

## **Appendix 1.1**

### **Timetables for Buses to Newcastle Timetables for Buses to Rathcoole Timetables for Buses to Kildare via Celbridge**

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**BUS DRIVERS**

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Operative Date: 5th November 2006

## 68 From ASTON QUAY

An Lár (Cé Aston), Dr. na hInse, Inse Chór, Br. Náis, Ath na Coille, Cluain Dolcáin, Caisleán Nua

Journey Time - 75 mins approx

	MONDAY TO FRIDAY			SATURDAY			SUNDAY		
◆ ASTON QUAY	0640*	1400	1825	0640*	1400	1825	0930a	1525a	2000*a
↓ 10 mins.	0750*	1420	1910a	0750*	1420	1910a	1110a	1625a	2130*a
◆ Parkgate Street	0910	1500	1955a	0910	1500	1955a	1250a	1730a	2325a
↓ 15 mins.	1015	1525	2120*a	1015	1525	2120*a	1355a	1845*a	
◆ Tyrconnell Road (Black Lion)	1125	1630	2210a	1125	1630	2210a			
↓ 10 mins.	1225	1700	2330a	1225	1700	2330a			
◆ Naas Road (John Sisk and Sons)	1310	1740		1310	1740				
↓ 15 mins.									
◆ Clondalkin Village									
↓ 10 mins.									
◆ Nangor Castle									
↓ 15 mins.									
◆ NEWCASTLE / GREENOGUE BUSINESS PARK									

Operative Date: 5th November 2006

## 68 From NEWCASTLE / GREENOGUE BUSINESS PARK

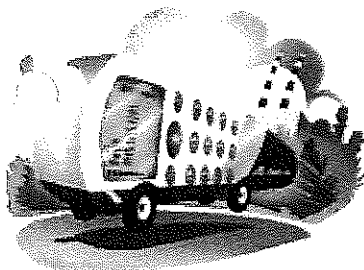
Caisleán Nua, Cluain Dolcáin, Áth na Coille, Br. Náis, Inse Chór, Dr. na hInse, An Lár (Cé Aston).

Journey Time - 75 mins approx

	MONDAY TO FRIDAY			SATURDAY			SUNDAY		
◆ NEWCASTLE / GREENOGUE BUSINESS PARK	0635n	1420	1940	0635n	1420	1940	1020a	1620a	2100a
↓ 15 mins.	0750	1515	2025a	0750	1515	2025a	1200a	1720a	2230a
◆ Nangor Castle	0915	1540	2100a	0915	1540	2100a	1345a	1825a	2350ac
↓ 15 mins.	1020	1620*	2225a	1020	1620*	2225a	1450a	1945a	
◆ Clondalkin Village	1120	1655*	2315a	1120	1655*	2315a			
↓ 15 mins.	1240	1745	0010ac	1240	1745	0010ac			
◆ Naas Road (John Sisk and Sons)	1305	1815		1305	1815				
↓ 10 mins.	1335	1900		1335	1900				

a - To/ From Newcastle only  
n - Via Newlands Cross  
\* - Via Baldonnel  
c - To Conyngham Road Garage only  
ac - To/From Newcastle to Conyngham Road Garage only  
\*a - To/From Newcastle via Baldonnel

STAGE	STAGE
25 75 Aston Quay	45 55 Nangor Road / Fonthill Road South
26 74 Essex Quay / Ormond Quay Upper	46 54 Westbourne
27 73 Mellows Bridge	47 53 Nangor Road Roundabout
28 72 Parkgate Street	48 52 Woodlands
29 71 Conyngham Road Bus Garage	49 51 Nangor Castle
30 70 Islandbridge (Turnstiles)	50 50 Kilcarbery
31 69 Inchicore Road / Con Albert Road	51 49 Ballybane (Kelly's)
32 68 Tyrconnell Road (Black Lion)	52 48 Leravanagh
33 67 Naas Road (Canal Bridge)	53 47 Milltown Cross / Baldonnel
34 66 Naas Road (Bluebell)	54 46 Peamount Cottages
35 65 Naas Road (Robinhood Road)	55 45 Peamount House
36 64 Naas Road (Long Mile Road)	56 44 Peamount Cross
37 63 Naas Road (Fox and Geese)	57 43 Peamount Road
38 62 Naas Road (John Sisk and Sons)	58 42 Sancta Maria
39 61 Naas Road (Red Cow Inn)	59 41 Newcastle / Greenogue Business Park



43 57 Clondalkin Village  
44 56 Clonburris (Ninth Lock Road)

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Operative Date: 11th September 2006

## 69 From ASTON QUAY

An Lár (Cé Aston), Bóthar Uí Chuinneagáin, Dr. na HInse, Inse Chór, Br. Náis, Bóthar na Mainistrach, Cluain Dolcáin, Cluainte Eoin, Teach Sagard, Ráth Cúil.

Journey Time - 80 mins approx

	MONDAY TO FRIDAY			SATURDAY			SUNDAY		
◆ ASTON QUAY	0620	1340	1935	0620	1340	1935	1010	1705	2305
↓ 10 mins.	0715	1440	2015	0715	1440	2015	1210	1815	
◆ Parkgate Street	0855	1505	2100	0855	1505	2100	1325	1925	
↓ 15 mins.	0930	1610	2200	0930	1610	2315	1515	2105	
◆ Tyrconnell Road (Black Lion)	1050	1725	2315	1050	1725				
↓ 10 mins.	1205	1745x		1205	1745				
◆ Naas Road (John Sisk and Sons)	1245	1845		1245	1845				
↓ 15 mins.									
◆ Clondalkin Village									
↓ 10 mins.									
◆ Green Isle Hotel									
↓ 15 mins.									
◆ RATHCOOLE									

Operative Date: 11th September 2006

## 69 From RATHCOOLE

Ráth Cúil, Teach Sagard, Cluainte Eoin, Cluain Dolcáin, Bóthar na Mainistrach, Br. Náis, Inse Chór, Dr. na HInse, Bóthar Uí Chuinneagáin, An Lár (Cé Aston).

Journey Time - 80 mins approx

	MONDAY TO FRIDAY			SATURDAY			SUNDAY		
◆ RATHCOOLE	0615	1315	1955	0615	1315	1955	1110	1805	2340c
↓ 15 mins.	0655	1355	2045	0655	1355	2045	1310	1915	
◆ Green Isle Hotel	0730x	1455	2115	0730	1455	2115	1425	2025	
↓ 15 mins.	0745	1600	2210	0745	1600	2210	1615	2205	
◆ Clondalkin Village	0835	1625	2250c	0835	1625	0005c			
↓ 15 mins.	1010	1725	0005c	1010	1725				
◆ Naas Road (John Sisk and Sons)	1050	1845		1050	1845				
↓ 10 mins.	1200	1900		1200	1900				

x - Xpresso Bus  
c - To Conyngham Rd. Garage only

	STAGE				STAGE			
◆ Tyrconnell Road (Black Lion)	25	75	Aston Quay		43	57	Clondalkin Village	
↓ 15 mins.	26	74	Essex Quay / Ormond Quay Upper		44	56	Fonthill Road / Booth Road	
◆ Parkgate Street	27	73	Mellowes Bridge		45	55	Green Isle Hotel	
↓ 10 mins.	28	72	Parkgate Street		46	54	Bushfield House	
◆ ASTON QUAY	29	71	Conyngham Road Bus Garage		47	53	Cheeverstown	
	30	70	Islandbridge (Turnstiles)		48	52	Kingswood Cross	
	31	69	Inchicore Road / Con Colbert Road		49	51	Moreen Cottages	
	32	68	Tyrconnell Road (Black Lion)		50	50	1st Saggart Cross	
	33	67	Naas Road (Canal Bridge)		51	49	Saggart R.C. Church	
	34	66	Naas Road (Bluebell)		52	48	Swiftbrook Mills	
	35	65	Naas Road (Robinhood Road)		53	47	Mill Bridge	
	36	64	Naas Road (Long Mile Road)		54	46	2nd Saggart Cross	
	37	63	Naas Road (Fox and Geese)		55	45	Rathcoole House	
	38	62	Naas Road (John Sisk and Sons)		56	44	Rathcoole / Rathcoole	
	39	61	Naas Road (Red Cow Inn)					
	42	58	Monastery Road (Castle Park)					

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Dublin - Kildare - Portlaoise - Monday - Saturday (excluding public holidays)

Baile Átha Cliath - Cill Dara - Port Laoise - Luan go Satharn (gan Saoire Phoiblí san áireamh)

	MON TO SAT	MON TO FRI	SAT ONLY	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT					
DUBLIN Heuston	06.15	06.35	06.35	07.00	07.10	07.30	07.35	08.20	08.35	09.10	09.25	09.30	09.35	11.10	11.25	11.30	11.40	12.10	12.40	13.25	13.35	14.05	14.30
Cherry Orchard	..	06.41	06.41	..	..	07.41	..	..	09.41	..	..	..	09.41	..	..	..	..	12.16	..	..	13.41	14.11	..
Clontarf	..	06.45	06.45	..	..	07.45	..	..	09.45	..	..	..	09.45	..	..	..	..	..	..	..	13.45	14.15	..
Adamstown	..	06.49	06.49	..	..	07.49	..	..	09.49	..	..	..	09.49	..	..	..	..	11.52	12.22	..	13.49	14.20	..
Hazelhatch & Celbridge	06.31	06.55	06.55	..	..	07.55	..	..	09.55	..	..	..	09.55	..	..	..	..	11.58	12.28	..	13.55	14.26	..
Celbridge	..	07.05	07.05	..	..	08.20	..	..	09.00	..	..	..	10.04	..	..	..	..	13.30	..	..	..	..	..
Sallins & Naas	06.39	07.04	07.04	..	..	08.04	..	..	09.00	..	..	..	10.10	..	..	..	..	12.37	..	..	14.04	14.35	..
Naas (Popular Square)	06.55	07.30	07.30	..	..	08.10	..	..	09.25	..	..	..	10.13	..	..	..	..	12.40	..	..	14.10	..	..
Newbridge	06.48	07.14	07.14	..	..	08.13	..	..	09.11	..	..	10.03	10.13	..	..	..	..	12.45	..	..	14.15	14.45	..
Kildare	06.55	..	07.20	..	..	08.24	..	..	09.48	10.01	10.01	10.24	10.24	11.44	11.58	12.04	..	12.56	13.14	14.01	14.24	..	..
Monasterevan	07.03	..	..	..	..	..	..	..	10.02	10.13	10.13	..	..	..	..	..	..	..	..	..	..	..	..
Portlaoise	07.10	..	..	..	..	..	..	..	10.02	10.13	10.13	..	..	..	12.13	..	..	..	..	..	..	..	..
PORTLAOISE	07.23	..	..	07.54	..	..	..	..	..	..	10.25	..	..	..	12.24	..	..	..	..	..	..	..	15.16

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🚍 Dublin Bus link Connolly/Heuston   
 🚍 Connecting Bus   
 🚍 Bus Operates Monday to Friday  
🚍 Bus link to/from Dublin Airport   
 🚍 Adamstown to open Tuesday 10th April 2007  
🚍 LUAS Tram link   
 A shuttle bus link operates to and from **Kildare Village Shopping Outlet** and Kildare Station  
 Station Platform gates will close 2 mins prior to departure. Times in *italics* denote bus departure times.

Dublin – Kildare – Portlaoise – Monday – Saturday (excluding public holidays)  
 Baile Átha Cliath – Cill Dara – Port Laoise – Luan go Satham (gan Saoire Phoiblí san áireamh)

	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT	MON TO SAT		
DUBLIN Heuston	Dep	15.05	15.25	15.35	16.05	16.15	16.25	17.10	17.15	17.25	17.50	18.05	18.10	18.40	18.50	19.00	19.05	20.00	20.05	20.35	21.00	21.45	22.45
Cherry Orchard	Dep	..	..	15.41	16.11	..	..	..	17.23	..	..	..	18.16	..	18.56	..	..	..	20.11	20.41	..	..	22.51
Clonaldin	Dep	..	..	15.45	16.15	..	..	..	17.27	..	..	..	18.20	..	19.00	..	..	..	20.15	20.45	..	..	22.55
Adamstown	Dep	..	..	15.49	16.19	..	..	..	17.32	..	..	18.19	..	..	19.04	..	..	..	20.19	20.49	..	..	22.59
Hazelhatch & Celbridge	Dep	..	..	15.55	16.25	..	16.45	..	17.38	..	..	18.23	18.31	18.53	..	..	..	..	20.25	20.55	..	..	23.05
Celbridge	Dep	..	..	16.00	..	..	16.48	..	17.40	..	..	18.25	18.33	18.55	..	..	..	..	20.34	21.04	..	..	..
Sallins & Naas	Dep	..	..	16.05	16.34	..	16.54	..	17.52	18.15	18.15	18.40	18.40	19.02	..	..	..	..	20.34	21.04	..	..	23.14
Naas (Popular Square)	Dep	..	..	..	16.38	..	16.58	..	..	17.55	..	..	18.45	19.10	..	..	..	..	20.43	21.17	..	..	..
Newbridge	Dep	15.38	..	16.17	16.43	..	17.04	17.43	17.57	..	18.01	18.23	18.50	..	19.25	..	..	..	20.43	21.17	..	..	23.23
Kildare	Dep	15.45	16.01	..	..	16.53	17.11	17.50	..	18.09	..	18.44	19.16	..	..	..	..	19.44	20.34	20.49	..	..	23.30
Monasterevatt	Dep	..	..	..	..	..	..	18.01	..	..	..	18.52	..	..	..	..	..	..	..	..	..	..	..
Portlaoise	Dep	..	16.13	..	..	17.08	..	18.10	..	18.21	18.43	18.58	..	19.29	..	..	20.02	..	..	..	..	..	..
PORTLAOISE	Arr	..	16.25	..	..	..	..	18.33	..	18.33	..	19.10	..	19.40	..	19.54	..	..	..	..	21.45	..	..

Dublin Bus link Connolly/Heuston  
 Bus link to/from Dublin Airport  
 LUAS Tram link  
 Station Platform gates will close 2 mins prior to departure. Times in italics denote bus departure times.

Kildare Route Project  
 During the currency of this timetable, service disruptions and cancellations are possible between Dublin and Kildare, especially on Saturday evenings and Sunday mornings. This is to facilitate the engineering works associated with the Kildare Route Project. Full details will be available in advance on our website at [www.inhralle.com](http://www.inhralle.com).

