



Appendix C – Invasive Species Report

Invasive Plant Management & Herbicide Treatment Plan – Including Biosecurity Documents



Site Address: Derrinumera Landfill Newport Co. Mayo

Client: Mayo County Council - Mr Peter Gill

<u>Prepared By:</u> The Japanese Knotweed Company, Co. Kerry Doc. File Name: 011/18-01



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1. Introduction to Site

1.1 Description of the Site

This site is located at Derrinumera, Newport, Co Mayo and in the past has been an active landfill, this landfill area has now been capped and is at a monitoring stage. The recycling operation at the facility is still active, this site is accessed from the public highway R311. There is a water connectivity between this site and Beltra Lough which is within an special area of conservation (SAC). A site survey was carried out on 30/10/18 to determine the extent of non-native invasive plant present on site.

The convention on Biological Diversity defines an alien invasive species as 'an alien species which become established in natural or semi-natural ecosystems or habitats, is an agent of change and threatens native biological diversity' The terrestrial invasive plant species Gunnera, (Gunnera Tinctoria) and Himalayan Knotweed (Persicaria Wallichii) were recorded on site and a species account of each is described below:

Gunnera, is a non-native invasive plant that was first introduced to Ireland over 100 years ago as an ornamental plant. It is predominantly found in western coastal counties. Gunnera is a large herbaceous plant that forms dense colonies it can grow up to 2 metres in height. It has large leathery umbrella shaped leaves, with spikes on the back of the leaves and along the stems. The size of the leaves and their early spring emergence prevent native plants from germinating or growing due to shading. Gunnera has a large rhizome which can grow up to 2 metres in length along the ground, it can re-sprout from tiny fragments of the rhizome and can reproduce by seed, this allows the plant to spread rapidly and makes it very difficult to eradicate.

Himalayan Knotweed, is a robust rhizomatous perennial that can grow to 1.8 metres and produces loosely clustered pinkish or white flowers in late summer into early autumn. Similar to the other Knotweeds this plant was introduced as an ornamental and has become very persistent in many areas where soil movement has taken place such as construction site, roadsides, riverbanks and where there is green waste being disposed of. Himalayan knotweed is not as common in Ireland as the other knotweed species, although it is considered to be in expansive mode at present.

The western area of this site has a mature infestation of Gunnera, at some point in the past soils were removed from this area and utilised to cap the landfill area to the south east. During the soil removal process the Gunnera was unwittingly spread throughout the site. All of the Gunnera that has been located at the south east of the site is young in nature, should this non-native invasive plant be left untreated it has the capacity to rapidly colonise this site.

Approximately 200m2 of Himalayan Knotweed was located in 3 separate locations to the north of this site, the condition of the crown material of the plant suggests that this Himalayan Knotweed is over 4 years old.

1.2 Site management objectives

The site objectives relevant to this management plan are to gain control and manage the infestations of Gunnera and Himalayan Knotweed that are present on this site by means of a 4 year weed wipe and herbicide injection programme and to ensure that they pose no further threat to this site as a whole and to the biodiversity of the surrounding environments. This is to be followed by an ongoing monitoring programme.



1.3 Limitations and threats to management objectives

Each Gunnera plant produces a seed pod which sheds its seeds in mid June, these seeds are viable and can lay dormant in the surrounding soils for approximately 3 years, herbicide treatment of this plant needs to take place in late May to early June time. The largest of the seed pods will need to be removed in conjunction with the planned herbicide treatment programme. A threat will be posed to the management objectives of this plan if the Gunnera is treated later than mid June and the seed pods let shed their seeds.

