Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

NOTIFICATION TO ATTEND MEETING OF THE ENVIRONMENT SPC

TO BE HELD IN THE COUNCIL CHAMBER, CITY HALL, DAME STREET, DUBLIN 2.,

ON WEDNESDAY, 14 OCTOBER 2015 AT 2.30 PM

AGENDA

WEDNESDAY, 14 OCTOBER 2015

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Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Minutes of the Meeting Environment Strategic Policy Committee, held on 14th October 2015.

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1. Dublin Waste to Energy Project update report

The Director of Traffic circulated a revised dust monitoring report and pointed out that there were two errors in the report that issued in June. He also pointed out that the dust deposition rates in the revised (accurate) report were in fact less than rates stated in the initial report.

PM Group have been written to outlining DCC's dissatisfaction with the quality of the information provided and seeking an explanation how the errors occurred. Assurances have been sought that this will not arise again.

Members raised the following items / issues

- **Resolution on the determination of the value of the Community Gain Fund**

  The Chairperson of the Committee wrote to An Bord Pleanala seeking advice on the correct interpretation for determining compliance with Condition 3 of the planning permission

- **Status of the letter to An Bord Pleanala**

  A reply from the An Bord Peanala has not yet been received. A copy of the letter is to be circulated to Members of the Committee.

- **Who pays the rent for the Local office.**

  DCC owns the building so rent charges are not applicable.

- **Location of the Local Office, it should be located in the vicinity of the Communities directly affected.**

  The Director of Traffic agreed to examine the feasibility of having the Local Office moved to Ringsend Library.

- **Source of the waste to supply the DWtE plant, as reply to Councillor Claire Byrne's question indicated that it would be sourced in the Greater Dublin Area.**

  The Project Engineer pointed out that the reply to Councillor Byrne's question specifically stated that the waste for the DWtE facility will be predominantly sourced from the Dublin region.

- **Role of the Community Gain Liaison Committee – Terms of Reference, Auditing of funds distributed.**

The Director of Traffic advised the committee that the primary role of the Community Gain Liaison Committee is to monitor and distribute the fund. It is also charged with acting as a liaison between DCC, Covanta and the residents.

The Terms of reference of the Committee were presented to the Committee and were agreed at its first meeting.

The Director of Traffic assured the members that rigorous Auditing & Corporate Governance will be carried out in relation to how the Community Gain Fund monies are distributed.

- **Mitigating Measures for Environmental Issues – Requirement for a twice yearly report on the use of green area south of the waste water treatment plant by the wild fowl.**
  These reports are available on the DWtE website and will be forwarded to the Members of the Committee.

- **Traffic Management.**

  The Director of Traffic pointed out that the project is essentially a building site and when completed these matters are covered quite comprehensively by the planning permission and the EPA license.

- **Is the Dust Monitoring Continuous**

  The gauge is dispatched and collected in 20 – 30 days giving a dust deposition value from which a daily dust deposition rate can be determined.

- **It was pointed out that the TA Luft Limit (mg/m2/day) of 350 was exceeded in 25% of the results given**

  The Executive Engineer advised that in order to compare against TA Luft limits for Dust Deposition it is necessary to have a full year of data and we do not have enough data as yet to compare it to the 350 mg/m2/day. We should have this data midway through this quarter.

- **Capita Report – SPC Oversight of the DWtE Project**
  Mr. McCarthy pointed out that the Capita Report recommended that the SPC should have effective scrutiny and oversight from a governance standpoint of the project. The SPC requires frank internal disclosure of all information requested and this is the purpose of the questions being asked.

  The Director of Traffic advised that the trust of the Capita was in relation to governance up to the beginning of construction. He further pointed out that everything DCC has been asked to do have been done in terms of the planning permission granted.

Order: Report Noted

2. **SPC reporting to the wider Council on DWtE project**

A discussion took place surrounding the issue of reporting on the Waste to Energy Project to the Wider Council and the following points were raised by Members.

- It is vital to report to the wider Council on a project of such importance
- Interaction between the Community Gain Liaison Committee Reports and this SPC
- This SPC should have sight of the activities of the Community Gain Liaison Committee
- One of the fundamental tenets of the Capita report is that this SPC is charged with the oversight and scrutiny of the DWtE and to report to the wider Council for the duration of construction and commissioning
- Report to include contentious issues including value of the CGF, Air Quality and Traffic etc.
- Air Quality on the Poolbeg Peninsula should be the first item on the report
- There should be 2-3 reports issued annually.

The Director of Traffic pointed out that it is not for this SPC to impose conditions on the CGF committee which has elected members among its membership.

Order: The Community Gain Committee to be contacted to request a copy of It's first report. The Chairperson will draft a report on foot of this report and other issues that have been raised at this SPC (Community Gain Fund Value, Air Quality, Traffic etc) over the last number of SPC Meetings.

3. **A.O.B**

A further discussion was held around Air Quality in general and specifically in the Poolbeg Peninsula. The Project Engineer suggested that it would be dangerous to link air quality in an area with one specific construction project, a project that was considered by the EPA and An Bord Pleanala and where statutory consents were granted.
Mr. McCarthy stated that the EPA Chairperson found that the air quality in the area did breach the relevant standard but the EPA Board determined that this was not a matter for a planning condition.
Mr. McCarthy confirmed that the issue of air quality specifically in the Poolbeg Peninsula was the issue of most concern to him.
Mr. Martin Fitzpatrick, Principal Environmental Health Officer gave a report which included the following points:

- There will be a national ban on the sale, marketing and distribution of bituminous fuel.
- A major public consultation is to be launched on Air Quality policy nationally.
- The EPA announced that there will be a full national review of the national Air Quality monitoring systems.
- The EPA is responsible for Air Quality monitoring in the State and DCC operates under the supervision and within the remit of the EPA.
- The Air Quality monitoring campaign 2009 – 2012 was predated for circa 15 years by monitoring by DCC for black smoke at the school on Cambridge Road and the EU limit values were not exceeded or reached. This monitoring was equivalent to Pm 2.5 & Pm 4 monitoring.
- In relation to the monitoring campaign 2009 – 2012, the EPA report specifically stated that limit values were not exceeded during the period of measurement. Limit values are the legal standard.

- Lower and Higher Assessment Thresholds are the technical instructions given by the EU Commission to monitoring agencies on how, where and when monitoring should be carried out and should not be confused with the limit values.
- Most Air Monitoring Stations would exceed the Lower Assessment Thresholds that is why the monitoring is taking place.
- The country is divided into 4 zones for Air Quality monitoring purposes of which Dublin City is 1 zone. If an exceedance of the lower assessment threshold occurs the EU Air Quality Monitoring Standards require monitoring to take place in that zone, not specifically in that location. There is in the region of 20 years of PM10 monitoring in that (Ringsend) location.
- The location of monitoring stations can be part of the EPA review of National Air Monitoring Systems.

Mr. Joe McCarthy, An Taisce – Response

Mr. McCarthy pointed out that as part of the EIS PM10 monitoring campaigns around 2006/2007 published by AWN showed that the EU standard was breached. There was a rate of circa 85 exceedances per year which is above the 35 permitted. He also queried the eastern-most monitoring station and queried if there should be one in the area as that is where the incoming natural pollutants (seaboard, traffic, industry &the port itself) should be measured. If the LAT is exceeded this is precisely where a monitoring station should be located.

Order: Air Quality to be discussed in detail at the November meeting of the SPC.
Members to be notified when consultation starts on Air Quality Policy.

