

## Philomena Kelly

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**Subject:** H0424-01 Waterstown Historic Landfill

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**From:** Colum Fagan <[cfagan@SDUBLINCOCO.ie](mailto:cfagan@SDUBLINCOCO.ie)>  
**Sent:** Friday 17 November 2023 16:42  
**To:** Licensing Staff <[licensing@epa.ie](mailto:licensing@epa.ie)>  
**Cc:** Leo Magee <[lmagee@SDUBLINCOCO.ie](mailto:lmagee@SDUBLINCOCO.ie)>  
**Subject:** H0424-01 Waterstown Historic Landfill

F.A.O. Ewa Babiarczyk,

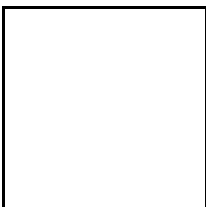
Further to previous correspondence, specifically the Notice in accordance with Regulation 7(4) of the Waste Management (Certification of Historic Waste Disposal and Recovery Activity) Regulations, 2008 for Waterstown Landfill (H0424-01), dated 19<sup>th</sup> November 2021, please find attached interim response to the information as requested.

As noted in the response, it is the intention to provide a completed and signed CoA application following the completion of an updated Tier 3 Environmental Risk Assessment report after additional monitoring at the site has been completed. This will be subject to the Agency's approval of the Proposed Schedule of Monitoring Locations as detailed in the attached correspondence.

Should you wish to discuss anything within the correspondence, I would welcome the opportunity.

Kind Regards,  
Colum

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Ewa Babiarczyk  
Environmental Protection Agency  
PO Box 3000  
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By email: [licensing@epa.ie](mailto:licensing@epa.ie)

16th November 2023

**RE: Waterstown Historic Landfill, Palmerstown, Co. Dublin – Notice in accordance with Regulation 7(4) of the Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations, 2008.**

Dear Ewa,

I refer to correspondence issued by the Agency to South Dublin County Council (SDCC) dated 19th November 2021 in regard to the Certificate of Authorisation application submitted in 2016 (H0424-01) for Waterstown Historic Landfill; in this letter the Agency requested information to satisfy the requirements of Regulation 7(2) of Waste Management (Certification of Historic Unlicensed Waste Disposal and Recovery Activity) Regulations, 2008.

I wish to inform you that SDCC have recently undertaken work to address the Agency's requirements. This work included completion of a condition survey of all the previously installed monitoring infrastructure on site. Given the passage of time since the last risk assessment was completed in 2016, a number of the previous boreholes have been lost or damaged in the intervening period. SDCC have improved access and repaired damage to a number of boreholes. There are currently 19 out of the original 27 boreholes available and a round of monitoring (groundwater, leachate, landfill gas) at the viable locations has been completed in recent months.

We have also engaged consultants (RPS Group Ltd) to assist in addressing the Agency's comments and delivering the additional information required. These are addressed in Table 1 below.

One of the requirements outlined in the Agency's correspondence was to repeat monitoring in specified monitoring wells. Unfortunately, not all of the monitoring wells are available (even after the recent repair works); therefore, SDCC is proposing a revised schedule for agreement with the Agency which includes the 19 No. monitoring wells currently available, as well as three new proposed boreholes. This approach has been devised by our consultants following a full review of the previous environmental risk assessments (including SPR linkages) and the additional monitoring data obtained in 2023. The new boreholes are intended to replace a number of the lost monitoring locations and to increase confidence concerning potential off-site migration of landfill gas. A table outlining the status of previous monitoring locations has been included in Appendix A. The current well locations are outlined on the map included in Appendix B.

**Table 1: Interim Response to Information requested by EPA for compliance with Regulation 7(2) Requirements**

No.	Information Requested by EPA for Compliance with Regulation 7(2) Requirements	SDCC Response
1.	Provide a completed and signed Certificate of Authorisation Application Form, including a Non-Technical Summary, available for download at <a href="https://www.epa.ie/our-services/licensing/waste/historic-landfills/">https://www.epa.ie/our-services/licensing/waste/historic-landfills/</a> .	It is proposed that this will be submitted following the completion of an updated Tier 3 Environmental Risk Assessment report after additional monitoring at the site has been completed (please refer to EPA points 7 to 10).
2.	The site boundary shown in Drawing titled 'Location of Waterstown Landfill' of the Tier 1 Risk Assessment dated October 2011 and Figure 1 titled 'Site Layout and Boundary' of the Risk Assessment Report dated October 2016 differ. State the reason for the differences in the extent of the site boundary in said drawing and figure and submit, or refer to, a drawing/figure that shows the actual site boundary.	These issues will be addressed in new drawings to be submitted as part of the updated application form and updated Tier 3 Environmental Risk Assessment report.
3.	The Walkover Survey Checklist dated 9 <sup>th</sup> April 2009 states that the size of the site is 25.17ha. Section 1 of the said Risk Assessment states that the site covers an area of approximately 20ha. State the actual size of the site.	These inconsistencies have been noted, it is proposed that these shall be addressed in the updated documents to be submitted once further monitoring works have been completed.
4.	Drawing No. 12073_07 titled 'Conductivity Interpretation & Summary' of the Geophysical Survey Report and Drawing No. 14b titled 'Inferred extent of waste body' of the Exploratory Site Investigation Report indicate that the waste body extends beyond the site. However, Drawing No. 11 titled 'Inferred extent of waste body' of the said Risk Assessment indicates that the waste body is within the site boundary. Accordingly, please provide the following information: State the reason for the differences in the extent of the waste body in the said drawings and submit, or refer to, a drawing that shows the actual extent of the entire waste body. State the size of the waste body within the site and, if applicable, the size of the waste body outside the site in hectares.	It is proposed that these issues shall be addressed in the updated documents to be submitted once further monitoring works have been completed.
5.	It is noted that not all monitoring locations are shown in the Drawing No. 2 titled 'Site Investigation Locations with updated LFG Locations' of the said Risk Assessment. For example, the location of trial pit TP02 and groundwater monitoring well MW05 are not shown in the drawing. It is also noted that the drawings referred to in Point 4 are not showing the site boundary. Accordingly, please provide one drawing showing all of the following elements interpolated: A) all leachate, groundwater, gas and surface water monitoring locations; B) all trial pit locations; C) the boundary showing the extent of the entire waste body; and D) the entire site boundary.	It is proposed that these issues will be addressed in new drawings to be submitted as part of the updated application form and updated Tier 3 Environmental Risk Assessment report. New drawings will also include the proposed new monitoring wells to be installed.
6.	Section 7 of the said Risk Assessment states that the site is capped with approximately 1m of low permeability clays and Section 4.1 of the same document states that the quantity of the existing landfill cover	It is proposed that this will be addressed in the updated Tier 3 Environmental Risk Assessment