1.4 Inventory of the Site

This site contains built structures, car park areas, playgrounds and sports fields. A hardstanding area is located to the south entrance to the school

1.5 Legislative Framework

At an international level Ireland has signed up to a number of treaties and conventions, including the **Convention on Biological Diversity.** Such treaties and conventions require the Irish Government to address issues of invasive alien species. This has been implemented through the **Wildlife Act 1976** and 2000 and further regulated through the **European Communities (Birds and Natural Habitats)** Regulations 2011 (SI 477 of 2011)

Regulation 49

'a person shall be guilty of an offence if they: plant; disperse; allow or cause to disperse; spread or cause to grow the plant in the Republic of Ireland'. The list of species in the Third Schedule includes Japanese Knotweed, Himalayan Knotweed, Giant Knotweed & Gunnera

Regulation 50

'an offence to or intend to; import; buy; sell; breed; reproduce or propagate; offer or expose for sale; advertise; publish a price list; transport; and distribute any plant species or vector material listed in the Third Schedule'.

Non-native species subject to restrictions under Regulations 49 and 50 are included in the third schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I 477 of 2011. The invasive species listed in the Third Schedule include: Japanese Knotweed, Giant Knotweed, Gunnera, Himalayan Balsam, Himalayan Knotweed, Bohemian Knotweed and Rhododendron.

The vector material (i.e. facilitates spread), referred to in the regulations (Third Schedule Part 3) which applies to Knotweed species is:

"Soil or spoil taken from places infested with Japanese Knotweed, Himalayan Knotweed, Giant Knotweed, Hybrid Bohemian Knotweed and Gunnera

The Waste Management Act 1996, as amended and associated regulations must be complied with if Himalayan Knotweed & Gunnera contaminated material is to be moved off site.

It is a requirement to dispose of this material to a fully licenced wasted facility, capable of accepting such contaminated material. This disposal requirement applies to all Knotweed & Gunnera material including untreated and treated plant material. It also applies to soil containing the plant material, i.e. a 7m radius around the above ground stand and up to 3m deep below the stand, this is site specific.



If Knotweed & Gunnera contaminated material is removed off site it will require a **licence from the National Parks and Wildlife Service** in advance of any removal, in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477)

1.6 Guidance Documents

The following guidance documents and literature sources were consulted during the preparation of this report:

- National Roads Authority NRA (2010). *Guidelines on management of noxious weeds and non-native invasive plant species on national roads.*
- Crushell, P., Foss P., Hurley C. & O' Loughlin B. (2011). *County Kerry Invasive Species Survey* 2011 – Pilot Mapping Study of the River Lee Catchment, Tralee. Report prepared for Kerry County Council and The Heritage Council
- Environmental Agency (UK) (2013). The Knotweed Code of Practice: Managing Japanese Knotweed on Development Sites (Version 3, amended in 2013
- Stokes, K., O' Neill K., & McDonald R.A. (2004) Invasive Species in Ireland Unpublished Report
- NPWS (2011) Actions for Biodiversity 2011-2016, Irelands second National Biodiversity Plan. Department of Arts Heritage and the Gaeltacht.
- Department of Environment (2013). An invasive alien Species Strategy for Northern Ireland. <u>www.doeni.gov.uk</u>
- Irish Water Report. Information and Guidance Document on Japanese Knotweed Asset Strategy and Sustainability

1.7 Invasive Species

The convention on Biological Diversity defines an alien invasive species as 'an alien species which become established in natural or semi-natural ecosystems or habitats, is an agent of change and threatens native biological diversity' The terrestrial invasive plant species Gunnera & Himalayan Knotweed was recorded on the Derrinumera Landfill Site, Newport, Co Mayo

2. Overview of Management plan

2.1 Brief description of management plan

All factors specific to this site have been taken into consideration and a 4 year herbicide treatment programme consisting of a weed wipe and herbicide injection is the most appropriate treatment option for these infestations. On completion of this 4 year herbicide treatment programme an ongoing monitoring programme will need to be undertaken

Please note: Management records and biosecurity records to be updated on a daily basis and attached to the management plan, all records to be signed and dated.