**Dublin – Kildare – Portlaoise – Sunday (Excluding Public Holidays)**  
**Baile Átha Cliath – Cill Dara – Port Laoise – Domhnach (gan Saoire Phoiblí san áireamh)**

	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN	SUN
DUBLIN Heuston ⑤				10.15	11.25	12.20	13.05	13.25	14.05	14.30	15.15	15.25	16.15	17.35	18.05	18.15	18.25	18.35	18.45	19.10	19.25	20.40	21.00	21.25
Cherry Orchard	Dep			10.21	12.26			14.21	16.21	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Clontarf	Dep			10.25	12.30			14.25	16.25	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Adamstown	Dep			10.29	12.34			14.29	16.29	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Hazelhatch & Celbridge	Dep			10.35	12.40			14.35	16.35	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Celbridge	Dep			10.44	12.49			14.44	16.44	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Sallins & Naas	Dep			10.51	12.56			14.51	16.51	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Naas (Popular Square)	Dep			11.00	13.05			15.00	17.00	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Newbridge	Dep			11.00	13.05			15.00	17.00	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Kildare	Dep			11.00	13.05			15.00	17.00	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Monasterevan	Dep			11.00	13.05			15.00	17.00	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
Portlaoise	Dep			11.00	13.05			15.00	17.00	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55
PORTLAOISE	Air			11.00	13.05			15.00	17.00	17.35	18.05	18.25	18.45	19.10	19.25	19.35	19.45	19.55	20.05	20.15	20.25	20.35	20.45	20.55

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 ⑦ LUAS Tram link. A shuttle bus link operates to and from Kildare Village Shopping Outlet and Kildare Station  
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Portlaoise – Kildare – Dublin – Monday – Saturday (excluding public holidays)

Port Laoise – Cill Dara – Baile Átha Cliath – Luan go Satharn (gan Saoire Phoiblí san áireamh)

	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT	MON TO FRI	MON TO SAT							
PORTLAOISE	Dep	05.51	06.51	07.11	07.20	07.40	07.50	08.52	09.44	10.50	11.16	12.36	13.52	14.09																											
Portlaoise	Dep	05.51	07.02	07.24	07.39	08.01	08.04																																		
Monasterevan	Dep	06.06	06.35	06.59	07.16	07.20	07.30	08.35	09.25	10.35	12.41	13.10	14.15																												
Kildare	Dep	06.17	06.40	07.07	07.35	08.04	08.16	08.40	09.46	10.55	12.48	13.15																													
Newbridge	Dep	06.26	06.20	07.06	07.40	08.04	08.20	08.49	09.35	10.35	12.00	12.50																													
Naas (Popular Square) [Bus]	Dep	06.26	06.49	07.28	08.04	08.25	08.49	09.04	09.54	11.04	12.34	13.24																													
Salinas & Neas	Dep	06.37	06.45	07.25	08.00	08.25	08.49	09.04	09.54	11.04	12.34	13.24																													
Calbridge [Bus]	Dep	06.37	06.58	07.22	08.13	08.34	08.59	09.04	10.04	11.13	12.44	13.33																													
Hazelhatch & Celbridge	Dep	06.37	07.04	07.29	08.19	08.34	08.59	09.04	10.09	11.19	12.49	13.39																													
Adamstown [Bus]	Dep	06.37	07.04	07.29	08.19	08.34	08.59	09.04	10.09	11.19	12.49	13.39																													
Clonsilla	Dep	06.37	07.08	07.33	08.19	08.34	08.59	09.08	10.14	11.23	12.53	13.43																													
Cherry Orchard	Dep	06.37	07.11	07.36	08.19	08.34	08.59	09.11	10.17	11.26	12.56	13.46																													
DUBLIN Heuston [Bus]	Arr	07.07	07.25	07.52	08.25	08.37	08.45	09.05	10.30	11.39	13.08	13.26	13.36	13.59	15.00	15.15																									

[Bus] Dublin Bus link Connolly/Heuston  
 [Bus] Bus link to/from Dublin Airport  
 [Bus] LUAS Train link. A shuttle bus link operates to and from Kildare Village Shopping Outlet and Kildare Station. Station Platform gates will close 2 mins prior to departure. Times in *italics* denote bus departure times.





## Dublin – Kildare – Portlaoise Baile Átha Cliath – Port Laoise

Valid from 14th January 2007 until 8th December 2007  
Bailt ó 14 Eanáir 2007 go 8 Nollaig 2007

Portlaoise – Kildare – Sunday (Excluding Public Holidays)  
Port Laoise – Cill Dara – Baile Átha Cliath – Domhnach (gan Saoire Phoiblí san áireamh)

	SUN		SUN		SUN		SUN		SUN		SUN		SUN		SUN		SUN		SUN		SUN		SUN		SUN		
	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep	Arr	
PORTLAOISE	09.53	11.50	13.53	15.53	17.53	19.53	20.00	20.09	20.43																		
Portlaoise		10.12	12.04	13.43	14.07	15.07	16.07	16.35	16.53	17.53	18.07	18.11	18.29														
Monasterevan		10.13	11.23	12.16	13.15	13.57	14.19	14.46	15.15	16.19	16.24	16.47	17.15	18.19	18.26	18.44	19.40	19.54	20.12	20.21							
Kildare		11.10	11.23	12.16	13.15	13.57	14.19	14.46	15.15	16.19	16.24	16.47	17.15	18.19	18.26	18.44	19.40	19.54	20.12	20.21							
Newbridge		11.15	11.29	13.20	14.05	15.20																					
Naas (Popular Square) <sup>###</sup>		11.24	13.29																								
Sallins & Naas		11.24	13.29																								
Celbridge <sup>###</sup>		11.33	13.38																								
Hazelhatch & Celbridge		11.39	13.44																								
Adamstown <sup>•</sup>		11.43	13.48																								
Clonsilla		11.46	13.51																								
Cherry Orchard		11.55	14.01	14.49	15.00	15.25	16.01	17.00	17.12	17.29	18.01	19.00	19.10	19.20	19.26	20.42	20.53	21.00	21.37								
DUBLIN Heuston	10.55	11.06	11.31	11.56	12.13	12.57	14.01	14.49	15.00	15.25	16.01	17.00	17.12	17.29	18.01	19.00	19.10	19.20	19.26	20.42	20.53	21.00	21.37				

Consent: Copyright by bus companies. For transport purposes only. Times in italics denote bus departure times.

NOTE: Operates until 27th May 2007 and from the 16th September, 2007.

- <sup>###</sup> Connecting Bus
- <sup>•</sup> Dublin Bus link Connolly/Heuston
- <sup>•</sup> Bus link to/from Dublin Airport
- <sup>•</sup> Adamstown to open Tuesday 10th April 2007
- <sup>•</sup> LUAS Tram link. A shuttle bus link operates to and from Kildare Village Shopping Outlet and Kildare Station

irishrail.ie



## **Appendix 1.2**

### **Waste Licence for RILTA Ltd. 192-1**

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Headquarters  
P.O. Box 3000  
Johnstown Castle Estate  
County Wexford  
Ireland

**WASTE LICENCE**

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Consent of copyright owner required for any other use.*

<b>Waste Licence Register Number:</b>	192-1	*
<b>Licensee:</b>	Rilta Limited t/a Sita Environmental	*
<b>Location of Facility:</b>	Block 402, Greenogue Business Park, Rathcoole, County Dublin	*

# INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

This licence is for the operation of a hazardous waste treatment facility on a green field site at Greenogue Business Park, Rathcoole, County Dublin. The quantity of waste to be accepted at the facility is limited to 62,500 tonnes per annum consisting of hazardous waste, commercial waste, construction and demolition waste, industrial sludges and industrial waste.

The facility comprises of three components namely: drum recovery centre, hydrocarbon waste treatment centre and hazardous waste transfer station. At the drum recovery centre, nominally empty industrial packaging such as steel drums, plastic drums and intermediate bulk containers (IBC) will be reconditioned or recycled. The principal process at the hydrocarbon waste treatment centre will be treatment/recovery of hydrocarbon contaminated waste from such sources as bilge tanks of ships, petrol stations and oil spills. The hazardous waste transfer station will allow for bulking up and transfer of hazardous waste for recovery/disposal.

The licensee must manage and operate the facility to ensure that the activities do not cause environmental pollution. The licensee is required to carry out regular environmental monitoring and submit all monitoring results, and a wide range of reports on the operation and management of the facility to the Agency.

The licence sets out in detail the conditions under which Rilta Limited t/a Sita Environmental will operate and manage this facility.

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# ***DECISION & REASONS FOR THE DECISION***

On the basis of the information before it, the Environmental Protection Agency is satisfied that the waste activity, or activities, licensed hereunder in Part I will comply with the requirements of Section 40(4) of the Waste Management Acts 1996 to 2003.

In reaching this decision the Environmental Protection Agency has considered the application and supporting documentation received from the applicant, a submission received from a third party and the report of its inspector.

No objection having been received to the proposed decision, the licence is granted in accordance with the terms of the proposed decision and the reasons therefor.

## **INTERPRETATION**

All terms in this licence should be interpreted in accordance with the definitions in the Waste Management Acts 1996 to 2003, (the Acts), unless otherwise defined in this section.

<b>Adequate lighting</b>	20 lux measured at ground level.
<b>Aerosol</b>	A suspension of solid or liquid particles in a gaseous medium.
<b>Agreement</b>	Agreement in writing.
<b>Annually</b>	At approximately twelve monthly intervals.
<b>Attachment</b>	Any reference to Attachments in this licence refers to attachments submitted as part of the waste licence application.
<b>Application</b>	The application by the licensee for this waste licence.
<b>Appropriate facility</b>	A waste management facility, duly authorised under relevant law and technically suitable.
<b>BAT</b>	Best Available Techniques.
<b>Bi-annually</b>	All or part of a period of six consecutive months.
<b>Biodegradable waste</b>	Any waste that is capable of undergoing anaerobic or aerobic decomposition, such as food, garden waste, sewage sludge, paper and paperboard.
<b>Condition</b>	A condition of this licence.
<b>Consignment Note</b>	All movements of hazardous waste within Ireland must be accompanied by a "C1" consignment note issued by a local authority under the Waste Management (Movement of Hazardous Waste) Regulations (SI No. 147 of 1998
<b>Construction and Demolition Waste</b>	All wastes which arise from construction, renovation and demolition activities.
<b>Containment boom</b>	A boom which can contain spillages and prevent them from entering drains or watercourses.
<b>Daytime</b>	8.00 a.m. to 10.00 p.m.
<b>Documentation</b>	Any report, record, result, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.

<b>Drawing</b>	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
<b>Emergency</b>	Those occurrences defined in Condition 9.4.
<b>Emission Limits</b>	Those limits, including concentration limits and deposition levels established in <i>Schedule C: Emission Limits</i> , of this licence.
<b>European Waste Catalogue (EWC)</b>	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
<b>Green waste</b>	Waste wood (excluding timber), plant matter such as grass cuttings, and other vegetation.
<b>Hours of Operation</b>	The hours during which the facility is authorised to be operational
<b>Hours of Waste Acceptance</b>	The hours during which the facility is authorised to accept waste
<b>Incident</b>	The following shall constitute an incident for the purposes of this licence: <ul style="list-style-type: none"> <li>a) an emergency;</li> <li>b) any emission which does not comply with the requirements of this licence;</li> <li>c) any exceedence of the daily duty capacity of the waste handling equipment;</li> <li>d) any trigger level specified in this licence which is attained or exceeded; and,</li> <li>e) any indication that environmental pollution has, or may have, taken place</li> </ul>
<b>Industrial Waste</b>	As defined in Section 5(1) of the Act.
<b>Inert waste</b>	Waste as so defined in S.I. No. 395 of 2004 Waste Management (Licensing) Regulations, 2004.
<b>Landfill Directive</b>	Council Directive 1999/31/EC.
<b>Licence</b>	A Waste Licence issued in accordance with the Acts.
<b>Licensee</b>	Rilta Limited t/a Sita Environmental.
<b>Liquid Waste</b>	Any waste in liquid form and containing less than 2% dry matter. Any waste tankered to the facility.
<b>Maintain</b>	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to adequately perform its function.
<b>Mobile Plant</b>	Self-propelled machinery used for the emplacement of wastes or for the construction of specified engineering works.
<b>Monthly</b>	A minimum of 12 times per year, at approximately monthly intervals.
<b>Municipal waste</b>	As defined in Section 5(1) of the Act.
<b>Night-time</b>	10.00 p.m. to 8.00 a.m.

<b>Noise Sensitive Location (NSL)</b>	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
<b>Oil Separator</b>	Device installed according to the draft European Standard prEN 858 (Installations for the separation of light liquids, e.g. oil and petrol).
<b>Recyclable Materials</b>	Those waste types, such as cardboard, batteries, gas cylinders, etc, which may be recycled.
<b>Quarterly</b>	At approximately three monthly intervals.
<b>Sanitary Authority</b>	South Dublin County Council.
<b>Sample(s)</b>	Unless the context of this licence indicates to the contrary, samples shall include measurements by electronic instruments.
<b>SOP</b>	Standard Operating Procedure.
<b>Specified Emissions</b>	Those emissions listed in <i>Schedule C: Emission Limits</i> of this licence.
<b>Specified Engineering Works (SEW)</b>	Those engineering works listed in <i>Schedule B: Specified Engineering Works</i> of this licence.
<b>TOC</b>	Total Organic Carbon.
<b>Transfrontier Shipment Notification</b>	Transfrontier Shipment Notification and movement/tracking form numbers are required for all exports of waste from, into or through the State under the Waste Management (Transfrontier Shipment of Waste) Regulations (S.I. No. 149 of 1998).
<b>Trigger Level</b>	A parameter value specified in the licence, the achievement or exceedance of which requires certain actions to be taken by the licensee.
<b>Wastewater</b>	Contaminated water including water that has been used, for washing, and/or flushing (including foul water).
<b>Weekly</b>	During all weeks of plant operation, and in the case of emissions, when emissions are taking place; with no more than one measurement in any one week.
<b>White Goods</b>	Refrigerators, cookers, ovens and other similar appliances.
<b>EPA Working Day</b>	Refers to the following hours; 9.00 a.m. to 5.30 p.m. Monday to Friday inclusive.

## ***Part I Schedule of Activities Licensed***

In pursuance of the powers conferred on it by the Waste Management Acts 1996 to 2003, the Environmental Protection Agency (the Agency), under Section 40(1) of the said Acts hereby grants this Waste Licence to Rilta Limited t/a Sita Environmental to carry on the waste activities listed below at Block 402, Greenogue Business Park, Rathcoole, Co. Dublin subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence.

### *Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2003*

<b>Class 7.</b>	Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule (including evaporation, drying and calcination).
<b>Class 11.</b>	Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.
<b>Class 12.</b>	Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.
<b>Class 13.</b>	Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

### *Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 to 2003*

<b>Class 2.</b>	Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).
<b>Class 3.</b>	Recycling or reclamation of metals and metal compounds.
<b>Class 4.</b>	Recycling or reclamation of other inorganic materials.
<b>Class 6.</b>	Recovery of components used for pollution abatement.
<b>Class 8.</b>	Oil re-refining or other re-uses of oil.
<b>Class 13.</b>	Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

## ***Part II: Schedule of Activities Refused***

On the basis of the information before it, the Environmental Protection Agency (the Agency), pursuant to its powers under Section 40(1) of the Waste Management Acts 1996 to 2003, hereby refuses the following class of activity.