No.	Information Requested by EPA for Compliance with Regulation 7(2) Requirements	SDCC Response
	material is in the region of 300,000m <sup>3</sup> . It is noted that four samples were taken from the existing cover material at locations BH2, BH3, BH5 and BH11. Confirm if the entire cover material is composed of clay and its permeability is adequate for a landfill cap.	report.
7.	It is noted that four monitoring wells (BH2, BH8, BH10 and BH11) were monitored between 13th December 2012 and 5th May 2015. Please repeat the monitoring carried out in these monitoring wells.	<p>A round of monitoring was completed by RPS on behalf of SDCC in May 2023.</p> <p>Once a revised monitoring schedule is agreed with the Agency, a further round of monitoring will be completed, which will include monitoring at these 4 locations.</p> <p>A summary of current status of monitoring infrastructure is detailed in Appendix A.</p>
8.	It is noted that six monitoring locations (SW1, SW2, SW3, SW4, SW5 and SW6) were monitored between 12th December 2012 and 7th May 2015. Please repeat the monitoring carried out at these monitoring locations.	<p>A round of monitoring was completed by RPS on behalf of SDCC in May 2023.</p> <p>Sampling locations were taken from as close to the monitoring locations stated in the Environmental Risk Assessment, where safe to do so.</p> <p>Once a revised monitoring schedule is agreed with the EPA, a further round of monitoring will be completed, which will include monitoring at these 6 locations.</p>
9.	It is noted that nine monitoring wells (MW4 to MW12) were monitored between 13th December 2012 and 6th May 2015. Please repeat the monitoring carried out in these monitoring wells.	<p>A round of monitoring was completed by RPS on behalf of SDCC in May 2023, please note that it was not possible to monitor all nine wells as MW5 and MW10 have been lost (presumed due to construction works or landscaping activities), in addition MW9 did not have casing installed so it was never used as a monitoring well.</p> <p>Once a revised monitoring schedule is agreed with the Agency, a further round of monitoring will be completed at the available monitoring wells i.e. MW4, MW6, MW7, MW8, MW11 and MW12.</p> <p>A summary of current status of monitoring infrastructure is detailed in Appendix A.</p>
10.	It is noted that seventeen monitoring wells (BH1 to BH17) were monitored between 20th December 2012 and 20th April 2016. Please repeat gas monitoring in these wells.	A round of landfill gas monitoring was completed by RPS on behalf of SDCC in May 2023, please note that it was not possible to monitor all 17 wells as BH3, BH13, BH14 and BH17 have been

No.	Information Requested by EPA for Compliance with Regulation 7(2) Requirements	SDCC Response
		<p>lost.</p> <p>It is proposed to install 3 No. new landfill gas / leachate monitoring wells.</p> <p>Once a revised monitoring schedule is agreed with the Agency, a further round of monitoring will be completed. It is proposed that this will include existing monitoring wells BH1, BH2, BH4, BH5, BH6, BH7, BH8, BH9, BH10, BH11, BH12, BH15 and BH16 as well as the three proposed new wells.</p> <p>A summary of monitoring infrastructure is detailed in Appendix A.</p>
11.	<p>State whether hazardous waste was deposited within the landfill. Classify any such waste in accordance with EPA Waste Classification, List of Waste &amp; Determining if Waste is Hazardous or Non-hazardous, applicable from 5th July 2018.</p>	<p>It is proposed that this will be addressed in the updated Tier 3 Environmental Risk Assessment report.</p>
12.	<p>Considering the fact that municipal waste and C&amp;D waste, was deposited within the site and leachate and gas are still being generated (for example methane at monitoring location BH6 within the waste body was measured at 49.4 % v/v during the monitoring on 12th June 2015), state the reason for not proposing an engineered cap and a gas management system for the closed landfill.</p>	<p>It is proposed that this will be addressed in the updated Tier 3 Environmental Risk Assessment report.</p>
13.	<p>Provide a graphical figure showing a conceptual site model for Waterstown Landfill. Please refer to Figure 6 of the EPA Code of Practice Environmental Risk Assessment for Unregulated Waste Disposal Sites for an appropriate example.</p>	<p>It is proposed that this will be addressed in the updated Tier 3 Environmental Risk Assessment report.</p>
14.	<p>Section 1 of the said Risk Assessment states that the site is used as a public park. State whether the site is intended to be used by South Dublin County Council or private owner(s) for other purposes.</p>	<p>The site is now used as a public park owned by South Dublin County Council, this usage is intended to continue indefinitely. Further details on the public park are provided in Appendix C attached to this letter.</p>