2.2 Setting Priorities

No further earth works should take place on this site due to the high level of infestation that is present, should earthworks be required it is recommended that a certified surveyor in non-native invasive plant materials is present to oversee such works to ensure that all required biosecurity measures are implemented. Signage should be erected highlighting the presence of these non-native invasive plants and all personnel involved in the daily operations of this landfill should be made aware of the threats associated in dealing with non-native invasive plants.

Please note: Management records and biosecurity records to be updated on a daily basis and attached to the management plan, all records to be signed and dated.



2.3 Preventing further spread – High priority

Ensure all site users are aware of invasive species, management plan and planned treatment methodologies, this can be achieved through tool-box talks before work begins on the site. Foot baths will need to be provided for personnel who will have access to these infested areas, it is important that these footbaths are utilised to prevent further spread on site.

All herbicide personnel will be trained through City & Guilds and will have their unique candidate number with them at all times on site.

3. Specific controls plans for Invasive Plants

3.1 Management Objectives

The certified surveyor will be responsible for ensuring that this management plan is implemented on site. The certified surveyor on the completion of the 4 year herbicide treatment programme will furnish a completed management plan attaching all relevant documentation and updates for transparency.

3.2 Management Preferred Options specific to this site

- 4 year herbicide treatment programme with a subsequent ongoing monitoring programme
- Certified surveyor to oversee all planned soils works on this site
- Erection of signage

These options were chosen as the most sustainable both environmentally & economically

3.3 Biosecurity Measures & Site Hygiene Practices

- Tool box talk on invasive plant material to be provided to all relevant personnel involved in the works being undertaken at this site
- No unauthorised personnel to be admitted within the infested areas
- On site foot baths to be provided as footwear acts as a vector for the spread of invasive plants
- All machinery being brought to site must be inspected for any soils that may contain invasive plant material before being allowed to enter this landfill site

Please note: Management records and biosecurity records to be updated on a daily basis and attached to the management plan, all records to be signed and dated.

3.4 Actions Planned

All works will be carried out in accordance with this management plan, should this management plan need to be amended due to any unforeseen constraints, these changes must be documented, dated and signed by a certified surveyor of invasive plants.

Records of all inductions and biosecurity checks must be documented and attached to this management plan for transparency.

Clear signage must be erected throughout the site warning of the dangers of cross-contamination that are posed by the non-native invasive plants Himalayan Knotweed & Gunnera that are present on this site.



3.5 How actions will be evaluated

The certified surveyor will conduct monitoring prior to any works being carried out to act as a baseline for future monitoring. Recording sheets will document any further visits and action taken.

3.6 Resources required to design & create management plan

• Site survey carried out 30/10/18

3.7 Results of evaluations

Site inspection forms contained within the appendix, this activity is carried out during the process. An audit trail shall be part of the completion package.

4. Summary of Information

Table 1	Priority Areas	Risk
Gunnera & Himalayan Knotweed	Site as a whole	High Risk to surrounding environment

Table 2	Control Methods	Risk			
Gunnera	Herbicide Treatment	High Risk			
Himalayan Knotweed	Herbicide Treatment	Medium Risk			

It is estimated that Year 1 Herbicide Treatment will require 4 certified technicians approximately 10 days to carry out the herbicide application process

Table 3	Implementation Schedule
Phase 1: Initial site survey	Completed on 30/10/18
Phase 2: Management Plan	Completed 06/11/18
Phase 3: Year 1 Herbicide Treatment 2019	
Phase 4: Year 2 Herbicide Treatment 2020	To be confirmed
Phase 5: Year 3 Herbicide Treatment 2021	To be confirmed
Phase 6: Year 4 Herbicide Treatment 2022	To be confirmed
Phase 7: Implementation of ongoing monitoring	To be confirmed
programme	
Phase 8: All recording sheets & documentation	
to be attached to this management plan	All attachments to be added on completion



