refer to the Agency's letter dated 24th May 2022 in respect of the above referenced licence review. The EPA's requests are set out in italics followed by the response.

1. *Clarify whether waste stored at the facility is sent onwards for incineration or co-incineration. If yes, state the capacity of the facility (tonnes per day) for this activity and state whether it exceeds the capacity threshold, of over 75 tonnes per day, of class 11.4(b)(ii) of the EPA Act 1992, as amended (Article 12(1)(o)).*

Residual municipal solid waste is sent for incineration in the Covanta Dublin Waste to Energy Plant. The Nenagh facility's capacity is 49 tonnes/day and this does not exceed the capacity threshold of Class 11.4 (b)(ii) of the EPA Act, as amended.

2. Clarify if any hazardous waste is proposed to be accepted at the facility, for example, hazardous waste electrical and electronic equipment (WEEE) (Article 12(1)(g). If hazardous waste is proposed to be accepted at the facility, provide details of:

(a) The relevant List of Waste (LoW) code(s),

(b) Whether the capacity exceeds 10 tonnes per day involving one or more of the activities specified in Class 11.2 of the EPA Act 1992 as amended and

(c) The total capacity of hazardous waste stored at any one time at the facility and whether the total capacity exceeds 50 tonnes for temporary storage of hazardous waste, as specified in class 11.6 of the EPA Act 1992 as amended.

Household hazardous waste electrical and electronic equipment (WEEE) are accepted at the Civic Amenity Area (CAA). The relevant LoW code is 20 01 35*.

In 2022 26.24 tonnes of household hazardous WEEE was accepted. The capacity does not exceed 10 tonnes per day involving one or more of the activities specified in Class 11.2 of the EPA Act.

The total amount of hazardous waste stored at any one time in the CAA is less than 1 tonne and therefore the 50 tonne threshold for temporary storage is not exceeded.

3. Confirm if all LoW codes proposed to be accepted at the facility under the review are included in the table entitled "List of Wastes by R&D Code and Treatment Type", provided on page 15 of attachment "Application Form - Application Form Application Form - *LA001648" of the application form. Amend the table as needed (Article 12(1)(g).*

All of the LoW codes proposed to be accepted at the facility under the review are not included in the above referenced document. The full list of LoW codes is in the spreadsheet in Attachment A.

4. *Complete the following table, in accordance with Article 12(1)(g);*

	Tonnage per annum (tpa) currently accepted	*Tpa proposed to be accepted under the review*
Municipal (LoW code 20 03 01))		
Construction and Demolition (LoW code 17 XX XX)		
Other LoW codes		

Based on operational experience it is not possible to accurately estimate the actual quantities of each LoW that will be accepted in any one year. The types and quantities of waste authorised by the current licence are listed in the Table below, along with the proposed increased tonnages. The actual amount of each LoW accepted each year will be detailed in the annual Environmental Performance Report submitted to the Office of Environmental Enforcement.

	Tonnage per annum (tpa) currently accepted	Tpa proposed to be accepted under the review [1]
Household	10,529	13,279
Commercial	12,730	14,730
Construction & Demolition	1,491	1,991
Total	**24,750**	**30,000**

1 The limitation on any one type may vary subject to the total limit staying the same.

5. In accordance with Article 12(1)(g);

(a) Identify the LoW codes currently accepted onsite which are proposed to be increased under the review and state the increased waste acceptance tonnages.

The LoW codes currently accepted on-site are listed in Attachment A. The proposed increase in overall annual intake is 21.2% and it is likely that there will be a similar pro rata increase for many but not all of the LoW codes accepted. As referred to above, the actual amounts of each LoW accepted each year will be detailed in the annual Environmental Performance Report.

(b) Identify any new LoW codes to be accepted under the review and the proposed tonnage(s).

The new LoW codes are highlighted in red in the spreadsheet in Attachment A.

6. Identify all mitigation measures proposed following the increase in waste acceptance (Article 12(1) (l));

(a) to prevent potential odour emissions from the storage and processing of municipal wastes, and

The mitigation measures that are and will continue to the implemented to prevent off-site odour nuisance associated with storage and processing of municipal solid waste are described in Section 10.6.1 of the Environmental Impact Assessment Report (EIAR) submitted with the review application.

(b) to prevent potential dust emissions from the storage and processing of construction & demolition waste.

The mitigation measures that are and will continue to the implemented to prevent off-site dust nuisance associated with site operations, including the storage and processing of construction and demolition wastes are described in Section 10.6.2 of the EIAR submitted with the review application.

7. State which wastes are accepted at the civic amenity facility and for each waste, explain the storage measures implemented to mitigate against potential emissions (Article 12(1)(l)).

Refer to Attachment B.

8. State what waste(s) (including LoW code) are stored, or are proposed to be stored, outside and explain the mitigation measures proposed to prevent potential emissions (Article 12(1)(l)).

The current Waste Storage Plan for the facility is in Attachment C. It shows the storage locations for all wastes both external and internal and lists the relevant LoW. The only wastes stored externally are baled plastics and tyres. The plastics do not present any significant environmental risk and therefore mitigation measures are not required. The tyres are stored in a metal container. The materials dropped off at the CAA are stored in the designated skips/receptacles until they are prepared for removal from the site.

9. *Confirm whether the following waste activities, authorised under the existing licence, are proposed to be carried out under the review, in accordance with Article 12(1)(i);*

(a) shredding of waste,

(b) crushing of waste,

(c) baling of wastes, or

(d) sorting and/or blending of construction and demolition waste.

All of these activities will be carried out under the review

10. Provide a site drainage map with labelled emission point(s) and monitoring/sampling point(s) for the following emissions, in accordance with Article 12(4)(d);

(a) storm water, and

(b) sewer.

A site drainage map showing the surface water (SW-1) and foul (SE-1) emission points/monitoring locations is in Attachment D

11. It is noted that the co-ordinates provided as part of the application for storm-water and sewer monitoring, respectively, do not match the locations observed onsite. Provide up-dated co-ordinates, in accordance with Article 12(1)(m).

The grid co-ordinates for the storm water and sewer monitoring locations are shown on the drainage map in Attachment D.

In addition *to the above, please also provide an updated non-technical summary (Application Form, and EIAR where applicable) to reflect the information provided in your reply, insofar as that information impinges on the non-technical summary.*

An updated Application Form Non-Technical Summary is in Attachment E.

