

The most serious threat to water quality of lakes and rivers in Ireland is eutrophication, defined as the enrichment of waters, beyond natural levels, principally by the nutrient phosphorus (P). This enrichment commonly results in excessive production of cyanobacteria (formerly referred to as blue-green algae), planktonic algae and rooted plants in such waters. Eutrophication of aquatic ecosystems also results in loss of biodiversity and degradation of aquatic habitats of high ecological quality (EPA 1997).

It is now EPA policy that except in exceptional circumstances the appropriate Environmental Quality Standard to be applied to all Irish freshwaters would be for salmonid water quality (EPA 1997). This means that the long term target is to attain a Q4 rating or higher (unpolluted status/Class A) under EPA biological quality classification system or a median Molybdate Reactive Phosphorus concentration of 0.03 mg/l.

4.6.2.3 Potential pollution from process area and ancillary structures and facilities in the absence of adequate mitigation

It is proposed that the facility will accept only waste classified as non-hazardous consisting of:

- Construction & demolition waste
- Mixed municipal waste
- Organic waste (kitchen and canteen waste only)
- Dry recyclable wastes (cardboard and packaging waste, paper, plastic bottles, plastic film, metals, timber, glass).

Currently the total annual intake is 16,500 tonnes while the proposed annual total intake would be 40,000 tonnes. Any hazardous waste will be placed in separate bins for disposal to an appropriate licensed facility.

Classification of waste as non-hazardous under the Waste Management Act 1996 is based largely on hazards to human health. Many substances classified as non-hazardous are potentially damaging to the aquatic environment, for instance:

- Any food stuffs or decomposable organic material
- All fats, greases & oils, whether of mineral or food origin
- Most household, garden and commercial chemicals
- Inert rubbles containing fine mineral particles
- A wide range of chemicals contained in small and large domestic and office appliances, batteries etc.

All biodegradable organic wastes such as food waste, garden waste, paper and cardboard products, animal products, treated or painted wood waste, and a range of commercial and industrial wastes, if exposed to rain, will produce runoff detrimental to the aquatic environment.

Given the wide range of potential pollutants contained in the wastes processed at the plant, the potential exists for significant contamination of surface waters from waste material exposed to rain, accidental spillages, etc. The most serious risk posed would be from accidental spillages of materials with high B.O.D. or other polluting potential.

Pollution could potentially arise from a range of sources e.g.:

- The processing area
- Storage areas for recovered waste etc (skips and hardstanding)
- Fuel storage tanks
- Weighbridge
- Waste delivery area

4.6.3 Mitigation Measures

4.6.3.1 Reduction and prevention of pollution during the construction process

The following mitigation measures will be implemented during the construction process:

- i. Release of suspended solids to the stream should be kept to a minimum. The key factors in erosion and sediment control are to intercept and manage off- and on-site runoff. This limits the potential for soils to be eroded and enter the streams as runoff. Runoff and surface erosion control is more effective and less expensive than sediment control with sediment control ponds only. Sediment control ponds should be designed for a minimum retention time of 15 hours.
- ii. To prevent damage to spawning and early juvenile fish, activities with a high risk of suspended solids pollution to surface waters should not be carried out between the end of September and the end of April without prior consultation with the South Western Regional Fisheries Board.
- iii. Raw or uncured waste concrete should be disposed of by removal from the site or by burial on the site in a location and in a manner that will not impact on the watercourse.
- iv. Wash down water from exposed aggregate surfaces, cast-in-place concrete and from concrete trucks should be trapped on-site to allow sediment to settle out and reach neutral pH before clarified water is released to the stream or drain system or allowed to percolate into the ground.
- v. Fuels, lubricants and hydraulic fluids for equipment used on the construction site should be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to codes of practice.
- vi. Fuelling and lubrication of equipment should not be carried out close to the watercourse.
- vii. Any spillage of fuels, lubricants or hydraulic oils should be immediately contained and the contaminated soil removed from the site and properly disposed of.
- viii. Waste oils and hydraulic fluids should be collected in leak-proof containers and removed from the site for disposal or re-cycling.
- ix. Prior to any instream work ensure that all construction equipment is mechanically sound to avoid leaks of oil, fuel, hydraulic fluids and grease.
- x. Foul drainage from site offices etc. should be removed to a suitable treatment facility or discharged to a septic tank system constructed in accordance with EPA guidelines. A septic tank is in use on site and a Puraflo system is proposed, which will be designed to cater for 12 people at 180l per person per day. This equates to a discharge quantity of 2.16 cubic metres per day to be treated by the system.