<u>Attendance</u>
Members

Councillor Naoise Ó Muirí (Chairperson)
Councillor Mannix Flynn
Councillor Andrew Keegan
Councillor Denise Mitchell
Councillor Ciaran O'Moore
Councillor Michael O'Brien
Councillor Bríd Smith
Councillor Dermot Lacey
Robert Moss - Dublin City Community Forum
Joe McCarthy - An Taisce
Nicholas Cloake - Dublin Docklands Business Forum

Apologies
Councillor Claire Byrne

Absent
Councillor Declan Flanagan
Councillor Catherine Ardagh
Louise McCann - Disability Federation of Ireland
Sinead O'Brien – Environmental Pillar

Officials

Declan Wallace, Director of Traffic
Helen McNamara, Senior Executive Officer
Brian Hanney, Senior Executive Officer
Martin Fitzpatrick, Principal Environmetal Health Officer
James Nolan, Executive Engineer
Ciarán McGoldrick, Staff Officer
Owen Sweeney, Staff Officer

Councillor Naoise Ó Muirí
Chairperson
7th November 2015

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Environment and Transportation Department,
Block 2, Floor 6,
Civic Offices,
Dublin 8.

25th November 2015.

To Each Member of the
Environment Strategic Policy Committee

Dublin Waste to Energy (DWtE) Project

1 Construction Status

Construction remains on schedule for completion in Q3 2017.

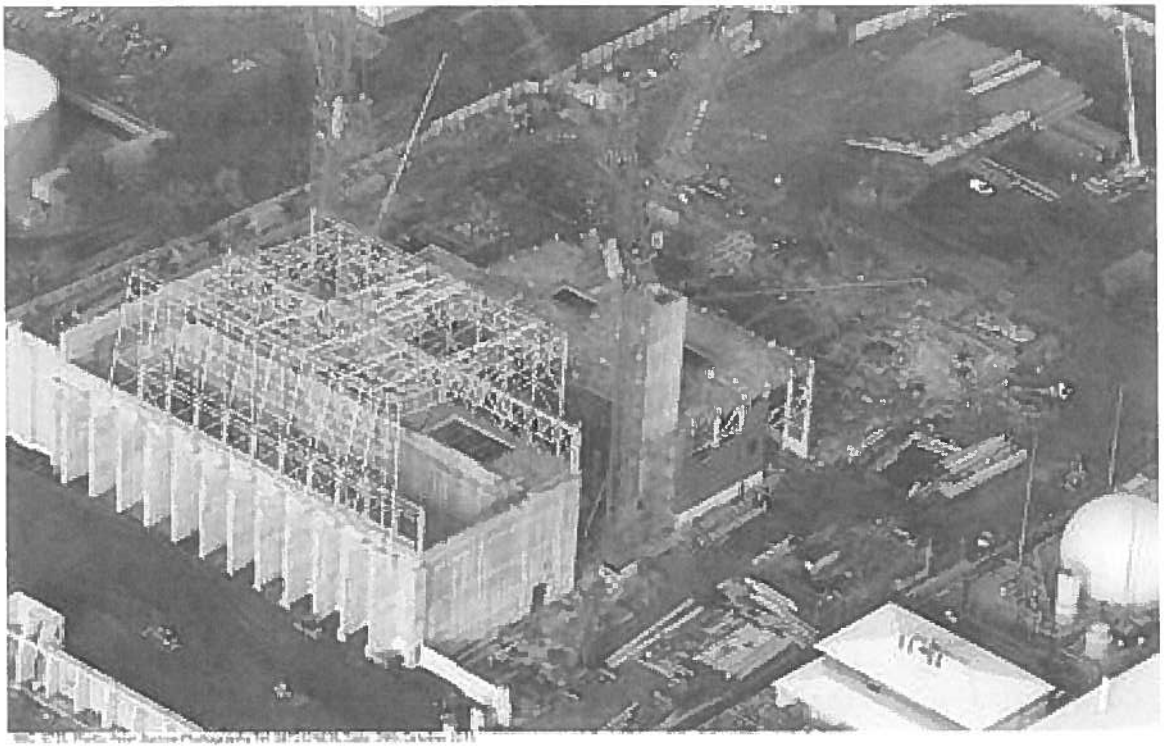
1.1 Progress to Date

Progress in the key areas are summarised below:

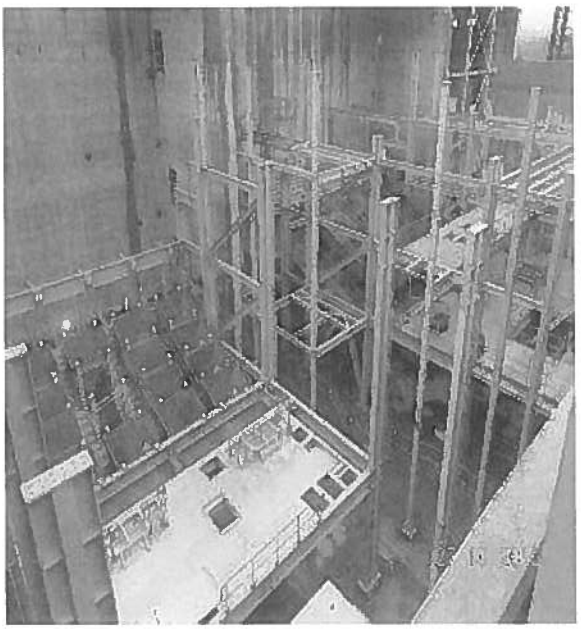
Construction

- There are currently approximately 289 contractors on site at any point in time.
- Construction is currently programmed on a 24/7 basis.
- PM Group Limited, the civil designer and construction manager have reported that design and procurement activities for the civil related aspect of the facility are now 95% complete.
    - The main focus of PM Group and their subcontractors are:
        - the installation of structural steel for the enclosure over the waste bunker area,
        - works associated with the facility cooling water system,
        - works associated with the tipping hall floor,
        - finalisation of the civil works associated with the electrical and transformer rooms.
- Hitachi Zosen Inova (HZI), the process systems designer have reported that they are 85% complete in the efforts focused on completing Process & Instrumentation Diagram's, equipment specifications and procurement of equipment.
    - The main focus of HZI and their subcontractors activities are:
        - erection of structural steel for both lines of the boiler and the turbine hall,
        - installation of the process equipment,
        - inspection and review of process equipment manufacturing.

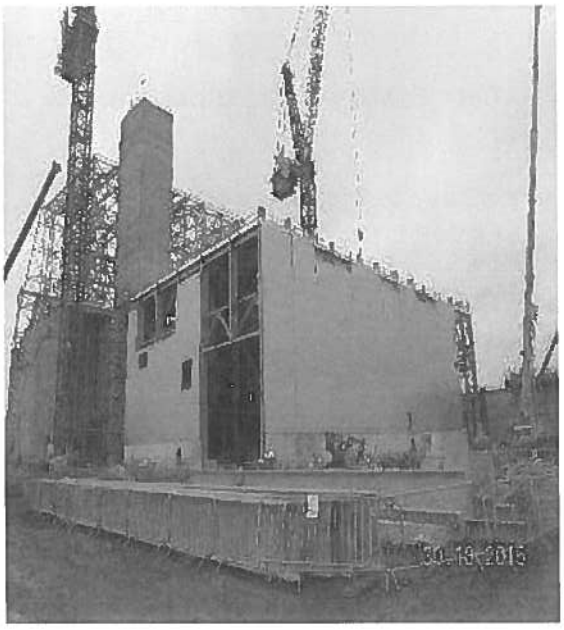
Site Aerial View Looking East October 2015 (Copyright PML)



Site Aerial View Looking Northwest October 2015 (Copyright PML)



Boiler Hall (Copyright PML)



Turbine Hall (Copyright PML).