Yours Sincerely

Jim O' Callaghan

ATTACHMENT A

List of Waste (LoW) Code	Description of Waste
11 01 12	Aqueous rinsing liquids (waste from chemical treatment of metals)
15 01 01	Paper and Cardboard Packaging
15 01 02	Plastic Packaging
15 01 03	Wooden Packaging
15 01 04	Metallic Packaging
15 01 06	Mixed Packaging
15 01 07	Glass Packaging
15 01 09	Textile Packaging
16 01 03	End of life Tyres
16 10 02	Aqueous liquids other than those in 16 10 01 (aqueous liquid wastes destined for off-site treatment)
16 10 04	Aqueous concentrates other than those mentioned in 16 10 03 (aqueous liquid wastes destined for off-site treatment)
160120	Waste Not Otherwise Specified ELV Windscreen Glass
170101	C&D Wastes Bricks
170102	C&D Wastes Concrete
17 01 07	Mixture of concrete, bricks, tiles & ceramics
17 01 07	Mixture of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
170201	Wood from C&D Sources
17 02 03	Plastic
170405	Iron & Steel from C&D Sources
17 04 07	Mixed metals
17 05 04	Soil and stones
17 08 02	Gypsum based construction materials
17 09 04	Mixed construction & demolition waste
19 01 07	Solid waste from gas treatment
19 01 12	Bottom ash and slag
19 01 13	Fly ash containing hazardous substances
19 01 15	Boiler dust containing hazardous substances
19 05 99	Waste from aerobic treatment of solid wastes
19 07 03	Landfill leachate
190801	Waste From Waste Management Facilities - Screenings
19 12 01	Paper and Cardboard
19 12 10	Combustible waste (refuse derived fuel)
19 12 12	Other waste (including mixtures of materials) from mechanical treatment of wastes
19 13 08	Aqueous liquid waste and aqueous concentrates from groundwater remediation other than those mentions in 19 13 07 (wastes from soil and groundwater remediation)
20 01 01	Paper and Cardboard
20 01 02	Glass
20 01 08	Biodegradable kitchen & canteen waste
20 01 10	Clothes
20 01 11	Textiles
200138	Municipal Wood
20 01 39	Plastics
201040	Municipal Metals
200201	Bio Wastes From Gardens & Parks
20 03 01	Dry Mixed Recyclables
200303	Street Cleaning Residues
20 03 07	Bulky Waste
20 01 35*	Household hazardous waste electrical and electronic equipment

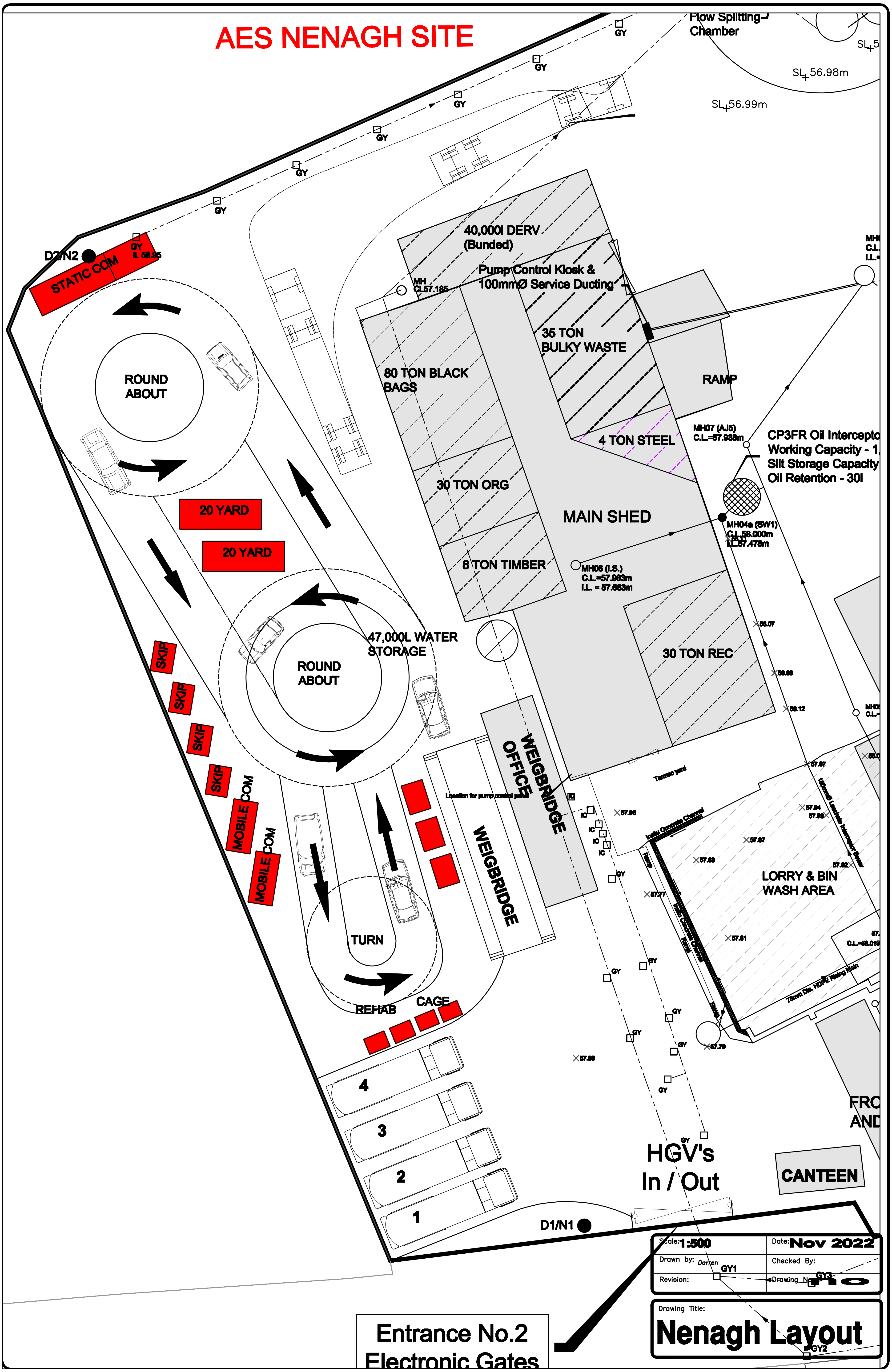
ATTACHMENT B

The layout of the Civic Amenity Area (CAA) is shown on the Layout Drawing. The CAA is provided with appropriate moveable material receptacles / skips in a dedicated set down area in the north-west of the site. The CAA is for private (household) use only and commercial/industrial wastes are not accepted.