### ***Refused waste disposal activities, in accordance with the Third Schedule of the Waste Management Acts 1996 to 2003***

<b>Class 4.</b>	<b>Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.</b>  Reason: The storage of waste oil/water mixtures in settlement tanks on-site and temporary storage of settled sludge and flocculated solids from the water treatment stage does not constitute a Class 4 Activity. This activity as described in the application is more appropriate to and acceptable under Class 7 and Class 13 of the Third Schedule.
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## ***PART III CONDITIONS***

### **CONDITION 1 SCOPE OF THE LICENCE**

- 1.1 Waste activities at the facility shall be restricted to those outlined in the licence application and listed and described in Part I: Activities Licensed and authorised by this licence subject to the conditions of this licence.
- 1.2 For the purposes of this licence, the facility is the area of land outlined in red on Drawing No. 1102/02/301 *Site Location* of the application. Any reference in this licence to “facility” shall mean this area outlined in red.
- 1.3 This licence is for the purposes of waste licensing under the Waste Management Acts 1996 to 2003 only and nothing in this licence shall be construed as negating the licensee’s statutory obligations or requirements under any other enactments or regulations.
- 1.4 Only those waste categories and quantities listed in *Schedule A: Waste Acceptance* of this licence, shall be accepted at the facility.
- 1.5 Every plan, programme or proposal submitted to the Agency for its agreement pursuant to any Condition of this licence shall include a proposed timescale for its implementation. The Agency may modify or alter any such plan, programme or proposal in so far as it considers such modification or alteration to be necessary and shall notify the licensee in writing of any such modification or alteration. Every such plan, programme or proposal shall be carried out within the timescale fixed by the Agency but shall not be undertaken without the agreement of the Agency. Every such plan, programme or proposal agreed by the Agency shall be covered by the conditions of this licence.

**REASON:** *To clarify the scope of this licence.*

### **CONDITION 2 MANAGEMENT OF THE FACILITY**

- 2.1 Facility Management
  - 2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced, deputy shall be present on the facility at all times during its operation.
  - 2.1.2 Both the facility manager and deputy, and any replacement manager or deputy, shall successfully complete both the FAS waste management training programme (or equivalent agreed by the Agency) and associated on site assessment appraisal within twelve months of appointment.
  - 2.1.3 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience, as required and shall be aware of the requirements of this licence.
- 2.2 Management Structure
  - 2.2.1 Prior to the commencement of waste activities, the licensee shall submit written details of the management structure of the facility to the Agency. Any proposed replacement

in the management structure shall be notified in advance in writing to the Agency. Written details of the management structure shall include the following information.

- a) the names of all persons who are to provide the management and supervision of the waste activities authorised by the licence, in particular the name of the facility manager and any nominated deputies;
- b) details of the responsibilities for each individual named under a) above; and
- c) details of the relevant education, training and experience held by each of the persons nominated under a) above.

## 2.3 Environmental Management System (EMS)

2.3.1 The licensee shall establish and maintain an EMS. Within three months from the date of grant of this licence, the licensee shall submit to the Agency for its agreement a proposal for a documented Environmental Management System (EMS) for the facility. Following the agreement of the Agency, the licensee shall establish and maintain such a system. The EMS shall be updated on an annual basis with amendments being submitted to the Agency for its agreement as part of the AER.

2.3.2 The EMS shall include as a minimum the following elements:

### 2.3.2.1 Schedule of Environmental Objectives and Targets

The objectives should be specific and the targets measurable. The Schedule shall address a five-year period as a minimum. The Schedule shall include a time-scale for achieving the objectives and targets and shall comply with any other written guidance issued by the Agency.

### 2.3.2.2 Environmental Management Plan (EMP)

The EMP shall include, as a minimum, the following:

- (i) methods by which the objectives and targets will be achieved in the coming year and the designation of responsibility for targets;
- (ii) any other items required by written guidance issued by the Agency.

### 2.3.2.3 Corrective Action Procedures

The Corrective Action Procedures shall detail the corrective actions to be taken should any of the procedures detailed in the EMS not be followed.

### 2.3.2.4 Awareness and Training Programme

The Awareness and Training Programme shall identify training needs, for personnel who work in or have responsibility for the licensed facility.

## 2.4 Communications Programme

2.4.1 The licensee shall establish and maintain a Communications Programme to ensure that members of the public can obtain information at the facility, at all reasonable times, concerning the environmental performance of the facility. This shall be established within six months of the date of grant of this licence.

**REASON:** *To make provision for the proper management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.*

## CONDITION 3 FACILITY INFRASTRUCTURE

3.1 The licensee shall establish all infrastructure referred to in this licence prior to the commencement of the licensed activities or as required by the conditions of this licence.

### 3.2 Specified Engineering Works

3.2.1 The licensee shall submit proposals for all Specified Engineering Works, as defined in *Schedule B: Specified Engineering Works* of this licence, to the Agency for its agreement at least two months prior to the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.

3.2.2 All specified engineering works shall be supervised by a competent person(s) and that person, or persons, shall be present at all times during which relevant works are being undertaken.

3.2.3 Following the completion of all specified engineering works, the licensee shall complete a construction quality assurance validation. The validation report shall be made available to the Agency on request. The report shall include as may be appropriate the following information:-

- a) a description of the works;
- b) as-built drawings of the works;
- c) records and results of all tests carried out (including failures);
- d) drawings and sections showing the location of all samples and tests carried out;
- e) daily record sheets/diary;
- f) name(s) of contractor(s) and individual(s) responsible for undertaking the specified engineering works;
- g) name(s) of individual(s) responsible for supervision of works and for quality assurance validation of works;
- h) records of any problems and the remedial works carried out to resolve those problems; and
- i) any other information requested in writing by the Agency.

### 3.3 Facility Notice Board

3.3.1 The licensee shall provide and maintain a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm.

3.3.2 The board shall clearly show:-

- a) the name and telephone number of the facility;
- b) the normal hours of opening;
- c) the name of the licence holder;
- d) an emergency out of hours contact telephone number;
- e) the licence reference number; and
- f) where environmental information relating to the facility can be obtained.

### 3.4 Facility Security

3.4.1 Prior to commencement of waste acceptance at the facility, security and stockproof fencing and gates shall be installed and maintained as described in Section 3.5.2 *Security and Entry Control Facilities* of the EIS submitted with the application, unless

otherwise agreed by the Agency. The security fence and gates shall be at the locations shown on Drawing No. 1102/02/305 *Site Layout Plan*. The base of the fencing shall be set in the ground.

3.4.2 The licensee shall remedy any defect in the gates and/or fencing as follows:-

- a) a temporary repair shall be made by the end of the working day; and
- b) a repair to the standard of the original gates and/or fencing shall be undertaken within three working days.

3.4.3 Gates shall be locked shut when the facility is unsupervised.

3.4.4 There shall be no casual public access to the facility.

### 3.5 Facility Roads and Site Surfaces

3.5.1 Effective site roads shall be provided and maintained to ensure the safe movement of vehicles within the facility.

3.5.2 Prior to commencement of waste acceptance at the facility, the licensee shall provide, and maintain an impermeable concrete surface in all areas of the facility, the surfaces shall be concreted and constructed to British Standard 8110 or an alternative as agreed by the Agency.

3.5.3 Traffic layout at the facility shall be such that emergency services' vehicles shall have access to all parts of the facility at all times.

### 3.6 Facility Office

3.6.1 The licensee shall provide and maintain an office at the facility. The office shall be constructed and maintained in a manner suitable for the processing and storing of documentation.

3.6.2 The licensee shall provide and maintain a working telephone and a method for electronic transfer of information at the facility.

### 3.7 Waste Inspection and Quarantine Areas

3.7.1 Prior to commencement of waste acceptance at the facility, Waste Inspection Area(s) and separate Waste Quarantine Area(s) shall be provided and maintained at the facility.

3.7.2 These areas shall be constructed and maintained in a manner suitable, and be of a size appropriate, for the inspection of waste and subsequent quarantine if required. The waste inspection area(s) and the waste quarantine area(s) shall be clearly identified and segregated from each other.

3.7.3 The waste quarantine area(s) shall be secured, bunded and surfaced to deal with spillages.

### 3.8 Weighbridge and Vehicle Wash Area

3.8.1 Prior to commencement of waste acceptance at the facility, the licensee shall provide and maintain weighbridge(s) and a vehicle wash area at the facility.

3.8.2 The vehicle wash area shall be used by all vehicles leaving the facility as required to ensure that no wastewater or waste is carried off-site. All water from the vehicle wash area shall be directed to the wastewater drainage system.

### 3.9 Waste handling, ventilation and processing plant

3.9.1 Items of plant deemed critical to the efficient and adequate processing of waste at the facility (including *inter alia* waste loading vehicles and ejector trailers) shall be provided on the following basis:-

- a) 100% duty capacity;
- b) 20% standby capacity available on a routine basis; and
- c) Provision of contingency arrangements and/or back up and spares in the case of breakdown of critical equipment.

3.9.2 Prior to the commencement of waste activities, the licensee shall provide a report for the agreement of the Agency detailing the duty and standby capacity in tonnes per day, of all waste handling and processing equipment to be used at the facility. These capacities shall be based on the licensed waste intake, as per *Schedule A: Waste Acceptance*, of this licence.

3.9.3 The quantity of waste to be accepted at the facility on a daily basis shall not exceed the duty capacity of the equipment at the facility. Any exceedance of this intake shall be treated as an incident.

### 3.10 Hazardous Waste Storage Areas and Tank and Drum Storage Areas

3.10.1 All tank, drum and hazardous waste storage areas shall be rendered impervious to the materials stored therein.

3.10.2 All tank, drum and hazardous waste storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:-

- a) 110% of the capacity of the largest tank or drum within the bunded area; or
- b) 25% of the total volume of substance which could be stored within the bunded area.

3.10.3 Daily visual inspection shall be carried out at all bunded areas to detect any possible spillages. Weekly visual inspections shall be carried out to assess all bunds and hardstanding areas for structural soundness and cracking/damage.

3.10.4 All spillages shall be treated as hazardous waste unless they are known to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal.

3.10.5 Each bunded area shall be clearly labelled so that it is legible to persons outside the bunded area. The labelling shall clearly indicate the material class type stored in that area and the maximum quantity of material that can be stored therein. The management and arrangements of the bunded areas shall ensure that no mixing of incompatible substances, as a result of spillages or otherwise, shall take place.

3.10.6 All inlets, outlets, vent pipes, valves and gauges must be within the bunded area.

3.10.7 The integrity and water tightness of all the bunds and their resistance to penetration by water or other materials stored therein shall be confirmed by the licensee and shall be reported to the Agency following its installation and prior to its use as a storage area. This confirmation shall be repeated at least once every three years thereafter and reported to the Agency on each occasion.

### 3.11 Underground Settlement Tanks

3.11.1 Prior to waste acceptance at the Hydrocarbon Waste Treatment Centre, a secondary containment system with leak detection shall be installed for the underground settlement tanks shown on Drawing No. GA-05 Rev. L *Foundation/Ground FL GA Hydrocarbon*



*Waste Treatment Centre* of the Article 16 reply received on 10/05/04. Installation shall be in accordance with *Installation, Decommissioning and Removal of Underground Storage Tanks*, PPG 27 EA.

- 3.11.2 The licensee shall complete a construction quality assurance validation for the above works as specified in Condition 3.2.3 including a certificate confirming that the tanks comply with BS EN 12285-1:2003 or equivalent.
- 3.12 Decant Room & Photographic Waste Processing Plant (PWPP) (Hazardous Waste Transfer Station).
- 3.12.1 Details of the decant room and PWPP must be agreed in advance by the Agency as part of SEW. The proposal must include and address the following as a minimum:
- a) Bunding arrangements
  - b) Drainage arrangements
  - c) Air emissions
  - d) Noise emissions
  - e) Process control equipment
  - f) Back-up, maintenance and calibration requirements
  - g) Abatement equipment
  - h) Periods of emission
  - i) Volumes to be emitted
  - j) Stack characteristics including vent diameter and height above ground level
  - k) Assessment of compliance with Condition 11.1.
- 3.12.2 A noise prediction model shall be submitted to the Agency as part of the proposal to install and operate the decant room and PWPP.
- 3.12.3 An air emissions model shall be submitted to the Agency as part of the proposal to install and operate the decant room and PWPP.
- 3.12.4 Monitoring locations, frequency of monitoring, emission limit values, methods of analysis and monitoring parameters shall be agreed in advance by the Agency prior to the operation of the decant room and PWPP.
- 3.13 Drainage system, pipeline testing
- 3.13.1 Prior to commencement of waste acceptance, the wastewater drainage system shall be installed as described in Section D.1.I *Sewerage and Surface Water Drainage Infrastructure* and shown on Drawing No. D1 *Drainage Layout* and specified on Drawing No. GA-07 *Foundation/Ground FL GA Drum Recycling Centre*, Drawing No. GA-01 *Foundation/Ground FL GA Hazardous Waste Transfer Station* and Drawing No. GA-05 *Foundation/Ground FL GA Hydrocarbon Waste Treatment Centre* submitted as part of the Article 16 reply received on 10/05/04, unless otherwise agreed by the Agency.
- 3.13.2 In the Drum Recovery Centre and the Hazardous Waste Transfer Station, a manual shut-off valve shall be installed on the wastewater drainage network prior to discharge to the sewer. The shut-off valve shall be maintained in the closed position.

- 3.13.3 Surface water run-off from the vehicle wash area and the weighbridge area shall be discharged to the wastewater drainage system.
- 3.13.4 Surface water run-off from all areas other than the weighbridge area and the vehicle wash area shall be discharged to the surface water run-off drainage system.
- 3.13.5 The licensee shall install and maintain silt traps and oil interceptors at the facility to ensure that all surface water run-off and wastewater (excluding toilet and canteen wastewater) discharges from the facility pass through a silt trap and oil interceptor prior to discharge. For discharges to surface water, the interceptors shall be a Class I full retention interceptor which shall be fitted with a manual shut-off valve. For discharges to sewer, the interceptors shall be Class II full retention interceptor. The silt traps and interceptors shall be in accordance with European Standard prEN 858 (installations for the separation of light liquids).
- 3.13.6 The licensee shall submit a drawing to the Agency within six months of the date of grant of this licence, indicating all drainage arrangements at the site as detailed in this licence.
- 3.13.7 Prior to the commencement of waste activities, all foul sewer gullies, drainage grids and manhole covers shall be painted with red squares whilst all surface water discharge gullies, drainage grids and manhole covers shall be painted with blue triangles. These colour codes shall be maintained so as to be visible at all times during facility operation, and any identification designated in this licence (e.g. SW1) shall be inscribed on these manholes.
- 3.13.8 The drainage system, bunds, silt traps and oil separators shall be inspected weekly, desludged as necessary and properly maintained at all times. All sludge and drainage from these operations shall be collected for safe disposal. A written record shall be kept of the inspections, desludging, cleaning, disposal of associated waste products, maintenance and performance of the interceptors, bunds and drains.
- 3.13.9 The integrity and watertightness of all underground pipes and tanks and their resistance to penetration by water or other materials carried or stored therein shall be tested and demonstrated by the licensee and shall be reported to the Agency following their installation and prior to their use. This testing shall be carried out by the licensee at least once every three years thereafter and reported to the Agency on each occasion. A written record of all integrity tests and any maintenance or remedial work arising from them shall be maintained by the licensee.