4.6.3.2 Reduction and prevention of pollution from the completed development

The mitigation measures that will be implemented from the completed development are as follows:

- i. Rigorous measures should be implemented to minimise suspended solids and other pollutants entering surface waters during the construction.
- ii. To prevent damage to spawning and early juvenile fish, activities with a high risk of suspended solids pollution to surface waters should not be carried out between the end of September and the end of April without prior consultation with the South Western Regional Fisheries Board.
- iii. All waste delivery, storage and processing areas should be fully roofed against rain, bunded to contain any accidental spillages, and drained on an impervious surface to a holding tank for tankering to a waste treatment facility. As leachate may arise from deliveries particularly of municipal wastes, delivery trucks should drive across the weighbridge and unload the waste into a housed delivery area which drains to the effluent storage tank.
- iv. Any underground effluent storage tanks should be double-skinned (that is, have an inner and outer skin) and have an interstitial monitoring device with automatic alarms. All USTs should be provided with overflow prevention. Any above ground fuel or effluent storage tanks should comply with current regulations and be bunded.
- v. A drainage system should be installed in the non-process area of the site which can be sealed off to contain a major spillage, and oil interceptors of suitable size should be placed on all discharges to surface waters. An interceptor for oil and solids separation is currently in operation; the interceptor is 13.5m³ capacity to provide average 2 days retention time (Information supplied by RPS-MCOS). It is also proposed to direct surface drainage via a lagoon to a constructed wetland and then to a percolation area; the lagoon, constructed wetland and percolation area are currently under construction (Information supplied by RPS-MCOS).
- vi. A treatment system for effluent from toilet, wash facilities, canteen etc should be installed following the guidelines contained in the EPA wastewater treatment manual – "Treatment systems for small communities, businesses, leisure centres and hotels". A septic tank is in use on site and a Puraflo system is proposed, which will be designed to cater for 12 people at 180l per person per day. This equates to a discharge quantity of 2.16 cubic metres per day to be treated by the system (Information supplied by RPS-MCOS).

4.6.3 RESIDUAL IMPACTS

If all mitigation measures are fully implemented the impact of the facility would be minor or insignificant.

4.7 TERRESTRIAL FLORA & FAUNA

4.7.1 Impacts

The site supports typical communities and species for the heavy soils of north Kerry and west Limerick. It has none of the diversity associated with the lakes and hills of Killarney and, as far as is known, no rare species either of plant or animal.

The area is not included by any ecological designation (pNHA, cSAC or SPA) and has no features that make this likely in future. It does not support habitats or species with special listing in the EU Habitats Directive or birds included in Annex I of the Birds Directive. Most of the bird species have general protection under the Wildlife Act 1976.

A general enlargement of the facility and improvement of the stormwater treatment system will have very limited impacts on the existing ecology of the area. The creation of a small reed bed and percolation area will tend to diversify the invertebrate fauna as they are replacing existing intensive grassland. The increase in building and paved area will occupy the hard stand already created and not cover current habitat.

Neither impact can be regarded as significant on a regional scale. Even locally the changes in plant and animal life will scarcely be noticed because of the persistence of large areas of the present habitats outside the site boundaries.

Water quality will be improved in the medium term by the proposed arrangements though there may be additional suspended matter released during construction. This has probably largely occurred with the placement of hard core and stream alterations done recently.

4.7.2 Mitigation Measures

The trees along the SE and NE boundaries will be maintained and augmented by planting of willows and other native species within the site. Alder is already widespread in the area.

4.8 ARCHAEOLOGY & CULTURAL HERITAGE

An investigation of archaeological and historical sources has confirmed that the proposed development site at Killarney Waste Disposal Ltd., Aughacurreen, Co. Killarney is situated within an area which contains archaeological remains. However the proposed development area itself does not contain any recorded archaeological monuments and does not appear to have been the site of any recorded finds. The most significant artefact recorded from the surrounding area is a hoard dating from the late Bronze Age, which was recovered from the neighbouring townland of "Knockasarnet".

