Annual Environmental Report 2014

Agglomeration Name:	**Ringsend**
Licence Register No.	**D0034-01**

Preface

This 2014 Annual Environmental Report is made up of 5 parts dealing specifically with each functional area within the Ringsend agglomeration and a final part containing the Certification and Sign-Off:

Part 1 – Dublin City Functional Area
Part 2 – South Dublin County Council
Part 3 – Fingal County Functional Area
Part 4 – Dun Laoghaire Rathdown County Functional Area
Part 5 – Meath County Functional Area (to follow)
Part 6 - Certification and Sign Off

PART 1

Dublin City Council Functional Area

Annual Environmental Report 2014

Agglomeration Name:	**Ringsend**
Licence Register No.	**D0034-01**

PART 1

Dublin City Council Functional Area

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Section 1 Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for D0034-01, Ringsend Agglomeration, in County Dublin in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified assessments are included as an appendix to the AER as follows:

- Priority Substances Assessment (Appendix 6.6)
- Toxicity / Leachate Management Report (Appendix 6.7)
- Final Effluent Toxicity Assessment (Appendix 6.8)

The agglomeration is served by a wastewater treatment plant with a mean Design PE of 1.64 million. The treatment process includes the following:-

- preliminary treatment (including screening / grit removal), FOG removal
- primary treatment
- sludge treatment
- secondary treatment - SBR
- tertiary treatment – UV treatment during the bathing season.

The final effluent from the Primary Discharge Point was compliant with the following Emission Limit Values in 2014 –pH, Toxicity and E.Coli (during the Bathing Season).

The following parameters exceeded the emission limit values in 2014:-

- COD
- cBOD
- Suspended solids
- Total nitrogen
- Total phosphorus

15,779 tonnes sludge (as tonnes dry solids) were removed from the wastewater treatment plant in 2014.

14,236 tonnes were removed as Biofert and 1,543 tonnes as Biocake (dewatered sludge cake) (Source: CAW). Sludge was transferred to Quinn's, Baltinglass, Co. Wicklow.

There were no major capital or operational changes undertaken in 2014.

An Annual Statement of Measures 2015 is included in **Appendix 6.1**.

Section 2 Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l P)	TN (mg/l N)	Hydraulic Loading (m^3/d)	Organic Loading (PE/day)
Number of Samples	145	248	248	101	101		
Annual Max. (Daily)	510	1,203	686	9.73	56.2	1,439,445	4,041,555
Max Weekly Average (UWW)							3,098,410
Annual Mean *	232*	525	247	5.32	34.09	460,788	1,777,994*
Annual Mean (UWW)	253						1,830,924

*Derived from IW Flow Weighted Average Organic Load Calculation Instructions for 2014

Significance of results

The annual mean hydraulic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum organic loading is greater than the Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary (SW1 Dublin)

Table 2.2 - Effluent Monitoring Summary (SW1 Dublin)

	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	Total P (mg/l)	Total N (mg/l)	pH	Toxicity (TU)	Comment
WWDL ELV (Schedule A)	25	125	35	1	10	6-9	5	24-Hour Composite Samples
ELV with Condition 2 Interpretation included	50	250	88	1.2	12.0	-	-	
Number of sample results	145	248	248	101	101	365* 248	1	*On-line
Number of sample results above WWDL ELV	14** [16]	11** [12]	56** [58]	101	86	0	0	**failures attributed to storm conditions alerted by Met Eireann are outlined below
Number of sample results above ELV with Condition 2 Interpretation included	7	3	11	101	68	-	N/A	
Annual Mean (for parameters where a mean ELV applies)	17	73	31	3.44	14.83	N/A	N/A	
Max. No. of ELV Exceedances (B.3)	12	18	18	9	9	18		
Overall Compliance (Pass/Fail)	Fail	Fail	Fail	Fail***	Fail	Pass	Pass	***No Total P Removal on-site

Significance of results

The WWTP was compliant with the ELV's set in the wastewater discharge licence for pH and Toxicity. Non-compliances for COD/TSS in a sample taken on 04/02/14 (834003), for BOD in a sample taken on 13/02/14 (837104), for TSS in a sample taken on 05/10/14 (921664) and for BOD and TSS in a sample taken on 13/11/14 were due to storm conditions alerted by Met Eireann (orange/red wind conditions and orange rainfall conditions) on these dates. The impact on receiving waters is assessed further in Section 2.3.

Table 2.2 continued - Effluent Monitoring Summary

	DIN (mg/l N)	Ammonia (mg/l N)	Ortho-Phosphate (mg/l P)	OFG (mg/l)	E.Coli *** (MPN/100 ml)	Enterococci*** (CFU/100 ml)	Colour Visual Inspection ****	Comment
WWDL ELV (Schedule A)	-	-	-	-	100,000	-	-	24-Hour Composite Samples
ELV with Condition 2 Interpretation included	-	-	-	-	150,000	-	-	***15/05/14 to 18/09/14 E.Coli and Enterococci reported for discrete post UV samples taken
Number of sample results	245	245	245	102	69	50	246	**** Hazen Units-Laboratory Test
Number of sample results above WWDL ELV	-	-	-	-	1 (25/08/14)	-	-	
Number of sample results above ELV with Condition 2 Interpretation included	-	-	-	-	0	-	-	
Annual Mean (for parameters where a mean ELV applies)	12.56	8.95	2.45	5.09	N/A	N/A	47	
Overall Compliance (Pass/Fail)	-	-	-	-	Pass	-	-	

The WWTP was compliant with the ELV set for E.Coli (during the Bathing Season) in the wastewater discharge licence. There was 1 sample non-compliant with the ELV (25/08/14). The impact on receiving waters is assessed further in Section 2.3.

2.3 Ambient monitoring summary

Table 2.3 - Ambient Monitoring Report Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	***Irish Grid Reference***	**EPA Feature Coding Tool code**	**Current EQS Status**	**Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?**
Upstream monitoring points; Lower Liffey, Chapelizod Bridge	Many		Moderate	No
Mixing Zone monitoring points; Liffey Estuary Upper Liffey Estuary Lower Tolka Estuary	Many		Moderate Good Moderate	Yes (See Summary below)
Downstream monitoring points; Dublin Bay	Many		Good	No

The results for the upstream, mixing zone and downstream monitoring are included in Appendix 6.2.

Significance of results

The WWTP was compliant and non-compliant with the ELV's set in the wastewater discharge licence as detailed in Section 2.2.

The discharge from the wastewater treatment plant does not have an observable negative impact on the water quality in the River Liffey upstream of the Islandbridge Weir. The EPA Ecological Status was reported as Moderate for the 2010-2012 period.

The discharge from the wastewater treatment plant has a negative impact on the receiving water quality within the near field of SW1. The EPA Ecological Status in the Liffey Estuary Upper and Lower was reported as Moderate and Good respectively for the 2010-2012 period.

The EPA Ecological Status in the Tolka Estuary was reported as Moderate for the 2010-2012 period.
The discharge from the wastewater treatment plant has no observable impact on the receiving coastal water quality in Dublin Bay. The EPA Ecological Status in Dublin Bay was reported as Good for the 2010-2012 period.

Summary of Results

Licence D0034-01 requires monitoring and assessment of the impacts of the Ringsend effluent discharge on receiving water quality at agreed sampling locations as follows:

1. 9 Ambient Surface Waters (ASW2 – ASW10) covering sampling points in the lower Liffey Estuary in the near field of the discharge (ASW2 to ASW5), and points on the River Liffey and River Tolka (ASW6 to ASW10)
2. 11 additional monitoring points on the Liffey and Tolka Estuaries (Surface and Depth)
3. 9 monitoring locations in Dublin Bay (Surface and Depth)
4. 8 shoreline locations, 3 of which are EC designated bathing waters (Dollymount Bathing Zone, Sandymount and Merrion Strands).

See map of monitoring locations agreed with the EPA in Appendix 6.2(1).
See monitoring data for 2014 in Appendix 6.2 (2), (3), (4) and (5).

The Liffey Estuary from Islandbridge Weir to the Poolbeg Lighthouse including the River Tolka Basin and the South Bull Lagoon is designated as a "sensitive area" by Part 2 of Schedule 3 of the Urban Wastewater Regulations, SI 254 of 2001. The European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI 272 of 2009), sets physico-chemical standards for High and Good status in transitional and coastal water bodies to be complied with outside the allocated mixing zone of a licensed discharge.

The Rivers Liffey and Tolka and their estuaries are classified under the Water Framework Directive as Transitional Water Bodies. The outer Estuary / Dublin Bay is classified as a Coastal Water Body.

The parameter suite set in the marine monitoring section of the licence was tested in all samples (Temperature / Dissolved Oxygen / BOD / Salinity / Dissolved Inorganic Nitrogen / Total Oxidised Nitrogen / Molybdate Reactive Phosphate / Ammonia / Silica / Chlorophyll).

Tidal Conditions during the 6 monthly estuarine surveys are tabulated below:

Survey No. and Month 2014	Date	High Tide Time	Height (m OD)	Low Tide Time	Height (m OD)	Tidal Status during Survey
1. April	24/04/14	07.56	3.63	14.02	0.87	High to Mid-Ebb
2. May	15/05/14	12.42	3.99	05.55	0.52	Mid Flow to High
3. June	11/06/14	10.57	3.81	04.09	0.95	Mid Flow to High
4. July	24/07/14	11.05	3.64	04.22	1.18	Mid Flow to High
5. August	21/08/14	09.48	3.47	03.05	1.36	High to Mid-Ebb
6. September	11/09/14	13.48	4.16	07.07	0.15	Mid Flow to High

1. Marine Monitoring Summary – ASW2 to ASW10

A total of 6 surveys were carried out in the Liffey and Tolka Estuaries during 2014 at the designated locations in the licence, tabulated below:

EPA Map Code	Licence Code	Sampling Point
		Liffey Estuary Lower
	ASW2	25 metres North of Poolbeg Wall
	ASW3	50 metres North of Poolbeg Wall
	ASW4	75 metres North of Poolbeg Wall
	ASW5	100 metres North of Poolbeg Wall
		Liffey
DB000	ASW6	Liffey City, Downstream Islandbridge Weir
DB010	ASW7	Liffey City, Heuston Station, Upstream of Camac Outfall
	ASW8	Liffey City, Winetavern Street Bridge
		Liffey Estuary Lower
DB210	ASW9	Liffey (Surface), Downstream of East Link Toll Bridge
		Tolka
DB310	ASW10	Tolka, Downstream of Annesley Bridge

A summary of transitional water quality compliance with SI 272 of 2009 for the above locations is presented below and complete water quality data is presented in Appendix 6.2 (2).

This shows compliance with Temperature, Dissolved Oxygen (lower) and Dissolved Oxygen (upper) at all locations on all survey dates except for ASW5 where the Dissolved Oxygen was slightly supersaturated (122% Sat.) on 24/07/14 at depth and at ASW10 where the Dissolved Oxygen was slightly supersaturated (129%) on 11/09/14.

All BOD values were compliant except for 1 location at ASW6 where the mean BOD was 2.3 mg/l due to a BOD concentration of 7 mg/l on 24/07/14.

Three exceedances of median Molybdate Reactive Phosphate (MRP) standards occurred in the near field of the Ringsend discharge at ASW2, ASW3, ASW4, all at the surface. One slight exceedance of the standard (freshwater) occurred at the upstream boundary point ASW6, the Liffey downstream of Islandbridge Weir. The non-compliant MRP results were as follows:

Location	MRP 2014 Median Result	SI 272 Standard	Comment
		40 µg/l as P at 35 PSU 60 µg/l as P 0-17 PSU	
ASW2 (Surface)	146 µg/l as P		Close to SW1 Outfall
ASW3 (Surface)	326 µg/l as P		Close to SW1 Outfall
ASW4 (Surface)	101 µg/l as P		Close to SW1 Outfall

Location	MRP 2014 Median Result	SI 272 Standard	Comment
ASW6 (Surface)	37 µg/l as P (mean)	35 µg/l as P River Water	Upstream pollution

2. Marine Monitoring – Transitional Water Monitoring – Points Agreed with EPA – DB020 to DB420

A total of 6 surveys were carried out in the Liffey and Tolka Estuaries during 2014, at 11 locations agreed with the EPA, as tabulated below:

EPA Map Code	Sampling Point
	Liffey Estuary Lower
DB 120	Dodder / Grand Canal Basin
DB 210	East Link Toll Bridge
DB 220	RO RO Ramp No.5 (Old Treatment Works Outfall)
DB 410	Ringsend Cascade
DB 420	Poolbeg Lighthouse
	Liffey Estuary Upper
DB 020	Matt Talbot Bridge
	Tolka Estuary
DB 320	East Point Business Park Bridge
DB 330	Castle Avenue
DB 340	Clontarf Boat Club
DB 350	South Lagoon at Bull Wall Wooden Bridge
	Tolka
DB 300	Upstream of Drumcondra Bridge

A summary of transitional water quality compliance with S.I 272 of 2009 for the above locations is presented below and complete water quality data is presented in Appendix 6.2(3).

This shows full compliance with BOD, Temperature, Dissolved Oxygen (upper and lower) and median Molybdate Reactive Phosphorus at all locations, on all survey dates except those detailed below.

An exceedance of the BOD standard occurred at DB 320 (Surface) – the Tolka at East Point Business Park Bridge, with BOD concentrations of 5 mg/l on 24/07/14 and 7 mg/l on 21/08/14.

Dissolved Oxygen (upper) exceedances (slight) occurred in the Tolka Estuary at DB 330 – Castle Avenue (Surface) - 123% saturation on 24/07/14, at DB 350 – South Lagoon at Wooden Bridge (Surface and Depth) – 128% and 124% saturation respectively on 24/07/14 and at DB 300 - Tolka upstream of Drumcondra Bridge (Surface) – 124% saturation on 24/04/14.

2 Molybdate Reactive Phosphate (MRP) (median) exceedances occurred as follows:

Location	MRP 2014 Median Result	SI 272 Standard	Comment
	Liffey Estuary Lower		
DB 410 (Surface)	203 µg/l P	< 40 µg/l P	SW1 Discharge Impact
	Tolka		
DB 350 (Surface)	48 µg/l P	< 40 µg/l P	River / SW1 Impacts

Median Chlorophyll concentrations met the High-Good boundary concentration at 5 locations, met the Good-Moderate boundary concentration at 11 locations and failed to meet the Good – Moderate boundary concentrations at 5 locations. These are tabulated below:

Location	Chlorophyll-a Median Result	SI 272 Standard Good-Moderate Boundary	Comment
	Liffey Estuary Lower	5 mg/m^3	
DB 120 (Depth)	5.8 mg/m^3		River / SW1 Impacts
DB 210 (Depth)	6.1 mg/m^3		River / SW1 Impacts
	Liffey Estuary Upper		
DB 020 (Depth)	5.7		River / SW1 Impacts
	Tolka Estuary		
DB 320 (Depth)	6.4		River / SW1 Impacts
DB 330 (Depth)	5.2		River / SW1 Impacts

Concentrations of DIN and Silica are included in Appendix 6.2.3 for all samples taken. No standards exist for Transitional Water Bodies in S.I 272 of 2009.

3. Marine Monitoring – Coastal Water Monitoring – Dublin Bay – Points Agreed with EPA

A total of 4 surveys were carried out at 9 locations in Dublin Bay during 2014. These locations - 6 coastal waters and 3 Irish Sea locations (*), agreed with the EPA, are tabulated below:

EPA Map Code	Sampling Point
	Dublin Bay
DB 610	Off Bailey Lighthouse, Howth
DB 430	1 km. NE Poolbeg Lighthouse
DB 450	South Bull Buoy, 1 km. SE Poolbeg Lighthouse
DB 510*	2.5 km. ENE Poolbeg Lighthouse
DB 540*	2.5 km. SSE Poolbeg Lighthouse
DB 550	No.4 Buoy, 2.5 km. E of S Poolbeg Lighthouse
DB 560	Drumleck Point, Howth, 5 km. ENE Poolbeg Lighthouse
DB 570*	5 km. ESE Poolbeg Lighthouse

DB 580	Dun Laoghaire, 5 km. E of S Poolbeg Lighthouse

These locations were sampled at surface (S) and depth (D) only when the Salinity varied on the recommendation of the EPA. Composite samples were taken at all other times.

A summary of coastal water quality compliance with S.I 272 of 2009 for the above locations is presented below and complete water quality data is presented in Appendix 6.2(4).

Monitoring shows full compliance with Temperature, Dissolved Oxygen (lower), Dissolved Oxygen (upper) and Chlorophyll-a at all 9 locations on all survey dates. A slight exceedance of Dissolved Oxygen (upper) occurred at DB 430, 1 km NE of Poolbeg Lighthouse (Surface). The value was 122% saturation on 23/07/14.

Median Chlorophyll values met the High – Good boundary condition at DB 510 and DB 570 and the other 7 locations met the Good – Moderate boundary condition.

The Dissolved Inorganic Nitrogen (DIN) standard for HIGH status (170 µg/l N) was met by median and mean concentrations measured at all 9 locations during 2014.

The Silica concentrations measured were all <0.40 mg/l (as SiO2).

There were no impacts on coastal and Irish Sea water quality during surveys carried out in 2014.

4. Shoreline Monitoring – 2014 Bathing Season

Bathing Water is currently regulated by the Bathing Water Quality Regulations, 2008 (SI No.79 of 2008) and Bathing Water Quality (Amendment) Regulations 2011 (SI No. 351 of 2011).

Shoreline sampling was carried out at 8 locations during the 2014 bathing season:

- ASW 11 - Dollymount North,
- **ASW 12 - Dollymount Bathing Zone***
- ASW 13 - Dollymount South
- ASW 14 - Bull Wall Wood Causeway
- ASW 15 - Poolbeg Outfall (Main)
- ASW 16 - Half Moon Club Southside
- **ASW 17 – Sandymount Strand***
- **ASW 18 – Merrion Strand***

A summary of bathing water quality compliance with S.I No. 79 of 2008 for the above locations, three of which are designated* is presented below and complete water quality data is presented in Appendix 6.2 (4).

In summary:

Bathing water status was determined by the EPA in 2014 following the 3 year “transitional” period from 2011 to 2013.

Designated bathing waters at Dollymount (Bathing Zone) and Sandymount Strand were allocated **GOOD** status by the EPA in 2014. Merrion Strand was allocated **SUFFICIENT** status in 2014.

The remaining 5 locations are not designated bathing waters.

Monitoring between 27/05/14 and 15/09/14 indicated microbiological impacts as highlighted in Appendix 6.2 (5) and summarised below:

Site Location	ASW 11	ASW 13	ASW 14	ASW 15*	ASW 16
No. of E.Coli results	25	22	22	22	20
Samples complying with GOOD and SUFFICIENT	24	22	18		19
No. of Enterococci results	25	22	22	21	20
Samples complying with GOOD	22	22	18		18
Samples complying with SUFFICIENT	22	22	18		18

*Poolbeg Outfall is not a bathing area and is monitored to check the impact of the Ringsend discharge plume.

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

The electronic submission of data was completed in January 2015.

2.5 Pollutant Release and Transfer Register (PRTR) - 2014

The printed PRTR is included in Appendix 6.3.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:

Table 3.1 - Treatment Efficiency Report Summary

	cBOD *(t/yr)	COD *(t/yr)	SS *(t/yr)	Total P *(t/yr)	Total N *(t/yr)	Comment
Influent mass loading (kg/year)	38,938	82,024	40,674	822	5,291	Loadings expressed in tonnes/year
Effluent mass emission (kg/year)	3,108	12,628	5,844	546	2,429	Emissions in tonnes/year
% Efficiency (% reduction of influent load)	92.02%	84.61%	85.63%	33.59%	54.11%	

*Flow weighted loadings

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (m^3/year) Peak	171,550,000
Hydraulic Capacity – Design / As Constructed (m^3/year) DWF	350,049,600
Hydraulic Capacity – Current loading (m^3/year)	166,059,305
Hydraulic Capacity – Remaining (m^3/year)	183,990,295*
Organic Capacity - Design / As Constructed (PE)	1.64 million (mean)
Organic Capacity - Current loading (PE)	1.77 million (mean)
Organic Capacity – Remaining (PE)	None
Will the capacity be exceeded in the next three years? (Yes / No)	Yes**

* Flows in excess of peak flows cause hydraulic overload and operational problems at the WWTP
** Plans are being progressed to expand the current hydraulic and organic capacity at Ringsend.

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	100%
Load collected in the agglomeration that enters treatment plant	Unknown
Load collected in the sewer network but discharged without treatment	Unknown

The data in Table 3.3 above is based on influent monitoring as detailed in Section 2.1 above.

3.4 Complaints Summary

A summary of complaints of an environmental nature is included below.
Complaints relating to the performance of the WWTP or network in Dublin City Council's functional area in 2014 are summarised in Table 3.4.

Table 3.4 - Complaints Summary Table:

WONUM	REPORT_DATE	Nature of Complaint	Cause of Complaint	Actions Taken	CURRENT_STATUS
20695115	01-May-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
20720228	02-May-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
20759879	07-May-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
20765895	09-May-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
20839793	21-May-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
20860059	23-May-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
20862177	26-May-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
20930295	30-May-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
21067438	13-Jun-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
21379618	17-Jul-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
21390176	18-Jul-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
21496173	05-Aug-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
21582544	26-Aug-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
21729484	10-Sep-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
21937385	09-Oct-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
22007368	20-Oct-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
22064744	24-Oct-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
22146948	06-Nov-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
22205856	13-Nov-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
22205857	13-Nov-14	Sewage overflow	Sewer choke	Choke released	RCLOSE

WONUM	REPORT_DATE	Nature of Complaint	Cause of Complaint	Actions Taken	CURRENT_STATUS
22384578	08-Dec-14	Sewage overflow	Odour	Sewer cleaned	RCLOSE
22435818	16-Dec-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
22504242	22-Dec-14	Sewage overflow	Sewer choke	Choke released	RCLOSE
002675	12-Nov-2014	Sewage overflow	Private drain choke	No action taken	Closed

3.5 Reported Incidents Summary

Reported incidents in the agglomeration in 2014 are summarised in Table 3.5.1

Table 3.5.1 - Summary of Incidents

Incident Number	Date	Inc Description	Cause	Corrective Action	Authorities Contacted	Reported to E.P.A.	Closed	Location
1004213	08/05/2014	Blocked Sewer	Blockage	Blockage Cleared	N	Y	Y	Woodview Ave
1004333	01/01/2014	Uncontrolled release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1004334	08/01/2014	ELV Exceedance	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1004336	09/01/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1004337	18/01/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1004338	29/01/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1004358	25/05/2014	Uncontrolled Release	Rainfall	Not Applicable	N	Y	Y	Chapelizod
1004737	14/07/2014	Uncontrolled Release	Rainfall	Not Applicable	N	Y	Y	Arran Quay
1005390	27/09/2014	Blocked sewer	Blockage	Blockage Cleared	N	Y	Y	Chapelizod
1005574	06/10/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006294	07/11/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006295	08/11/2014	Uncontrolled release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006296	11/11/2014	Uncontrolled release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006297	12/11/2014	Uncontrolled release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006298	13/11/2014	Uncontrolled release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006299	14/11/2014	Uncontrolled release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006300	15/11/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006301	16/11/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1006302	21/11/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	Y	RWWTW
1004405	03/02/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1004406	04/02/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1004408	04/02/2014	Uncontrolled Release	Rainfall	T.W Upgrade	N	Y	N	RWWTW
1004409	07/02/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1004410	12/02/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1004411	14/02/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1004413	20/03/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1004414	20/03/2014	Uncontrolled Release	Rainfall	T.W .Upgrade	N	Y	N	RWWTW
1004415	02/04/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1004416	19/05/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW

1005141	02/08/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1005142	05/08/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1005143	10/08/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1005573	03/10/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1005865	28/10/2014	Uncontrolled Release	Rainfall	T.E. Upgrade	N	Y	N	RWWTW
1005866	28/10/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1005871	06/1102014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1005872	11/11/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1005877	14/11/2014	Uncontrolled Release	P.S. Failed	Pumps Repaired	Y	Y	N	Kilbride P.S.
1006303	22/11/2014	Uncontrolled Release	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1006304	11/12/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1006305	16/12/2014	Breach of ELV	Rainfall	T.W. Upgrade	N	Y	N	RWWTW
1004814	18/07/2014	Uncontrolled Release	Rainfall	Not Applicable	N	Y	N	Aylesbury P.S.
1004958	05/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Aylesbury P.S.
1004959	06/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Sewer in Elm Park
1004960	10/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Aylesbury P.S.
1004961	11/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Sewer in Elm Park
1004962	05/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Sutton P.S.
1004963	05/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Kilbarrack P.S.
1004964	05/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Ballymun P.S.
1004966	05/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Mellows Rd P.S.
1004977	10/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Dollymount
1004978	11/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Kilbarrack P.S.
1004979	11/08/2014	Uncontrolled Release	Rainfall	Not Applicable	Y	Y	N	Ballymun P.S.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2014	53
Number of Incidents reported to the EPA via EDEN in 2014	53
Explanation of any discrepancies between the two numbers above	N/A

3.6 Sludge / Other inputs to the WWTP

'Other inputs' to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs

Input type	m^3/year	PE/year	% of load to WWTP	Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	0	N/A	Negligible	Y	Y
Industrial / Commercial Sludge	20,846	N/A	Negligible	Y	Y
Landfill Leachate (delivered by tanker)	30,242	N/A	Negligible	Y	Y
Landfill Leachate (delivered by sewer network)	0	N/A	Negligible	Y	Y
Other (specify)	0	N/A	Negligible	Y	Y

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant not included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The Storm Water Overflow Summary Report, Tables 4.1 and 4.2 are shown below. Actual data for columns 5 (no. time activated), 6 (total volume discharged in m^3) and 7 (total volume discharged in PE) in Table 4.1 are not available for Dublin City Council. This data have been estimated by combining information contained within the Greater Dublin Strategic Drainage Study (GDSDS) with an analysis of discharge from a single storm water overflow during a major storm event. The GDSDS was never intended to provide the level of detail required to complete Table 4.1 and is, therefore, unreliable.

Accurate data for Table 4.1 can only be obtained through a comprehensive study of individual storm water overflows. The study should determine the following:

- Frequency of overflow
- Volume discharge in each overflow episode
- An assessment of the quality of the effluent discharged

Table 4.1 Storm water overflow identification and assessment summary table

SWO Code	Grid Reference		Included in S.4 of WWDL	DECLG Assessment Criteria				No. of Times Activated in 2013	Total Volume Discharged in 2013 (m^3)	Total Volume Discharged in 2013 (PE)	Measured/Estimated	
PT_CD	EASTING	NORTHING		Q1	Q2	Q3	Q4		Volume Emitted			STC25 Ref
CSO186DCC	317881	232507	Y	Yes*	Yes*	Yes*	No	53	521299	1338000.77	E	SO17328507
CSO88DCC	317683	234884	Y	Yes*	Yes*	Yes*	No	53	394401	1012295.9	E	SO17346807
CSO180DCC	318106.6	232850	Y	Yes*	Yes*	Yes*	No	53	325145	834538.833	E	SO18321802
CSO171DCC	317550	232447	Y	Yes*	Yes*	Yes*	No	53	284186	729410.733	E	SO17325401
CSO36DCC	317234	234294	Y	Yes*	Yes*	Yes*	No	53	237469	609503.767	E	SO17342203
CSO176DCC	317639	232519	Y	Yes*	Yes*	Yes*	No	53	196982	505587.133	E	SO17326503
CSO168DCC	318139	233413.1	Y	Yes*	Yes*	Yes*	No	53	194860	500140.667	E	SO18331407
CSO156DCC	322127.4	237600.7	Y	Yes*	Yes*	Yes*	No	53	163715	420201.833	E	SO22371604
CSO49DCC	313699	234415	Y	Yes*	Yes*	Yes*	No	53	156055	400541.167	E	SO13346404
CSO84DCC	315139	234124	Y	Yes*	Yes*	Yes*	No	52	126886	325674.067	E	SO15341109
CSO47DCC	315278	234216	Y	Yes*	Yes*	Yes*	No	53	106797	274112.3	E	SO15342204
CSO51DCC	315102	233451	Y	Yes*	Yes*	Yes*	No	53	105743	271407.033	E	SO15331433
CSO69DCC	310913	233836	Y	Yes*	Yes*	Yes*	No	12	96482	247637.133	E	SO10339801
CSO184DCC	317824	232486	Y	Yes*	Yes*	Yes*	No	52	96123	246715.7	E	SO17328405
CSO34DCC	316933	235409	Y	Yes*	Yes*	Yes*	No	53	86542	222124.467	E	SO16359411
CSO1DCC	314772	234232	Y	Yes*	Yes*	Yes*	No	53	77274	198336.6	E	SO14347206
CSO118DCC	316968	236195	Y	Yes*	Yes*	Yes*	No	Unknown	76157	195469.633	E	SO16369104
CSO48DCC	315133	234184	Y	Yes*	Yes*	Yes*	No	52	61269	157257.1	E	SO15341117
CSO33DCC	317191	234633	Y	Yes*	Yes*	Yes*	No	53	55865	143386.833	E	SO17341601
CSO103DCC	310784.4	232217.7	Y	Yes*	Yes*	Yes*	No	53	53954	138481.933	E	SO10327207
CSO128DCC	321115.9	237636.4	Y	Yes*	Yes*	Yes*	No	53	52398	134488.2	E	SO21371602
CSO188DCC	314450.6	230169.9	Y	Yes*	Yes*	Yes*	No	53	51707	132714.633	E	SO14304105
CSO72DCC	312285.9	233530.1	Y	Yes*	Yes*	Yes*	No	1	48727	125065.967	E	SO12332506
CSO102DCC	310740.7	232269.8	Y	Yes*	Yes*	Yes*	No	N/A	47762	122589.133	E	SO10327205
CSO89DCC	317775	234427	Y	Yes*	Yes*	Yes*	No	53	40352	103570.133	E	SO17347411

CSO14DCC	316849	234337	Y	Yes*	Yes*	Yes*	No	52	37777	96960.9667	E	SO16348302
SWO Code	**Grid Reference**		**Included in S.4 of WWDL**	**DECLG Assessment Criteria**				**No. of Times Activated in 2013**	**Total Volume Discharged in 2013 (m^3)**	**Total Volume Discharged in 2013 (PE)**	**Measured/Estimated**	
PT_CD	**EASTING**	**NORTHING**		**Q1**	**Q2**	**Q3**	**Q4**		**Volume Emitted**			**STC25 Ref**
CSO153DCC	313415	238521	Y	Yes*	Yes*	Yes*	No	Unknown	34201	87782.5667	E	SO13383501
CSO164DCC	323610.5	238743.9	Y	Yes*	Yes*	Yes*	No	Unknown	30268	77687.8667	E	SO23386705
CSO173DCC	317827	231358	Y	Yes*	Yes*	Yes*	No	0	23522	60373.1333	E	SO17318310
CSO80DCC	314205	234270	Y	Yes*	Yes*	Yes*	No	24	22269	57157.1	E	SO14342204
CSO5DCC	317054	235998	Y	Yes*	Yes*	Yes*	No	24	21414	54962.6	E	SO17350908
CSO11DCC	316107	234398	Y	Yes*	Yes*	Yes*	No	52	20870	53566.3333	E	SO16341310
CSO73DCC	317455	235389	Y	Yes*	Yes*	Yes*	No	52	20351	52234.2333	E	SO17354303
CSO2DCC	314663	234263	Y	Yes*	Yes*	Yes*	No	24	19504	50060.2667	E	SO14346214
CSO181DCC	315892	232164	Y	Yes*	Yes*	Yes*	No	Unknown	18722	48053.1333	E	SO15328193
CSO152DCC	321003.5	236216.9	Y	Yes*	Yes*	Yes*	No	Unknown	18664	47904.2667	E	SO2130202
CSO169DCC	317909.4	232497.3	Y	Yes*	Yes*	Yes*	No	Unknown	17822	45743.1333	E	SO17329403
CSO112DCC	315347	237184.2	Y	Yes*	Yes*	Yes*	No	Unknown	17082	43843.8	E	SO15373102
CSO134DCC	318903.1	237248.1	Y	Yes*	Yes*	Yes*	No	Unknown	16565	42516.8333	E	SO18378205
CSO66DCC	313731	234212	Y	Yes*	Yes*	Yes*	No	24	15862	40712.4667	E	SO13347206
CSO83DCC	313953	234344	Y	Yes*	Yes*	Yes*	No	24	15850	40681.6667	E	SO13349307
CSO81DCC	317303	235416	Y	Yes*	Yes*	Yes*	No	52	15783	40509.7	E	SO17353415
CSO142DCC	323128.6	238498.6	Y	Yes*	Yes*	Yes*	No	53	14623	37532.3667	E	SO23381414
CSO177DCC	314416.2	231520.7	Y	Yes*	Yes*	Yes*	No	52	13220	33931.3333	E	SO14314503
CSO62DCC	317394	234266	Y	Yes*	Yes*	Yes*	No	24	13208	33900.5333	E	SO17343203
CSO93DCC	319319	231456	Y	Yes*	Yes*	Yes*	No	24	13075	33559.1667	E	SO19313502
CSO94DCC	310380.3	232486.3	Y	Yes*	Yes*	Yes*	No	Unknown	12894	33094.6	E	SO10323401
CSO7DCC	314962	233226	Y	Yes*	Yes*	Yes*	No	53	12300	31570	E	SO14339210
CSO15DCC	312958	234298	Y	Yes*	Yes*	Yes*	No	Unknown	9437	24221.6333	E	SO12349203
CSO125DCC	318032	236337	Y	Yes*	Yes*	Yes*	No	Unknown	8827	22655.9667	E	SO18360302
CSO147DCC	322791	238174.1	Y	Yes*	Yes*	Yes*	No	52	8765	22496.8333	E	SO22387104
CSO190DCC	317176	230639	Y	Yes*	Yes*	Yes*	No	Unknown	8315	21341.8333	E	SO17301604
CSO65DCC	313820	234224	Y	Yes*	Yes*	Yes*	No	24	8095	20777.1667	E	SO13348206
CSO60DCC	315398	233788	Y	Yes*	Yes*	Yes*	No	53	7698	19758.2	E	SO15333701

CSO119DCC	317476	236267	Y	Yes*	Yes*	Yes*	No	Unknown	7618	19552.8667	E	SO17364203
SWO Code	**Grid Reference**		**Included in S.4 of WWDL**	**DECLG Assessment Criteria**				**No. of Times Activated in 2013**	**Total Volume Discharged in 2013 (m^3)**	**Total Volume Discharged in 2013 (PE)**	**Measured/Estimated**	
PT_CD	**EASTING**	**NORTHING**		**Q1**	**Q2**	**Q3**	**Q4**		**Volume Emitted**			**STC25 Ref**
CSO87DCC	316865	234654	Y	Yes*	Yes*	Yes*	No	12	7568	19424.5333	E	SO16348607
CSO35DCC	316885	233670	Y	Yes*	Yes*	Yes*	No	24	6895	17697.1667	E	SO16338601
CSO10DCC	313533	233809	Y	Yes*	Yes*	Yes*	No	Unknown	6890	17684.3333	E	SO13335804
CSO182DCC	314819.9	232376.7	Y	Yes*	Yes*	Yes*	No	12	5838	14984.2	E	SO14328311
CSO71DCC	310510	234079	Y	Yes*	Yes*	Yes*	No	24	5315	13641.8333	E	SO10345001
CSO32DCC	317182	234623	Y	Yes*	Yes*	Yes*	No	12	5313	13636.7	E	SO17341607
CSO26DCC	312632.1	233616.3	Y	Yes*	Yes*	Yes*	No	52	5241	13451.9	E	SO12336604
CSO140DCC	322305.9	241250.1	Y	Yes*	Yes*	Yes*	No	Unknown	5047	12953.9667	E	SO22413204
CSO107DCC	318741	232076	Y	Yes*	Yes*	Yes*	No	52	4946	12694.7333	E	SO18327003
CSO46DCC	315717	234317	Y	Yes*	Yes*	Yes*	No	12	4911	12604.9	E	SO15347306
CSO29DCC	315417	234244	Y	Yes*	Yes*	Yes*	No	24	4680	12012	E	SO15344205
CSO23DCC	316108	234474	Y	Yes*	Yes*	Yes*	No	4	3561	9139.9	E	SO16341406
CSO141DCC	321150.1	238284.2	Y	Yes*	Yes*	Yes*	No	24	3345	8585.5	E	SO21381202
CSO146DCC	315371.4	237860.2	Y	Yes*	Yes*	Yes*	No	6	3287	8436.63333	E	SO15373801
CSO76DCC	311756.9	233212.2	Y	Yes*	Yes*	Yes*	No	52	3272	8398.13333	E	SO11337206
CSO161DCC	315285	239290	Y	Yes*	Yes*	Yes*	No	Unknown	3182	8167.13333	E	SO15394203
CSO45DCC	315551	234270	Y	Yes*	Yes*	Yes*	No	12	2909	7466.43333	E	SO15345206
CSO30DCC	312009.9	233526.7	Y	Yes*	Yes*	Yes*	No	1	2863	7348.36667	E	SO12330604
CSO19DCC	316857	236017	Y	Yes*	Yes*	Yes*	No	12	2733	7014.7	E	SO16368009
CSO97DCC	319373	230608	Y	Yes*	Yes*	Yes*	No	12	2566	6586.06667	E	SO19303601
CSO178DCC	314413.1	231520.5	Y	Yes*	Yes*	Yes*	No	12	2447	6280.63333	E	SO14314501
CSO25DCC	314580	234294	Y	Yes*	Yes*	Yes*	No	12	2263	5808.36667	E	SO14345210
CSO28DCC	313210	233631	Y	Yes*	Yes*	Yes*	No	4	2117	5433.63333	E	SO13332616
CSO50DCC	315113.2	233446	Y	Yes*	Yes*	Yes*	No	6	2088	5359.2	E	SO15331414
CSO167DCC	317890	231357	Y	Yes*	Yes*	Yes*	No	6	1990	5107.66667	E	SO17318301
CSO22DCC	311515.7	232829.5	Y	Yes*	Yes*	Yes*	No	N/A	1972	5061.46667	E	SO11325805
CSO27DCC	315533	234142	Y	Yes*	Yes*	Yes*	No	24	1792	4599.46667	E	SO15345113
CSO124DCC	317564	236640	Y	Yes*	Yes*	Yes*	No	Unknown	1486	3814.06667	E	SO17365601