The proposed schedule of monitoring locations is outlined in Table 2 below:

**Table 2: Proposed Schedule of Monitoring Locations**

Type	Borehole ID
Groundwater	MW04, MW06, MW07, MW08, MW11 and MW11
Landfill Gas	BH01, BH02, BH04, BH05, BH06, BH07, BH08, BH09, BH10, BH11, BH12, BH15 and BH16. Plus 3 No. new monitoring wells (GS01, GS02 and GS03).
Leachate	BH02, BH08, BH10 and BH11
Surface Water	SW01, SW02, SW03, SW04, SW05 and SW06

South Dublin County Council hereby requests agreement from the Agency to proceed with the additional monitoring on the basis that the updated schedule as outlined in Table 2 will meet the requirements for repeat monitoring, as requested in the Agency's correspondence of 19th November 2021. We are available and would welcome the opportunity to discuss this proposed approach with the Agency should you so wish.

Best Regards,



Colum Fagan  
Senior Executive Engineer  
Waste Management & Compliance  
Environment, Water & Climate Change

**Encl.**

**Appendix A: Monitoring Infrastructure Summary**

**Appendix B: Map of Monitoring Locations**

**Appendix C: Detailed Description of Current Site Use**

# APPENDIX A

## MONITORING INFRASTRUCTURE SUMMARY



### Groundwater Borehole Summary

Borehole ID	Comment
MW04	Proposed to be used for groundwater (GW) monitoring
MW05	Lost
MW06	Proposed to be used for groundwater (GW) monitoring
MW07	Proposed to be used for groundwater (GW) monitoring
MW07A	Lost, it does not appear this was used previously for monitoring purposes
MW08	Proposed to be used for groundwater (GW) monitoring
MW09	Lost, however, this borehole was drilled for exploratory purposes only, so no install was ever in place at this location.
MW10	Lost
MW11	Proposed to be used for groundwater (GW) monitoring
MW12	Proposed to be used for groundwater (GW) monitoring

### Gas / Leachate Borehole Summary

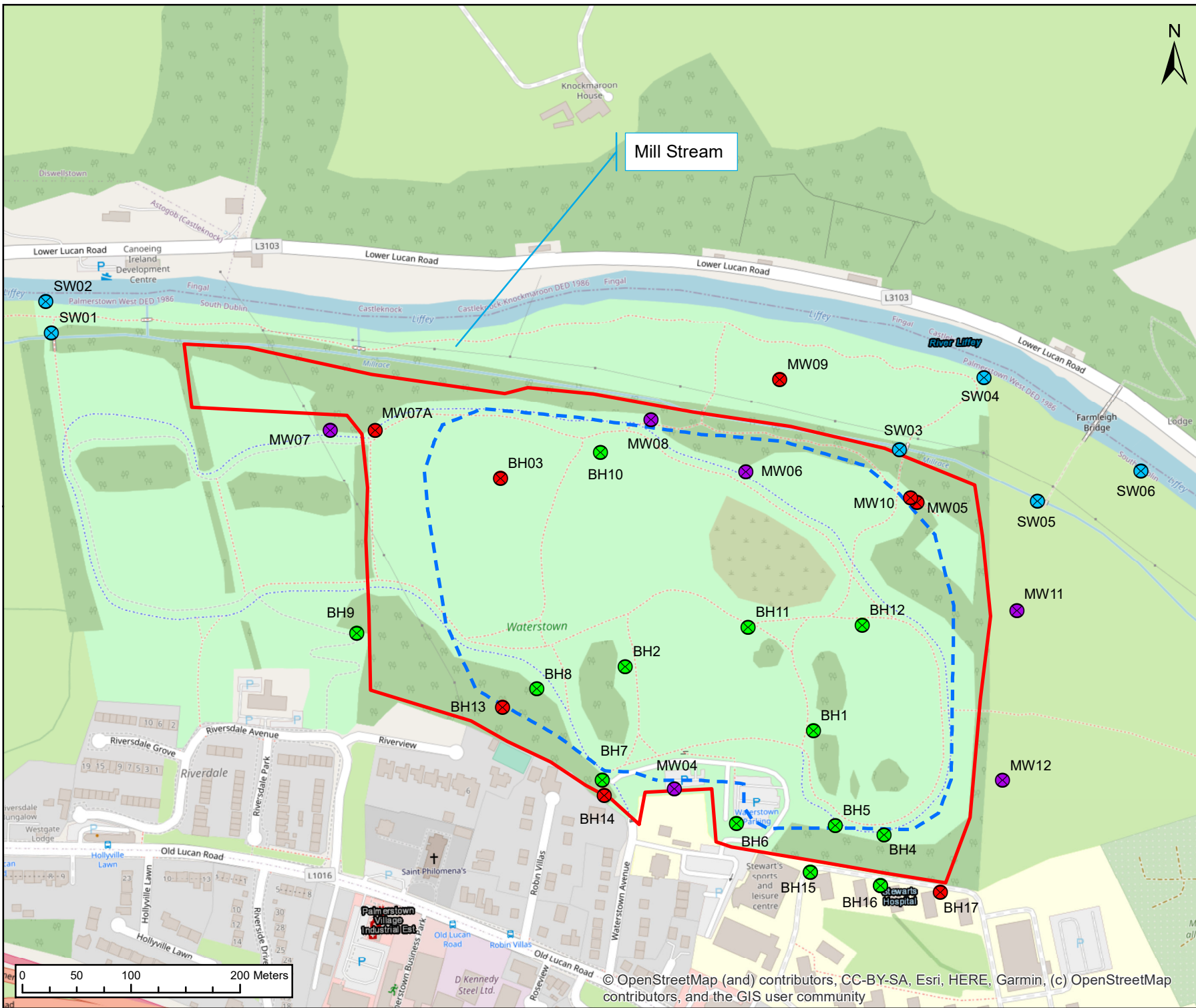
Borehole ID	Comment
BH01	Proposed to be included in at least one further another round of gas monitoring
BH02	Proposed to be included in at least one further another round of gas monitoring and a further round of leachate monitoring
BH03	Monitoring well has been lost
BH04	Proposed to be included in at least one further another round of gas monitoring
BH05	Proposed to be included in at least one further another round of gas monitoring
BH06	Proposed to be included in at least one further another round of gas monitoring
BH07	Proposed to be included in at least one further another round of gas monitoring
BH08	Proposed to be included in at least one further another round of gas monitoring and a further round of leachate monitoring
BH09	Proposed to be included in at least one further another round of gas monitoring
BH10	Proposed to be included in at least one further another round of gas monitoring and a further round of leachate monitoring
BH11	Proposed to be included in at least one further another round of gas monitoring and a further round of leachate monitoring
BH12	Proposed to be included in at least one further another round of gas monitoring
BH13	Monitoring well has been lost, however it is proposed to install a new well in the general location of BH13
BH14	Monitoring well has been lost, however it is proposed to install a new well in the general location of BH14
BH15*	Proposed to be included in at least one further another round of gas monitoring
BH16*	Proposed to be included in at least one further another round of gas monitoring
BH17	Monitoring well has been lost, however it is proposed to install a new well in the general location of BH17