The Department of Environment, Heritage and Local Government recommended that a geophysical survey of the site be undertaken as part of the Environmental Impact Statement. However the significance of a geophysical survey is not an issue due to the fact that the proposed development area is covered in hardcore fill and therefore it is considered that this method of investigation will not provide any additional information to the assessment.

Therefore the following recommendations are proposed:

1. The site preparatory works within the proposed development area will be monitored by a qualified archaeologist. This will ensure that any archaeological features that may be disturbed will be identified.
2. The stream on site should be inspected by a qualified archaeologist to assess its archaeological potential.

Mitigation measures will be finalised following consultation with the Department of Environment, Heritage and Local Government.

4.9 LANDSCAPE

4.9.1 Potential Impacts

Due to partially enclosed nature of the site, the orientation of existing development and the nature of the landscape within the study area, views of the proposed development are restricted to a number of key locations. Views to the site were investigated from a variety of key locations and both long and short range distances were considered in the assessment.

Table 4.1 indicates the residences that will be affected by the proposed development which are shown in Drawing No. DG0001-02.

Table 4.1 Visual impact (without mitigation)

Residence Number	Description of visual impact	Residence Number	Description of visual impact
H1	Low	H11	Medium to high
H2	Medium	H12	Medium
H3	Medium	H13	Low visual impact
H4	Medium	H14	Negligible or no visual impact
H5	Medium to low	H15	Negligible or no visual impact
H6	Low	H16	Negligible or no visual impact
H7	Medium to high	H17	Negligible or no visual impact
H8	Medium to high	H18	High
H9	Medium to high	H19	Low
H10	Medium to high	H20	Negligible or no visual impact
-	-	H21	Medium to high visual impact

The potential impact that such a proposal could have on the receiving environment during the envisaged construction phase would be negative in the short to medium term.

This would be due to the processes involved in the construction of any development of this scale which would include the following:

- higher traffic volumes because of materials delivery and removal;
- the potential removal of soil and vegetation to achieve a suitable Foundation Ground Level (FGL) to make way for the proposed building and access areas; and
- the processes of construction itself will be highly evident.

Additionally if a tree protection plan is not implemented and the screening ability of existing trees along the southern and northern boundaries in particular is compromised then the visual impact upon the receiving environment would be negative and short to medium term due to the timeframe involved in the reinstatement of the lost vegetation.

Based on the review of current design proposals, the potential impact such a proposal could have on the receiving environment during the operational life of such a development would be neutral to negative – short to medium term. This potential is unlikely and would only occur in the unlikely event of inappropriate maintenance and management of proposed and existing vegetation, or where the proposed mitigation measures are not implemented fully and or where there was a total failure of specified planting. The inappropriate use of materials and colours used in construction of the extension would also impact negatively upon the visual amenity of the area.

The "Do nothing scenario" would have a neutral impact in the medium to long term. Current practices will continue at the rate of approximately 16,500 tonnes per annum, being restricted by the size of the existing premises and resources under the current Waste Permit with the County Council.

4.9.2 Mitigation Measures

A series of mitigation and compensatory measures based upon the analysis of the site context, the site in its current state, and the proposed site layout are proposed:

- Avoidance of external material use for the Material Recovery Facility.
- Avoidance of open air storage of materials waiting to be processed.
- Avoidance of long term open air storage of recovered waste materials.
- Appropriate road design to accommodate the potential increase in road usage which would include suitable hedgerow protection and implementation of landscaping to ensure that the existing landscape character defined by the local road pattern is retained.
- If fencing is required to ensure restricted access and egress from the site, then fencing is to be set back a minimum of 1m from existing hedgerows and set out and construction by hand – this will ensure the continued integrity of existing screening vegetation.
- Fencing is to be dark green or blue grey in colour.
- The existing woodland pocket is to be protected through agreed site practices and if necessary physical barriers i.e. fencing.
- The northern boundary hedgerow to be reinforced with additional planting of a low berm that is to be set back from the existing ditch. This berm is to be planted with a combination of deciduous and evergreen trees, whips and shrubs.
- The existing hedgerows especially those on the northern and southern boundaries of the site are to be protected and augmented with species indigenous to the locality.
- A planting strategy which uses tree species capable of adapting to varied site conditions in conjunction with appropriate understory species should be developed in co-operation with a Landscape Architect. All whips are to be a minimum 60-90cm in height and planting areas are to have a minimum mix of 30% tall standards 8 - 10cm girth 4.25-6m height where appropriate.
- The design of the proposed development should take into consideration receiving environment through the choice of construction materials, colours (that should mimic the large scale farm sheds within the area using either green, dark-blue-grey or red) and the proposed ridgeline height of the structure.
- the use of directional lighting which is on a timer or is motion sensitive should be explored to further reduce negative impact.

