CHURCHTOWN WASTE LICENCE REVIEW

Non Technical Summary

94-NI-RWM-IBR1455
Final
19 February 2024

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
Final	Licence Review	AMG	AMG	DD	19/02/2023

Approval for issue

Donal Doyle	19 February 2024

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1 NON-TECHNICAL SUMMARY

1.1 Background and Nature of the Activity

Donegal County Council holds Waste Licence ref. W0062-02 for Churchtown Landfill Site. The site closed on 31st August 2000. The landfill facility at Churchtown occupies an area of approximately 9.7 hectares in the townland of Churchtown, near Lifford, Co. Donegal.

The site is located approximately 3km south west of Lifford and bordered to the northwest by the N15, the main Lifford to Ballybofey Road. The ground to the northeast and southwest of the site is the low lying and gently undulating flood plain of the River Finn, both areas being used for grazing. The southeastern boundary is formed by the River Finn. Site Location and Layout are shown on Drawings IBR1455/100 and IBR1455/103. The National Grid Reference for the facility is 230985E 395986N.

A willow bed and an Integrated Constructed Wetland (ICW) has recently been installed on top of the landfill. This waste licence review is required to provide for authorisation of discharge of treated leachate to the River Finn.

The site is located within Donegal County Council planning authority and the activity constitutes development but is exempted development. An Environmental Impact Assessment (EIS) has not been prepared in support of this application. A Natura Impact Statement has been prepared and this document is contained as appendices to this application. The site is closed and therefore no wastes will be treated, recovered or disposed of at the facility.

1.2 Class of Activity

The classes of activity concerned are specified in the Third Schedule of the Waste Management Act, 1996, as amended:-

Third schedule of waste management acts 1996 to 2011 disposal operations

D01 Deposit into or on to land (e.g. landfill, etc.)

D04 Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.)

D015 Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage (being preliminary storage according to the definition of ‘collection’ in section 5(1)), pending collection, on the site where the waste is produced).

1.3 Plant, Methods, Processes, Ancillary Processes, Abatement, Recovery and Treatment Systems and Operating Procedures for the Activity

The site is an unlined site historically operated on a dilute and disperses principal, whereby solid waste was tipped directly onto the underlying excavated surface with leachate allowed to percolate directly through the soils with no engineered liner installed. Landfilling began in 1987 and the site ceased operations on the 31st of August 2000.

A willow bed and an ICW have been installed on top of the landfill. Extracted leachate is pumped to the willow plantation before discharge to surface water. If treated leachate levels are unacceptably elevated, the leachate is pumped into the nearest pumping station chamber to be treated further by circulating via the willow/ICW’s before discharging to surface water. The Willow plantation is supplied with leachate on a timed basis. A number of factors dictate leachate treatment and application rates within the Willow Plantation and are as follows:

1.Precipitation

2.Temperature

3.Visual inspection manual intervention.

Flow of leachate to ICW’s is controlled on the pumping main with an actuated valve within a precast concrete chamber along with flow measurements via flow meter. Flow of leachate to ICW’s is via a weir chamber and

flow split on a 60 / 40 percentage basis relative to their areas (approx. 60% to A series pond and remaining 40% to B series ponds).

Where leachate is available over and above the treatment capacity of the willow plantation (either through seasonal increases in leachate generation, wet/frosty weather conditions or manual operator intervention) leachate can be diverted to the ICWs as a secondary alternative. The system also allow the site operator to intervene and permit periodic irrigation of the ICWs when sufficient leachate is available during dry weather which would ordinarily be applied to the willow plantation in order to maintain the ICWs.

1.4 Provide Information For The Purpose Of Enabling The Matters Specified In Paragraphs (a) to (g) Of Section 40(4) Of The Act

(a) any emissions from the recovery or disposal activity in question (‘‘the activity concerned’’) will not result in the contravention of any relevant standard, including any standard for an environmental medium, or any relevant emission limit value, prescribed under any other enactment,

Donegal County Council will operate the facility to comply with emission standards and limits set out in the Waste licence were applicable.

(b) the activity concerned, carried on in accordance with such conditions as may be attached to the licence, will not cause environmental pollution,

The site is unlined but has been restored with a cap and leachate treatment system (willow and ICW) installed. The facility will be operated to ensure that the operations post restoration will not cause any environmental harm.