The primary objective of the CAA is to facilitate the members of the public in segregating the materials dropped off to enable their effective recycling and recovery. The materials accepted include residual mixed municipal waste, paper, cardboard, plastic, timber, metals, glass, green waste and hazardous household electrical and electronic equipment.

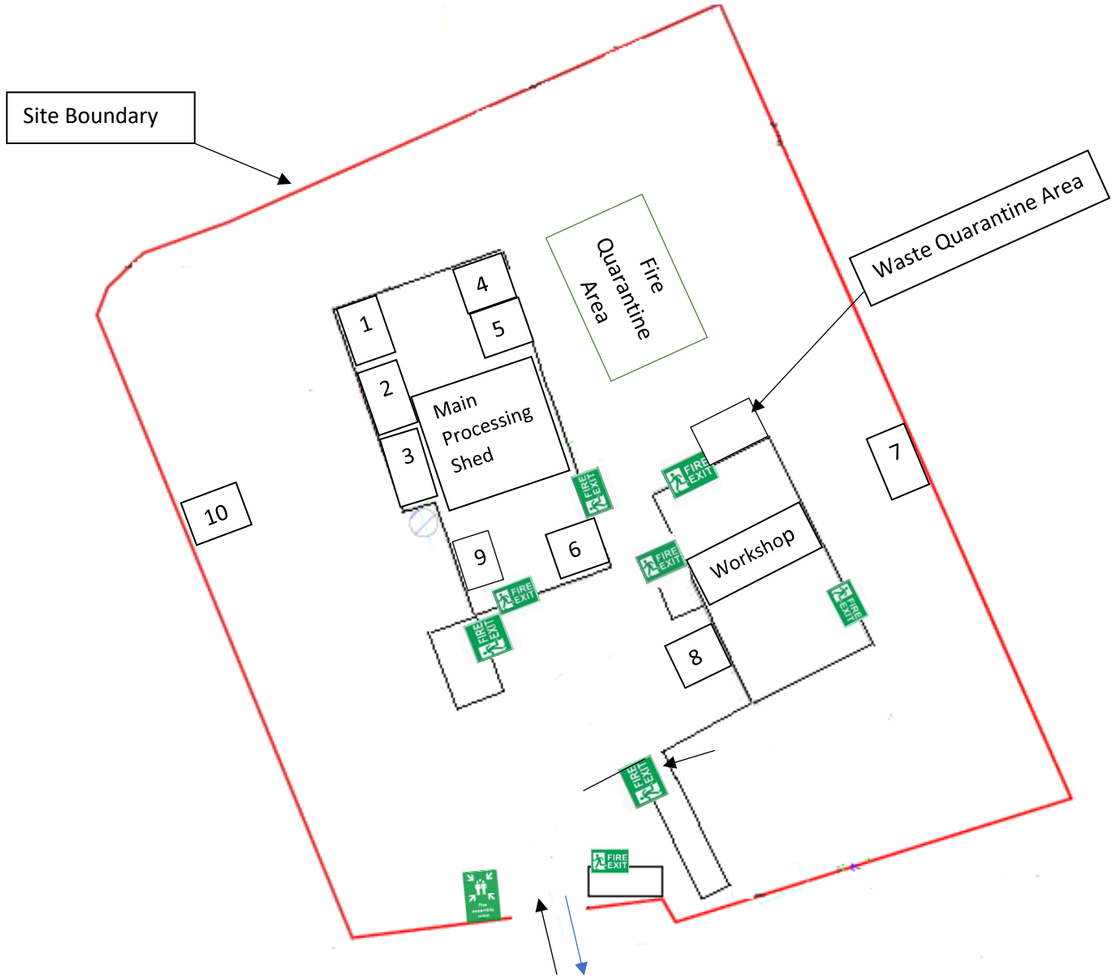
All skips/ receptacles are appropriately covered and Bord na Mona has procedures in place to effectively ensure dust, noise and odour emissions from the CAA operations are not a cause of off-site nuisance or impairment of amenity. .

When open the CAA is fully supervised to ensure that materials are presented in a proper fashion, that the site is kept neat and tidy and to assist the public in placing the waste in the correct receptacle. In the case of the latter clear and concise signage is also provided to assist the public.


AES NENAGH SITE
Flow Splitting
Chamber
SL 56.98m
SL 56.99m
GY
D2/N2
STATIC COM
GY
IL 56.95
40,000l DERV
(Bunded)
Pump Control Kiosk &
100mmØ Service Ducting
MH
CL57.185
ROUND
ABOUT
80 TON BLACK
BAGS
35 TON
BULKY WASTE
RAMP
4 TON STEEL
MH07 (AJ5)
C.L.=57.938m
CP3FR Oil Intercepto
Working Capacity - 1
Silt Storage Capacity
Oil Retention - 30l
30 TON ORG
MAIN SHED
MH04a (SW1)
C.L.58.000m
I.L.57.478m
20 YARD
20 YARD
8 TON TIMBER
MH06 (I.S.)
C.L.=57.963m
I.L. = 57.663m
47,000L WATER
STORAGE
ROUND
ABOUT
30 TON REC
58.07
58.08
58.12
SKIP
SKIP
SKIP
SKIP
MOBILE COM
MOBILE COM
WEIGBRIDGE
OFFICE
Location for pump control panel
WEIGBRIDGE
Tarmac yard
IC
57.96
57.97
57.94
57.93
Insitu Concrete Channel
57.87
57.83
57.92
LORRY & BIN
WASH AREA
57.77
Ramp
Insitu Concrete Channel
57.81
C.L.=58.010
75mm Dia. HDPE Rising Main
TURN
REHAB
CAGE
57.79
57.88
4
3
2
1
FRO
AND
HGV's
In / Out
CANTEEN
D1/N1
Scale: 1:500
Date: Nov 2022
Drawn by: Darren
Checked By:
Revision:
Drawing No.
GY1
GY3
Drawing Title:
Nenagh Layout
GY2
Entrance No.2
Electronic Gates