CSO21DCC	315487	234037	Y	Yes*	Yes*	Yes*	No	Unknown	1477	3790.96667	E	SO15344004
SWO Code	**Grid Reference**		**Included in S.4 of WWDL**	**DECLG Assessment Criteria**				**No. of Times Activated in 2013**	**Total Volume Discharged in 2013 (m^3)**	**Total Volume Discharged in 2013 (PE)**	**Measured/Estimated**	
PT_CD	**EASTING**	**NORTHING**		**Q1**	**Q2**	**Q3**	**Q4**		**Volume Emitted**			**STC25 Ref**
CSO187DCC	316306	230383	Y	Yes*	Yes*	Yes*	No	6	1415	3631.83333	E	SO16303302
CSO150DCC	321216.2	238351.5	Y	Yes*	Yes*	Yes*	No	24	1185	3041.5	E	SO21382304
CSO136DCC	318558.7	237698.9	Y	Yes*	Yes*	Yes*	No	Unknown	1145	2938.83333	E	SO18375603
CSO170DCC	317699	231474	Y	Yes*	Yes*	Yes*	No	12	1092	2802.8	E	SO17316403
CSO82DCC	317299.2	235411.1	Y	Yes*	Yes*	Yes*	No	52	1060	2720.66667	E	SO17353415
CSO4DCC	317065	235991	Y	Yes*	Yes*	Yes*	No	24	1052	2700.13333	E	SO17350906
CSO114DCC	315933.2	237458.9	Y	Yes*	Yes*	Yes*	No	Unknown	1007	2584.63333	E	SO15379403
CSO120DCC	317288	237032	Y	Yes*	Yes*	Yes*	No	Unknown	966	2479.4	E	SO17372001
CSO18DCC	316852	236022	Y	Yes*	Yes*	Yes*	No	4	945	2425.5	E	SO16368001
CSO189DCC	316956	230477	Y	Yes*	Yes*	Yes*	No	N/A	898	2304.86667	E	
CSO131DCC	320166.1	237863.4	Y	Yes*	Yes*	Yes*	No	52	889	2281.76667	E	SO20371802
CSO75DCC	312544.7	233667.4	Y	Yes*	Yes*	Yes*	No	12	865	2220.16667	E	SO12335605
CSO63DCC	314704	234412	Y	Yes*	Yes*	Yes*	No	4	848	2176.53333	E	SO14347406
CSO8DCC	316161	236672	Y	Yes*	Yes*	Yes*	No	1	704	1806.93333	E	SO16361609
CSO175DCC	317743	231303	Y	Yes*	Yes*	Yes*	No	6	697	1788.96667	E	SO17317302
CSO74DCC	312533.3	233579.4	Y	Yes*	Yes*	Yes*	No	Unknown	651	1670.9	E	SO12335506
CSO151DCC	313201	236289	Y	Yes*	Yes*	Yes*	No	NA	549	1409.1	E	SO13362202
CSO70DCC	310244.3	234243.1	Y	Yes*	Yes*	Yes*	No	4	521	1337.23333	E	SO10342201
CSO139DCC	313685	238438	Y	Yes*	Yes*	Yes*	No	53	427	1095.96667	E	SO13386401
CSO101DCC	319921	230594	Y	Yes*	Yes*	Yes*	No	6	369	947.1	E	SO19309504
CSO90DCC	311588.6	231730.6	Y	Yes*	Yes*	Yes*	No	Unknown	247	633.966667	E	SO11315707
CSO98DCC	319373	230608	Y	Yes*	Yes*	Yes*	No	Unknown	236	605.733333	E	SO19303603
CSO126DCC	319927	235869	Y	Yes*	Yes*	Yes*	No	Unknown	223	572.366667	E	SO19359806
CSO68DCC	310354.6	234122	Y	Yes*	Yes*	Yes*	No	2	190	487.666667	E	SO10343105
CSO78DCC	314686	234201	Y	Yes*	Yes*	Yes*	No	2	153	392.7	E	SO14346205
CSO197DCC	316297	237050	Y	Yes*	Yes*	Yes*	No	Unknown	120	308	E	SO16372001
CSO24DCC	314430	234315	Y	Yes*	Yes*	Yes*	No	2	119	305.433333	E	SO14344316
CSO43DCC	313387	233674	Y	Yes*	Yes*	Yes*	No	Unknown	97	248.966667	E	SO13333602

CSO6DCC	314959	233223	Y	Yes*	Yes*	Yes*	No	52	82	210.466667	E	SO14339210
SWO Code	**Grid Reference**		**Included in S.4 of WWDL**	**DECLG Assessment Criteria**				**No. of Times Activated in 2013**	**Total Volume Discharged in 2013 (m^3)**	**Total Volume Discharged in 2013 (PE)**	**Measured/Estimated**	
PT_CD	**EASTING**	**NORTHING**		**Q1**	**Q2**	**Q3**	**Q4**		**Volume Emitted**			**STC25 Ref**
CSO130DCC	316652	238118	Y	Yes*	Yes*	Yes*	No	Unknown	72	184.8	E	SO16383101
CSO31DCC	315899	236808.9	Y	Yes*	Yes*	Yes*	No	Unknown	64	164.266667	E	SO15368802
CSO135DCC	313840.1	237483.7	Y	Yes*	Yes*	Yes*	No	4	47	120.633333	E	SO13378401
CSO61DCC	315322	233808	Y	Yes*	Yes*	Yes*	No	4	41	105.233333	E	SO15333801
CSO129DCC	314692.1	238454	Y	Yes*	Yes*	Yes*	No	52	37	94.9666667	E	SO14386402
CSO20DCC	313539.2	233798.2	Y	Yes*	Yes*	Yes*	No	1	30	77	E	SO13335709
CSO38DCC	312689.5	234345.9	Y	Yes*	Yes*	Yes*	No	Unknown	7	17.9666667	E	SO12346305
CSO13DCC	314893	234204	Y	Yes*	Yes*	Yes*	No	1	6	15.4	E	SO14348209
CSO9DCC	316043	236686	Y	Yes*	Yes*	Yes*	No	2	6	15.4	E	SO16360601
CSO157DCC	313270	238784	Y	Yes*	Yes*	Yes*	No	24	5	12.8333333	E	SO13382701
CSO100DCC	313420.7	232720.8	Y	No**	No**	No**	No	Unknown	0	0	E	SO13324701
CSO104DCC	313402.8	232802.7	Y	No**	No**	No**	No	1	0	0	E	SO13324801
CSO105DCC	317843	233804	Y	No**	No**	No**	No	1	0	0	E	SO17338807
CSO106DCC	319384	231534	Y	No**	No**	No**	No	24	0	0	E	SO19313502
CSO109DCC	317414	238590	Y	No**	No**	No**	No	Unknown	0	0	E	SO17384504
CSO122DCC	319420	239940	Y	No**	No**	No**	No	Unknown	0	0	E	SO19394906
CSO12DCC	316024	234360	Y	No**	No**	No**	No	1	0	0	E	SO16340308
CSO132DCC	312746	239249	Y	No**	No**	No**	No	Unknown	0	0	E	?
CSO133DCC	313170	238854	Y	No**	No**	No**	No	4	0	0	E	SO13381805
CSO143DCC	314316	238253	Y	No**	No**	No**	No	1	0	0	E	SO14383203
CSO144DCC	320761.3	238396.4	Y	No**	No**	No**	No	6	0	0	E	SO20387301
CSO149DCC	313240.1	238953.6	Y	No**	No**	No**	No	4	0	0	E	SO13381805
CSO154DCC	322129.6	239548.4	Y	No**	No**	No**	No	1	0	0	E	SO22391501
CSO155DCC	321528.6	237973.6	Y	No**	No**	No**	No	1	0	0	E	SO21375901
CSO158DCC	323132	241110	Y	No**	No**	No**	No	Unknown	0	0	E	?
CSO160DCC	313720.8	237668.9	Y	No**	No**	No**	No	Unknown	0	0	E	SO13377607
CSO162DCC	321555	235735.1	Y	No**	No**	No**	No	Unknown	0	0	E	SO21355703
CSO163DCC	314105.8	237565	Y	No**	No**	No**	No	Unknown	0	0	E	SO14371501

CSO165DCC	320130	235782.3	Y	No**	No**	No**	No	Unknown	0	0	E	SO20351704
SWO Code	**Grid Reference**		**Included in S.4 of WWDL**	**DECLG Assessment Criteria**				**No. of Times Activated in 2013**	**Total Volume Discharged in 2013 (m^3)**	**Total Volume Discharged in 2013 (PE)**	**Measured/Estimated**	
PT_CD	**EASTING**	**NORTHING**		**Q1**	**Q2**	**Q3**	**Q4**		**Volume Emitted**			**STC25 Ref**
CSO166DCC	317562.2	230766.8	Y	No**	No**	No**	No	Unknown	0	0	E	SO17305702
CSO16DCC	312966	234298	Y	No**	No**	No**	No	0	0	0	E	SO12349202
CSO174DCC	317852	231363	Y	No**	No**	No**	No	0	0	0	E	SO17318310
CSO179DCC	318131.7	233429.2	Y	No**	No**	No**	No	Unknown	0	0	E	SO18331410
CSO17DCC	312966	234298	Y	No**	No**	No**	No	1	0	0	E	SO12349202
CSO183DCC	316789.6	230086.1	Y	No**	No**	No**	No	N/A	0	0	E	Located in South Dublin County Council
CSO185DCC	316609.1	232018	Y	No**	No**	No**	No	Unknown	0	0	E	SO16325007
CSO195DCC	314827.7	229636.6	Y	No**	No**	No**	No	N/A	0	0	E	Located in South Dublin County Council
CSO196DCC	314816.5	229635.4	Y	No**	No**	No**	No	N/A	0	0	E	Located in South Dublin County Council
CSO37DCC	312015.3	233664.8	Y	No**	No**	No**	No	1	0	0	E	SO12330604
CSO3DCC	315862	234379	Y	No**	No**	No**	No	1	0	0	E	SO15348308
CSO40DCC	309727.8	234677.8	Y	No**	No**	No**	No	1	0	0	E	SO09347603
CSO41DCC	314987	234131	Y	No**	No**	No**	No	1	0	0	E	SO14349101
CSO42DCC	315977.8	236911.8	Y	No**	No**	No**	No	Unknown	0	0	E	SO15369902
CSO44DCC	316904	236073	Y	No**	No**	No**	No	1	0	0	E	SO16369001
CSO52DCC	317843	233804	Y	No**	No**	No**	No	1	0	0	E	SO17338807
CSO53DCC	309604.2	234375.7	Y	No**	No**	No**	No	4	0	0	E	SO09346312
CSO54DCC	312990	233670	Y	No**	No**	No**	No	1	0	0	E	SO12339609
CSO55DCC	312990	233670	Y	No**	No**	No**	No	1	0	0	E	SO12339609
CSO56DCC	313022	233676	Y	No**	No**	No**	No	1	0	0	E	SO13330605
CSO57DCC	313022	233676	Y	No**	No**	No**	No	1	0	0	E	SO13330605
CSO58DCC	313064	233680	Y	No**	No**	No**	No	1	0	0	E	SO13330604

CSO59DCC	314244	234324	Y	No**	No**	No**	No	1	0	0	E	SO14342308
SWO Code	**Grid Reference**		**Included in S.4 of WWDL**	**DECLG Assessment Criteria**				**No. of Times Activated in 2013**	**Total Volume Discharged in 2013 (m^3)**	**Total Volume Discharged in 2013 (PE)**	**Measured/Estimated**	
PT_CD	**EASTING**	**NORTHING**		**Q1**	**Q2**	**Q3**	**Q4**		**Volume Emitted**			**STC25 Ref**
CSO64DCC	314700	234516	Y	No**	No**	No**	No	Unknown	0	0	E	SO14347510
CSO67DCC	310350.4	234127.5	Y	No**	No**	No**	No	1	0	0	E	SO10343107
CSO77DCC	314492	234246	Y	No**	No**	No**	No	1	0	0	E	SO14344202
CSO79DCC	314322	234267	Y	No**	No**	No**	No	1	0	0	E	SO14343207
CSO85DCC	315136	234112	Y	No**	No**	No**	No	1	0	0	E	SO15341103
CSO91DCC	311397.9	230549.3	Y	No**	No**	No**	No	Unknown	0	0	E	??
CSO92DCC	313440	232440.5	Y	No**	No**	No**	No	Unknown	0	0	E	SO13324405
CSO95DCC	318879.5	233947.3	Y	No**	No**	No**	No	Unknown	0	0	E	SO18338911
CSO96DCC	313724.7	232628.4	Y	No**	No**	No**	No	1	0	0	E	SO13327607
CSO99DCC	313291	229848	Y	No**	No**	No**	No	Unknown	0	0	E	SO13292801
Not Applicable	318105.2	232849.3	Y	Unknown	Unknown	Unknown	Unknown	52	Unknown	Unknown	E	SO18321802
Not Applicable	317325.5	233388.9	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17333303
Not Applicable	318249	230834	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO18302806
Not Applicable	317785	231204	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17317203
Not Applicable	311914.5	236281.4	Y	Unknown	Unknown	Unknown	Unknown	4	Unknown	Unknown	E	SO11369201
Not Applicable	315273	237272	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO15372202
Not Applicable	318892	237253.9	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO18378205
Not Applicable	319050.8	237218.1	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO19370201
Not Applicable	319029	237382	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO19370306
Not Applicable	321437.3	236402.3	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO21364410
Not Applicable	319242.3	235931.2	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO19352902
Not Applicable	321196.1	236118.1	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO21361101
Not Applicable	319347.5	237236.5	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO19373202

SWO Code	Grid Reference		Included in S.4 of WWDL	DECLG Assessment Criteria				No. of Times Activated in 2013	Total Volume Discharged in 2013 (m^3)	Total Volume Discharged in 2013 (PE)	Measured/Estimated	
PT_CD	EASTING	NORTHING		Q1	Q2	Q3	Q4		Volume Emitted			STC25 Ref
Not Applicable	316236.7	236868.9	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO16362801
Not Applicable	317481.9	236222.9	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17364201
Not Applicable	317526.8	236396.9	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17365302
Not Applicable	317370.9	235907.4	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17353903
Not Applicable	317858.2	236890.9	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17368804
Not Applicable	315674.1	237839.1	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO15376802
Not Applicable	320456.8	237749.2	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO20374701
Not Applicable	313857.4	233350.5	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO13338304
Not Applicable	322654	239351	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO22396301
Not Applicable	323086.7	239136	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO23390101
Not Applicable	313217	233706	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO13332705
Not Applicable	313840.1	237483.8	Y	Unknown	Unknown	Unknown	Unknown	4	Unknown	Unknown	E	SO13378401
Not Applicable	310277.9	234429.5	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO10342403
Not Applicable	313909	233340	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO13339307
Not Applicable	319443.8	237358.5	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO19374302
Not Applicable	312628	235825	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO12356809
Not Applicable	312810	235654	Y	Unknown	Unknown	Unknown	Unknown	52	Unknown	Unknown	E	SO12358608
Not Applicable	312535.8	235893.8	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO12355807
Not Applicable	317075	235588	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17350508
Not Applicable	314608.7	237773.1	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO14376708

SWO Code	Grid Reference		Included in S.4 of WWDL	DECLG Assessment Criteria				No. of Times Activated in 2013	Total Volume Discharged in 2013 (m^3)	Total Volume Discharged in 2013 (PE)	Measured/Estimated	
PT_CD	EASTING	NORTHING		Q1	Q2	Q3	Q4		Volume Emitted			STC25 Ref
Not Applicable	312837.3	239706.2	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO12398709
Not Applicable	317274.9	236972.1	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17362907
Not Applicable	319687	233798	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO19336701
Not Applicable	317083.4	240679	Y	Unknown	Unknown	Unknown	Unknown	N/A	Unknown	Unknown	E	In Fingal Co Co
Not Applicable	311497.2	233703.2	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO11334707
Not Applicable	320742.6	236300	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO20367301
Not Applicable	317338.7	236667.9	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17363605
Not Applicable	317840	236426	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17368401
Not Applicable	317235	235455	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO17352412
Not Applicable	320291.7	236508.8	Y	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	E	SO20362507
SW1Dublin	321073	233814	Y	Yes*	Yes*	Yes*	No	N/A	N/A	N/A	N/A	
SW2Dublin	320332	233800	Y	Yes*	Yes*	Yes*	No	15	892,730	2291340.33	E	
				*These effects are of a temporary nature and only occur when the CSO spills during a large or prolonged enough rainfall event. On the occasions these CSOs spill, then the answer to these questions is 'yes'.				This value is an estimate for the for the annual number of spills taken from the GDSDS	This value is an estimate for the Annual Spill Volume taken from the GDSDS Predicted CSO Spill Performance	This data is highly unreliable as the GDSDS was a strategic level study NOT carried out at sufficient detail for these results to be		

SWO Code	Grid Reference		Included in S.4 of WWDL	DECLG Assessment Criteria		No. of Times Activated in 2013	Total Volume Discharged in 2013 (m^3)	Total Volume Discharged in 2013 (PE)	Measured/Estimated	
								accurate. A detailed study, including flow monitors and sampling equipment is required in order to obtain accurate data.		
						More detailed studies required for accurate results.	More detailed studies required to verify what is essentially results from a very strategic level model			
				**'No' on the basis of the modelled results. Confirmation of results required by more detailed study.						

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Data not available
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Data not available
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2014?	Data not available
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	Yes See Section 4.2
The SWO assessment includes the requirements of Schedule A3	Yes, where applicable
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	No.

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

Condition 5 of the licence requires the licensee to prepare and implement an improvement programme to maximise the effectiveness and efficiency of the work as specified in Condition 5.1.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes	Licence Schedule (A or C)	Licence Completion Date	Date Expired?	Status of Works	Comments	Licensee Timeframe for Completing Works
Improvement Programme for Primary Discharge						
Upgrade waste water treatment plant and ancillary works in accordance with Condition 5.5	C.1	22nd December 2015	No	Part-commenced	The Project consists of three main elements as follows: **'Surgical Insertion' Works** Commenced on site in 2013. Odour Upgrades and Bio-Cake Outloading facility due for completion by March 2015. 1st Stage Power Supply upgrade complete. Additional works at design/execution stage. **Secondary**	Element 2 Secondary Treatment Extension – completion mid-2019. Overall completion – 2021.

Specified Improvement Programmes	Licence Schedule (A or C)	Licence Completion Date	Date Expired?	Status of Works	Comments	Licensee Timeframe for Completing Works
					Treatment Extension Consultants appointed in September 2014 and design ongoing. Revised design proposals necessitated abandonment of existing OJEU competition. New OJEU Notice for DB Construction Contract anticipated in Q2/3 2015. **Long Sea Outfall Tunnel** No progress this period. Priority given to expediting WwTW upgrades & expansion. Land/power supply negotiations with ESB ongoing. **Note:** A proving exercise to demonstrate that a nutrient removal technology will work successfully in the Ringsend wastewater environment will commence at Ringsend WWTP in March 2015 and will run for a 6 month period until September 2015.	
Upgrade storm water storage tank at WWTP as necessary	C.1	Not applicable	Not applicable	Not applicable	There are no current plans to upgrade the storm water storage tanks at the Works. This position being reviewed as part of WwTW Detailed Design	Not applicable

Specified Improvement Programmes	Licence Schedule (A or C)	Licence Completion Date	Date Expired?	Status of Works	Comments	Licensee Timeframe for Completing Works
City Centre Sewerage Scheme (CCSS)	C.3	None specified	Not applicable	In progress	N/A	Consultant appointed in June 2013 to construct hydraulic model. 2 No. CCTV contracts completed. Hydraulic model construction and verification currently underway
North Docklands Sewerage Scheme	C4	None specified	Not applicable	Work on Site	75%	See Section 4.2.1.
Rathmines and Pembroke (R&P) Scheme now renamed as *'Rathmines – Pembroke and Grand Canal Tunnel Drainage Area Study'*	C.3	None specified	Not applicable	Transferred to Irish Water	N/A	This project was transferred to Irish Water in January 2014. The project went to tender in December 2014 to engage a project consultant. Management of this project has been transferred to Irish Water

Table 4.2.2 – Improvement Programme Summary Table

Improvement Description	Improvement Source	Progress (% Complete)	Expected Completion Date
WWTP Upgrade	WWTP (Condition 5.2)	At development stage	Subject funding
City Centre Sewerage Scheme	SWO Assessment (Conditions 4 and 5.2) Improved Operational Control Incident Reduction	Circa 50%	Mid 2017
North Docklands Sewerage Scheme	SWO Assessment (Conditions 4 and 5.2) Improved Operational Control Incident Reduction	> 75%	Mid 2016
Rathmines and Pembroke Drainage Scheme (and Grand Canal)	SWO Assessment (Conditions 4 and 5.2) Improved Operational Control Incident Reduction	At early development stage	Subject funding

North Docklands Sewerage Scheme

Background & Progress

The Docklands Drainage Area Plan (DAP) produced in 2006 identified that there was a need to upgrade the existing water and drainage facilities in the North Docklands Area. The Docklands DAP identified that a new pumping station at Spencer Dock with Rising Mains to convey flows across to Ringsend Wastewater Treatment Works was the only viable solution to meet future drainage demand of new development in the north docklands area. The scheme was originally conceived as Serviced Land Initiative Scheme (SLI) rolling over into the WSIP 2007 - 2009. The remaining contracts still outstanding were extended into the DECLG WSIP 2010 – 2013. Following a series of design and scope changes the delivery strategy devised for the North Docklands Sewerage Scheme (NDSS) (previously referred to as the Spencer Dock Sewerage Scheme) was to split the overall scheme into four contracts. The title of each element (listed hereunder) reflects the current position:

- Contract 1 - Spencer Dock Pumping Station (SDPS) - Remaining works titled NDSS Contract 4C
- Contract 2 - Dublin Docklands Rising Mains Sewerage Scheme - completed
- Contract 3 - Liffey Services Installation Contract (LSIC) - completed
- Contract 4 - Network Upgrade -Split into two contracts - 4A Under construction and 4B Tender Documents complete

When all Docklands Contracts are completed the necessary drainage infrastructure will be in place to adequately deal with the current and future sustainable development of the North Docklands Area. Furthermore it will reduce CSO spills and flooding risk in the north docklands. The engineering solution has been designed to complement drainage infrastructural requirements envisaged by the new Dublin City Council Strategic Development Zone (SDZ) Plan and CIE Master Development Plan.

Contract 1 - Spencer Dock Pumping Station (SDPS)

An integral component of the overall Spencer Dock Sewerage Scheme, a main pumping station has been constructed in the North Lotts Area of Spencer Dock, Dublin 1 on behalf of Dublin City Council by means of a development agreement between Dublin City Council and original Developers SDCC (No.9) Ltd.

The overall objective of the pumping station is to transfer existing and future combined flows from within the Spencer Dock catchment to the existing Ringsend Wastewater Treatment Plant for treatment and disposal. The Spencer Dock Pumping Station is located at the junction of Sheriff Street Upper and New Wapping Street. To date, the main pumping station substructure and mechanical & electrical fit-out has been completed. However a number outstanding works (listed hereunder) that were included in the original scope of works to be delivered have not been constructed to date. Effectively this has prevented the completion of the commissioning phase of the Spencer Dock Pumping Station. Funding was secured by Irish Water and following a tender process, contracts were awarded in Q3 2014 for the completion of the outstanding works to Ward & Burke Construction Ltd and CMP Ltd (SISK).

1. The Sherriff Street 1200 mm diameter Incoming Sewer

Completion January 2015

2. New Wapping Street Twin Rising Mains and Overflow Sewer to connect to Contract 2.

Expected completion date April 2015

3. Mayor Street incoming Sewer (including Mayor Street Rising Main Rehabilitation works).

Expected completion date April 2015

4. Final commissioning of Mechanical and Electrical Plant and handover of the pumping station.

Expected completion date June 2015

North Docklands Sewerage Scheme – Contract 4A

The works consists of the upgrade of existing sewerage infrastructure within the Spencer Dock area of the North Docklands, transferring flows from existing sewers on Church Road, East Road and Sherriff Street, via a new 530 metre long 1200 mm diameter arterial tunnelled sewer network to the new Spencer Dock Pumping Station constructed as contract 1 of the overall scheme. The Contractor, Ward and Burke Construction Ltd. were formally appointed by Dublin City Council in July 2013 to undertake the construction contract. Construction is underway since September 2013 with an anticipate 16 month program. RPS Group consulting engineers are appointed as project supervisor for construction and handover stages.

North Docklands Sewerage Scheme - Contract 4B

Completion of Contract 4B is the last remaining element providing the necessary drainage infrastructure to facilitate new development and upgrade existing sewerage infrastructure to transfer flows to the pumping station from Sheriff Street Upper and Castleforbes Road. It will involve 740 metres of combined gravity sewer using trenchless construction methods (433 metres of 1,200 mm diameter, and 307 metres of 600 mm diameter using micro tunnelling) including 8 drive and reception pits. Approximately 48 metres of combined gravity sewers and ancillary manholes using open cut methods with connections to existing manholes and extensive accommodation works involving diversion of existing utilities at all shaft and open cut manhole locations is included. The Project transferred to Irish Water in January 2014. Further Optioneering was required following difficulty securing Wayleave agreement through 3rd party lands. The design has been completed by Nicholas O'Dwyer Consulting Engineers with the intention for going to tender for Gate 3 Construction in Q1 2015.

New flaps fitted to storm water overflows on Quay wall

The GDSDS identified that there was significant infiltration in the Ringsend Agglomeration. In 2009 an assessment was carried out using operational data to quantify the amount of additional water that needed to be pumped and treated as a result of this infiltration. This assessment gave a figure of 400 l/s between high-tide and low tide night time flows. New flaps were fitted to the quay wall of the river Liffey at the end of 2013 / beginning of 2014. A similar assessment showed that these flows had reduced by 25% as a result of these works.

Table 4.2.3 – Sewer Integrity Risk Assessment Tool Summary

As reported last year, as part of the City Centre Sewerage Scheme, a modified Sewer Integrity Tool was developed and piloted. The pilot indicated the extreme complexity in applying the Sewer Integrity Tool to an agglomeration with more than 900 km of foul and combined sewer and that the full application of the Sewer Integrity Tool to each of the catchments within the agglomeration would require considerable time, funding and resources. There has been no further progress on this issue in 2014

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	**Required in 2014 AER or outstanding from previous AER**	**Included in 2014 AER**	***Reference to relevant section of AER***
Priority Substances Assessment	Yes	Yes	Full report in Appendix 6.6
Drinking Water Abstraction Point Risk Assessment	No	No	N/A
Habitats Impact Assessment	No	No	N/A
Shellfish Impact Assessment	No	No	N/A
Pearl Mussel Report	No	No	N/A
Toxicity/Leachate Management	Yes	Yes	See Appendix 6.7
Toxicity of Final Effluent Report	Yes	Yes	See Appendix 6.8

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	No	No ELV's are set in the Licence for Priority Pollutants in SW1 effluent discharge. Minor exceedances in standards for receiving water quality occur in the effluent discharge. These are complied with following dilution. See report in Appendix 6.6.
Drinking Water Abstraction Point Risk Assessment	N/A	N/A
Habitats Impact Assessment	N/A	N/A
Shellfish Impact Assessment	N/A	N/A
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	No	Very small volumes of leachate discharge annually by tanker – a total of 30,242 m^3 in 2014. This is equivalent to 6.56% of a single day's daily mean influent and equivalent to 0.018% of the annual total influent flow.
Toxicity of Final Effluent Report	No	Aquatic Toxicity complies well with Effluent ELV of 5 TU.

5.1 Priority Substances Assessment

The Priority Substances Assessment report is included in Appendix 6.6. A summary of the findings of this report is included below.

Table 5.1 - Priority Substance Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Screening Analysis
Does the assessment include a review of Trade inputs to the works?	No Licences are issued or reviewed to restrict priority substances
Does the assessment include a review of other inputs to the works?	Yes. 4 Main Influent Lines screened by testing
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	No

5.2 Drinking Water Abstraction Point Risk Assessment.

No Assessment required by the Licence.

5.3 Shellfish Impact Assessment Report.

No Assessment required by the Licence.

5.4 Toxicity / Leachate Management

The Toxicity / Leachate Management Assessment report is included in Appendix 6.7. A summary of the findings of this report is included below.

Table 5.4 - Toxicity / Leachate Management Report Summary

Is a Toxicity / Leachate Management Report required in the 2014 AER (or outstanding from previous AER)	Yes
What % of the total influent for the year is leachate?	0.018% of annual load (volume)
Does leachate addition exceed 4% (volume) of the influent load at any time?	No
Maximum leachate loading rate (based on 100 m^3)	0.022% of daily load (volume)
Does the leachate study identify any constituents of the material that present an environmental risk?	No
List leachate constituent identified and impact (insert a row for each constituent)	N/A
Has the WWTP suitability to treat the leachate been assessed?	Yes
What are the results of the assessment	Suitable
Has the study identified the max and operational loadings (mass, volume and rate of addition) for leachate to the WWTP?	N/A
Is there a monitoring programme for the priority substances identified above?	Yes
Have trigger and action levels for the concentration of identified leachate constituents been established to prevent impact on the receiving water?	Yes
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the impacts of leachate acceptance on the operation of the wwtp?	No

5.5 Toxicity of the Final Effluent Report

The Toxicity / Leachate Management Assessment report is included in Appendix 6.8. A summary of the findings of this report is included below.

Table 5.5 - Toxicity of the Final Effluent Assessment Summary

Is a Toxicity report required? (Condition 4)	Yes
Has the study been carried out against 4 species in 3 trophic levels?	No (2)
Does the report identify that the discharge is toxic to any of the species in the study?	No
List species impacted	N/A
Does the Improvement Programme for the agglomeration include any procedural and/or infrastructural works to reduce the toxicity of the final discharge?	No

A copy of the detailed assessment is included in Appendix 6.8 to the AER.

Toxicity test results show effluent aquatic toxicity complies well with the licence limit of 5 TU.

5.6 Pearl Mussel Measures Report

No Assessment required by the Licence.

5.7 Habitats Impact Assessment Report

No Assessment required by the Licence.

Section 6. Appendix

Appendix 6.1	Annual Statements of Measures
Appendix 6.2	Ambient Monitoring Summary
Appendix 6.3	PRTR Summary Sheets
Appendix 6.4	Specified Improvement Programme
Appendix 6.5	Sewer Integrity Tool Output
Appendix 6.6	Priority Substances Assessment
Appendix 6.7	Toxicity Leachate Manageemnt Report
Appendix 6.8	Final Effluent Toxicity Assessment

Appendix 6.1

Annual Statement of Measures

Statement of Measures						
Risk I.D.	**Risk Score**	**Mitigation measure to be taken**	**Outcome**	**Action**	**Date for completion**	**Owner/Contact Person**
1	12	Measure the most common contaminant - hydrocarbons on-line	Early warning given of hydrocarbons present in incoming sewage, preventing major contaminant reaching secondary treatment	Hydrocarbons monitor to be installed in common inlet channel/screen house	2015	Plant Operator (CAW) Plant OM Manager
4	12	Upgrade of on-site communications network	No communication issues	Upgrade of on-site communications network as a part of the plant extension project	2015	Irish Water
5	12	Increased plant capacity and process resistancy against severe weather - mainly low temperature and heavy wind conditions	Treatment Process resistant to severe weather impact - low temperature and heavy winds	Plant's secondary treatment extension, covers or wind deflectors to be installed on current secondary treatment tanks (SBR's)	2015	Irish Water
10	16	Biological nutrient removal to take place at WwTW.	No eutrophication of sensitive water bodies.	Long Sea Outfall Tunnel: Priority given to expediting WwTW upgrades & expansion.	31.12.2015	Irish Water
23	6	Increase sodium hydroxide storage tank capacity to be able to receive full balk load delivery to eliminate chemicals handling in IBCs	No high volume delivery chemicals to be handled in IBCs	A new sodium hydroxide storage with sufficient capacity to be installed for the Dryer OCU	2015	Plant Operator (CAW) Plant OM Manager
24	6	Closed bins to be to be used only for waste handling (screenings), the waste to be disposed through a designated place	No odour emissions from screenings handling	Closed bins to be purchased , designated point for waste (screenings) disposal to be designed and installed	Action completed.	Plant Operator (CAW) Plant OM Manager
26	4	Product not to be transported in trailers even with a minor cover damage.	No spillages on site or during transport	All trailers in use to be re-checked before filled, staff training	Training programme in place	Plant Operator (CAW) Plant OM Manager

Statement of Measures						
Risk I.D.	**Risk Score**	**Mitigation measure to be taken**	**Outcome**	**Action**	**Date for completion**	**Owner/Contact Person**
28	4	Biocake loading bay to be enclosed, product not to be transported in trailers even with a minor cover damage	No spillages on site or during transport	Biocake loading bay to be designed and constructed, all trailers in use to be re-checked before filled, staff training	April 2015	Plant Operator (CAW) Plant OM Manager/Irish water

Appendix 6.2

Ambient Monitoring Summary

7.2.1 Dublin Ambient Sampling Points Map

Table 7.2.2 Marine Monitoring Water Quality Data: ASW2 – ASW10

Table 7.2.3 Transitional Monitoring - Water Quality Data:
Points Agreed by the EPA

Table 7.2.4 Coastal Monitoring - Dublin Bay Water Quality Data:
Points Agreed by the EPA

Table 7.2.5 Coastal Monitoring – Bathing Water Quality Data:
ASW11 – ASW18

7.2.1 Map showing locations of sampling points.

APPENDIX 6.2 (2) Marine Monitoring ASW2 to ASW10
7.2 (2) Report for Samples Taken During the Period: 01/01/2014 - 31/12/2014

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130842) Liffey Estuary Lower, 25m North of Poolbeg Wall - Surface Sample	24/04/2014 08:19	22	1	8.3	134	103	1.5	20	27.1	0.2	11.7	112
(130842) Liffey Estuary Lower, 25m North of Poolbeg Wall - Surface Sample	15/05/2014 11:43	379	1	1.9	508	103	0.7	175	31.1	1.28	14.7	129
(130842) Liffey Estuary Lower, 25m North of Poolbeg Wall - Surface Sample	11/06/2014 10:43	483	1	1.3	616	103	0.05	125	25.2	1.82	16.2	133
(130842) Liffey Estuary Lower, 25m North of Poolbeg Wall - Surface Sample	24/07/2014 11:42	6142	1	2.3	7202	112	1	880	28.2	1.67	20.6	1060
(130842) Liffey Estuary Lower, 25m North of Poolbeg Wall - Surface Sample	21/08/2014 10:00	27	1	3.1	50	107	0.7	9	29.8	1.39	17.4	23
(130842) Liffey Estuary Lower, 25m North of Poolbeg Wall - Surface Sample	11/09/2014 12:18	325	1	2.1	407	106	0.4	167	31.4	1.55	17.4	82

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130843) Liffey Estuary Lower, 25m North of Poolbeg Wall - Depth Sample	24/04/2014 08:21	1757	1	7.1	1814	98	1.2	2.5	32.3	0.2	10.5	57
(130843) Liffey Estuary Lower, 25m North of Poolbeg Wall - Depth Sample	15/05/2014 11:45	2.5	1	2.5	13	101	1.2	2.5	33.6	0.2	11.7	13
(130843) Liffey Estuary Lower, 25m North of Poolbeg Wall - Depth Sample	11/06/2014 10:44	19	1	1.1	32	104	0.05	2.5	31.8	0.2	14.1	13
(130843) Liffey Estuary Lower, 25m North of Poolbeg Wall - Depth Sample	24/07/2014 11:44	23	1	5.7	47	110	1.2	34	33.1	0.2	18	24
(130843) Liffey Estuary Lower, 25m North of Poolbeg Wall - Depth Sample	21/08/2014 10:00	5	1	5.1	5	106	1.2	2.5	31.5	0.2	15.8	5
(130843) Liffey Estuary Lower, 25m North of Poolbeg Wall - Depth Sample	11/09/2014 12:19	25	1	3.3	40	102	0.6	11	33.3	0.2	16	15
(130844) Liffey Estuary Lower, 50m North of	24/04/2014 08:27	41	2	3.2	692	96	1	723	23.4	2.32	12.4	651

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Poolbeg Wall - Surface Sample												
(130844) Liffey Estuary Lower, 50m North of Poolbeg Wall - Surface Sample	15/05/2014 12:07	186	1	3.2	279	102	1	226	23.8	1.81	13.7	93
(130844) Liffey Estuary Lower, 50m North of Poolbeg Wall - Surface Sample	11/06/2014 10:54	499	1	0.5	691	103	0.05	177	29.1	0.68	14.2	192
(130844) Liffey Estuary Lower, 50m North of Poolbeg Wall - Surface Sample	24/07/2014 11:50	3896	1	2.1	5206	116	0.6	970	27.3	1.94	21.7	1310
(130844) Liffey Estuary Lower, 50m North of Poolbeg Wall - Surface Sample	21/08/2014 10:00	38	1	5.5	60	108	0.9	22	30.5	0.46	16.2	22
(130844) Liffey Estuary Lower, 50m North of Poolbeg Wall - Surface Sample	11/09/2014 12:26	1600	1	1.9	1884	105	0.4	425	26.3	2.38	19.6	284
(130845) Liffey Estuary Lower, 50m North of Poolbeg Wall - Depth Sample	24/04/2014 08:39	49	1	6.1	92	98	1.4	2.5	32.4	0.2	10.3	43

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130845) Liffey Estuary Lower, 50m North of Poolbeg Wall - Depth Sample	15/05/2014 12:08	2.5	1	3.1	14	100	0.6	2.5	33.6	0.2	11.7	14
(130845) Liffey Estuary Lower, 50m North of Poolbeg Wall - Depth Sample	11/06/2014 10:55	2.5	1	2.7	7.5	108	0.05	2.5	33	0.2	13.2	5
(130845) Liffey Estuary Lower, 50m North of Poolbeg Wall - Depth Sample	24/07/2014 11:51	19	1	6.9	37	109	0.05	27	33.4	0.2	17.1	18
(130845) Liffey Estuary Lower, 50m North of Poolbeg Wall - Depth Sample	21/08/2014 10:00	59	1	3.6	87	105	0.7	34	32.6	0.2	15	28
(130845) Liffey Estuary Lower, 50m North of Poolbeg Wall - Depth Sample	11/09/2014 12:28	13	1	1.9	13	101	0.5	6	33.3	0.2	16	5
(130846) Liffey Estuary Lower, 75m North of Poolbeg Wall - Surface Sample	24/04/2014 08:46	5	3	3.9	320	94	1.2	258	22	0.9	12.4	310
(130846) Liffey Estuary Lower, 75m North of	15/05/2014 12:14	130	1	1.7	180	102	0.9	115	30.1	1.36	13.4	50

