Attachment E.1.

Ecological Assessment
&
Appropriate Assessment Stage 1: Screening

Former Landfill at Tipperary Town

Ecological Assessment
And
Appropriate Assessment Stage 1: Screening

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Tait Business Centre, Dominic Street, Limerick City, Ireland.
t. +353 61 419477, f. +353 61 414315
e. info@ecofact.ie
w. www.ecofact.ie

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1 INTRODUCTION

The current report provides the results of an ecological assessment undertaken at the former landfill site, on the northern outskirts of Tipperary town at Carrownreddy. The assessment has been undertaken as part of the Tier 3 Risk Assessment for the closed landfill, on behalf of O'Callaghan Moran and Associates. The site has been categorised as being a Class A – High Risk site due to the risk to humans from landfill gas and also due to the potential for leachate migration.

Ecofact Environmental Consultants Ltd. have been commissioned to carry out an ecological assessment of the marsh / reed swamp area adjacent to the closed landfill to evaluate the impacts, if any, of the closed landfill on this area.

Additionally, an Appropriate Assessment Stage 1 Screening has been carried out for the proposed remediation measures to assess whether this proposal is likely to have a significant effect on the Natura 2000 site network. Effects upon the conservation objectives and qualifying interests (including habitats and species) within the affected designated areas are considered. An Appropriate Assessment is required under Article 6 of the Habitats Directive (92/43/EEC), in instances where a plan or project may give rise to significant effects upon a Natura 2000 site. Natura 2000 sites are those identified as sites of European Community importance designated under the Habitats Directive (SACs) or the Birds Directive (SPA).

The current document meets this requirement by providing a Screening Assessment of the proposed remediation works in Appendix 1 of the current report and follows the guidance for screening published by the National Parks and Wildlife Service (NPWS 2009) '*Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities'*. The area of marsh / reed swamp habitat adjacent to the landfill, within the study area is not designated within any Natura 2000 site and is not considered within the context of an Appropriate Assessment.

2 METHODOLOGY

A desktop review was carried out to identify features of ecological importance within the study area. Sources included the National Parks and Wildlife Service online database of protected species. A full bibliography of reports and publications used in the desk study are provided in the references section of this report. A review of the published literature was undertaken in order to collate data on the receiving environment, including species and habitats of conservation concern in the study area. The collation of this information, as well as examination of Ordinance Survey mapping, aerial photography and conservation designations from the NPWS online mapping allowed areas of potential ecological importance to be highlighted prior to the field survey.

A site walkover of the closed landfill site was undertaken by a qualified ecologist (MIEEM) with a particular focus on the marsh area and the connection between the landfill site and the existing land drain to the east. This drain was sampled using a sweep net to identify the macroinvertebrate community present, to allow for an evaluation of the biological water quality within the drain. Water levels within the drain were found to be low and the substrate was dominated by silt and decaying vegetation; therefore unsuitable for the application of the EPA Q-value assessment or the EPA Small Streams Risk Score (SSRS) assessment.

Habitats were classified according to habitat descriptions and codes published in the Heritage Council's '*A Guide to Habitats in Ireland*' (Fossitt, 2000). Plant species nomenclature follows Stace '*New Flora of the British Isles*' (1997) and scientific names are given at first mention. An assessment of fauna within the study area was made during the site visit, with particular emphasis on the presence of protected species.

3 RESULTS

3.1 Habitat survey

Habitats recorded from the site are classified according to Fossitt (2000) and are described in detail below. The wetland habitat within the site was surveyed and the results are discussed under the relevant habitat type – Reed / large sedge swamp (FS1).