ATTACHMENT C

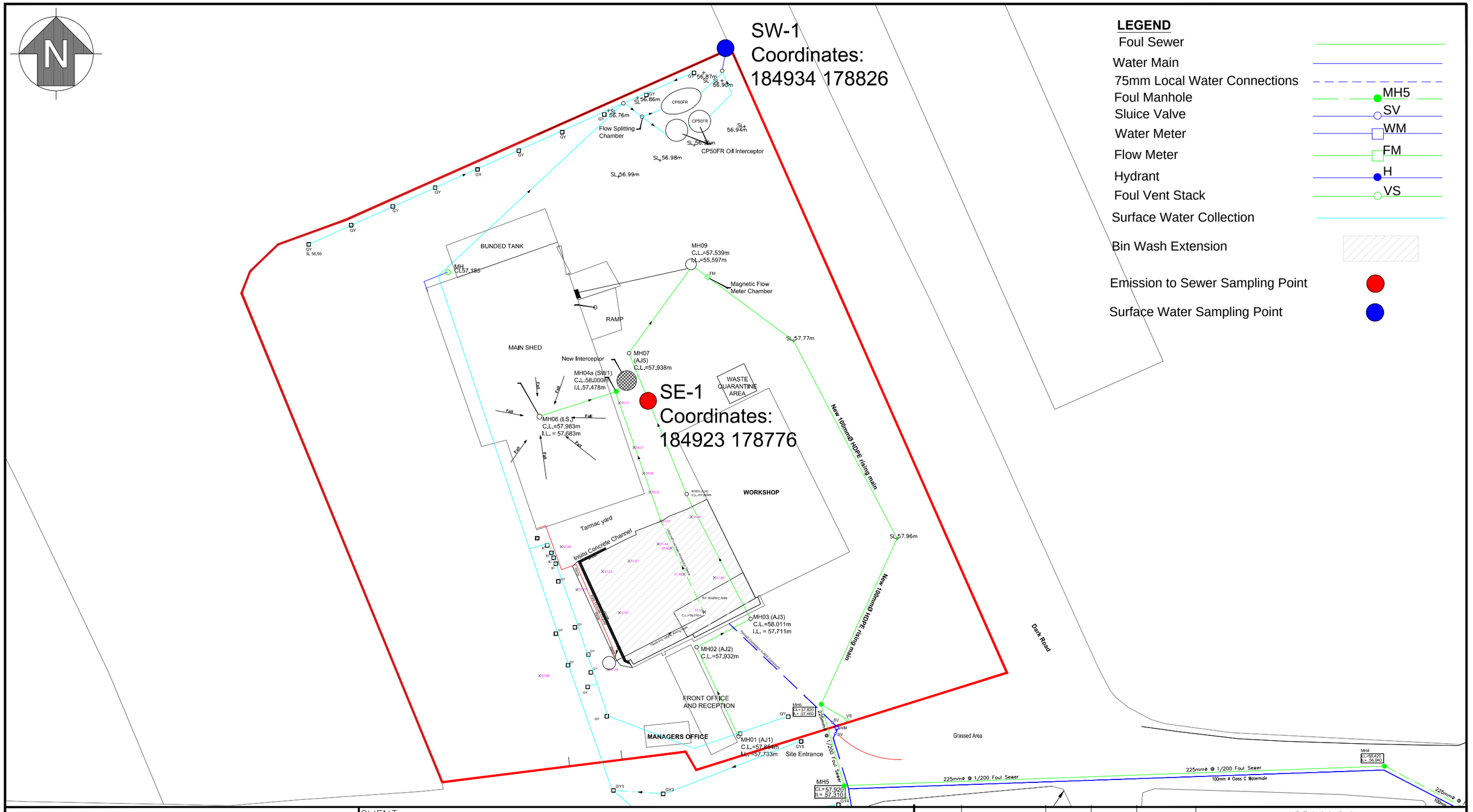
Waste Storage Plan BnM Nenagh



Waste Storage Details				
Location on Map	**LoW Code**	**Maximum Tonnage (t)**	**Stockpile Height (m)**	**Stockpile Volume (m3)**
1	Mixed Municipal Waste 20 03 01	50	3	300
2	Bulky 20 03 07	30	3	300
3	Organic 20 03 01	35	3	300
4	Timber 20 01 38/ 15 01 03	40	3	300
5	C&D 170904	55	3	300
6	Mixed Recyclable Waste 20 03 01	55	3	300
7	Plastic 15 01 02	50	***3 bales high***	
8	End of Life Tyres 16 01 03	65	***Contained in metal container***	
9	Mattresses	20	3	300
Civic Amenity Area				
10	Maximum amount of waste stored at the civic amenity is 20 tonnes.			

- Maximum amount of waste on site at any one time will be **420** tonnes.
- Process Water from the organic and mixed municipal waste is captured inside the building and flows to the effluent holding tank
- Odour forming wastes are removed from the facility within 24-36 hours to avoid odour nuisance.

ATTACHMENT D



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CLIENT	REV	DATE	DRN	CHKD	APP	DRAWING No.
AES Nenagh						CW–AES–15 Rev A
TITLE	A	14/04/23	AH	JOC	JOC	SCALE
Site Drainage						1:250 @ A1

ATTACHMENT E

NON-TECHNICAL SUMMARY

1.0 Introduction

Bord na Móna Recycling Ltd (BMR) operates a materials recovery and transfer facility at Solsborough, Springfort Cross, Nenagh, County Tipperary under planning permission granted by Tipperary County Council and a Waste Licence (Reg. No.W0240-01) granted by the Environmental Protection Agency (EPA). It is proposed to increase the amount of non-hazardous waste that can be accepted annually from 24,750 tonnes to 30,000 tonnes and to accept household hazardous waste at the Civic Amenity Area.

2.0 Planning & Licensing History

Prior to development as a waste management facility by O'Brien Waste Recycling in 1994, the lands were used for agricultural purposes. Advanced Environmental Solutions Ltd (AES) acquired the facility in 2001. In 2004, the Main Processing Building and Garage were extended, the Administration Building was constructed, the weighbridge installed; the diesel oil storage tank relocated to the fuelling station and all of the remaining unpaved areas were covered with concrete.