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Poolbeg Wall - Surface Sample												
(130846) Liffey Estuary Lower, 75m North of Poolbeg Wall - Surface Sample	11/06/2014 11:02	17	1	3.1	42	103	0.05	2.5	28.5	0.63	14.4	25
(130846) Liffey Estuary Lower, 75m North of Poolbeg Wall - Surface Sample	24/07/2014 12:03	110	1	13.6	236	118	0.05	100	31.7	0.2	19.1	126
(130846) Liffey Estuary Lower, 75m North of Poolbeg Wall - Surface Sample	21/08/2014 10:00	12	1	7.5	24	106	0.8	7	31.9	0.2	15.4	12
(130846) Liffey Estuary Lower, 75m North of Poolbeg Wall - Surface Sample	11/09/2014 12:32	188	1	3.3	242	104	0.2	101	32.3	0.61	16.6	54
(130847) Liffey Estuary Lower, 75m North of Poolbeg Wall - Depth Sample	24/04/2014 08:47	29	1	4.9	65	98	0.9	2.5	32.3	0.2	10.6	36
(130847) Liffey Estuary Lower, 75m North of Poolbeg Wall - Depth Sample	15/05/2014 12:14	2.5	1	3	12	102	0.8	2.5	33.7	0.2	11.6	12

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130847) Liffey Estuary Lower, 75m North of Poolbeg Wall - Depth Sample	11/06/2014 11:05	2.5	1	4	10	106	0.05	2.5	32.7	0.2	13.3	10
(130847) Liffey Estuary Lower, 75m North of Poolbeg Wall - Depth Sample	24/07/2014 12:04	11	1	2.7	11	108	0.5	17	33.4	0.2	17	5
(130847) Liffey Estuary Lower, 75m North of Poolbeg Wall - Depth Sample	21/08/2014 10:00	25	1	6.7	39	104	1.5	11	32.9	0.2	15.1	14
(130847) Liffey Estuary Lower, 75m North of Poolbeg Wall - Depth Sample	11/09/2014 12:33	11	1	2.5	43	101	0.05	2.5	33.3	0.2	15.9	32
(130848) Liffey Estuary Lower, 100m North of Poolbeg Wall - Surface Sample	24/04/2014 08:51	11	1	6.7	70	103	1	2.5	30.1	0.2	11.2	59
(130848) Liffey Estuary Lower, 100m North of Poolbeg Wall - Surface Sample	15/05/2014 12:22	9	1	2.8	40	104	0.8	5	31.6	0.2	12.6	31
(130848) Liffey Estuary Lower, 100m North of	11/06/2014 11:07	457	1	2.9	474	105	0.05	2.5	30	0.2	14.1	17

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Poolbeg Wall - Surface Sample												
(130848) Liffey Estuary Lower, 100m North of Poolbeg Wall - Surface Sample	24/07/2014 12:16	7	1	7.3	121	119	2.3	37	31.4	0.2	20	114
(130848) Liffey Estuary Lower, 100m North of Poolbeg Wall - Surface Sample	21/08/2014 10:00	9	1	6	24	107	1.5	6	31.8	0.2	15.3	15
(130848) Liffey Estuary Lower, 100m North of Poolbeg Wall - Surface Sample	11/09/2014 12:40	32	1	2.3	45	104	0.3	12	32.8	0.2	16.3	13
(130849) Liffey Estuary Lower, 100m North of Poolbeg Wall - Depth Sample	24/04/2014 08:52	80	1	7.3	114	102	1	2.5	31.7	0.2	10.9	34
(130849) Liffey Estuary Lower, 100m North of Poolbeg Wall - Depth Sample	15/05/2014 12:23	2.5	1	3.1	12	102	0.8	2.5	33	0.2	11.7	12
(130849) Liffey Estuary Lower, 100m North of Poolbeg Wall - Depth Sample	11/06/2014 11:08	5	1	2.8	5	107	0.05	67	32.7	0.2	13.4	5

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130849) Liffey Estuary Lower, 100m North of Poolbeg Wall - Depth Sample	24/07/2014 12:17	6	1	6	19	**122**	1.7	29	33.1	0.2	17.9	13
(130849) Liffey Estuary Lower, 100m North of Poolbeg Wall - Depth Sample	21/08/2014 10:00	22	1	4.5	63	102	1.3	11	32.8	0.2	15.2	41
(130849) Liffey Estuary Lower, 100m North of Poolbeg Wall - Depth Sample	11/09/2014 12:42	10	1	3.1	10	103	0.6	2.5	33.3	0.2	16	5
(40063) Liffey City D/S Islandbdg Weir	24/04/2014 08:00	22	1	8	1018	98	5.1	2.5	0	0.48	12.2	996
(40063) Liffey City D/S Islandbdg Weir	15/05/2014 08:20	47	2	30.4	2127	101	16.9	7	0	2.88	13.6	2080
(40063) Liffey City D/S Islandbdg Weir	11/06/2014 08:30	40	2	14.2	1120	95	3.9	16	0.2	4.45	16.6	1080
(40063) Liffey City D/S Islandbdg Weir	24/07/2014 08:50	13	**7**	7.3	1093	103	4.9	5	0	0.2	20.7	1080
(40063) Liffey City D/S Islandbdg Weir	21/08/2014 08:30	40	1	1.8	512	97	1.5	33	0	4.23	14.5	472
(40063) Liffey City D/S Islandbdg Weir	11/09/2014 09:00	43	1	3.2	1473	98	3.2	158	0.1	3.57	15.2	1430
(40067) Liffey City Heuston	24/04/2014	12	1	4.1	948	95	2.9	2.5	0.1	1.53	12.1	936

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Stn u/s Camac	08:10											
(40067) Liffey City Heuston Stn u/s Camac	15/05/2014 08:30	31	1	11.9	2051	98	0.05	6	0.2	3.26	13.5	2020
(40067) Liffey City Heuston Stn u/s Camac	11/06/2014 08:40	37	1	3.9	1602	93	0.05	21	0	4.21	15.8	1570
(40067) Liffey City Heuston Stn u/s Camac	24/07/2014 09:10	12	1	5.6	734	97	2.9	18	1.5	0.2	20.1	722
(40067) Liffey City Heuston Stn u/s Camac	21/08/2014 08:40	14	1	1.5	561	95	1.3	12	0.4	4.29	13.9	547
(40067) Liffey City Heuston Stn u/s Camac	11/09/2014 09:20	45	1	2.7	1175	97	1.6	19	0.8	3.64	15.2	1130
(40072) Liffey City Winetav St Bridge	24/04/2014 08:20	6	1	4.1	1016	96	2.4	2.5	0.8	0.99	12.4	1010
(40072) Liffey City Winetav St Bridge	15/05/2014 08:50	17	1	14.3	1877	97	10.7	10	2.7	2.89	13.4	1860
(40072) Liffey City Winetav St Bridge	11/06/2014 09:10	26	2	2.9	920	87	1.7	20	3	4.44	15.6	894
(40072) Liffey City Winetav St Bridge	24/07/2014 09:25	7	1	4.9	106	98	2.6	14	14	0.2	19.6	99
(40072) Liffey City Winetav St Bridge	21/08/2014 08:50	15	1	1.3	462	94	1.2	12	5.8	3.69	14.6	447
(40072) Liffey City Winetav St Bridge	11/09/2014 09:35	66	1	2.3	1116	97	1.7	64	6.2	3.07	15.3	1050
(40457) Liffey (S) D/S Toll Bridge	24/04/2014 09:10	2.5	1	3	246	95	2.2	5	4	1.58	11	246

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	ug/l N	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(40457) Liffey (S) D/S Toll Bridge	15/05/2014 09:20	48	1	3.5	607	96	3.7	14	12	2.36	13	559
(40457) Liffey (S) D/S Toll Bridge	11/06/2014 09:40	88	1	2.1	311	94	0.05	17	20	2.12	15.4	223
(40457) Liffey (S) D/S Toll Bridge	24/07/2014 09:40	10	1	6.7	425	100	2	29	14.6	0.2	19.6	415
(40457) Liffey (S) D/S Toll Bridge	21/08/2014 09:00	11	1	1.3	243	96	0.7	14	6.7	2.49	14.6	232
(40457) Liffey (S) D/S Toll Bridge	11/09/2014 09:55	27	1	1.7	251	98	1.5	13	10.9	2.39	15.5	224
(45082) Tolka River D/S Annesley Bridge	24/04/2014 09:30	2.5	1	5.9	604	113	3.4	2.5	0.2	0.75	11.1	604
(45082) Tolka River D/S Annesley Bridge	15/05/2014 09:50	66	1	7.9	1646	109	5.1	25	0.1	4.16	13.3	1580
(45082) Tolka River D/S Annesley Bridge	11/06/2014 10:15	58	1	1.6	1098	100	0.05	31	0.2	6.73	14.9	1040
(45082) Tolka River D/S Annesley Bridge	24/07/2014 10:00	85	3	17.3	460	93	5.5	73	0.9	0.2	19.1	375
(45082) Tolka River D/S Annesley Bridge	21/08/2014 09:50	31	1	2.8	121	96	2.9	9	0.3	4.53	13.2	90
(45082) Tolka River D/S Annesley Bridge	11/09/2014 10:25	19	2	12.8	1029	**129**	3.4	11	0.4	4.02	15.1	1010

APPENDIX 6.2 (3) DB120-420 2014
Report for Samples Taken During the Period: 01/01/2014 - 31/12/2014
Table 7.2 (3)

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130800) Liffey Estuary Lower, Dodder Grand Canal Basin- Surface Sample	24/04/2014 09:45	33	1	5.1	773	97	2.3	11	9.62	0.71	11.9	740
(130800) Liffey Estuary Lower, Dodder Grand Canal Basin- Surface Sample	15/05/2014 10:57	23	1	10.3	67	98	3	12	21.34	0.66	13	44
(130800) Liffey Estuary Lower, Dodder Grand Canal Basin- Surface Sample	11/06/2014 12:15	30	1	1.9	384	95	0.05	16	11.85	4.7	15.3	354
(130800) Liffey Estuary Lower, Dodder Grand Canal Basin- Surface Sample	24/07/2014 09:56	39	1	5.2	1012	92	2.1	74	14.9	1.61	19.4	973
(130800) Liffey Estuary Lower, Dodder Grand Canal Basin- Surface Sample	21/08/2014 10:00	16	1	2.8	73	91	1.7	7	20.9	1.97	15.3	57
(130800) Liffey Estuary Lower, Dodder Grand Canal Basin- Surface Sample	11/09/2014 10:50	130	1	0.9	172	96	1.6	43	5.76	3.89	15.7	42
(130801) Liffey Estuary Lower, Dodder Grand Canal Basin- Depth Sample	24/04/2014 09:47	73	1	6.8	105	83	1.2	10	30.9	0.2	10.9	32
(130801) Liffey Estuary Lower, Dodder Grand Canal	15/05/2014 10:59	18	1	4.7	34	89	1.6	6	31.9	0.2	11.6	16

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Basin- Depth Sample												
(130801) Liffey Estuary Lower, Dodder Grand Canal Basin- Depth Sample	11/06/2014 12:18	14	1	3.9	25	86	0.05	2.5	31.3	0.46	14.3	11
(130801) Liffey Estuary Lower, Dodder Grand Canal Basin- Depth Sample	24/07/2014 09:58	79	1	9.5	155	101	2.9	54	31.9	0.2	18.2	76
(130801) Liffey Estuary Lower, Dodder Grand Canal Basin- Depth Sample	21/08/2014 10:00	33	1	2.8	48	86	1	6	31.8	0.43	15.8	15
(130801) Liffey Estuary Lower, Dodder Grand Canal Basin- Depth Sample	11/09/2014 10:52	35	1	8.4	67	102	2.3	12	31.9	0.2	16.3	32
(130810) Liffey Estuary Lower, East Link Toll Bridge - Surface Sample	24/04/2014 09:35	22	1	1.6	762	93	1.3	6	6.07	0.2	12.1	740
(130810) Liffey Estuary Lower, East Link Toll Bridge - Surface Sample	15/05/2014 11:07	12	1	2.7	104	96	1.6	8	14.31	1.64	12.5	92
(130810) Liffey Estuary Lower, East Link Toll Bridge - Surface Sample	11/06/2014 12:04	28	1	1.7	117	101	0.05	15	11.63	2.71	14.4	89
(130810) Liffey Estuary Lower, East Link Toll Bridge - Surface Sample	24/07/2014 10:05	18	2	9.7	1048	105	2.7	48	16.3	1.41	19.5	1030
(130810) Liffey Estuary Lower, East Link Toll Bridge	21/08/2014 10:00	19	1	1.6	41	94	0.8	16	17.3	2.55	14.9	22

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
- Surface Sample												
(130810) Liffey Estuary Lower, East Link Toll Bridge - Surface Sample	11/09/2014 10:59	48	1	1.1	431	94	1.2	24	14	2.08	16.3	383
(130811) Liffey Estuary Lower, East Link Toll Bridge - Depth Sample	24/04/2014 09:37	74	1	8.1	141	96	1.2	12	31	0.2	10.9	67
(130811) Liffey Estuary Lower, East Link Toll Bridge - Depth Sample	15/05/2014 11:11	31	1	5.7	60	94	5.5	13	27	0.2	11.5	29
(130811) Liffey Estuary Lower, East Link Toll Bridge - Depth Sample	11/06/2014 12:06	31	1	4	47	97	0.05	20	32	0.2	14.1	16
(130811) Liffey Estuary Lower, East Link Toll Bridge - Depth Sample	24/07/2014 10:07	60	1	6.4	127	87	1.8	44	32.9	0.2	17.6	67
(130811) Liffey Estuary Lower, East Link Toll Bridge - Depth Sample	21/08/2014 10:00	23	1	3.5	45	98	3.4	16	32	0.41	15.6	22
(130811) Liffey Estuary Lower, East Link Toll Bridge - Depth Sample	11/09/2014 11:01	34	1	6.4	51	101	2	10	32.9	0.2	16.3	17
(130820) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Surface Sample	24/04/2014 09:14	17	1	2.5	129	104	3.5	5	28.6	0.2	11.5	112

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130820) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Surface Sample	15/05/2014 11:29	5	1	3.3	30	101	0.8	2.5	31.1	0.2	12.8	25
(130820) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Surface Sample	11/06/2014 11:51	51	1	0.05	103	103	0.1	8	28.5	1.2	14.6	52
(130820) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Surface Sample	24/07/2014 10:20	19	1	10.1	249	117	2.4	44	29.7	0.2	19.1	230
(130820) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Surface Sample	21/08/2014 10:00	41	1	3.6	131	103	0.9	13	31.6	0.77	15.4	90
(130820) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Surface Sample	11/09/2014 12:53	33	1	2.4	54	114	0.9	15	32.5	0.2	20.2	21
(130821) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Depth Sample	24/04/2014 09:17	209	1	7.1	234	97	1.3	2.5	32.4	0.2	10.5	25
(130821) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Depth	15/05/2014 11:31	15	1	4.8	28	101	1.5	5	33.6	0.2	11.5	13

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Sample												
(130821) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Depth Sample	11/06/2014 11:53	2.5	1	0.05	12	108	0.9	2.5	32.6	0.2	13.4	12
(130821) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Depth Sample	24/07/2014 10:21	8	1	3.7	23	110	2	24	33.3	0.2	17.9	15
(130821) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Depth Sample	21/08/2014 10:00	74	1	2.8	92	105	2.4	20	32.4	0.2	15.3	18
(130821) Liffey Estuary Lower, RO RO Ramp No. 5 (Old TW Outfall) - Depth Sample	11/09/2014 12:54	14	1	2.7	14	100	0.6	2.5	33.2	0.71	16.1	<10
(130830) Liffey Estuary Lower, Ringsend Cascade - Surface Sample	24/04/2014 09:03	28	2	5.3	311	97	1.3	180	24.8	0.63	12.3	283
(130830) Liffey Estuary Lower, Ringsend Cascade - Surface Sample	15/05/2014 12:33	466	1	2.7	601	102	0.7	225	31.4	2.2	12	135
(130830) Liffey Estuary Lower, Ringsend Cascade - Surface Sample	11/06/2014 11:36	327	1	5.6	482	103	0.05	107	25.4	1.36	15.5	155
(130830) Liffey Estuary	24/07/2014	12582	1	2.1	13582	109	0.3	904	27	1.65	22.2	1000

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Lower, Ringsend Cascade - Surface Sample	11:28											
(130830) Liffey Estuary Lower, Ringsend Cascade - Surface Sample	21/08/2014 10:00	9	1	4.8	40	106	0.8	5	32.3	0.2	15.3	31
(130830) Liffey Estuary Lower, Ringsend Cascade - Surface Sample	11/09/2014 12:10	1450	1	1.2	1625	105	0.1	357	24.6	2.54	19.6	175
(130831) Liffey Estuary Lower, Ringsend Cascade - Depth Sample	24/04/2014 09:04	45	1	6.9	243	97	1.3	2.5	32.4	0.2	10.5	198
(130831) Liffey Estuary Lower, Ringsend Cascade - Depth Sample	15/05/2014 12:34	2.5	1	2.5	10	102	0.7	2.5	33.7	0.2	11.5	10
(130831) Liffey Estuary Lower, Ringsend Cascade - Depth Sample	11/06/2014 11:43	35	1	0.05	70	108	0.9	11	32.5	0.2	13.4	35
(130831) Liffey Estuary Lower, Ringsend Cascade - Depth Sample	24/07/2014 11:31	13	1	2.4	13	110	0.6	17	33.4	0.2	17.1	<10
(130831) Liffey Estuary Lower, Ringsend Cascade - Depth Sample	21/08/2014 10:00	15	1	6.3	25	105	1.4	5	33	0.2	15.2	10
(130831) Liffey Estuary Lower, Ringsend Cascade - Depth Sample	11/09/2014 12:11	10	1	2.3	10	101	0.4	2.5	33.3	0.2	16	<10

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130840) Liffey Estuary Lower, Poolbeg Lighthouse - Surface Sample	24/04/2014 08:04	31	1	7.5	91	100	1.4	12	30.6	0.2	11.1	60
(130840) Liffey Estuary Lower, Poolbeg Lighthouse - Surface Sample	15/05/2014 11:55	2.5	1	2.4	12	103	1.1	2.5	33.8	0.2	11.6	12
(130840) Liffey Estuary Lower, Poolbeg Lighthouse - Surface Sample	11/06/2014 09:50	147	1	2.5	217	101	0.05	47	28.5	0.74	14.7	70
(130840) Liffey Estuary Lower, Poolbeg Lighthouse - Surface Sample	24/07/2014 11:10	79	1	7.2	161	115	1.7	69	32.4	0.2	18.5	82
(130840) Liffey Estuary Lower, Poolbeg Lighthouse - Surface Sample	21/08/2014 10:00	47	1	6.4	469	108	5.6	36	32.9	0.2	15.1	422
(130840) Liffey Estuary Lower, Poolbeg Lighthouse - Surface Sample	11/09/2014 11:58	12	1	0.9	12	102	0.3	2.5	33.3	0.2	16.1	<10
(130841) Liffey Estuary Lower, Poolbeg Lighthouse - Depth Sample	24/04/2014 08:05	36	1		64	98		2.5	32.5	0.2	10.3	28
(130841) Liffey Estuary Lower, Poolbeg Lighthouse - Depth Sample	15/05/2014 11:58	2.5	1	2.1	16	101	1	2.5	33.8	0.2	11.2	16
(130841) Liffey Estuary Lower, Poolbeg Lighthouse - Depth Sample	11/06/2014 09:00	2.5	1	5.6	7.5	109	0.05	2.5	33	0.2	13	<10

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130841) Liffey Estuary Lower, Poolbeg Lighthouse - Depth Sample	24/07/2014 11:13	2.5	1	2.1	7.5	109	0.4	12	33.6	0.2	16.8	<10
(130841) Liffey Estuary Lower, Poolbeg Lighthouse - Depth Sample	21/08/2014 10:00	84	1	4.8	122	108	1	40	33	0.2	15.2	38
(130841) Liffey Estuary Lower, Poolbeg Lighthouse - Depth Sample	11/09/2014 12:00	7	1	1.7	26	100	0.2	2.5	33.4	0.2	15.8	19
(130870) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Surface Sample	24/04/2014 10:02	23	1	6.1	1733	89	1.1	10	6.04	0.58	12.7	1710
(130870) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Surface Sample	15/05/2014 10:44	2.5	1	3.2	68	91	1.6	7	12.89	0.98	14.8	68
(130870) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Surface Sample	11/06/2014 08:52	43	1	1.3	260	87	0.05	18	14.5	3.41	15.1	217
(130870) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Surface Sample	24/07/2014 09:39	31	1	6.1	1301	95	2	51	13.4	1.7	19.7	1270
(130870) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Surface Sample	21/08/2014 10:00	35	1	0.9	82	95	1.2	29	21.5	3.68	15.3	47
(130870) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Surface Sample	11/09/2014 10:36	156	1	3.7	1196	92	1.8	89	15	2.69	16.1	1040

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130871) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Depth Sample	24/04/2014 10:04	71	1	4	295	88	2.3	44	30.9	0.2	10.7	224
(130871) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Depth Sample	15/05/2014 10:46	55	1	23	71	71	0.05	20	31.8	0.2	11.8	16
(130871) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Depth Sample	11/06/2014 08:58	254	1	1.7	282		0.05	89	31.6	1.15	13.8	28
(130871) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Depth Sample	24/07/2014 09:42	57	1	13.2	244	87	6	47	32.3	0.2	17.7	187
(130871) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Depth Sample	21/08/2014 10:00	66	1	3.2	85	78	1.4	13	31.8	0.42	16	19
(130871) Liffey Estuary Upper, Liffey at Matt Talbot Bridge - Depth Sample	11/09/2014 10:38	57	1	7.3	235	96	2.1	16	32.1	0.2	16.2	178
(130900) Tolka Estuary at East Point Business Park Bridge - Surface Sample	24/04/2014 10:20	36	1	8.7	672	82	4.8	22	4	0.59	11.3	636
(130900) Tolka Estuary at East Point Business Park Bridge - Surface Sample	15/05/2014 10:20	2515	1	5.8	3555	98	6.5	29	3.2	4.14	13.5	1040
(130900) Tolka Estuary at East Point Business Park	11/06/2014 10:10	141	1	2.6	539	90	0.05	74	19.4	2.8	15.7	398

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Bridge - Surface Sample												
(130900) Tolka Estuary at East Point Business Park Bridge - Surface Sample	24/07/2014 10:40	195	**5**	4.4	275	92	3.2	68	9.7	0.2	20	80
(130900) Tolka Estuary at East Point Business Park Bridge - Surface Sample	21/08/2014 09:40	24	**7**	3.8	551	95	1.3	6	26.5	1.34	14.3	527
(130901) Tolka Estuary at East Point Business Park Bridge - Depth Sample	24/04/2014 10:30	42	1	1.1	310	81	2.2	24	6.4	0.96	11.2	268
(130901) Tolka Estuary at East Point Business Park Bridge - Depth Sample	15/05/2014 10:30	871	1	8.4	1638	93	7.4	38	2.3	4.07	13.6	1010
(130901) Tolka Estuary at East Point Business Park Bridge - Depth Sample	11/06/2014 10:00	111	1	4.3	275	90	0.05	42	22.3	2.19	15.6	164
(130901) Tolka Estuary at East Point Business Park Bridge - Depth Sample	24/07/2014 10:30	347	3	11.1	509	90	5.1	133	14.7	0.2	20.2	162
(130901) Tolka Estuary at East Point Business Park Bridge - Depth Sample	21/08/2014 09:30	34	1	4.1	142	96	1.2	39	30	0.77	14.5	108
(130901) Tolka Estuary at East Point Business Park Bridge - Depth Sample	11/09/2014 10:10	349	2	26	1086	121	10.9	55	3.6	3.26	15.5	737
(130910) Tolka Estuary,	24/04/2014	18	1	1.9	209	93	0.9	47	24.2	0.2	11.3	191

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Castle Ave. - Surface Sample	07:35											
(130910) Tolka Estuary, Castle Ave. - Surface Sample	15/05/2014 12:48	49	1	2.5	88	103	0.9	21	30.6	0.2	13.4	39
(130910) Tolka Estuary, Castle Ave. - Surface Sample	11/06/2014 10:10	57	1	2.4	90	91	0.05	25	25.6	1.25	15.2	33
(130910) Tolka Estuary, Castle Ave. - Surface Sample	24/07/2014 10:42	129	1	17.6	324	**123**	3.7	140	30	0.2	20.3	195
(130910) Tolka Estuary, Castle Ave. - Surface Sample	21/08/2014 10:00	2.5	1	4.8	12	100	1.2	5	29.8	0.5	14.7	12
(130910) Tolka Estuary, Castle Ave. - Surface Sample	11/09/2014 11:22	97	1	3.2	136	103	0.7	51	31.1	0.45	16.9	39
(130911) Tolka Estuary, Castle Ave. - Depth Sample	24/04/2014 07:37	15	1	5.5	66	92	2	14	29.9	0.2	11.4	51
(130911) Tolka Estuary, Castle Ave. - Depth Sample	15/05/2014 12:49	18	1	4.8	42	101	1.3	10	31.8	0.2	12.3	24
(130911) Tolka Estuary, Castle Ave. - Depth Sample	11/06/2014 10:12	55	1	3.9	86	99	0.05	16	30.5	0.49	14.6	31
(130911) Tolka Estuary, Castle Ave. - Depth Sample	24/07/2014 10:43	77	1	14.9	229	118	3.5	118	30.3	0.2	20.2	152
(130911) Tolka Estuary, Castle Ave. - Depth Sample	21/08/2014 10:00	13	1	6.3	41	104	1.5	9	30.8	0.47	15.2	28

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130911) Tolka Estuary, Castle Ave. - Depth Sample	11/09/2014 11:23	108	1	4.5	152	104	1.3	71	32	0.2	16.6	44
(130920) Tolka Estuary, Clontarf Boat Club - Surface Sample	24/04/2014 07:21	69	1	3.5	246	97	1.7	32	27.2	0.2	11	177
(130920) Tolka Estuary, Clontarf Boat Club - Surface Sample	15/05/2014 13:02	41	1	0.3	59	105	0.05	11	32.9	0.2	12.7	18
(130920) Tolka Estuary, Clontarf Boat Club - Surface Sample	11/06/2014 10:21	44	1	2.5	68	104	0.05	15	30	0.47	14.3	24
(130920) Tolka Estuary, Clontarf Boat Club - Surface Sample	24/07/2014 10:32	20	1	6.4	67	116	1.3	45	32.6	0.2	18.6	47
(130920) Tolka Estuary, Clontarf Boat Club - Surface Sample	21/08/2014 10:00	82	1	5.1	182	106	1.3	39	32.3	0.2	15.2	100
(130920) Tolka Estuary, Clontarf Boat Club - Surface Sample	11/09/2014 11:34	72	1	3.5	106	104	1	47	32.4	0.2	16.5	34
(130921) Tolka Estuary, Clontarf Boat Club - Depth Sample	24/04/2014 07:23	5	1	5.7	44	99	1.1	2.5	32.2	0.2	10.9	34
(130921) Tolka Estuary, Clontarf Boat Club - Depth Sample	15/05/2014 13:03	2.5	1	4.8	12	103	1.3	2.5	32.8	0.2	11.8	12

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
(130921) Tolka Estuary, Clontarf Boat Club - Depth Sample	11/06/2014 10:23	2.5	1	3.5	7.5	108	0.05	2.5	32.6	0.2	13.6	<10
(130921) Tolka Estuary, Clontarf Boat Club - Depth Sample	24/07/2014 10:33	27	1	6.9	62	115	1.3	39	32.9	0.2	18.3	35
(130921) Tolka Estuary, Clontarf Boat Club - Depth Sample	21/08/2014 10:00	96	1	4.9	154	106	1	52	32.5	0.2	15.2	58
(130921) Tolka Estuary, Clontarf Boat Club - Depth Sample	11/09/2014 11:35	77	1	2.5	99	104	1.1	36	32.8	0.2	16.3	22
(130930) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Surface Sample	24/04/2014 07:52	79	1	2.4	341	95	1.3	85	23.1	0.2	11.3	262
(130930) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Surface Sample	15/05/2014 13:11	52	1	2.3	85	107	0.9	24	30.7	0.2	13.4	33
(130930) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Surface Sample	11/06/2014 10:30	74	1	2.4	119	103	0.05	25	28.5	0.67	14.8	45
(130930) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Surface	24/07/2014 10:55	82	1	13.5	200	**128**	3.1	106	31.1	0.2	19.8	118

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Sample												
(130930) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Surface Sample	21/08/2014 10:00	137	1	5.7	188	102	1.6	70	29.1	0.57	14.9	51
(130930) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Surface Sample	11/09/2014 11:43	13	1	2.3	13	106	0.3	5	33.3	0.2	16.2	<10
(130931) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Depth Sample	24/04/2014 07:52	59	1	4.8	315	100	1.6	47	29.2	0.2	11.3	256
(130931) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Depth Sample	15/05/2014 13:13	29	1	3.2	48	110	1.3	13	31.4	0.2	12.9	19
(130931) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Depth Sample	11/06/2014 10:32	22	1	3.6	38	107	0.05	7	30.5	0.42	14.7	16
(130931) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Depth Sample	24/07/2014 10:57	16	1	11.3	67	**124**	2.4	54	32.5	0.2	19	51
(130931) Tolka Estuary, S. Lagoon at Bull Wall	21/08/2014 10:00	5	1	5.5	5	105	1.2	2.5	30.6	0.5	15.3	<10

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Chlorophyll a	DIN	DO	Pheophytin a	P (React)	Salinity	Silica	Temp	TON
		µg/l as N	mg/l	mg/m^3	µg/l	% Sat.	mg/m3	µg/l SRP as P	PSU	mg/l as SiO2	°C	µg/l as N
Wooden Bridge - Depth Sample												
(130931) Tolka Estuary, S. Lagoon at Bull Wall Wooden Bridge - Depth Sample	11/09/2014 11:44	24	1	2.7	47	107	0.2	11	33.3	0.2	16.2	23
(45076) Tolka River U/S Drumcondra Bridge	24/04/2014 09:50	36	1	6.6	647	**124**	4.9	21	0.1	1.26	11.6	611
(45076) Tolka River U/S Drumcondra Bridge	15/05/2014 10:00	96	1	4.6	1666	102	5.7	22	0.1	4.23	13.1	1570
(45076) Tolka River U/S Drumcondra Bridge	11/06/2014 10:30	61	1	1.5	1060	104	0.05	31	0	6.97	15	999
(45076) Tolka River U/S Drumcondra Bridge	24/07/2014 10:15	59	2	2	609	101	2.1	54	0.1	0.2	18.7	550
(45076) Tolka River U/S Drumcondra Bridge	21/08/2014 10:10	30	1	1.2	777	114	1.1	12	0.1	4.94	13.6	747
(45076) Tolka River U/S Drumcondra Bridge	11/09/2014 10:40	22	1	2.7	1022	119	0.9	11	0.1	4.2	15	1000

APPENDIX 6.2(4) Dublin Bay Monitoring - 2014 (4)
Report for Samples Taken During the Period: 01/01/2014 - 31/12/2014

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Bottom Oxygen	Bottom Temp	Chlorophyll a	DIN	DO	Oxygen at 0 m depth	Pheophytin a	P (React)	Salinity	Salinity (mean)	Silica	Surface Temp	Temp	TON
		µg/l as N	mg/l	% Sat.	°C	mg/m^3	ug/l N	% Sat.	% Sat.	mg/m3	µg/l SRP as P	PSU	PSU	mg/l as SiO2	°C	°C	µg/l as N
(130602) Irish Sea Dublin, Bailey - Composite Sample	01/05/2014 10:46	23	1		10.8	5.2	72			1.2	5		32.3	0.2	11		49
(130602) Irish Sea Dublin, Bailey	23/07/2014 12:26	2.5	1	107.5	16.1	2.3	7.5		108.3	0.7	10		33.8	0.2	16.5		5
(130602) Irish Sea Dublin, Bailey	20/08/2014 11:20	2.5	1	97.3	14.9	5.3	7.5		101.4	1.6	2.5		33	0.2	14.8		5
(130602) Irish Sea Dublin, Bailey	10/09/2014 11:32	2.5	1	102.5	15.6	3.5	7.5		106.8	1.4	2.5		33.7	0.2	15.7		5
(130700) Dublin Bay,1km NE Poolbeg Lighthouse - Surface Sample	23/07/2014 13:02	20	1			8	65	**122**		1.7	78	32.8		0.2		19.8	45
(130702) Dublin Bay,1km NE Poolbeg Lighthouse	20/08/2014 12:15	30	1			5.6	53	108		2.1	17	31.3		0.2		15	23
(130701) Dublin Bay,1km NE Poolbeg Lighthouse - Depth Sample	23/07/2014 13:03	2.5	1			4	7.5	117		1	19	33.5		0.2		18	5
(130702) Dublin Bay,1km NE Poolbeg Lighthouse	20/08/2014 12:16	5	1			3.7	5	105		2.5	2.5	32.9		0.2		15.4	5
(130702) Dublin Bay,1km NE	01/05/2014 10:06	23	1		10.9	2	72			4.2	19		32.2	0.2	11.1		49

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Bottom Oxygen	Bottom Temp	Chlorophyll a	DIN	DO	Oxygen at 0 m depth	Pheophytin a	P (React)	Salinity	Salinity (mean)	Silica	Surface Temp	Temp	TON
		µg/l as N	mg/l	% Sat.	°C	mg/m^3	ug/l N	% Sat.	% Sat.	mg/m3	µg/l SRP as P	PSU	PSU	mg/l as SiO2	°C	°C	µg/l as N
Poolbeg Lighthouse - Composite Sample																	
(130702) Dublin Bay,1km NE Poolbeg Lighthouse	10/09/2014 12:23	9	1	105.6	15.8	2.4	9		107.2	0.9	2.5		33.7	0.2	16.3		5
(130710) Dublin Bay, South Bull Bouy, 1km SE Poolbeg Lighthouse - Surface Sample	20/08/2014 10:30	75	1			7.2	101	104		1.5	32	31.4		0.2		15.3	26
(130711) Dublin Bay, South Bull Bouy, 1km SE Poolbeg Lighthouse - Depth Sample	20/08/2014 10:31	14	1			3.8	24	104		1.1	5	32.9		0.2		15.3	10
(130712) Dublin Bay, South Bull Bouy, 1km SE Poolbeg Lighthouse - Composite Sample	01/05/2014 11:37	5	1		10.8	1.3	27			3.8	2.5		32.4	0.2	11.1		17
(130722) Dublin Bay, 2.5km ENE Poolbeg Lighthouse	23/07/2014 11:32	5	1	109.7	16.5	1.6	5		111.8	0.5	10		33.8	0.2	16.9		5
(130722) Dublin	10/09/201	8	1	104.2	15.6	2.8	8		106.6	0.8	5		33.7	0.2	15.7		5

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Bottom Oxygen	Bottom Temp	Chlorophyll a	DIN	DO	Oxygen at 0 m depth	Pheophytin a	P (React)	Salinity	Salinity (mean)	Silica	Surface Temp	Temp	TON
		µg/l as N	mg/l	% Sat.	°C	mg/m^3	ug/l N	% Sat.	% Sat.	mg/m3	µg/l SRP as P	PSU	PSU	mg/l as SiO2	°C	°C	µg/l as N
Bay, 2.5km ENE Poolbeg Lighthouse	4 10:44																
(130720) Dublin Bay, 2.5km ENE Poolbeg Lighthouse - Surface Sample	01/05/2014 10:20	39	1			0.8	68			1	2.5	32.1		<0.40		11.2	29
(130721) Dublin Bay, 2.5km ENE Poolbeg Lighthouse - Depth Sample	01/05/2014 10:22	31	1			2.4	52			0.9	2.5	32.4		<0.40		10.7	21
(130722) Dublin Bay, 2.5km ENE Poolbeg Lighthouse - Composite Sample	23/07/2014 12:53	7	1	110.2	16.6	2	7		116.7	1	12		33.7	<0.40	17.7		5
	20/08/2014 11:54	2.5	1	100.7	15.3	3.1	7.5		107.5	4.9	2.5		32.8	<0.40	15		5
	10/09/2014 12:10	19	1	104.6	15.7	3.5	19		108.3	1	7		33.7	<0.40	16.1		5
(130730) Dublin Bay, 2.5km SSE Poolbeg Lighthouse - Surface Sample	20/08/2014 10:44	5	1			9.3	5	101		1.8	2.5	32.7		<0.40		15.3	5
(130731) Dublin Bay, 2.5km SSE Poolbeg	20/08/2014 10:45	6	1			4.8	6	101		0.6	6	33		<0.40		15.4	5

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Bottom Oxygen	Bottom Temp	Chlorophyll a	DIN	DO	Oxygen at 0 m depth	Pheophytin a	P (React)	Salinity	Salinity (mean)	Silica	Surface Temp	Temp	TON
		µg/l as N	mg/l	% Sat.	°C	mg/m^3	ug/l N	% Sat.	% Sat.	mg/m3	µg/l SRP as P	PSU	PSU	mg/l as SiO2	°C	°C	µg/l as N
Lighthouse - Depth Sample																	
(130732) Dublin Bay, 2.5km SSE Poolbeg Lighthouse - Composite Sample	01/05/2014 11:46	20	1		10.7	4.4	39			1.8	2.5		32.4	<0.40	11.1		19
(130732) Dublin Bay, 2.5km SSE Poolbeg Lighthouse - Composite Sample	23/07/2014 11:45	2.5	1	108.5	16.2	1.5	7.5		111.4	1.1	9		33.7	<0.40	16.7		5
(130732) Dublin Bay, 2.5km SSE Poolbeg Lighthouse - Composite Sample	10/09/2014 10:57	11	1	102.3	15.7	1.1	11		104.7	2.1	2.5		33.7	<0.40	15.7		5
(130742) Dublin Bay, No. 4 Bouy, 2.5km E of S Poolbeg Lighthouse - Composite Sample	01/05/2014 11:29	19	1		10.8	2.8	45			1.1	2.5		32.3	<0.40	11.2		26
(130742) Dublin Bay, No. 4 Bouy, 2.5km E of S Poolbeg Lighthouse	23/07/2014 11:21	2.5	1	108.5	16.2	1.5	7.5			0.5	10		33.8	<0.40	16.8		5