3.1.1 Improved Agricultural grassland (GA1)

The field directly east of the closed landfill site, containing the southern portion of the reed swamp wetland was characterised as improved agricultural grassland. The field was grazed by horses and floral diversity was low. The sward was dominated by a rye-grass mix *Lolium* sp. with broadleaved herbs typical of this habitat recorded including: Nettle *Urtica dioica*, Creeping buttercup *Ranunculus repens,* Meadow buttercup *Ranunculus acris,* Broad dock *Rumex obtusifolius,* Ragwort *Senecio jacobaea* and Dandelions *Taraxacum officinale agg.*

3.1.2 Reed / Large sedge swamp (FS1)

The marsh habitat referred to in the Tier 3 Risk Assessment was found to be dominated by Bulrush Typha latifolia, with abundant Yellow Iris *Iris pseudacorus*; this results in the classification as a reed / large sedge swamp where the overall diversity within this habitat was found to be species poor. Broad leaved herbs occurred, comprising a small percentage of the overall habitat. Additional species recorded from the swamp and its margins included Floating sweet-grass *Glyceria fluitans,* Yorkshire fog *Holcus lanatus,* Cocksfoot grass *Dactylis glomerata,* Tussock-grass *Deschampsia cespitosa,* Hard rush *Juncus inflexus,* Soft rush *Juncus effusus*, Common marsh-bedstraw *Galium palustre,* Willowherb *Epilobium sp.,* Meadowsweet *Filipendula ulmaria,* Silverweed *Potentilla anserina,* Woody nightshade *Solanum dulcamara*, Water-cress *Rorippa nastutium-aquatica,* Water horsetail *Equisetum fluviatile* (and other Equisetum species), Hemlock water-dropwort *Oenanthe crocata* and Duckweed *Lemna* spp. recorded from the small pools of open water. Alder and willow woodland was recorded from the northern portion of the swamp as described below.

The botanical community recorded from within this swamp habitat is indicative of permanent water-logging, with some standing water evident in pools, although *Lemna* sp. was found to be abundant. Water quality may present a constraint to the naturalness or diversity of flora within this habitat, however, the current community represents a wetland habitat of local ecological importance, both botanically and in relation to the wildlife value it provides (i.e. breeding birds and invertebrates).

3.1.3 Wet willow-alder-ash woodland (WN6)

The northern portion of the reed swamp wetland was found to include alder *Alnus glutinosa* with some willow *Salix* spp. This woodland was not associated with fen peat. This alder woodland would fall within the *Alnus glutinosa – Fillipendula ulmaria* association identified in the NSNW (Perrin *et al*., 2008). This wet woodland is considered to be of high local ecological importance, with cognisance of its connection with Carrownreddy Lough and the associated wetland ecological connectivity.

3.1.4 Drainage ditch (FW4)

Due east of the closed landfill site, the reed swamp was found to discharge to a land drain which flows from the swamp in a south easterly direction. However, on the day of the survey no flow was detectible in the drain due to low water levels. The substrate was found to comprise black, anoxic muds with decaying vegetation (high volume of *Lemna* sp.). A light film of hydrocarbons was evident in standing water where the swamp habitat and the drainage ditch converged. Aquatic macrophyte growth was low, with flora limited to the margins of the drain. Species recorded included Duckweed *Lemna* spp., Water-cress *Rorippa nastutium-aquatica,* Floating sweet-grass *Glyceria fluitans* and Yorkshire fog *Holcus lanatus.*

The land drain is evaluated as being of low ecological importance.

3.1.5 Treeline (WL2)

The line of the drainage ditch to the east of the reed swamp, within the agricultural grassland included a treeline dominated by Ash *Fraxinus excelsior* with some Alder *Alnus glutinosa* and Hawthorn *Crataegus monogyna*. Flora recorded from the understory included Brambles *Rubus fruticosus agg.,* Hart's-tongue Fern *Phyllitis scolopendrium,* Ivy *Hedera helix* and Dog-rose *Rosa canina agg.* This treeline was not continuous along field boundary, although treelines and hawthorns were common along field boundaries within the local context.

The treeline along the land drain is evaluated as being of local ecological importance, although it is fragmented and is not properly connected with the treeline network within the local landscape. The infilling of the surrounding fields with construction and demolition (C&D) waste has disrupted the hedgerow and treeline corridors within the local context.