In 2004, AES obtained a Waste Permit from North Tipperary County Council. In 2007, Bord-na-Mona acquired AES. The Agency granted AES a Waste Licence in July 2009. In late 2009/early 2010, the wastewater drainage system was upgraded to connect to a new municipal sewer running outside the southern site boundary. The surface water drainage system was also upgraded, with the installation of an oil interceptor and manual shut off valve at the outfall point, which is in the north east of the site.

There is no record of any historic incidents at the facility that could have impacted on soil or groundwater quality.

3.0 Existing Installation

The facility encompasses 6,855m^2. There are two entrances on the southern site boundary. The western one is for waste collection and transport vehicles, while the eastern one is for the civic amenity area (CAA) and customer access to the service support offices. There are six operational areas – Main Processing Building, Garage, Administration Buildings, Quarantine Area Fuelling Station, Vehicle/Bin Wash, and Weighbridge. The entire site, including the floors of the buildings and the open yard areas, are paved with concrete.

4.0 Proposed Changes

It is proposed to increase the amount of non-hazardous waste that can be accepted annually from 24,750 tonnes to 30,000 tonnes. It is also proposed to accept household hazardous electrical items in the CAA.

5.0 Classes of Activity

The classes of activities as listed in the First Schedule of the EPA Act as amended will be.

Class	Description
11.1	The recovery or disposal of waste in a facility, within the meaning of the Act of 1996, which facility is connected or associated with another activity specified in this Schedule in respect of which a licence or revised licence under Part IV is in force or in respect of which a licence under the said Part is or will be required.
11.4 (b)	Recovery, or a mix of recovery and disposal, of non-hazardous waste with a capacity exceeding 75 tonnes per day involving one or more of the following activities, (other than activities to which the Urban Water Treatment Regulations 2001 (SI No. 254 of 2001) apply): • Pre-treatment of waste for incineration or co-incineration.

6.0 BAT / BREF Documents

BMR assessed proposed development against the BAT Conclusions in the following guidance documents:

- Reference Document on Best Available Techniques for the Waste Treatments Industries August 2006
- Reference Document on Best Available Techniques for Energy Efficiency February 2009
- Reference Document on Best Available Techniques from Storage

An evaluation of how the facility will comply with the BAT Conclusions on Waste Treatment along with an analysis of the proposed development against the BAT Conclusions on Storage has been completed.

7.0 Waste Management Policies

The proposed changes are consistent with European Union, national and regional waste management policies and plans, the objective of which is to maximise the recovery/recycling of waste.

8.0 Raw & Auxiliary Materials and Energy Use

Operations involve the consumption of electricity, water, oils, coolants and electricity. The estimated quantities used in 2015 and 2016 are presented in Table 1.

Table 1 Predicted Energy Use Per Annum

Resource	Quantity	Estimated CO_2 Tonnes/annum
Electricity	49.615MWh	24.311
Diesel	364,811 litres	948/51

The increase in electricity usage was due to additional metering drum and infeed conveyor installed during mid-2015 and operation of evening shift ran for the duration of 2016.

9.0 Sources of Emissions

Potential and actual emissions associated with the waste activities include, rainwater run-off, sanitary and process wastewater, dust, noise and odours. As referred to above, rainwater run-off from the paved yards, weighbridge and building roof discharges to an open drain that starts at the north-east site boundary. Process wastewater and sanitary wastewater is pumped to the Irish Water foul sewer.

The noise sources include waste offloading, waste handling and vehicle loading. The waste acceptance and processing are potential sources of odours, and vehicle movements are potential sources of dust.

Environmental monitoring is carried out in accordance with Condition 6 and Schedule C of the EPA Licence, which requires the following:

- Noise Quarterly
- Dust Deposition Three times per year
- Storm Water Weekly (Visual Inspection) & Quarterly (Monitoring)
- Tankered effluent Quarterly

10.0 Site Location

The facility is located at Springfort Cross on the south western outskirts of Nenagh.

11.0 Existing Environment, Potential Impacts, Mitigation and Residual Impacts

11.1 *Climate*

The climate in the area is mild and wet, with the prevailing wind direction from the south and south west. The average annual rainfall is 804.2 mm and the winds are predominantly from the south west sector.

11.2 Soils and Geology

The site is entirely covered by buildings and concrete paving. The subsoils in the locality are glacial tills that are between 0 and 3m thick. The underlying bedrock is a lime mudstone.

11.3 Water

Rainwater run-off from the paved yards, weighbridge and building roofs discharges to an open drain that starts at the north-east site boundary. This drain, which is seasonal, joins the Ardgregane Stream that flows into Lough Derg approximately 5 km to the north west of the facility. The bedrock beneath the site is classified as a locally important aquifer, which is only moderately productive in local zones. The aquifer vulnerability to pollution from sources at the ground surface is Extreme.

The site is entirely covered with buildings and paving, which effectively prevents groundwater recharge. The direction of groundwater flow is expected to be to the north-west, towards the Ardgregane Stream.

The proposed change does not require any excavations, construction works or alteration to the existing foul and surface water drainage, and will not result in any change to the quality or quantity of the rainwater run-off to the drainage ditch and ultimately the Ardregane Stream. There are no current direct or indirect emissions to ground and the proposed development will not result in any new emissions.

There is the potential for leaks from the above ground oil storage tanks and drums, the underground oil interceptor and wastewater sumps and the foul sewers. The potential pathways to off-site water courses is the surface water drainage system. The pathways to groundwater for contaminants released at the ground surface are infiltration through damaged paving and leaks from the storm water drains.

The current prevention and mitigation measures include the provision of an oil interceptor on the surface water drains; the inspection and repair of the paved areas; impermeable paving across the operational areas; the provision and maintenance of spill containment for the above ground oil storage and wastewater holding tanks; the routine inspection and survey of the surface water and foul water drains; the adoption of an emergency response procedure, and staff training on appropriate spill response actions.

The proposed changes will, in conjunction with the current operation, have no impact on the water quality in the Ardgregane Stream and will have no impact on groundwater.

11.4 Ecology

There are no habitats of ecological importance within the site boundary and the site is not in or close to a Special Area of Conservation (SAC), Special Protected Areas (SPA) or National Heritage Area (NHA). The closest protected area is the Lough Derg SPA which is 5 km north-west of the site. The Ardgregane Stream, which receives rainwater run-off from the site, is a tributary of Lough Derg.