During the construction phase of the development a tree protection program should be implemented in accordance with *British Standard 5837 – Guide for Trees in relation to Construction* as part of an ongoing site management strategy. This will assist in ensuring the retention of the existing hedgerows, hedges and trees identified for preservation; and protection of any newly landscaped areas.

Structured tree and shrub planting programme should be implemented which will further ameliorate the perceived visual impacts and enhance the overall development. The planting of trees and shrubs should be fully implemented in the growing season immediately preceding construction of the proposed development. The planting programmes principal objective should

be to assist in the visual integration of the development into the surrounds with a scale of planting which adequately screens the site.

All trees, shrubs, transplants, hedging materials and ground cover planting shall conform fully to the specification, prepared by the landscape architect, in respect to species, size and quantity. All plants should be well grown, sturdy and bushy according to type and free of all diseases and defects. The plants should be available for inspection prior to planting works. Any planting material that does not conform to the specification is to be automatically rejected and must be removed from site.

During the operational phase adherence to the objectives of the proposed mitigation measures will ensure that the site will continue to be adequately screened from its surrounds.

A landscape maintenance regime will be a key component of on – going site management. This regime should include a defects liability period during which any defective plant materials are to be replaced. Weed control and litter picking must also be monitored carefully, especially during the early growing seasons of the landscape maintenance contract.

The aim of these proposed mitigation measures is to ensure that the degree of visual intrusion posed by the proposed development of the waste recovery plant will be minimised and that the site achieves a high degree of visual integration into the existing fabric of the receiving environment.

4.9.3 Predicted Impacts

During the construction phase the proposed development will have a negative to neutral impact in the temporary to short term

As with any construction of this scale there will be a degree of high visibility due to the processes involved in construction.

These include:

- higher traffic volumes due to materials delivery and removal,
- the site works involved in the removal of vegetation and topsoil adjacent to the existing facility to make way for the proposed development and access areas.

These actions will be evident in the short term from a variety of locations, especially from the north-west, due to the elevation of surrounding lands.

During the operational phase the proposed development will have a neutral impact in the long term.

After construction of the proposed development, the development will be partially visible. Due to the scale and mass of the proposed development, and the limited amount of additional screening possible the presence of the finished development poses a moderate visual impact over the short term. This visibility will diminish as the landscaping is established therefore the facility will have a neutral impact upon the visual fabric of the receiving environment in the medium to long term.

The proposed development does not pose a threat to any identified unique, or special features, or elements found in the landscape; or compete directly with areas of unique sensitivity the landscape impact is considered neutral. The short term negative visual impact of the facility will diminish as the augmented hedgerows and proposed landscape mitigation measures are implemented and established.

5 INTERACTION OF EFFECTS

Specialist environmental sub-consultants assessed the potential impacts of the proposed development at Killarney Waste Disposal. This section presents the significance of potential impacts following the implementation of mitigation measures.

In addition to the requirement to describe the likely significant effects on aspects of the environment, the interaction of these effects is also to be considered. Schedule 2 of the EIA 1999 Regulations (S.I. No. 93 of 1999) requires consideration of the interactions between the various environmental factors:

“a description of the aspects of the environment likely to be significantly affected by the proposed development, including in particular;

- *human beings, fauna, flora,*
- *soil, water, air, climatic factors and the landscape,*
- *material assets, including the architectural, archaeological, and cultural heritage,*
- ***the inter-relationship between the above factors”***

These interactions are discussed in the following sections.

5.1 SIGNIFICANCE OF POTENTIAL IMPACTS

The structure used for assessing the significance of impacts of the development is based on the following classification structure as shown in Table 5.1 taken from the 'EPA Guidelines on the information to be contained in Environmental Impact Statements' (EPA, 2002).

Table 5.2 summarises the environmental impacts, outlines measures that will be used in their amelioration and highlight the significance of residual effects i.e. the impact remaining after mitigation.