2 Environmental Impact

Environmental monitoring and mitigation measures continued to be implemented during the Construction phase of the DWtE facility and the construction phase environmental report for quarter 3 (July – September) 2015 is presented as Appendix 1 to this report.

Additionally the wildfowl monitoring report for winter 2014/2015 is presented as Appendix 2 to this report.

All reports are also available for download at the Dublin Waste to Energy Website.

3 Community Liaison

3.1 DWtE Local Office

The local office for the Dublin Waste to Energy Facility relocated to the Ringsend Library, Fitzwilliam Street, Dublin 4, on a trial basis from the 17 November. The office will operate on Tuesday and Thursday mornings between 10:00 and 12:00.

3.2 Community Gain Liaison Committee

The second meeting of the Community Gain Liaison Committee (CGLC) took place on the 28th of October 2015.

4 Compliance with statutory consents

There are no non-compliance issues to report.

Declan Wallace

Executive Manager

Dublin Waste to Energy

Issue date: 19 November 2015

Construction Phase Environmental Monitoring Report - Quarter 3 (July - September) 2015

Signoff	Originator	Checked	Approver	Date
Name	Ray Derrig	Ciaran Reay	Eoin Curham	19th November 2015

Contents

1 Introduction

An environmental monitoring programme has been implemented during the construction stage of the Dublin Waste to Energy (DWTE) Project. In conjunction with the monitoring, a number of controls and procedures have been implemented during construction activities to avoid, or minimise, potential adverse impacts to the environment and local community.

The monitoring programme assists in demonstrating compliance with the conditions and requirements laid out in An Bord Pleanala Order-29S.EF2022, Condition 13d; *"A scheme for monitoring noise, dust deposition and suspended solids in surface water run-offs and adjacent waters shall be prepared for the construction phase of the development. Details of the scheme shall be made available for inspection at the offices of Dublin City Council and at a local office in the Ringsend/Poolbeg area prior to the commencement of construction works. Monitoring shall be carried out during the construction phase and reports on the monitoring shall be made available for inspection at the offices in question on a 3 monthly basis. The reports shall compare monitored results with standards set out in the environmental impact statement or standards given in recognised national or international guidelines as relevant."*

Construction of the DWTE facility recommenced in October 2014 and an environmental monitoring programme in accordance with the 'Dublin Waste to Energy - Construction Phase Monitoring Scheme' September 2009 has been implemented. The 3rd Quarterly Report 2015 on the Construction Phase Monitoring Scheme relates to environmental monitoring undertaken for the period of July to September 2015. The PM Group construction management team were present on site throughout the July to September 2015 monitoring period. The PM Group construction management team ensured construction works were undertaken to comply with environmental procedures for the site. Environmental monitoring with regards to noise, dust deposition and suspended solids in surface water commenced with construction works.

2 Local Environment

The main population centres of Ringsend, Irishtown and Sandymount are located approximately 1km from the boundary of the site.

The closest sensitive receptors to the site are the residential properties at Pigeon House Road which are located approximately 865m west of the site boundary. A map of sensitive locations and environmental monitoring points (noise, dust and surface water) are included in Figure 2.1.

The identified sensitive noise locations are N1 – N6 as follows:

- N1 - Rehab Institute
- N2 – Seafort Avenue
- N3 – Beach Avenue
- N4 – Leukos Road
- N5 – Pigeon House Road
- N6 – Walkway (Irishtown Nature Reserve)

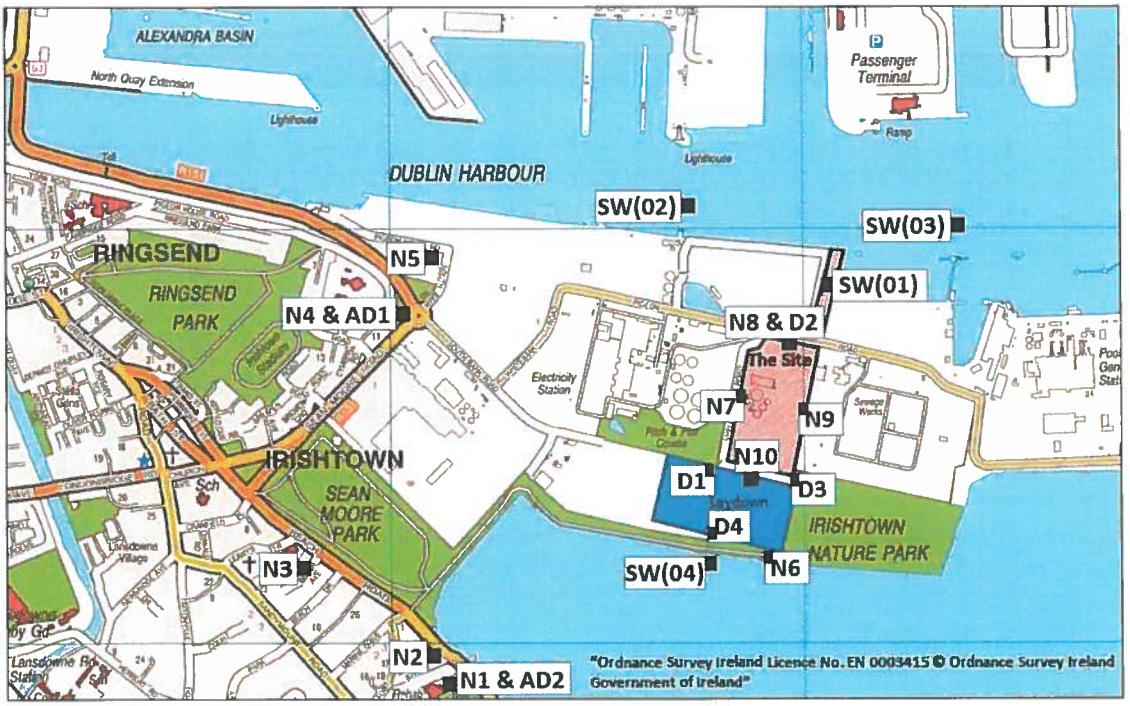


Figure 2.1: Environmental Monitoring Locations

3 Noise

Monitoring of noise levels at sensitive locations is required during construction to assess compliance with the requirements of the Environmental Impact Statement (EIS) and An Bord Pleanala Order-29S.EF2022, Condition 13d. Refer to Figure 2.1 in Section 2 for the monitoring locations.

3.1 Noise Guidance & Standards

The noise monitoring was conducted in accordance with the following guidance:

- International Standard ISO 1996-1:2003 - Acoustics – Description, Measurement and assessment of Environmental Noise
- BS 4142:2014 - Methods for rating and assessing industrial and commercial sound
- BS 5228-1:2009 + A1:2014 – Code of practice for noise and vibration control on construction and open sites.

3.2 Measurement Parameters

Noise is measured in terms of decibels (dB). The various measurement parameters and noise terminology are defined below.

- Decibel (dB)

Decibel (dB) is the standard unit for expressing the noise level (sound pressure level). It is calculated as a logarithm of the intensity of sound. It is derived from the logarithm of the ratio between the value of a quantity and a reference quantity. For sound pressure level the reference quantity is 20μPa which is the threshold of normal hearing and equates to 0dB. At the upper end of the scale 140dB is the threshold of pain.

- A-weighted Decibel (dBA)

Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sound of different frequency (pitch) in a similar way to the human ear. This takes account of the fact that the human ear has different sensitivities to sound at different frequencies.