### 3.14 Monitoring Infrastructure

#### 3.14.1 Groundwater

- (i) All wellheads shall be adequately sealed to prevent surface contamination within six months from the date of grant of this licence.
- (ii) Groundwater monitoring wells shall be constructed having regard to the guidance given in the Agency's landfill manual "Landfill Monitoring".

#### 3.14.2 Replacement of Infrastructure

- (i) Monitoring infrastructure which is damaged or proves to be unsuitable for its purpose shall be replaced within three months of it being damaged or recognised as being unsuitable.

**REASON:** *To provide appropriate infrastructure for the protection of the environment.*

## CONDITION 4 RESTORATION AND AFTERCARE

- 4.1. Decommissioning and Aftercare of the facility shall be carried out to an agreed plan and to an agreed standard sufficient to return the site to a satisfactory state. A proposal for a Decommissioning and Aftercare Plan for the facility shall be submitted prior to commencement of waste acceptance at the facility. The licensee shall update decommissioning and closure plans when required by the Agency.

**REASON:** To provide for the restoration of the facility.

## CONDITION 5 FACILITY OPERATIONS

- 5.1 All waste processing shall be carried out inside the Drum Recovery Centre, the Hydrocarbon Waste Treatment Centre or the Hazardous Waste Transfer Station.
- 5.2 Waste Acceptance and Characterisation Procedures
- 5.2.1 Waste shall only be accepted at the facility, from Local Authority waste collection or transport vehicles or holders of waste permits, unless exempted or excluded, issued under the Waste Management (Collection Permit) Regulations 2001. Copies of these waste collection permits must be maintained at the facility.
- 5.2.2 Prior to commencement of waste acceptance at the facility, the licensee shall establish and maintain detailed written procedures and criteria for the acceptance, handling, sampling and bulking of all wastes to include decontamination, labelling, compatibility testing, analysis, weighing, documentation, transfer, storage and record keeping.
- 5.2.3 Hazardous wastes that are accepted at the facility as per *Schedule A: Waste Acceptance*, of this licence and fuels shall only be stored at appropriately banded locations at the facility.
- 5.2.4 All waste accepted at the facility shall fulfil the waste acceptance criteria as required by Condition 5.2.2.
- 5.2.5 No hazardous waste may be accepted at the Hazardous Waste Transfer Station unless:
- The licensee has been notified in advance of the types of waste (including EWC Codes) and the date of delivery;
  - The waste has been appropriately labelled using the relevant EWC Codes;
  - An effective procedure for accepting and handling the waste is in place and satisfactory staff training in the implementation of that procedure has been undertaken;
  - The waste has been classified in accordance with the UN publication "*Recommendations on the Transport of Hazardous Goods: Model Regulations*" as amended and fully characterised. Where necessary, and particularly in the case of new customers or waste types, its characteristics and hazardous properties have been confirmed by the licensee by sampling and analysis in advance of arrival at the facility;
  - A suitable designated storage area is immediately available at the Hazardous Waste Transfer Station; and

- f) A designated waste quarantine area is immediately available at the facility for any waste which does not conform with the pre-notification and which cannot be otherwise accepted at the facility.
- 5.2.6 Each load of waste arriving at the facility shall be inspected at the point of entry to the facility and subject to this inspection, weighed, documented and directed to the Drum Recovery Centre, Hydrocarbon Waste Treatment Centre or Hazardous Waste Transfer Station. Only after such inspections shall the waste be processed for disposal or recovery.
- 5.2.7 Any waste deemed unsuitable for processing at the facility and/or in contravention of this licence shall be immediately separated and removed from the facility at the earliest possible time. Temporary storage of such wastes shall be in a designated Waste Quarantine Area. Waste shall be stored under appropriate conditions in the quarantine area to avoid putrefaction, odour generation, the attraction of vermin and any other nuisance or objectionable condition.
- 5.2.8 A record of all inspections of incoming waste loads shall be maintained.
- 5.2.9 Waste shall be accepted at the facility only from known customers or new customers subject to initial waste profiling and waste characterisation off-site. The written records of this off-site waste profiling and characterisation shall be retained by the licensee for all active customers and for a two year period following termination of licensee/customer agreements.
- 5.2.10 Prior to the acceptance of any waste at the facility, the licensee shall submit to the Agency for its agreement a site-specific tracking system to cater for all materials being accepted at the facility. Any modifications to the tracking system shall be agreed in advance with the Agency.
- 5.3 Labelling of containers, drums and tanks.
- 5.3.1 No container (including drums and tanks) shall be accepted at the facility whose contents are unknown and whose contents are not clearly displayed on a label.
- 5.3.2 All containers including waste and fuel storage tanks and drums shall be labelled to clearly indicate their contents. During storage, each container shall be accessible and shall be so placed to allow for the reading of the label.
- 5.3.3 All hazardous waste containers shall be uniquely marked with an identification code using indelible or other permanent or electronic markings. All containers shall be marked or labelled to clearly indicate their contents. All previous markings and labels shall be defaced or crossed out.
- 5.4 Operational Controls
- 5.4.1 No waste shall have a retention time at the facility in excess of six months, unless otherwise agreed by the Agency.
- 5.4.2 The floor of the Drum Recovery Centre, Hydrocarbon Waste Treatment Centre and Hazardous waste transfer building shall be washed down and cleared of all waste on a regular basis or at such intervals as agreed by the Agency.
- 5.4.3 Scavenging shall not be permitted at the facility.
- 5.4.4 The licensee shall provide and use adequate lighting during the operation of the facility in hours of darkness.
- 5.4.5 The licensee shall take precautions to prevent accidental ignition or reaction of ignitable or reactive wastes. The waste shall be separated and protected from sources

of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical or mechanical), spontaneous ignition (e.g. heat-producing chemical reactions) and radiant heat.

#### 5.5 Waste Repackaging

5.5.1 All containers accepted at the facility shall be whole and sound. Any leaking or otherwise ruptured drums or containers shall immediately be overdrummed or the contents transferred to a sound container in a manner which will not adversely affect the environment. This operation shall only be carried out in banded areas such that any spillage arising from the activity may be contained and collected.

5.5.2 All operations involving the transfer of contents referred to in Condition 5.5.1 shall take place indoors, protected against spillage, in a designated area to be agreed with the Agency. Appropriate control measures shall be put in place to minimise any emissions which may arise from such activity.

#### 5.6 Waste and Chemical Storage Tracking System

5.6.1 Within two months from the date of grant of the licence, an electronic waste and chemical storage tracking system shall be established and maintained.

5.6.2 The waste storage tracking system shall illustrate the location, identification code, volume and content of all waste containers held at the facility. The chemical storage tracking system shall illustrate the location, volume and content of all chemical containers whose volume exceeds 25 litres held at the facility.

5.6.3 The waste and chemical storage tracking system shall be updated daily by the end of each working day and shall be verified as updated by an authorised person or a nominated deputy as identified under Condition 2.1.1.

#### 5.7 Blending/Mixing/Bulking of hazardous wastes

5.7.1 No blending, mixing or bulking up shall be carried out at the Hazardous Waste Transfer Building prior to approval from the Agency. Blending, mixing or bulking up of hazardous solid or liquid waste shall only be carried out in the decant room.

5.7.2 The compatibility of wastes to be bulked-up shall be established prior to such bulking-up taking place. The procedures to be in place under Condition 5.2.2 shall consider any compatibility testing that may be required, including, as far as is possible, the identification of any potentially abnormal or unusual situations.

5.7.3 Records shall be maintained of all compatibility tests carried out.

#### 5.8 Processing of Photographic Waste

5.8.1 No photographic waste shall be processed at the facility prior to approval from the Agency. Processing of photographic waste shall only be carried out in the Hazardous Waste Transfer Station.

#### 5.9 Processing of hydrocarbon waste

5.9.1 The processing of hydrocarbon waste at the Hydrocarbon Waste Treatment Centre shall be carried out as described in Section 3.3.2 *Hydrocarbon Waste Treatment Centre* of the EIS submitted with the application and shown on Fig. 3.3 *Hydrocarbon Waste Treatment Centre Process Flow Diagram* submitted as part of the Article 16 reply received 10/5/04, unless otherwise agreed by the Agency.

5.9.2 The heating of waste oils will be carried out at the appropriate temperature so as to avoid their combustion. A safety cut off temperature detection unit shall be installed on

the oil heating tanks and calibrated annually. A calibration certificate shall be submitted as part of the AER.

#### 5.10 Off-site Disposal and Recovery

5.10.1 All waste transferred from the facility shall be transferred by an authorised or exempted carrier, and only to an appropriate facility agreed by the Agency. Any request for agreement of such a facility shall be forwarded to the Agency at least two weeks in advance of its proposed use and shall include the following:

- (i) A copy of the waste permit or waste licence where applicable.
- (ii) The waste types and quantities.

#### 5.11 Wastewater Management

5.11.1 Wastewater treatment at the Hydrocarbon Waste Treatment Centre shall be carried out as described in Section 3.3.2 *Hydrocarbon Waste Treatment Centre* of the EIS submitted with the application, unless otherwise agreed by the Agency.

5.11.2 Discharge of wastewater from the Hydrocarbon Waste Treatment Centre to the wastewater drainage network shall cease in the event of breakdown of the on-site wastewater treatment system and the wastewater shall be tankered off-site in fully enclosed road tankers to an agreed Wastewater Treatment Plant or other authorised facility to be agreed by the Agency and disposed of there.

5.11.3 Wastewater stored in the on-site storage tanks and/or wastewater unsuitable for discharge to sewer shall be tankered off-site in fully enclosed road tankers to an authorised facility to be agreed by the Agency and disposed of there.

#### 5.12 Maintenance

5.12.1 All treatment/abatement and emission control equipment shall be calibrated and maintained, in accordance with the instructions issued by the manufacturer/supplier or installer. Written records of the calibrations and maintenance shall be made and kept by the licensee.

5.12.2 The vehicle wash shall be inspected on a daily basis and drained as required. Silt, stones and other accumulated material shall be removed as required from the wheel-wash and disposed of appropriately.

5.12.3 The licensee shall maintain all waste processing equipment and infrastructure in accordance with the manufacturers instructions.

#### 5.13 Resource Use and Energy Efficiency

5.13.1 The licensee shall carry out an audit of the energy efficiency of the site within one year of the date of grant of this licence. The licensee shall consult with the Agency on the nature and extent of the audit and shall develop an audit programme to the satisfaction of the Agency. The audit programme shall be submitted to the Agency in writing at least one month before the audit is to be carried out. A copy of the audit report shall be available on-site for inspection by authorised persons of the Agency and a summary of the audit findings shall be submitted as part of the Annual Environmental Report. The energy efficiency audit shall be repeated at intervals as required by the Agency.

5.13.2 The audit shall identify all opportunities for energy use reduction and efficiency and the recommendations of the audit will be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 above.

- 5.13.3 The licensee shall identify opportunities for reduction in the quantity of water used on site including recycling and reuse initiatives, wherever possible. Reductions in water usage shall be incorporated into Schedule of Environmental Objectives and Targets.
- 5.13.4 The licensee shall undertake an assessment of the efficiency of use of raw materials in all processes, having particular regard to the reduction in waste generated. The assessment should take account of best international practice for this type of activity.. Where improvements are identified, these shall be incorporated into the Schedule of Environmental Objectives and Targets.

**REASON:** To provide for appropriate operation of the facility to ensure protection of the environment.

## CONDITION 6 EMISSIONS

- 6.1. No specified emission from the facility shall exceed the emission limit values set out in *Schedule C: Emission Limits* of this licence. There shall be no other emissions of environmental significance.
- 6.2. The licensee shall ensure that the activities shall be carried out in a manner such that emissions do not result in significant impairment of, or significant interference with the environment beyond the facility boundary.
- 6.3. Emissions to Atmosphere
- 6.3.1. Emission limits for emissions to atmosphere in this licence shall be interpreted in the following way.
- 6.3.1.1. Non-Continuous Monitoring
- (i) For any parameter where, due to sampling/analytical limitations, a 30 minute sample is inappropriate, a suitable sampling period should be employed and the value obtained therein shall not exceed the emission limit value.
  - (ii) For all other parameters, no 30 minute mean value shall exceed the emission limit value.
  - (iii) For flow, no hourly or daily mean value shall exceed the emission limit value.
  - (iv) Mass flow thresholds refer to a rate of discharge expressed in units of kg/h, above which the concentration emission limit value applies. Mass flow threshold rates shall be determined on the basis of a single 30 minute measurement (i.e. the concentration determined as a 30 minute average shall be multiplied by an appropriate measurement of flow and the result shall be expressed in units of kg/h).
  - (v) Mass flow shall be calculated on the basis of the concentration, determined as an average over the specified period, multiplied by an appropriate measurement of flow. No value, so determined, shall exceed the mass flow limit value.
  - (vi) At emission points A2 and A3, and where annual solvent usage is greater than 5 tonnes, the average of all the readings shall not exceed the emission limit value and no hourly average value shall exceed 1.5 times the emission limit.

At least three readings shall be obtained in each monitoring exercise.



- 6.3.2 The concentration limits for emission to atmosphere specified in this licence shall be achieved without the introduction of dilution air and shall be based on gas volumes under standard conditions of:

Temperature 273K, pressure 101.3kPa (no correction for oxygen or water content).

- 6.3.3 Emissions to atmosphere shall only be made at locations A1, A2 and A3 as illustrated on Drawing No. 1102/02/334 *Additional Monitoring Points* submitted as part of the Article 14 reply received 24/12/03, unless otherwise agreed by the Agency.
- 6.3.4 Fugitive emissions to air of volatile organic compounds shall not exceed the following limits:
- (i) 20% of total solvent input where solvent consumption is greater than 15 tonnes per year.
  - (ii) 25% of total solvent input where solvent consumption is less than 15 tonnes per year.
- 6.3.5 The licensee shall prepare a solvent management plan (SMP) in accordance with any relevant guidelines in Schedule 6 of S.I. No. 543 of 2002 (Emissions of VOCs from Organic Solvent Regulations 2002) or as may be issued by the Agency from time to time. The solvent management plan shall be used to demonstrate compliance with the fugitive emission limit value. The SMP shall be submitted as part of the AER.

6.4. Emissions to Surface Water

- 6.4.1. No wastewater and/or contaminated surface water run-off shall be discharged to surface water drains and courses.
- 6.4.2. No substance shall be discharged in a manner, or at a concentration which, following initial dilution causes tainting of fish or shellfish.

6.5. There shall be no direct emissions to groundwater.

6.6. There shall be no clearly audible tonal component or impulsive component in the noise emissions from the activity at the noise sensitive locations.

6.7. Emissions to Sewer.

- 6.7.1. Unless otherwise agreed in advance by the Agency and the Sanitary Authority, the following shall apply for the discharge of wastewater and contaminated surface water run-off. There shall be no other discharge or emission to sewer of environmental significance.

6.7.1.1. No material from the drains in the Drum Recovery Centre and the Hazardous Waste Transfer Station shall be discharged to the foul sewer without the consent of the Agency and Sanitary Authority.