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Bottom Oxygen	Bottom Temp	Chlorophyll a	DIN	DO	Oxygen at 0 m depth	Pheophytin a	P (React)	Salinity	Salinity (mean)	Silica	Surface Temp	Temp	TON
		µg/l as N	mg/l	% Sat.	°C	mg/m^3	ug/l N	% Sat.	% Sat.	mg/m3	µg/l SRP as P	PSU	PSU	mg/l as SiO2	°C	°C	µg/l as N
(130742) Dublin Bay, No. 4 Bouy, 2.5km E of S Poolbeg Lighthouse	20/08/2014 10:15	2.5	1	102.3	15.4	3.9	7.5		102.7	0.8	2.5		33	<0.40	15.3		5
(130742) Dublin Bay, No. 4 Bouy, 2.5km E of S Poolbeg Lighthouse	10/09/2014 10:32	14	1	104.1	15.6	2.5	14		105.8	0.7	5		33.7	<0.40	15.7		5
(130750) Dublin Bay, Drumleck Point, 5km ENE Poolbeg Lighthouse - Surface Sample	01/05/2014 10:33	5	1			3.3	49			2.3	10	31.8		<0.40		11.6	39
(130751) Dublin Bay, Drumleck Point, 5km ENE Poolbeg Lighthouse - Depth Sample	01/05/2014 10:35	5	1			3.7	64			0.8	2.5	32.3		<0.40		10.8	54
(130752) Dublin Bay, Drumleck Point, 5km ENE Poolbeg Lighthouse - Composite Sample	23/07/2014 12:39	5	1	109.9	16.4	1.9	5		110.1	0.8	10		33.8	<0.40	16.9		5
(130752) Dublin Bay, Drumleck Point, 5km ENE Poolbeg	20/08/2014 11:41	2.5	1	101.4	15	4.3	7.5		105.2	1.1	2.5		32.8	<0.40	15		5

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Bottom Oxygen	Bottom Temp	Chlorophyll a	DIN	DO	Oxygen at 0 m depth	Pheophytin a	P (React)	Salinity	Salinity (mean)	Silica	Surface Temp	Temp	TON
		µg/l as N	mg/l	% Sat.	°C	mg/m^3	ug/l N	% Sat.	% Sat.	mg/m3	µg/l SRP as P	PSU	PSU	mg/l as SiO2	°C	°C	µg/l as N
Lighthouse																	
(130752) Dublin Bay, Drumleck Point, 5km ENE Poolbeg Lighthouse	10/09/2014 11:52	13	1	103.3	15.7	4	25		112.3	0.9	7		33.6	<0.40	15.9		12
(130762) Dublin Bay, 5km ESE Poolbeg Lighthouse - Composite Sample	01/05/2014 11:05	17	1		10.6	4	44			1.7	2.5		32.4	<0.40	10.8		27
(130762) Dublin Bay, 5km ESE Poolbeg Lighthouse - Composite Sample	23/07/2014 12:01	2.5	1	108.9	16.4	1.5	7.5		111.9	2	10		33.7	<0.40	16.8		5
(130762) Dublin Bay, 5km ESE Poolbeg Lighthouse - Composite Sample	20/08/2014 11:00	6	1	100.2	15.1	5.3	6		99.6	1.1	2.5		32.9	<0.40	15.1		5
(130762) Dublin Bay, 5km ESE Poolbeg Lighthouse - Composite Sample	10/09/2014 11:11	48	1	102.2	15.6	2.7	61		104.7	1	13		33.7	<0.40	15.6		13

Sampling Point Description	Sample Date	Ammonia	B.O.D. Saline	Bottom Oxygen	Bottom Temp	Chlorophyll a	DIN	DO	Oxygen at 0 m depth	Pheophytin a	P (React)	Salinity	Salinity (mean)	Silica	Surface Temp	Temp	TON
		µg/l as N	mg/l	% Sat.	°C	mg/m^3	ug/l N	% Sat.	% Sat.	mg/m3	µg/l SRP as P	PSU	PSU	mg/l as SiO2	°C	°C	µg/l as N
(130772) Dublin Bay, Dún Laoghaire, 5km E of S Poolbeg Lighthouse - Composite Sample	01/05/2014 11:18	5	1		10.6	1.9	44			3.6	2.5		32.4	<0.40	11		34
(130772) Dublin Bay, Dún Laoghaire, 5km E of S Poolbeg Lighthouse - Composite Sample	23/07/2014 11:03	6	1	106.4	16	1.6	6		110.5	0.8	9		33.8	<0.40	16.5		5
(130772) Dublin Bay, Dún Laoghaire, 5km E of S Poolbeg Lighthouse - Composite Sample	20/08/2014 09:57	5	1	100.4	15.5	3.6	5		100.1	0.5	2.5		33	<0.40	15.4		5
(130772) Dublin Bay, Dún Laoghaire, 5km E of S Poolbeg Lighthouse - Composite Sample	10/09/2014 10:17	18	1	100.7	15.6	1.5	18		103.5	1.1	2.5		33.8	<0.40	15.6		5

Appendix 6.2 (5) Bathing Water 2014

Report for Samples Taken During the Period: 01/01/2014 - 31/12/2014

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
(40520) Dollymount North	27/05/2014 11:25	282	8		Absent	Absent	8.3	Absent	30.1	Absent	Normal
(40520) Dollymount North	03/06/2014 16:00	10		330	Absent	Absent	8.5	Absent	33.3	Absent	Normal
(40520) Dollymount North	09/06/2014 09:00	30	2		Absent	Absent	8.2	Absent	32	Absent	Normal
(40520) Dollymount North	16/06/2014 14:10	20	12		Absent	Absent	8.2	Absent	34.7	Absent	Normal
(40520) Dollymount North	23/06/2014 09:20	<10	<1		Absent	Absent	8.2	Absent	34.8	Absent	Normal
(40520) Dollymount North	29/06/2014 13:20	<10	<1		Absent	Absent	8.2	Absent	34.5	Absent	Normal
(40520) Dollymount North	30/06/2014 14:10	10	25		Absent	Absent	8.2	Absent	33.9	Absent	Normal
(40520) Dollymount North	01/07/2014 14:15	<10	20		Absent	Absent	8.3	Absent	34.5	Absent	Normal
(40520) Dollymount North	07/07/2014 07:05	20	2		Absent	Absent	8.2	Absent	34.3	Absent	Normal
(40520) Dollymount North	14/07/2014 12:25	249		360	Absent	Absent	8.2	Absent	34.4	Absent	Normal
(40520) Dollymount North	21/07/2014 07:25	20	5		Absent	Absent	8.1	Absent	33.8	Absent	Normal
(40520) Dollymount North	27/07/2014 12:20	<10	1		Absent	Absent	8.3	Absent	34.5	Absent	Normal
(40520) Dollymount North	28/07/2014 12:50	168		135	Absent	Absent	8.2	Absent	34.6	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
(40520) Dollymount North	06/08/2014 07:15	364	36		Absent	Absent	8.1	Absent	31.3	Absent	Normal
(40520) Dollymount North	08/08/2014 10:40	158	67		Absent	Absent	8.2	Absent	33.9	Absent	Normal
(40520) Dollymount North	11/08/2014 11:45	987		380	Absent	Absent	8.2	Absent	33.6	Absent	Normal
(40520) Dollymount North	13/08/2014 14:40	96	38		Absent	Absent	8.2	Absent	34.1	Absent	Normal
(40520) Dollymount North	18/08/2014 06:00	185	74		Absent	Absent	8.1	Absent	34.1	Absent	Normal
(40520) Dollymount North	25/08/2014 11:10	52	20		Absent	Absent	8.1	Absent	33	Absent	Normal
(40520) Dollymount North	31/08/2014 15:10	41	46		Absent	Absent	8.6	Absent	33.3	Absent	Normal
(40520) Dollymount North	01/09/2014 14:30	10	4		Absent	Absent	8.7	Absent	34.1	Absent	Normal
(40520) Dollymount North	03/09/2014 06:10	<10	1		Absent	Absent	8.2	Absent	33.4	Absent	Normal
(40520) Dollymount North	08/09/2014 11:00	20	11		Absent	Absent	8.3	Absent	33.5	Absent	Normal
(40520) Dollymount North	14/09/2014 15:15	<10	4		Absent	Absent	8.2	Absent	34.4	Absent	Normal
(40520) Dollymount North	15/09/2014 12:55	10	<1		Absent	Absent	8.4	Absent	34.4	Absent	Normal
(40526) Dollymount Bathing Zone	27/05/2014 11:15	146	63		Absent	Absent	8.3	Absent	30.4	Absent	Normal
(40526) Dollymount Bathing Zone	03/06/2014 16:10	20	10		Absent	Absent	8.4	Absent	33.9	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
(40526) Dollymount Bathing Zone	09/06/2014 09:15	63		610	Absent	Absent	8.3	Absent	31	Absent	Normal
(40526) Dollymount Bathing Zone	16/06/2014 14:20	<10	7		Absent	Absent	8.3	Absent	34.6	Absent	Normal
(40526) Dollymount Bathing Zone	23/06/2014 09:30	10	3		Absent	Absent	8.2	Absent	34.8	Absent	Normal
(40526) Dollymount Bathing Zone	29/06/2014 13:30	20	23		Absent	Absent	8.2	Absent	34.6	Absent	Normal
(40526) Dollymount Bathing Zone	01/07/2014 14:25	<10	9		Absent	Absent	8.4	Absent	34.7	Absent	Normal
(40526) Dollymount Bathing Zone	07/07/2014 07:15	10	2		Absent	Absent	8.2	Absent	34.2	Absent	Normal
(40526) Dollymount Bathing Zone	14/07/2014 12:35	20	77		Absent	Absent	8.2	Absent	34	Absent	Normal
(40526) Dollymount Bathing Zone	21/07/2014 07:40	41	<1		Absent	Absent	8.1	Absent	33.8	Absent	Normal
(40526) Dollymount Bathing Zone	27/07/2014 12:35	20	1		Absent	Absent	8.3	Absent	34.7	Absent	Normal
(40526) Dollymount Bathing Zone	28/07/2014 13:15	84	56		Absent	Absent	8.2	Absent	34.6	Absent	Normal
(40526) Dollymount Bathing Zone	06/08/2014 07:25	1789		300	Absent	Absent	8.1	Absent	30.6	Absent	Normal
(40526) Dollymount Bathing Zone	11/08/2014 11:55	857		450	Absent	Absent	8.3	Absent	33.7	Absent	Normal
(40526) Dollymount Bathing Zone	13/08/2014 14:55	448		127	Absent	Absent	8.2	Absent	33.8	Absent	Normal
(40526) Dollymount Bathing Zone	18/08/2014 06:20	75	27		Absent	Absent	8.1	Absent	33.8	Absent	Normal
(40526) Dollymount	25/08/2014	148	54		Absent	Absent	8.1	Absent	32.8	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
Bathing Zone	11:20										
(40526) Dollymount Bathing Zone	31/08/2014 15:20	10	<1		Absent	Absent	8.2	Absent	33.2	Absent	Normal
(40526) Dollymount Bathing Zone	03/09/2014 06:20	<10	3		Absent	Absent	8.3	Absent	33.5	Absent	Normal
(40526) Dollymount Bathing Zone	08/09/2014 11:10	10	5		Absent	Absent	8.3	Absent	33.3	Absent	Normal
(40526) Dollymount Bathing Zone	14/09/2014 15:25	10	10		Absent	Absent	8.4	Absent	34.4	Absent	Normal
(40530) Dollymount South	27/05/2014 11:47	185	16		Absent	Absent	8.4	Absent	30.6	Absent	Normal
(40530) Dollymount South	03/06/2014 16:20	<10	3		Absent	Absent	8.4	Absent	33.7	Absent	Normal
(40530) Dollymount South	09/06/2014 09:45	63	2		Absent	Absent	8.3	Absent	31.1	Absent	Normal
(40530) Dollymount South	16/06/2014 14:30	52	13		Absent	Absent	8.8	Absent	34.8	Absent	Normal
(40530) Dollymount South	23/06/2014 09:45	31	11		Absent	Absent	8.4	Absent	35.1	Absent	Normal
(40530) Dollymount South	29/06/2014 13:45	<10	5		Absent	Absent	8.7	Absent	33.2	Absent	Normal
(40530) Dollymount South	01/07/2014 14:45	110	5		Absent	Absent	8.8	Absent	35	Absent	Normal
(40530) Dollymount South	07/07/2014 07:40	10	7		Absent	Absent	8.2	Absent	31.4	Absent	Normal
(40530) Dollymount South	14/07/2014 12:45	97	18		Absent	Absent	8.2	Absent	34.4	Absent	Normal
(40530) Dollymount	21/07/2014	10	2		Absent	Absent	8.1	Absent	33.8	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
South	08:10										
(40530) Dollymount South	27/07/2014 13:05	10	2		Absent	Absent	8.2	Absent	34.6	Absent	Normal
(40530) Dollymount South	28/07/2014 13:45	31	13		Absent	Absent	8.5	Absent	34.7	Absent	Normal
(40530) Dollymount South	06/08/2014 08:00	364	46		Absent	Absent	8.1	Absent	32.5	Absent	Normal
(40530) Dollymount South	08/08/2014 11:20	132	18		Absent	Absent	8.2	Absent	34.3	Absent	Normal
(40530) Dollymount South	11/08/2014 12:30	97	63		Absent	Absent	8.2	Absent	34.2	Absent	Normal
(40530) Dollymount South	13/08/2014 15:30	132	79		Absent	Absent	8.4	Absent	34.3	Absent	Normal
(40530) Dollymount South	18/08/2014 06:35	31	8		Absent	Absent	8	Absent	32.1	Absent	Normal
(40530) Dollymount South	25/08/2014 11:40	228	26		Absent	Absent	8.2	Absent	32.3	Absent	Normal
(40530) Dollymount South	31/08/2014 15:40	<10	<1		Absent	Absent	8.1	Absent	33.4	Absent	Normal
(40530) Dollymount South	03/09/2014 06:50	31	10		Absent	Absent	8.2	Absent	33.1	Absent	Normal
(40530) Dollymount South	08/09/2014 11:55	10	13		Absent	Absent	8.2	Absent	33.2	Absent	Normal
(40530) Dollymount South	14/09/2014 15:50	30	9		Absent	Absent	8.3	Absent	34.1	Absent	Normal
(40535) Bull Wall Wood Causeway	27/05/2014 11:35	960		320	Present	Absent	8.1	Absent	30.5	Absent	Abnormal
(40535) Bull Wall	03/06/2014	63	14		Absent	Absent	8.2	Absent	28.4	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
Wood Causeway	16:25										
(40535) Bull Wall Wood Causeway	09/06/2014 09:35	292	34		Absent	Absent	8.1	Absent	27	Absent	Normal
(40535) Bull Wall Wood Causeway	16/06/2014 14:40	10	5		Absent	Absent	8.2	Absent	34.2	Absent	Normal
(40535) Bull Wall Wood Causeway	23/06/2014 10:00	75	40		Absent	Absent	8.2	Absent	33.4	Absent	Normal
(40535) Bull Wall Wood Causeway	29/06/2014 14:00	75	2		Absent	Absent	8.3	Absent	34.6	Absent	Normal
(40535) Bull Wall Wood Causeway	01/07/2014 14:55	31	3		Absent	Absent	8.3	Absent	33.8	Absent	Normal
(40535) Bull Wall Wood Causeway	07/07/2014 07:30	262	42		Absent	Absent	8.2	Absent	34.5	Absent	Normal
(40535) Bull Wall Wood Causeway	14/07/2014 12:50	231		140	Absent	Absent	8.2	Absent	32.7	Absent	Normal
(40535) Bull Wall Wood Causeway	21/07/2014 08:00	146	45		Absent	Absent	8.1	Absent	31.6	Absent	Normal
(40535) Bull Wall Wood Causeway	27/07/2014 12:55	31	2		Absent	Absent	8.4	Absent	33	Absent	Normal
(40535) Bull Wall Wood Causeway	28/07/2014 13:35	<10	2		Absent	Absent	8.2	Absent	34.1	Absent	Normal
(40535) Bull Wall Wood Causeway	06/08/2014 07:40	2247		730	Absent	Absent	7.9	Absent	25.4	Absent	Normal
(40535) Bull Wall Wood Causeway	08/08/2014 11:10	259	51		Absent	Absent	8.1	Absent	31.9	Absent	Normal
(40535) Bull Wall Wood Causeway	11/08/2014 12:20	1989		260	Absent	Absent	8.1	Absent	31	Absent	Normal
(40535) Bull Wall Wood Causeway	13/08/2014 15:20	63	13		Absent	Absent	8.2	Absent	33.2	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
(40535) Bull Wall Wood Causeway	18/08/2014 06:45	201	24		Absent	Absent	8	Absent	33.8	Absent	Normal
(40535) Bull Wall Wood Causeway	25/08/2014 11:50	471		127	Absent	Absent	8.1	Absent	33	Absent	Normal
(40535) Bull Wall Wood Causeway	31/08/2014 15:50	10	1		Absent	Absent	8.4	Absent	32	Absent	Normal
(40535) Bull Wall Wood Causeway	03/09/2014 06:40	538		280	Absent	Absent	8	Absent	31.6	Absent	Normal
(40535) Bull Wall Wood Causeway	08/09/2014 11:40	62	54		Absent	Absent	8.2	Absent	32.7	Absent	Normal
(40535) Bull Wall Wood Causeway	14/09/2014 15:40	20	5		Absent	Absent	8.2	Absent	33.8	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	27/05/2014 11:10	24196		2000	Absent	Absent	7.4	Absent	22.2	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	03/06/2014 14:50	5475		1320	Absent	Absent	7.8	Absent	25.7	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	09/06/2014 09:30	187	39		Absent	Absent	8.1	Absent	30.4	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	16/06/2014 14:10	<10	5		Absent	Absent	8.2	Absent	35.1	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	18/06/2014 15:00	364	71		Absent	Absent	8.1	Absent	32.1	Absent	Normal
(40538) Poolbeg	23/06/2014	4884		<1	Absent	Absent	7.9	Absent	26	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
Outfall Main Discharge	09:30										
(40538) Poolbeg Outfall Main Discharge	29/06/2014 12:30	565	84		Absent	Absent	8	Absent	27.9	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	01/07/2014 13:20	2187		550	Absent	Absent	7.7	Absent	21.7	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	07/07/2014 06:55	1421		420	Absent	Absent	7.9	Absent	28.8	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	14/07/2014 13:05	2046		560	Absent	Absent	8	Absent	30.7	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	21/07/2014 06:30	1081		370	Absent	Absent	7.8	Absent	27.2	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	27/07/2014 12:30	776		104	Absent	Absent	8.1	Absent	30	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	28/07/2014 12:00	1935		360	Absent	Absent	7.9	Absent	26.7	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	06/08/2014 07:30	12033		1450	Absent	Absent	7.6	Absent	23.5	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	11/08/2014 11:10	2603		690	Absent	Absent	8	Absent	27.5	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
(40538) Poolbeg Outfall Main Discharge	18/08/2014 06:00	565		210	Absent	Absent	8.1	Absent	30.8	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	20/08/2014 12:30	9208		1030	Absent	Absent	7.8	Absent	26.2	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	25/08/2014 10:45	379		133	Absent	Absent	8.1	Absent	32.9	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	31/08/2014 15:00	75	24		Absent	Absent	8	Absent	32.4	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	03/09/2014 05:45	3076			Absent	Absent	7.9	Absent	23.1	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	08/09/2014 10:00	3873		610	Absent	Absent	7.9	Absent	29	Absent	Normal
(40538) Poolbeg Outfall Main Discharge	14/09/2014 15:10	759		160	Absent	Absent	8	Absent	30.7	Absent	Normal
(40540) Half Moon Club S-Side Wall	27/05/2014 11:40	213	32		Absent	Absent	8	Absent	32.4	Absent	Normal
(40540) Half Moon Club S-Side Wall	03/06/2014 15:10	10	2		Absent	Absent	8.3	Absent	33.8	Absent	Normal
(40540) Half Moon Club S-Side Wall	09/06/2014 09:45	30	5		Absent	Absent	8.2	Absent	32.9	Absent	Normal
(40540) Half Moon	16/06/2014	63		134	Absent	Absent	8.3	Absent	34.8	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
Club S-Side Wall	14:20										
(40540) Half Moon Club S-Side Wall	23/06/2014 09:50	20	3		Absent	Absent	8.2	Absent	33.3	Absent	Normal
(40540) Half Moon Club S-Side Wall	29/06/2014 12:50	<10	2		Absent	Absent	8.2	Absent	33.5	Absent	Normal
(40540) Half Moon Club S-Side Wall	01/07/2014 13:45	<10	2		Absent	Absent	8.2	Absent	33	Absent	Normal
(40540) Half Moon Club S-Side Wall	07/07/2014 07:25	10	<1		Absent	Absent	8.1	Absent	34.4	Absent	Normal
(40540) Half Moon Club S-Side Wall	14/07/2014 13:10	256		290	Absent	Absent	8.1	Absent	33.7	Absent	Normal
(40540) Half Moon Club S-Side Wall	21/07/2014 06:50	<10	<1		Absent	Absent	8.1	Absent	34	Absent	Normal
(40540) Half Moon Club S-Side Wall	27/07/2014 13:00	<10	5		Absent	Absent	8.2	Absent	34.5	Absent	Normal
(40540) Half Moon Club S-Side Wall	28/07/2014 12:30	<10	3		Absent	Absent	8.2	Absent	34.1	Absent	Normal
(40540) Half Moon Club S-Side Wall	06/08/2014 07:05	31	4		Absent	Absent	8.1	Absent	33.2	Absent	Normal
(40540) Half Moon Club S-Side Wall	11/08/2014 11:30	160	55		Absent	Absent	8.1	Absent	32.2	Absent	Normal
(40540) Half Moon Club S-Side Wall	18/08/2014 06:30	2400		430	Absent	Absent	8	Absent	34	Absent	Normal
(40540) Half Moon Club S-Side Wall	25/08/2014 11:05	228	30		Absent	Absent	8.1	Absent	34.1	Absent	Normal
(40540) Half Moon Club S-Side Wall	31/08/2014 15:20	10	1		Absent	Absent	8.2	Absent	34.4	Absent	Normal
(40540) Half Moon Club S-Side Wall	03/09/2014 06:30	31	8		Absent	Absent	8.1	Absent	34.8	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
(40540) Half Moon Club S-Side Wall	08/09/2014 10:30	97	4		Absent	Absent	8.2	Absent	34.3	Absent	Normal
(40540) Half Moon Club S-Side Wall	14/09/2014 15:20	20	<1		Absent	Absent	8.2	Absent	32.8	Absent	Normal
(40545) Sandymount	27/05/2014 12:00	31	5		Absent	Absent	8.2	Absent	31.5	Absent	Normal
(40545) Sandymount	03/06/2014 15:30	<10	<1		Absent	Absent	8.3	Absent	33.5	Absent	Normal
(40545) Sandymount	09/06/2014 10:00	10	2		Absent	Absent	8.2	Absent	33.3	Absent	Normal
(40545) Sandymount	16/06/2014 14:40	10	5		Absent	Absent	8.2	Absent	35.1	Absent	Normal
(40545) Sandymount	23/06/2014 10:10	10	2		Absent	Absent	8.2	Absent	34.2	Absent	Normal
(40545) Sandymount	29/06/2014 13:30	10	7		Absent	Absent	8.2	Absent	34.1	Absent	Normal
(40545) Sandymount	01/07/2014 14:25	10	1		Absent	Absent	8.2	Absent	34	Absent	Normal
(40545) Sandymount	07/07/2014 07:40	98	23		Absent	Absent	8.1	Absent	33.3	Absent	Normal
(40545) Sandymount	14/07/2014 13:30	216		440	Absent	Absent	8.2	Absent	34.4	Absent	Normal
(40545) Sandymount	21/07/2014 07:20	98	24		Absent	Absent	8.1	Absent	34.3	Absent	Normal
(40545) Sandymount	27/07/2014 13:30	<10	1		Absent	Absent	8.2	Absent	34.9	Absent	Normal
(40545) Sandymount	28/07/2014 13:00	75	14		Absent	Absent	8.2	Absent	34.1	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
(40545) Sandymount	06/08/2014 07:45	703		122	Absent	Absent	8.1	Absent	29.5	Absent	Normal
(40545) Sandymount	08/08/2014 10:00	487		103	Absent	Absent	8.1	Absent	32.5	Absent	Normal
(40545) Sandymount	11/08/2014 12:00	20	13		Absent	Absent	8.2	Absent	32.7	Absent	Normal
(40545) Sandymount	18/08/2014 07:00	3282		200	Absent	Absent	8	Absent	34	Absent	Normal
(40545) Sandymount	25/08/2014 11:30	657		145	Absent	Absent	8.1	Absent	31.5	Absent	Normal
(40545) Sandymount	31/08/2014 16:00	20	<1		Absent	Absent	8.2	Absent	34.7	Absent	Normal
(40545) Sandymount	03/09/2014 06:55	414	74		Absent	Absent	8.1	Absent	34.4	Absent	Normal
(40545) Sandymount	08/09/2014 10:50	63	21		Absent	Absent	8.2	Absent	34.2	Absent	Normal
(40545) Sandymount	14/09/2014 16:00	10	2		Absent	Absent	8.1	Absent	33.1	Absent	Normal
(40550) Merrion Strand	03/06/2014 15:50	85	5		Absent	Absent	8.2	Absent	33.8	Absent	Normal
(40550) Merrion Strand	09/06/2014 10:30	31	6		Absent	Absent	8.1	Absent	33.5	Absent	Normal
(40550) Merrion Strand	16/06/2014 14:50	<10	8		Absent	Absent	8.2	Absent	35	Absent	Normal
(40550) Merrion Strand	23/06/2014 10:30	<10	1		Absent	Absent	8.2	Absent	34.9	Absent	Normal
(40550) Merrion Strand	29/06/2014 14:00	<10	2		Absent	Absent	8.2	Absent	33.6	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
(40550) Merrion Strand	01/07/2014 14:50	<10	1		Absent	Absent	8.2	Absent	35.2	Absent	Normal
(40550) Merrion Strand	07/07/2014 08:00	175	19		Absent	Absent	8.2	Absent	34.3	Absent	Normal
(40550) Merrion Strand	14/07/2014 13:40	185		145	Absent	Absent	8.2	Absent	34.1	Absent	Normal
(40550) Merrion Strand	21/07/2014 08:00	74	25		Absent	Absent	8.2	Absent	34.2	Absent	Normal
(40550) Merrion Strand	27/07/2014 14:20	52	7		Absent	Absent	8.2	Absent	34.5	Absent	Normal
(40550) Merrion Strand	28/07/2014 13:30	74	10		Absent	Absent	8.2	Absent	34.1	Absent	Normal
(40550) Merrion Strand	06/08/2014 08:10	6131		1480	Absent	Absent	8.1	Absent	26.2	Absent	Normal
(40550) Merrion Strand	08/08/2014 14:00	1553		380	Absent	Absent	8.2	Absent	30.1	Absent	Normal
(40550) Merrion Strand	11/08/2014 12:30	52	21		Absent	Absent	8.2	Absent	32.5	Absent	Normal
(40550) Merrion Strand	18/08/2014 07:30	2359		330	Absent	Absent	8.1	Absent	33	Absent	Normal
(40550) Merrion Strand	25/08/2014 11:45	933		125	Absent	Absent	8.1	Absent	32.5	Absent	Normal
(40550) Merrion Strand	31/08/2014 16:10	41	10		Absent	Absent	8.2	Absent	34.5	Absent	Normal
(40550) Merrion Strand	03/09/2014 07:20	1145		122	Absent	Absent	8.1	Absent	34.6	Absent	Normal
(40550) Merrion Strand	08/09/2014 11:15	98	40		Absent	Absent	8.2	Absent	34.6	Absent	Normal
(40550) Merrion	14/09/2014	63	67		Absent	Absent	8.1	Absent	33.1	Absent	Normal

Sampling Point Description	Sample Date	E. coli	Enterococci	Enterococci (Confirmed)	Floating Materials	Mineral Oil	pH	Phenols Olfactory	Salinity	Surfactants	Visual Inspection
		MPN/100ml	CFU/100ml	CFU/100ml	(visual)	(visual)	pH		PSU		
Strand	16:30										
(40552) Merrion Strand (2)	27/05/2014 12:20	<10	1		Absent	Absent	8.2	Absent	31.7	Absent	Normal

Appendix 6.3

PRTR Summary Sheets

| PRTR# : D0034 | Facility Name : Ringsend Waste Water Treatment Plant | Filename : D0034_2014.xlsm | Return Year : 2014 |

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.18

REFERENCE YEAR	2014

1. FACILITY IDENTIFICATION

Parent Company Name	Irish Water
Facility Name	Ringsend Waste Water Treatment Plant
PRTR Identification Number	D0034
Licence Number	D0034-01

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	
Address 2	
Address 3	
Address 4	
	Dublin
Country	Ireland
Coordinates of Location	-6.19681343949 53.3390944464
River Basin District	IEEA
NACE Code	3700
Main Economic Activity	Sewerage
AER Returns Contact Name	Niall Horgan, Irish Water
AER Returns Contact Email Address	nhorgan@water.ie
AER Returns Contact Position	Environmental Compliance Specialist
AER Returns Contact Telephone Number	01-8925396
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	55
User Feedback/Comments	Total Annual flow (m3/annum) : EP1 - 148,413,944m3 (2013), 165,638,393m3 (2014) up 12%. Fugitive - 892,730m3 (2013), 2,549,327m3 (2014) up 186%. These flow figures, coupled with increases (or decreases) in the mean concentration figures, can explain the relative increases (or decreases) in the Total Mass Emissions for most parameters between 2013 and 2014.
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(f)	Urban waste-water treatment plants

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

This question is only applicable if you are an IPPC or Quarry site

4.1 RELEASES TO AIR Link to previous years emissions data | PRTR# : D0034 | Facility Name : Ringsend Waste Water Treatment Plant | Filename : D0034_2014.xlsm | Return Year : 2014 | 23/02/2015 07:26

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
01	Methane (CH4)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	35.0	0.0	35.0
02	Carbon monoxide (CO)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	10460.0	17322.0	0.0	6862.0
03	Carbon dioxide (CO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	3082662.0	38811580.0	0.0	35728918.0
05	Nitrous oxide (N2O)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	277.0	0.0	277.0
07	Non-methane volatile organic compounds (NMVOC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	2166.0	0.0	2166.0
08	Nitrogen oxides (NOx/NO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	31989.0	52976.0	0.0	20987.0
11	Sulphur oxides (SOx/SO2)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	2048.0	0.0	2048.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Ringsend Waste Water Treatment Plant

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS Link to previous years emissions data | PRTR# : D0034 | Facility Name : Ringsend Waste Water Treatment Plant | Filename : D0034_2014.xlsm | Return Year : 2014 | 23/02/2015 07:30

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this or

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
No. Annex II	Name	M/C/E	Method Used Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
34	1,2-dichloroethane (EDC)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
25	Alachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
26	Aldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
61	Anthracene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.459	0.464	0.0	0.005
17	Arsenic and compounds (as As)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	367.165	370.607	0.0	3.442
27	Atrazine	E	ESTIMATE	EPA UWWTP Tool Version 5.0	1.732	1.761	0.0	0.029
62	Benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.786	3.209	0.0	0.423
91	Benzo(g,h,i)perylene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.331	0.336	0.0	0.005
63	Brominated diphenylethers (PBDE)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
18	Cadmium and compounds (as Cd)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	8.558	9.259	0.0	0.701
28	Chlordane	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
29	Chlordecone	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
30	Chlorfenvinphos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
79	Chlorides (as Cl)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	145430509.054	148017226.183	0.0	2586717.129
31	Chloro-alkanes, C10-C13	E	ESTIMATE	EPA UWWTP Tool Version 5.0	34.788	35.323	0.0	0.535
32	Chlorpyrifos	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.011	0.011	0.0	0.0
19	Chromium and compounds (as Cr)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	51.072	51.327	0.0	0.255
20	Copper and compounds (as Cu)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2023.549	2037.953	0.0	14.404
82	Cyanides (as total CN)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	485.622	492.76	0.0	7.138
33	DDT	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
70	Di-(2-ethyl hexyl) phthalate (DEHP)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	151.936	159.482	0.0	7.546
35	Dichloromethane (DCM)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	7.529	7.835	0.0	0.306
36	Dieldrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
37	Diuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	4.367	4.367	0.0	0.0
38	Endosulphan	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
39	Endrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
65	Ethyl benzene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	2.748	3.04	0.0	0.292
88	Fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.388	0.42	0.0	0.032
83	Fluorides (as total F)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	91101.116	91942.394	0.0	841.278
40	Halogenated organic compounds (as AOX)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	395.354	401.439	0.0	6.085
41	Heptachlor	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
90	Hexabromobiphenyl	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
42	Hexachlorobenzene (HCB)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
43	Hexachlorobutadiene (HCBD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
89	Isodrin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0

67	Isoproturon	E	ESTIMATE	5.0 EPA UWWTP Tool Version	1.242	1.28	0.0	0.038
23	Lead and compounds (as Pb)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	503.44	530.973	0.0	27.533
45	Lindane	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.075	0.078	0.0	0.003
21	Mercury and compounds (as Hg)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.255	0.0	0.255
46	Mirex	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
68	Naphthalene	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.663	1.031	0.0	0.368
22	Nickel and compounds (as Ni)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	705.218	714.396	0.0	9.178
64	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	13.74	16.516	0.0	2.776
87	Octylphenols and Octylphenol ethoxylates	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
69	Organotin compounds (as total Sn)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
48	Pentachlorobenzene	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
49	Pentachlorophenol (PCP)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
71	Phenols (as total C)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	150.695	356.849	0.0	206.154
50	Polychlorinated biphenyls (PCBs)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
72	Polycyclic aromatic hydrocarbons (PAHs)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	2.054	2.602	0.0	0.548
51	Simazine	E	ESTIMATE	5.0 EPA UWWTP Tool Version	2.334	2.369	0.0	0.035
52	Tetrachloroethylene (PER)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	9.788	9.788	0.0	0.0
53	Tetrachloromethane (TCM)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
73	Toluene	E	ESTIMATE	5.0	81.701	117.195	0.0	35.494
12	Total nitrogen	M	OTH	Digestion & Colorimetry	2457079.922	2543981.381	0.0	86901.459
76	Total organic carbon (TOC) (as total C or COD/3)	M	OTH	Potassium Dichromate Method	4026006.78	4472246.077	0.0	446239.297
13	Total phosphorus	M	OTH	Digestion & Colorimetry	570458.625	584013.397	0.0	13554.772
59	Toxaphene	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
74	Tributyltin and compounds	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
54	Trichlorobenzenes (TCBs)(all isomers)	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
57	Trichloroethylene	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
77	Trifluralin	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
75	Triphenyltin and compounds	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
60	Vinyl chloride	E	ESTIMATE	5.0 EPA UWWTP Tool Version	0.0	0.0	0.0	0.0
78	Xylenes	E	ESTIMATE	5.0 EPA UWWTP Tool Version	19.199	23.247	0.0	4.048
24	Zinc and compounds (as Zn)	E	ESTIMATE	5.0	8176.513	8487.276	0.0	310.763

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
Pollutant No.	Name	M/C/E	Method Used Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
370	Selenium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	786.782	788.482	0.0	1.7
205	Antimony (as Sb)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	25.599	26.823	0.0	1.224
368	Molybdenum	E	ESTIMATE	EPA UWWTP Tool Version 5.0	251.218	254.787	0.0	3.569
358	Tin	E	ESTIMATE	EPA UWWTP Tool Version 5.0	501.056	501.056	0.0	0.0
373	Barium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	3805.542	3896.383	0.0	90.841
374	Boron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	48614.868	49444.249	0.0	829.381
356	Cobalt	E	ESTIMATE	EPA UWWTP Tool Version 5.0	29.112	29.928	0.0	0.816
386	Vanadium	E	ESTIMATE	EPA UWWTP Tool Version 5.0	451.741	464.998	0.0	13.257
388	Dichlobenil	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.711	0.717	0.0	0.006
383	Linuron	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
385	Mecoprop Total	E	ESTIMATE	EPA UWWTP Tool Version 5.0	17.731	18.034	0.0	0.303
380	2,4 Dichlorophenol (2,4 D)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	8.451	8.542	0.0	0.091
384	MCPA	E	ESTIMATE	EPA UWWTP Tool Version 5.0	14.682	14.707	0.0	0.025
382	Glyphosate	E	ESTIMATE	EPA UWWTP Tool Version 5.0	253.878	254.882	0.0	1.004
389	Benzo[a]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.331	0.336	0.0	0.005
390	Benzo[b]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.331	0.336	0.0	0.005
391	Benzo[k]fluoranthene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.331	0.336	0.0	0.005
392	Indeno[1,2,3-c,d]pyrene	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.365	0.37	0.0	0.005
393	Carbon tetrachloride	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
394	2,6-Dichlorobenzamide	E	ESTIMATE	EPA UWWTP Tool Version 5.0	13.326	13.479	0.0	0.153
395	Dicofol	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
396	Hexabromocyclodecane (HBCD)	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.0	0.0	0.0	0.0
397	PFOS	E	ESTIMATE	EPA UWWTP Tool Version 5.0	0.08	0.08	0.0	0.0
238	Ammonia (as N)	M	OTH	Colorimetric Analysis	1481966.702	1543247.424	0.0	61280.722
303	BOD	M	OTH	5 Day BOD Test	2778087.127	3423194.324	0.0	645107.197
306	COD	M	OTH	Potassium Dichromate Method	12078185.979	13416901.32	0.0	1338715.341
362	Kjeldahl Nitrogen	M	OTH	Digestion & Colorimetry	1836929.778	1923306.075	0.0	86376.297
327	Nitrate (as N)	M	OTH	Colorimetric Analysis	543790.844	544298.16	0.0	507.316
372	Nitrite (as N)	M	OTH	Colorimetric Analysis	54660.67	54816.179	0.0	155.509
332	Ortho-phosphate (as PO4)	M	OTH	Colorimetric Analysis	1246760.184	1265451.85	0.0	18691.666
240	Suspended Solids	M	OTH	Gravimetric Analysis	5159635.942	5815603.272	0.0	655967.33

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

| PRTR# : D0034 | Facility Name : Ringsend Waste Water Treatment Plant | Filename : D0034_2014 23/02/2015 07:32

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

Link to previous years emissions data

| PRTR# : D0034 | Facility Name : Ringsend Waste Water Treatment Plant | Filename : D0034_2014.xlsm | Return Year : 2014 | 23/02/2015 07:46

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	19 05 01	No	753.0	screenings	D5	M	Weighed	Offsite in Ireland	Greenstar Ltd,Permit No. CPD 735/5	Unit 41,Cookstown Industrial Estate,Tallaght,Dublin 24,Ireland		
Within the Country	19 05 02	No	759.0	waste from desanding	D5	M	Weighed	Offsite in Ireland	Greenstar Ltd,Permit No. CPD 735/5	Unit 41,Cookstown Industrial Estate,Tallaght,Dublin 24,Ireland		
Within the Country	19 05 05	No	21407.0	sludges from treatment of urban waste water	R10	M	Weighed	Offsite in Ireland	Peadar Byrne Haulage,Licence No. 990s70099505	P.Byrne Haulage,Baltinglass,Wicklow ,Co. Wicklow,Ireland		

* Select a row by double-clicking the Description of Waste then click the delete button

Appendix 6.4

Specified Improvement Programme

See Section 4 of main report.