Appendix A

Daily Onsite Biosecurity & Management Forms

Date:		
Inspected by:	Initial:	Sign:
Site:		
Client:		

Transport routes free of soils (debris	Yes	No	Comment
	Still in place	Damaged/Removed	Comment
Fencing			
	Still in place	Damaged/Removed	Comment
Clear Signage			
	Yes	No	Comment
Clean Zones Inspected			
All Machinery/Plant inspected			
Have any vehicles left or entered the site ?			
Is the site secure?			
Notes/Comments			



A new form is to be used on each working day – it must be signed and dated by the appointed certified surveyor – it must be attached to the management plan at all times for transparency

Appendix B: Site Herbicide Record Sheet

Date:			
Inspected by:	Initial:	Sign:	
Site:			
Client:			

Dose of Product	Volume Applied	Product Quantity	Total area Treated	Start Time	Finish Time

Names / Certificate Nos of Other Operators							

	PPE	WORN
Gloves		
Boots		
Coverall		
Apron		
Face Shield		
Hard Hat		
Respirator		

Notes: Harvest interval, exclusion period, problems, equipment faults/repairs, notification of neighbour	Wind Direction	N	NE	E	SE	s	sw	w	NW
Technicians need to be fully qualified in PA1, PA6, PA6 AW & PA6 ING –	Wind Speed	Nil Cold		Light		Mo	derate	Strong	
Must also be a registered pesticide user Registered Pesticide Number 	Temperature			Cool		Warm		Hot	
Sigiled Dy	COSHH Sheets Present	Y	'es				No		
	Warning signs in place	Y	es				No		



This form is to be used on each separate site visit and herbicide treatment – it must be attached to the management plan at all times for transparency

Hazard	Source	Pathway	Receptor	Risk	Abatement Measures
Japanese Knotweed & Infested soils	Excavation of trenches	Ground	Cross contamination onsite		All infested areas on infestation are to be fenced off 7 m from the nearest stems using high visibility fencing; signs will be displayed notifying all workers on site of the presence of invasive weeds. All infested soils to be contained within identified holding area. All machinery to be cleaned before moving to a different area.
Particulates	Plant & Machinery	Air	Residents - site staff		Ensure vehicles and plant in good operating condition.
Spillage's of oils & fuels	Plant & Machinery	Ground	Ground Water		Bulk Fuels to be contained within a bunded fuel tank. Vehicles to be inspected for leaks. Ensure vehicles & plant in good operation condition. Provide spillage control equipment.
Noise	Plant & Machinery	Air	Residents – site staff		Ensure vehicles and plant in good operation with silencers. Locate plant to minimise effect. Use plant at appropriate time.
Mud & Debris	Plant & Machinery	Ground	Public roadway - residents		All machinery shall be cleaned before leaving site. If required provide wheel wash facilities. If required provide road sweeper.
Dust	Plant Movement	Air	Adjoining land Residents Site staff		Spray water during dry spells. Deploy water bowser. Employ road sweeper to damp down roads.

Appendix C: Environmental Risk Assessment Classifications – Extreme – High – Medium – Low Risk – No Risk



Dated:

Signed:

This form is to be used on each separate site visit and herbicide treatment – it must be attached to the management plan at all times for transparency