The current mitigation measures include the provision of separate surface water and foul water drainage systems; the provision of an of oil interceptor on the storm drains; the provision and maintenance of spill containment for the above ground oil storage tanks and drums; the routine inspection and survey of the surface water and foul water drains; the adoption of an emergency response procedure and staff training on appropriate spill response actions.

The routine monitoring carried out by AES has established that the quality of the run-off to the drain is good does not present a risk to the Ardgregane Stream and Lough Derg.

The increase in the waste acceptance rate will have no impact on the ecosystems within the site boundary and will not give rise to disturbance in the habitats outside the boundary.

11.5 Air Quality

The facility is located on the outskirts of Nenagh Town. Dark Road forms the eastern boundary and to the east of this is a partially developed Commercial Park. The lands to the north and west are used for agricultural purposes. A local access road forms the southern site boundary and south of this is a service garage and private residences. The nearest private dwelling is 30m from the south western boundary on the opposite side of the public road.

The impacts on air quality associated with the operation of waste management sites that accept and process biodegradable waste in general include odours, particulates (dust) and exhaust gases from vehicles.

The EPA Licence requires AES to carry out dust deposition monitoring at four locations within the site boundary and also specified dust deposition limits. The limits are occasionally exceeded; however these are due to contamination with insect matter or bird faeces and not waste activities.

If the proposed development does not proceed, the current operation will continue with no change to the potential impacts on air quality.

The prevention and mitigation measures currently applied include handling the waste inside the Main Processing Building; regular inspection and cleaning of waste handling areas; provision of dust curtains on the doors of the Main Processing Building; removal of putrescible waste within 48 hours; cleaning yards using a road sweeper and damping them down in dry

weather; a 20km/h speed limit on all vehicle movements inside the site boundary, and the use of a fuel additive to minimise nitrous oxides in exhausts from heavy goods vehicles. Furthermore the EPA Licence makes provision for the installation of an odour control system comprising the extraction and treatment of air from the Main Processing Building, if this is considered necessary.

In the past three years the facility has not received any complaints from neighbours concerning odours and dusts. Compliance inspections conducted by the EPA have never identified any concerns that odours/dusts could give rise to nuisance outside the facility boundary and the EPA has not required AES to install an odour control system. The proposed change does not involve taking in any new potentially odorous waste types or introducing any new processes that would be an additional source of dust emissions.

The proposed development, in conjunction with the current operations, will have an on-going slight, negative impact on air quality associated with increase in vehicle exhaust gases.

11.6 Noise

The facility is located on the outskirts of Nenagh Town. Dark Road forms the eastern boundary and to the east of this is a partially developed Commercial Park. The lands to the north and west, are used for agricultural purposes. A local access road forms the southern site boundary and south of this is a service garage and private residences. The nearest private dwelling is 30m from the south western boundary on the opposite side of the public access road.

The sources of noise are the waste transport vehicles, waste handling, vehicles moving the bales and loading of the waste transport trucks.

The EPA Licence sets daytime (55 dB (A) LAeq (30 minutes) and night time (45dB (A) LAeq (30 minutes) emission limit values (ELV) and requires an annual noise survey to be carried out at three on-site and two off-site monitoring points. The day-time site boundary levels exceed the daytime ELV; however the exceedance is due to the heavy off-site road traffic and not site operations. The day-time levels at the off-site location are also exceeded but again are associated with local road traffic and not site operations.

If the development does not proceed the current activities will continue, with no change to the noise emission levels.

All waste handling is carried out inside the Main Processing Building. Site staff are instructed to avoid unnecessary revving of machinery, turn off equipment / plant when not in use, and limit the hours of activities that are likely to give high noise level emissions.

The current activities are not a source of either noise nuisance, or impairment of amenity outside the site boundary. There will be no change to either the sources of noise, or the noise emission levels from those associated with current activities.

The proposed development will, in conjunction with the current operations, have an on-going, imperceptible, negative impact.

11.7 Landscape

Tipperary is a county of huge contrasts and at its heart lies large and fertile plains surrounded by uplands and wetlands. The lowlands connect the farming counties of north Munster to those of south Leinster and are also the routes that accommodate the country's busiest rail and road routes. By contrast, the Shannon wetlands and lake shores of Tipperary's north-west as well as the steep, high uplands of the south offer containment, refuge and wildness.

The County Development Plan identifies sensitive landscapes as Primary and Secondary Amenity. These areas, which include Lough Derg, are particularly notable by virtue of their scenic and visual quality and offer significant opportunities for tourism development and rural recreational activities. The site is not in an area designated as Primary and Secondary amenity.

The site is a moderately scaled waste management facility and has an industrial appearance. It is visible from the L1119 road frontage. The treeline along the majority of the boundary with Dark Road effectively screens the site from view from the roadway, but it is overlooked by a three storey office unit in the Commercial Park to the east of Dark Road.

The proposed development does not involve any construction works or material changes to the existing buildings and external operations.

If the development does not proceed there will be no change to the external appearance of the site.

Existing mitigation measures include tree planting along the northern, eastern and western boundaries and a shrubbery at the entrance to the civic amenity area.

The proposed development will not result in any material change to the appearance of the facility.

The development will, in conjunction with current operations, have a neutral impact on the existing landscape character and visual amenity.

11.8 Traffic

Dark Road forms the eastern site boundary and to the east of this is a partially developed Commercial Park. The lands to the north and west are used for agricultural purposes. A local access road forms the southern site boundary and south of this is a service garage and private residences. The nearest private dwelling is 30 m from the south western boundary on the opposite side of the public road.

The site is bounded by local roads and green fields, with the L-1119 to the south, the L-1148 to the east and green fields to the west and north. Access to the facility is from the regional road the R445 which connects to the N52 at a roundabout to the west of the site.

A scoping exercise with Tipperary County Council identified three junctions for assessment in the traffic survey year 2016, the operating year 2017 and the design years 2022 and 2032 for both the morning and afternoon peak hours.

Junction 1 is located to the north of the Grallagh local road, L-1119, with a designated speed limit of 60km/h. Traffic arrives to the site from the east via the priority junction with the L-1119 / L-1148 Dark Road (Junction 2) and from the R445 priority junction with the L-1148 (Junction 3) to the south.