- L_{Aeq}

The equivalent continuous sound level – the sound pressure level of a steady sound having the same energy as a fluctuating sound over a specified measuring period. It can be considered similar to an average level. The L_{Aeq} value is the A-weighted Leq.

- L_{A90} and L_{A10} Values

The L_{A90} and L_{A10} values represent the A-weighted sound pressure levels exceeded for a percentage of the instrument measuring time. The L_{A90} represents the sound pressure level exceeded for 90% of the monitoring period and is a good indicator of the background noise level excluding peak noise events. L_{A10} indicates the sound pressure level exceeded for 10% of the monitoring period and is a good parameter for expressing event noise such as passing traffic.

- L_{AMax} (dBA)

The maximum instantaneous value recorded over the monitoring period including A-weighting

3.3 Construction Noise Limits at Sensitive Locations

Ambient noise levels at the nearest sensitive locations to the site have being established based on review of the Environmental Impact Statement, Dublin City Noise Map model and preconstruction noise monitoring. These ambient measurements at the noise sensitive locations are compared against the values identified in "British Standard 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1:Noise " and maximum permissible

noise levels at façade dwellings are recommended. The maximum noise levels are presented in Table 3.1 below.

Table 3.1: Maximum Permissible Noise Levels at the Facade of Dwellings during Construction

	Sensitive Locations					
	Rehab Institute	**Seafort Avenue**	**Beach Avenue**	**Leukos Road**	**Pigeon House Road**	**Walkway Irishtown Nature Park**
Daytime Monday - Friday 0700hrs to 1900hrs Rating level, L_{Aeq} (1hr)dB	65	65	65	65	65	65
Evenings and Weekends 1900hrs to 1100hrs Rating level, L_{Aeq} (1hr)dB	55	55	55	55	55	55
Night time 2300hrs to 0700hrs Rating level, L_{Aeq} (1hr)dB	50	50	50	50	50	50

3.4 Noise Monitoring Results

Monitoring was undertaken at site boundary and sensitive locations during construction works. The survey was carried out over the months July to September 2015. The surveys involved a 30 minute sample period taken at each of the noise monitoring locations.

3.4.1 Noise Calculations from Boundary Sampling Locations

To establish the contribution of the July - September 2015 DWTE site activities, to the noise levels at the sensitive receptors, the 'British Standard 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise" was used to calculate the noise levels at the sensitive receptors based on noise levels monitored at the western and southern site boundary locations only.

The western and southern boundaries are used to represent the closest boundaries to the sensitive receptors as the most accurate calculation of noise levels. On this basis, when both are available, the southern boundary is used to calculate the noise level contribution levels for the Rehab Institute, Seafort Avenue, Beach Avenue and Irishtown Nature Park. The Western Boundary is used to calculate the noise contribution levels at the Pigeon House Road and Leukos Road.

Using the BS 5228 Standard calculation, the highest contribution of noise calculated for the months of July to September 2015 at each of the sensitive locations is presented in Table 3.2.

Table 3.2: The Contribution of the DWTE Site Activities to Noise Levels at Sensitive Receptors

		Sensitive Locations					
Month	**Time**	**Rehab Institute N1**	**Seafort Avenue N2**	**Beach Avenue N3**	**Leukos Road N4**	**Pigeon House Road N5**	**Irishtown Nature Park N6**
July 2015 Results level, L_{Aeq}(30 min)dB	Daytime	35	34	33	34	34	48
	Evening	22	21	20	23	23	35
August 2015 Results level, L_{Aeq}(30 min)dB	Daytime	37	36	35	43	43	50
	Evening	34	33	32	36	36	47
	Nightime	27	27	25	28	29	40
September 2015 Results level, L_{Aeq}(30 min)dB	Daytime	31	30	29	36	33	44
	Evening	23	22	21	25	25	36
	Nightime	24	23	22	28	29	37

3.5 Conclusion

The noise levels were calculated from measurements taken at the site boundary locations and their contribution to the closest residential sensitive receptor established. During the July to September period the greatest daytime noise level contribution at a residential sensitive receptor was 43dB. The greatest daytime noise level at Irishtown Nature Park was calculated as 50dB. The greatest evening time noise level contribution at a residential sensitive receptor was 36dB. The greatest evening time noise level at Irishtown Nature Park was calculated as 47dB. The greatest nightime time noise level contribution at a residential sensitive receptor was 29dB. The greatest daytime noise level at Irishtown Nature Park was calculated as 40dB.

These noise contribution levels are significantly lower than the construction noise limits as detailed in Table 3.1. Most construction works occur during the daytime hours with limited construction occurring thereafter. The noise monitoring contribution at sensitive location is within permissible levels.

Ambient noise level at sensitive locations is found to be similar or higher than those monitored at site boundary locations. The sensitive locations are situated up to 1km away from site boundaries and noise contribution from site is low as shown in Table 3.2. The noise at sensitive receptors is affected by localised noise sources, mainly road traffic. The boundary monitoring readings are used to calculate the noise contribution at the closest sensitive receptors. Table 3.2 shows that these were below the maximum permissible noise levels at the facade of dwellings during construction.

On this basis, it is concluded that the site activities undertaken during the July – September 2015 construction period are not causing exceedances of the construction noise limit values at sensitive receptors.

Detailed noise monitoring data is included in Appendix A.

4 Dust Deposition

A scheme for monitoring dust deposition and direction has been developed for the construction phase of the development.

4.1 Monitoring Method

Monitoring was overseen by the Project Environmental Consultant and undertaken by independent laboratory in accordance with the 'Dublin Waste to Energy - Construction Phase Monitoring Scheme', September 2009. Dust monitoring locations D1 – D4 are shown in Figure 2.1.

There are no legislative regulations regarding fugitive dust during construction either in Ireland or the UK. The "Technical Instructions on Air Quality Control – TA Luft" 2002 emission value for dustfall of 350 mg/m^2/day is therefore used as the maximum guideline level during construction.

Continuous particulate matter monitors were installed at two sensitive locations close to the construction project. The parameter being sampled was particulate matter (PM_{10}, $PM_{2.5}$ and Total Particulate Matter. These locations AD1 and AD2 are shown in Figure 2.1.

4.2 Monitoring Results

4.2.1 Weather Conditions

The average weather conditions during the July to September 2015 monitoring period are given below (http://www.wunderground.com);

- July 2015
  - Average Precipitation: 1.8mm/ Day
  - Average Wind Speed: 18.2 km/H
  - Average Temperature: 13.6° C
  - Total Precipitation 55.0mm
- August 2015
  - Average Precipitation: 2.1mm/ Day
  - Average Wind Speed: 16.0 km/H
  - Average Temperature: 13.8° C
  - Total Precipitation 64.0mm
- September 2015
  - Average Precipitation: 0.8mm/ Day
  - Average Wind Speed: 16 Km/H
  - Average Temperature: 11.6° C
  - Total Precipitation 22.9mm

4.2.2 Dust Deposition – Bergerhoff Gauges

The dust deposition results from the Bergerhoff gauges are given in Tables 4.1 – 4.3. Refer to Figure 2.1 in Section 2 for the monitoring locations.