Appendix D: Control of Substances Hazardous to Health Assessment

Substance/Contaminant/Chemical : Herbicides

A ativity /		Llanarda	:	Whe / Whet		nitia	1	Re:			Control Managero Specified		Residual Risk Rating		
Element		contact v	vith	Risk		aun	5	Control Mi	easures specified			ating			
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Describer		Eyes		Operatives				Training/ Awareness o	f the task, the equipment						
Decanting								and the chemicals invo	Dived must be given to						
		Skin		Other site					ins system.						
Spraying				personnel				Attention must be dra	wn and information must be						
								given and readily available for refresher reasons							
-		Air passa	ige			on the effects of this chemical;									
		ways		Members of				How to store	re it safely						
Storage				the public				How to dec	ant it safely						
				-				How to use	eit						
		Digestiv	/e					What to do	in case someone has been						
Transport		Systen	า					affected by it							
				Other				First Aid							
Other		Other							<u></u>						
Other		Other						Eyes – flush immediately with water for about 15 mins. If the irritation persists seek medical advice							
Notes:															
	Notes Notes Skin – Remove affected clothing and wash the														
Notes Note		Notes				underlying skin with co	opious amounts of soap and								
								water. If the irritation persists seek medical advice							
								Swallowing – Seek me	dical aid immediately and						
								Data Sheet) with you	ormation (waterial salety						
L = Likelih	nood		1=	Improbable, 2	= U	nlik	ely	3 = Likely, 4 = Ver	y Likely, 5 = Certain	<u> </u>					
C = Conse	niier		1 =	Injury no lost t	ime		2	= Minor injury less t	than 3 days $3 = Iniur$	v m	ore				
e conse	quei		tha	an 3 lost days	e	,	4 =	= Maior Iniury	5 = Fatality	,	0.0				
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Date of Assessment: Name of Assessor:															
Review Dat	e:							Reviewed By:							



This form is to be used on each separate site visit and herbicide treatment – it must be attached to the management plan at all times for transparency

Appendix E – Site Map





All information relevant to this management plan will be attached on an ongoing basis for the duration of the trenching works and the herbicide treatment programme as outlined in this



document, until all risk areas identified have been treated under the supervision of a certified surveyor. All monitoring and results of evaluations to be fully documented and recorded with photographs to be attached to the management plan.

Kieren O' Shea – 06/11/18

Certified Surveyor – The Japanese Knotweed Company





Appendix D – Site Investigation Data



Project Project No. Project No. Do-ords: 504589.00 - 794070.00 DB222 Justice BiBS3 Level: BiBS3 Level: BiBS3 Loged Location: Deriniumera Landfill, Co. Mayo Dimensions Dispit Scales Logged 3 # Standers & BiBlin Tetring Depth Loged Array BiBs3 Logged 3 # Standers & BiBlin Tetring Optim Depth Scales Logged 3 # Standers & BiBlin Tetring Optim Depth Scales Logged 3 # Standers & BiBlin Tetring Optim Events BiBlin Tetring BiBlin Tetring Depth Scales Depth 0 .50 HVP-50 0.30 Optim Events BiBlin Tetring BiB										TrialPit N TP 0 ²	No 1	
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				Duci	4 N/-		0	Sheet 1 of	f 1
Project Name:	Derrinume	era Landi	fill ICW	Proj B18	ECT NO. 53		Co-ords: 504704.00 - 794068.00		2
	D i			010	00		Dimensions	Scale	
Location	Derrinume	era Landi	III, Co. Mayo				(m):	1:25	
Client:	Mayo Cou	inty Cour	ncil				3.00	Logged AF	
Water Strike	Samp	oles & In Si	tu Testing	Depth (m)	Level (m)	Legend	Stratum Description		
Remarks	2.80	B	neress at 2 5m bol	2.50 3.00 3.00	Samule	dife site site site site site site site sit	Brownish-black fibrous PEAT with some pieces of Loose to medium dense pinkish brown dense ver gravelly slightly silty clayey SAND with occasiona rounded to angular cobbles TP ends due to the side collapsing at 1.2m bgl End of Pit at 3.00m	y slightly I sub-	1
Stability.	TP Unsta		.g. 000 at 2.011 by					AGS	S
Stability.									œ٦.