Appendix 6.5

Sewer Integrity Tool Output

See Section 4 of main report.

Appendix 6.6

Priority Substances Assessment

Table 7.6.1: Screening of Effluent

Table 7.6.2: Impact on Receiving Waters

Table 7.6.3: Screening of Influent

Table 7.6.4: Screening of Influent Lines to Ringsend WWTP

Ringsend Influent and Effluent Priority Substances Screening, 2014.

To comply with condition **4.11.1** of Licence D0034-01, 2 sub-samples of the Ringsend composite influent and effluent were analysed during 2014 for a comprehensive suite of parameters from the :

- PRTR test suite
- EPA's 54 parameter test suite (Appendix 1, EPA Guidance on the Screening for Priority Substances for Waste Water Discharge Licences) which was issued on 17/01/11.

Summary of Effluent Screening Results:

Effluent Sample Reference 941042 taken 27/11/14.

See Table 7.6.1. Many of the parameters tested for the PRTR suite in this effluent sample were reported as below the detection limit.

Parameters from the EPA's Guidance document detected in this effluent sample included low (sub-microgram per litre) concentrations of the herbicides Mecoprop and Diazinon, microgram per litre concentrations of the metals Arsenic, Zinc, Mercury, Molybdenum, Cobalt, Tin, Barium, Nickel, Selenium, Chromium, Copper and Lead (see highlighted parameters in **Table 7.6.1**).

The PAH's Acenaphthene and Pyrene survived the treatment process at sub-microgram per litre concentrations.

Low concentrations of Trichloromethane and Toluene were also detected.

Results for general parameters and additional tests were in the normal range for effluent sewage.

Table 7.6.1.

EPA Appendix 1 – Ringsend Effluent Sample 941042 - 2014 Screening.
EPA Parameters Screened for in Waste Water Discharges

No.	Compound	Result	Group of Compounds
1.	Benzene	< 1.0 µg/l	**VOC's**
2.	Carbon Tetrachloride	< 1.0 µg/l	
3	1,2-Dichloroethane	< 1.0 µg/l	
4	Dichloromethane	< 1.0 µg/l	
5	Tetrachloroethylene	< 1.0 µg/l	
6	Trichloroethylene	< 1.0 µg/l	
7	Trichlorobenzenes (sum)	< 1.0 ng/l	
8	Trichloromethane	**1.3 µg/l**	
9	Xylenes (all isomers)	< 0.30 µg/l	
10	Ethyl Benzene	< 0.10 µg/l	
11	Toluene	**0.18 µg/l**	
12	Naphthalene	< 0.01 µg/l	**PAH's**
13	Fluoranthene	< 0.01 µg/l	
14	Benzo(k)fluoranthene	< 0.01 µg/l	
15	Benzo(ghi)perylene	< 0.01 µg/l	

16	Indeno(1,2,3-c,d)pyrene	< 0.01 µg/l	
17	Benzo(b)fluoranthene	< 0.01 µg/l	
18	Benzo(a)pyrene	< 0.01 µg/l	
	Acenaphthene	**0.019 µg/l**	
	Pyrene	**0.020 µg/l**	
		0.039 µg/l	**Total PAH's**
19	Di(2-ethylhexyl)phthalate (DEHP)	< 5.0 µg/l	**Plasticiser**
20	Isodrin	< 6 ng/l	**Pesticides**
21	Dieldrin	< 5 ng/l	
22	Diuron	< 0.05 µg/l	
23	Isoproturon	< 0.05 µg/l	
24	Atrazine	< 0.02 µg/l	
25	Simazine	< 0.02 µg/l	
26	Glyphosate	< 2.00 µg/l	
27	Mecoprop	**0.14 µg/l**	
28	2,4-D	< 0.05 µg/l	
29	MCPA	< 0.05 µg/l	
30	Linuron	< 0.05 µg/l	
31	Dichlobenil	< 4 ng/l	
32	2,6-Dichlorobenzamide	N/A*	
	Diazinon	**0.008 µg/l**	
33	PCB's (Sum of 7)	< 37 ng/l	**PCB's**
34	Phenols	< 1.0 µg/l	**Phenols**
35	Lead (Total as Pb)	**6 µg/l**	**Metals**
36	Arsenic (Total as As))	**3.1 µg/l**	
37	Copper (Total as Cu)	**13.0 µg/l**	
38	Zinc (Total as Zn)	**57 µg/l**	
39	Cadmium (Total as Cd)	< 0.60 µg/l	
40	Mercury (Total as Hg)	**0.4 µg/l**	**Metals continued**
41	Chromium (Total as Cr)	**6 µg/l**	
42	Selenium (Total as Se)	**9.2 µg/l**	
43	Antimony (Total as Sb)	< 1.2 µg/l	
44	Molybdenum (Total as Mo)	**4.10 µg/l**	
45	Tin (Total as Sn)	**9.80 µg/l**	
46	Barium (Total as Ba)	**17.5 µg/l**	
47	Boron (Total as B)	<0.20 mg/l	
48	Cobalt (Total as Co)	**2.00 µg/l**	
49	Vanadium (Total as V)	< 4.00 µg/l	
50	Nickel (Total as Ni)	**8.3 µg/l**	
51	Fluoride (as F)	0.5 mg/l	**General**
52	Chloride (as Cl)	314 mg/l	
53	TOC (as C)	-	

54	Cyanide (Total as CN)	< 9 µg/l	
55	Conductivity	1499 µS/cm (20 degrees C)	**Additional Tests (Sample 941038)**
56	Hardness (mg/l CaCO3)	N/A	
57	pH	7.7	

Assessment of the Significance of the Discharge SW1 on Receiving Water Quality.

A summary of effluent screening results is presented below with a limited assessment of the significance of the discharge on receiving water. Note that the effluent results are at the licensed point of discharge (SW1) and that a mixing zone boundary has not been defined in WWDL D0034-01.

Effluent from SW1 receives a significant dilution within the undefined near field mixing zone before receiving water standards are applicable.

Chromium (Total), Copper and Zinc were the only metals screened in the effluent sample that exceeded the EQS's set for the receiving waters. Diazinon was close to the annual average (AA) EQS. A minimum dilution factor of 2- 3 in the near field mixing zone allows for compliance with the EQS's for specific pollutants which are set as an annual average (AA).

This assessment does not indicate a significant impact from the specific pollutants listed on the receiving waters outside the near field of the SW1 discharge point.

Table 7.6.2 Assessment of the Significance of the Discharge SW1 on Receiving Water Environmental Quality Standards for Specific Pollutants (Table 10, S.I 272 of 2009).

Specific Pollutant Parameter	**AA-EQS (µg/l)**	**Effluent 941042 27/11/14**
		SW1
Arsenic	**20**	**3.1**
Chromium VI	**0.6**	**6***
Copper	**5**	**13.0**
Cyanide	**10**	**< 9**
Diazinon	**0.01**	**0.008**
Dimethoate	**0.8**	**< 0.020**
Fluoride	**1,500**	**500**
Glyphosate	**-**	**< 2.00**
Linuron	**0.7**	**< 0.05**
Mancozeb	**2**	**-**
Monochlorobenzene	**25**	**< 1.0**
Phenols	**8**	**< 1.0**
Toluene	**10**	**0.18**
Xylenes	**10**	**< 0.30**
Zinc	**40**	**57.0**

***= Total Chromium which is > Chromium VI**

Ringsend Influent Screening, 2014

To comply with condition **4.11.2 of Licence D0034-01**, a sub-sample of the Ringsend composite influent was analysed during 2014 (on the same date – 27/11/14 - as the effluent sample reported above) for agglomeration regulation purposes. Investigation of the sources of any dangerous substances detected in monitoring of the influent was carried out by monitoring the 4 incoming lines to the plant on the same date (27/11/14). Samples were tested for:

- PRTR test suite
- EPA's 54 parameter test suite (Appendix 1, EPA Guidance on the Screening for Priority

Substances for Waste Water Discharge Licences) issued on 17/01/11.

Summary of Influent Screening Results:

2014 – Influent Sample Reference 941041 of 27/11/14.

See **Table 7.6.3.** Many of the parameters tested for the PRTR suite in this influent sample were reported as below the detection limit.

Parameters from the EPA's Guidance document detected in this influent sample included low (microgram and sub-microgram per litre) levels of Xylenes, Ethyl Benzene and Toluene, 2 of the 7 PAH's listed (Naphthalene and Fluoranthene) and a further 4 unlisted PAH's (Acenaphthene, Fluorene, Phenanthrene and Pyrene). Mecoprop, Phenols (14.5 ug/l) and the metals Arsenic, Copper, Zinc, Mercury, Selenium, Barium, Cobalt and Nickel were detected (see highlighted parameters in **Table 7.6.3**).

Results for general parameters and additional tests were in the normal range for influent sewage.

Table 7.6.3
EPA Appendix 1 – Ringsend Influent Sample 941041 – 2014 PRTR Screening.
EPA Parameters Screened for in Waste Water Discharges

No.	Compound	Result	Group of Compounds
1.	Benzene	< 0.10 µg/l	**VOC's**
2.	Carbon Tetrachloride	< 4.0 µg/l	
3	1,2-Dichloroethane	< 4.0 µg/l	
4	Dichloromethane	< 4.0 µg/l	
5	Tetrachloroethylene	< 4.0 µg/l	
6	Trichloroethylene	< 4.0 µg/l	
7	Trichlorobenzenes (sum)	< 2.0 µg/l	
8	Trichloromethane	< 4.0 µg/l	
9	Xylenes (all isomers)	**0.73 µg/l**	
10	Ethyl Benzene	**0.14 µg/l**	
11	Toluene	**2.69 µg/l**	
12	Naphthalene	**0.706 µg/l**	**PAH's**
13	Fluoranthene	**0.196 µg/l**	
14	Benzo(k)fluoranthene	< 0.10 µg/l	
15	Benzo(ghi)perylene	< 0.10 µg/l	
16	Indeno(1,2,3-c,d)pyrene	< 0.10 µg/l	

17	Benzo(b)fluoranthene	< 0.10 µg/l	
18	Benzo(a)pyrene	< 0.10 µg/l	
	Acenaphthene	**0.215 µg/l**	
	Fluorene	**0.282 µg/l**	
	Phenanthrene	**0.525 µg/l**	
	Pyrene	**0.186 µg/l**	
		2.110 µg/l	**Total PAH's***
19	Di(2-ethylhexyl)phthalate (DEHP)	< 10.0 µg/l	**Plasticiser**
20	Isodrin	< 13 ng/l	**Pesticides**
21	Dieldrin	< 12 ng/l	
22	Diuron	< 0.50 µg/l	
23	Isoproturon	< 0.50 µg/l	
24	Atrazine	< 0.04 µg/l	
25	Simazine	< 0.05 µg/l	
26	Glyphosate	< 5.00 µg/l	
27	Mecoprop	**0.20 µg/l**	
28	2,4-D	< 0.20 µg/l	
29	MCPA	< 0.20 µg/l	
30	Linuron	< 0.50 µg/l	
31	Dichlobenil	< 9 ng/l	
32	2,6-Dichlorobenzamide	N/A	
33	PCB's (Sum of 7)	< 70 ng/l	**PCB's**
34	Phenols	**14.5 µg/l**	**Phenols**
35	Lead (Total as Pb)	< 6 µg/l	**Metals**
36	Arsenic (Total as As)	**3.1 µg/l**	
37	Copper (Total as Cu)	**17 µg/l**	
38	Zinc (Total as Zn)	**38 µg/l**	
39	Cadmium (Total as Cd)	< 0.6 µg/l	**Metals continued**
40	Mercury (Total as Hg)	**0.3 ug/l**	
41	Chromium (Total as Cr)	< 2.00 µg/l	
42	Selenium (Total as Se)	**12 µg/l**	
43	Antimony (Total as Sb)	< 1.2 µg /l	
44	Molybdenum (Total as Mo)	< 3.0 µg/l	
45	Tin (Total as Sn))	< 7.0 µg/l	
46	Barium (Total as Ba)	**27.10 µg/l**	
47	Boron (Total as B)	< 0.20 mg/l	
48	Cobalt (Total as Co)	**2.40 µg/l**	
49	Vanadium (Total as V)	< 4.00 µg/l	
50	Nickel (Total as Ni)	**4.1 µg/l**	
51	Fluoride (as F)	0.5 mg/l	**General**
52	Chloride	373 mg/l	
53	TOC	-	

54	Cyanide	< 9	
55	Conductivity	1,671 µS/cm (20 degrees C)	**Additional Tests (sample 941037)**
56	Hardness (mg/l CaCO3)	N/A	
57	pH	7.4	

Summary of Influent Lines Screening Results:

2014 – Influent Lines - Sample References 941135, 941136, 941137 and 941043 of 27/11/2014.

To isolate the source of parameters detected in the Influent, samples were taken from the 4 main influent feeder lines on 27/11/2014 as follows:

941135: Dun Laoghaire – West Pier
941136: Dodder Valley Sewer - UCD FM-10
941137: North Dublin Drainage System – Sutton Sump
941043: Ringsend – Main Lift Pumping Station

See **Table 7.6.4.** These samples were tested for the PRTR test suite. Many of the parameters in the influent feeder line samples were reported as below the detection limit.

Parameters detected in the 4 feeder lines have been compared with those detected in the influent sample taken on the same date (see **Table 7.6.3** above).

941135: Dun Laoghaire – West Pier

Parameters detected in this sample included Tri-chloromethane (2.2 µg/l), Toluene (0.18 µg/l), Phenols (4.4 µg/l) and metals Arsenic (1.7 µg/l), Copper (14.0 µg/l), Zinc (18 µg/l), Selenium (3.41 µg/l) and Barium (28.6 µg/l). See highlighted parameters **in Table 7.6.4.**

941136: Dodder Valley Sewer - UCD FM-10

Parameters detected in this sample included Tri-chloromethane (3.3 ug/l), Xylenes (0.41 µg/l),Toluene (0.31 µg/l), Di(ethyl-hexyl)phthalate (23.8 µg/l), Diazinon (0.005 µg/l),Phenols (61.2 µg/l) and metals Copper (17 µg/l), Zinc (26 µg/l),Selenium (1.36 µg/l), Barium (16.2 µg/l) and Nickel (3.50 µg/l). See highlighted parameters **in Table 7.6.4).**

941137: North Dublin Drainage System – Sutton Sump

Parameters detected in this sample included Tri-chloromethane (7 µg/l), Toluene (0.53 µg/l) Phenols (30.3 µg/l) and metals Copper (26 µg/l), Zinc (92 µg/l), Selenium (2.33 µg/l), Barium (36.3 µg/l) and Nickel (4.5 µg/l). See highlighted parameters in **Table 7.6.4.**

941043: Ringsend – Main Lift Pumping Station

Parameters detected in this sample included Dichloromethane (15.1 µg/l), Xylenes (0.41 µg/l), Ethyl Benzene (0.16 µg/l), Toluene (1.38 µg/l), Naphthalene (0.855 µg/l), Acenaphthene (0.182 µg/l),

Fluorene (0.181 µg/l), Phenanthrene (0.236 µg/l), Di-ethylphthalate (2.4 µg/l), herbicide Malathion (0.006 µg/l), Phenols (15.9 µg/l) and metals Arsenic (1.9 µg/l), Copper (17 µg/l), Zinc (25 µg/l), Barium (23.7 µg/l), and Nickel (3.9 µg/l). See highlighted parameters in **Table 7.6.4**

Measures to Reduce Detected Priority Substances

Ongoing reviews of trade effluent licenses and consents will be carried out in the catchments upstream of the 4 influent lines to the Ringsend WWTP to reduce detected priority substances.

Table 7.6.4.
EPA Appendix 1 – Ringsend Influent Inflows - 2014 PRTR Screening.
EPA Parameters Screened for in 4 Waste Water Influent Lines to the Ringsend WWTP

No.	Compound	941135 Dun Laoire West Pier	941136 UCD FM 10 (Dodder)	941137 Sutton Sump	941043 Ringsend Main Lift
1.	Benzene	<0.10 µg/l	< 0.50 µg/l	< 0.10 µg/l	< 0.5 µg/l
2.	Carbon Tetrachloride	<1.0 µg/l	< 0.10 µg/l	< 1.0 µg/l	< 4.0 µg/l
3	1,2-Dichloroethane	<1.0 µg/l	< 0.10 µg/l	< 1.0 µg/l	< 1.0 µg/l
4	Dichloromethane	<1.0 µg/l	< 0.10 µg/l	<1.0 µg/l	**15.1 µg/l**
5	Tetrachloroethylene	<1.0 µg/l	< 0.10 µg/l	< 1.0 µg/l	< 4.0 µg/l
6	Trichloroethylene	<1.0 µg/l	< 0.10 µg/l	< 1.0 µg/l	< 4.0 µg/l
7	Trichlorobenzenes (sum)		< 4.0 ng/l		< 2.0 µg/l
8	Trichloromethane	**2.2 µg/l**	**3.3 µg/l**	**7.0 µg/l**	< 4.0 µg/l
9	Xylenes (all isomers)	<0.30 µg/l	**0.41 µg/l**	<0.3 µg/l	**0.41µg/l**
10	Ethyl Benzene	<0.10 µg/l	< 0.10 µg/l	< 0.1 µg/l	**0.16 µg/l**
11	Toluene	**0.18 µg/l**	**0.31 µg/l**	**0.53 µg/l**	**1.38 µg/l**
12	Naphthalene	<0.1 µg/l	<0.1 µg/l	< 0.1 µg/l	**0.855 µg/l**
13	Fluoranthene	<0.1 µg/l	<0.1 µg/l	< 0.1 µg/l	< 0.10 µg/l
14	Benzo(k)fluoranthene	<0.1 µg/l	<0.1 µg/l	< 0.1 µg/l	< 0.10 µg/l
15	Benzo(ghi)perylene	<0.1 µg/l	<0.1 µg/l	< 0.1 µg/l	< 0.10 µg/l
16	Indeno(1,2,3-c,d)pyrene	<0.1 µg/l	<0.1 µg/l	< 0.1 µg/l	< 0.10 µg/l
17	Benzo(b)fluoranthene	<0.1 µg/l	<0.1 µg/l	< 0.1 µg/l	<0.10 µg/l
18	Benzo(a)pyrene	<0.1 µg/l	<0.1 µg/l	< 0.1 µg/l	<0.10 µg/l
	Acenaphthene				**0.182 µg/l**
	Fluorene				**0.181 µg/l**
	Phenanthrene				**0.236 µg/l**
	Total PAH's				**1.454 µg/l**
19	Di(2-ethylhexyl)phthalate (DEHP)	<10 µg/l	**23.8 µg/l**	< 10.0 µg/l	< 10 µg/l
	Di-ethylphthalate				**2.4 ug/l**
20	Isodrin	<6 ng/l	< 6 ng/l	< 6 ng/l	< 6 ng/l
21	Dieldrin	<5 ng/l	< 5 ng/l	< 5 ng/l	< 5 ng/l
22	Diuron	<0.50 µg/l	< 0.50 µg/l	< 0.50 µg/l	< 0.50 µg/l
23	Isoproturon	<0.50 µg/l	< 0.50 µg/l	< 0.50 µg/l	< 0.50 µg/l
24	Atrazine	<0.02 µg/l	< 0.02 µg/l	< 0.02 µg/l	< 0.02 µg/l

25	Simazine	<0.02 µg/l	< 0.02 µg/l	< 0.02 µg/l	< 0.02 µg/l
26	Glyphosate	<5.00 µg/l	< 10.0 µg/l	< 10.00 µg/l	< 10.00 µg/l
27	Mecoprop	<0.16 µg/l	< 0.16 µg/l	< 0.16 µg/l	< 0.16 µg/l
28	2,4-D	<0.20 µg/l	< 0.20 µg/l	< 0.20 µg/l	< 0.20 µg/l
29	MCPA	<0.20 µg/l	< 0.20 µg/l	< 0.20 µg/l	< 0.20 µg/l
30	Linuron	<0.50 µg/l	< 0.50 µg/l	< 0.50 µg/l	< 0.50 µg/l
31	Dichlobenil	< 4 ng/l	< 4 ng/l	< 4 ng/l	< 4 ng/l
32	2,6-Dichlorobenzamide	N/A	N/A	N/A	N/A
	Diazinon		**0.005 µg/l**		
	Malathion				**0.006** µg/l
33	PCB's (Sum of 7)	< 33 ng/l	< 33 ng/l	< 33 ng/l	< 33 ng/l
34	Phenols	**4.4 µg/l**	**61.2 µg/l**	**30.3 µg/l**	**15.9 µg/l**
35	Lead	<6.00 µg/l	< 6.0 µg/l	< 6.0 µg/l	< 6.0 µg/l
36	Arsenic	**1.7 µg/l**	< 1.0 µg/l	< 1.0 µg/l	**1.9 µg/l**
37	Copper	**14.0 µg/l**	**17 µg/l**	**26 µg/l**	**17 µg/l**
38	Zinc	**18 µg/l**	**26 µg/l**	**92 µg/l**	**25 µg/l**
39	Cadmium	<0.6 µg/l	< 0.6 µg/l	< 0.6 µg/l	< 0.6 µg/l
40	Mercury	<0.1 µg/l	< 0.1 µg/l	< 0.1 µg/l	0.2 µg/l
41	Chromium	< 2.0 µg/l	< 2.0 µg/l	< 2.0	< 2.0 µg/l
42	Selenium	**3.41 µg/l**	**1.36 µg/l**	**2.33 µg/l**	< 1.6 µg/l
43	Antimony	<1.2 µg/l	< 1.2 µg/l	< 1.2 µg/l	< 1.2 µg/l
44	Molybdenum	<3.0 µg/l	< 3.0 µg/l	< 3.00 µg/l	<.3.0 µg/l
45	Tin (Total)	<7.00 µg/l	< 7.00 µg/l	<7.00 µg/l	< 7 µg/l
46	Barium	**28.6 µg/l**	**16.20 µg/l**	**36.30 µg/l**	**23.70 µg/l**
47	Boron	< 0.2 mg/l	< 0.2 mg/l	< 0.2 mg/l	< 0.20 mg/l
48	Cobalt	< 2.00 µg/l	< 2.00 µg/l	< 2.00 µg/l	<2.00 µg/l
49	Vanadium	< 4.00 µg/l	< 4.00 µg/l	< 4.00 µg/l	< 4.00 µg/l
50	Nickel	< 3 µg/l	**3.50 µg/l**	**4.50 µg/l**	**3.90 µg/l**
51	Fluoride	0.4 mg/l	0.4 mg/l	0.5 mg/l	0.5 mg/l
52	Chloride	103 mg/l	50 mg/l	101 mg/l	207 mg/l
53	TOC	-	-	-	-
54	Cyanide	< 9 µg/l	< 9 µg/l	< 9 µg/l	< 9 µg/l
55	Conductivity	-	-	-	-
56	Hardness (mg/l CaCO3)	-	-	-	-
57	pH	-	-	-	-

Appendix 6.7

Toxicity Leachate Management Report

APPENDIX 7.7 LEACHATE MONITORING

Report for Samples Taken During the Period: 01/01/2014 - 31/12/2014

Customer	Test List	Sampling Point
DCC	130_LF_LEC	96001
WCC		

Sampling Point Description
(96001) Tanker Waste Disposal at Ringsend
Rampere Landfill Baltinglass Wicklow

Sampled Date	SAMPLE NR	Location	Al	NH3	Sb	As	BOD	Ba	Be	COD	Cd	Cd	Ca	Cl–	Cr	Cr	Co	Conductivity (20°C)	Cu	Cu	Fe	Fe	Pb	Pb	Mg	Mn	Mn	Hg	Mo	Ni	Ni	NO3-	NO2-	pH	P (React)	Se	Na	Sr	SO42-	SS	TON	U	Zn	Zn
			mg/l	mg/l as N	µg/l	µg/l	mg/l	µg/l	µg/l	mg/l	µg/l	mg/l	mg/l	mg/l	µg/l	mg/l	µg/l	µS/cm	µg/l	mg/l	µg/l	mg/l	µg/l	mg/l	mg/l	µg/l	mg/l	mg/l	µg/l	µg/l	mg/l	mg/l as N	mg/l as N	pH	mg/l as P	µg/l	mg/l	µg/l	mg/l	mg/l	mg/l as N	µg/l	µg/l	mg/l
06/01/2014 11:00	825116	Rampere Landfill Baltinglass	0.055	315.38						425		0.002		468		0.023		5610		0.032		3.4		0.01			3.2	0.001			0.066	0.12	0.015	7.3	1.07		520.7		728	131	0.13			0.145
09/01/2014 11:30	826435	Rampere Landfill Baltinglass	0.028	176.85			32			383		0.002		736		0.013		4950		0.026		2.9		0.01			4	0.001			0.05	0.045	0.0025	7.3	0.015		358.7		1394	108	0.045			0.095
16/01/2014 11:00	828581	Rampere Landfill Baltinglas Wicklow	0.087	472.34			45			524		0.002		703		0.035		6760		0.054		8.3		0.01			1.7	0.001			0.072	0.12	0.0025	7.9	0.29				925	70	0.13			0.099
22/01/2014 11:30	830299	Rampere Landfill Baltinglas	0.236	347.56			30			418		0.002		1027		0.026		5550		0.248		19.5		0.01			2	0.001			0.059	1.45	0.027	7.4	0.09		391.5		1357	106	1.48			0.2
06/02/2014 10:30	834424	Rampers Landfill CO. Wicklow.	0.064	347.07			27			410		0.002		482		0.002		5213		0.35		0.257		0.185			0.028	0.001			1.3	0.22	0.013	7.4	1.1		28.6		838	117	0.23			0.284
19/02/2014 11:00	839027	Rampere Landfill Baltinglass	0.006	106.76			13			121		0.002		298		0.005		2479		0.028		0.306		0.01			1.5	0.001			0.023	0.045	0.0025	7.4	0.06		172.3		481	38	0.045			0.053
27/02/2014 11:00	841936	Rampere Landfill Baltinglass Wicklow	0.006				25			226		0.002		317		0.006		2959		0.006		0.465		0.01			1.8	0.001			0.027			7.3			278.8		447	66				0.049
10/03/2014 11:00	845167	Rampere Landfill Baltinglas		106.25						138				239				2247														0.045	0.0025	7.4	0.12				427	87	0.045			
11/11/2014 10:12	934944	Rampere Baltinglass	1.9	458.56						584		0.002				0.038		6059		0.265		3		0.021			1.2	0.001			0.097	0.16	0.0025	7.5	2.95					179	0.17			0.507
18/11/2014 11:00	937981	Rampere Landfill Baltinglass Wicklow		304.5			25			344								4347														0.12	0.0025	7.4	2.27					28	0.12			
21/11/2014 10:10	939216	Rampere Landfill		322.82			39			348				287				4167														0.1	0.0025	7.5	2.3				55	31	0.1			
02/12/2014 11:30	943139	Rampere Landfill Baltinglass Wicklow	0.083	229.74			54			325		0.002		270		0.019		3365		0.006		1.1		0.01			1.1	0.001			0.039	0.1	0.0025	7.5	1.89		119.9		133	207	0.11			0.096

Report for Samples Taken During the Period: 01/01/2014 - 31/12/2014

Customer	Test List	Sampling Point
DCC	130_LF_LEC	96001
FCC		

Sampling Point Description
(96001) Tanker Waste Disposal at Ringsend
Balleally Landfill Fingal

Sampled Date	SAMPLE NR	Location	Al	NH3	Sb	As	BOD	Ba	Be	COD	Cd	Cd	Ca	Cl–	Cr	Cr	Co	Conductivity (20°C)	Cu	Cu	Fe	Fe	Pb	Pb	Mg	Mn	Mn	Hg	Mo	Ni	Ni	NO3-	NO2-	pH	P (React)	Se	Na	Sr	SO42-	SS	TON	U	Zn	Zn
			mg/l	mg/l as N	µg/l	µg/l	mg/l	µg/l	µg/l	mg/l	µg/l	mg/l	mg/l	mg/l	µg/l	mg/l	µg/l	µS/cm	µg/l	mg/l	µg/l	mg/l	µg/l	mg/l	mg/l	µg/l	mg/l	mg/l	µg/l	µg/l	mg/l	mg/l as N	mg/l as N	pH	mg/l as P	µg/l	mg/l	µg/l	mg/l	mg/l	mg/l as N	µg/l	µg/l	mg/l
06/01/2014 11:30	825117	Balleally Landfill Fingal	0.026	226.53						335		0.002		421		0.011		4510		0.147		0.933		0.01			1.6	0.001			0.033	0.17	0.104	7.6	0.21		373.3		403	26	0.27			0.149
08/01/2014 11:00	825933	Balleally Landfill Fingal	0.308	182.07			12			272		0.002		327		0.018		4040		0.123		1.1		0.01			2	0.001			0.118	0.24	0.087	7.8	0.015		284.8		495	22	0.33			0.105
24/01/2014 11:30	831300	Balleally Landfill Fingal	0.236	127.12						259		0.002		227		0.006		3576		0.269		3.5		0.03			2.8	0.001			0.023	0.28	0.072	7.4	0.015		321.9		608	145	0.35			0.477
29/01/2014 09:00	832023	Balleally Landfill		483.96			58			569				577				5605										0.001				0.24	0.066	7.5	1.3				572	133	0.31			
07/02/2014 10:30	834761	Ballally Landfill Fingall Co. Co.	0.014	160.1						227		0.002				0.006		3813		0.087		2.3		0.01			1.3	0.001			0.025	0.12	0.124	7.6	0.31		293.6			39	0.24			0.097
12/02/2014 09:30	836079	Ballally Landfill	0.022	179.03						229		0.002		386		0.002		3741		0.166		0.255		0.01			0.563	0.001			0.02	0.13	0.079	7.4	0.015		253.2		722	42	0.21			0.06
19/02/2014 11:30	839026	Balleally Landfill Fingal	0.018	229.08			15			310		0.002		621		0.009		4747		0.068		0.213		0.01			0.502	0.001			0.035	0.19	0.124	7.6	0.015		377.4		839	26	0.31			0.049
27/02/2014 11:30	841935	Balleally Landfill Fingal	0.006				14			251		0.002		558		0.006		4146		0.051		0.142		0.01			1.7	0.001			0.025			7.5			206.8		890	32				0.05
25/03/2014 11:30	849832	Balleally Landfill Fingal	0.016	235.55			12			442		0.002		904		0.006		4498		0.13		0.372		0.01			1.1				0.027	0.15	0.163	7.7	0.07		38.4		887	41	0.31			0.074
12/05/2014 11:00	865596	Balleally Landfill Fingal		246.54						405								4880														0.39	0.42	7.9	0.38					36	0.81			
15/05/2014 11:30	867331	Balleally Landfill Fingal		206.03						377				448				4564														0.65	0.194	7.8	0.42				435	124	0.84			

Part 1 Dublin City Council Functional Area

Customer	Test List	Sampling Point
DCC	130_LF_LEC	96001
KCC		

Sampling Point Description
(96001) Tanker Waste Disposal at Ringsend
Neiphin Trading Ltd, Kerdiffstown

