

# **An Bord Pleanála Oral Hearing**

**Irish Water**

**Greater Dublin Drainage**

**Brief of Evidence**

**Regional Biosolids Storage Facility**

**Ross Kinsella**



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**Qualifications and Role on the Proposed Project**

- 1 My name is Ross Kinsella and I am an Associate with J. B. Barry & Partners consulting engineers. I have a bachelor's degree in civil engineering and a post-graduate diploma in project management. I am a Chartered Engineer, registered to Engineers Ireland.
- 2 I have 19 years' experience in the civil engineering and construction industry. My expertise is in the planning and design of major infrastructure projects which includes wastewater treatment plants (WwTPs) and sewerage schemes. I am the Project Manager for the design of the Regional Biosolids Storage Facility (RBSF) and I was responsible for preparation of the RBSF component of the Environmental Impact Assessment Report (EIAR). I was the principal author of the sections of the EIAR that generally describe and define the RBSF. Those Sections include Section 4.11 Description of the Proposed RBSF, 4.12 Proposed Works for the RBSF, and 4.13 RBSF Construction Phase in Volume 2 Part A, and Section 1 Existing Environment in Volume 4 Part A of the EIAR. I was responsible for coordinating the experts who carried out the assessments described in the other sections of Volume 4 of the EIAR and for facilitating collaboration between the experts for the RBSF component of the Proposed Project with the relevant experts for the other components of the Proposed Project.

**Issues Specific to RBSF**

- 3 In addition to the above-mentioned sections of Volume 2 Part A, the sections of the EIAR that are relevant to the RBSF are Volume 4 Part A, Volume 4 Part B, and all figures in Volume 5 Part B.
- 4 Sean Laffey of Irish Water has explained the need for the proposed RBSF, in the context of the proposed upgrade to the Ringsend WwTP, as well as the GDD Project. The process that led to the adoption of the National Wastewater Sludge Management Plan (NWSMP) has also been explained, in the context of developing the proposed RBSF, and the associated three stage non-statutory public consultation process.
- 5 I wish to reiterate that the NWSMP outlines Irish Water's strategy to ensure a nationwide standardised approach for managing wastewater sludge over the next 25 years. It is an Implementation Plan (Tier 2 in planning and environmental assessment hierarchy for Water Services) that has been prepared by Irish Water following the approval of the Water Services Strategic Plan (WSSP) by the Minister of the Environment Community and Local Government in October 2015.
- 6 The treatment of wastewater sludge results in biosolids, which is a biologically stable product with pathogens reduced to the extent that renders it safe for use in agriculture and containing high levels of plant nutrients. The NWSMP identifies reuse of biosolids as a fertiliser on agricultural land as the preferred outlet in the short to medium term. Constraints on land spreading require that biosolids must be stored during certain times of the year. The development of regional facilities for the storage of biosolids from wastewater treatment plants is recommended in the NWSMP.
- 7 In relation to sludge storage in the Greater Dublin Area, it is recognised in the NWSMP that the upgrade to the Ringsend WwTP and the proposed WwTP will result in a significant increase from current sludge volumes with a consequent increase in storage requirements. The NWSMP states that a dedicated sludge storage facility should be developed in conjunction with the expansion of Ringsend to meet its requirements and take account of other future needs in the region. The purpose of the RBSF is to store treated biosolids that will be produced at the proposed WwTP and existing Ringsend WwTP.
- 8 The location selected for the proposed RBSF is at a site in Newtown, Dublin 11. I refer to Diagram 4-4 in Section 4 of Volume 2 of the EIAR, which shows the site located to the west of Dublin Airport and north of the M50. The transport routes to the proposed RBSF from the proposed WwTP and Ringsend WwTP are shown in yellow. The travel distance from the proposed WwTP is 9 km and from Ringsend WwTP it is 18 km.



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- 9 The site was identified through a selection process that took place in 2017 and involved a three-stage non-statutory public consultation process. The site comprises approximately 11 hectares of partially-developed land and is situated off the R135 road, on the western side of the N2 national road. Diagram 4-5 in Section 4 of Volume 2 Part A of the EIAR shows the existing site. Diagram 4-6 shows the proposed layout of the RBSF, which generally comprises two storage buildings in the central area of the site and internal circulation roads around both buildings.