**Surface Water Monitoring Summary**

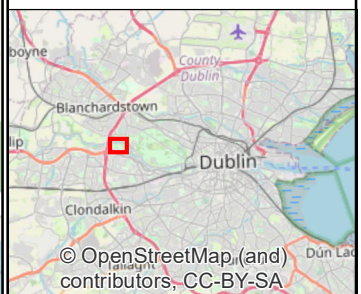
<b>Surface Water Location</b>	<b>Reference</b>	<b>Coordinates (ITM)</b>
SW01	Upstream	707846.945, 735889.442
SW02	Upstream	707844.013, 735917.362
SW03	Within	708623.858, 735781.563
SW04	Within	708699.506, 735852.078
SW05	Downstream	708751.629, 735736.774
SW06	Downstream	708847.087, 735763.218

## APPENDIX B

### MAP OF MONITORING LOCATIONS



- Legend**
- Soil Gas/ Leachate
  - Groundwater
  - Surface Water
  - Lost
  - Waste body boundary
  - Waterstown Approximate Boundary



**Client**  
 Comhairle Contae  
 Átha Cliath Theas  
 South Dublin County Council

**IE000555 - Waterstown\_Historic\_Landfill**

**Title**  
**Waterstown Landfill  
 Monitoring Locations,  
 July 2023**

**rps** West Pier  
 Business Campus, T +353 (0) 1 4882900  
 Dun Laoghaire, E ireland@rpsgroup.com  
 Co Dublin, Ireland. W rpsgroup.com/ireland

**Issue Details**

**File Identifier:**  
 Z:\IE000555 - Waterstown Historic Landfill SDCC\9.0 GIS

Status:	Rev:	Model File Identifier:
S3	P01	Waterstown_Landfill_Monitoring_Points.mxd

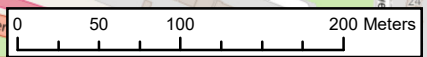
Drawn:	MC	Date:	25/07/2023
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Approved:	EH	Projection:	ITM
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## APPENDIX C DETAILED DESCRIPTION OF CURRENT SITE USE



**WATERSTOWN HISTORIC LANDFILL  
PALMERSTOWN  
DUBLIN 24**

**DESCRIPTION OF CURRENT LAND USE  
WATERSTOWN PARK**

14<sup>TH</sup> NOVEMBER 2023

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## Introduction to Waterstown Park

Officially opened in 2009 and located directly south of Dublin's famous Strawberry Beds and near Palmerstown village, Waterstown Park is in essence a nature park, 35 hectares of biodiverse regenerating land with a coloured history. It trends approximately east-west following the river Liffey and is formed by semi-natural grasslands on a north-sloping hillside forming the river valley, recent pathways and a number of built features including Waterstown House, a mill race and an iron bridge, known as "Farmleigh Bridge", across the River Liffey.

The M50 and west-link bridge crosses over the western extent of the park, is bounded to the north by the River Liffey, to the east and west by private land, the M50 motorway and an industrial business site and to the south by residential development and the N4 road.

It is continuously drawing more and more visitors due to its increasing amenities and its ecological richness. Waterstown Park has areas of national and international importance as it lies within the area covered by the Liffey Valley Special Amenity Area Order (SAAO) and land between the mill race and river is covered by a proposed Natural Heritage Area (pNHA) designation. Hence, it is one of the most ecologically important parks in Dublin.

Active recreation in the park includes a weekly park run, walking, jogging and cycling on the 5.5-kilometer loop of path networks, an enclosed dog run facility and a newly installed play space (with additional items spread out around the park) designed along the principles of natural play. There's also exercise equipment to facilitate adults. Passive recreation includes wildlife/plant viewing, picnics, woodland to explore and tranquil walks alongside the river Liffey and the mill race.