Table 4.1: Dust Deposition Results – July 2015

Sample Locations	Date Deployed	Date Collected	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m²/day	TA Luft Limit mg/m²/day (Annual Average)
1 (West)	23.06.2015	21.07.2015	8.5	18.5	116	350
2 (North)	23.06.2015	21.07.2015	8.5	14.8	93	350
3 (East)	23.06.2015	21.07.2015	8.5	41.3	260	350
4 (South)	23.06.2015	21.07.2015	8.5	15.0	94	350

Table 4.2: Dust Deposition Results – August 2015

Sample Locations	Date Deployed	Date Collected	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m²/day	TA Luft Limit mg/m²/day (Annual Average)
1 (West)	21.07.2015	18.08.2015	8.5	17.8	112	350
2 (North)	21.07.2015	18.08.2015	8.5	31.8	200	350
3 (East)	21.07.2015	18.08.2015	8.5	37.6	237	350
4 (South)	21.07.2015	18.08.2015	8.5	24.0	151	350

Table 4.3: Dust Deposition Results – September 2015

Sample Locations	Date Deployed	Date Collected	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m²/day	TA Luft Limit mg/m²/day (Annual Average)
1 (West)	18.08.2015	22.09.2015	8.5	151.3	762	350
2 (North)	18.08.2015	22.09.2015	8.5	60.9	307	350
3 (East)	18.08.2015	22.09.2015	8.5	56.1	283	350
4 (South)	18.08.2015	22.09.2015	8.5	48.1	242	350

Table 4.4: Dust Deposition Results – Annual Average October 2014 – September 2015

Sample Locations	Commencement Date	Completion Date	Rate of Dust Deposition mg/m²/day (Annual Average)	TA Luft Limit mg/m²/day (Annual Average)
1 (West)	28.10.2014	22.09.2015	319	350
2 (North)	28.10.2014	22.09.2015	160	350
3 (East)	28.10.2014	22.09.2015	224	350
4 (South)	28.10.2014	22.09.2015	143	350

4.2.3 Particulate Monitoring Results

Date	Sample Location				Limit values of CAFE Directive 2008/50/EC	
	AD1 Recycling Facility		AD2 Rehab Facility		24 Hour Mean Limit	Annual Mean
	PM10 µg/m³	PM2.5 µg/m³	PM10 µg/m³	PM2.5 µg/m³	PM10 µg/m³	PM2.5 µg/m³
01/07/2015	30	7	18	6	50	-
02/07/2015	8	2	5	2	50	-
03/07/2015	23	5	10	4	50	-
04/07/2015	22	8	21	7	50	-
05/07/2015	12	5	11	5	50	-
06/07/2015	11	3	9	3	50	-
07/07/2015	7	3	7	3	50	
08/07/2015	12	4	10	4	50	
09/07/2015	11	5	10	5	50	-
Average	15	5	11	4	-	25
Min	7	2	5	2	-	-
Max.	30	8	21	7	-	-

4.3 Conclusion

The annual average readings (Table 4.4) for all monitoring locations are below the recommended "Technical Instructions on Air Quality Control – TA Luft" 2002 standard guideline of 350mg/m^2/day over an annual period. The largest annual average reading of 319mg/m^2/day on the westerly boundary location for dust deposition exists for the site since monitoring commenced in October 2014.

One elevated reading of 762mg/m^2/day was recorded in September on the western boundary (D1) from the twelve results over the three monthly period. The September reading was over twice the recorded value of the other monitoring points in September. Due to the confined construction area, excavations undertaken adjacent to the monitoring station is the likely cause for the elevated reading. A water bowser operated to mitigate dust in dry weather conditions. All vehicles leaving the construction areas of the site pass through a wheel cleansing area prior to entering the local road network.

The maximum PM_{10} concentration recorded at sensitive locations was 30µg/m^3 which is below the limit value for PM_{10} of 50µg/m^3 over a 24hour period. The maximum $PM_{2.5}$ concentration recorded at sensitive location was 8µg/m^3. There is no 24 hour limit to compare $PM_{2.5}$ monitoring results to. The maximum $PM_{2.5}$ concentration over 24 hours of 8µg/m^3 is below the recommended annual mean limit of 25µg/m^3. This monitoring confirms site activities are causing no elevated particulate matter at offsite sensitive locations.

5 Surface Water

A scheme for monitoring suspended solids in surface waters adjacent to the site is placed for the construction phase of the project, as per the EIS requirements and in accordance with An Bord Pleanala Order-29S.EF2022. Refer to Figure 2.1 in Section 2 for the monitoring locations.

5.1 Monitoring Method

Monitoring was carried out by an independent laboratory technician and overseen by the project environmental consultant in accordance with 'Dublin Waste to Energy - Construction Phase Monitoring Scheme' September 2009.

5.2 Monitoring Results

Analysis of suspended solids in surface water at the four surface water monitoring locations was undertaken.

The suspended solids results for July to September 2015 are presented in Table 5.1.

Table 5.1: Surface Water Monitoring – Suspended Solids Results

Parameter	Units	Date	Time	High Tide	Low Tide	SW(01)	SW(02)s	SW(02)d	SW(03)s	SW(03)d	SW(04)
Location	-	-				Cooling Water Channel	Fairway West (surface)	Fairway West (deep)	Fairway East (surface)	Fairway East - Pier (deep)	Irishtown Nature Park
Grid Reference Easting	-	-	-	-	-	6°11'54.95W	6°12'170W	6°12'170W	6°11'640W	6°11'640W	6°12'02.01W
Grid Reference Northing						53°20'28.32N	53°20'596N	53°20'596N	53°20'606N	53°20'606N	53°20'08.35 N
Suspended Solids (July 2015)	mg/l	21/07/15	09:30-13.50	03:25 & 15.53	09.17 & 21.26	244	150	184	135	173	192
Suspended Solids (August 2015)	mg/l	24/08/15	09:45 -11.15	06:55 & 19.33	00.17 & 12.56	2	2	10	10	13	2
Suspended Solids (September 2015)	mg/l	22/09/15	09.35 – 10.50	06.23 & 18.53	12.16	58	56	140	134	84	149

5.3 Conclusion

In the 3rd Quarter 2015 period the suspended solids ranged from 2 – 244mg/l. The highest level of suspended solids was recorded at the Cooling Water Channel, SW(01) in July 2015 with a result of 244mg/l. Baseline monitoring from 2010 – May 2015 ranged from 1 - 508mg/l.

Enabling works for site setup to construct the cooling water pump station commenced at end of June 2015. Construction works of the coffer dam for the cooling water pump station commenced at the end of July 2015.

During the construction period no elevated suspended solid readings were recorded when compared against preconstruction baseline readings and previous months. The levels recorded in August were detected at very low levels compared to other months. Fluctuations in suspended solids occur due to the intertidal area, urbanised catchment being sampled and water traffic operating on the waterbody. Therefore variation is expected throughout all samples readings. Fluctuations in suspended solids are common with levels recorded up to 508mg/l over the preconstruction monitoring period. During the quarterly monitoring period no elevated suspended solid readings were recorded compared to previous readings.