(c) the best available technology not entailing excessive costs will be used to prevent or eliminate or, where that is not practicable, to limit, abate or reduce an emission from the activity concerned,

The site is unlined but has been restored with a cap and leachate treatment system. Donegal County Council will employ BAT to limit, abate or reduce an emission from the activity concerned,

(d) if the applicant is not a local authority, the corporation of a borough that is not a county borough, or the council of an urban district, subject to subsection (8), he or she is a fit and proper person to hold a waste licence,

Donegal County Council is a local authority.

(e) the applicant has complied with any requirements under section 53

As a Local Authority, Donegal County Council is fully committed to the on-going investment as required by this facility to ensure that it is properly managed environmentally.

1.5 Source, Location, Nature, Composition, Quantity, Level And Rate Of Emissions Arising From The Activity And, Where Relevant, The Period Or Periods During Which Such Emissions Are Made Or Are To Be Made

The primary treatment option for the extracted leachate is to the willow plantation. Leachate is pumped to the willow plantation before discharge to surface water. If treated leachate levels are unacceptably elevated, the leachate is treated further by circulating via the willow plantation and/or constructed wetlands before discharging to surface water.

There are two discharge outlets from the Willow plantation (D1 and D3) and two discharge outlets from the ICW (D2 and D4). The proposed revised emission limit values (ELVs) are provided in Table 1 1.

Table 1-1 Existing and Proposed Emission Limit Values

Parameter	Emission Limit Value	Proposed Emission Limit Value
	Existing	Proposed
Temperature	25 ^{O}C (Max	25 ^{O}C (Max
pH	6-9	6-9

Parameter	Emission Limit Value	Proposed Emission Limit Value
BOD	25 mg/l	25 mg/l
COD	125 mg/l	125 mg/l
Suspended Solids	25 mg/l	25 mg/l
Ammonia (as N)	3 mg/l	3 mg/l
Orthophosphate (as P)	2 mg/l	2 mg/l
Phenols	46 µg/l	46 µg/l
Cadmium	0.08 µg/l	2.4 µg/l
Chromium	50 µg/l	100 µg/l
Copper	5 µg/l	125 µg/l
Lead	1.2 µg/l	30 µg/l
Zinc	8 µg/l	200 µg/l
Nickel	4 µg/l	100 µg/l
Mercury	0.07 µg/l	2 µg/l

The discharge rates from the willow and ICW systems will be variable depending on the volumes to be treated and on climatic conditions. With higher rates of discharge during the winter months and reduced or no discharges during the summer months.

1.6 Assessment Of The Effects, Of Any Existing Or Proposed Emissions On The Environment, Including Any Environmental Medium Other Than That Into Which The Emissions Are, Or Are To Be, Made, And Of Proposed Measures To Prevent Or Eliminate Or, Where That Is Not Practicable, To Limit Or Abate Such Emissions

A screening exercise was completed in Section 4 of the Natura Impact Statement (NIS) report to determine whether or not Likely Significant Effects on any European site could be discounted as a result of the proposed development. From the findings of the screening stage exercise, the possibility of likely significant water quality and habitat deterioration effects could not be discounted for River Finn SAC/Foyle and Tributaries SAC and Lough Foyle SPA should the ELVs for metals be increased as is proposed in the waste licence review. The conservation objectives of the sites concerned were therefore evaluated and analysed as part of the assessment and production of the NIS. The assessment concludes that no adverse effect upon the integrity of any European site will occur in the presence of the correct monitoring and treatment procedures to ensure the proposed ELVs in the waste licence review are achieved. The likely impacts that will arise from the discharge to the River Finn have been examined in the context of a number of factors that could potentially affect the integrity of the connected European sites. The main risk is associated with the water quality in the River Finn, which is designated as an SAC (River Finn SAC IE0002301 and the Foyle and Tributaries SAC). Water quality is considered as one of the key indicators of the conservation status of this site. The landfill leachate management system and the proposed ELVs will ensure the water quality in the River Finn will not be compromised and will not prevent the achievement of the conditions required to maintain the key qualifying features of the SACs/SPA at favourable conservation status or where relevant prevent the restoration of the conservation status to favourable condition. The proposed ELVs will also ensure the landfill leachate management system will not prevent the achievement of the assigned WFD objectives for the Finn River waterbody, i.e., good ecological status. The mass balance assessment indicates that the ELVs proposed for the heavy metals in the discharge under the licence review will not have an impact on the River Finn SAC/Foyle and Tributaries SAC, and as such will not impact other downstream European sites, the Lough Foyle SPA which have a direct hydrological connectivity with the River Finn.