Much of the development which has taken place has been based on the recommendations of an ecological study which was carried out here between 2005 and 2007. The study was carried out to establish what wildlife existed and how the park should be developed in a way that would preserve the parks special characteristics, while allowing public access.

Thus, this is the most valuable park in South Dublin County in terms of its ecological diversity with some 8 habitats containing over 700 species of plants, animals and birds. This rich biodiversity is particularly important and surprising given the parks suburbanised setting.



## A Brief History of Waterstown Park

More than most places the history of the area is clearly etched on the landscape here. Looking across the park the eye is drawn to the steep wooded slopes on the far side of the river Liffey. This is dramatic evidence of the glaciers that moved through and shaped this valley about 15,000 years ago. As they melted, a large river 250m wide and 30m deep flowed through the valley excavating material from the north side and depositing a terrace of sand and gravel in the park on the south side. This material was subsequently quarried here until the middle of the 20th century. These pits were covered over in the mid-1980s resulting in an area which is now a very important site for ground nesting birds.



**View across wooded glacial valley to Farmleigh clock tower adjacent to the Phoenix Park**

This site also has a history of industrialisation as can be seen from the Mill Race (canal of water diverted from the river to push mill wheels) which cuts through the park on its way to the Dunkirk Mills in Palmerstown a few hundred meters downstream of the park. In the seventeenth and eighteenth centuries there were a number of mills located downstream of Waterstown Park on the river Liffey at Palmerstown, employing between one hundred and two hundred people. They are visible on John Rocque's map of 1760 and were driven by a long mill-race, part of which associated with a woodland strip much of the length of Waterstown Park. The mill race currently holds water and appears to provide some drainage function and is connected to the river Liffey from start to finish. Although the mill race is no longer in use, it has high ecological value and a great diversity of wetland plants. Work

was proposed under the Parks Improvement Works Programme in 2019 to de-silt the mill race, remove excessive vegetation in it and thus free up the flow of water. This was carried out in Autumn 2019.



**Millrace and looking north-west towards the river Liffey**



**View towards the iron "Silver Bridge" from near the park entrance and close-up at river Liffey**

The silver bridge, known locally as the "White Bridge", is a Victorian construct, built primarily to carry water pipes from a power station on the south bank of the Liffey to the water tank in the Clock Tower at Farmleigh House. The latter, whose clock was designed by Howard Grubb, was clearly visible, poking

its head above surrounding trees. The bridge is no longer functional as its deck has been dismantled for safety reasons. Staff from Palmerstown, working on the Farmleigh Estate, were never allowed to use the bridge and crossed the river by a ferry, which operated until the 1940s. The Tourism think-tanks in both Fingal and South Dublin County Councils are discussing the restoration of this bridge, which is in the ownership of Fingal County Council, for a pedestrian and cycling connection across the Liffey.

From the 1800s to the 1980s, the land was used as a working farm with Waterstown House as the home. The Georgian house, two-storey and four-bayed, consists of rendered rubble calp limestone and although derelict, survives to eaves level. It first appeared on local maps in the 1830s.

There is potential for development of this house in the future, possibly as an educational / refreshments facility open to the public or for park rangers to occupy, as the popularity and use of the park is steadily increasing.



**Derelict farmhouse close to river Liffey with potential for future development**

In the 1980s, an area in the middle of the park was a landfill site, used for disposal of municipal waste as well as solid inert waste from commercial/ industrial sources.

Finally in 1990, the land was acquired by Dublin County Council when the development and landscape work was commenced. Large numbers of trees were planted, numerous paths were constructed, and the depot buildings, a new entrance and a circular cycling/walking track and a car park (which is shared with the adjoining Stewarts Hospital complex) were all constructed.

The park now consists of eight distinct habitats including woodland, wet grassland and mature hedgerows and the park is home to more than 800 species of plants, animals, birds and insects, as discovered in the 2011 National Bioblitz survey.

## Features & Facilities

As an attraction to all age groups, Waterstown Park provides opportunities for a range of outdoor active and passive recreational activities. The following details the range of facilities, features and activities available in the park:

- Natural play spaces and other play opportunities spread out around the park.
- Adult exercise equipment
- 5km of walking and cycling routes, including along the river Liffey.
- Enclosed large dog run
- Woodland and grassland meadows with mown paths through, to protect wildlife.
- Carparking – 2 carparks within the park plus use of Stewart’s Leisure Centre carpark.

## Children’s Play

In 2018 a new play facility was constructed in Waterstown Park to a cost of €130,000. The funding for this was made available through the “€300K Have Your Say” SDCC Participatory Funding Initiative. This was a local democratic process which facilitated citizens in a local community to directly decide how to spend a portion of the public budget in their area and thus to determine spending priorities to improve their community. A total of €300,000 funding available to projects in Clondalkin, Rathcoole and Newcastle.

It comprises an enclosed play space for toddlers / younger children and outside of this are several play items spread out around the park, near to the public carparking and depot buildings. It is based on the principles of natural play, utilising Robinia wood equipment, which is sanded but as close to the original shape of the timber as possible and thus looks and feels very natural. In the enclosed play area, there is a multi-climbing unit with slide built-in on a gentle grassed slope, a play shop and a water-pump along with a sand pit and a manual digger/bucket system to encourage creative or constructive play. Seating is available inside this area and outside of it along the main path.



**Enclosed play space at Waterstown Park with sand pit and water pump**

A water font to be located adjacent to the play space for all users of the park to enjoy clean drinking water was installed in late 2020. This is a solar-powered filter that pumps the water out based on a sensor that detects the bottle. It is part of the SDCC efforts in sustainability.