**Response to Issues Raised in Submissions**

- 10 I was the author of the RBSF-related aspects of Irish Water's Response to Submissions (January 2019) document, where the RBSF related submissions are responded to in Chapter 25.

**Response to Specific Issues Raised by Prescribed Bodies**

- 11 The submission by Fingal County Council, which includes the Chief Executive's Report and Councillor Comments, includes 15 recommended conditions relating to the proposed RBSF.
- 12 Irish Water considers that 13 of the 15 conditions are reasonable and Irish Water has no difficulty with their inclusion in any permission which the Board may decide to grant. As outlined in Section 25.4.2 in Irish Water's Response to Submissions January 2019 document, there are two conditions with which Irish Water takes issue, at least to some degree.
- 13 Condition 5 states:

*"Prior to construction the transition of the proposed footpath to the adjacent site boundary to the south shall be agreed in writing between the applicant and adjoining landowner to the satisfaction of the Planning Authority."*

Irish Water confirms that it is committed to liaising with the adjoining landowner regarding the transition of the public footpath but it is suggested that the alignment of the public footpath and verge should be agreed between Irish Water and the Planning Authority as is recommended by Fingal County Council in Condition 4 (iii) rather than Irish Water being bound by a condition that is dependent on a written agreement from a third party who has no responsibility for the public area in question and no apparent incentive to make such an agreement.

- 14 Irish Water's suggestions in relation to Condition 7, which relates to a special contribution for the upgrade of road junctions near the RBSF site, have been set out already in the statement of evidence of Lara Gough, on behalf of Irish Water.

**Response to General Issues Raised**

**(1) Meakstown Community Council**

- 15 Referencing the proposed Odour Control Unit (OCU) at Dubber, Meakstown Community Council stated that Meakstown is already used for another proposed biosolid facility, at Kilshane, and it is therefore unacceptable for one area to be used for both.
- 16 I wish to clarify that the proposed RBSF, which forms an element of this planning application, has also been submitted as a component of the planning application for the Ringsend WwTP Upgrade Project (Case Ref: PL29S.301798) as it is required for both projects. I believe that the biosolids facility referred to in the submission from Meakstown Community Council is the same RBSF proposed in this planning application.
- 17 The purpose of the proposed RBSF is to provide a facility, serving the Greater Dublin region, for the storage of treated wastewater sludge (biosolids) prior to eventual reuse on agricultural lands. The sources of biosolids to be stored at the proposed RBSF are the Ringsend WwTP and the proposed WwTP.



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- 18 An OCU is proposed to be installed adjacent to the R122 Road at the interface between the rising main and the gravity sewer at Dubber to mitigate against the potential for odours that may be released from the proposed orbital sewer route at this location.

**(2) Storage of Biosolids.**

- 19 Submissions from Brendan Regan, as outlined in Section 25.3.2 of Irish Water's Response to Submissions January 2019 document, questioned the need to store biosolids. The submission by Brendan Regan stated that biosolids should be incinerated and used for energy as opposed to being stored at the proposed RBSF.
- 20 In response, I refer to Section 3.7 in Volume 2 Part A and Section 2.2.3 in Volume 4 Part A of the EIAR. It is explained in these sections that the NWSMP, adopted by Irish Water in 2016, outlines Irish Water's strategy to ensure a nationwide standardised approach for managing wastewater sludge over the next 25 years. The NWSMP explains why the storage capacity for biosolids prior to landspreading is needed, and states that wastewater sludge is considered to be a valuable product with potential benefits in terms of nutrients, and organic and energy content. In particular, wastewater sludge is a source of phosphorus which is a limited diminishing resource essential for all plant growth. When appropriately treated, managed and used it does not present a risk to the environment or human health and it can be safely recycled to provide a benefit to society and the environment. The NWSMP identifies reuse on land (rather than incineration) as the preferred outlet in the short to medium term. Research and EU policy supports this option in the light of economic and environmental benefits.
- 21 It is acknowledged in the NWSMP that the proposed upgrade to the Ringsend WwTP and the proposed WwTP will result in a significant increase in current sludge volumes with a consequent need for an increase in storage requirements. The recommendation in the NWSMP was that a dedicated sludge storage facility should be developed, in conjunction with these projects, to take account of future needs in the region.
- 22 It is also acknowledged in the NWSMP that a policy based on a single reuse or disposal option is susceptible to policy, regulatory and/or perception changes. The NWSMP sets out that alternative options, including thermal treatments such as incineration, will be investigated on an ongoing basis in order to reduce the current dependence on agricultural reuse and that further research into alternative reuse outlets will be undertaken to assess options, including a financial evaluation and consideration of wider environmental impacts including biodiversity, water, soils, human health and food safety.