Sampled Date	SAMPLE NR	Location	Al mg/l	NH3 mg/l as N	Sb µg/l	As µg/l	BOD mg/l	Ba µg/l	Be µg/l	COD mg/l	Cd µg/l	Cd mg/l	Ca mg/l	Cl– mg/l	Cr µg/l	Cr mg/l	Co µg/l	Conductivity (20°C) µS/cm	Cu µg/l	Cu mg/l	Fe µg/l	Fe mg/l	Pb µg/l	Pb mg/l	Mg mg/l	Mn µg/l	Mn mg/l	Hg mg/l	Mo µg/l	Ni µg/l	Ni mg/l	NO3- mg/l as N	NO2- mg/l as N	pH pH	P (React) mg/l as P	Se µg/l	Na mg/l	Sr µg/l	SO42- mg/l	SS mg/l	TON mg/l as N	U µg/l	Zn µg/l	Zn mg/l
07/01/2014 11:30	825457	Neiphin Trading Ltd, Kerdiffstown	0.168	245.79			29			422		0.002		250		0.059		3250		0.119		2.5		0.01			0.64	0.001			0.046	0.49	0.109	8.1	0.8		204.4		129	55	0.6			0.227
09/01/2014 11:00	826436	Neiphin Trading Ltd Kerdiffstown	0.111	278.71			20			417		0.002		375		0.055		3050		0.1		2.4		0.01			0.679	0.001			0.046	0.28	0.096	8	0.9		195.3		145	60	0.38			0.118
13/01/2014 11:30	827302	Neiphin Trading Ltd,Kerdiffstown	0.156	241.19						588		0.002		399		0.056		3190		0.425		2.8		0.039			0.635	0.001			0.05	0.45	0.292	8	0.75		190.4		152	115	0.74			0.921
16/01/2014 11:30	828263	Keridiffstown Landfill		252.41			15			881				437				3350														0.36	0.071	7.8	1.01				146	19	0.43			
16/01/2014 11:30	828580	Neiphin Trading Ltd Kerdiffstown	0.156	249.98						415		0.002		357		0.069		3370		0.152		3.8		0.01			0.698	0.001			0.047	0.34	0.121	8	1.08				132	22	0.46			0.155
22/01/2014 11:00	830298	Neiphin Trading Ltd Kerdiffstown	0.252	275.98			18			423		0.002		515		0.074		3540		0.135		5.3		0.01			0.78	0.001			0.05	0.18	0.053	7.9	1.36		223.7		184	29	0.23			0.134
28/01/2014 09:00	831757	Neiphon Trading Kerdiffstown	0.163	247.37						448		0.002		220		0.058		3237		0.139		2.7		0.01			0.568	0.001			0.041	0.37	0.146	7.9	1.14		204.5		137	50	0.52			0.162
31/01/2014 09:20	832890	Neiphon Trading Ltd.	0.165	265.23			23			414		0.002		432		0.06		3325		0.619		2.9		0.034			0.599	0.001			0.045	0.31	0.062	7.9	1.2		209.9		148	59	0.37			0.376
06/02/2014 10:00	834423	Neiphon Trading Ltd.	0.136	219.85						375		0.002		277		0.064		3080		0.121		2.5		0.01			0.61	0.001			0.043	0.27	0.051	8	1.11		246.2		92	18	0.32			0.118
12/02/2014 09:00	836078	Kerdiffstown	0.407	210.2			39			472		0.002		414		0.065		3236		0.286		2.8		0.021			0.557	0.001			0.048	0.17	0.029	8	1.56		269.5		164	122	0.2			0.426
18/02/2014 11:30	838557	Neiphin Trading Ltd Kerdiffstown	0.117	225.98			5			283		0.002		103		0.057		3036		0.037		1.9		0.01			0.537	0.001			0.039	0.21	0.041	8	1.22		211.4		41	8	0.25			0.067
20/02/2014 11:30	839529	Neiphin Trading Ltd Kerdiffstown	0.173	251.82			14			361		0.002		404		0.062		3169		0.115		2.1		0.01			0.56	0.001			0.042	0.16	0.019	8	1.37		216.7		166	12	0.18			0.111
25/02/2014 09:00	841006	Neiphin Trading Kerdiffstown	0.139				16			377		0.002		602		0.067		3360		0.408		2.4		0.024			0.574	0.001			0.049			8.1			224		247	31				0.226
04/03/2014 11:30	843333	Neiphin Trading Ltd Kerdiffstown	3.7	265.73			235			1231		0.002		397		0.066		3280		0.288		2.4		0.01			0.599				0.044	0.23	0.041	7.9	3.68		193.2		160	485	0.27			0.304
06/03/2014 11:30	844164	Neiphin Trading Ltd Kerdiffstown	0.179	277.19			19			413		0.002		663		0.071		3549		0.19		2.4		0.01			0.606				0.049	0.19	0.042	8	1.56		1400.1		241	81	0.23			0.196
10/03/2014 11:30	845166	Neiphin Trading Ltd, Kerdiffstown	0.182	267.81	3	13		136	0.18	332	0.21	0.001		496	76		12	3288	126		2151		8		33	611			4	55		0.4	0.124	8	1.16	1		865	170	34	0.52	0.24	198	
12/03/2014 11:00	846063	Neiphin Trading Ltd Kerdiffstown	0.235	277.52			108			578		0.002		584		0.074		3355		0.143		0.869		0.01			0.527				0.046	0.47	0.184	8	1.37		3451.3		218	258	0.65			0.194
18/03/2014 11:30	847448	Neiphin Trading Ltd Kerdiffstown					14			446				265				3493																8					107	29				
01/04/2014 11:30	852100	Neiphin Trading Ltd, Kerdiffstown	0.097	300.43			12			426		0.002		779		0.06		3384		0.102		1.4		0.01			0.516				0.044	0.7	0.058	8	0.87		259.8		300	160	0.76			0.284
02/04/2014 11:30	852479	Neiphin Trading Ltd, Kerdiffstown	0.109	222.65						394		0.002		446		0.051		2967		0.116		1.2		0.01			0.459				0.04	2.1	0.53	8.2	0.2		228.7		191	77	2.63			0.166
03/04/2014 11:30	852990	Neiphin Trading Ltd Kerdiffstown		189.41						378				289				2663														2.71	0.638	8.1	0.07				163	90	3.35			
07/04/2014 11:30	854020	Neiphin Trading Ltd, Kerdiffstown	0.13	196.08						420		0.002		202		0.045		2810		0.067		0.845		0.01			0.278				0.037	3.02	0.935	8.1	0.06		206		90	126	3.96			0.153
15/04/2014 11:30	857096	Neiphin Trading Ltd Kerdiffstown	0.11	204.79						680		0.002		258		0.056		3010		0.047		0.877		0.01			0.245				0.046	12.68	1.99	8.1	0.015				99	233	14.67			0.11
23/04/2014 09:30	858874	Elsatrans Ltd.	0.288	218.13			157			741		0.002				0.06		3343		0.54		1.5		0.01			0.302				0.057	7.8	1.64	8.1	0.015					242	9.44			0.497
23/04/2014 11:00	859261	Neiphin Trading Ltd Kerdiffstown	0.085	210.99			117			757		0.002				0.061		3422		0.129		0.952		0.01			0.335				0.057	6.68	1.168	8	0.015					269	7.85			0.358
30/04/2014 11:30	862053	Neiphin Trading Ltd Kerdiffstown	2.831	280.79	6	23	139	130	0.21	985	1	0.001	88	330	97		18	3937	439		3604		38		47	404			6	93		0.4	1.642	8	0.38	1		914	117	430	2.04	0.73	761	
12/05/2014 11:30	865595	Neiphin Trading Ltd Kerdiffstown		176.83						632								2772														4.63	1.457	8	0.015					196	6.09			
19/05/2014 11:30	868421	Neiphin Trading Ltd Kerdiffstown		140.19						356				171				2373														2.18	0.88	8	0.07				120	58	3.06			
21/05/2014 11:30	869587	Neiphin Trading Ltd Kerdiffstown		171.13			48			427								2733														2.04	0.833	8	0.16					92	2.87			
09/06/2014 11:30	876198	Neiphin Trading Ltd Kerdiffstown	0.334	193.09						798		0.002				0.068		3521		0.282		1.9		0.057			0.412	0.001			0.07	0.39	1.168	7.9	6.12		176.7			206	1.56			0.849
12/06/2014 11:00	877844	Neiphin Trading Ltd Kerdiffstown	0.154	198.72			55			620		0.002		265		0.064		3207		0.198		1.4		0.01			0.301	0.001			0.057	0.79	0.978	8.1	0.015		134.8		48	156	1.77			0.17
17/06/2014 11:30	879335	Neiphin Trading Ltd, Kerdiffstown	0.411	234.1			80			737		0.002		398		0.081		3506		0.41		1.9		0.032			0.273	0.001			0.081	0.17	0.389	8.1	0.16		158.6		55	308	0.56			0.36
19/06/2014 11:30	880529	Neiphin Trading Ltd, Kerdiffstown	0.335	270.36			46			665		0.002		360		0.082		3768		0.147		1.5		0.01			0.34	0.001			0.073	0.2	0.47	8.1	0.37		174		57	14	0.67			0.179
24/06/2014 11:30	882026	Neiphin Trading Ltd, Kerdiffstown	0.245	283.82			81			882		0.002		997		0.099		4722		0.561		1.7		0.01			0.37	0.001			0.107	0.6	1.9	8.1	0.74		266.1		57	180	2.5			0.371
23/07/2014 11:30	893847	Neiphin Trading Ltd, Kerdiffstown	0.184	125.08						753		0.002		643		0.052		3090		0.082		1.4		0.01			0.186	0.001			0.069	0.22	0.755	8.2	0.28		183.8		121	220	0.97			0.24
29/07/2014 11:30	896148	Neiphin Trading Ltd Kerdiffstown	1	217.65						1167		0.002		374		0.381		3704		1.1		4.1		0.051			0.497	0.001			0.102	0.14	0.187	8.1	3.32		208.9		136	528	0.33			9.3
07/08/2014 09:05	899001	Neiphon Trading Ltd	0.162	121.38			231			685		0.002		310		0.028		2488		0.552		0.584		0.04			0.307	0.001			0.058	1	1.345	7.7	6.1		152.2		188	166	2.34			0.806
11/08/2014 11:30	900573	Neiphin Trading Ltd Kerdiffstown	0.409	129.37						436		0.002		503		0.029		2225		0.26		1.7		0.032			0.404	0.001			0.075	1.71	1.357	8	0.13		88.4		250	280	3.07			0.81
12/08/2014 11:30	901122	Neiphin Trading Ltd, Kerdiffstown	0.215	142.72			61			460		0.002		490		0.04		2440		0.186		1.7		0.01			0.455	0.001			0.069	1.79	1.77	8	0.13		96.8		254	141	3.56			0.628
14/08/2014 11:30	902307	Neiphin Trading Ltd, Kerdiffstown	0.053	152.52			33			390		0.002		304		0.037		2619		0.067		0.753		0.01			0.439	0.001			0.05	1.95	1.783	8	0.11		103.1		187	66	3.73			0.155
19/08/2014 11:30	904014	Neiphin Trading Ltd Kerdiffstown	0.067	168.81			64			587		0.002		376		0.044		3075		0.243		0.662		0.01			0.474	0.001			0.073	1.44	2.359	8	0.49		132.2		74	170	3.8			0.643
20/08/2014 11:00	904576	Neiphin Trading Ltd Kerdiffstown	0.098	182.12			60			532		0.002		645		0.052		3220		0.136		1.5		0.01			0.433	0.001			0.061	1.17	1.889	8.1	0.09		136.6		125	131	3.06			0.224
21/08/2014 11:30	905223	Neiphin Trading Ltd Kerdiffstown	0.052	227.18			64			532		0.002		644		0.052		3676		0.102		0.783		0.01			0.468	0.001			0.062	1.03	1.386	8	0.07		148.8		112	117	2.42			0.211
07/10/2014 11:00	922737	Neiphin Trading Ltd Kerdiffstown		159.03			51			452				323				1630														4.64	1.785	7.6	0.13				81	159	6.42			
08/10/2014 11:30	923237	Neiphin Trading Ltd Kerdiffstown		103.8			55			450				533				2031														6.11	1.338	7.9	0.015				194	150	7.45			
14/10/2014 11:30	925549	Neiphin Trading Ltd Kerdiffstown		135.74			116			631								2467														2.97	0.978	7.7	0.03					349	3.95			
16/10/2014 11:30	926321	Neiphin Trading Ltd Kerdiffstown		184.41			227			980								2866														1.41	0.684	7.7	0.53					400	2.09			
20/10/2014 10:00	927475	Neiphin Trading Ltd, Kerdiffstown		215.5						818				2990				3175														0.67	0.474	8	0.41				83	277	1.14			
29/10/2014 11:02	930132	Neiphon Trading Ltd		295.99			50			551								3897														0.4	0.1	7.9	0.78					133	0.5			
04/11/2014 11:00	932752	Neiphin Trading Ltd Kerdiffstown		232.08			28			412								3313														3.59	1.199	8	0.42					154	4.79			
06/11/2014 11:30	933844	Neiphin Trading Ltd Kerdiffstown		360.13			42			531								4539														0.78	0.285	7.7	1.26					79	1.06			
13/11/2014 09:45	935995	Neiphon Trading Ltd		128.33			18			212								2027														2.71	0.408	7.7	0.35					36	3.12			
18/11/2014 11:30	937980	Neiphin Trading Ltd Kerdiffstown		169.44			15			295								2520														1.12	0.165	7.8	0.5					18	1.28			
21/11/2014 10:00	939215	Neiphon Trading Ltd		223.91			128			561								2808														0.73	0.11	7.8	0.64					202	0.84			
25/11/2014 09:00	940514	Neiphin Trading Ltd Kerdiffstown		207.76			21			383								2915														0.43	0.052	7.8	3.47					97	0.48			
08/12/2014 11:30	945363	Neiphin trading Ltd Kerdiffstown		243.76						426								3520														0.34	0.051	7.8	1.4					34	0.39			
17/12/2014 11:30	949008	Neiphin Trading Ltd, Kerdiffstown		221.95			44			402				182				2901														1.13	0.094	7.8	0.9				34	90	1.22			

Part 1 Dublin City Council Functional Area

Report for Samples Taken During the Period: 01/01/2014 - 31/12/2014

Customer	Test List	Sampling Point
DCC	130_LF_LEC	96001
WCC		

Sampling Point Description
(96001) Tanker Waste Disposal at Ringsend
Ballynagran Landfill Wicklow

Sampled Date	SAMPLE NR	Location	Al	NH3	Sb	As	BOD	Ba	Be	COD	Cd	Cd	Ca	Cl–	Cr	Cr	Co	Conductivity (20°C)	Cu	Cu	Fe	Fe	Pb	Pb	Mg	Mn	Mn	Hg	Mo	Ni	Ni	NO3-	NO2-	pH	P (React)	Se	Na	Sr	SO42-	SS	TON	U	Zn	Zn
			mg/l	mg/l as N	µg/l	µg/l	mg/l	µg/l	µg/l	mg/l	µg/l	mg/l	mg/l	mg/l	µg/l	mg/l	µg/l	µS/cm	µg/l	mg/l	µg/l	mg/l	µg/l	mg/l	mg/l	µg/l	mg/l	mg/l	µg/l	µg/l	mg/l	mg/l as N	mg/l as N	pH	mg/l as P	µg/l	mg/l	µg/l	mg/l	mg/l	mg/l as N	µg/l	µg/l	mg/l
08/01/2014 11:30	825932	Ballynagran Landfill Wicklow	1.6	2532			57			4697		0.002		1658		0.358		18270		0.022		1.6		0.01			0.546	0.001			0.164	0.39	0.009	7.9	13.88		1526.2		92	44	0.4			0.189
14/01/2014 11:30	827747	Ballynagran Landfill Wicklow	1.3	0.44			660			3578		0.002		2147		0.28		14590		0.028		1.4		0.01			0.594	0.001			0.127	0.46	0.0025	7.9	10.42		1126.6		113	96	0.46			0.166
24/01/2014 11:00	831301	Ballynagran Landfill Wicklow	1.4	3204						4208		0.002		1329		0.325		15565		0.045		1.8		0.01			0.657	0.001			0.136	0.58	0.0025	7.8	10.73		1491.9		49	84	0.59			0.139
04/02/2014 09:05	833814	Ballynagran Landfill	1.5	2156						3246		0.002				0.415		15498		0.125		1.5		0.01			0.263	0.001			0.152	0.29	0.006	7.8	10.97		1446.4			144	0.3			0.237
11/02/2014 09:00	835656	Balynagran Landfill	1.2	1748						4050		0.002		1791		0.269		15237		0.035		1.5		0.01			0.52	0.001			0.136	0.4	0.0025	7.8	5.29		1372.1		43	103	0.4			0.135
17/02/2014 11:30	838195	Ballynagran Landfill Wicklow		1376						3769				1353				15088														0.44	0.0025	7.8	10.12				35	128	0.44			
20/02/2014 11:00	839530	Ballynagran Landfill Wicklow	1.4	1356			942			3782		0.002		1551		0.305		15054		0.026		1.7		0.01			0.608	0.001			0.133	0.32	0.009	7.9	11.19		1448.2		29	66	0.33			0.186
04/03/2014 11:00	843334	Ballynagran Landfill Wicklow	1.2	2344			784			3584		0.002		2621		0.272		14997		0.006		0.829		0.01			0.448				0.124	0.49	0.017	7.8	11.09		192.4		63	38	0.51			0.083
26/03/2014 11:00	850755	Ballynagran Landfill Wicklow	1.4	1980			983			2133		0.002		1500		0.393		17032		0.023		1.3		0.01			0.605				0.148	0.4	0.017	7.8	14.57		1648		25	75	0.42			0.126
31/03/2014 11:30	851677	Ballynagran Landfill Wicklow	1.5	1864						4433		0.002		1535		0.438		16792		0.116		1.7		0.01			0.609				0.154	0.5	0.0025	7.9	13.13		1550.2		10	250	0.51			0.287
08/04/2014 11:30	854649	Ballynagran Landfill Wicklow	1.4	1684			958			4184		0.002		1424		0.36		16122		0.062		1.5		0.01			0.681				0.148	0.38	0.01	7.9	12.19		1568		10	56	0.39			0.139
10/04/2014 11:30	855761	Ballynagran Landfill Wicklow	1.4	1540			781			3926		0.002		1331		0.316		14964		0.07		2.4		0.01			1.2				0.145	0.38	0.009	7.8	10.71		1571.1		83	221	0.39			0.301
15/04/2014 11:00	857097	Ballynagran Landfill Wicklow	1.4	1484						4262		0.002		1527		0.415		16658		0.048		2.4		0.01			1.1				0.149	0.45	0.016	7.8	13.47				10	48	0.47			0.15
23/04/2014 09:00	858873	Ballynagran Landfill	1.4	1832			959			4694		0.002				0.408		18095		0.053		2.5		0.01			0.899				0.155	0.36	0.0025	7.9	12.28					60	0.37			0.142
24/04/2014 11:30	859754	Ballynagran Landfill Wicklow	1.5	2772			882			4744		0.002		2567		0.425		18414		0.037		2.7		0.01			0.893				0.164	0.34	0.0025	7.9	11.91				98	80	0.34			0.188
29/04/2014 11:30	861534	Ballynagran Landfill Wicklow		2456						4899				1955				18813														0.4	0.007	7.8	13.36				101	74	0.41			
07/05/2014 11:30	863854	Ballynagran Landfill Wicklow		0.61			1395			4750				950				159														0.34	0.0025	7.2	15.44				124	104	0.34			

Report for Samples Taken During the Period: 01/01/2014 - 31/12/2014

Customer	Test List	Sampling Point
DCC	130_LF_LEC	96001 (96001) Tanker Waste Disposal at Ringsend
MCC		Knockharley Landfill Meath

Sampling Point Description

Sampled Date	SAMPLE NR	Location	Al	NH3	Sb	As	BOD	Ba	Be	COD	Cd	Cd	Ca	Cl–	Cr	Cr	Co	Conductivity (20°C)	Cu	Cu	Fe	Fe	Pb	Pb	Mg	Mn	Mn	Hg	Mo	Ni	Ni	NO3-	NO2-	pH	P (React)	Se	Na	Sr	SO42-	SS	TON	U	Zn	Zn
			mg/l	mg/l as N	µg/l	µg/l	mg/l	µg/l	µg/l	mg/l	µg/l	mg/l	mg/l	mg/l	µg/l	mg/l	µg/l	µS/cm	µg/l	mg/l	µg/l	mg/l	µg/l	mg/l	mg/l	µg/l	mg/l	mg/l	µg/l	µg/l	mg/l	mg/l as N	mg/l as N	pH	mg/l as P	µg/l	mg/l	µg/l	mg/l	mg/l	mg/l as N	µg/l	µg/l	mg/l
14/05/2014 11:30	866797	Knockharley Landfill Meath		1530			338			2966				1631				15207														0.44	0.0025	7.8	10.65				489	104	0.45			12
19/05/2014 11:00	868422	Knockharley Navan Meath		1616						2862				1434				15379														0.43	0.007	7.8	10.44				411	336	0.44			11
20/05/2014 11:00	868886	Knockharley Kentstown Navan		0.78			281			2878				2817				15322														0.26	0.0025	7.8	10.5				613	70	0.27			12
22/05/2014 11:30	870062	Knockharley Kentstown Navan		1568			300			2370								15250														0.26	0.0025	7.8	8.21					144	0.27			10
27/05/2014 09:00	871677	Knockharley Landfill Kentstown Boyne Waste		1600						2398				1497				15361														0.26	0.0025	7.7	8.73				293	20	0.26			11

Appendix 6.8

Final Effluent Toxicity Assessment

Raffeen Industrial Estate
Ringaskiddy Road
Monkstown
Co. Cork
Tel: 021 4387200
Fax: 021 4387299
Email: micro@enva.ie
www.enva.ie

Client: The Central Laboratory

Address: Dublin City Council,
Eblana House,
68-70, Marrowbone Lane,
Dublin 8.

Customer Sample: Test:193D Ringsend New Treatment Works. SBL Effluent 02122014.

Certificate Number: 1074914111214
Date Received: 03/12/14
Lab ID: 107/49/14
Test Date:09/12/14

Certificate Date: 11/12/14
Order Number: 51046240

Aquatic Toxicity Test Results:

Test Parameters	Concentration % Vol./Vol.	Toxic Units	95% Confidence Limits Vol./Vol.	Method Of Calculation
48 LC_{50} to Brachionus plicatilis	51.02	1.96	45.85 – 54.02	Rotifer LC_{50} Calculation Program
30 min EC_{50} to Vibrio fischeri	>100	<1	N/A	Microtox

Test Methods:
ENVCM.137:Rotifer Brachionus plicatilis: Based on ASTM E1440-91
ENVCM136:Marine bacterium Vibrio fischeri: Based on ISO 11348-3:2007

Raffeen Industrial Estate
Ringaskiddy Road
Monkstown
Co. Cork
Tel: 021 4387200
Fax: 021 4387299
Email: micro@enva.ie
www.enva.ie

Sample Information:

Sampled By:	Customer
Sampling Procedure	N/A
Lab ID	107/49/14
Date of Analysis	09/12/14
Storage Conditions	≤ - 20 °C
Temperature	20.1°C
PH (at 18°C)	7.04
Dissolved Oxygen (mg/l)	10.80
Dissolved Oxygen (% Saturation)	117.4
Conductivity (µs/cm at 25°C)	2010
Salinity (ppt at 20°C)	<1

Reported By: [signature] 11/12/14
Claire Foley
(Technical Consultant)

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PART 2

South Dublin County Council

Functional Area

Annual Environmental Report 2014

Agglomeration Name:	**Ringsend**
Licence Register No.	**D0034-01**

PART 2

South Dublin County Council Functional Area

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Section 1. Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for D0034-01, Ringsend, for the South Dublin County Council Functional Area in County Dublin in accordance with the requirements of the wastewater discharge licence for the agglomeration.

There are no specified assessments required in the 2014 AER.

The Greater Dublin Area Agglomeration comprises the geographical area of Dublin City Council and sections of the functional areas of

- Fingal County Council
- South Dublin County Council
- Dun Laoghaire Rathdown County Council
- Meath County Council.

The Greater Dublin Area Agglomeration is served by a single water treatment plant (WWTP) which is located at Ringsend in the functional area of Dublin City Council.

The agglomeration is served by a wastewater treatment plant with a mean Design PE of 1.64 million.

The treatment process includes the following:-

- Preliminary treatment (including screening / grit removal), OFG removal
- Primary treatment
- Sludge treatment
- Secondary treatment - SBR
- Tertiary treatment – UV treatment during the bathing season.

The following improvement works were undertaken during 2014:-

- Quarryvale PS (Phase 2 Upgrade) - Upgrade of pump station. Replacement of 2 pumps, general equipment upgrading, new odour control unit installed, improved security fencing and access gate provided.

- Dodder Valley Trunk Sewer (DVS) - Diverted combined sewers from Butterfield Avenue at Kilvere Estate and Rathfarnham Shopping Centre to the DVS.

An Annual Statement of Measures is included in Appendix 6.1.

Part 2 South Dublin County Council Functional Area

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

There is no influent monitoring required to be carried out in the South Dublin portion of the Ringsend agglomeration.

Table 2.1 - Influent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l)	TN (mg/l)	Hydraulic Loading (m^3/d)	Organic Loading (PE/day)
Number of Samples	n/a	n/a	n/a	n/a	n/a		
Annual Max.	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Annual Mean	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Significance of results

None.

2.2 Discharges from the agglomeration

No monitoring of discharges is required to be carried out for the South Dublin portion of the Ringsend Licence.

Table 2.2 - Effluent Monitoring Summary

	cBOD (mg/l)	COD (mg/l)	TSS (mg/l)	Ammonia (mg/l)	Ortho-P (mg/l)	Comment
WWDL ELV (Schedule A)	n/a	n/a	n/a	n/a	n/a	
ELV with Condition 2 Interpretation included	n/a	n/a	n/a	n/a	n/a	
Number of sample results	n/a	n/a	n/a	n/a	n/a	
Number of sample results above WWDL ELV	n/a	n/a	n/a	n/a	n/a	
Number of sample results above ELV with Condition 2 Interpretation included	n/a	n/a	n/a	n/a	n/a	
Annual Mean (for parameters where a mean ELV applies)	n/a	n/a	n/a	n/a	n/a	
Overall Compliance (Pass/Fail)	n/a	n/a	n/a	n/a	n/a	

Significance of results
None.

2.3 Ambient monitoring summary

There is no ambient monitoring required to be carried out for the South Dublin portion of the Ringsend agglomeration.

Table 2.3 - Ambient Monitoring Report Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	***Irish Grid Reference***	**EPA Feature Coding Tool code**	**Current EQS Status**	**Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?**
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a

Significance of results
None.

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

This is not required for the South Dublin portion of the Ringsend agglomeration.

2.5 Pollutant Release and Transfer Register (PRTR) - 2014

This is not required for the South Dublin portion of the Ringsend agglomeration.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

There is no requirement under the Licence to prepare and submit a Treatment Efficiency Report associated with the South Dublin portion of the Ringsend agglomeration.

Table 3.1 - Treatment Efficiency Report Summary

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Total P (kg/yr)	Total N (kg/yr)	Comment
Influent mass loading (kg/year)	n/a	n/a	n/a	n/a	n/a	
Effluent mass emission (kg/year)	n/a	n/a	n/a	n/a	n/a	
% Efficiency (% reduction of influent load)	n/a	n/a	n/a	n/a	n/a	

3.2 Treatment Capacity Report

This is not required for the South Dublin portion of the Ringsend agglomeration.

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m^3/year)	n/a
Hydraulic Capacity – Design / As Constructed (peak flow) (m^3/year)	n/a
Hydraulic Capacity – Current loading (m^3/year)	n/a
Hydraulic Capacity – Remaining (m^3/year)	n/a
Organic Capacity - Design / As Constructed (PE)	n/a
Organic Capacity - Current loading (PE)	n/a
Organic Capacity – Remaining (PE)	n/a
Will the capacity be exceeded in the next three years? (Yes / No)	n/a

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	100%
Load collected in the agglomeration that enters treatment plant	100%
Load collected in the sewer network but discharged without treatment	ND

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment**.**

3.4 Complaints Summary

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table:

Number	**Date & Time**	**Nature of Complaint**	**Cause of Complaint**	**Actions taken to resolve issue**	**Closed (Y/N)**
1	12th May 2014	Overflow of sewerage into residential property causing damage	DVS sewer pipe was bunged at new Belfield siphon house during construction by contractor*. Heavy rainfall overwhelmed temporary measure in place causing serious overflow & property damage.	Pipe bung removed by *Murphy International	Y

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. non-compliance, emission, spillage, EO activation)	Incident Description	Cause	No. of Incidents	Corrective Action	Authorities Contacted	Reported to EPA	Closed (Y/N)
Overflow from Siphon House on DVS	L2 – limited, contamination of residences, short duration	Pipe damage by contractor	1	Pipe repaired by Murphy International	SDCC/DCC/DLRCC, Fire services	N	Y
Overflow to SW & then to Dodder	Minor L1 - Rathfarnham – FS blockage	Blocked foul sewer	1	Overflow between foul & SW raised by 200mm	SDCC	N	Y
Effluent seeped to Liffey through ground	L2 – limited, ground contamination	Rising main pipe fracture at Lucan Spa DPS	1	Pipe damage repaired by SDCC	SDCC	N	Y
Overflow to stream activation	Minor L1 – Main choke – Griffeen Valley	Blocked foul sewer	1	Foul sewer dragged & jetted	SDCC	N	Y
Overflow to Camac Stream	Minor L1 – Woodford Downs main choke	Blocked sewer – flat gradient	1	Foul sewer jetted & area cleaned up	SDCC	N	Y
Overflow to Luas car park	Minor, L1 – Cheererstown Luas station car park	Blocked sewer - choke	1	Foul sewer jetted & area cleaned up	SDCC	N	Y
Overflow to surface water drain	Minor L1 – Dromcarra Grove - main choke	Blocked sewer	1	Foul sewer jetted	SDCC	N	Y
Overflow to surface water drain	Minor L1 – Kilvere Estate - main choke	Blocked sewer	1	Foul sewer jetted. Minor manhole repairs to be carried out to prevent blockage	SDCC	N	Y

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2014	8
Number of Incidents reported to the EPA via EDEN in 2014	0
Explanation of any discrepancies between the two numbers above	Refer below **

**Table 3.5 above summaries the list of incidents that, in the normal course of events, would be reported to the EPA. The incident list was not uploaded to EDEN due to system access problems. It should be noted that several incidents were deemed reportable due to these being categorised as 'chokes' in the foul sewer system.

3.6 Sludge / Other inputs to the WWTP

This is not required for the South Dublin portion of the Ringsend agglomeration.

Table 3.6 - Other Inputs

Input type	m^3/year	PE/year	% of load to WWTP	Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	n/a	n/a	n/a	n/a	n/a
Industrial / Commercial Sludge	n/a	n/a	n/a	n/a	n/a
Landfill Leachate (delivered by tanker)	n/a	n/a	n/a	n/a	n/a
Landfill Leachate (delivered by sewer network)	n/a	n/a	n/a	n/a	n/a
Waste sludges imported from nearby LA small WWTPs	n/a	n/a	n/a	n/a	n/a

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant not included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The storm water overflows (SWO) and emergency overflows (EO) that are maintained by South Dublin County Council on behalf of Irish Water are listed in Appendix 6.2 of this report.

One such overflow is located at Patrick Doyle Road. This overflow resides in the administrative area of Dun Laoghaire Rathdown County Council (DLRCC) and is included in the area of the agglomeration of that Local Authority.

Storm water overflows have been assessed as to their compliance with regard to the criteria contained in section 4 of the DoEHLG guidance document 'Procedures and Criteria in relation to Storm Water Overflows' viz. a viz. -

1. Causes significant visual or aesthetic impact and public complaints
2. Causes deterioration in water quality in the receiving water
3. Gives rise to failure in meeting the requirements of national regulations on foot of EU Directives (Bathing Waters, etc.)
4. Dry weather operation.

The Milltown CSO located at Patrick Doyle Road (which is denoted by the reference DLRCC_B5_R_05 in licence application and located 316783E, 230085N) has been noted to cause aesthetic impact following an overflow. This CSO is deemed to be not in compliance with the criteria as set out above.

All other overflows meet the criteria.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Signif-icance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2014 (No. of events)	Total volume discharged in 2014 (m3)	Total volume discharged in 2014 (P.E.)	Estimated or Measured data
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m^3/yr)?	n/a
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	n/a
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2014?	n/a
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	n/a
The SWO assessment includes the requirements of Schedule A3 & C3	n/a
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	n/a

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

There are no special Improvement Programmes for the South Dublin South portion of the Ringsend agglomeration detailed in Schedules A3 and C of the licence.

The South Dublin improvement programme of upgrading and replacing equipment in 2014 was primarily confined to Phase 2 works at Quarryvale Pumping Station:

Pumping Station	Description of Works	Benefits
Quarryvale PS **(Phase 2 Upgrade)** – Completed early 2014	Upgrade of pump station. Replacement of 2 pumps, general equipment upgrading, new odour control unit installed, improved security fencing and access gate provided.	Modernise equipment, more efficient pumping, improved working environment improved site and plant security.

An updated improvement programme is included in Appendix 6.3

South Dublin County Council, on behalf of Irish Water is implementing misconnection survey work to identify misconnections between the surface and foul drainage systems.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed)	% Construction Work Completed	Timeframe for Completing the Work	Comments
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a

Improvements identified above also include measures taken to prevent environmental damage anticipated following events or accidents/incidents associated with discharges or overflows from the waste water works and as such are considered to fulfil any Statement of Measures requirements (see Appendix 6.1).

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The sewer network in South Dublin portion of the Ringsend agglomeration is sub-divided and managed as two catchments within the Agglomeration.

These catchments are the Dodder Valley Sewer (DVS) and the 9B sewer.

The details of the Sewer Integrity Risk Assessment are contained in Appendix 6.4 of this report and the following table summaries the outcome of that risk assessment as calculated by the EPA guidance document assessment tool.

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	Risk Assessment Rating (High, Medium, Low)	Risk Assessment Score	Comment
Hydraulic Risk Assessment Score	MEDIUM RISK	73	
Environmental Risk Assessment Score	MEDIUM RISK	385	
Structural Risk Assessment Score	HIGH RISK	130	
Operation & Maintenance Risk Assessment Score	LOW RISK	60	
Overall Risk Score for the agglomeration	**HIGH RISK**	**648**	

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in 2014 AER or outstanding from previous AER	Included in 2014 AER	Reference to relevant section of AER
Priority Substances Assessment	No	No	
Drinking Water Abstraction Point Risk Assessment	No	No	
Habitats Impact Assessment	No	No	
Shellfish Impact Assessment	No	No	
Pearl Mussel Report	No	No	
Toxicity/Leachate Management	No	No	
Toxicity of Final Effluent Report	No	No	

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	None	Not applicable
Drinking Water Abstraction Point Risk Assessment	Not required	Not applicable
Habitats Impact Assessment	Not required	Not applicable
Shellfish Impact Assessment	Not required	Not applicable
Pearl Mussel Report	Not required	Not applicable
Toxicity/Leachate Management	Not required	Not applicable
Toxicity of Final Effluent Report	Not required	Not applicable

5.1 Priority Substances Assessment

Not required under this portion of the Ringsend licence.

Table 5.1 - Priority Substance Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	n/a
Does the assessment include a review of Trade inputs to the works?	n/a
Does the assessment include a review of other inputs to the works?	n/a
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	n/a
Does the assessment identify that priority substances may be impacting the receiving water?	n/a
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	n/a

5.2 Drinking Water Abstraction Point Risk Assessment.

Not required under this portion of the Ringsend licence.

5.3 Shellfish Impact Assessment Report.

Not required under this portion of the Ringsend licence.

5.4 Toxicity / Leachate Management

Not required under this portion of the Ringsend licence.

5.5 Toxicity of the Final Effluent Report

Not required under this portion of the Ringsend licence.

5.6 Pearl Mussel Measures Report

Not required under this portion of the Ringsend licence.

5.7 Habitats Impact Assessment Report

Not required under this portion of the Ringsend licence.

Section 6. Appendix

Appendix 6.1 – Annual Statement of Measures

Appendix 6.2 – Storm Water Overflow Identification Report

Appendix 6.3 – Improvement Programme

Appendix 6.4 – Sewer Integrity Risk Assessment

Appendix 6.1

Annual Statement of Measures

The general nature of measures identified include:

- Preventative maintenance at local pumping stations which support reduced adverse WWTP impact and failure

- Enhanced local pumping station capacity complemented by reduced number of system chokes which will contribute to minimization of effluent spills by a range of measures which include replacement of key pumps by chopper type pumps to cope with the variety of material arriving at pumping station facilities

- Regular inspection of storage tanks will identify potential risk of leakage from same.

Appendix 6.2

Storm Water Overflow Identification Report

WWDL Code No.	Pumping Stations	Overflow	Volume M3/year	Days in operation per year	Comments
SDCCPS01	Lucan Spa PS	SDCCPS01a	No data available	0	Emergency
SDCCPS02	Lucan Low Level PS	SDCCPS02a	No data available	0	Emergency
SDCCPS03	Esker Lane PS	SDCCPS03a	No data available	0	Emergency
SDCCPS04	Quarryvale PS	SDCCPS04a	No data available	0	Emergency
SDCCPS05	Johnstown PS	SDCCPS05a	No data available	0	Emergency
SDCCPS06	Grange Castle PS	SDCCPS06a	No data available	0	Emergency
SDCCPS07	Ballymanagin PS	SDCCPS07a SDCCPS07b	No data available	0	Emergency
SDCCPS08	Peamount PS	SDCCPS08a	No data available	0	Emergency
SDCCPS09	Newcastle PS	SDCCPS09a	No data available	0	Emergency
SDCCPS10	Tay Lane PS	SDCCPS10a	No data available	0	Emergency
SDCCPS11	Whitehall PS	SDCCPS11a	No data available	0	Emergency
SDCCPS12	Spawell PS	N/A – 3 Dwellings	No data available	0	3 Dwellings
SDCCPS13	King's Hospital PS	N/A	No data available		
SDCCPS14	Lynches Lane PS	N/A – Halting Site	No data available	0	Halting Site – New PS
SDCCPS15	Kishogue PS	N/A – Halting Site	No data available	0	Halting Site
SDCCPS16	St Brigids PS	N/A – 6 Dwellings	No data available	0	6 Dwellings
SDCCPS17	Belgard PS	N/A – Fire Station	No data available	0	Fire Stn
SDCCPS18	Ard Mor PS	N/A	No data available	0	
SDCCPS19	College Drive	N/A	No data available	0	Private
SDCCPS20	Dangan Park PS	Surface Water	No data available	0	S/W only
SDCCPS21	Tobermaclugg PS	SDCCPS21a	No data available	0	Emergency

WWDL Code No.	Pumping Stations	Overflow	Volume M3/year	Days in operation per year	Comments
SDCCPS22	Adamstown PS	Surface water	No data available	0	S/W only

WWDL Code No.	Siphons	Overflow	Volume M3/year	Days in operation per year	Comments
SDCCSN01	Lucan Siphon (Liffey) - St Eds Muncher	SDCCSN01a	No data available	<1	Emergency
SDCCSN02	Templeogue Siphon (Dodder)	N/A	No data available	0	
SDCCSN03	Owendoher Siphon	N/A	No data available	0	
SDCCSN04	UCD (Belfield) Siphon	N/A	No data available	0	
SDCCSN05	Ringsend Siphon	N/A	No data available	0	
SDCCSN06	Kilvere	SDCCSN06a	No data available	0	Emergency

WWDL Code No.	Overflows	Overflow	Volume M3/year	Days in operation per year	Comments
SDCCSW015	Milltown Overflow	SDCCSW015	No data available		Emergency
SDCCSWO01	Perrystown Tank	SDCCSWO01	No data available	<1	Emergency
SDCCSWO02	Treepark Road	SDCCSWO02	No data available	<5	
SDCCSWO03	Airton Road	SDCCSWO03	No data available	<5	
SDCCSWO04	Avonmore Road	SDCCSWO04	No data available	<5	
SDCCSWO05	Brookfield Cottage	SDCCSWO05a SDCCSWO05b	No data available	<5	
SDCCSWO06	Harris Trucks	SDCCSWO06	No data available	<5	
SDCCSWO07	St Peter's Road	SDCCSWO07	No data available	<5	
SDCCSWO08	Castle View Road	SDCCSWO08	No data available	<5	
SDCCSWO09	Aylmer Road	SDCCSWO09	No data available	<5	
SDCCSWO10	Kimmage Road West	SDCCSWO10	No data available	<5	
SDCCSWO11	Springfield Avenue	SDCCSWO11	No data	<5	

WWDL Code No.	Overflows	Overflow	Volume M3/year	Days in operation per year	Comments
			available		
SDCCSWO12	Loreto Terrace	SDCCSWO12	No data available	<5	
SDCCSWO13	Oldcourt Manor	SDCCSWO13	No data available	<5	
SDCCSWO14	Stewarts Hospital	SDCCSWO14	No data available	<5	
SDCCSW016	Glenvara	SDCCSW016	No data available	<5	
SDCCSW017	Mount Carmel	SDCCSW017	No data available	<5	

Appendix 6.3

Improvement Programme

Updated Improvement Programme 2014

Pump Station	Description of Works	Benefits
Quarryvale PS **(Phase 2 Upgrade)** - Completed	Upgrade of pump station. Replacement of 2 pumps, general equipment upgrading, new odour control unit installed, improved security fencing and access gate provided.	Modernise equipment, more efficient pumping, improved working environment, improved site and plant security.
Dodder Valley Trunk Sewer (DVS)-Completed	Diverted combined sewers from Butterfield Avenue at Kilvere Estate and Rathfarnham Shopping Centre to the DVS.	To prevent surcharge at manholes on Butterfield Ave. during heavy rain.
FOG (Fats, Oil & Grease) Programme - On going	Licensing all Food Outlets i.e. restaurants, take-away food- outlets, canteens, etc	To prevent blockages and overflows in the foul sewerage network.

Planned Improvement Works in 2015

Pumping Station	Description of Works	Benefits
Lucan Low Level PS – in progress	Replacement of Pumps (Screw Type Impeller Pump).	Help prevent clogging at Lucan Low Level. Original Pump 2 installed 1992.
Newcastle PS –Pump ordered - in progress	Installation of Pump 5 (Screw Type Impeller Pump).	Help prevent pump clogging at Newcastle
Whitehall Road PS – Unit ordered - in progress.	Installation of Odour Control Unit	Reduce/Eliminate Odour coming from wet-well reaching nearby residential properties.
Tobbermaclug PS – SCADA upgrade – System ordered - in progress	New HMI to be installed to replace desktop PC.	Enhance telemetry reliability

APPENDIX 6.4

Sewer Integrity Risk Assessment

(i) 9B incl Strawberry Beds and Palmerston Catchment

(ii) DVS incl Walkinstown Kimmage Templeogue Catchment

(i) 9B incl Strawberry Beds and Palmerston Catchment

Section 2.1 Hydraulic Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	Yes	0		If the answer is **No** assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	100%	0		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the **completion** of the hydraulic assessment ?	5 to 10	3		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	No	5		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the **outcomes** of the hydraulic assessment have been implemented ?	Never	5		Select N/A response if no hydraulic performance assessment or design exists. For ongoing works select "less than 5".
2.2	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	Yes	0		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?	No	10		If the answer is **No** assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is **Yes** proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	more than 10	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract Documents for Short Term Sewer Flows" ?	Yes	0		If the answer is **No** assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. . If answer is **Yes** Proceed to Query 2.5
2.5	What was this Flow Survey Information Used for ?				