Appendix A
Noise Data

Table 1.1: Construction Noise Monitoring Locations

Noise Monitoring Location	Description
N1 – Rehab Institute	Outside front gate of Rehab, Roslyn Park
N2 – Seafort Avenue	Footpath adjacent to No. 33 Seafort Avenue
N3 – Beach Avenue	Footpath adjacent to the dividing wall of No. 10 and No. 11 Beach Avenue
N4 – Leukos Road	In front of DCC recycling facility
N5 – Pigeon House Road	Footpath immediately in front of the Coastguard Cottages
N6 – Walkway (Irishtown Nature Reserve)	Walkway south of the site connecting Sean Moore Park and Irishtown Nature Reserve
N7 – Western Site Boundary	Midway on the western site boundary
N8 – Northern Site Boundary	Midway on the northern site boundary
N9 – Eastern Site Boundary	Midway on the eastern site boundary
N10 – Southern Site Boundary	Midway on the southern site boundary

Table 1.2 Continued: July Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	LAeq dB(A)	LAMax dB(A)	LA90 dB(A)	LA10 dB(A)	Principal Noise Sources	Weather Conditions
02nd July 2015	N7	Western	30	09.05	67.6	87.1	59.6	70.7	- Cranes operating - Digger excavating material, A40 trucks operating - Trucks arriving with concrete and material - Steel erection - Dumper trucks operating shifting material - Erecting Scaffolding - Digger stockpiling material - Rebar installation	Calm, Partially Cloudy
02nd July 2015	N8	Northern	30	09.42	53.5	78.4	50.3	54.8		
02nd July 2015	N9	Eastern	30	11.08	68.8	82.6	70.8	65.2		
02nd July 2015	N10	Southern	30	11.42	70.7	93.3	56.1	70.9		
09th July 2015	N7	Western	30	09.40	69.1	85.4	57.3	73.7	- Digger excavating material - Digger stockpiling material - Rebar installation - Steel erection - Humming noise from Ringsend Wastewater Treatment Plant (WWTP) - Cranes operating - Shuttering for concrete	Clear and calm
09th July 2015	N8	Northern	30	10.15	57.6	77.8	48.8	56.0		
09th July 2015	N9	Eastern	30	12.37	76.2	93.1	68.1	79.9		
09th July 2015	N10	Southern	30	13.11	65.9	84.9	54.8	67.8		
09th July 2015	N7	Western	30	21.11	49.4	63.3	48.1	50.6	- Steel fixing - Formwork installation	Clear and calm
09th July 2015	N10	Southern	30	21.53	51.7	67.3	49.1	53.6		

Table 1.2 Continued: July Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
14th July 2015	N7	Western	30	14.29	66.5	85.0	59.3	69.9	- Diggers excavating material, A40 trucks operating - Trucks arriving with concrete and material, Concrete pump - Piling rigs operating - Cranes operating - Dumper trucks operating shifting material - Road sweeper - Slipform scaffolding operating - Rebar installation - Humming noise from WWTP	Dry, slight breeze
14th July 2015	N8	Northern	30	15.04	58.9	74.8	53.0	62.7		
14th July 2015	N9	Eastern	30	15.39	70.0	98.6	66.8	71.9		
14th July 2015	N10	Southern	30	16.12	63.7	79.7	57.5	66.3		
14th July 2015	N7	Western	30	20.52	53.2	63.5	50.8	54.6	- Culvert Shuttering works - Steel fixing	Calm, Cloudy
14th July 2015	N10	Southern	30	21.31	51.8	60.8	48.3	53.8		
23rd July 2015	N7	Western	30	12.01	65.8	83.3	58.4	69.8	- Steel Installation - Diggers excavating material - Dumper trucks operating - Scaffolding erection/removal - Rebar installation - Digger stockpiling material - Trucks arriving with concrete and material - Formwork installation - Crane operating - Roadsweeper - Humming noise from WWTP	Sunny Clear, Slight Breeze
23rd July 2015	N8	Northern	30	12.35	56.2	74.6	53.2	60.0		
23rd July 2015	N9	Eastern	30	14.09	67.8	83.2	64.9	70.0		
23rd July 2015	N10	Southern	30	11.24	62.9	81.6	57.9	64.4		

Table 1.2 Continued: July Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
30th July 2015	N7	Western	30	08.44	71.8	95.5	61.7	75.0	- Steel Installation - Sheetpiling - Diggers excavating material - Dumper trucks operating - Scaffolding erection/removal - Rebar installation - Trucks arriving with concrete and material - Formwork installation - Crane operating - Roadsweeper	Clear and calm
30th July 2015	N8	Northern	30	09.18	54.5	74.7	51.8	56.4		
30th July 2015	N9	Eastern	30	09.55	70.3	91.8	64.3	72.3		
30th July 2015	N10	Southern	30	10.29	62.9	92.0	53.5	65.3		
30th July 2015	N1	Rehab	30	12.39	65.1	89.3	52.2	67.4	- Consistent road traffic - No construction noise audible at any noise source - Backround noise from Dublin Port, crane and container loading machinery - Car passing - No construction noise audible at the noise source	Sunny, Clear, Calm
30th July 2015	N3	Beech Ave	30	13.31	69.8	83.4	54.6	73.4		
30th July 2015	N5	Pigeon Hs	30	12.03	60.6	81.8	55.8	63.4		
30th July 2015	N6	Nature Reserve	30	11.02	51.7	78.0	48.0	52.9	- Humming noise from WWTP - Hum from machinery	

Table 1.2 Continued: August Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
06th August 2015	N7	Western	30	11.00	71.0	89.0	66.2	73.5	- Trucks arriving with concrete and material - Cranes operating - Digger excavating material, A40 trucks operating - Steel erection - Dumper trucks operating shifting material - Erecting Scaffolding - Digger stockpiling material - Rebar installation	Clear, Slight Breeze
06th August 2015	N8	Northern	30	11.36	56.2	82.9	54.2	58.3		
06th August 2015	N9	Eastern	30	12.16	70.6	93.3	65.9	72.8		
06th August 2015	N10	Southern	30	12.50	64.6	79.1	57.6	68.3		
06th August 2015	N7	Western	30	19.58	63.5	72.4	57.8	65.8	- Rebar installation - Formwork Installation	Dry, Calm, Cloudy
06th August 2015	N10	Southern	30	19.17	63.8	87.8	51.7	62.2		
07th August 2015	N7	Western	30	00.39	60.2	69.3	45.4	47.1	- Steel Fixing - Formwork Installation	
07th August 2015	N10	Southern	30	01.15	57.1	68.2	50.2	53.0		

Table 1.2 Continued: August Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
13th August 2015	N7	Western	30	11.45	71.1	94.4	60.6	72.6	- Digger excavating material - Digger stockpiling material - Rebar installation - Steel erection - Humming noise from Ringsend Wastewater Treatment Plant (WWTP) - Cranes operating - Shuttering for concrete	Clear and calm
13th August 2015	N8	Northern	30	12.28	63.2	86.1	53.0	63.0		
13th August 2015	N9	Eastern	30	13.01	67.7	97.5	62.2	67.6		
13th August 2015	N10	Southern	30	13.38	65.0	84.1	62.2	67.4		
13th August 2015	N7	Western	30	19.40	60.8	73.1	57.8	63.9	- Steel fixing - Formwork installation	Cloudy and Calm
13th August 2015	N10	Southern	30	20.27	62.1	76.1	55.3	65.3		
14th August 2015	N7	Western	30	00.10	53.3	63.1	45.3	49.3	- Steel Fixing - Cladding	Cloudy and Calm
14th August 2015	N10	Southern	30	00.53	45.3	49.2	42.3	44.5		

Table 1.2 Continued: August Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
18th August 2015	N7	Western	30	14.51	64.9	82.6	62.0	66.7	- Diggers excavating material, A40 trucks operating - Trucks arriving with concrete and material, Concrete pump - Piling rigs operating - Cranes operating - Dumper trucks operating shifting material - Road sweeper - Slipform scaffolding operating - Rebar installation - Humming noise from WWTP	Dry, slight breeze
18th August 2015	N8	Northern	30	16.40	63.4	80.9	55.5	64.4		
18th August 2015	N9	Eastern	30	16.05	73.6	90.3	70.3	75.9		
18th August 2015	N10	Southern	30	15.31	60.4	82.3	54.8	63.8		
20th August 2015	N7	Western	30	20.21	55.3	63.5	46.3	49.1	- Shuttering works - Steel fixing - Cladding installation	Calm, Cloudy
20th August 2015	N10	Southern	30	21.15	59.8	69.1	47.8	50.3		
20th August 2015	N7	Western	30	23.30	57.8	62.8	47.1	49.9		
21st August 2015	N10	Southern	30	00.10	53.8	63.5	46.1	50.2		