BYRNELOOBY Trial Pit Log								
Project				Proi	ect No.		Co-ords: 504674.00 - 794091.00	Date
Name:	Derrinume	era Land	Ifill ICW	B18	53		Level:	08/08/2022
Location	: Derrinume	era Land	lfill, Co. Mayo				Dimensions	Scale
Client:	Mayo Cou	inty Cou	ncil				Depth	Logged
	Sam	oles & In S	Situ Testing				2.90	AF
Wate Strike	Depth	Туре	Results	Depth (m)	Level (m)	Legend	Stratum Description	
	1.30	В		1.10		shlee shle shlee shle shlee shle shlee shle shlee shle shlee shlee shlee shlee shlee shlee shle shlee shlee shle shlee s	Brownish-black fibrous PEAT with some pieces of Loose to medium dense pinkish brown dense ve gravelly slightly silty clayey SAND with occasion rounded to angular cobbles	of timber. 1 ry slightly al sub- 2 2 3 3 - 4 -
								5 -
Remarks	S: Moderate	e water i	ngress at 1.1m bg	I. B Bulk	Sample,	HVP Insit	tu Vane Test	AGS
Stability:	IP Unsta	able						

R	VDN			V		Т	rial Pit Log	TrialPit No TP 07)
	IIXI			I			lai i it Log	Sheet 1 of	1
Project	D.			Proj	ect No.		Co-ords: 504604.00 - 794094.00	Date	
Name:	Derrinun	nera Land		B18	53		Level:	08/08/2022	2
Locatio	n: Derrinun	nera Land	fill, Co. Mayo				Dimensions	Scale	
Client [.]	Mayo Co	ounty Cou	ncil				Depth	Logged	
	Sa	mples & In S	itu Testina				2.30	AF	
Wate Strike	Depth	Туре	Results	Depth (m)	Level (m)	Legend	Stratum Description		
Remark	1.70 s: Heavy	B	ess at 0.8m bdl.	0.80 2.30 2.30	nole. HV	e sile sile sile sile e sile	Loose to medium dense pinkish brown dense ver gravelly slightly silty clayey SAND with occasions rounded to angular cobbles	y slightly I sub- 1 3 3	4
			ess at 0.011 byl.		ייטיפ, חע	า การแน \		AGS	5
Stability	/: TP Uns	table							