2.5.1	To Determine the extent of Problematic Sewer Catchments	Yes	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	Yes	0		Select N/A if no Flow Survey has been undertaken.
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	Yes	0		If the answer is **No** assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Query 2.8
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	more than 6	10		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	Are there deficiencies in performance criteria within the sewer network ?	Yes	20		If the answer is **No**, Proceed to Query 2.10 and complete Query 2.12. If the answer is **Yes** proceed to Query 2.9
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	No	10		If the answer is **No**, consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.10
2.10	Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory Impermeable Areas or extent of surface water contributions	Yes	0		If the answer is **No**, consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.11
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	No	10		If the answer is **No**, consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12.
	Total Risk Assessment Score (RAS)		**73**		
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
3.1	What Environmental or Discharge Quality Data is available with regard to the sewer network ?	largely anecdotal	20		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	Do trade effluents discharge to the sewer network?	Yes	20		If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
3.1.2	Are there Storm Water Overflows within the network ?	Yes	20		If the answer is **No**, proceed to Query 3.1.3. If the answer is **Yes**, Proceed to Query 3.3
3.1.3	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	No	0		If the answer is **No**, proceed to Query 3.1.4.
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	Unknown	20		If the answer is **No**, does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If **Yes**, Proceed to Query 3.6
3.2	If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?	>90%	#VALUE!		Select N/A if answer to Query 3.1.1 is **No**. If not all trade effleunts are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions.	Yes	0		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is **Unknown** or **No**, consider issuing a direction to the relevant Licencee. If the answer is **Yes**, no further action is needed.
3.2.2	If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)	0 - 10%	0		Select **N/A** if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?	<25%	50		If the answer is **No**, consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is **Yes**, proceed to Query 3. 6
3.4	Have samples from any Secondary Discharges within the system been analysed ?	Yes	0		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is **No**, consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is **Yes**, proceed to Query
3.5	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	11 - 20%	#VALUE!		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	No	20		Select N/A if answer to Query 3.1.4 is NO. If the answer is **No**, consider undertaking ground water risk analysis and complete Query 3.12 If the answer is Yes, proceed to Query 3.6
3.6.1	If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.2	If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.3	In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.7	Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?	No	40		If the answer is **No**, consider assessing the risk category of the receiving waters. If the answer is **Yes**, proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	0 - 10%	55		Select N/A if answer to Query 3.7 is **No** or if there are no SWOs in system. **(Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details)**
3.9	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	Yes	0		Select N/A if answer to Query 3.7 is No or if there are no SWOs in system. If the answer to Query 3.9 is **No**, consider further examination of the environmental model
		Total Risk Assessment Score (RAS)	#VALUE!		
3.10	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?	No	10		If the answer is **No** assess the need and benefit of undertaking CCTV Survey. If **Yes** Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	N/A	0		If no CCTV has been undertaken, select "N/A" response
4.2	What was this CCTV Survey information Used for?	N/A	10		Select N/A if answer to Query 4.1 is NO.
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	Yes	0		If no CCTV has been undertaken, select "No" response. If the answer is **No** assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is **Yes** proceed to Q
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	Yes	0		If the answer is **No**, enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is **Yes** proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	unknown	30		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	unknown	25		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	unknown	10		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	unknown	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	unknown	5		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%			**75**		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automitically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	N/A	35		Select N/A if answer to Query 4.4 is **No**. If the answer is **No**, Proceed to Query 4.6 If the answer is **Yes**, what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	Yes	0		If the answer is **No**, consider further examination of the sewer network, the structural loading conditions, gradients and possible H_2S Formation. If Yes completed Query 4.7
Total Risk Assessment Score (RAS)			130		

4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	Are complaints of an environmental nature recorded and held in a central database?	Yes	0		Consider setting up Central Database for Complaints
5.2	Is there an emergency response procedure in place?	Yes	0		Consider setting up target response times for dealing with Complaints
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?	More than 5 times/yr	20		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?	More than 5 times/yr	20		Select the highest number of events in any 12 month period.
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	Once/yr	2		Select the highest number of events in any 12 month period.
5.7	What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?	Once/yr	2		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	0.05 - 0.1/km/yr	12		Select the highest number of events per km of sewer network in any 12 month period.
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	Once/yr	4		Select the highest number of events in any 12 month period.
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
		Total Risk Assessment Score (RAS)	64		
5.11	Prepare Up Dated Operational and Maintenance Plan				

(ii) DVS incl Walkinstown Kimmage Templeogue Catchment

Section 2.1 Hydraulic Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	Yes	0		If the answer is **No** assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	100%	0		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the **completion** of the hydraulic assessment ?	5 to 10	3		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	No	5		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the **outcomes** of the hydraulic assessment have been implemented ?	Never	5		Select N/A response if no hydraulic performance assessment or design exists. For ongoing works select "less than 5".
2.2	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	Yes	0		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?	No	10		If the answer is **No** assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is **Yes** proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	more than 10	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract Documents for Short Term Sewer Flows" ?	Yes	0		If the answer is **No** assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. . If answer is **Yes** Proceed to Query 2.5

2.5	What was this Flow Survey Information Used for ?				
2.5.1	To Determine the extent of Problematic Sewer Catchments	Yes	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	Yes	0		Select N/A if no Flow Survey has been undertaken.
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	Yes	0		If the answer is **No** assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Query 2.8
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	more than 6	10		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	Are there deficiencies in performance criteria within the sewer network ?	Yes	20		If the answer is **No**, Proceed to Query 2.10 and complete Query 2.12. If the answer is **Yes** proceed to Query 2.9
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	No	10		If the answer is **No**, consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.10
2.10	Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory Impermeable Areas or extent of surface water contributions	Yes	0		If the answer is **No**, consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.11
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	No	10		If the answer is **No**, consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12.
	Total Risk Assessment Score (RAS)		73		
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
3.1	What Environmental or Discharge Quality Data is available with regard to the sewer network ?	largely anecdotal	20		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	Do trade effluents discharge to the sewer network?	Yes	20		If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
3.1.2	Are there Storm Water Overflows within the network ?	Yes	20		If the answer is **No**, proceed to Query 3.1.3. If the answer is **Yes**, Proceed to Query 3.3
3.1.3	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	No	0		If the answer is **No**, proceed to Query 3.1.4.
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	Unknown	20		If the answer is **No**, does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If **Yes**, Proceed to Query 3.6
3.2	If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?	>90%	#VALUE!		Select N/A if answer to Query 3.1.1 is **No**. If not all trade effleunts are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions.	Yes	0		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is **Unknown** or **No**, consider issuing a direction to the relevant Licencee. If the answer is **Yes**, no further action is needed.
3.2.2	If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)	0 - 10%	0		Select **N/A** if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?	<25%	50		If the answer is **No**, consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is **Yes**, proceed to Query 3. 6
3.4	Have samples from any Secondary Discharges within the system been analysed ?	Yes	0		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is **No**, consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is **Yes**, proceed to Query
3.5	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	11 - 20%	#VALUE!		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	No	20		Select N/A if answer to Query 3.1.4 is NO. If the answer is **No**, consider undertaking ground water risk analysis and complete Query 3.12 If the answer is Yes, proceed to Query 3.6
3.6.1	If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.2	If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.3	In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.7	Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?	No	40		If the answer is **No**, consider assessing the risk category of the receiving waters. If the answer is **Yes**, proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	0 - 10%	55		Select N/A if answer to Query 3.7 is **No** or if there are no SWOs in system. **(Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details)**
3.9	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	Yes	0		Select N/A if answer to Query 3.7 is NO or if there are no SWOs in system. If the answer to Query 3.9 is **No**, consider further examination of the environmental model
		Total Risk Assessment Score (RAS)	**#VALUE!**		
3.10	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?	No	10		If the answer is **No** assess the need and benefit of undertaking CCTV Survey. If **Yes** Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	N/A	0		If no CCTV has been undertaken, select "N/A" response
4.2	What was this CCTV Survey Information Used for?	N/A	10		Select N/A if answer to Query 4.1 is NO.
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	Yes	0		If no CCTV has been undertaken, select "No" response. If the answer is **No** assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is **Yes** proceed to Q
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	Yes	0		If the answer is **No**, enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is **Yes** proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	unknown	30		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	unknown	25		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	unknown	10		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	unknown	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	unknown	5		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%			**75**		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automitically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	N/A	35		Select N/A if answer to Query 4.4 is **No**. If the answer is **No**, Proceed to Query 4.6 If the answer is **Yes**, what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	Yes	0		If the answer is **No**, consider further examination of the sewer network, the structural loading conditions, gradients and possible H_2S Formation. If Yes completed Query 4.7
		Total Risk Assessment Score (RAS)	130		

4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	Are complaints of an environmental nature recorded and held in a central database?	Yes	0		Consider setting up Central Database for Complaints
5.2	Is there an emergency response procedure in place?	Yes	0		Consider setting up target response times for dealing with Complaints
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?	More than 5 times/yr	20		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?	More than 5 times/yr	20		Select the highest number of events in any 12 month period.
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	Once/yr	2		Select the highest number of events in any 12 month period.
5.7	What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?	Once/yr	2		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	0.01 - 0.05/km/yr	6		Select the highest number of events per km of sewer network in any 12 month period.
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	Once/yr	4		Select the highest number of events in any 12 month period.
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
	Total Risk Assessment Score (RAS)		60		

5.11	Prepare Up Dated Operational and Maintenance Plan	

PART 3

Fingal County Functional Area

Annual Environmental Report 2014

Agglomeration Name:	**Ringsend**
Licence Register No.	**D0034-01**

PART 3

Fingal County Functional Area

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Section 1. Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for D0034-01, Ringsend, in County Dublin in accordance with the requirements of the wastewater discharge licence for the agglomeration. This Annual Environmental Report specifically relates to the Fingal County Council administrative area of the Ringsend agglomeration.

The Greater Dublin Area Agglomeration includes all of the geographical area of Dublin City Council and parts of Fingal County Council functional area, South Dublin County Council functional area, Dun Laoghaire Rathdown County Council functional area and Meath County Council functional area. The agglomeration is served by one waste water treatment plant (WWTP) at Ringsend (Ringsend Treatment Works) close to Dublin City centre.

The following improvement works were undertaken during 2014:-

- Regular sump cleaning,
- Routine maintenance, provision and monitoring of telemetry system, ongoing staff training, and
- Pump station improvements ongoing - electrical panel reviews, control panel upgrades, chain replacements, alarm review.

An Annual Statement of Measures is included in Appendix 6.1.

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

No influent monitoring was carried out in the Fingal portion of the agglomeration.

2.2 Discharges from the agglomeration

No monitoring of secondary discharges was carried out or is required.

2.3 Ambient monitoring summary

There is no ambient monitoring to be carried out in the Fingal County Council administrative area.

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

No samples of the secondary discharges were required.

2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year

No PRTR is required for the Fingal portion of the agglomeration.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

This is not required for the Fingal County Council portion of the agglomeration.

3.2 Treatment Capacity Report

This is not required for the Fingal County Council portion of the agglomeration.

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	100%
Load collected in the agglomeration that enters treatment plant	99.9%
Load collected in the sewer network but discharged without treatment	

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment**.**

3.4 Complaints Summary

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table:

Number	Date and time	Nature	Cause	Actions taken to Resolve	Closed
73,889	02/01/2014	INV Sewage Flooding	Sewage Overflow at Castleknock Cottages	Jetter cleared choke Washed down and disinfected the road	RCLOSE
7,3890	02/01/2014	INV Sewage Flooding	Sewage Overflow Main St Castleknock	Jetter cleared blockage	RCLOSE
73,920	02/01/2014	INV Sewage Flooding	Sewage Overflow Porterstown Village	Main choke at Porterstown Village requiring jetter and a crew for clean-up.	RCLOSE
73,952	03/01/2014	INV Sewage Flooding	Sewage Overflow Oak Grove Santry	Jetter to clear choke and clean up	RCLOSE
73,955	03/01/2014	INV Sewage Flooding	Sewage Overflow Seagrange Baldoyle	Jetter to clear choke and Cleanup	RCLOSE
74,164	08/01/2014	INV Sewage Flooding	Sewage Overflow Castleknock Road	Main Choke cleared	RCLOSE
74,246	08/01/2014	INV Sewage Flooding	Sewer Choke Meadow Dale Hartstown	F/S Choke Jetter cleared the choke	RCLOSE
74,403	13/01/2014	INV Sewage Flooding	O/Flowing Manhole Blanchardstown	Jetter cleared the choke CCTV surveyed the sewer private drain also jetted private drain	RCLOSE
74246	14/01/2014	INV Sewage Flooding	Manhole O/Flowing Hartstown	F/S cleared by Jetter	RCLOSE
74661	15/01/2014	INV Sewage Flooding	F/Sewer Blocked Castleknock Mews	Jetter cleared blockage	RCLOSE
75067	22/01/2014	INV Sewage Flooding	F/S Blocked Lahunda Dale Clonsilla	Jetter cleared Blockage	RCLOSE
75084	22/01/2014	INV Sewage Flooding	F/S Blocked Blanchardstown	Jetter cleared Blockage	RCLOSE
75120	23/01/2014	INV Sewage Flooding	F/Sewer BlockedThe Walk Clonee	Jetter cleared blockage	RCLOSE
75282	27/01/2014	INV Sewage Flooding	Church Road Castleknock	Jetter cleared blockage	RCLOSE
75302	27/01/2014	INV Sewage Flooding	F/Sewer blockage Lohunda Downs Youth club	Jetter cleared blockage	RCLOSE
75316	27/01/2014	INV Sewage Flooding	F/Sewer Blockage College Road Castleknock	Jetter cleared blockage	RCLOSE

Part 3 Fingal County Functional Area

Number	Date and time	Nature	Cause	Actions taken to Resolve	Closed
75880	04/02/2014	INV Sewage Flooding	F/Sewer choke Harbour Road Howth	Jetter cleared blockage	RCLOSE
79583	31/03/2014	INV Sewage Flooding	F/Sewer choke Sutton	Jetter cleared blockage	RCLOSE
79668	01/04/2014	INV Sewage Flooding	F*/Sewer choke Seapark Malahide	Jetter cleared blockage and a wash down	RCLOSE
80280	08/04/2014	INV Sewage Flooding	F/S sluggish Delwood Blanchardstown	Jetter cleared the main	RCLOSE
80506	11/04/2014	INV Sewage Flooding	F/Sewer blocked Castleknock	Jetter cleared blockage	RCLOSE
80662	11/04/2014	INV Sewage Flooding	F/Sewer sluggish Hartstown	Jetter cleared mains	RCLOSE
81164	24/04/2014	INV Sewage Flooding	F/Sewer blocked Clonsilla	Jetter cleared blockage	RCLOSE
81321	28/04/2014	INV Sewage Flooding	Ff/Sewer blocked Clonsilla	Jetter cleared blockage	RCLOSE
81361	29/04/2014	INV Sewage Flooding	F/Sewer blocked Baldoyle	Jetter cleared blockage	RCLOSE
81363	29/04/2014	INV Sewage Flooding	F/Sewer blocked Clonsilla	Jetter cleared blockage	RCLOSE
20747280	07-May-14	INV Sewage Flooding	(CLOB) Email from customer asking for a crew to be sent to investigate a smell of sewerage down around the front of the gardens where the new water meters have just been installed.	Main Choke, Jetter cleared Sewer.	RCLOSE
21019322	10-Jun-14	INV Sewage Flooding	(CLOB) Main sewerage drain on road overflowing.	Main Choke – Jetting carried out	RCLOSE
21042034	11-Jun-14	INV Sewage Flooding	(CLOB) Customer called to report sewage coming up onto the road across from his house, has been this way for the past two weeks. It is on the road outside number 23 and the smell is getting worse in the last few days, people are having to walk through it to get by.	Main Choke – Jetting carried out	RCLOSE
21425497	22-Jul-14	INV Above Ground Waste Malodours	(CLOB) Smell coming from drains last few days in the park. Could LA go out to investigate?	Main Choke – Jetting carried out	RCLOSE
21452801	29-Jul-14	INV Above Ground Waste Malodours	(CLOB) The customer advises that there is a very bad smell in the area for the last few days	Main Choke – Jetting carried out	RCLOSE
21555549	13-Aug-14	INV Sewage Flooding	(CLOB) sewage from mains backing up threw there pipes from Sunday.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
21555580	13-Aug-14	INV Sewage Flooding	Flooding in rear garden	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
21555587	13-Aug-14	INV Sewage Flooding	Report of surcharging sewer	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE

Part 3 Fingal County Functional Area

Number	Date and time	Nature	Cause	Actions taken to Resolve	Closed
21555595	13-Aug-14	INV Sewage Flooding	Report of overflow of sewerage.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
21555604	13-Aug-14	INV Sewage Flooding	Report of overflow of sewerage.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
21555605	13-Aug-14	INV Sewage Flooding	Report of overflow of sewerage.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
21555607	13-Aug-14	INV Sewage Flooding	Report of sewerage overflow.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
21591497	27-Aug-14	INV Sewage Flooding	(CLOB) Fingal Co. Co Swords, Drainage.....St Lawerance Rd. Howth. Drainage issue. Manhole overflowing.	Work completed on Monday 25_8_14 @ 1820hrs approx.	RCLOSE
21608233	29-Aug-14	INV Sewage Flooding	Rang to report a burst leak/sewerage in her estate, She said the water is gushing out of the manhole and there is a really horrible smell in the estate over this. They only notice it this morning.	Main Choke – Jetting carried out	RCLOSE
21725562	08-Sep-14	INV Above Ground Waste Malodours	(CLOB) Customer called about a possible blocked drain, out on the main road, unblocked a few weeks ago by Fingal co co. Customer said there is a smell again, on & off, but it is getting worse and is now a serious issue as they have a newborn.	Main Choke – Jetting carried out	RCLOSE
21843262	25-Sep-14	INV Sewage Flooding	(CLOB) broken sewer mains in the Howth area in maintstree. health and safety issue. needs urgent attention	Connection repaired	RCLOSE
2220566	13-Nov-14	INV Sewage Flooding	(CLOB) Eithne called in to report a sewer flooding at the end of their cul-de-sac. They need to get someone out asap to resolve this.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
22205709	13-Nov-14	INV Sewage Flooding	(CLOB) customer rang too report an overflowing manhole cover outside his property raw sewage is flooding out.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
2205736	13-Nov-14	INV Sewage Flooding	(CLOB) Manhole overflowing in the garden. Sewerage is rising constantly and flooding the front of the garden coming from the mains sewer manhole.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
22205754	13-Nov-14	INV Sewage Flooding	(CLOB) Cllr called to report the manhole cover has lifted outside 3 Portersgate Grove, Clonsilla, Dublin 15 and there is sewage flowing out onto the street.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE

Part 3 Fingal County Functional Area

Number	Date and time	Nature	Cause	Actions taken to Resolve	Closed
22205777	13-Nov-14	INV Sewage Flooding	(CLOB) called to report a blocked sewer in her backgarden that is overflowing due to the heavy rainfall at the moment. There is a terrible smell in both the inside and outside of the house and sewerage is about 3 foot away from her backdoor. Toilet is also causing problems, not sure if neighbours are effected but she asked them not to flush their toilet as it will come up in her back garden. Would like someone to come and investigate asap before it gets worse. Blockage is on the beach, ongoing issue in area - Fingal are aware of the issue.	Main Choke – Jetting carried out	RCLOSE
22205828	13-Nov-14	INV Sewage Flooding	(CLOB) The sewer is over flowing in the customers back garden next door is also flooded the pipes are blocked up. Needs to be unblocked ASAP.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
22205846	13-Nov-14	INV Sewage Flooding	(CLOB) A sewer flooding in the estate. Sewage is pouring out onto the road and they need someone to come out and investigate this as soon as possible.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
22206049	13-Nov-14	INV Sewage Flooding	(CLOB) Reporting sewer over flowing from the property on the footpath - not known if this is a foul or storm - this is continuing after the rain has stopped for 2 hours.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
22206769	14-Nov-14	INV Sewage Flooding	(CLOB) Customer called to report a sewer drain overflowing and gushing filthy water down the street causing a smell and a health hazard. The drain is in between numbers 7-9. She would like this overflow attended to asap.	Main Choke – Jetting carried out	RCLOSE
22206822	14-Nov-14	INV Sewage Flooding	(CLOB) Councillor is reporting Sewage flooding on the side of the road. Issue is on Harts Town Road, across from the Harts Town Park on the junction of the Ongar Link Road. Has had multiple complaints from residents in the area as sewage is everywhere.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
22207053	14-Nov-14	INV Sewage Flooding	(CLOB) The landlord of riverside complex, to report a leaking sewer line and a leaking water line. She says the Tolka river has caused this and the water line was flooded an underground carpark. The burst sewer line is at the side of the building and is flowing closely to the riverside medical centre so they urgently need to get someone out to resolve this.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
22207063	14-Nov-14	INV Sewage Flooding	(CLOB) Caller rang in to report that there is raw sewer overflowing in the Inglewood area. She stated that the lids are after being raised and that sewer is after flowing out. There are two man hole that are	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE

Part 3 Fingal County Functional Area

Number	Date and time	Nature	Cause	Actions taken to Resolve	Closed
			raised. One in Inglewood estate and another opposite Inglewood across Harts Park. Needs to be looked into as soon as possible. Health and safety issue.		
22207406	14-Nov-14	INV Sewage Flooding	(CLOB) raw sewerage is flooding onto road - coming from a sewer. Would like someone to come out and investigate.	Surcharge due to heavy rain. Clean up carried out where needed.	RCLOSE
22210361	17-Nov-14	INV Sewage Flooding	(CLOB) Cllr rang with regard to break in sewer line	Jetting and CCTV carried out	RCLOSE
22457200	17-Dec-14	INV Sewage Flooding	(CLOB) ongoing issue he has been having in his area with the main sewerage line. At the moment there is raw sewerage coming up from the manhole covers and sewers flowing onto the roads in his area. Fingal county council are out at the moment cleaning up but they to contact Irish water to get this problem rectified one and for all.	Jetting and Root cutter attended to clear mains.	RCLOSE
22504299	22-Dec-14	INV Sewage Flooding	(CLOB) Customer calling to report raw sewage coming out of the manhole outside his property. This is the side lane next to his house.	Main Choke – Jetting carried out	RCLOSE

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	None	Yes	Yes
SWO	Howth Harbour carpark storm tank overflowed to both NDDS and Harbour	Weather	1	None	Irish Water	Yes	Yes
Plant failure	Portmarnock Bridge PS overflowed.	Pump trip	1	All High Sump alarms to be investigated.	Irish Water, Fisheries	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	EPA,BIM, MI, SFPA, FSAI	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	None	Yes	Yes
SWO	Portmarnock Bridge PS overflowed.	Adverse weather	1	None	EPA,BIM, MI, SFPA, FSAI	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	EPA,BIM, MI, SFPA, FSAI	Yes	No
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA	Yes	Yes
Plant failure	Baldoyle Village PS overflowed	Ragging/ blocking of pumps	1	Pumps lifted, blockage cleared and pumps re-set	IW,BIM, MI, SFPA	Yes	Yes
Plant failure	Santry PS overflowed	Pump Failure	1	Pump 1 re-set, Pump 2 replaced	IW,BIM, MI, SFPA	Yes	Yes
SWO	Santry PS overflowed	Adverse weather	1	None	IW	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries	Yes	Yes
SWO	Baldoyle Village PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA	Yes	Yes
SWO	Santry PS overflowed on two separate occasions	Adverse weather	1	None	IW,BIM, MI, FSAI	Yes	Yes

Part 3 Fingal County Functional Area

Incident Type	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
SWO	Sutton PS overflowed	Adverse weather	1	None	IW,BIM, MI, FSAI	Yes	Yes
SWO	Deerpark PS overflowed	Adverse weather	1	None	IW,BIM, MI, FSAI	Yes	Yes
SWO	Blanchardstown PS overflowed	Adverse weather	1	None	IW	Yes	Yes
Plant failure	Connolly PS and Kinsealy PS overflowed	Pump Failure	1	Pumps cleaned and re-set	IW,BIM, MI, FSAI	Yes	Yes
SWO	Santry PS overflowed	Adverse weather	1	None	IW. Inland Fisheries. Dept of Agriculture.	Yes	No
SWO	Santry PS overflowed	Adverse weather	1	None	IW. Inland Fisheries. Dept of Agriculture.	Yes	No
SWO	Portmarnock Strand PS overflowed on seven separate occasions between 03/10/14 and 08/10/14	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
Plant failure	Portmarnock Strand PS overflowed	Pump tripped	1	Pump re-set	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Baldoyle Village PS overflowed (also 5 minute overflow from 04/10/14 mentioned)	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Baldoyle Road PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	No
SWO	Deer Park PS overflowed (2 brief overflows during this period)	SWO-exceptional rainfall, overflow expected	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes

Part 3 Fingal County Functional Area

Incident Type	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
SWO	Portmarnock Bridge PS overflowed	Adverse weather	1	None	IW. Inland Fisheries. Dept of Agriculture.	Yes	Yes
SWO	Portmarnock Bridge PS overflowed	Adverse weather	1	None	IW. Inland Fisheries. Dept of Agriculture.	Yes	Yes
SWO	Santry PS overflowed	Adverse weather	1	None	IW. Inland Fisheries. Dept of Agriculture.	Yes	Yes
SWO	Santry PS overflowed	Adverse weather	1	None	IW. Inland Fisheries. Dept of Agriculture.	Yes	Yes
Plant failure	Portmarnock Bridge PS overflowed	Pump Failure	1	Pumps repaired and re-set	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
Plant failure	Portmarnock Bridge PS overflowed	Pump Failure	1	Pumps repaired and re-set	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Manhole in Mulhuddart carpark surcharged during heavy rainfall causing carpark to flood	Adverse weather	1	Excess water pumped to River Tolka	IW. Inland Fisheries. Dept of Agriculture.	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Baldoyle Village PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Portmarnock Strand PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Portmarnock Bridge PS overflowed	Adverse weather	1	None	IW,BIM, MI, SFPA, FSAI, Inland Fisheries, Dept of Agriculture	Yes	Yes
SWO	Dubber Cross PS overflowed	Adverse weather	1	None	IW. Inland Fisheries. Dept of Agriculture.	Yes	Yes

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2014	40
Number of Incidents reported to the EPA via EDEN in 2014	40
Explanation of any discrepancies between the two numbers above	n/a

3.6 Sludge / Other inputs to the WWTP

Not required for the Fingal County Council portion of the agglomeration.

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The Storm Water Overflow Identification & Inspection report is not required for Swords agglomeration.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2014 (No. of events)	Total volume discharged in 2014 (m^3)	Total volume discharged in 2014 (P.E.)	Estimated /Measured data
Fingal – SW21	317088E, 240688N	Yes	Not yet assessed	Not yet assessed	4	320	320	E
Fingal-SW22	318083E, 241519N	Yes	Not yet assessed	Not yet assessed	1	40	40	E
Fingal-SW23	331227E, 241541N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW26	324686E, 240383N	Yes	Not yet assessed	Not yet assessed	13	1,300	1,300	E
Fingal-SW27	324837E, 239149N	Yes	Not yet assessed	Not yet assessed	2	200	200	E
Fingal-SW32	324858E, 244368N	A3	Not yet assessed	Not yet assessed	0	0	0	E
Fingal SW33	323560E, 242484N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW34	323855E, 243158N	Yes	Not yet assessed	Not yet assessed	4	160	160	E
Fingal-SW35	323969E, 241503N	Yes	Not yet assessed	Not yet assessed	1	40	40	E
Fingal-SW37	324179E, 240115N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal – SW38	324387E, 239355N	Yes	Not yet assessed	Not yet assessed	2	80	80	E
Fingal-SW39	323228E. 239139N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW40	323086E, 239133N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW41	323299E, 238441N	Yes	Not yet assessed	Not yet assessed	1	40	40	E
Fingal-SW42	326312E, 238143N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW43	325886E, 239468N	Yes	Not yet assessed	Not yet assessed	10	400	400	E

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2014 (No. of events)	Total volume discharged in 2014 (m^3)	Total volume discharged in 2014 (P.E.)	Estimated /Measured data
Fingal-SW44	326155E, 239701N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW45	327347E, 239672N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW46	327789E, 239464N	Yes	Not yet assessed	Not yet assessed	1	40	40	E
Fingal-SW47	328391E, 239452N	Yes	Not yet assessed	Not yet assessed	6	480	480	E
Fingal-SW48	328800E, 239337N	Yes	Not yet assessed	Not yet assessed	6	480	480	E
Fingal-SW49	328711E, 239308N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW50	306076E, 243269N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW51	308577E, 238545N	Yes	Not yet assessed	Not yet assessed	8	640	640	E
Fingal-SW52	308318E, 238766N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW53	309614E, 238262N	Yes	Not yet assessed	Not yet assessed	0	0	0	E
Fingal-SW54	308007E, 238729N	Yes	Not yet assessed	Not yet assessed	1	40	40	E
Fingal-SW55	308950E, 237336N	Yes	Not yet assessed	Not yet assessed	1	40	40	E
Fingal-SW56	306505E, 237441N	Yes	Not yet assessed	Not yet assessed	0	0	0	E

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2014?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	Not yet assessed
The SWO assessment includes the requirements of Schedule A3 & C3	Not yet assessed
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

The Improvement Programme is included in Appendix 6.2.

The Improvement Programme report included in Appendix 6.2 addresses the **Specified Improvement Programmes** as detailed in Schedules A3 and C of the WWDL. It should detail other improvements identified through assessments required under the licence

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
Discharge S4Fingal to the Irish Sea to be discontinued	A	31/12/2011	Y	Completed	100%		
Discharge to cease: S5Fingal to the Irish Sea	A	27/10/2010	Y	At planning stage	0%	Unknown	Approved to move to the planning stage under the Portmarnock Drainage Scheme

There are no improvements identified under Condition 5.2.

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

Due to the nature of the agglomeration, two different Sewer Integrity Risk Assessment Tools have been completed.

4.2.3 (a) North Fringe Sewer Catchment

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	Risk Assessment Rating (High, Medium, Low)	Risk Assessment Score	Comment
Hydraulic Risk Assessment Score	High	130	
Environmental Risk Assessment Score	Low	180	
Structural Risk Assessment Score	High	150	
Operation & Maintenance Risk Assessment Score	Medium	132	
Overall Risk Score for the agglomeration	High	592	

4.2.3 (b) 9C Catchment

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	Risk Assessment Rating (High, Medium, Low)	Risk Assessment Score	Comment
Hydraulic Risk Assessment Score	Medium	57	
Environmental Risk Assessment Score	Low	50	
Structural Risk Assessment Score	Medium	65	
Operation & Maintenance Risk Assessment Score	Medium	108	
Overall Risk Score for the agglomeration	Low	280	

See Appendix 6.3 for Sewer Integrity Toot Output for the North Fringe Sewer Catchment and the 9C Catchment.

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in 2014 AER or outstanding from previous AER	Included in 2014 AER	Reference to relevant section of AER
Priority Substances Assessment	No	No	N/A
Drinking Water Abstraction Point Risk Assessment	No	No	N/A
Habitats Impact Assessment	No	No	N/A
Shellfish Impact Assessment	No	No	N/A
Pearl Mussel Report	No	No	N/A
Toxicity/Leachate Management	No	No	N/A
Toxicity of Final Effluent Report	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	N/A	N/A
Drinking Water Abstraction Point Risk Assessment	N/A	N/A
Habitats Impact Assessment	N/A	N/A
Shellfish Impact Assessment	N/A	N/A
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	N/A	N/A
Toxicity of Final Effluent Report	N/A	N/A

Section 6. Appendix

Appendix 6.1 - Annual Statement of Measures

Appendix 6.2 – Specified Improvement Programme

Appendix 6.3 – Sewer Integrity Tool Outputs

Appendix 6.1

Annual Statement of Measures

Mitigation measure to be taken	Action	Date for completion
Regular sump cleaning		On going
Routine maintenance, provision and monitoring of telemetry system, ongoing staff training.		On going
Santry Foul Pumping Station Upgrade	ANB with IW	unknown
Baldoyle Village PS Storm Pump	ANB with IW	unknown
Portmarnock Strand PS catchment – rehabilitation of network to minimise storm water infiltration.	ANB being prepared	
Rehabilitation of Mulhuddart Penstocks	ANB being prepared	
Pump station improvements ongoing - electrical panel reviews, control panel upgrades, chain replacements, alarm review.		Ongoing

Appendix 6.2

Specified Improvement Programme

7.5.1 Specified Improvement Programme

Specified Improvement Programmes (under Schedule A and C of WWDL)	Work Area	Licence Schedule (A or C)	Licence Completion Date	Has the date passed (Y/N)	Progress (Not Started, At tender stage, Ongoing Work on Site, Commissioning Phase, Completed)	% of site work completed	Comments
Discharge S4Fingal to the Irish Sea to be discontinued	Discharge to cease	A	31/12/2011	Y	Not started	0%	IW are seeking that the Doldrum bay discharge is to be considered as a secondary discharge within the Ringsend agglomeration discharging to coastal waters (not sensitive waters) with a greater than 70% reduction in BOD, IW will prepare and present a case to the EPA in this regard as part of a license review.
Discharge to cease: S5Fingal to the Irish Sea	Discharge to cease	A	27/10/2010	Y	Completed	100%	

7.5.2 Programme of Improvements

There are no improvements identified under Clause 5.2

Appendix 6.3

Sewer Integrity Tool Output

Appendix 6.6 (a) – Sewer Integrity Tool Output: North Fringe Sewer Catchment

Section 2.1 Hydraulic Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	Yes	0		If the answer is **No** assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	20%	20		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the completion of the hydraulic assessment ?	more than 10	5		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	Yes	0		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented ?	more than 10	5		Select N/A response if no hydraulic performance assessment or design exists. For ongoing works select "less than 5".
2.2	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	Yes	0		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?	No	10		If the answer is **No** assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is **Yes** proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	more than 10	0		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract Documents for Short Term Sewer Flows" ?	No	20		If the answer is **No** assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. . If answer is **Yes** Proceed to Query 2.5
2.5	What was this Flow Survey Information Used for ?				
2.5.1	To Determine the extent of Problematic Sewer Catchments	Yes	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	N/A	0		Select N/A if no Flow Survey has been undertaken.
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	No	10		If the answer is **No** assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Query 2.6
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	more than 6	10		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	Are there deficiencies in performance criteria within the sewer network ?	Yes	20		If the answer is **No**, Proceed to Query 2.10 and complete Query 2.12. If the answer is **Yes** proceed to Query 2.9
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	No	10		If the answer is **No**, consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.10
2.10	Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory Impermeable Areas or extent of surface water contributions	No	10		If the answer is **No**, consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.11
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	No	10		If the answer is **No**, consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12. .
	Total Risk Assessment Score (RAS)		130		
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
3.1	What Environmental or Discharge Quality Data is available with regard to the sewer network ?	largely anecdotal	20		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	Do trade effluents discharge to the sewer network?	Yes	20		If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
3.1.2	Are there Storm Water Overflows within the network ?	Yes	20		If the answer is **No**, proceed to Query 3.1.3. If the answer is **Yes**, Proceed to Query 3.3
3.1.3	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	No	0		If the answer is **No**, proceed to Query 3.1.4.
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	No	0		If the answer is **No**, does all wastewater enter a wastewater treatment plant (Insert summary details in the AER)? If **Yes**, Proceed to Query 3.6
3.2	If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?	>80%	0		Select N/A if answer to Query 3.1.1 is **No**. If not all trad effleunts are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions.	Yes	0		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is **Unknown** or **No**, consider issuing a direction to the relevant Licencee. If the answer is **Yes**, no further action is needed.
3.2.2	If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)	0 - 10%	0		Select **N/A** if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?	75 - 100%	10		If the answer is **No**, consider a review of each discharg within the sewer network complete and Query 3.11. If the answer is **Yes**, proceed to Query 3. 6
3.4	Have samples from any Secondary Discharges within the system been analysed ?	No	30		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is **No**, consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is **Yes**, proceed to Query
3.5	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	11 - 20%	20		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduc this percentage.
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	No	20		Select N/A if answer to Query 3.1.4 is NO. If the answe is **No**, consider undertaking ground water risk analysis and complete Query 3.12 If the answer is Yes, proceed to Query 3.6
3.6.1	If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.2	If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.3	In relation to Query 3.6.1, is the aquifer used as a source for Public, Private or Group Water Supply Schemes?	No	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.7	Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?	Yes	0		If the answer is **No**, consider assessing the risk categor of the receiving waters. If the answer is **Yes**, proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	10 - 50%	40		Select N/A if answer to Query 3.7 is **No** or if there are n SWOs in system. **(Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details**
3.9	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	Yes	0		Select N/A if answer to Query 3.7 is NO or if there are no SWOs in system. If the answer to Query 3.9 is **No**, consider further examination of the environmental mode
	Total Risk Assessment Score (RAS)		180		
3.10	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?	No	10		If the answer is **No** assess the need and benefit of undertaking CCTV Survey. If **Yes** Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	N/A	0		If no CCTV has been undertaken, select "N/A" response
4.2	What was this CCTV Survey Information Used for?	N/A	10		Select N/A if answer to Query 4.1 is NO.
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	No	5		If no CCTV has been undertaken, select "No" response. If the answer is **No** assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is **Yes** proceed to Q
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	No	5		If the answer is **No**, enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is **Yes** proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	unknown	30		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	unknown	25		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	unknown	10		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	unknown	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	unknown	5		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%			**75**		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automitically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	N/A	35		Select N/A if answer to Query 4.4 is **No**. If the answer is **No**, Proceed to Query 4.6 If the answer is **Yes**, what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	Have the causes of the Structural Deficiencies (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	No	10		If the answer is **No**, consider further examination of the sewer network, the structural loading conditions, gradients and possible H_2S Formation. If Yes completed Query 4.7
		Total Risk Assessment Score (RAS)	150		

4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	Are complaints of an environmental nature recorded and held in a central database?	Yes	0		Consider setting up Central Database for Complaints
5.2	Is there an emergency response procedure in place?	No	20		Consider setting up target response times for dealing with Complaints
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	More than 5 times/yr	20		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?	Twice/yr	8		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?	More than 5 times/yr	20		Select the highest number of events in any 12 month period.
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	More than 5 times/yr	20		Select the highest number of events in any 12 month period.
5.7	What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?	More than 5 times/yr	20		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	unknown	20		Select the highest number of events per km of sewer network in any 12 month period.
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	Once/yr	4		Select the highest number of events in any 12 month period.
	Total Risk Assessment Score (RAS)		132		
5.11	Prepare Up Dated Operational and Maintenance Plan				

Section 6.1 Summary of Risk Assessment Scores				
Element	Risk Assessment Score	Risk Category	% Risk Score	Maximum Risk Score
Section 2.1 Hydraulic Risk Assessment	130	High Risk	87%	150
Section 3.1 Environmental Risk Assessment	180	Low Risk	36%	500
Section 4.1 Structural Risk Assessment	150	High Risk	100%	150
Section 5.1 O&M Risk Assessment	132	Medium Risk	66%	200
Total RAS for Network	592	High Risk	59%	1000

If the total RAS is greater than 750, or if any of the individual RASs are greater than 75% of the Maximum Available Score, the Risk category for the Network is graded "High Risk"