3.1.6 Spoil and bare ground (ED2)

Directly north of the closed landfill compound an area of open bare ground and spoil was recorded where top-soil material, vegetation cuttings and some C&D waste had recently been dumped. This material was banked along the northern periphery of the elevated landfill, with a turning circle cleared in the centre. Some of this material was found to be slipping down the embankment to the wetland habitat surrounding the northern and eastern perimeter of the closed landfill.

This habitat was evaluated as being of low ecological importance.

3.1.7 Recolonising bare ground (ED3)

A significant portion of the lands to the north and east of the reed swamp wetland comprised recolonising bare ground, where C&D waste was becoming re-vegetated with ruderal broadleaved species. Grass cover was very low. The elevated fill material was well-compacted and it is expected that recolonisation will take a period of years.

Species recorded from within this habitat included Docks, Nettle, Willowherb, Ragwort, Thistle species, Plantain species *Plantago* spp., Lesser Burdock *Arctium minus,* Groundsel *Senecio vulgaris,* Japanese knotweed *Fallopia* japonica (limited to the southeastern corner of the closed landfill site, due south of the reed swamp habitat). Elder *Sambucus nigra,* Buddleja *Buddleja davidii,* Travellers Joy *Clematis vitalba,* Butterbur *Petasites hybridus,* Winter heliotrope *Petasites fragrans* and Brambles *Rubus fruticosus agg.*

This habitat was evaluated as being of low ecological importance.

3.2 Additional ecological observations

The swamp habitat identified along the northern and eastern boundary of the site contains a botanical community identified as compatible with the requirements of whorl snails (*Vertigo* spp.). A screening search for these species was undertaken on the site and none were recorded. It is considered that the background water quality issues at the site are having an impact on the macroinvertebrate communities (both aquatic and semi-aquatic). Given the constraints at the site, it is considered that whorl snail species are unlikely to occur, with no records of these species previously recorded from the study area.

A sweep-net sample was taken from the land drain directly below the discharge from the swamp. An EPA biotic index (Q-value) would not be applicable to this site given the size of the drain and low flow conditions present. However, it is noted that the macroinvertebrate diversity recorded were limited to taxa tolerant of pollution, as shown in Table 1. No pollution sensitive taxa were recorded.

No connection was noted between the land drain on the site and the upper reaches of the Fidaghta River, which flows to the north of the study area. The land drain from the closed landfill site was followed downstream to Rosanna Road where it was culverted below a new residential development. Upstream of the road the drain created a wide area of wet grassland and marsh habitat as shown. No open water or flow was visible in the culvert under the road. According to the EPA Envision online

mapping the surface water flows from the marsh area are within the Fidaghta River catchment. However, from onsite walkover studies undertaken by O'Callaghan Moran & Associates, it has been determined that these flows are to the Ara River catchment, which flows to the south of Tipperary town.

Table 1 Macroinvertebrates recorded during the sweep-net sampling at the land-drain due east of the Tipperary closed landfill.

Group / organism	Pollution sensitivity group	Functional group	Abundance
TRUE FLIES (Diptera)			
Family Chironomidae			
Green chironomid	C	Filtering collector	Common
Chironomous sp.	E	Filtering collector	Common
SNAILS (Mollusca, Gastropoda)			
Ramshorn Snail (Family Planorbidae)			
Planorbis sp.	C	Scraper	Present
Family Lymnaeidae			
Lymnaea peregra	D	Filtering collector	Fair numbers
MUSSELS (Mollucsa, Lamellibranchiata)			
Orb/Pea Mussels (Sphaeridae)	D	Filtering collector	Present
CRUSTACEANS (Crustacea)			
Isopoda (Family Asellidae)			
Asellus aquaticus	D	Shredder	Common
LEECHES (Hirudinae)			
Family Glossiphonidae			
Helobdella stagnalis	D	Predator	Present
TUBIFICID WORMS	D	Collector	Common

No observations or evidence of protected mammals were recorded during the site survey and it is considered unlikely that the site is important for protected species. The standing water within the swamp habitat provides suitable habitat for frogs and newts, although neither species were recorded on the day of the survey.