Junction 2 is an existing priority junction east of the AES site on the L-1119 with the local road, L-1048 Dark Road. The junction is in a 60km/h designated speed limit. Junction 3 is an existing priority junction located approximately 30m south of Junction 2, at the junction of the L-1148 with the R445. The designated speed limit on the L-1148 and the R445 is 60km/h.

Traffic varies for both light vehicles (LV) and heavy vehicles (HV) for the AM and PM peak hours at a midpoint between the three junctions. The morning peak hour LV movements are higher in June (Junction 2) than in September and the HV movements are slightly higher in September (Junction 3). The afternoon peak hour traffic counts found higher movements in June at Junction 2 than in September at Junction 3. The variation in traffic counts corresponds with the AES weighbridge records, which indicates that the use of the actual highest movement flow low is more robust than a seasonal adjustment.

To assess the impacts on the road network in the vicinity of the site, Junctions 1, 2 and were assessed using computer models for traffic associated with the existing operation (24,750 tonnes / annum) and the proposed operation (30,000 tonnes / annum).

The parameters examined were the Ratio of Flow to Capacity (RFC) Value, the maximum queue length on any approach to the junctions, and the average delay for each vehicle passing through the junction. The performance of the junctions in the critical morning and afternoon peak hours was assessed for the current year, 2017, and the design years (2022 and 2032), which are 5 and 15 years after the expected opening/operation. At all Junctions the traffic in the 2022 and 2032 design years will be below the maximum desired RFC value of 0.85 and also below capacity in both the morning and evening peak hours.

At Junction 1, the longest delay for a vehicle will be the same for all assessment years and is 9.26 seconds and occurs in the morning peak. The proposed development will not result in a queue on any of the junction arms.

At Junction 2, the longest delay will be the same for all assessment years and is 9.47 and 9.17 seconds in the morning and afternoon peaks respectively on Arm B. The queue length of 0.1 vehicles (i.e. less than 1 vehicle) will be the same for both the existing and proposed operations.

At Junction 3 in the morning peak in 2032, the high volume of inbound traffic to Nenagh along with the large number of left turners onto the R445 (i.e. in the same direction) will result in the longest delay of 15.08 seconds. The maximum queue lengths in 2016 and 2022 will be 0.4 vehicles and this will increase to 0.5 vehicles in 2032.

It is not proposed to alter the existing site entrances. As these entrances are located within a designated speed limit of 60km/h the required visibility splays are 2.4 x 59 metres. At the commercial access (i.e. western entrance) the required visibility is present to the east and can be achieved to the west by clearing the overgrown hedgerow bounding the adjacent green field. At the entrance to the civic amenity area, the required visibility is present to the west; however to the east the plants in the landscaped area near the entrance affects the visibility.

If the development does not proceed there will be no change in the volumes of traffic associated with the facility.

The visibility splays west of the main entrance will be maintained by cutting back vegetation in the hedgerow. At the entrance to the civic amenity area the visibility splay to the east will be achieved by keeping plant heights in the landscaped area at less than 1.05m. At Junction 2 to improve safety, additional signage will be erected to warn road users of the slow moving large vehicles.

At Junction 1, the predicted traffic for all design years will be below the maximum desired RFC (0.85) and within capacity for both the morning and evening peaks. There will be no queue length and maximum delay will be 9.26 seconds in the morning peak on Arm B.

At Junction 2 the predicted traffic for all design years will be below the maximum desired RFC of 0.85 and within capacity for both the morning and afternoon peaks. The longest delay will be the same for all assessment years -9.47 and 9.17 seconds in the morning and peak respectively on Arm B. The queue length of 0.1 vehicles will be the same for both the existing and proposed operations.

At Junction 3 the predicted traffic for all design years in both the morning and afternoon peaks will be below the maximum desired RFC of 0.85. The longest delay will arise in 2023 and will be 15.08 seconds in the morning peak on Arm B. The maximum queue lengths in 2016 and 2022 will be 0.4 vehicles and this will increase to 0.5 vehicles in 2032.

The development will result in extra traffic movements, but the local road network and junctions have the capacity to accommodate the increase. The development will have an on-going, slight, negative impact on the road network.

11.9 Cultural Heritage

There is no record of any archaeological feature, protected structure, or cultural heritage feature within the site boundary and it is not in a designated Architectural Conservation Area.

The development does not require any excavation or ground disturbance works and there is no risk of any impacts on any unidentified archaeological features.

If the development does not proceed the facility will continue to operate in its current configuration and the potential for impacts on the archaeology, architecture and cultural heritage will remain unchanged.

As the proposed development will not have any impact on any archaeological, architectural or cultural feature, mitigation measures are not required.

The development will not have any impact on any archaeological, architectural or cultural feature.

11.10 Population and Human Health

The facility is the south western outskirts of Nenagh Town. It is accessed by the R445 Kilcolman Road, which is to the south of the site boundary and connects to the N52. Dark Road forms the eastern boundary and to the east of the road is a partially developed Commercial Park. The lands to the north and west are used for agricultural purposes. A local access road forms the southern site boundary and south of this is a service garage and private residences. The nearest private dwelling is 30 m from the south western boundary on the opposite side of the local road.

Waste management facilities that handle biodegradable wastes are a source of odours with the potential to extend outside the site boundaries. While odours do not present a direct risk to health, they can be a significant nuisance and cause of discomfort that can indirectly affect human health. Waste management facilities are also potential sources of other nuisance including, dust, noise, vermin and pests. Traffic associated with the facilities can, depending on the size, location and capacity of the local road network, be a cause of congestion that affects local residents.

If the proposed development does not proceed the current operations will continue and there will be no change to the potential for impacts on human beings.

The prevention and mitigation measures currently applied include handling the waste inside the Main Processing Building; regular inspection and cleaning of waste handling areas; provision dust curtains at the entrances; cleaning yards using a road sweeper and damping them down in dry weather and a 15km/h speed limit on all vehicle movements inside the site boundary. Furthermore the EPA Licence makes provision for the installation of an odour control system comprising the extraction and treatment of air from the Main Processing Building, if this is considered necessary.

In the past three years the facility has not received any complaints from neighbours concerning odours and dusts. Compliance inspections conducted by the EPA have never identified any concerns that noise, odours and dusts could give rise to nuisance outside the facility boundaries and the EPA has not required BMR to provide an odour control system.