6.7.1.2. No substance shall be present in emissions to sewer in such concentrations as would constitute a danger to sewer maintenance personnel working in the sewerage system, or as would be damaging to the fabric of the sewer, or as would interfere with the biological functioning of a downstream wastewater treatment works.

6.7.1.3. The wastewater and contaminated surface water run-off discharged to sewer shall be screened prior to discharge to remove gross solids and avoid blockages in the sewer.



- 6.7.1.4. The licensee shall permit authorised persons of the Agency and the Sanitary Authority to inspect, examine and test, at all reasonable times, any works and apparatus installed, in connection with the discharge or emission, and to take samples of the discharge or emission.
- 6.7.1.5. No discharge or emission to sewer shall take place which might give rise to any reaction within the sewer or to the liberation of by-products which may be of environmental significance.
- 6.7.1.6. Materials classifiable as 'Hazardous Wastes' under the Waste Management Acts 1996 to 2003, shall not be discharged to the foul sewer.
- 6.7.1.7. The licensee shall ensure that the discharge shall not contain dissolved methane, petroleum spirits or organic solvents (including chlorinated organic solvents), at concentrations which would give rise to flammable or explosive vapours in the sewer.
- 6.7.1.8. Non-trade effluent wastewater (e.g. firewater, accidental spillage) which occurs on-site shall not be discharged to the sewer without the prior authorisation of the Sanitary Authority.
- 6.7.1.9. The licensee shall provide and maintain an inspection chamber in a suitable position in connection with each pipe through which a discharge or emission is being made. Each such inspection chamber or manhole shall be constructed and maintained by the licensee so as to permit the taking of samples of the discharge.
- 6.7.1.10. The licensee shall submit monitoring results to the Sanitary Authority on an annual basis.
- 6.7.1.11. The method of calculating the volumes of trade effluent discharges shall be as agreed with the Sanitary Authority.
- 6.8. Emission limit values for emissions to sewer in this licence shall be interpreted in the following way:-
- a) Continuous monitoring.  
No flow value shall exceed the specified limit.
  - b) Non-Continuous monitoring.  
Eight out of ten consecutive results, calculated as daily mean concentration or mass emission values on the basis of flow proportional composite sampling shall not exceed 1.2 times the emission limit value.
  - c) No grab sample shall exceed 1.2 times the emission limit value.

**REASON:** *To control emissions from the facility and provide for the protection of the environment and to provide for the requirements of the Sanitary Authority in accordance with Section 52 of the Waste Management Acts 1996 to 2003.*

## CONDITION 7 NUISANCE CONTROL

- 7.1 The licensee shall ensure that mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility. Any method used by the licensee to control any such nuisance shall not cause environmental pollution.
- 7.2 The road network in the vicinity of the facility shall be kept free from any debris caused by vehicles entering or leaving the facility. Any such debris or deposited materials shall be removed without delay.

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7.3 Litter Control

7.3.1 All loose litter or other waste, placed on or in the vicinity of the facility, other than in accordance with the requirements of this licence, shall be removed, subject to the agreement of the landowners, immediately and in any event by 10.00am of the next working day after such waste is discovered.

7.3.2 The licensee shall ensure that all vehicles delivering waste to and removing waste and materials from the facility are appropriately covered.

7.4 Dust/Odour Control

7.4.1 In dry weather, site roads and any other areas used by vehicles shall be sprayed with water as and when required to minimise airborne dust nuisance.

7.4.2 Prior to the date of commencement of the waste activities at the facility, the licensee shall install and provide adequate measures for the control of odours and dust emissions, including fugitive dust emissions, from the facility. Such measures shall at a minimum include the following:-

7.4.2.1 Dust curtains shall be maintained on the entry/exit points from the waste facility buildings, all other doors in this building shall be kept closed where possible.

7.4.2.2 Installation of an odour management system.

7.4.2.3 Provision of 100% duty capacity and 50% stand by capacity, back ups and spares must be provided for the air handling, ventilation and abatement plant.

**REASON:** To provide for the control of nuisance.

## CONDITION 8 MONITORING

8.1. The licensee shall carry out such monitoring and at such locations and frequencies as set out in *Schedule D: Monitoring* of this licence. Unless otherwise specified by this licence, all environmental monitoring shall commence no later than two months after the commencement of waste acceptance at the facility.

8.2. The licensee shall amend the frequency, locations, methods and scope of monitoring as required by this licence only upon the written instruction of the Agency and shall provide such information concerning such amendments as may be requested in writing by the Agency. Such alterations shall be carried out within any timescale nominated by the Agency.

8.3. Monitoring and analysis equipment shall be operated and maintained in accordance with the manufacturers' instructions (if any) so that all monitoring results accurately reflect any emission, discharge or environmental parameter.

8.4. The licensee shall provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency.

8.5. The licensee shall maintain all sampling and monitoring points, and clearly label and name all sampling and monitoring locations, so that they may be used for representative sampling and monitoring.

8.6. Within three months of the date of grant of this licence, the licensee shall submit to the Agency an appropriately scaled drawing(s) showing all the monitoring locations that are stipulated in

this licence including any noise sensitive locations to be monitored. The drawing(s) shall include the eight-digit national grid reference of each monitoring point.

- 8.7. The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.
- 8.8. Within one month of the date of grant of this licence, the following information shall be submitted to the Agency for its agreement: the names, qualifications and a summary of relevant experience of all persons that will carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring. Any proposed changes to the above shall be submitted in writing to the Agency for its agreement.
- 8.9. All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on, unless alternative sampling or monitoring has been agreed, in writing, by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. Prior written agreement for the use of alternative equipment, other than in emergency situations, shall be obtained from the Agency.
- 8.10. Biological Assessment
- 8.10.1. A biological assessment of the River Griffeen at the northern boundary of the facility shall be undertaken within six months of the date of commencement of waste acceptance at the facility and as may be required thereafter. This assessment shall use appropriate biological methods such as the EPA Q-rating system for the assessment of rivers and streams. The location of monitoring points shall be agreed by the Agency.
- 8.11. Archaeological Assessment
- 8.11.1. Prior to the development of any undisturbed area, the advice of The Heritage Section of the Department of the Environment, Heritage and Local Government (formerly Dúchas) shall be sought. On completion of such development a report of the results of any archaeological monitoring shall be submitted to The Development Applications Section and to the Agency.
- 8.12. Nuisance Monitoring
- 8.12.1. The licensee shall, at a minimum of one week intervals, inspect the facility and its immediate surrounds for nuisances caused by litter, mud, dust and odours.

**REASON:** To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions.

## CONDITION 9 CONTINGENCY ARRANGEMENTS

- 9.1. In the event of an incident the licensee shall immediately:-
- identify the date, time and place of the incident;
  - carry out an immediate investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
  - isolate the source of any such emission;

- d) evaluate the environmental pollution, if any, caused by the incident;
- e) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
- f) provide a proposal to the Agency for its agreement within one month of the incident occurring to:-
  - i) identify and put in place measures to avoid reoccurrence of the incident; and
  - ii) identify and put in place any other appropriate remedial action.

9.2. The licensee shall, prior to commencement of waste acceptance at the facility, submit a written Emergency Response Procedure (ERP) to the Agency for its agreement. The ERP shall address any emergency situations which may originate on the facility and shall include provision for minimising the effects of any emergency on the environment. This shall include a risk assessment to determine the requirements at the facility for fire fighting and fire water retention facilities. The Fire Authority shall be consulted by the licensee during this assessment.

9.3. The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used the absorbent material shall be disposed of at an appropriate facility.

9.4. Emergencies

9.4.1. In the event of a complete breakdown of equipment or any other occurrence which results in the closure of the facility, any waste arriving at or already collected at the facility shall be transferred directly to an appropriate licensed facility until such time as the facility is returned to a fully operational status. Such a breakdown event will be treated as an emergency and rectified as soon as possible.

9.4.2. All significant spillages occurring at the facility shall be treated as an emergency and immediately cleaned up and dealt with so as to alleviate their effects.

9.4.3. No waste shall be burnt within the boundaries of the facility. A fire at the facility shall be treated as an emergency and immediate action shall be taken to extinguish it and notify the appropriate authorities.

**REASON:** To ensure compliance with the conditions of this licence by provision of a satisfactory system of monitoring of emissions.

## CONDITION 10 RECORDS

10.1 The licensee shall keep the following documents at the facility office:-

- a) the current waste licence and specified attachments/drawings relating to the facility;
- b) the current EMS for the facility;
- c) the previous year's AER for the facility; and
- d) all written procedures produced by the licensee which relate to the licensed activities.

10.2 The licensee shall maintain a record for each load of waste arriving at and departing from the facility. The licensee shall record the following:-

- a) the date;
- b) the name of the carrier (including if appropriate, the waste collection permit details);

- c) the vehicle registration number;
- d) the name of the producer(s)/collector(s) of the waste as appropriate;
- e) the name of the waste facility (if appropriate) from which the load originated including the waste licence or waste permit register number;
- f) a description of the waste including the associated EWC codes;
- g) the quantity of the waste, recorded in tonnes;
- h) the name of the person checking the load;
- i) where loads or wastes are removed or rejected, details of the date of occurrence, the types of waste and the facility to which they were removed including the waste licence and waste permit register number of these facilities as appropriate; and
- j) where applicable a consignment note number (including transfrontier shipment notification and movement/tracking form numbers, as appropriate).

10.3 The following records shall be maintained by the licensee:-

- a) the types and quantities of waste recovered at the facility each year. These records shall include the relevant EWC Codes and any details required to complete national reports on waste statistics;
- b) all training undertaken by facility staff;
- c) results from all integrity tests of bunds and other structures and any maintenance or remedial work arising from them;
- d) details of all nuisance inspections; and
- e) the names and qualifications of all persons who carry out all sampling and monitoring as required by this licence and who carry out the interpretation of the results of such sampling and monitoring.

10.4 The licensee shall maintain a record of all complaints relating to the operation of the activity. Each such record shall give details of the following:-

- a) date and time of the complaint;
- b) the name of the complainant;
- c) details of the nature of the complaint;
- d) actions taken on foot of the complaint and the results of such actions; and,
- e) the response made to each complainant.

10.5 A record shall be kept of each consignment of wastewater removed from the facility. The record shall include the following:-

- a) the name of the carrier;
- b) the date and time of removal of wastewater from the facility;
- c) the volume of wastewater, in cubic metres, removed from the facility on each occasion;
- d) the name and address of the Waste Water Treatment Plant or other authorised facility agreed by the Agency to which the wastewater was transported; and
- e) any incidents or spillages of wastewater during its removal or transportation.

**REASON:** To provide for the keeping of proper records of the operation of the facility.

## CONDITION 11 REPORTS AND NOTIFICATIONS

11.1 No alteration to, or reconstruction in respect of, the activity or any part thereof which would, or is likely to, result in:

- a) A material change or increase in:
  - The nature or quantity of any emission;
  - The abatement/treatment or recovery systems;
  - The range of processes to be carried out;
  - The fuels, raw materials, products or wastes to be generated or accepted, or

b) Any changes in:

- The site management and control with adverse environmental significance,

shall be carried out or commenced without prior notice to, and without the prior written agreement of, the Agency.

11.2 Unless otherwise agreed by the Agency, all reports and notifications submitted to the Agency shall:-

- a) be sent to the Agency's Dublin Regional Inspectorate, McCumiskey House, Richview, Clonskeagh Road, Dublin 14;
- b) comprise one original and two copies unless additional copies are required;
- c) be formatted in accordance with any written instruction or guidance issued by the Agency;
- d) include whatever information as is specified in writing by the Agency;
- e) be identified by a unique code, indicate any modification or amendment, and be correctly dated to reflect any such modification or amendment;
- f) be submitted in accordance to the relevant reporting frequencies specified by this licence, such as in *Schedule E: Recording and Reporting to the Agency* of this licence;
- g) be accompanied by a written interpretation setting out their significance in the case of all monitoring data; and
- h) be transferred electronically to the Agency's computer system if required by the Agency.

11.3 In the event of an incident occurring on the facility, the licensee shall:-

- a) notify the Agency as soon as practicable and in any case not later than 10.00 am the following working day after the occurrence of any incident;
- b) submit a written record of the incident, including all aspects described in Condition 9.1(a-e), to the Agency as soon as practicable and in any case within five working days after the occurrence of any incident;
- c) In the event of any incident which relates to discharges to sewer, having taken place, the licensee shall notify the Local and Sanitary Authority as soon as practicable, after such an incident and in any case not later than 10:00am on the following working day after such an incident;
- d) In the case of any incident which relates to discharges to water, the licensee shall notify the Local Authority and the Eastern Regional Fisheries Board as soon as practicable after

such an incident and in any case not later than 10:00am on the following working day after such an incident; and

- e) Should any further actions be taken as a result of an incident occurring, the licensee shall forward a written report of those actions to the Agency as soon as practicable and no later than ten days after the initiation of those actions.

#### 11.4 Annual Environmental Report

11.4.1. The licensee shall submit to the Agency for its agreement, by 31<sup>st</sup> March each year, an Annual Environmental Report (AER) for the previous year.

11.4.2. The AER shall include as a minimum the information specified in Schedule F: *Content of Annual Environmental Report* and shall be prepared in accordance with any relevant written guidance issued by the Agency.

**REASON:** *To provide for proper reporting and notification of the Agency.*

## CONDITION 12 CHARGES AND FINANCIAL PROVISIONS

### 12.1 Agency Charges

12.1.1 The licensee shall pay to the Agency an annual contribution of €18,389, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 to 2003. The first payment shall be a pro-rata amount for the period from the date of this licence to the 31<sup>st</sup> day of December, and shall be paid to the Agency within one month from the date of the licence. In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 to 2003, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased the licensee shall contribute such sums as determined by the Agency to defraying its costs in regard to items not covered by the said annual contribution.

### 12.2 Financial Provision for Closure, Restoration and Aftercare

12.2.1 The licensee shall arrange for the completion of a comprehensive and fully costed Environmental Liabilities Risk Assessment for the facility which will address liabilities arising from the carrying on of the activities to which this licence relates. A report on this assessment shall be submitted to the Agency for its agreement within six months of date of grant of this licence.

12.2.2 Within nine months of the date of grant of this licence, the licensee shall make a Proposal for Financial Provision to the Agency for its agreement to cover any liabilities incurred by the licensee in carrying on the activities to which this licence relates. Such provision shall be maintained by the licensee unless otherwise agreed by the Agency.

12.2.3 The amount of financial provision, held under Condition 12.2.2 shall be reviewed and revised as necessary, but at least annually. Any proposal for such a revision shall be submitted to the Agency for its agreement.



12.2.4 The licensee shall within two weeks of purchase, renewal or revision of the financial provision required under Condition 12.2.2, forward to the Agency written proof of such indemnity.

12.2.5 Unless otherwise agreed any revision to the fund shall be computed using the following formula:

$$\text{Cost} = (\text{ECOST} \times \text{WPI}) + \text{CiCC}$$

Where:

Cost = Revised restoration and aftercare cost.

ECOST = Existing restoration and aftercare cost.