Table 5.1: EPA Classification Criteria

Impact	Description
Quality	
Negative	A change which reduces the quality of the environment
Positive	A change which improves the quality of the environment
Neutral	A change which does not affect the quality of the environment
Duration	
Temporary	Impact lasting for one year or less
Short-term	Impact lasting one to seven years
Medium-term	Impact lasting seven to twenty years
Long-term	Impact lasting twenty to fifty years
Permanent	Impact lasting over fifty years
Significance	
Imperceptible	An impact capable of measurement but without noticeable consequences
Slight	An impact which causes changes in the character of the environment which are not significant or profound
Moderate	An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends
Significant	An impact which by its magnitude, duration or intensity alters an important aspect of the environment
Profound	An impact which obliterates sensitive characteristics
Types	
Cumulative	The addition of many small impacts to create one larger, more significant, impact
"Do Nothing"	The environment as it would be in the future should no development of any kind be carried out
Indeterminable	When the full consequences of a change in the environment cannot be described
Irreversible	When the character, distinctiveness, diversity or reproductive capacity of the environment is permanently lost
Residual	The degree of environmental damage that will occur after the proposed mitigation measures have taken effect
Synergistic	Where the resultant impact is of greater significance than the sum of its constituents
"Worst case"	The impacts arising from a development in the case where mitigation measures substantially fail.

Table 5.2: Summary of Potential Environmental Effects.

	CATEGORY	POTENTIAL ENVIRONMENTAL EFFECTS	QUALITY OF POTENTIAL IMPACT	DURATION OF POTENTIAL IMPACT	MITIGATION MEASURES	SIGNIFICANCE OF RESIDUAL IMPACT
NATURAL ENVIRONMENT	TERRESTRIAL ECOLOGY					
	<i>Flora & Fauna</i>	Destruction/Loss of habitats	Negative	Long-term	Native trees will be planted as part of landscaping.	No impact
	WATER QUALITY					
	<i>Surface water/ Groundwater</i>	Risk of Contamination	Negative	Short-term- Medium-term	Stormwater treatment system Oil and solids separator will be emptied when required to licenced facility Collection & treatment of effluent Control measures during construction Spill control procedure Regular monitoring.	Slight
	LANDSCAPE	Visual Impact on local Community	Negative	Short-term to Medium-term	Suitable Landscaping Measures	No impact
	ARCHAEOLOGY	Disturbance of Archaeological Finds	Negative	Long-term	Archaeologist to supervise works.	No impact
HUMAN BEINGS	COMMUNITY & MATERIAL ASSETS	Decrease in property value	Negative	Medium-term		No impact
		Recycling Service	Positive	Short-term		
		Spread of Litter	Negative	Short term	Control measures in place.	No impact
		Pest infestation	Negative	Short term	Control measures in place.	No impact
		Reduction in residential quality	Negative	Short-term	See all categories above	
	NOISE & VIBRATION	On-site machinery, activities & traffic movements	Negative	Short-term	Mitigation measures not required for day-time operation as below guidance levels	No impact

	CATEGORY	POTENTIAL ENVIRONMENTAL EFFECTS	QUALITY OF POTENTIAL IMPACT	DURATION OF POTENTIAL IMPACT	MITIGATION MEASURES	SIGNIFICANCE OF RESIDUAL IMPACT
	TRAFFIC	Increase in traffic to and from the facility	Negative	Medium-term	<ul style="list-style-type: none"> • Resurfacing works at two junctions • Warning signs • Hedge cutting • Layby 	Slight to moderate
HUMAN BEINGS	AIR	Dust and Air Emissions	Negative	Short term	<p>Site roads will be regularly cleaned and maintained as appropriate;</p> <p>Site roads should be watered during dry and/or windy conditions;</p> <p>Site stockpiling of materials shall be designed and laid out to minimise exposure to wind.</p> <p>Regular monitoring</p>	Slight to Moderate depending on weather conditions
		Generation of odours	Negative	Short term	<p>The site layout should be maximised so as to keep any outdoor operation as far as possible from the nearest sensitive receptors;</p> <p>All work surfaces and floors should be cleaned regularly to maintain a suitable standard to prevent the build up of anaerobic bacteria;</p> <p>Residence time for waste should be kept to a minimum.</p> <p>All areas where there is a potential for the generation of odour should be covered.</p> <p>In the event that an odour nuisance is being caused by the facility masking agents or counteractants can be used.</p>	Slight

5.2 INTERACTION OF PREDICTED RESIDUAL IMPACTS

Specialist sub-consultants assessed the environmental factors of the development individually. Therefore, it is necessary that the interactions between these environmental factors be considered to ensure that potential interactive effects of the project can be identified.