On the basis of these findings, it is concluded that the proposed discharge:

(i) is not directly connected with or necessary to the management of a Natura 2000 site

and

(ii) will not have significant effects on the conservation objectives of the qualifying habitats and species of the River Finn SAC/Foyle and Tributaries SAC provided proposed discharge ELVs are adhered to.

1.7 Monitoring And Sampling Points And Indicate Proposed Arrangements For The Monitoring Of Emissions And The Environmental Consequences Of Any Such Emissions

Groundwater, surface water, leachate, treated leachate and landfill gas is currently being undertaken for parameters as listed in Waste Licence W0062-02, however the monitoring frequency is now reduced as agreed with OEE.

1.8 Describe The Existing Or Proposed Measures, Including Emergency Procedures, To Prevent Unauthorised Or Unexpected Emissions And Minimise The Impact On The Environment Of Any Such Emissions

An Environmental Management System (EMS) was submitted to the EPA during 2004 and approved. All, reports/records in relation to the facility are maintained. Donegal County Council will maintain EMS for the aftercare of the site.

1.9 Proposed Measures For The Closure, Restoration, Remediation Or Aftercare Of The Facility

The site is closed and has been restored. Donegal County Council is meet current foreseeable aftercare costs.

1.10 Financial Provision

As a Local Authority, Donegal County Council is fully committed to the on-going investment as required by this facility to ensure that it is properly managed environmentally. A restoration and aftercare management plan (RAMP) was submitted to EPA in June 2022. A Form of Assurance was submitted to EPA via EDEN and approved on 26/05/2022.

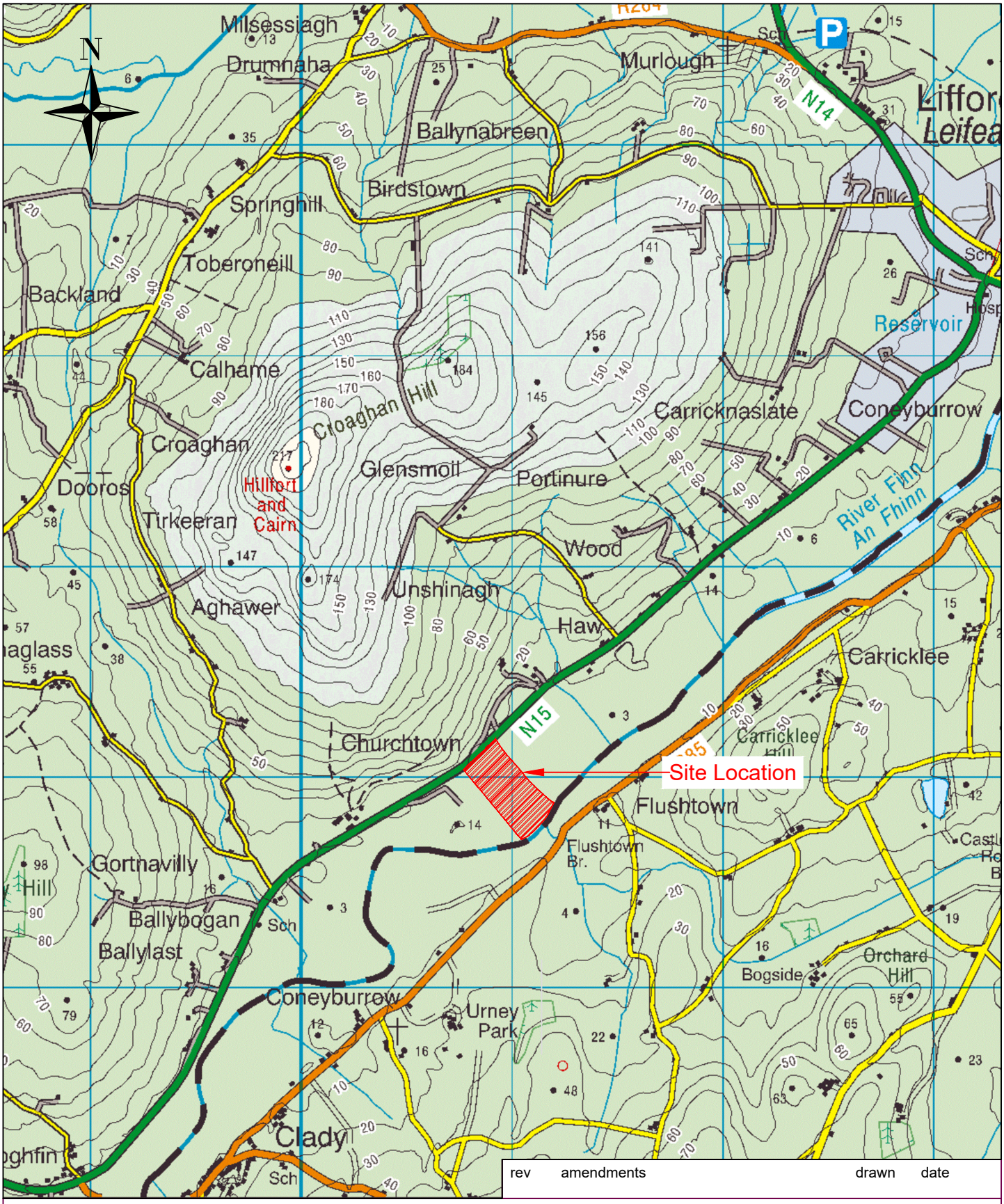
1.11 Annex To Council Directive 80/68/EEC Of 17 December 1979, Describe The Existing Or Proposed Arrangements Necessary To Give Effect To Articles 3, 4, 5, 6, 7, 8, 9 And 10 Of The Aforementioned Council Directive