WPI = Appropriate Wholesale Price Index [Capital Goods, Building & Construction (i.e. Materials & Wages) Index], as published by the Central Statistics Office, for the year since last closure calculation/revision.

CiCC = Change in compliance costs as a result of change in site conditions, changes in law, regulations, regulatory authority charges, or other significant changes.

### 12.3 Sanitary Authority Charges.

12.3.1 The licensee shall pay to the Sanitary Authority a quarterly charge of €1.70 per cubic metre of trade effluent discharged to the foul sewer or such sum as may be determined from time to time, having regard to the variations in the cost of providing drainage and the variation in effluent reception and treatment costs. This amount shall be paid to the Sanitary Authority within one month of the date of grant of this licence and annually thereafter within one month of the date of notification by the Sanitary Authority of the updated annual amount.

12.3.2 The licensee shall pay to the Sanitary Authority an annual charge of €1,725.00, or such sum as may be determined from time to time, towards the cost of monitoring the discharge of trade effluent. This amount shall be paid to the Sanitary Authority within one month of the date of grant of this licence and annually thereafter within one month of the date of notification by the Sanitary Authority of the updated annual amount.

**REASON:** *To provide for adequate financing for monitoring and financial provisions for measures to protect the environment and to provide for the requirements of the Sanitary Authority in accordance with Section 52 of the Waste Management Acts 1996 to 2003.*

## SCHEDULE A : Waste Acceptance

### A.1 Waste Acceptance

*Table A.1 Waste Categories and Quantities*

WASTE TYPE	MAXIMUM (TONNES PER ANNUM) <sup>Note 1</sup>
Commercial Waste	500
Construction and Demolition Waste	500
Industrial Sludges	1,000
Other Industrial Waste	3,000
Hazardous Waste <sup>Note 2</sup>	57,500
<b>TOTAL</b>	<b>62,500</b>

**Note 1:** The quantities of the individual waste types may be adjusted, only with the agreement of the Agency, subject to the total annual waste quantity remaining the same.

**Note 2:** Hazardous waste types as listed in Table E.2.2 *Hazardous waste Types and Quantities* of the application, or as may otherwise be agreed in writing.

## SCHEDULE B : Specified Engineering Works

Specified Engineering Works
Installation of drainage network including silt traps and oil interceptors.
Installation of secondary containment system with leak detection to underground settlement tanks
Installation of decant room at Hazardous Waste Transfer Station
Installation of photographic waste treatment unit at Hazardous Waste Transfer Station
Development of the facility including installation of waste handling, processing, recycling/recovery infrastructure and installation of increased waste processing capacity.
Any other works notified in writing by the Agency.

## SCHEDULE C : Emission Limits

### C.1 Noise Emissions Arising from the Activity: (Measured at any noise sensitive locations).

Day dB(A) $L_{Aeq}$ (30 minutes)	Night dB(A) $L_{Aeq}$ (30 minutes)
55	45

### C.2 Dust Deposition Limits: (Measured at the monitoring points indicated in Table D.1.1).

Level (mg/m <sup>2</sup> /day) <sup>Note 1</sup>
350

**Note 1:** 30 day composite sample with the results expressed as mg/m<sup>2</sup>/day.

### C.3 Emissions to Atmosphere

Emission point:	A1	A2	A3
Volume to be emitted:			
Maximum in any one day	44,982 m <sup>3</sup>	1,324 m <sup>3</sup>	21,420 m <sup>3</sup>
Maximum per hour:	5,292 m <sup>3</sup>	144 m <sup>3</sup>	2,520 m <sup>3</sup>

Minimum discharge height: 13.7m

#### C.3.1 Emission limit values for emissions to air at emission point A1

Parameter	Emission Limit Value
T.A. Luft Organics Class 1	20 mg/m <sup>3</sup> (for mass emissions > 100 g/h of these compounds)
Total Organic Carbon (as C)	1 kg/hour

#### C.3.2 Emission limit values for emissions to air at emission point A2

Parameter	Emission Limit Value <sup>Note 1</sup>
T.A. Luft Organics Class 1	20 mg/m <sup>3</sup> (for mass emissions > 100 g/h of these compounds)
Total Organic Carbon (as C)	0.1 kg/h <sup>Note 2</sup>
	100 mg/m <sup>3</sup> <sup>Note 3</sup>
	75 mg/m <sup>3</sup> <sup>Note 4</sup>

**Note 1:** The emission limit value to be applied will be determined by the annual solvent use in the previous calendar year.

**Note 2:** Where annual solvent usage is less than 5 tonnes per annum.

**Note 3:** Where annual solvent usage is 5-15 tonnes per annum.

**Note 4:** Where annual solvent usage is above 15 tonnes per annum.

#### C.3.3 Emission limit values for emissions to air at emission point A3

Parameter	Emission Limit Value <sup>Note 1</sup>
T.A. Luft Organics Class 1	20 mg/m <sup>3</sup> (for mass emissions > 100 g/h of these compounds)
Total Organic Carbon (as C)	0.3 kg/h <sup>Note 2</sup>
	100 mg/m <sup>3</sup> <sup>Note 3</sup>
	50 mg/m <sup>3</sup> <sup>Note 4</sup>

**Note 1:** The emission limit value to be applied will be determined by the annual solvent use in the previous calendar year.

**Note 2:** Where annual solvent usage is less than 5 tonnes per annum.

**Note 3:** Where annual solvent usage is 5-15 tonnes per annum.

**Note 4:** Where annual solvent usage is above 15 tonnes per annum.

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**C.4 Surface Water Discharge Limits:** (Measured at the **surface water** monitoring point SW3).

Parameter	Emission Limit Value
Mineral oils	5mg/l <sup>Note 1</sup>
	100mg/l <sup>Note 2</sup>
Suspended Solids	35 mg/l <sup>Note 1</sup>

**Note 1:** for discharges from Class I interceptor to receiving water

**Note 2:** for discharges from Class II interceptor to sewer

**C.5 Emission Limits for Wastewater Emissions to Sewer**

Emission Point Reference No.

EFF2

Volume to be emitted:

Maximum in any one day: 200 m<sup>3</sup>

Maximum rate per hour: 50 m<sup>3</sup>/hr

Parameter	Emission Limit Value		
	Grab Sample (mg/l)	Daily Mean Concentration (mg/l)	Daily Mean Loading (kg/day)
BOD	1000	800	160
COD	3000	2400	480
Mineral Oils	10	20	2
Suspended solids	500	400	80
Sulphates (as SO <sub>4</sub> )	1000	1000	200
pH	6 – 10		
Temperature	42°C		
Detergents ( as MBAS)	100	100	20
Toluene		1	0.2
o/m/p Xylenes	1	1	0.2
Zinc	5	5	1
Copper	5	5	1

## SCHEDULE D : Monitoring

Monitoring to be carried out as specified below.

### D.1 Monitoring Locations

Monitoring locations shall be those as set out in Table D.1.1 and shown on Drawing No. 1102/02/304 *Field Monitoring Points* of the application, unless otherwise indicated or agreed by the Agency.

**Table D.1.1 Monitoring Locations**

Ground Water	Surface Water	Wastewater	Air	Dust Deposition	Noise
Stations	Stations	Stations <sup>Note 3</sup>	Stations <sup>Note 3</sup>	Stations	Stations
BH1	SW1	EFF2	A1	D1	N1
BH2	SW2		A2	D2	N2
BH3	SW3 <sup>Note 1</sup>		A3	D3	N3
	KS1 <sup>Note 2</sup>			D4	N4
	KS2 <sup>Note 2</sup>				Any noise sensitive locations

**Note 1:** The location of the final discharge monitoring point SW3 is to be agreed by the Agency.

**Note 2:** The monitoring locations KS1 and KS2 are only to be used for biological assessment in accordance with Condition 8.10.

**Note 3:** The locations of the wastewater monitoring point and air monitoring points are shown on Drawing No. 1102/02/334 *Additional Monitoring Points* of the Article 14 reply received 24/12/03.

### D.2 Dust

**Table D.2.1 Dust Monitoring Frequency and Technique**

Parameter (mg/m <sup>2</sup> /day)	Monitoring Frequency	Analysis Method/Technique
Dust	Three times a year <sup>Note 2</sup>	Standard Method <sup>Note 1</sup>

**Note 1:** Standard method VDI2119 (Measurement of Dustfall, Determination of Dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). A modification (not included in the standard) which 2 methoxy ethanol may be employed to eliminate interference due to algae growth in the gauge.

**Note 2:** Twice during the period May to September.

### D.3 Noise

**Table D.3.1 Noise Monitoring Frequency and Technique**

Parameter	Monitoring Frequency	Analysis Method/Technique
L(A) <sub>EQ</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>10</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
L(A) <sub>90</sub> [30 minutes]	Annual	Standard <sup>Note 1</sup>
Frequency Analysis(1/3 Octave band analysis)	Annual	Standard <sup>Note 1</sup>

**Note 1:** "International Standards Organisation. ISO 1996. Acoustics - description and Measurement of Environmental noise. Parts 1, 2 and 3."

## D.4 Emissions to Air

**Table D.4.1 Air emission monitoring Frequency and Technique**

Parameter	Monitoring Frequency	Analysis Method/Technique
T.A. Luft Organics Class 1	annually <sup>Note 1</sup>	Adsorption/GC-MS or other method to be agreed by the Agency.
Total organic carbon (as C)	bi-annually <sup>Note 1</sup>	Adsorption/GC-MS or other method to be agreed by the Agency.
Characterisation of the VOC emission	annually <sup>Note 1</sup>	Adsorption/GC-MS or other method to be agreed by the Agency.

**Note 1:** Monitoring must occur during periods of maximum discharge. Production records should be available to demonstrate that gas sampling took place during periods of maximum loading.

## D.5 Surface Water Emissions

**Table D.5.1 Surface water Monitoring Frequency and Techniques**

Parameter	Monitoring Frequency	Analysis Method/Technique
Visual Inspection <sup>Note 1</sup>	Daily	Standard Methods <sup>Note 2</sup>
pH	Quarterly	Electrometry
Chemical Oxygen Demand	Quarterly	Standard Methods <sup>Note 2</sup>
Suspended Solids	Quarterly	Standard Methods <sup>Note 2</sup>
Mineral Oils	Quarterly	Standard Methods <sup>Note 3</sup>

**Note 1:** The visual inspection to be carried out at the final discharge surface water monitoring location SW3.

**Note 2:** "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 20th Ed., American Public Health Association, 1015 Fifteenth Street, Washington DC 20005, USA.

**Note 3:** Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list of H Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).

## D.6 Wastewater Emissions

**Table D.6.1 Wastewater Monitoring Frequency and Techniques**

Parameter	Monitoring Frequency	Analysis Method/Technique
Flow to sewer	Continuous	
Biological Oxygen Demand	Monthly	Standard Methods <sup>Note 1, Note 2</sup>
Chemical Oxygen Demand	Monthly	Standard Methods <sup>Note 1, Note 2</sup>
Mineral Oils	Monthly	Standard Methods <sup>Note 1, Note 3</sup>
Suspended Solids	Monthly	Standard Methods <sup>Note 1, Note 2</sup>
Sulphates (as SO <sub>4</sub> )	Monthly	Standard Methods <sup>Note 1, Note 2</sup>
Temperature	Monthly	Temperature probe <sup>Note 3</sup>
pH	Monthly	Electrometry <sup>Note 3</sup>
Toluene	Monthly	Standard Methods <sup>Note 1, Note 3</sup>
Detergents (as MBAS)	Monthly	Standard Methods <sup>Note 1, Note 3</sup>
o/m/p Xylenes	Monthly	Standard Methods <sup>Note 1, Note 3</sup>
Zinc	Monthly	Standard Methods <sup>Note 1, Note 2</sup>
Copper	Monthly	Standard Methods <sup>Note 1, Note 2</sup>
Metals Screen <sup>Note 4</sup>	Quarterly	ICP

**Note 1:** "Standards Methods for the Examination of Water and Wastewater", (prepared and published jointly by A.P.H.A., A.W.W.A & W.E.F) 20th Ed., American Public Health Association, 1015 Fifteenth Street, Washington DC 20005, USA.

**Note 2:** Sampling by 24-hour composite.

**Note 3:** Sampling by grab.

**Note 4:** Metals to be screened for to be agreed by the Agency in advance.

## D.7 Groundwater

**Table D 7.1 Groundwater - Parameters /Frequency**

PARAMETER <sup>Note 1</sup>	MONITORING FREQUENCY
Visual Inspection/Odour <sup>Note 2</sup>	Monthly
Groundwater Level <sup>Note 3</sup>	Monthly
Dissolved Oxygen <sup>Note 3</sup>	Annually
Electrical Conductivity <sup>Note 3</sup>	Monthly
pH <sup>Note 3</sup>	Monthly
Temperature <sup>Note 3</sup>	Monthly
Total Alkalinity	Annually
Metals / non metals <sup>Note 4</sup>	Annually
Sulphate	Annually
Cyanide (Total)	Annually
Chloride	Annually
List I/II organic substances <sup>Note 5</sup>	Quarterly
Mineral Oil <sup>Note 5</sup>	Quarterly
BTEX <sup>Note 5</sup>	Quarterly
Arsenic	Quarterly
Mercury	Quarterly

**Note 1:** All the analysis shall be carried out by a competent laboratory using standard and internationally accepted procedures.

**Note 2:** Where there is evident gross contamination of groundwater, additional samples should be analysed.

**Note 3:** These parameters should be measured on-site with a portable electronic meter.

**Note 4:** Metals and elements to be analysed by AAS/ICP should include as a minimum: boron, cadmium, calcium, chromium (total), copper, iron, lead, magnesium, manganese, nickel, potassium, sodium and zinc.

**Note 5:** Samples screened for the presence of organic compounds using Gas Chromatography / Mass Spectrometry (GC/MS) or other appropriate techniques and using the list I/II Substances from EU Directive 76/464/EEC and 80/68/EEC as a guideline. Recommended analytical techniques include: volatiles (US Environmental Protection Agency method 524 or equivalent), semi-volatiles (USEPA method 525 or equivalent, and pesticides (USEPA method 608 or equivalent).



## SCHEDULE E : Recording and Reporting to the Agency

### Recurring Reports

Report	Reporting Frequency <sup>Note1</sup>	Report Submission Date
<b>Environmental Management System Updates</b>	Annually	As part of the AER.
<b>Annual Environment Report (AER)</b>	Annually	By 31 <sup>st</sup> March of each calendar year.
<b>Record of incidents</b>	As they occur	Within five days of the incident.
<b>Bund, tank and container integrity assessment</b>	Every three years	Six months from the date of grant of licence and one month after end of the three year period being reported on as part of the AER.
<b>Specified Engineering Works reports</b>	As they arise	Prior to the works commencing.
<b>Monitoring of Surface Water Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Groundwater Quality</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Wastewater</b>	Quarterly	Ten days after end of the quarter being reported on.
<b>Monitoring of Air Emissions</b>	Bi-annually	Ten days after the period reported on.
<b>Dust Monitoring</b>	Three times a year	Submit as part of the AER.
<b>Noise Monitoring</b>	Annually	Submit as part of the AER.
<b>Biological Monitoring</b>	Annually	Six months from the date of grant of licence and thereafter as may be required as part of the AER.
<b>Any other monitoring</b>	As they occur	Within ten days of obtaining results.