BURNELICOOR Irial Pit Log The 8 Sheet 1 of 1 Project No. 128 Project No. Name Derive No. 128 Co-ords: 504600.00 - 794075.00 (N) Date 000802022 Location: Derinnumera Landfill (Co. Mayo Derive No. 128 Sheet 1 of 1 2.30 Cilent: Mayo Courtly Courcil Depth 2.30 Statum Description Will Payo Results Depth 2.30 Statum Description Will Payo Results Option Statum Description Will Payo Results Option Statum Description 120 B 0.45 Statum Description Image: Statum Description 120 B 1.00 Statum Description Image: Statum Description 120 B 1.00 Image: Statum Description Image: Statum Description 120 B 1.00 Image: Statum Description Image: Statum Description 120 B 1.00 Image: Statum Description Image: Statum Description 120 B 1.00 Image: Statum Description Image: Statum Description 120 B 1.00 Image: Statum Description Image: Statum Description 120 B 2.30 Image: Statum Description Image: Statum Description 120 B 2.30 Image:									TrialPit No
Orgination Derringent Landfill (CW Project No. B1853 Co-ords:: 504500.00 - 784075.00 Date 001082022 Location: Derringence A In Shin Testing Toron Orgination Shine Shine Testing Toron Scale 125 Scale 125 Big Big Statum Discription Scale 125 Scale 125 Scale 125 Scale 125 Big Big Statum Discription Scale 125 Scale 125 Scale 125 Scale 125 Big Big Depth Tyre Results Date 0010 Statum Discription Scale 125 Big Big Depth Tyre Results Date 0014 Date 125 Scale 125 Scale 125 Scale 125 100 Big Intervention Big Intervention Scale 120 Scale 120 Loss is demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale to demose light graphic brown nery slightly scale of the scale of the scale to demose light	B	YKN	1FT(JOR.	Υ			rial Pit Log	TP 08
Project No. Do-ordis: 50450.000-794075.00 UD002/2022 Location: Derrinumera Landfill ICW 91553 Lovel: 00002/2022 Location: Derrinumera Landfill, Co. Mayo Citent: Mayo County Council Citent: Mayo County Council Samples A In Stat Testing Opeth Depth Depth Depth Depth County Counce I Depth Depth County Counce I Depth County Counce I Depth Depth County Counce I Depth Depth County Counce I Depth County Counce								_	Sheet 1 of 1
Remarke: Moderate water ingress at 0.5m big. B Bulk Sample, HVP Institu Vane Test	Project Name [.]	Derrinum	nera Landfil	II ICW	Proj	ect No.		Co-ords: 504500.00 - 794075.00	Date
Cootent: Mayo County Count 125 Dient: Mayo County Count Dorph Longed Big di Dorph Type Result Dorph Longed Big di Dorph Type Result Dorph Longed 1.00 B D.45 Andread Andread Andread 1.00 B D.20 Andread Andread Andread 1.00 B					БІО	53		Level.	Scale
Clent: Mayo County County County County Logged Logged Logged 39 00 100 nh 1ype Stantows & In Star Period 1ype Pooch 1ype Pooch 1ype Doph 1ype Stantows & In Star Period Pooch	Locatio	n: Derrinum	nera Landfil	ll, Co. Mayo				(m):	1:25
Based Samples A IN-UTating Degin Legend Strutum Description Image: Imag	Client:	Mayo Co	ounty Cound	cil				Depth 2.30	Logged AF
Image: Constraint of the second sec	Water Strike	San Depth	nples & In Situ	u Testing Results	Depth (m)	Level (m)	Legend	Stratum Description	
Stability: TP Unstable AGS	Remark	1.00 1.70	B B	gress at 0.5m bo	0.45 1.20 2.30 2.30	Sample.	HVP Insi	Brownish-black fibrous PEAT with some pieces of Loose to medium dense light greyish brown very sandy slightly clayey SAND with some occasional of timber Loose to dense pinkish brown dense very slightly slightly silty clayey SAND with occasional sub-rou angular cobbles TP ends due to the side collapsing at 1.2m bgl End of Pit at 2.30m	timber. slightly pieces 1 - gravelly inded to 2 - 3 - 4 - 5 -
	Stabilitv	y: TP Uns	table						AGS

								TrialPit No
B.	YRN	IEL	<u>OOR</u>	Y		Ir	rial Pit Log	TP 09
								Sheet 1 of 1
Project Name:	Derrinum	era Lanc	Ifill ICW	Proj	ect No. 53		Co-ords: 504489.00 - 794154.00	Date
Location				010	00		Dimensions	Scale
Location			IIII, CO. Mayo				(m):	1:25
Client:	Mayo Co	unty Cou	incil	1	1	,	0.75	AF
Water Strike	Sam Depth	ples & In S	Situ Testing Results	Depth (m)	Level (m)	Legend	Stratum Description	
						ગોદ ગોદ ગો ક ગોદ ગોદ ગોદ ગોદ ગોદ	Brownish-black fibrous PEAT with some pieces of	timber.
	0.40	В		0.30		shte shte sh	Loose to medium dense light greyish brown very s sandy slightly clayey SAND with occasional sub-ro to angular cobbles	lightly ounded
				0.75 0.75			TP ends due to hard digging on possible bedrock End of Pit at 0.75m	
								1 -
								2 -
								3 -
								4 -
								5 -
Remark	s: slight wa	ater ingre	ess at 0.3m bgl. B	I Bulk Sam	ple, HVP	' Insitu Va	ne Test	AGS
Stability	: TP Stab	le						