Table 1.2 Continued: August Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
27th August 2015	N7	Western	30	10.00	63.4	82.5	59.8	65.7	- Steel installation - Digger excavating material, A40 trucks operating - Trucks arriving with concrete and material - Cranes operating - Trucks arriving with concrete - Erecting Scaffolding - Digger stockpiling material - Rebar installation - Road sweeper operating - Humming noise form WWTP	Cloudy, slight breeze
27th August 2015	N8	Northern	30	10.35	56.5	75.0	52.4	58.6		
27th August 2015	N9	Eastern	30	11.29	67.9	78.7	65.2	70.1		
27th August 2015	N10	Southern	30	12.14	64.1	82.2	56.7	66.5		
27th August 2015	N7	Western	30	20.32	63.2	79.2	57.8	63.6	- Concrete truck arriving - Pouring wall - Steel and cladding erection	Cloudy slight breeze
27th August 2015	N10	Southern	30	19.34	61.1	70.8	60.1	62.4		
27th August 2015	N7	Western	30	23.52	49.3	73.0	46.6	51.2	- Pouring wall - Steel and cladding erection - Hum from wastewater treatment plant	
28th August 2015	N10	Southern	30	00.38	45.7	70.2	43.8	46.4		

Table 1.2 Continued: August Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
28th August 2015	N2	Seafort Ave	30	10.31	65.1	71.2	49.4	68.9	- Consistent road traffic - No construction noise audible at any noise source	Sunny, slight breeze
28th August 2015	N3	Beech Ave	30	11.07	64.7	76.1	52.0	68.6		
28th August 2015	N5	Pigeon Hs	30	09.31	62.7	95.7	57.4	65.5	- Backround noise from Dublin Port, crane and container loading machinery - Car passing - No construction noise audible at the noise source	
28th August 2015	N6	Nature Reserve	30	08.30	54.5	72.3	51.8	57.3	- Humming noise from WWTP - Hum from machinery	

Table 1.2 Continued: September Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
01st September 2015	N7	Western	30	09.41	66.1	91.7	59.0	68.8	- Trucks arriving with concrete and material - Cranes operating - Digger excavating material, A40 trucks operating - Steel erection - Cladding installation - Erecting scaffolding - Digger stockpiling material - Rebar installation and concrete pours	Dry, Cloudy, slight breeze
01st September 2015	N8	Northern	30	12.00	60.7	80.0	54.6	63.2		
01st September 2015	N9	Eastern	30	12.40	70.6	90.8	72.1	65.8		
01st September 2015	N10	Southern	30	11.10	65.0	90.3	56.7	68.0		
01st September 2015	N7	Western	30	20.40	52.4	76.2	49.6	53.5	- Rebar installation - Formwork Installation - Steel Erection - Hum from Ringsend Wastewater Treatment Plant	Dry, Calm, Cloudy
01st September 2015	N10	Southern	30	19.55	54.1	78.1	49.9	55.4		
02nd September 2015	N7	Western	30	00.15	52.9	72.1	50.8	53.7		
02nd September 2015	N10	Southern	30	00.55	53.3	87.7	48.3	51.7		

Table 1.2 Continued: September Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
08th September 2015	N7	Western	30	09.32	65.7	88.6	59.2	62.2	- Cranes lifting materials - Trucks arriving with concrete and material - Digger excavating material, A40 trucks operating - Steel erection - concrete pouring with pumps - Cladding installation - Erecting scaffolding - Rebar installation and concrete pours	Dry, sunny, and slight breeze
08th September 2015	N8	Northern	30	10.09	54.3	71.9	54.0	56.3		
08th September 2015	N9	Eastern	30	10.46	71.7	86.6	69.8	72.1		
08th September 2015	N10	Southern	30	11.23	63.5	92.5	53.0	59.5		
08th September 2015	N1	Rehab	30	14.31	73.6	90.5	59.3	78.9	- Consistent road traffic - Pedestrians walking close by - No construction noise audible at any noise source	Dry, sunny, and slight breeze
08th September 2015	N2	Seafort Ave	30	13.39	58.0	83.3	49.9	52.4		
08th September 2015	N3	Beech Ave	30	12.57	55.2	75.4	47.0	57.5		
08th September 2015	N4	Leukos Rd	30	15.10	63.7	86.5	60.7	66.7	- Consistent road traffic passing or in backround - Noise from Dublin Port prominant - No construction noise audible at any noise source	Dry, sunny, and slight breeze
08th September 2015	N5	Pigeon Hs	30	15.44	58.7	79.0	53.0	57.0		
08th September 2015	N6	Nature Reserve	30	12.00	49.0	77.9	45.5	49.1	- General construction noise audible, reversing beacons, diggers - Humming noise from WWTP - Birds singing	Dry, sunny, and slight breeze

Table 1.2 Continued: September Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
10th September 2015	N7	Western	30	22.25	50.4	67.9	49.8	52.3	- Cladding Installation - Rebar installation - Formwork Installation - Steel Erection - Hume from Ringsend Wastewater Treatment Plant	Dry, Calm, Clear
10th September 2015	N10	Southern	30	21.42	54.6	75.6	52.8	53.4		
11th September 2015	N7	Western	30	03.02	53.2	71.6	50.0	52.4		
11th September 2015	N10	Southern	30	03.40	55.5	69.8	50.1	53.3		
17th September 2015	N7	Western	30	12.12	63.8	86.1	63.1	67.0	- Diggers excavating material, A40 trucks operating - Trucks arriving with concrete and material, Concrete pump - Cranes lifting materials - Dumper trucks operating shifting material - Road sweeper - Slipform scaffolding operating - Steel erection - Erecting Scaffolding - Rebar installation and formwork - Humming noise from WWTP	Dry, Clear, Calm
17th September 2015	N8	Northern	30	12.40	62.0	80.7	56.3	61.1		
17th September 2015	N9	Eastern	30	13.24	68.0	83.5	68.2	70.6		

Table 1.2 Continued: September Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
17th September 2015	N10	Southern	30	14.05	63.9	79.6	64.9	67.3	As Above.	
17th September 2015	N7	Western	30	22.20	55.2	74.4	55.1	57.0	- Steel Erection - Rebar and formwork installation - Cladding installation	Calm, Cloudy
17th September 2015	N10	Southern	30	21.40	52.9	82.0	49.6	50.3		
18th September 2015	N7	Western	30	00.15	54.6	74.0	53.0	55.4		
18th September 2015	N10	Southern	30	00.50	53.2	84.7	50.2	50.8		

Table 1.2 Continued: September Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
24th September 2015	N7	Western	30	09.10	66.2	85.0	62.1	68.3	- Digger excavating material, A40 trucks operating - Steel installation - Trucks arriving with concrete and material - Cranes lifting materials - Digger stockpiling material - Rebar installation - Road sweeper operating - Humming noise form WWTP	Clear, slight breeze
24th September 2015	N8	Northern	30	09.45	59.8	79.8	56.7	61.3		
24th September 2015	N9	Eastern	30	10.20	68.7	84.4	65.2	69.7		
24th September 2015	N10	Southern	30	10.55	60.3	79.6	56.2	63.3		
29th September 2015	N7	Western	30	22.56	50.8	73.0	48.3	51.2	- Concrete pouring wall - Steel and cladding erection	Clear, slight breeze
29th September 2015	N10	Southern	30	22.20	51.7	62.6	50.1	53.0		
30th September 2015	N7	Western	30	01.12	54.4	79.4	51.4	54.1	- Steel and cladding erection - Hume from wastewater treatment plant	
30th September 2015	N10	Southern	30	01.48	50.7	65.4	51.6	53.5		