Outside of the enclosed play area are a spinning disk, regular swings including toddler swings, one large basket swing, a slide down a mound, a zip-line and several other pieces of play equipment, including boulders for climbing located further away in unexpected areas of the park. The reason for the spread-out nature of these play opportunities in the park is to foster a sense of adventure in people and encourage active and creative play all over the park.



**Main area of children's play space at Waterstown Park**

The slope between two paths is used to house the slide with log steps alongside it; this uses the existing shape of the ground to accommodate a play feature, as is very commonly done in Germany and Scandinavia for decades and allows children to run up the slope, again involving children more with natural forms, and giving them more contact with nature and physical challenge, hence the title "natural play".

As the top of the slide is proximate to a footpath and an access road to the staff depot and a lower public carpark.



**Slide built into mound.**



**Tree-trunk bridge with mounding and zip line near car park**

### Outdoor Fitness Equipment

The outdoor fitness equipment is a popular and frequently used facility by all age groups at Waterstown Park. A sequence of eight pieces of exercise equipment is located along the main path below the carpark.



**Outdoor fitness equipment at Waterstown Park for all ages, primarily adults**

### Active Recreational Facilities

Waterstown Park provides opportunities for a wide range of outdoor active and passive recreational activities. Such activities include leisure walking, cycling, jogging and play.

#### Leisure walking and jogging

The park is a popular location for leisure walking or jogging by locals, providing an opportunity for people to observe wild flora and birds while enjoying the peace and tranquillity of the park environment. With over 5km of circular surfaced pathways and additional trails through woodland areas, there are plenty of walks, cycle and jogging routes around the park.

Every Saturday morning at 9.30am, a 5-kilometre park run takes place in Waterstown Park. This is organised by local volunteers and information is available on [www.parkrun.ie](http://www.parkrun.ie) website.

### Cycling

Cycling is allowed through all South Dublin County Council's parks, including Waterstown Park, as noted in the revised 2011 Parks & Open Spaces Bye Laws. The 2 kilometres of cycle track accommodates cycling in both directions, as seen in the picture below and this connects in with walking tracks, giving one circular route of 5.5 kilometres.



**Cycle Track**

### Field Sports

The topography of the land in Waterstown Park is not suited to organised field sports, as it slopes down, sometimes steeply, in a northerly direction to the river Liffey. The flattest area of the park, close to the river, is quite wet, would not function well as a pitch surface and in any case is within the proposed National Heritage Area (pNHA). Therefore, it could not be developed in this way in line with the SDCC County Development Plan. This is why the emphasis in Waterstown Park is on the rich variety of grasslands and on biodiversity, which it is notable for.

### Dog Run

Similar to the dog runs in Griffeen Valley Park and in Corkagh Park, a dog run was installed in Waterstown Park in 2018, measuring 6000 square metres (60m width X 100m length) with two entrances, one at each end of the park, diagonally opposite. This was requested by residents for several years and is located towards the west end of the park in an open clearing. This facility is very useful for dog owners to exercise their dogs, whereas in the rest of the park dogs must be kept on a leash. Several seating benches allow owners to sit down and relax.



**2018 "dog run" in western end of park**

### Passive Recreation

In 2011 a national Bioblitz survey / study took place, organized by the National Biodiversity Data Centre, Waterford which involved volunteers counting the numbers of species of plants, animals, birds and insects in a park within 24 hours. Most of the competition entries were from National Parks, such as the Wicklow Mountains National Park, various SACs etc. and Waterstown Park was the first park to enter the competition from an urban area, proposed by our Heritage Officer. Killarney National Park won the competition that year with a total of approximately 1000 species counted and Waterstown Park came in close behind with over 800 species, which was astonishing given its relatively small size and close proximity to urban and suburban development.

Whereas Waterstown Park had suffered a lot of anti-social activity and vandalism in the preceding decades, this Bioblitz outcome gave the park a fresh status as an ecological park. The emphasis since then and going forward is on protecting and cultivating the biodiversity in the park.

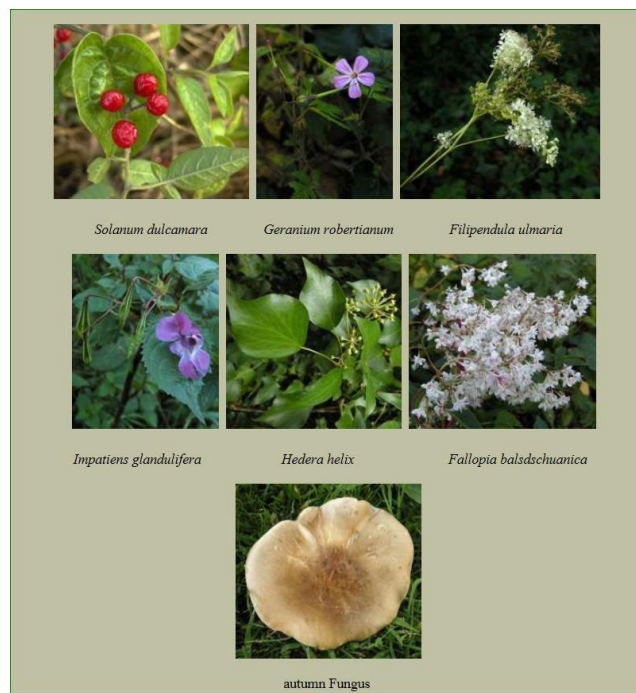


## Biodiversity, Landscape & Heritage

Since it was acquired, South Dublin County Council began to develop and landscape the site. A large number of trees, two thirds of which were native Irish, were planted. The initial plantations of *Alnus glutinosa* (Alder), *Aesculus hippocastanum* (Horse Chestnut), and *Acer* species (Maple) did not survive and were later replaced by *Corylus avellana* (Hazel), *Prunus spinosa* (Blackthorn) and *Prunus padus* (Bird Cherry). In addition, the Council constructed paths; a circular cycling track; and a car park, which is shared with the adjoining Stewarts Hospital. The Park was opened officially in 2009 and, as well as being a significant amenity for the local population, provides access to other areas of the Liffey Valley.