Table 5.3 illustrates the direct impacts of the project that may result in relevant interactions between receptors associated with the development. A receptor is defined as a factor of the natural or man made environment such as water, air or a plant that is potentially affected by an impact.

Potential interactions identified mainly relate to a reduction in residential quality. Therefore, human beings are the impacted receptor. However, as suitable mitigation measures will eliminate/reduce the possibility of potential effects, the above interactions will be avoided.

As the potential negative interactions between factors associated with the operation of the facility will be mitigated appropriately, the overall project will result in a net slight impact to the local community.

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Table 5.3: Summary of Potential Interactions Resulting from the Facility.

RECEPTOR	POTENTIAL EFFECT	IMPACTED RECEPTOR	POTENTIAL IMPACT
NATURAL ENVIRONMENT			
<i>Terrestrial Flora and Fauna</i>	Loss of habitat/species	Human Beings	Reduced recreational amenity
<i>Water Quality</i>	Contamination of waters	Flora & Fauna	Loss of habitat ¹
		Human Beings	Reduced recreational amenity & residential quality
<i>Landscape</i>	Negative visual impact	Human Beings	Reduced recreational amenity & residential quality
<i>Archaeology</i>	Disturbance of archaeological finds	Human Beings	Impact on cultural heritage
HUMAN BEINGS			
<i>Community & Material Assets</i>	N/A		
<i>Traffic</i>	Increase in traffic	Human Beings	Reduced recreational amenity & residential quality
		Flora & Fauna	Loss of species ¹
<i>Air</i>	Increase in dust/odour emissions	Human Beings	Reduced recreational amenity & residential quality
		Flora & Fauna	Loss of species ¹
<i>Noise</i>	Increase in noise	Human Beings	Reduced recreational amenity & residential quality
		Flora & Fauna	Loss of species ¹

REFERENCES

EPA (2002); "Guidelines on the information to be contained in Environmental Impact Statements"; Environmental Protection Agency.

¹ In turn results in reduced recreational amenity due to the minimisation of natural environment i.e. human beings are secondary impacted receptors.

6. CONCLUSION

Killarney Waste Disposal propose to increase the waste intake at the facility to 40,000 tonnes per annum and provide an extension to the existing facility to incorporate a new processing building.

The Waste Management Plan for the Limerick/Clare/Kerry Region (2000) recommended an integrated approach to waste management involving new recycling initiatives, biological and thermal treatment of wastes and finally landfill of residual waste. Future expansions for Material Recovery Facilities are necessary to achieve the recycling target of 37.1% which has been set for municipal waste in the Limerick/Clare/Kerry Region. The Waste Management Plan for the Limerick/Clare/Kerry/ Region is currently under review.

An alternative to the current proposed development is to carry on with the operations at the existing site at the current annual intake ('Do Nothing' Scenario). With waste quantities increasing waste generated within the Region will have to be sent directly to landfill due to the lack of additional waste sorting and recycling infrastructure in the Region which would mean that the recycling targets would not be achieved and a negative impact on the environment would result.

This EIS has examined in detail the proposed development to Killarney Waste Disposal's Materials Recovery Facility. A number of potential impacts on both the natural and socio-economic environments have been identified and where necessary suitable mitigation measures to reduce negative impacts have been recommended. Each environmental discipline is addressed and the major impacts highlighted below.

6.1 COMMUNITY EFFECTS & MATERIAL ASSETS

The proposed development will not have an adverse impact on landuse as it will be included at the existing facility within the current area of 2.2 hectares. The proposed development will have a positive impact on Killarney Town and the greater Region in that a greater recycling service will be provided and more waste will be diverted from landfill therefore reducing the negative impact on the environment. The potential impacts associated with dust, odour, noise, traffic, groundwater and surface water are described in detail in this EIS and should not cause a significant impact if all the mitigation measures proposed are implemented.