The invasive, non-native species Japanese knotweed *Fallopia japonica* was recorded from the south eastern corner of the closed landfill site, adjacent to the laneway. The disturbed nature of the site provides ideal habitat for the spread of this species which will require further management and control.

4 DISCUSSION

The ecological assessment of the wetland habitat at the former landfill at Tipperary town has identified the presence of reed swamp (FS1) habitat, with some wet alder / willow woodland (WN6). This habitat is evaluated as being of high local importance and is connected with the Carrownreddy Lough and associated wetlands, to the north. There is no data available on the diversity or ecological importance of this habitat or the biodiversity value of Carrownreddy Lough prior to the landfill, to provide a benchmark for the current situation at this reed swamp. However, the botanical community within this habitat is likely to maintain its diversity despite any further leachate inputs from the landfill (based on the current situation).

Water levels were found to be very low on the site during the current assessment, both in the reed swamp habitat and in the land drain, although there was evidence in the botanical community that this habitat is water-logged throughout the year.

It is considered that the surrounding lands are currently providing little dilution of leachate to the land drain which was receiving minimal flows from the swamp and was barely flowing on the day of the survey, with pooled water observed in sections downstream. The substrate of the swamp and land drain were found to be anoxic, although this is considered to be a combined function related primarily to the stagnant conditions within the low-lying swamp.

The reed swamp is considered to be providing an important function as a natural attenuation of the leachate from the former landfill, in agreement with the findings of the '*Tier 2 Detailed Site Investigation*' (OCM, 2009). This habitat will require the maintenance of a high water table or permanent standing water for its ongoing viability.

Although water quality in the reed swamp is likely to be affected by the leachate from the reed swamp, the botanical community recorded is indicative of a semi-natural habitat. More significant impacts may relate to the macroinvertebrate communities present. This reed swamp and wet woodland is considered to comprise an important habitat for breeding birds, with at least one pair of moorhens recorded on the day of the survey.

Based on the current one-off site visit during low flow conditions, the land drain on the site appeared to be affected by water quality impacts requiring further remediation measures during the Tier 3 Risk Assessment.

The proposed remediation at the landfill site will require the placement of a 0.5-1m cap across the whole of the landfill. There is the potential for these works to encroach into the reed swamp habitat at the existing toe of the landfill. Impacts affecting the reed swamp will be reduced by restricting machinery access to the top of the existing landfill and avoiding any machinery within the wetland area. There remains the potential for some disturbance at the perimeter of the existing landfill i.e. within 5-10m of the landfill margins in the west, north and east of the landfill with the potential for silt and clay run-off during the capping process. This will be mitigated against effectively using silt curtains and appropriate site fencing. Following the completion of capping the revegetation of the landfill will stabilize sediments on the banks of the landfill.

There is an overall beneficial impact to the reedbed habitat at this location arising from the proposed remediation works, where leachate and surface water runoff will be minimized by the proposed works resulting in an improvement in water quality within this water dependant habitat. There will be further downstream impacts benefiting the Ara River, in the local context. There are no impacts affecting the reedbed / wetland habitat at this site which would have any effects on the Natura 2000 site network. This semi-aquatic habitat is not designated within any Natura 2000 site and is indirectly connected to the River Suir SAC via the land drain and the Ara River, which is a tributary of the Aherlow River.

With regard to the Appropriate Assessment Screening Report (see Appendix 1) it is concluded that the proposed Tier 3 Remediation works for the former Tipperary Landfill will not result in significant impacts affecting the Natura 2000 site network, in particular the River Suir SAC. Therefore it is not considered necessary for the 'Appropriate Assessment' process to proceed to Stage 2. Impacts arising from the proposed works are evaluated as being limited to the local context and would not extend in significance to the SAC which is located approximately 16 river kilometres downstream of the landfill site. Any beneficial impacts arising from the proposed remediation works would affect the Ara River within the local context; however, it is considered that this would not have any significant positive impact on the River Suir SAC, downstream of the Ara and Aherlow Rivers.

The Japanese knotweed on the site will require a management and control strategy for inclusion in the Remediation Measures during Tier 3. The small stands present on the site would be much easier to treat and control in the short term, rather than allow the spread and colonisation of large areas of the site by this species.