The Park is covered by the Liffey Valley Special Amenity Area Order (SAAO) and is one of the most ecologically important parks in Dublin. It consists of eight distinct habitats, including woodland, wet grassland, and mature hedgerows; and is home to more than 800 species of plants, animals, birds, and insects. Among the latter, the rare Comma Butterfly (*Polygonia c-album*) is present.

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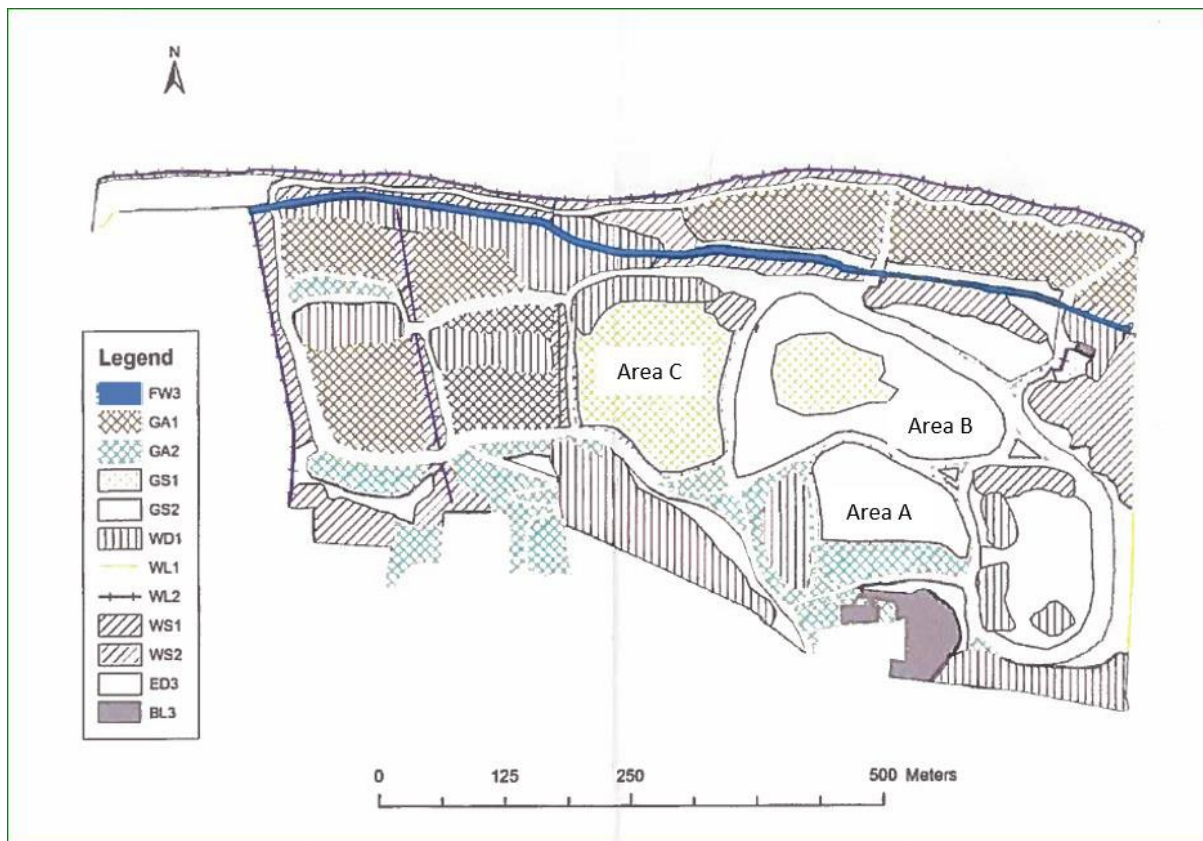
Some of the species found in Waterstown Park

## Management of Natural Features, Wild Flora and Fauna

### Grasslands:

The grasslands vary across the park with some areas ideal for the growth of wildflowers and great potential for biodiversity. Other areas of the park comprise of deep meadow fields along the river Liffey and wetter ground to the west and north of the park.

However, scrub is encroaching on these grasslands in recent years. In addition, a regime of fortnightly grass cutting to encourage amenity grass has reduced the species diversity. Several grass areas of Waterstown Park are populated with scrub and pioneer species. There has been no definite management approach for them in the last few years. Several ecological reports were produced in 2007 and 2016 and on the basis of these, new management tactics are now being employed for these grassland areas in the park, to increase the wildflower population and thus the biodiversity of the park. This involves three areas, A, B and C as seen on the drawing below. The idea is to cut the areas on a rotational basis each year over three years, so as to give insects a chance to survive in the areas not being cut. Ten years ago, they were being managed correctly with one to two cuts per year and the cuttings removed, however locals complained so much that this approach was stopped. Now it will be re-instigated according to the approach laid out below.



Map from Biodiversity Study showing ecology types in Waterstown Park

The treatment proposed is that the grass is cut and then all cuttings are left for a few days to allow insects to migrate out into the ground again and to allow flower seeds to fall out onto the ground. Finally, the cuttings will be baled by machine and taken off site. This will keep the soil in its poor condition, allowing more wildflowers to appear in the coming summer.