6.2 TRAFFIC

Currently there are 126 vehicular movements at the facility, 47% (59) of which were HCVs, over a twelve hour period. The proposed increase in waste intake to 40,000 tonnes per annum will cause the number of HCV movements to increase to 143 per day. However the actual future HCV movement daily figure is expected to be considerably less than this as a result of the KWD's current waste collection system operating more efficiently with an increase in the numbers of customers and collection routes which can be achieved at an increased maximum annual tonnage of 40,000 tpa.

It is assumed that the number of normal vehicles will increase by 5% per annum to 71 per day. Mitigation measures are proposed which include resurfacing of two junctions, hedge cutting, provision of a layby and warning sign at two junctions. Following the implementation of these improvements in the road infrastructure the impact due to the facility will be slight to moderate.

6.3 AIR QUALITY

The effects of construction on air quality will not be significant following the implementation of the mitigation measures. The creation of an enclosed shed and a hard surface road in place of the current surface has the potential to reduce local dust levels. As long as the traffic remains free flowing, the predicted increase in traffic volumes should not have an adverse effect on local air quality. The result of the baseline air quality survey show that air quality in the vicinity of Killarney Waste Disposal Ltd., is typical rural air quality and can be categorised as Zone D in relation to the EU Air Framework Directive and EPA Air Quality Zones.

6.4 NOISE & VIBRATIONS

The noise levels at the noise sensitive location are determined by the road traffic noise on local road rather than any noise arising from the licensed activities and so the licensed activity complies with EPA guidance for licenced activities during the day time. The generator and site activity noise can exceed the night-time limit on the eastern site perimeter. Mitigation is required if the site is to operate outside the hours 08:00 to 22:00 hrs.

Noise levels are below the NRA guideline values for traffic noise and the projected increase in traffic levels as a result of the proposed development will not significantly increase traffic noise levels.

6.5 WATER QUALITY

Regular monitoring and control measures at the facility during construction and operation will ensure the protection of groundwater and surface water resources.

The following control measures are proposed:

- The processing of the mixed municipal waste produces an effluent. The effluent is stored in the holding tank and transported to Killarney WWTP for treatment. The new processing building will have a similar effluent collection system.
- A stormwater treatment system is proposed on site. An interceptor for oil and solids separation is currently in operation on site and it is proposed to direct stormwater runoff from the interceptor to a lagoon and then to a reed bed which will discharge the treated stormwater to a percolation area. The solids from the interceptor will be cleaned out when required and the sludge sent to a licenced treatment facility.
- A septic tank is being used for sewage treatment. It is proposed to install a Puraflo System to increase the treatment efficiency.

6.6 TERRESTRIAL FLORA & FAUNA

The site supports typical communities and species for the heavy soils of north Kerry and west Limerick. The area is not included by any ecological designation (NHA, SAC or SPA) and has no features that make this likely in future. It does not support habitats or species with special listing in the EU Habitats Directive or birds included in Annex I of the Birds Directive. Most of the bird

species have general protection under the Wildlife Act 1976. Locally the changes in plant and animal life will scarcely be noticed because of the persistence of large areas of the present habitats outside the site boundaries.

6.7 ARCHAEOLOGY

Monitoring and supervision by an archaeologist will ensure that any archaeological soils, features, finds and deposits and all further features, finds and deposits that may be disturbed below the ground surface will be identified, excavated and recorded.

6.8 LANDSCAPE

Due to partially enclosed nature of the site, the orientation of existing development and the nature of the landscape within the study area, views of the proposed development are restricted to a number of key locations. A series of mitigation and compensatory measures based upon the analysis of the site context, the site in its current state and the proposed site layout are proposed.

The proposed development does not pose a threat to any identified unique or special features, or elements found in the landscape; or compete directly with areas of unique sensitivity the landscape impact is considered neutral. The short term negative visual impact of the facility will diminish as the augmented hedgerows and proposed landscape mitigation measures are implemented and established.

6.9 FINAL CONCLUSIONS AND RECOMMENDATIONS

As potential effects have been examined and mitigation measures advised to eliminate any potential serious environmental risks it can be concluded that the proposed development to Killarney Waste Disposal's Materials Recovery Facility will not have an adverse impact on the environment or local community. Therefore, it is recommended that this development should proceed, provided recommended mitigation measures are implemented.

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