**(3) Odour**

- 23 The submission from Brendan Reagan, as outlined in Section 25.3.2 of Irish Water's Response to Submissions January 2019 document also raised concerns about odour control discharge flues not being shown on drawings at public consultation.
- 24 I can confirm that odour control discharge flues were not shown on drawings presented at public consultation during the site selection stage for the proposed RBSF. However, I wish to clarify that during the three-stage non-statutory public consultation process, as much of the information that was available from the evolving preliminary design of the proposed RBSF was presented in the published reports, drawings, and graphics including posters and a video provided at public open days. For the avoidance of doubt, the flues are shown on application drawing nos. Y17702-PL-004 - Proposed Site Layout, Y17702-PL-012 - Contiguous Elevations, and Y17702-PL-022 - Odour Control Unit - Plan and Elevation. Furthermore, photomontages generated for the landscape and visual impact assessment of the proposed RBSF, including the odour discharge flues, which are taken from seven different viewing points, are provided in Appendix A14A in Volume 4 Part B of the EIAR.
- 25 I refer to Figure 1.5.2 in Appendix 14A of Volume 4 Part B of the EIAR as an example figure which provides a perspective of the proposed RBSF and the relationship of the odour stacks to the overall design. The figure is a view from the N2 bridge over the R135, which is to the north the site.



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- 26 While Dr. Imelda Shanahan has outlined the design of the odour management system and the operating regime in submitting evidence for Air Quality, Odour and Climate, I can provide some further clarification around the discharge stacks as follows.
- 27 A mechanical odour control system is incorporated into the building design which will extract air from within the storage buildings, at a rate of approximately 2 changes per hour, on a continuous basis. Fans located outside, between the storage buildings, will draw air through ducting to outside odour control units containing a proprietary organic filter media. The treated air will be emitted to the atmosphere through vertical stacks which will extend to a height of approximately 3m above the roof level of the storage buildings. There will be a total of four separate odour control units, each with its own stack. Each building is split into two zones, each of which can be operated independently, hence the need for 4 separate stacks. The location of the stacks is shown on drawing no. Y17702-PL-004 and outline details of the odour control units are shown in drawing no. Y17702-PL-022 provided in Volume 5 Part B of the EIAR.

**(4) Perceived health risks from spreading of biosolids**

- 28 The submission by Brendan Regan, as outlined in Section 25.3.2 of Irish Water's Response to Submissions January 2019 document, raised concern about the potential health risks to the surrounding community from the spreading of biosolids on farmland, and the potential environmental impacts resulting from toxins in biosolids intended for landspreading. A related point was raised in the submission from Portmarnock Community Association.
- 29 In response to these concerns, I would like to clarify that the potential environmental and human health impacts of landspreading were assessed in the Strategic Environmental Assessment and Appropriate Assessment carried out for the NWSMP, which was the subject of two stages of public consultation prior to its publication in September 2016.
- 30 In addition, the human health aspects of the RBSF component of the Proposed Project are assessed in Section 3 in Volume 4 Part A of the EIAR for the Proposed Project. In this section it is explained that a biosolid is the treated sludge product arising from wastewater treatment processes. As set out above, the treatment process results in biosolids, a biologically stable product with pathogens reduced to the extent that renders it safe for use in agriculture, and containing high levels of plant nutrients. The treatment of wastewater sludge to produce biosolids happens before the biosolids are transported to a storage facility. It should be noted that about 98% of the biosolids produced in Ireland is currently reused on agricultural lands, primarily on land used for fodder production and as a soil conditioner and as a fertiliser.
- 31 In relation to landspreading practices, it is explained in Section 19.6 of Volume 4 Part A of the EIAR that there are a significant number of important environmental controls on the use of biosolids in agriculture. Biosolids may only be spread in accordance with the Waste Management (Use of Sewage Sludge in Agriculture) Regulations, 1998 as amended in 2001; the EU (Good Agricultural Practice for the Protection of Waters) Regulations 2017 as amended; and the Code of Good Practice for Use of Biosolids in Agriculture.