**Note 1:** Unless altered at the request of the Agency

# SCHEDULE F : Content of the Annual Environmental Report

## Annual Environmental Report Content <sup>Note 1</sup>

Reporting Period.

Waste activities carried out at the facility.

Quantity and Composition of waste recovered, received and disposed of during the reporting period and each previous year (relevant EWC codes to be used).

Summary report on emissions.

Summary of results and interpretations of environmental monitoring, including a location plan of all monitoring locations.

Validation of air emission model using actual monitoring results from first year of operation of the facility.

Resource and energy consumption summary.

Development / Infrastructural works in place and planned, to process waste quantities projected for the following year (including plant operating capacity, provision of adequate standby capacity and provision of contingency, backup and spares in the case of breakdown).

Environmental Management System updates.

Schedule of Environmental Objectives and Targets for the forthcoming year.

Report on the progress towards achievement of the Environmental Objectives and Targets contained in previous year's report.

Full title and a written summary of any procedures developed by the licensee in the year which relates to the facility operation.

Tank, drum, pipeline and bund testing and inspection report.

Calibration certificate on oil heating temperature cut off detection unit.

Boiler efficiency test results.

Reported Incidents and Complaints summaries.

Review of Nuisance Controls.

Reports on financial provision made under this licence, management and staffing structure of the facility, and a programme for public information.

Solvent Management Plan.

Waste Recovery Report.

Report on training of staff.

Volume of wastewater produced and volume of wastewater transported off-site.

Any other items specified by the Agency.

**Note 1:** Content to be revised subject to the agreement of the Agency after cessation of waste acceptance at the facility.

**Sealed by the seal of the Agency on this the 2nd day of December, 2004**

**PRESENT when the seal of the Agency  
was affixed hereto:**

---

**Padraic Larkin, Authorised Person**

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**Appendix 1.3**  
**Consultation Correspondence**

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Mr. Ian Lumley,  
Heritage Officer,  
An Taisce,  
Tailors Hall,  
Back Lane,  
Dublin 8.

2<sup>nd</sup> March 2007

Dear Mr. Lumley,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

An EIS has been requested for this facility as Rilta are intending to increase the tonnage of contaminated soil stored and transferred off-site from 65,000 tonnes per annum to 110,000 tonnes per annum.

No additional buildings will be added and no additional processing will take place. Soil can be exported off site within a week of intake. The site can hold approx. 6,500 tonnes at any one time.

As scoping is a requirement of the EIS process we invite you to submit any relevant information for the EIS of this facility that you may hold and/or highlight any issues that you feel should be addressed in the Environmental Impact Statement.

We would be very obliged if you would respond by March 21<sup>st</sup>, so we can incorporate any issues into the EIS. If you require any further information, please do not hesitate to contact me on 01-8030401.

Yours Sincerely,

---

Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Ms. Christine Croton,  
Conservation Policy Officer,  
BirdWatch Ireland,  
Rockingham House,  
Newcastle,  
County Wicklow.

2<sup>nd</sup> March 2007

Dear Ms. Croton,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility, at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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Yours Sincerely,

---

Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Vincent O'Malley,  
The National Roads Authority,  
St. Martins House,  
Waterloo Road,  
Ballsbridge,  
Dublin 4.

2<sup>nd</sup> March 2007

Dear Mr. O'Malley,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility, at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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We would be very obliged if you would respond by March 21<sup>st</sup>, so we can incorporate any issues into the EIS. If you require any further information, please do not hesitate to contact me on 01-8030401.

Yours Sincerely,

---

Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Irish Wildlife Trust,  
Sigmund Business Centre,  
93A Lagan Road,  
Dublin Industrial Estate,  
Glasnevin,  
Dublin 11.

2<sup>nd</sup> March 2007

Dear Sir / Madam,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility, at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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We would be very obliged if you would respond by March 21<sup>st</sup>, so we can incorporate any issues into the EIS. If you require any further information, please do not hesitate to contact me on 01-8030401.

Yours Sincerely,

---

Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Consent of copyright owner required for any other use.*

Health and Safety Authority,  
10 Hogan Place,  
Dublin 2.

2<sup>nd</sup> March 2007

Dear Sir / Madam,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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Project Scientist  
TOBIN Consulting Engineers

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The Heritage Council,  
Rothe House,  
Kilkenny.

2<sup>nd</sup> March 2007

Dear Sir / Madam,

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Project Scientist  
TOBIN Consulting Engineers

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Mr. Donal Daly,  
The Geological Survey of Ireland,  
Headquarters,  
Beggars Bush,  
Haddington Road,  
Dublin 4

2<sup>nd</sup> March 2007

Dear Mr. Daly,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility, at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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Project Scientist  
TOBIN Consulting Engineers

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Mr. Donal Guilfoyle  
Failte Ireland  
Baggot Street Bridge,  
Dublin 2.

2<sup>nd</sup> March 2007

Dear Mr. Guilfoyle,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555/N228440.

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Yours Sincerely,

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Owen Wilson,  
Electricity Supply Board,  
Lr. Fitzwilliam Street,  
Dublin 2.

2<sup>nd</sup> March 2007

Dear Mr. Wilson,

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Yours Sincerely,

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Eastern Regional Fisheries Board,  
15a Main Street,  
Blackrock,  
Co. Dublin.

2<sup>nd</sup> March 2007

Dear Sir / Madam,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555/N228440.

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Environmental Protection Agency,  
PO Box,  
Johnstown Castle Estate,  
Co. Wexford.

2<sup>nd</sup> March 2007.

Dear Sir / Madam,

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TOBIN Consulting Engineers

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Development Applications Section,  
The Heritage and Planning Division of The Department of the Environment, Heritage and  
Local Government,  
Custom House,  
Dublin 1.

2<sup>nd</sup> March 2007

Dear Sir / Madam,

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Mr. Michael Mac Carthy,  
Environment Section,  
Department of Agriculture & Food,  
Johnstown Castle,  
Co. Wexford.

2<sup>nd</sup> March 2007

Dear Mr. Mac Carthy,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Tom Doherty,  
Director of Services – Planning,  
South Dublin County Council,  
County Hall,  
Tallaght  
Dublin 24.

2<sup>nd</sup> March 2007

Dear Mr. Doherty,

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Yours Sincerely,

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Mary Pyne,  
Director of Services – Environmental Services,  
South Dublin County Council,  
County Hall,  
Tallaght  
Dublin 24.

2<sup>nd</sup> March 2007

Dear Ms. Pyne,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Jim Walsh,  
Director of Services – Economic  
Development,  
South Dublin County Council,  
County Hall,  
Tallaght  
Dublin 24.

2<sup>nd</sup> March 2007

Dear Mr. Walsh,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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Yours Sincerely,

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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District Conservation Officer - Dublin,  
National Parks and Wildlife Service,  
7 Ely Place,  
Dublin 2.

2<sup>nd</sup> March 2007

Dear Sir/Madam,

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Yours Sincerely,

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Coillte Teoranta,  
The Irish Forestry Board,  
Newtownmountkennedy,  
Co. Wicklow

2<sup>nd</sup> March 2007

Dear Sir / Madam,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555/N228440.

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Donagh O'Sullivan,  
Bord Gais,  
Headquarters,  
P.O. Box 15,  
Gasworks Road,  
County Cork.

2<sup>nd</sup> March 2007

Dear Mr. O'Sullivan,

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Yours Sincerely,

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Siobhán Tinnelly  
Project Scientist  
TOBIN Consulting Engineers

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Mr. Jim Flanagan,  
Director,  
Teagasc,  
Oak Park,  
Carlow.

2<sup>nd</sup> March 2007

Dear Mr. Flanagan,

TOBIN Consulting Engineers are conducting an Environmental Impact Assessment for an Integrated Waste Management Facility, consisting of a Hydrocarbon Recycling Facility, a Drum Reconditioning Facility, a Hazardous Waste Transfer Station and a Commercial and Industrial Waste Recycling Facility at Greenogue Industrial Estate Co. Dublin. Rilta Environmental Ltd. have already been granted planning permission for this facility and information can be found under: Planning Register Reference Number: SD02A/0313, An Bord Pleanála Reference Number: PL 06S.201534. A location map is attached and the grid reference is approximately E301555 N228440.

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**Yours Sincerely,**

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**Siobhán Tinnelly**  
**Project Scientist**  
**TOBIN Consulting Engineers**

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## **Appendix 2.1**

### **Annual Environmental Report (AER) 2006**

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## Document Amendment Record

<b>Client:</b>	Rilta Environmental Ltd.
<b>Project:</b>	Greenogue Monitoring
<b>Title:</b>	Annual Environmental Report

<b>Project Number:</b> 3084			<b>Document Ref:</b> Greenogue Monitoring		
0	Annual Environmental Report	ST	MC	DG	23/03/07
<b>Revision</b>	<b>Purpose / Description</b>	<b>Originated</b>	<b>Checked</b>	<b>Authorised</b>	<b>Date</b>
					

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**Rilta Environmental Ltd.  
Block 402, Greenogue Business Park,  
Rathcoole, County Dublin**

**ANNUAL ENVIRONMENTAL REPORT FOR THE  
YEAR ENDING 31<sup>ST</sup> OF DECEMBER 2006**

**Compiled March 2007**

**EPA WASTE LICENCE**

**No. 192-1**



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## 1. Introduction

In accordance with condition 11.4 of waste licence 192-1, the following Annual Environmental Report includes all information specified in Schedule F: Content of Annual Environmental Report and has been compiled with the aid of the Waste licensing draft guidance notes 19.04.99.

## 2. Reporting Period

Rilta Environmental Ltd (then trading as Sita Environmental) was issued with Waste Licence No: 192-1 by the EPA on December 3rd 2004. This AER covers the period from January 1<sup>st</sup> 2006 to December 31<sup>st</sup> 2006.

## 3. Waste Activities carried out at the Facility

The licensed activities carried out at the RILTA facility as per Waste Licence No: 192-1 are as follows:

### Third Schedule of the Waste Management Act, 1996 to 2003.

**Class 7:** Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination), which results in final compounds or mixtures, which are disposed of by means of any activity referred to in paragraphs 1 to 10. of this Schedule (including evaporation, drying and calcination).

**Class 11:** Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.

**Class 12:** Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

**Class 13:** Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

### Fourth Schedule of the Waste Management Acts 1996 to 2003.

**Class 2:** Recycling or reclamation of organic substances, which are not used as solvents (including composting and other biological transformation processes).

**Class 3:** Recycling or reclamation of metals and metal compounds

**Class 4:** Recycling or reclamation of other inorganic materials

**Class 6:** Recovery of components used for pollution abatement.

**Class 8:** Oil re-refining or other re-uses of oil.

**Class 13:** Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

#### 4. Waste Quantities (1<sup>st</sup> January 2006 – 31st December 2006).

The following table summarises the types and quantities of waste handled over the period 1<sup>st</sup> January 2006 to 31<sup>st</sup> December 2006, at RILTA's facility.

**Table.1 Waste Throughput Handled at RILTA's facility (01/01/06 to 31/12/06)**

Waste Description	EWC Code	Weight/Tonnes	Final Disposal Outlet	Recycling/Disposal Code
Flocculant	01 03 09	6.16	RZR, Germany	D10 - Incineration on land
Herbicides	02 01 08*	0.47	Cedar	R13 - Storage prior to recovery
Food preparation waste	02 02 99	0.36	RZR, Germany	D10 - Incineration on land
Dairy waste	02 05 01	0.87	Premier Proteins	R3 - Organic Substance Recycling
Varnish	03 02 01*	10.30	ATM, Holland	D10 - Incineration on land
Wood preservatives	03 02 05*	0.52	Recyfuel, Belgium	D10 - Incineration on land
Wood preservatives	03 02 99	2.58	ATM, Holland	D10 - Incineration on land
Solvents	04 02 14*	11.58	Terris, France	R2 - Solvent Recovery
Sulphuric acid	06 01 01*	36.61	Revatech, Belgium	R6 - Regeneration of acids or bases
Hydrochloric acid	06 01 02*	0.74	Revatech, Belgium	R6 - Regeneration of acids or bases
Nitric acid	06 01 05*	3.31	Revatech, Belgium	R6 - Regeneration of acids or bases
Acidic waste	06 01 06*	5.17	Revatech, Belgium	R6 - Regeneration of acids or bases
Acidic waste	06 01 99	39.62	Revatech, Belgium	R6 - Regeneration of acids or bases
Potassium permanganate	06 02 04*	0.50	Enva	R13 - Storage prior to recovery
Alkaline waste	06 02 05*	3.47	Revatech, Belgium	R6 - Regeneration of acids or bases

Electronics waste	16 02 13*	0.80	Tech Rec	R13 - Storage prior to recovery
Zinc cyanide	06 03 11*	4.66	RZR, Germany	D10 - Incineration on land
Potassium nitrate	06 03 14*	9.26	Revatech, Belgium	R6 - Regeneration of acids or bases
Non specified inorganic waste	06 13 99	16.80	RZR, Germany	D10 - Incineration on land
Aqueous washing liquids	07 01 01*	12.46	ATM, Holland	D10 - Incineration on land
Organic solvents	07 01 04*	40.61	Terris, France	R2 - Solvent Recovery
Wipes	07 01 99	1.88	Recyfuel, Belgium	D10 - Incineration on land
Solvents	07 02 04*	4.21	Terris, France	R2 - Solvent Recovery
Sealants	07 02 14*	1.70	Terris, France	R2 - Solvent Recovery
Solvents	07 04 04*	9.90	Terris, France	R2 - Solvent Recovery
Waste pesticide	07 04 13*	0.01	Cedar	R13 - Storage prior to recovery
Solvents	07 05 03*	0.18	Terris, France	R2 - Solvent Recovery
Solvents	07 05 04*	29.16	Terris, France	R2 - Solvent Recovery
Solvents sludge	07 05 09*	8.12	Terris, France	R2 - Solvent Recovery
Paint related waste	08 01 11*	244.91	Recyfuel, Belgium	D10 - Incineration on land
Varnish waste	08 01 12	54.59	Revatech, Belgium	D10 - Incineration on land
Paint sludge	08 01 13*	12.91	ATM, Holland	D10 - Incineration on land
Non specified paint waste	08 01 99	6.30	ATM, Holland	D10 - Incineration on land
Ink sludge	08 03 07	3.78	ATM, Holland	D10 - Incineration on land
Ink waste	08 03 12*	300.40	ORM, Germany	R2 - Solvent Recovery
Adhesive waste	08 04 09*	5.09	ATM, Holland	D10 - Incineration on land
Adhesive waste	08 04 10	282.38	Recyfuel, Belgium	D10 - Incineration on land
Adhesive waste	08 04 11*	0.03	Recyfuel, Belgium	D10 - Incineration on land
Photo developer waste	09 01 01*	59.80	Remondis, UK	R4 - Metal recovery