REFERENCES

European Commission (2001) *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. European Commission Environment DG

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NPWS (2009) *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities*. Department of the Environment, Heritage and Local Government, Ireland.

OCM (2009) Tier 2 Detailed Site Investigation Former Landfill at Tipperary Town.

Perrin, P., Martin, J., Barron, S., O'Neill, F., McNutt, K. & Delaney, A. (2008) The National Survey of Native Woodlands 2003-2008. Volume 1: Main report. National Parks and Wildlife Service.

PLATES

Plate 1 View of the agricultural grassland to the east of the closed landfill. The swamp habitat is visible in the centre left of the image, where it meets the land drain, along the treeline (centre).

Plate 2 View of the eastern portion of the reed swamp, where it discharges to the land drain. Emergent flora within the swamp and drain were searched for whorl snails.

Plate 3 Water levels in the land drain were found to be very low, with no noticable flow.

Plate 4 View west from the elevated C&D waste spoil. The swamp habitat is visible in the centre of the image, with the elevated closed landfill in the background.

Plate 5 View north across the recolonising bare ground of the C&D waste spoil.

Plate 6 View of the drier margins of the swamp where the C&D spoil has altered the water table.

Plate 7 View of the *Typha* dominated swamp directly east of the closed landfill.

Plate 8 *Typha* dominated swamp with Alder woodland along the northern line of the closed landfill. *Juncus* was common along the interface between the drier C&D spoil and the reed swamp wetland.

Plate 9 The northern portion of the swamp, view west. Alder and willow wet woodland was recorded from within the permanent wetland habitat.

Plate 10 Limited open areas of water were noted. Duckweed was found to be abundant wherever they occurred. Moorhens were recorded from within the swamp.

Plate 11 Japanese knotweed was recorded along the road margin at the south eastern corner of the closed landfill site. It is considered that the site presents suitable habitat for the spread of this species, which will continue if unmanaged.

Plate 12 View of the old buildings and material storage on the closed landfill site.

Plate 13 A view north showing the fenced compound on the closed landfill site. The swamp habitat is located to the east (right of the image).

Plate 14 To the north of the fenced compound on the landfill there is an area of freshly dumped topsoil, construction waste and vegetation. This is piled along the embankment at the edge of the swamp habitat.

Plate 15 The dumped material was found to be unstable and slipping downslope into the swamp habitat. It is expected that suspended solids and run-off from this waste is washing down into the swamp.

Plate 16 The land drain due south of the landfill was found to be impounded. No flow was recorded from the drain downstream. Pooled water was recorded directly adjacent to the road.

Plate 17 View north from Rosanna Road. No flow was recorded from the land drain due south of the closed landfill, at Rosanna Road. The construction of new residential developments as depicted and across the road to the south are likely to have altered the flow of this drain. The wet grassland / marsh habitat visible in this image is attributed to frequent high water levels within the land drain.

Appendix 1 Appropriate Assessment Screening Report

Table A1.1 Appropriate Assessment Screening Matrix for the proposed Tier 3 remediation works at the former Tipperary Landfill, Tipperary Town