**Impacts arising from transport of biosolids**

- 32 Councillor Alison Gilliland's submission, as outlined in Section 25.3.1 in Irish Water's Response to Submissions January 2019 document, raised issues in relation to odours that could potentially be emitted from the storage and transport of biosolids, and the associated impact on the health and wellbeing of the surrounding community.
- 33 Dr. Imelda Shanahan has addressed this issue in her statement of evidence in respect of Air, Odour and Climate. Dr. Shanahan explained how odour will be managed for the Proposed Project so as not to give rise to a nuisance. In addition, it should be reiterated that, in the case of the RBSF, the management of odour has been considered in the design of the RBSF as explained Section 10.4 of Volume 4 Part A of the EIAR. Furthermore, mitigation measures, which will include effective physical measures and the implementation of



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an effective odour management regime at the RBSF, are explained in Section 10.6 in Volume 4 Part A of the EIAR.

- 34 Moreover, as stated in Section 10.5.4 in Volume 4 Part A of the EIAR, with effective implementation of the proposed odour mitigation infrastructure, it is unlikely that any significant odour impact (such as to give rise to nuisance at the boundary of the proposed RBSF) would occur.

**Conclusion**

- 35 The NWSMP identifies reuse of biosolids as a fertiliser on agricultural land as the preferred outlet in the short to medium term. Constraints on land spreading due to legislation and due to demand for the product require that biosolids must be stored during certain times of the year. It is recognised in the NWSMP that the upgrade to the Ringsend WwTP and the proposed WwTP will result in a significant increase from current sludge volumes with a consequent increase in storage requirements. The NWSMP states that a dedicated sludge storage facility should be developed in conjunction with the expansion of Ringsend to meet its requirements and take account of other future needs in the region i.e. the GDD WwTP. The site for the proposed RBSF was identified as the preferred location for biosolids storage following a site selection process that was carried out by Irish Water in 2017.
- 36 The NWSMP explains that alternative options, including thermal treatments such as incineration, will be investigated on an ongoing basis. The premise that the proposed RBSF is not required because there is an option to incinerate is not correct.
- 37 In relation to potential environmental and human health impacts due to landspreading of biosolids, I refer to the Strategic Environmental Assessment and Appropriate Assessment carried out for the NWSMP. The environmental and human health impacts of landspreading were fully considered in this process, which was the subject of extensive public consultation during 2016 prior to its publication in September 2016. All landspreading of biosolids arising as a result of the operation of the Proposed Project will be carried out in full compliance with all applicable laws and best practice.
- 38 The concerns relating to the potential for the emission of odours from the storage and transport of biosolids, and to impacts on the health and wellbeing of the surrounding community, are addressed in Section 10 Odour in Volume 4 Part A of the EIAR. The multifaceted design of the proposed RBSF, in terms of odour management, and rigorous mitigation measures to be implemented during the operation of the proposed RBSF, as described in this section of the EIAR, are such as to allow for the conclusion that there will be no significant residual effects on the environment.