The current activities are not a source of environmental nuisance and the proposed change does not involve taking in any new potentially odorous waste types, or any new processes

that would be an additional source of dust emissions. The Traffic and Transport Assessment has established that the local road network has the capacity to accommodate the increased traffic movements and that the development will not give rise to congestion.

The proposed development, will in conjunction with current operations, have an on-going imperceptible, negative impact on human beings associated with noise emissions and traffic movements.

11.11 Material Assets

Dark Road forms the eastern boundary and to the east of the road is a partially developed Commercial Park. The lands to the north and west are used for agricultural purposes. A local access road forms the southern site boundary and south of this is a service garage and private residences. The nearest private dwelling is 30 m from the south western boundary. The closest designated amenity area is a plot immediately south of the three storey office block in the Commercial Park east of Dark Road.

The development will not result in any loss impairment of amenity value or agricultural use. There will be an increase in fuel and electricity consumption associated with the transport and processing of the additional wastes. The development will increase AES's recycling rate, which will have a socio-economic benefit. It will also contribute to maintaining employment levels, with a consequent economic benefit to the local economy.

If the proposed development does not proceed there will be no socio-economic benefit from the increased collection rate for recyclable materials, but there will be no increase in natural resource consumption.

AES implements the nuisance control measures specified in the EPA Licence and also applies resource consumption control measures to minimise usage.

The current operation is not a source of adverse environmental nuisance and impairment of amenities outside the site boundary and has not adversely affected the existing economic activities in the surrounding area. The local road network has the capacity to deal with the additional traffic associated with the development.

The development will have not have any adverse impact on amenity values and socio-economic activities in the locality. It will have a slight negative impact in relation to the consumption of fossil fuels. It will have an on-going slight positive socio-economic and economic benefit associated with increasing recycling rates and maintaining local employment levels.

12.0 Proposed technology and other techniques to prevent or eliminate, or where this is not practicable, limit, reduce or abate emissions from the installation

The design and method of operation of the existing facility are based on the requirements of the European Commission's Reference Document on Best Available Techniques for the Waste Treatment Industries 2006 (BREF), which specifies the Best Available Techniques (BAT) for Waste Management Facilities.

The current licence specifies the manner in which the facility must operate so as to ensure that pollution and or nuisance to neighbours and the general public is prevented. The licence conditions require the site management team to have the appropriate training and qualifications; they specify the types of wastes and processes that can be carried out; stipulate how wastes and raw materials that have the potential to cause pollution are handled and stored; describe the control measures that must be applied to prevent nuisance, for example odour and dust control, and require appropriate emergency response procedures to be in place.

13.0 Measures to Comply with Waste Management Hierarchy

The existing operation and the proposed development are consistent with the national and regional waste policy objectives, which are based on the Waste Management Hierarchy, as they contribute to the national pre-treatment capacity to get the maximum value from the waste, and to the achievement and maintenance of national and regional recycling and recovery targets.

14.0 BAT

Condition 2.2 of the current Licence requires BMR to develop and implement an Environmental Management System (EMS) for the facility. The installation is accredited to ISO 14001 EMS which requires AES to prepare operational control procedures for all waste activities, and ensure that staff are provided with the appropriate skills and training to perform their assigned functions.

AES has assessed the proposed development against the BAT Conclusions and recommendations on best practice in the following guidance documents:

- Reference Document on Best Available Techniques for the Waste Treatments Industries August 2006;
- Reference Document on Best Available Techniques for Energy Efficiency February 2009;
- Reference Document on Best Available Techniques for Emissions from Storage 2006.

15.0 Abnormal Operating Conditions

BMR has adopted a General Emergency Response and a Fire and Explosion Response Procedures (ERP). The ERP specifies roles, responsibilities and actions required to deal quickly and efficiently with an emergency. BMR has also completed an Accident Impact Assessment to evaluate the environmental effects of major accidents that may occur.

16.0 Avoidance of the Risk of Environmental Pollution due to Closure of the Facility

BMR has prepared an Environmental Liability Risk Assessment (ELRA) and Decommissioning Management Plan (DMP) for the facility and these, along with a proposal for Financial Provision, have been submitted to the EPA.

17.0 Environmental Monitoring

BMR currently conducts storm water, groundwater, noise emissions, air emissions and dust monitoring.

18.0 Measures to Comply with an Environmental Quality Standard

The emission limit values set in the current Licence are based on achieving compliance with the relevant EQS. The measures also effectively minimise the risk of pollution over long distances.

The environmental quality standards that are relevant to the overall assessment for the licence application are those specified in:

- European Communities Environmental Objectives (Surface Water) Regulations S.I. No 272 of 2009;
- European Communities Environmental Objectives (Groundwater) Regulations S.I. No 9 of 2010;
- Air Quality Standards Regulations (S.I. No 271 of 2002);
- Directive 2008/50 EC on ambient air quality and cleaner air for Europe.

19.0 Measures to comply with Council Directive 80/68/EEC and 2006/118/EC in relation to the protection of groundwater.

There are no direct discharges to groundwater and the entire licensed area will be covered by buildings and paved yards.

20.0 The Main Alternatives to the Proposed Technology, Techniques and Measures

The installation is a key element of the BMR waste management infrastructure in the Eastern-Midlands Region. The facility is specifically designed and has established use for waste activities and it has the capacity to accommodate the proposed increase in annual waste inputs. The features that render it suitable for the proposed development are:

- Existing authorisations to accept and process solid non-hazardous waste;
- Readily accessible location for BMR's existing and target customer base;
- Can accommodate the proposed increase in wastes without the need for any additional buildings, alterations to the existing infrastructure, or the provision of additional waste treatment equipment;
- Existing ground conditions (soil type/geology/hydrology) and distances from sensitive environmental receptors minimise the risk of unexpected emissions give rise to pollution.

The only alternative to the proposed development is to construct a new waste management facility at a different location. This would require the acquisition of land, the construction of new waste processing buildings and supporting infrastructure (offices, maintenance workshops, weighbridge) and the provision of new site services (surface water, foul water, power, water supply and security).

The development of a new facility offers no environmental advantages compared to the proposed expansion of waste acceptance rates at the existing facility, which has an established commercial/industrial use.