The site is closed. The site is unlined and has been capped. A hydrogeological risk assessment was undertaken in 2015 and submitted to the EPA. The report found that groundwater quality data does not indicate any upwards trends over time. Both groundwater and surface water contaminant fluxes from the landfill have the potential to impact on the quality of the River Finn. However, available data suggests that groundwater contaminant fluxes to the river are having a negligible effect on the river downstream of the landfill. Groundwater quality is expected to improve after the ICW and willow treatment has been commissioned.

1.12 Seveso II Regulations

The EC (Control of Major Accident Hazards involving Dangerous Substances) Regulations (S.I. No. 74 of 2006) do not apply to the proposed activity.

Appendix A
Drawings



rev	amendments	drawn	date

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Drawing Number: IBR1455/100

Rev: -

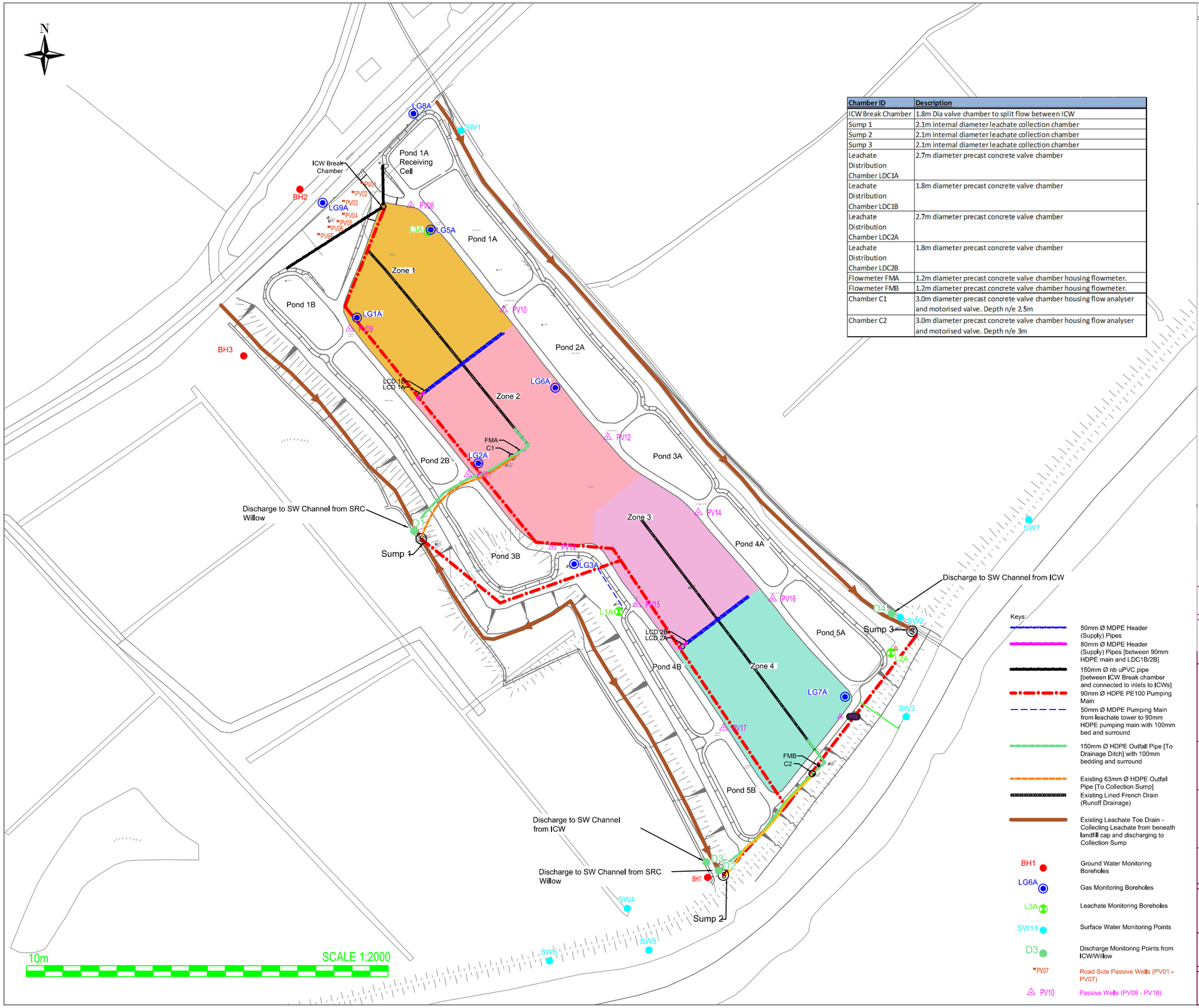
Client: Donegal County Council

Comhairle Contae Dhún na nGall
Donegal County Council

Title: Churchtown Landfill Site
Site Location Plan

Project: Churchtown Waste Licence Review

Project No.	Sheet Size	Drawing Scale	Drawing Status	Drawn By	Checked By	Approved By	Date
IBR1455	A4	1-50,000	Prelim	JC	AMcG	DD	22-08-23



Chamber ID	Description
ICW Break Chamber	1.8m Dia valve chamber to split flow between ICW
Sump 1	2.1m internal diameter leachate collection chamber
Sump 2	2.1m internal diameter leachate collection chamber
Sump 3	2.1m internal diameter leachate collection chamber
Leachate Distribution Chamber LDC1A	2.7m diameter precast concrete valve chamber
Leachate Distribution Chamber LDC1B	1.8m diameter precast concrete valve chamber
Leachate Distribution Chamber LDC2A	2.7m diameter precast concrete valve chamber
Leachate Distribution Chamber LDC2B	1.8m diameter precast concrete valve chamber
Flowmeter FMA	1.2m diameter precast concrete valve chamber housing flowmeter.