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Appendix 1 Relevant Images

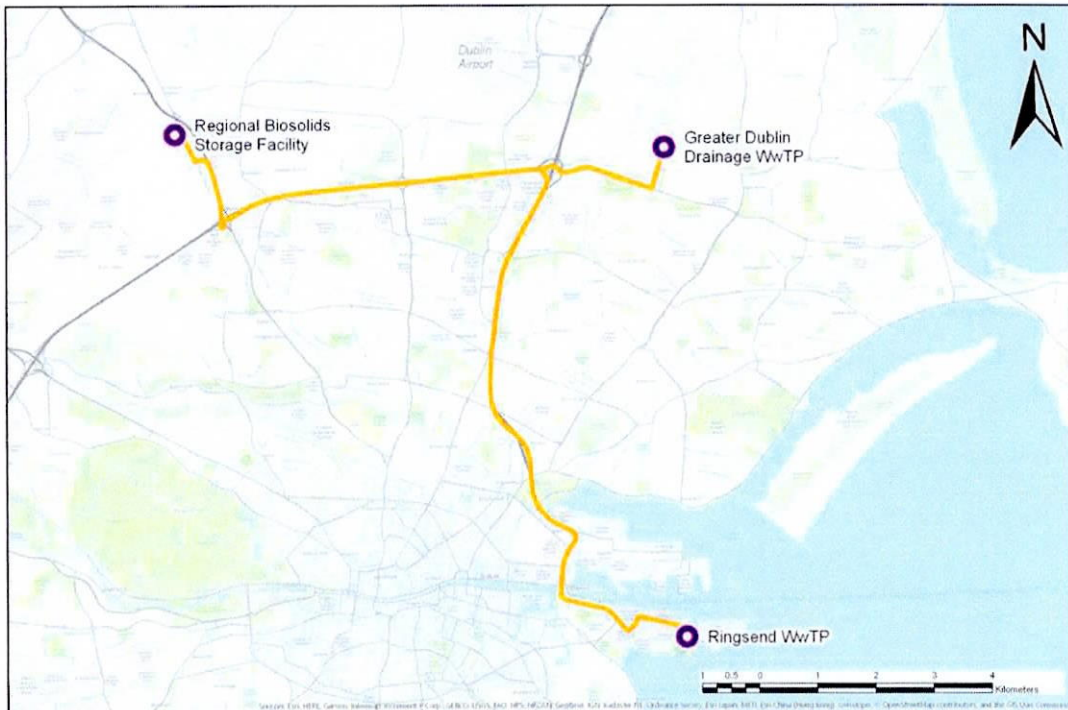


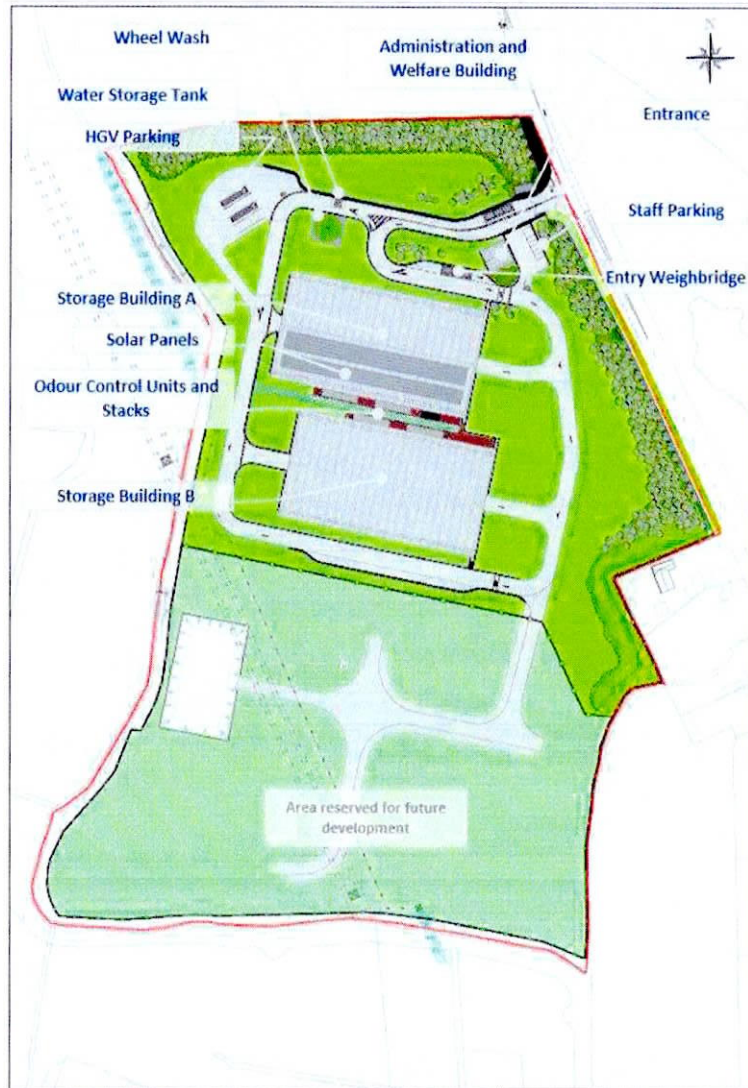
Diagram 4-4



Diagram 4-5



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**Diagram 4-6**



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**Figure 1.5.2**