Appendix 6.6 (b) – Sewer Integrity Tool Output: 9C Catchment

Section 2.1 Hydraulic Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review) ?	Yes	0		If the answer is **No** assess the need and cost benefit of developing a computer model or engineering design assessment of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Queries 2.1.1 to 2.1.4 inclusive
2.1.1	If Answer to Query 2.1 is Yes, what % of the Network is covered by the hydraulic assessment ?	80%	5		The % coverage of the Network by the Hydraulic Assessment can be estimated by the area assessed against the area served by the Network. ENTER "N/A" IF COMPUTER MODEL or DESIGN DOES NOT EXIST. DO NOT LEAVE BLANK OR ENTER "0".
2.1.2	How many years has it been since the completion of the hydraulic assessment ?	5 to 10	3		Select N/A response if no design assessment or design exists.
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented ?	Yes	0		Select N/A response if no design assessment or design exists.
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented ?	Never	5		Select N/A response if no hydraulic performance assessment or design exists. For ongoing works select "less than 5".
2.2	Has a Dynamic Computer Model been used to Assess the Hydraulic Performance of the Sewer Network ?	Yes	0		Computer Model means a Hydroworks/Infoworks Model, Micro-Drainage Model or equivalent.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Manhole Location Surveys and the Production of Record Maps" ?	Yes	0		If the answer is **No** assess the need and cost benefit of undertaking a Manhole Survey and complete Query 2.12. If the answer is **Yes** proceed to Query 2.2.1
2.3.1	If yes, how many years has it been since the survey was undertaken or updated?	5 to 10	7		Select N/A if no Manhole Survey has been undertaken. Enter N/A value for Confidence Grade if Prompt Box is "N/A"
2.4	Has a Flow Survey been undertaken in accordance with WRc Documentation "A Guide to Short Term Flow Surveys of Sewer Systems" and "Contract Documents for Short Term Sewer Flows" ?	Yes	0		If the answer is **No** assess the need and cost benefit of undertaking a Flow Monitoring Survey and complete Query 2.12. . If answer is **Yes** Proceed to Query 2.5
2.5	What was this Flow Survey Information Used for ?				
2.5.1	To Determine the extent of Problematic Sewer Catchments	Yes	0		Select N/A if no Flow Survey has been undertaken.
2.5.2	To Verify a Computer or Mathematical Model of the Network	Yes	0		Select N/A if no Flow Survey has been undertaken.
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network ?	Yes	0		If the answer is **No** assess the Future Needs of the Sewer Network and complete Query 2.12. If the answer is **Yes** proceed to Query 2.8
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	3 to 6	7		Flood events in this context means water/sewage backing up from the Network causing flooding of properties or causing disruption of traffic
2.8	Are there deficiencies in performance criteria within the sewer network ?	Yes	20		If the answer is **No**, Proceed to Query 2.10 and complete Query 2.12. If the answer is **Yes** proceed to Query 2.9
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified ?	Yes	0		If the answer is **No**, consider further examination of the hydraulic model (if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.10
2.10	Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory impermeable Areas or extent of surface water contributions	Yes	0		If the answer is **No**, consider further development of the Hydraulic Assessment (or model if available) and complete Query 2.12. If the answer is **Yes** proceed to Query 2.11
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration ?	No	10		If the answer is **No**, consider the need and cost benefit of undertaking an Impermeable Survey for parts of the agglomeration which are under hydraulic pressure and complete Query 2.12. .
	Total Risk Assessment Score (RAS)		57		
2.12	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
2.13	In the AER provide Summary of Proposed Works or Direction to be taken to improve hydraulic efficiency				

Section 3.1 Environmental Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
3.1	What Environmental or Discharge Quality Data is available with regard to the sewer network ?	electronic or paper records exist but are > 10 years old.	0		Select N/A if no discharges, secondary discharges or overflows from network; if discharges do exist complete Query 3.12
3.1.1	Do trade effluents discharge to the sewer network?	Yes	20		If the answer is **No**, proceed to Query 3.1.2. If the answer is **Yes**, Proceed to Query 3.2
3.1.2	Are there Storm Water Overflows within the network ?	No	0		If the answer is **No**, proceed to Query 3.1.3. If the answer is **Yes**, Proceed to Query 3.3
3.1.3	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Stations)?	No	0		If the answer is **No**, proceed to Query 3.1.4.
3.1.4	Is there any evidence that exfiltration is occurring from the network ?	No	0		If the answer is **No**, does all wastewater enter a wastewater treatment plant (insert summary details in the AER)? If **Yes**, Proceed to Query 3.6
3.2	If Answer to Query 3.1.1 is "Yes", what % of trade effluents have a licence to Discharge to the Public Sewer ?	>90%	0		Select N/A if answer to Query 3.1.1 is **No**. If not all trade effleunts are licenced, Local Authority should consider issuing and controlling such discharges under the appropriate Legislation.
3.2.1	Are all licenced trade Discharges compliant with their relevant licence and associated conditions	Yes	0		Answer N/A if none of the trade effluents are licenced. Answer No if this information is unknown. If the answer is **Unknown** or **No**, consider issuing a direction to the relevant Licencee. If the answer is **Yes**, no further action is needed.
3.2.2	If Answer to Query 3.2.1 is "No", state what % of Trade Discharges are NOT compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)	0 - 10%	0		Select **N/A** if answer to Query 3.2.1 is Yes. If N/A is selected as answer to Query 3.2.2
3.3	In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?	75 - 100%	10		If the answer is **No**, consider a review of each discharge within the sewer network complete and Query 3.11. If the answer is **Yes**, proceed to Query 3. 6
3.4	Have samples from any Secondary Discharges within the system been analysed ?	N/A	0		Select N/A if no secondary discharges in system. If the answer to Query 3.4 is **No**, consider examining the quality of each secondary discharge within the sewer network complete Query 3.11. If the answer is **Yes**, proceed to Query
3.5	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters ?	None	0		If the answer is greater than 50% then detail, in the AER, the Improvement Programme necessary to reduce this percentage.
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken ?	No	20		Select N/A if answer to Query 3.1.4 is NO. If the answer is **No**, consider undertaking ground water risk analysis and complete Query 3.12 If the answer is Yes, proceed to Query 3.6
3.6.1	If Answer to Query 3.6 is "Yes", have any groundwater aquifers been identified in the area of the Network and/or Discharge Points?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.2	If Answer to Query 3.6.1 is "Yes", state the classification of groundwater aquifer identified in the area?	N/A	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.6.3	In relation to Query 3.6.1, is the aquifer used as a source for Public, Private, or Group Water Supply Schemes?	No	0		Select **N/A** if no risk analysis of groundwater contamination has been undertaken.
3.7	Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?	Yes	0		If the answer is **No**, consider assessing the risk category of the receiving waters. If the answer is **Yes**, proceed to Query 3.8 and provide summary details of the assessment in the AER.
3.8	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	N/A	0		Select N/A if answer to Query 3.7 is **No** or if there are no SWOs in system. **(Risk Score is locked at 0 if no SWOs in system is stated in Agglomeration Details)**
3.9	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified ?	Yes	0		Select N/A if answer to Query 3.7 is NO or if there are no SWOs in system. If the answer to Query 3.9 is **No**, consider further examination of the environmental model If the answer is Yes, proceed to Query 3.10
	Total Risk Assessment Score (RAS)		50		
3.10	Prepare Assessment of Needs & Sewer Upgrade Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents			
3.11	Provide Summary Details (in the AER) of records upstream and downstream of licenced discharges with regard to Environmental Performance of the network. These details can be included as part of the AER submitted for the agglomeration.				

Section 4.1 Structural Risk Assessment					
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**	**Comment or Action to be Taken**
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Condition Inspections" and "Manual of Sewer Condition Classification" ?	Yes	0		If the answer is **No** assess the need and benefit of undertaking CCTV Survey. If **Yes** Proceed to Query 4.2
4.1.1	How many years has it been since the completion of the CCTV Survey?	less than 5	0		If no CCTV has been undertaken, select "N/A" response
4.2	What was this CCTV Survey Information Used for?	Determine full extent of Sewer Rehab Works to be undertaken within Network	0		Select N/A if answer to Query 4.1 is NO.
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	Yes	0		If no CCTV has been undertaken, select "No" response. If the answer is **No** assess the need and benefit of undertaking an assessment of the Structural Condition of the Sewer Network. If the answer is **Yes** proceed to Q
4.4	Have Performance Criteria been developed to determine the short, medium or long term structural condition of the sewer network ?	Yes	0		If the answer is **No**, enter "unknown" in response to Queries 4.4.1 to 4.4.5; consider assessing the Future Needs of the Sewer Network. If the answer is **Yes** proceed to Queries 4
4.4.1	What % of the Total Sewer Length contains Collapsed or Imminent Collapse of Sewers (Grade 5)	4%	8	0	Insert Percentage of Overall Network Length; If a sewer length contains a Grade 5 collapse, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.2	What % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	14%	17		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 4 condition, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.3	What % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	2%	1		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 3 deterioration, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.4	What % of Total Sewer Length contains sewers with Minimal Collapse (Grade 2)	4%	5		Insert Percentage of Overall Network Length; If a sewer length contains a Grade 2 feature, include the total length of that sewer in calcuating the %. If information is not available type "Unknown" into Prompt Box
4.4.5	What % of Total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	76%	0		Insert Percentage of Overall Network Length. If information is not available type "Unknown" into Prompt Box
If all % lengths are known, Check Total Length = 100%		**100%**	**30**		If answers to Queries 4.4.1, 4.4.2 or 4.4.3 are above a set level, the RAS for Query 4 is automitically set at the maximum of 140.
4.5	What % of the deficiencies, as detailed in items 4.4.1, 4.4.2 and 4.4.3, have been rectified ?	0 - 10%	35		Select N/A if answer to Query 4.4 is **No**. If the answer is **No**, Proceed to Query 4.6 If the answer is **Yes**, what monitoring is in place to ensure continued acceptance of structural condition? Proceed to Query 4.7
4.6	Have the causes of the Structural Deficiencies, (Grades 3, 4 and 5) been identified or is there a Preventative Maintenance Programme in place?	Yes	0		If the answer is **No**, consider further examination of the sewer network, the structural loading conditions, gradients and possible H_2S Formation. If Yes completed Query 4.7
		Total Risk Assessment Score (RAS)	**65**		

4.7	Prepare Assessment of Needs & Sewer Rehabilitation Implementation Plan	In the AER Attach Assessment of Needs and Rehabilitation Implementation Plan as separate documents

Section 5.1 O&M Risk Assessment					
Query	Description	Prompt	Risk Score	Short Commentary by the Local Authority	Comment or Action to be Taken
5.1	Are complaints of an environmental nature recorded and held in a central database?	Yes	0		Consider setting up Central Database for Complaints
5.2	Is there an emergency response procedure in place?	No	20		Consider setting up target response times for dealing with Complaints
5.3	What has been the highest frequency of flooding in the network due to hydraulic inadequacy, over the past 5 years?	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.4	What has been the highest frequency of flooding in the network due to operational causes over the past 5 years?	Once/yr	4		Refers to flooding from the Network only, not natural flooding from rivers/streams/high tides. Select the highest number of events in any 12 month period.
5.5	What has been the highest frequency of surcharging of critical sewers in the network, over the past 5 years?	More than 5 times/yr	20		Select the highest number of events in any 12 month period.
5.6	What has been the highest frequency of reportable incidents in the network, over the past 5 years?	More than 5 times/yr	20		Select the highest number of events in any 12 month period.
5.7	What has been the highest frequency of reportable incidents due to discharges, for whatever reason, from Pumping Station Emergency Overflows in the network, over the past 5 years?	More than 5 times/yr	20		Select the highest number of events at any given Pumping Station in any 12 month period.
5.8	What has been the highest frequency of blockages in sewers in the network over the past 5 years?	unknown	20		Select the highest number of events per km of sewer network in any 12 month period.
5.9	What has been the highest frequency of collapses in sewers in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
5.10	What has been the highest frequency of bursts in rising mains in the network over the past 5 years?	None	0		Select the highest number of events in any 12 month period.
	Total Risk Assessment Score (RAS)		108		
5.11	Prepare Up Dated Operational and Maintenance Plan				

Section 6.1 Summary of Risk Assessment Scores				
Element	Risk Assessment Score	Risk Category	% Risk Score	Maximum Risk Score
Section 2.1 Hydraulic Risk Assessment	57	Medium Risk	38%	150
Section 3.1 Environmental Risk Assessment	50	Low Risk	10%	500
Section 4.1 Structural Risk Assessment	65.29166667	Medium Risk	44%	150
Section 5.1 O&M Risk Assessment	108	Medium Risk	54%	200
Total RAS for Network	280.2916667	Low Risk	28%	1000

If the total RAS is greater than 750, or if any of the Individual RASs are greater than 75% of the Maximum Available Score, the Risk category for the Network is graded "High Risk"

PART 4

Dun Laoghaire Rathdown Functional Area

Annual Environmental Report 2014

Agglomeration Name:	**Ringsend**
Licence Register No.	**D0034-01**

PART 4

Dun Laoghaire Rathdown Functional Area

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Section 1.Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for Discharge Licence D0034-01, in accordance with the requirements of the wastewater discharge licence for the part of the Ringsend agglomeration within the boundary of Dun Laoghaire Rathdown.

Specified assessments are included as an appendix to the AER as follows:

- Storm water overflow assessment

The Greater Dublin Area Agglomeration includes all the geographical area of Dublin City Council and parts of Fingal County Council functional Area, South Dublin County Council functional area and Dun Laoghaire Rathdown County Council area. This AER relates to area with the agglomeration licensed under D0034-01 that is within the boundaries of Dun Laoghaire for the period 1st January 2014 to 31st December 2014. The catchment is largely combined and incorporates 9 pump stations and 28 CSO's. As Dublin City Council operates Ringsend Treatment Works on behalf of Irish Water, this AER relates to the drainage network, storm water overflows and pump stations. The majority of incidents in the catchments occurred at the West Pier Pump Station overflows and were caused by medium to heavy rain events. The pump station is operating to its design capacity.

There were no major capital or operational changes undertaken in 2014 and none are planned for 2015.

Three operational projects (listed in Appendix 6.3) were undertaken in 2014 and will continue to completion in 2015.

No new operational projects are programmed, as yet, to take place in 2015.

An Annual Statement of Measures is included in Appendix 6.1.

Section 2.Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Not a requirement for this aspect of the Ringsend licence.

2.2 Discharges from the agglomeration

Not a requirement for this aspect of the Ringsend licence.

2.3 Ambient monitoring summary

Not a requirement for this aspect of the Ringsend licence.

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

Not a requirement for this aspect of the Ringsend licence.

2.5 Pollutant Release and Transfer Register (PRTR) - 2014

Not a requirement for this aspect of the Ringsend licence.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

Not a requirement for this aspect of the Ringsend licence.

3.2 Treatment Capacity Report

Not a requirement for this aspect of the Ringsend licence.

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	100
Load collected in the agglomeration that enters treatment plant	100
Load collected in the sewer network but discharged without treatment	0

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment**.**

3.4 Complaints Summary

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table:

Number	**Date & Time**	**Nature of Complaint**	**Cause of Complaint**	**Actions taken to resolve issue**	**Closed (Y/N)**
1	13/11/14	Sewage debris on the beach at Seapoint	Overflow from the short sea overflow at the West Pier Pump Station	The debris was removed by DLR Staff.	Y
1	9/3/14	IW sewer surcharging via private drain.	Sewer in question is need of repair to allow normal flow.	Design for the repair has been carried out and the repair will be carried out in early 2015.	N

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. Non-compliance, Emission, spillage, Emergency Overflow Activation)	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
Emergency Overflow Activation	Operation of both Short Long Sea Overflows at the West Pier Pump Station	Very Heavy Rain	17	None	None	Yes	Yes
Emergency Overflow Activation	Operation of the Long Sea Overflow only at the West Pier Pump Station	Heavy Rain	13	None	None	Yes	Yes

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2014	110 No in total. 30 at the West Pier 80 in the various SWO and CSOs. See Table in Section 4.1 for further details.
Number of Incidents reported to the EPA via EDEN in 2014	6 No. All West Pier Pump Station incidents reported.
Explanation of any discrepancies between the two numbers above	Not all incidents at the West Pier were reported in 2014 until clarification was received about what was to be reported. Also the figure of 110 is a composite of the number of overflows estimated and measured to have occurred.

3.6 Sludge / Other inputs to the WWTP

'Other inputs' to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs

Input type	m3/year	PE/year	% of load to WWTP	Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	0	0	0		
Industrial / Commercial Sludge	0	0	0		
Landfill Leachate (delivered by tanker)	0	0	0		
Landfill Leachate (delivered by sewer network)	0	0	0	N	N
Other (specify)	0	0	0		

Section 4.Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

Table 4.1.1 - SWO Identification and Inspection Summary Report

SWO Identification and Inspection Summary Table A

WWDL Name/Code for the Storm Water Overflow	X co-ord Irish Grid Reference	Y co-ord Irish Grid Reference	Compliance with DoEHLG Criteria	Significance of the overflow (High / Medium / Low)	Included in Schedule A4 of the WWDL	No Times activated in 2014	Total Volume discharged in 2014(m^3)	Total Volume discharged in 2014 (PE)	Estimated/ Measured Data
DLRCC/B5/R/001	317559	230769	See Table below	Low	Yes	1	200	100	Estimated
DLRCC/B5/R/002	316935	230487	See Table below	Low	Yes	1	500	250	Estimated
DLRCC/B5/R/003	319999	230505	See Table below	Low	Yes	1	250	125	Estimated
DLRCC/B5/R/004	319406	229488	See Table below	Low	Yes	2	200	100	Estimated
DLRCC/B5/R/005	316783	230085	SDCC	Low	SDCC	SDCC	SDCC	SDCC	SDCC
DLRCC/B5/R/006	316689	230050	SDCC	Low	SDCC	SDCC	SDCC	SDCC	SDCC
DLRCC/B5/R/007	315556	229632	See Table below	Low	Yes	1	1500	1000	Estimated
DLRCC/B5/R/008	315434	229529	See Table below	Low	Yes	1	0	0	Estimated
DLRCC/B5/R/009	315522	229162	See Table below	Medium	Yes	1	100	50	Estimated
DLRCC/B5/R/010	316969	229568	See Table below	Low	Yes	1	50	25	Estimated
DLRCC/B5/R/011	316987	229386	See Table below	Low	Yes	1	100	50	Estimated

WWDL Name/Code for the Storm Water Overflow	X co-ord Irish Grid Reference	Y co-ord Irish Grid Reference	Compliance with DoEHLG Criteria	Significance of the overflow (High / Medium / Low)	Included in Schedule A4 of the WWDL	No Times activated in 2014	Total Volume discharged in 2014(m^3)	Total Volume discharged in 2014 (PE)	Estimated/ Measured Data
DLRCC/B5/R/012	316984	229359	See Table below	Low	Yes	1	50	25	Estimated
DLRCC/B5/R/013	316940	229706	See Table below	Low	Yes	1	150	75	Measured
DLRCC/B5/R/014	319938	230443	See Table below	Low	Yes	1	50	25	Estimated
DLRCC/B5/R/015	320280	230216	See Table below	Low	Yes	2	400	200	Estimated
DLRCC/B5/R/016	320631	230024	See Table below	Low	Yes	2	400	200	Estimated
DLRCC/B5/R/017	320837	229937	See Table below	Medium	Yes	25	5000	2500	Estimated
DLRCC/B5/R/018	321247	229477	See Table below	Low	Yes	0	0	0	Estimated
DLRCC/B5/R/019	321124	229395	See Table below	Low	Yes	0	0	0	Estimated
DLRCC/B5/R/020	321567	229551	See Table below	Low	Yes	0	0	0	Estimated
DLRCC/B5/R/021	319142	227929	See Table below	Low	Yes	4	400	200	Estimated
DLRCC/B5/R/022	320736	228221	See Table below	Low	Yes	0	0	0	Estimated
DLRCC/B5/R/023	321681	229019	See Table below	Low	Yes	1	100	50	Estimated
DLRCC/B5/R/024	321681	229019	See Table below	Low	Yes	1	100	50	Estimated
DLRCC/B5/R/025	321806	229409	See Table below	Low	Yes	0	0	0	Measured
DLRCC/B5/R/026	322033	228395	See Table below	Low	Yes	3	300	150	Estimated
DLRCC/B5/R/027	322573	228364	See Table below	Low	Yes	1	150	75	Measured

WWDL Name/Code for the Storm Water Overflow	X co-ord Irish Grid Reference	Y co-ord Irish Grid Reference	Compliance with DoEHLG Criteria	Significance of the overflow (High / Medium / Low)	Included in Schedule A4 of the WWDL	No Times activated in 2014	Total Volume discharged in 2014(m^3)	Total Volume discharged in 2014 (PE)	Estimated/ Measured Data
DLRCC/B5/R/028	324953	228312	See Table below	Low	No	28	100000	50000	Measured

SWO Identification and Inspection Summary Table B

Code	Criteria Q1	Criteria Q2	Criteria Q3	Criteria Q4	Formula A Compliance
DLRCC/B5/R/001	No	No	No	No	Pre 1990
DLRCC/B5/R/002	No	No	No	No	Pre 1990
DLRCC/B5/R/003	No	No	No	No	Pre 1990
DLRCC/B5/R/004	No	No	No	No	Pre 1990
DLRCC/B5/R/005	No	No	No	No	Pre 1990
DLRCC/B5/R/006	SDCC	SDCC	SDCC	SDCC	Pre 1990
DLRCC/B5/R/007	SDCC	SDCC	SDCC	SDCC	Pre 1990
DLRCC/B5/R/008	No	No	No	No	Pre 1990
DLRCC/B5/R/009	Yes	Yes	No	No	Pre 1990
DLRCC/B5/R/010	No	No	No	No	Pre 1990
DLRCC/B5/R/011	No	No	No	No	Pre 1990
DLRCC/B5/R/012	No	No	No	No	Pre 1990
DLRCC/B5/R/013	No	No	No	No	Pre 1990
DLRCC/B5/R/014	No	No	No	No	Pre 1990
DLRCC/B5/R/015	No	No	No	No	Pre 1990
DLRCC/B5/R/016	No	No	No	No	Pre 1990
DLRCC/B5/R/017	No	Yes	No	No	Pre 1990
DLRCC/B5/R/018	No	No	No	No	Pre 1990
DLRCC/B5/R/019	No	No	No	No	Pre 1990
DLRCC/B5/R/020	No	No	No	No	Pre 1990
DLRCC/B5/R/021	No	No	No	No	Pre 1990
DLRCC/B5/R/022	No	No	No	No	Pre 1990
DLRCC/B5/R/023	No	No	No	No	Pre 1990
DLRCC/B5/R/024	No	No	No	No	Pre 1990
DLRCC/B5/R/025	No	No	No	No	Pre 1990
DLRCC/B5/R/026	No	No	No	No	Pre 1990
DLRCC/B5/R/027	No	No	No	No	Pre 1990
DLRCC/B5/R/028	No	No	No	No	Unassessed

The information above is based on a mixture of monitoring and experience operations staff and as such is a best estimate of current conditions.

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m^3/yr)?	110000
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	55250
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2014?	<1%
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	No
The SWO assessment includes the requirements of Schedule A3 & C3	No discharges to be discontinued under A3.
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	EPA will be informed of the addition of a new overflow at Windsor Terrace DLRCC/B5/R/028 via Technical Amendment.

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

The Improvement Programme is included in Appendix 6.3.

The Improvement Programme Report included in Appendix 6.3 addresses the **Specified Improvement Programmes** as detailed in Schedules A3 and C of the WWDL.

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
No specific projects required for the part of the agglomeration within DLR							

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
Dun Laoghaire Sewerage Scheme Phase 1	Contract 2a - Attenuation Tank	Removal of deficiencies in capacity	95	May 2015	
Dun Laoghaire Sewerage Scheme Phase 1	Contract 2c - Burton Hall Avenue Foul Sewer Upgrade	Removal of deficiencies in capacity	95	May 2015	
Dun Laoghaire Sewerage Scheme	Phase 1 Contract 2e - Moreen Environs Foul Sewer Upgrade, Phase 4	Removal of deficiencies in capacity	0		At planning stage.

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
Dun Laoghaire Sewerage Scheme Phase 1	Contract 2 - Network Upgrade Sandyford/Still organ Improvement-Tunnel	Removal of deficiencies in capacity	0		At planning stage.
Dun Laoghaire Sewerage Scheme Phase 1	2D Foul Sewer Upgrade as part of Leopardstown Roundabout Upgrade	Removal of deficiencies in capacity	0		At planning stage.
Dun Laoghaire Sewerage Scheme Phase 1	Contract 4 - Surface Water Separation	Removal of deficiencies in capacity			At planning stage.
Condition 5.2	Sewer Integrity Tool Used	Sewer Integrity Tool (Condition 5.2).	100		Completed.
Condition 4 & 5.2	SWO assessment	SWO assessment (Condition 4 & 5.2).	100		Based on Measured and estimated spill numbers and local knowledge of Drainage Staff.

Improvements identified above also include measures taken to prevent environmental damage anticipated following events or accidents/incidents associated with discharges or overflows from the waste water works and as such are considered to fulfil any Statement of Measures requirements. Refer to Appendix 6.1 which summarises the Annual statement of Measures.

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

Sewer Integrity Tool for West Pier East Catchment

DLRCC, on behalf of IW, has taken the Sewer Integrity Tool (SIT) format developed by Dublin City Council in the 2012 AER for the Dublin City Centre catchment and applied it to the West Pier East Catchment. The spreadsheet is in Appendix 6.4.

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	**Risk Assessment Rating (High, Medium, Low)**	**Risk Assessment Score**	**Comment**
Hydraulic Risk Assessment Score	Medium Risk	67	
Environmental Risk Assessment Score	Low Risk	158	
Structural Risk Assessment Score	High Risk	140	High score here because the condition of the network is not known. So high risk assumed.
Operation & Maintenance Risk Assessment Score	Low Risk	74	
Overall Risk Score for the agglomeration	Low Risk	439	

Section 5.Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in 2014 AER or outstanding from previous AER	Included in 2014 AER	Reference to relevant section of AER
Priority Substances Assessment	No	No	
Drinking Water Abstraction Point Risk Assessment	No	No	
Habitats Impact Assessment	No	No	
Shellfish Impact Assessment	No	No	
Pearl Mussel Report	No	No	
Toxicity/Leachate Management	No	No	
Toxicity of Final Effluent Report	Yes	No	

5.1 Priority Substances Assessment

Not a requirement for this aspect of the Ringsend licence.

5.2 Drinking Water Abstraction Point Risk Assessment.

Not a requirement for this aspect of the Ringsend licence.

5.3 Shellfish Impact Assessment Report.

Not a requirement for this aspect of the Ringsend licence.

5.4 Toxicity / Leachate Management

Not a requirement for this aspect of the Ringsend licence.

5.5 Toxicity of the Final Effluent Report

Not a requirement for this aspect of the Ringsend licence.

5.6 Pearl Mussel Measures Report

Not a requirement for this aspect of the Ringsend licence.

5.7 Habitats Impact Assessment Report

Not a requirement for this aspect of the Ringsend licence.

Section 6. Appendix

Appendix 6.1 Annual Statement of Measures

Appendix 6.2 Storm Water Overflow Identification and Inspection Report

Appendix 6.3 Programme of Improvements

Appendix 6.4 Sewer Integrity Tool Output

Appendix 6.1

Annual Statement of Measures

The potential sources of environmental damage are discharges from the surface water overflows and the emergency overflows from the pump stations in the network. Pump stations are visited every day by Drainage inspectors who are also notified by text message when an emergency overflow is activated and respond as a soon as is practicable to remove the cause of the overflow.

An assessment of the surface water overflows in the agglomeration that are in DLR is included in the AER (see Section 4.1 and Appendix 6.2).

No additional measures have been taken in 2014 in relation to prevention of environmental damage. The need for measures to prevent environmental damage is reviewed on an annual basis.

Appendix 6.2

Storm Water Overflow Identification and Inspection Report

A very comprehensive stormwater overflow identification report was submitted with the AER for 2011. Works to the SWOs carried out were listed in the subsequent AERs. In 2014, four of the CSOs were monitored, namely Maretimo Gardens, DLRCC/B5/R25, The Beeches Monkstown Valley DLRCC/B5/R27, Millmount Grove DLRCC/B5/R/013 and the new overflow at Windsor Terrace DLRCC/B5/R28. Works were carried out at the CSO at Maretimo Gardens in 2013 which have resulted in a dramatic reduction in spills. In fact, there were no spills in 2014. Based on the observations of very experienced staff members and some monitoring, only 2 of the overflows do not meet all the DoEHLG Guidance criteria, Landscape Rd DLRCC/B5/R/009 and Seafort Parade DLRCC/B5/R/017. Both CSOs operate due to insufficient capacity in the network downstream of their locations. Until a drainage study is carried out very little can be done to limit the number of spills or indeed their impacts.

Appendix 6.3

Programme of Improvements

A. Continue in Construction

Waste Water

Dun Laoghaire Sewerage Scheme Phase 1	Contract 4 - Surface Water Separation	A. Continue in Construction
Dun Laoghaire Sewerage Scheme Phase 1	Contract 2a - Attenuation Tank	A. Continue in Construction
Dun Laoghaire Sewerage Scheme Phase 1	Contract 2c - Burton Hall Avenue Foul Sewer Upgrade	A. Continue in Construction

B. Review Scope and Commence Construction

No Schemes

C. Continue Planning and Business Case Review

Waste Water

Dun Laoghaire Sewerage Scheme	Phase 1 Contract 2e - Moreen Environs Foul Sewer Upgrade, Phase 4	C. Continue Planning and Business Case Review
Dun Laoghaire Sewerage Scheme Phase 1	Contract 2 - Network Upgrade Sandyford/Stillorgan Improvement-Tunnel	C. Continue Planning and Business Case Review
Dun Laoghaire Sewerage Scheme Phase 1	2D Foul Sewer Upgrade as part of Leopardstown Roundabout Upgrade	C. Continue Planning and Business Case Review

Appendix 6.4

Sewer Integrity Tool Output

Ringsend Catchment - Hydraulic Risk Assessment				
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**
2.1	Has a Hydraulic Performance Assessment been undertaken for the Sewer Network (e.g., Computer Model or other Engineering Design or Design Review)	Yes	0	Done at strategic level in GDSDS
2.1.1	What % of the Network is covered by the hydraulic assessment?	100%	0	100% of the area modelled. Only 225mm and bigger pipes modelled
2.1.2	How many years has it been since the completion of the hydraulic assessment?	More than 10	5	GDSDS
2.1.3	Are the outcomes of the Hydraulic Assessment being implemented?	YES	0	Some outcomes being implemented
2.1.4	How many years has it been since the outcomes of the hydraulic assessment have been implemented?	More than 10	5	
2.2	Has a Computer Model been used to Assess the Hydraulic Performance of the Sewer Network?	YES	0	The Dun Laoghaire Sewerage Scheme Phase II will use the existing model and further develop it to assess the hydraulic performance of the sewer network.
2.3	Has a Manhole Survey been undertaken in accordance with WRc Documentation “Model Contract Document for Manhole Location Surveys and the Production of Record Maps”?	YES	0	
2.3.1	How many years has it been since the survey was undertaken or updated?	5 to 10	7	Manhole surveys are ongoing
2.4	Has a Flow Survey been undertaken in accordance with WRc Documentation “A Guide to Short Term Flow Surveys Systems” and “Contract Documents for Short Term Sewer Flows”?	YES	0	Under the GDSDS

2.5	What was this Flow Survey Information Used for?			
2.5.1	To Determine the extent of Problematic Sewer Catchments	YES	0	
2.5.2	To Verify a Computer or Mathematical Model of the Network	YES	0	
2.6	Have Performance Criteria been developed to determine the short, medium or long term capacity of the sewer network?	No	10	
2.7	How many flood events resulting from surcharge in the network have occurred in the past 3 years?	MORE THAN 6	10	
2.8	Are there deficiencies within the sewer network?	YES	20	
2.9	Have the causes of these deficiencies in the Performance Criteria been identified and rectified?	NO	10	
2.10	Can the Hydraulic Assessment (defined in Query 2.1 above) be used to determine the benefit of reducing the contributory impermeable Areas or extent of surface water contributions	YES	0	
2.11	Has an Impermeable Area Survey been carried out for the agglomeration or parts of the agglomeration?	YES	0	
	Total Risk Assessment Score		67	

Ringsend Catchment - Environmental Risk Assessment				
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**
3.1	What Environmental or Discharge Quality Data is available with regard to the sewer network?	Electronic database	0	Bathing water samples are taken at Seapoint Blackrock and the Forty Foot.
3.1.1	Do trade effluents discharge to the sewer network?	YES	20	FOG only in this catchment
3.1.2	Are there Storm Water Overflows within the network?	YES	20	Combined sewer overflows
3.1.3	Are there Secondary Discharges within the network (excluding Emergency Overflows at Pump Station)?	NO	0	
3.1.4	Is there any evidence that exfiltration is occurring from the network?	YES	20	GDSDS made estimates.
3.2	What % of known trade effluents have a licence to discharge to the Public Sewer?	61%-70%	8	FOG and ordinary trade
3.2.1	Are all licensed trade Discharges compliant with their relevant licence and associated conditions	NO	10	
3.2.2	What % trade effluent licences are not compliant with their relevant licence and associated conditions (where that non-compliance led to enforcement action)	5%	5	FOG

3.3	In accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows", what % of storm water overflows in the system have been classified for their significance?	100	0	Only one CSO in the catchment at Windsor Terrace. Only operates under heavy rain.
3.4	Have samples from any Secondary Discharges within the system been analysed?	N/A	0	No Secondary discharges in the catchment
3.5	What percentage of discharges from the system are known to cause environmental pollution of the receiving waters?	100%	20	All discharges except the primary one cause temporary environmental pollution when they discharge – however it is not significant
3.6	In relation to possible exfiltration has a risk analysis of ground water contamination or pollution been undertaken?	No	20	Some basic analysis was done with the GDSDS
3.6.1	Have any groundwater aquifers been identified in the area of the Network and or Discharge Points	NA	0	
3.6.2	State the classification of groundwater aquifer identified in the area	NA	0	
3.6.3	In relation to Query 3.6.1is the aquifer used as a source for Public, Private or Group Water Supply Schemes	NA	0	
3.7	Has an Impact Assessment of each Storm Water Overflow been undertaken in accordance with the DoEHLG paper "Procedures & Criteria in relation to Storm Water Overflows" including setting performance criteria?	No	40	
3.8	What percentage of storm water overflows comply with the performance criteria referred to in Query 3.7?	N/A	0	Performance criteria not set
3.9	Have the causes of these Capacity Deficiencies (storm water overflows & Secondary Discharges) been identified?	No	15	The Dun Laoghaire Sewerage Scheme Phase II will assess this
	Total Risk Assessment Score		168	

Ringsend Catchment - Structural Risk Assessment				
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**
4.1	Has a CCTV Survey been undertaken in accordance with WRc Documentation "Model Contract Document for Sewer Conditions Inspections" and "Manual of Sewer Condition Classification"?	YES	0	Strategic level completed. Detailed surveys to be carried out under The Dun Laoghaire Sewerage Scheme Phase II
4.1.1	How many years has it been since the completion of the CCTV Survey	More than 10	10	CCTVs are carried out for operational purposes on an as needed basis
4.2	What was this CCTV Survey Information Used for?	Minimal survey tom determine the extent of problem sewers	5	Building the GDSDS model. Investigations for removal of blockages, flood relief schemes
4.3	Has the CCTV Survey been used to Assess the Structural Condition of the Sewer Network or targeted sections of the Sewer Network?	YES	0	
4.4	Have Performance criteria been developed to determine the short, medium or long term structural condition of the sewer network?	NO	5	
4.4.1	What known % of the Sewer Length contains Collapsed or sewers in imminent danger of collapse (grade 5)	UNKNOWN	30	
4.4.2	What known % of Total Sewer Length contains Sewers Likely to Collapse (Grade 4)	UNKNOWN	25	
4.4.3	What known % of Total Sewer Length contains sewers with Further Possible Deterioration (Grade 3)	UNKNOWN	10	
4.4.4	What known % of total Sewer Length contains sewers with Minimal Collapse (Grade 2)	UNKNOWN	5	
4.4.5	What known % total Sewer Length contains sewers of Acceptable Structural Condition (Grade 1)	UNKNOWN	5	
	If all % lengths are known, Check Total Length = 100%		75	
4.5	What % of the deficiencies, as detailed in Items 4.4.1, 4.4.2 and 4.4.3, have been rectified?	UNKNOWN	35	

4.6	Have the causes of the Structural Deficiencies (Grade 3,4 and 5) been identified	YES	10	
	Total Risk Assessment Score		140	

Ringsend Catchment - O&M Risk Assessment				
Query	**Description**	**Prompt**	**Risk Score**	**Short Commentary by the Local Authority**
5.1	Are complaints of an environmental nature recorded and held in a central database?	YES	0	Uploaded to EDEN as required
5.2	Is there an emergency response procedure in place?	YES	0	
5.3	What has been the highest number of flooding events in the network due to hydraulic inadequacy, over the past 5 years?	More than 5 times/year	20	
5.4	What has been the highest number of flooding events in the network in any one year due to operational causes over the past 5 years	Once/yr	4	
5.5	What has been the highest number of known surcharging of sewers causing flooding to property or causing environmental pollution in the last 5 years	More than 5 times/year	20	
5.6	What has been the highest frequency of reportable incidents in the network over the past 5 years	Once /yr	2	
5.7	What has been the highest number of reportable incidents in any one year due to discharges for whatever reason from Pumping Station emergency Overflows in the network, over the past 5 years	More than 5 times/year	20	West Pier PS
5.8	What has been the number of blockages in sewers in the network over the last year	0 - 0.01/km/yr	4	Estimate
5.9	What has been the highest number of collapses in sewers in the network over the past 5 years?	Once /yr	4	
5.10	What has been the highest number of bursts in rising mains in the network over the past 5 years	NONE	0	
	Total Risk Assessment Score (RAS)		74	

Section 6.1 Summary of Risk Assessment Scores

Element	RAS	Risk Category	%Risk Score	Max Risk Score
Section 2.1 Hydraulic Risk Assessment	67	Medium Risk	45	150
Section 3.1 Environmental Risk Assessment	158	Low Risk	32	500
Section 4.1 Structural Risk Assessment	140	High Risk	93	150
Section 5.1)&M Risk Assessment	74	Low Risk	37	200
Total RAS for Network	439	Low Risk	44	1000

If the total RAS is greater than 750, or if any of the individual RASs are greater than 75% of the Maximum Available Score, the risk category for the Network is graded “High Risk”.

PART 5

Meath County Functional Area

(to follow)

PART 6

Certification and Sign Off

Part 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

Does the AER include an executive summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?	Yes
Irish Water will be seeking a review of the license and are commencing preparing studies in this regard. There is an additional SWO identified in the DLR sub-catchment. IW are seeking that the Doldrum bay discharge is to be considered as a secondary discharge within the Ringsend agglomeration discharging to coastal waters (not sensitive waters) with a greater than 70% reduction in BOD, IW will prepare and present a case to the EPA in this regard as part of a license review.	
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	No
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements *(insert lines as required)*	
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	No
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	N/A
List outstanding reports *(insert lines as required)*	N/A

Declaration by Irish Water

The AER contains the following;

- Introduction and background to 2014 AER
- Monitoring reports summary.
- Operational reports summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports.
- Certification and Sign Off
- Appendices

I certify that to the best of my knowledge the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed: _____ Date: 02/03/2015

Gerry Galvin

Chief Technical Advisor