Screening matrix	
Brief description of the project or plan	The current Tier 3 remediation works proposal for the former landfill at Carrownreddy, Tipperary Town has identified the need for the placement of a 0.5-1m cap across the whole of the landfill. Currently the site has been categorised as being a Class A – High Risk site due to the risk to humans from landfill gas and also due to the potential for leachate migration. The remediation works proposed will not require dewatering or alteration of the local drainage network. The net effect of capping would be an improvement in water quality reaching the local drainage network and a reduction in leachate, as rainwater is diverted from the waste mass.
Brief description of the Natura 2000 site network	The former landfill at Tipperary Town is located within 15km of the following Natura 2000 sites: -The Lower River Shannon SAC (002165), approximately 10km due north -The Galtee Mountains SAC (000646), approximately 9km due south -Moanour Mountain (002257), approximately 6km due southwest None of these designated Natura 2000 sites are connected to the former landfill site, either geographically or via hydrological or hydrogeological connections. The former landfill site is within the River Suir catchment and a drainage channel adjacent has been found to be connected to the Ara River (and not the Fidaghta River as shown on EPA Envision mapping). The Ara River is a tributary of the Aherlow River which confluences with the River Suir. The Ara River flows to the south of Tipperary Town; within one kilometre of the former landfill site at its closest point. The Ara River meets the Aherlow River, which is designated within the River Suir SAC, approximately 15 river kilometres downstream of Tipperary Town. Therefore the River Suir SAC is the only designated Natura 2000 site with any connection to the former landfill site; with regard to the indirect connection between the site and the SAC via the Ara River.
Assessment criteria	
Describe the individual elements of the project (either alone or in combination with other plans or projects) likely to give rise to impacts on the Natura 2000 site.	The proposed Tier 3 remediation works at the former landfill site will require capping of the landfill site to minimise run-off and leachate entering the drainage network. There is potential for the proposed works to cause disturbance to the drainage regime within the former landfill site, with the associated potential for the mobilisation of settled leachate material into the drainage network during the construction phase. The mobilisation of leachate material within the land drain adjacent to the site may result in the transportation of suspended solids and leachate pollutants to the Ara River, with the further potential for the transportation of this material downstream to the Aherlow River within the SAC.

Describe any likely direct, indirect or secondary impacts of the project (either alone or in combination with other plans or projects) on the Natura 2000 site by virtue of: • size and scale; • land-take; • distance from the Natura 2000 site or key features of the site; • resource requirements (water abstraction etc.); • emissions (disposal to land, water or air); • excavation requirements; • Transportation requirements; • duration of construction, operation, decommissioning, etc.; • other.	There are no likely direct impacts of the proposed remediation works affecting the River Suir SAC, as there are no direct connections to the SAC, neither are there any land-take requirements within a designated Natura 2000 site. There are no resource requirements, emissions, excavation requirements or transportation requirements likely to give rise to direct impacts on any Natura 2000 site. There are no likely indirect or secondary impacts arising from the proposed works which may affect the Natura 2000 site network, or the River Suir SAC in particular, with regard to the size and scale of the proposed works; land take; resource requirements, excavation requirements, transportation requirements or the duration of the proposed works. Indirect impacts in relation to emissions from the proposed site to water and the distance to the River Suir Natura 2000 site are identified as being relevant. However, the distance between the site and the SAC is approximately 15 river kilometres downstream; where the connection between the site and the Ara River is via a small, low capacity land drain.
Describe any likely changes to the site arising as a result of: • reduction of habitat area: • disturbance to key species; • habitat or species fragmentation; • reduction in species density; • changes in key indicators of conservation value (water quality etc.); • climate change.	From the current assessment there are no likely changes to the River Suir SAC arising as a result of any reduction in habitat area or disturbance to key species. The proposed works do not give rise to the likelihood for habitat or species fragmentation or a reduction in species density within the SAC. There are no likely changes to the key indicators of conservation value i.e. water quality within the SAC, located 15 river kilometres downstream of the site. In fact it is considered that the proposed works will have a beneficial impact on water quality within the Ara catchment with the minimisation of leachate and run-off from the existing un-capped landfill (as identified in the Tier 2 Hydrogeological Report).
Describe any likely impacts on the Natura 2000 site as a whole in terms of: • interference with the key relationships that define the structure of the site; • interference with key relationships that define the function of the site.	The current assessment has identified that the proposed remediation works at the former Tipperary Landfill site will not have any direct, indirect or secondary / cumulative impact on the Natura 2000 site network, or the River Suir SAC in particular, with regard to interference with the key relationships defining the structure and function of the site. Furthermore there are significant beneficial impacts arising from the proposed works with regard to water quality within the undesignated Ara catchment. The area of marsh habitat adjacent to the landfill, within the study area is not designated within any Natura 2000 site and is not considered within the context of an Appropriate Assessment.
Provide indicators of significance as a result of the identification of effects set out above in terms of: • loss; • fragmentation; • disruption/disturbance; • change to key elements of the site (e.g. water quality).	The proposed remediation works at the former Tipperary Landfill site will not have any significant impacts, direct, indirect or cumulative on the River Suir SAC in terms of loss or fragmentation. There will be no significant impacts with regard to disturbance or disruption of the conservation interests and key relationships of the site. There will be no significant impacts arising which would result a change to the key elements of the site (i.e. water quality). In fact it is considered that the proposed remediation works would result in a positive impact on water quality in the Ara River downstream of the works. However, this is considered unlikely to result in any perceptible change in water quality in the River Aherlow, given the distance and dilution between the Aherlow and the landfill site.
Describe from the above those elements of the project or plan, or combination of elements, where the above impacts are likely to be	There are no impacts arising from the proposed remediation works likely to significantly affect the Natura 2000 site network. There is no potential for direct impacts on any Natura 2000 site arising from the proposed works and indirect impacts are limited to the hydrological connection between the site and the River Suir SAC. However, the connecting