B	Y	RN	EL	OOB	1		Tr	rial Pit Log]	TrialPit TP 1	No 0
								`	-	Sheet 1	of 1
Project	t C	Derrinume	ra Land	fill ICW	Proj	ect No.		Co-ords: 504443.00 - 79	94044.00	Date	
Name.					B18	53		Level:		09/08/20 Scale	022 a
Locatio	on: D	Derrinume	ra Land	fill, Co. Mayo				(m):		1:25	
Client:	N	layo Cou	nty Cou	ncil				Depth 1.75		Logge AF	ed
ike		Samp	les & In S	itu Testing	Depth	Level	Logond	Strotu	n Description		
Wa Str	0	Depth	Туре	Results	(m)	(m)	Legenu	Suatu	II Description		
		1.40	В		1.20		sure sure sure s sure	Loose to medium dense lig sandy slightly clayey SAN to angular cobbles	all with some pieces of ght greyish brown very s D with occasional sub-rook of Pit at 1.75m	lightly bunded	2
Remar	ks:	Heavy wa	ater ingr	ess at 1.2m bgl. B	Bulk Sar	nple, HV	P Insitu V	ane Test			
Stabilit	y:	TP Unsta	ble								55





Appendix E – Drawings

Е



NOTES: VESI ENVIRONMENTAL LTD. COPY BE REPRODUCED FOR ANY PURP INTENDED FOR THE PURPOSE FO LEGEND: SITE BOU DIVER 100	(RIGHT 2022. THIS DRAWING OR OSE WITHOUT WRITTEN PERMIS R WHICH IT IS PREPARED. JNDARY (TBC)	ITS CONTENTS MUST NOT ISION. IT IS ONLY
PROPOS	ATERBODIES ED PIPEWORK	SED CELL -
CONTOU DRONE S	ACCESS RS PRODUCED FRO SURVEY 5 MARCH 20	S PATH
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DR	AFT #· #	F
DATE	: <u>19-05-2022</u> VN: <u>ROS</u>	G
SCALE 1:2,500 50	0 50 NGTHS ARE IN METRES	100
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CONSULTANT: VIENE ISD EURO BUSINESS LITTLE ISLAND, CORK T: +353 21 452 4632 E: INFO@VESIENVIRC W: WWW.VESIENVIRC	BYRN PARK 3, IRELAND. D.COM D.COM	ELOOBY
CLIENT: MAYO COUNTY COUNC Comhairle Conta Mayo County Co PROJECT:	CIL ae Mhaigh Eo buncil	
TITLE: PROPOSED ICW LOC	LL, CU .MAYO	
SCALE AT A1:DA1:2500M/PROJECT NO:DR2145221	TE: DRAWN: AR 2022 ROS AWING NO: 452_2_02	CHECKED: AC REVISION: A
	10	



PLAN TRIAL PIT PLAN LAYOUT 1:1000 SCALE

- GENERAL NOTES DO NOT SCALE OFF DRAWING.
- ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
- ALL LEVELS IN METRES (MALIN HEAD) UNLESS OTHERWISE NOTED.
- 4. COORDINATES SYSTEM ITM



S	S.I COORDINATES									
Value	Position X	Position Y								
TP01	504589.000	794070.000								
TP02	504690.000	794005.000								
TP03	504496.000	793965.000								
TP04	504603.000	793953.000								
TP05	504704.000	794068.000								
TP06	504674.000	794091.000								
TP07	504604.000	794094.000								
TP08	504500.000	794075.000								
TP09	504489.000	794154.000								
TP10	504443.000	794044.000								

00 13/03 FOR REVIEW Description Rev Date

BYRNELOOBY AN **QYESQ** COMPANY

AIMRJBByChkApp

CLIENT MAYO COUNTY COUNCIL

PROJECT DERRINUMERA LANDFILL ICW Co. MAYO

DRAWING TITLE SITE INVESTIGATION

STATUS FOR REVIEW				
Date: 13/03/23	Scale: AS NOTED	Drawn: Al	Chk: MR	App: JB
Project No: B1853	Drg. No: B1853-1000			Rev: 00