Table 1.3: July noise Level Calculation Monitoring Results "(BS 5228-1:2009:+*A1:2014* Code of practice for noise and vibration control on construction and open sites – Part 1:Noise (Section F.2.2)"

Date	Time	Site Boundary	Noise Level dB(A) (Laeq 30 min)	Distance between boundary monitoring location and noise source location (m)	Distance betweeen receptor location and noise source location (m)						Screening adjustment dB(A)	Calculated Noise level at closest Sensitive receptors (Noise Level dB(A) (Laeq 30 min)					
					Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd		Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd
02/07/2015	09:05	Western	67.6	25				900		865	10				31		32
02/07/2015	11.42	Southern	70.7	25	870	941	1127		191		10	35	34	33		48	
09/07/2015	09:40	Western	69.1	20				900		865	10				31		31
09/07/2015	13.11	Southern	65.9	30	870	941	1127		191		10	32	31	29		45	
09/07/2015	21.11	Western	49.4	40				900		865	10				17		18
09/07/2015	21.53	Southern	51.7	40	870	941	1127		191		10	20	19	18		33	
14/07/2015	14.29	Western	66.5	15				900		865	10				26		26
14/07/2015	16.12	Southern	63.7	30	870	941	1127		191		10	29	29	27		43	
14/07/2015	20.52	Western	53.2	50				900		865	10				23		23
14/07/2015	21.32	Southern	51.8	50	870	941	1127		191		10	22	21	20		35	
23/07/2015	12.01	Western	65.8	30				900		865	10				31		32
23/07/2015	11.24	Southern	62.9	40	870	941	1127		191		10	31	30	29		44	
30/07/2015	08:44	Western	71.8	20				900		865	10				34		34
30/07/2015	10.29	Southern	62.9	30	870	941	1127		191		10	29	28	26		42	

Table 1.3: Continued: August noise Level Calculation Monitoring Results "(BS 5228-1:2009:+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1:Noise (Section F.2.2)"

Date	Time	Site Boundary	Noise Level dB(A) (Laeq 30 min)	Distance between boundary monitoring location and noise source location (m)	Distance betweeen receptor location and noise source location (m)						Screening adjustment dB(A)	Calculated Noise level at closest Sensitive receptors (Noise Level dB(A) (Laeq 30 min)					
					Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd		Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd
06/08/2015	11.00	Western	71.0	15				900		865	10				30		31
06/08/2015	12.50	Southern	64.6	20	870	941	1127		191		10	27	26	25		40	
06/08/2015	19.58	Western	63.5	40				900		865	10				31		32
06/08/2015	19.17	Southern	63.8	50	870	941	1127		191		10	34	33	32		47	
07/08/2015	00:39	Western	60.2	40				900		865	10				28		29
07/08/2015	01:15	Southern	57.1	50	870	941	1127		191		10	27	27	25		40	
13/08/2015	11.45	Western	71.1	60				900		865	10				43		43
13/08/2015	13.38	Southern	65.0	60	870	941	1127		191		10	37	36	35		50	
13/08/2015	19.40	Western	60.8	40				900		865	10				29		29
13/08/2015	20.27	Southern	62.1	50	870	941	1127		191		10	32	32	30		45	
14/08/2015	00:10	Western	53.3	50				900		865	10				23		24
14/08/2015	00:53	Southern	45.3	70	870	941	1127		191		10	18	18	16		32	
18/08/2015	14.51	Western	64.9	30				900		865	10				30		31
18/08/2015	15.31	Southern	60.4	30	870	941	1127		191		10	26	25	24		39	
20/08/2015	20.21	Western	55.3	40				900		865	10				23		24
20/08/2015	21.15	Southern	59.8	50	870	941	1127		191		10	30	29	28		43	
20/08/2015	23:30	Western	57.8	40				900		865	10				26		26
21/08/2015	00:10	Southern	53.8	50	870	941	1127		191		10	24	23	22		37	
27/08/2015	10.00	Western	63.4	30				900		865	10				29		29
27/08/2015	12.14	Southern	64.1	50	870	941	1127		191		10	34	34	32		47	
27/08/2015	20.32	Western	63.2	70				900		865	10				36		36
27/08/2015	19.34	Southern	61.1	60	870	941	1127		191		10	33	32	31		46	
27/08/2015	23:52	Western	49.3	50				900		865	10				19		20
28/08/2015	00:38	Southern	45.7	60	870	941	1127		191		10	17	17	15		31	

Table 1.3: Continued: September noise Level Calculation Monitoring Results "(BS 5228-1:2009:+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1:Noise (Section F.2.2)"

Date	Time	Site Boundary	Noise Level dB(A) (Laeq 30 min)	Distance between boundary monitoring location and noise source location (m)	Distance betweeen receptor location and noise source location (m)						Screening adjustment dB(A)	Calculated Noise level at closest Sensitive receptors (Noise Level dB(A) (Laeq 30 min)					
					Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd		Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd
01/09/2015	09:41	Western	66.1	30				900		865	10				32		32
01/09/2015	11.10	Southern	65.0	30	870	941	1127		191		10	31	30	29		44	
01/09/2015	20.40	Western	52.4	30				900		865	10				18		18
01/09/2015	19.55	Southern	54.1	40	870	941	1127		191		10	22	22	20		36	
02/09/2015	00:15	Western	52.9	30				900		865	10				18		19
02/09/2015	00:55	Southern	53.3	40	870	941	1127		191		10	22	21	19		35	
08/09/2015	09:32	Western	65.7	30				900		865	10				31		32
08/09/2015	11.23	Southern	63.5	30	870	941	1127		191		10	29	29	27		42	
10/09/2015	22.25	Western	50.4	40				900		865	10				18		19
10/09/2015	21.42	Southern	54.6	30	870	941	1127		191		10	20	20	18		34	
11/09/2015	03:02	Western	53.2	30				900		865	10				19		19
11/09/2015	03:40	Southern	55.5	40	870	941	1127		191		10	24	23	22		37	
17/09/2015	12.12	Western	63.8	50				900		865	10				34		34
17/09/2015	14.05	Southern	63.9	40	870	941	1127		191		10	32	31	30		45	
17/09/2015	22.20	Western	55.2	40				900		865	10				23		24
17/09/2015	21.40	Southern	52.9	50	870	941	1127		191		10	23	22	21		36	
18/09/2015	00:15	Western	54.6	40				900		865	10				23		23
18/09/2015	00:50	Southern	53.2	50	870	941	1127		191		10	23	23	21		37	
24/09/2015	09:10	Western	66.2	20				900		865	10				28		28
24/09/2015	10.55	Southern	60.3	50	870	941	1127		191		10	30	30	28		44	
29/09/2015	22:56	Western	50.8	80				900		865	10				25		25
29/09/2015	22:20	Southern	51.7	40	870	941	1127		191		10	20	19	18		33	
30/09/2015	01:12	Western	54.4	80				900		865	10				28		29
30/09/2015	01:48	Southern	50.7	40	870	941	1127		191		10	19	18	17		32	