significant or where the scale or magnitude of impacts is not known.	watercourses (land drain and Ara River) and the distance (approx. 15Rkm) between the site and the SAC, results in the conclusion that there will be no significant impacts arising.		
Finding of no significant effects report matrix			
Is the project or plan directly connected with or necessary to the management of the site (provide details)?	The proposed Tier 3 remediation works are not directly connected with or necessary to the management of the River Suir SAC.		
Are there other projects or plans that together with the project or plan being assessed could affect the site (provide details)?	There are no other projects or plans in the Ara River catchment, or the River Aherlow / River Suir catchment which could give rise to cumulative impacts affecting the SAC, as there are no significant impacts identified arising from the proposed works in isolation and the scale of the proposed works with respect to the Ara River are considered to be imperceptible positive, due to the minimisation of leachate and surface water run-off.		
The assessment of significance of effects			
Describe how the project or plan (alone or in combination) is likely to affect the Natura 2000 site.	The proposed Tier 3 remediation works are considered to have no significant impact on the River Suir SAC. There are imperceptible positive impacts identified for the Ara River, which is a tributary of the River Aherlow, with regard to the minimisation of leachate and surface water run-off – however this is not considered to be of a scale that would be quantified within the River Suir SAC, downstream of the confluence between these watercourses.		
Explain why these effects are not considered significant.	The small size and scale of the proposed works, combined with the limited hydrological connection to the Ara River within the River Suir catchment (Aherlow sub-catchment) is considered to be the primary limiting factor in relation to the significance of effects. The distance of the proposed works to the SAC (approximately 15 river kilometres) also results in significant river recovery and dilution within the Ara River, in the event of any downstream dispersion of leachate or polluting material. It is not considered likely that this would give rise to any significant effects within the River Suir SAC.		
Data collected to carry out the assessment			
Who carried out the assessment	*ECOFCACT Environmental Consultants Ltd., on behalf of O'Callaghan Moran and Associates*		
	Sources of data	Level of assessment completed	Where can the full results of the assessment be accessed and viewed?
	National Parks and Wildlife Service (NPWS) http://www.npws.ie	*Article 6 Screening Assessment*	The full Assessment is contained within the current document.
Overall conclusions			
The proposed Tier 3 Remediation works for the former Tipperary Landfill will not result in significant impacts affecting the Natura 2000 site network, in particular the River Suir SAC. Therefore it is not considered necessary for the 'Appropriate Assessment' process to proceed to Stage 2. Impacts arising from the proposed works are evaluated as being limited to the local context and would not extend in significance to the SAC which is located approximately 15 river kilometres downstream of the landfill site. Any beneficial impacts arising from the proposed remediation works would affect the undesignated Ara River within the local context; however, it is considered that this would not have any significant positive impact on the River Suir SAC, downstream of the confluence of the Ara River with the Aherlow River.			

References

NPWS (2009) *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities*. Department of the Environment, Heritage and Local Government, Ireland.

European Commission (2001) *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*. European Commission Environment DG