Flowmeter FMB	1.2m diameter precast concrete valve chamber housing flowmeter.
Chamber C1	3.0m diameter precast concrete valve chamber housing flow analyser and motorised valve. Depth n/e 2.5m
Chamber C2	3.0m diameter precast concrete valve chamber housing flow analyser and motorised valve. Depth n/e 3m

Keys:

- 50mm Ø MDPE Header (Supply) Pipes
- 80mm Ø MDPE Header (Supply) Pipes [between 90mm HDPE main and LDC1B/2B]
- 150mm Ø nb uPVC pipe [between ICW Break chamber and connected to inlets to ICWs]
- 90mm Ø HDPE PE100 Pumping Main
- 50mm Ø MDPE Pumping Main from leachate tower to 90mm HDPE pumping main with 100mm bed and surround
- 150mm Ø HDPE Outfall Pipe [To Drainage Ditch] with 100mm bedding and surround
- Existing 63mm Ø HDPE Outfall Pipe [To Collection Sump]
- Existing Lined French Drain (Runoff Drainage)
- Existing Leachate Toe Drain - Collecting Leachate from beneath landfill cap and discharging to Collection Sump
- BH1 — Ground Water Monitoring Boreholes
- LG6A — Gas Monitoring Boreholes
- L3A — Leachate Monitoring Boreholes
- SW11 — Surface Water Monitoring Points
- D3 — Discharge Monitoring Points from ICW/Willow
- PV07 — Road Side Passive Wells (PV01 - PV07)
- PV10 — Passive Wells (PV08 - PV18)

NOTES

1. Verifying Dimensions.
   The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
   Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings.
   Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipients own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipients drawing production, or setting out on site.
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Client

Comhairle Contae Dhún na nGall
Donegal County Council

Project
Churchtown Waste Licence Review

Title
Churchtown Landfill Site
Leachate System

Project Number	Sheet Size	Drawing Scale
IBR1455	A3	1:2000

Drawing Number
IBR1455/103

Drawn By	Status	Revision
JC	Prelim	-

Checked By	Approved By	Date
AMcG	DD	25-08-23