Area A was flailed, stripped and levelled in February 2019 to remove all scrub and growth and would not be cut again until September or October 2019. Between February and the next cut in October 2019, those pollinating flowers and species which appear were to be monitored and this would inform

the future management approach. Area A was flailed in February 2019 but not thoroughly stripped and not levelled.

Area B is divided into two sections; the southern third was proposed to be flailed, stripped and levelled in April 2019 similar to Area A and to tie in with it. The northern third would receive the same treatment from late 2019. The middle section would receive the treatment in December, after the bird nesting season, as pipits, reed buntings and skylarks used to nest in the grass here and it is hoped that they will return, also aided by signage requested dog walkers to keep dogs away from this area during the breeding season.

Area C was looked at in the summer months of 2019 and observed to plan out a similar management work for it in 2022 as for Areas A and B. Only Area A was cut in early May 2020. Areas A and B were cut in April 2021. The plan is to cut Areas A and B twice every year, in late April/ May and again in September, baling the cuttings and removing off site after several days for seeds to fall out. As above, work on Area C started in 2022.



**Bee Orchid – *Ophrys apifera* Pyramidal Orchid – *Anacamptis pyramidalis*  
Both species as photographed in the grasslands of Waterstown Park.**

#### 2021 Wildflower Seed Areas:

Wildflower seeds were collected by the local children's Meitheal group in autumn 2020. In early March 2021, two areas flanking the path down near the millrace bridge in the north-west corner of the park were cleared in preparation for planting wildflowers using seed-bombs.



On 30th March 2021, the Palmerstown Tidy Town/Childrens Meitheal team brought their seed-bombs and planted them here. This is a lovely open area near the millrace and River Liffey and the wildflowers will complement the hedgerow and millrace biodiversity.

Other biodiversity efforts include planting green manures (Phacelia) to feed pollinators and nourish the soil, more wildflower areas, providing habitats for solitary bees with bare soil banks and no spraying of chemicals.

#### Woodlands:

Apart from monitoring maturing trees along the river Liffey, removing dead and diseased branches and limbs, the main concern is the management of semi-natural scrub areas and the planting of the woodlands with native trees and shrubs and removing non-natives. This has started beside the mill race, where many Poplar trees were removed several years ago. Non-natives were also removed from the woodland near the play zip-line as part of the Arboriculture Programme. All Poplar trees are to be removed from the pNHA (proposed National Heritage Area). 31 native trees were planted in March 2019 by request of the Palmerstown Tidy Town/ Meitheal group. Further work is required in the park, especially in the planting of Alders and Willows, which was started in winter 2019. In terms of planting, a Native Tree Trail comprising 22 trees was planted in January 2020 and the beautiful bespoke signs were added in December 2020 as seen below:



**Beautiful bespoke Tree Trail signs in bronze fashion, metal plate signs; a unique style seen in no other parks in Ireland.**

Casual paths have been introduced into the young woodlands to bring a human supervisory presence in there to offer another means of passive recreation and to prevent anti-social activity. It is proposed to use bark mulch to delineate some of these. We believe that the balance must be struck between allowing humans to walk everywhere for their personal enjoyment and protecting fauna and flora, which is easily disturbed and hindered by human activity.

The farmhouse has an associated orchard to the South which has fallen into neglect and is overgrown. Apple, pear and plum trees are all present. A long-term future proposal is to clear it out of overgrowth, reinvigorate the trees, plant replacement fruit trees and manage it appropriately to produce fruit.

2022 Pollinator-friendly Bulb areas:

In 2022, pollinator-friendly bulb planting was carried out in the park in the two areas shown below in orange and blue.



## Summary

Waterstown Park is of significant importance for various reasons:

- 1. Ecological Richness:** Waterstown Park is an ecological gem, boasting a diverse range of habitats, including woodland, wet grassland, and mature hedgerows. It is home to more than 800 species of plants, animals, birds, and insects. The park's remarkable biodiversity is surprising given its suburban location.
- 2. Natural Heritage:** The park falls within the Liffey Valley Special Amenity Area Order (SAAO) and is designated as a proposed Natural Heritage Area (pNHA). These designations underscore its status as one of the most ecologically important parks in Dublin.
- 3. Historical Significance:** The park's landscape is shaped by its history, including glacial activity, former mill races, and the presence of Waterstown House, a Georgian mansion. The park's history is visible in its topography, and its potential for future development makes it a site of historical interest.
- 4. Recreational Opportunities:** Waterstown Park offers a wide range of outdoor activities, including walking, jogging, cycling, and field sports. The park also features an enclosed dog run and a newly constructed play space designed based on natural play principles. Adults can benefit from outdoor exercise equipment.
- 5. Community Engagement:** The park has been developed with input from the local community. Projects like the construction of the play facility were made possible through participatory funding initiatives, promoting a sense of community ownership.
- 6. Conservation Efforts:** The management of the park includes conservation efforts to protect and enhance its natural features, such as grasslands and woodlands. Initiatives like wildflower planting, tree management, and the removal of non-native species aim to maintain and expand the park's biodiversity.
- 7. Visitor Engagement:** The park provides educational opportunities through its unique Tree Trail and interpretive signage, which help visitors learn about the native trees in the area.
- 8. Sustainability:** The park incorporates sustainable practices, including a solar-powered water fountain for visitors and ongoing efforts to maintain the ecological balance.

In summary, Waterstown Park is and is intended to be long into the future, a valuable natural and historical resource in South Dublin County. It not only offers a range of recreational opportunities for the community but also stands as a prime example of how to balance ecological preservation and community engagement in an urban setting.

Appendix 1: Map of Waterstown Park