Photo plate wash	09 01 02*	8.52	Remondis, UK	R4 - Metal recovery
Photo fixer waste	09 01 04*	1.40	Remondis, UK	R4 - Metal recovery
Non specified photo waste	09 01 99	0.48	Remondis, UK	R4 - Metal recovery
Oily fly ash	10 01 04*	32.96	Betrem, Germany	D1 - Landfill
Pickling acid	11 01 05*	8.01	Revatech, Belgium	R6 - Regeneration of acids or bases
Acidic waste	11 01 06*	1.78	Revatech, Belgium	R6 - Regeneration of acids or bases
Sludge and filter cake	11 01 09*	84.37	Betrem, Germany	D1 - Landfill
Electroplating waste	11 01 11*	15.34	RZR, Germany	D10 - Incineration on land
Degreasing waste	11 01 14*	0.06	Recyfuel, Belgium	D10 - Incineration on land
Liner waste	11 01 99	1.08	ATM, Holland	D10 - Incineration on land
Copper hydrometallurgy waste	11 02 05*	0.03	Revatech, Belgium	R6 - Regeneration of acids or bases
Hydrometallurgy waste	11 02 07*	0.29	Revatech, Belgium	R6 - Regeneration of acids or bases
Zinc cyanide sludge	11 03 01*	7.62	Revatech, Belgium	R6 - Regeneration of acids or bases
Coolant/glycol	12 01 09*	20.17	Recyfuel, Belgium	D10 - Incineration on land
Engine oil	13 02 06*	27.80	Recyfuel, Belgium	D10 - Incineration on land
Waste oil	13 02 08*	68.62	Recyfuel, Belgium	D10 - Incineration on land
Interceptor waste	13 05 03*	16.49	Recyfuel, Belgium	D10 - Incineration on land
Fuel waste	13 07 01*	6.21	ATM, Holland	D10 - Incineration on land
Fuel waste	13 07 03*	7.15	ATM, Holland	D10 - Incineration on land
Oil spill waste	13 08 99*	17.04	Recyfuel, Belgium	D10 - Incineration on land
Aerosols	14 06 01*	0.63	Cedar	R13 - Storage prior to recovery
Solvents	14 06 03*	25.11	Terris, France	R2 - Solvent Recovery

Solvent contaminated solids	14 06 05*	0.58	ATM, Holland	D10 - Incineration on land
Contaminated packaging	15 01 02	1.44	Recyfuel, Belgium	D10 - Incineration on land
Contaminated packaging	15 01 04	1.07	Recyfuel, Belgium	D10 - Incineration on land
Contaminated packaging	15 01 10*	100.68	Recyfuel, Belgium	D10 - Incineration on land
Absorbents	15 02 02*	139.54	ATM, Holland	D10 - Incineration on land
Absorbents	15 02 03	10.12	ATM, Holland	D10 - Incineration on land
Oil filters	16 01 07*	5.60	ATM, Holland	D10 - Incineration on land
Brake fluids	16 01 13*	5.36	ATM, Holland	D10 - Incineration on land
Antifreeze	16 01 14*	0.15	ATM, Holland	D10 - Incineration on land
Electronics waste	16 01 21*	1.20	Tech Rec	R13 - Storage prior to recovery
Solvents	16 02 13*	0.30	Terris, France	R2 - Solvent Recovery
Non specified inorganic waste	16 03 03*	31.94	RZR, Germany	D10 - Incineration on land
Non specified inorganic waste	16 03 04	6.72	RZR, Germany	D10 - Incineration on land
Non specified organic waste	16 03 05*	2.02	RZR, Germany	D10 - Incineration on land
Non specified organic waste	16 03 06	2.17	RZR, Germany	D10 - Incineration on land
Aerosols	16 05 04*	0.85	Cedar	R13 - Storage prior to recovery
Aerosols	16 05 05	0.01	Cedar	R13 - Storage prior to recovery
Lab chemicals	16 05 06*	34.98	RZR, Germany	D10 - Incineration on land
Lab chemicals	16 05 07*	11.22	RZR, Germany	D10 - Incineration on land
Lead batteries	16 06 01*	1.57	Returnbatt	R13 - Storage prior to recovery
Battery acid	16 06 06*	0.40	Revatech, Belgium	R6 - Regeneration of acids or bases
Tank cleaning waste	16 07 08*	7.38	Recyfuel, Belgium	D10 - Incineration on land

Tank cleaning waste	16 07 09*	15.93	Revatech, Belgium	D8 - Biological Treatment
Non specified tank waste	16 07 99	11.34	Recyfuel, Belgium	D10 - Incineration on land
Aqueous liquid waste	16 10 01*	31.38	Revatech, Belgium	D8 - Biological Treatment
C and D waste	17 01 06*	0.30	ATM, Holland	D10 - Incineration on land
Glass	17 02 04*	0.16	ATM, Holland	D10 - Incineration on land
Bituminous waste	17 03 01*	14.30	Recyfuel, Belgium	D10 - Incineration on land
Tar	17 03 03*	1.36	Recyfuel, Belgium	D10 - Incineration on land
Aluminium sludge	17 04 02	2.94	Revatech, Belgium	R6 - Regeneration of acids or bases
Asbestos	17 06 01*	99.22	Depon., Germany	D1 - Landfill
Asbestos	17 06 05*	5,718.45	AGR/Depon, Germany	D1 - Landfill
Clinical sharps	18 01 01	0.48	RZR, Germany	D10 - Incineration on land
Clinical wastes	18 01 03*	0.15	RZR, Germany	D10 - Incineration on land
Clinical waste	18 01 04	0.07	RZR, Germany	D10 - Incineration on land
Clinical waste	18 01 06*	56.60	RZR, Germany	D10 - Incineration on land
Clinical waste	18 01 07	0.29	RZR, Germany	D10 - Incineration on land
Clinical waste	18 01 08*	0.05	RZR, Germany	D10 - Incineration on land
Clinical waste	18 01 09	0.08	RZR, Germany	D10 - Incineration on land
Dental amalgam	18 01 10*	1.33	RZR, Germany	D10 - Incineration on land
Lab chemicals	18 02 05*	3.17	RZR, Germany	D10 - Incineration on land
Lab chemicals	18 02 06	4.00	RZR, Germany	D10 - Incineration on land
Veterinary medicine	18 02 07*	2.10	RZR, Germany	D10 - Incineration on land
Molecular sieve	19 01 99	3.60	RZR, Germany	D10 - Incineration on land

Floc agent	19 02 99	0.17	RZR, Germany	D10 - Incineration on land
Spent carbon	19 09 04	19.02	Recyfuel, Belgium	D10 - Incineration on land
Solvents	20 01 13*	1.34	Terris, France	R2 - Solvent Recovery
Acids	20 01 14*	3.07	Revatech, Belgium	R6 - Regeneration of acids or bases
Alkalines	20 01 15*	0.80	Revatech, Belgium	R6 - Regeneration of acids or bases
Photochemicals	20 01 17*	0.74	Remondis, UK	R5 - Inorganic substance recycling
Pesticides	20 01 19*	0.20	Cedar	R13 - Storage prior to recovery
Fluorescent tubes	20 01 21*	0.20	Irish Lamp Recycling	R13 - Storage prior to recovery
Aerosols	20 01 23*	0.23	Cedar	R13 - Storage prior to recovery
Edible oil and fat	20 01 25	6.98	Premier Proteins	R3 - Organic Substance Recycling
Waste oil	20 01 26*	8.35	Recyfuel, Belgium	D10 - Incineration on land
Paint waste	20 01 27*	94.09	Recyfuel, Belgium	D10 - Incineration on land
Detergents	20 01 29*	0.48	Recyfuel, Belgium	D10 - Incineration on land
Spent medicines	20 01 31*	0.60	RZR, Germany	D10 - Incineration on land
Non specified municipal waste	20 03 99	4.04	Recyfuel, Belgium	D10 - Incineration on land
Contaminated Soil	17 05 03*	42,725.81	U Nord, Germany TerraCon, Germany	D15 - Storage pending any of the operations numbered D1-D12
Waste Drums	15 01 10	103.77	Greenstar Recycling	D1 - Landfill
Waste Drums	15 01 10	15.57	Greenstar Recycling	R13 - Storage prior to recovery
Waste Drums	15 01 10	478.1	Rilta Env	R4 - Metal recovery
Waste Drums	15 01 10	788.76	Hammond Lane Metal	R4 - Metal recovery
Stonecutting Wash	01 04 13	328.96	Rilta Env	D9 - Physico chemical treatment



Chloride -containing Drilling Muds	01 05 08	115.20	Rilta Env	D9 - Physico chemical treatment
Wood processing Wash	03 01 99	10.32	Rilta Env	D9 - Physico chemical treatment
Tank bottom sludges	05 01 03*	1.72	Rilta Env	D9 - Physico chemical treatment
Acidic waste	06 01 06*	20.78	Rilta Env	D9 - Physico chemical treatment
Effluent treatment sludges	06 05 02*	21.82	Rilta Env	D9 - Physico chemical treatment
Aqueous washing liquids	07 01 01*	30.24	Rilta Env	D9 - Physico chemical treatment
Aqueous washing liquids	07 03 01*	25.82	Rilta Env	D9 - Physico chemical treatment
Paint related waste	08 01 11*	32.09	Rilta Env	D9 - Physico chemical treatment
Aqueous liquid waste containing ink	08 03 08	6.55	Rilta Env	D9 - Physico chemical treatment
Sludges from boiler cleansing	10 01 22*	21.88	Rilta Env	D9 - Physico chemical treatment
Sludges from boiler cleansing	10 01 23	98.20	Rilta Env	D9 - Physico chemical treatment
Sludges and filter cake	11 01 09*	16.92	Rilta Env	D9 - Physico chemical treatment
Aqueous rinsing liquids	11 01 11*	5.80	Rilta Env	D9 - Physico chemical treatment
Coolant	12 01 09*	1,836.41	Rilta Env	D9 - Physico chemical treatment
Mineral-based hydraulic oils	13 01 10*	7.23	Rilta Env	D9 - Physico chemical treatment
Synthetic hydraulic oils	13 01 11*	1.50	Rilta Env	D9 - Physico chemical treatment
Hydraulic oils	13 01 13*	11.86	Rilta Env	D9 - Physico chemical treatment
Mineral-based engine, gear and lub oils	13 02 04*	0.92	Rilta Env	D9 - Physico chemical treatment
Mineral-based engine, gear and lub oils	13 02 05*	12.10	Rilta Env	D9 - Physico chemical treatment
Synthetic gear, engine and lub oils	13 02 06*	45.08	Rilta Env	D9 - Physico chemical treatment
Engine, gear and lub oils	13 02 07*	11.44	Rilta Env	D9 - Physico chemical treatment

Engine, gear and lub oils	13 02 08*	742.56	Rilta Env	D9 - Physico chemical treatment
Bilge oil	13 04 03*	230.04	Rilta Env	D9 - Physico chemical treatment
Solids from grit chambers	13 05 01*	25.88	Rilta Env	D9 - Physico chemical treatment
Sludges from oil/water separators	13 05 02*	3.00	Rilta Env	D9 - Physico chemical treatment
Interceptor sludges	13 05 03*	9,871.47	Rilta Env	D9 - Physico chemical treatment
Oily water	13 05 07*	84.70	Rilta Env	D9 - Physico chemical treatment
Wastes from grit chambers	13 05 08*	8.94	Rilta Env	D9 - Physico chemical treatment
Fuel oil and diesel	13 07 01*	150.39	Rilta Env	D9 - Physico chemical treatment
Mixed Fuels	13 07 03*	107.74	Rilta Env	D9 - Physico chemical treatment
Oil spill waste	13 08 99*	463.49	Rilta Env	D9 - Physico chemical treatment
Brake fluids	16 01 13*	11.01	Rilta Env	D9 - Physico chemical treatment
Antifreeze	16 01 14*	0.12	Rilta Env	D9 - Physico chemical treatment
Electrolyte from batteries	16 06 06*	22.51	Rilta Env	D9 - Physico chemical treatment
Tank cleaning waste	16 07 08*	1,770.18	Rilta Env	D9 - Physico chemical treatment
Tank cleaning waste	16 07 09*	7.42	Rilta Env	D9 - Physico chemical treatment
Non specified tank waste	16 07 99	387.76	Rilta Env	D9 - Physico chemical treatment
Aqueous liquid waste	16 10 01*	1,244.22	Rilta Env	D9 - Physico chemical treatment
Dredging Spoil	17 05 06	1.00	Rilta Env	D9 - Physico chemical treatment
Waste oil	20 01 26*	17.88	Rilta Env	D9 - Physico chemical treatment
Paint waste	20 01 27*	274.30	Rilta Env	D9 - Physico chemical treatment
Non specified municipal waste	20 03 99	1.52	Rilta Env	D9 - Physico chemical treatment

Condition 1.4 of Waste Licence No: 192-1 allows RILTA to accept up to 62,500 tonnes/year of waste consisting of hazardous waste, commercial waste, construction and demolition waste, industrial sludges and industrial waste at the facility. The above table shows that the total volume of waste accepted by RILTA from January 1<sup>st</sup> 2006 to December 31<sup>st</sup> 2006 was 70,257 tonnes/year. 42,725.81 tonnes of this total is classified as Contaminated Soil. Rilta Environmental Ltd. is currently requesting an increase in this limit to reflect an increase in the quantity of soil that is being stored and transferred from the site.

## 5. Summary Report on Emissions

Schedule C of Waste Licence 192-1 requires RILTA to carry out noise, air, dust, surface water, groundwater and wastewater emissions monitoring. The locations of these monitoring points are shown on Drawing 1250/01/1002, as submitted to the Environmental Protection Agency on the 28<sup>th</sup> of February, 2005.

Monthly, Quarterly and Annual monitoring was carried out during the period from 01/01/06 to 31/12/06. All monitoring results and reports have been submitted to the agency as required by Schedule E of the licence. The following is a summary of the results and findings of the 2006 monitoring period.

### 5.1 Groundwater Emissions

#### 5.1.1 Groundwater monitoring point 1 (BH1)

**Location:** E301555 N228440

**pH, Conductivity:** The pH of the analysed groundwater from BH1 ranged from 7.35 in February 2006 to 7.97 in November 2006. The values are within the normal range and reflect the natural conditions of this groundwater.

The conductivity was ranging from 602 $\mu$ S/cm in August 2006 to 669 $\mu$ S/cm in November 2006. This range of values is considerably lower than the Drinking Water Regulations.

#### **Heavy metals:**

Arsenic at BH1 was recorded as below the detection limit for all monitoring events with the exception of the May monitoring event when the value was reported as 2 $\mu$ g/l. All groundwater sampled from BH1 was also found to contain a value of Mercury below the detection limit.

Copper, Chromium, Cadmium, Nickel and Zinc were all analysed as part of the annual groundwater set of parameters for BH1. All were below the regulatory limits set by the Drinking Water Regulation

standards and the EPA Guideline Values.

**Inorganic:**

All inorganic parameters were within the limits set by the Drinking Water Regulation standards and the EPA Guideline Values.

**List 1/11 Organic Substances, Mineral Oil, BTEX:**

For all groundwater sampled at BH1 from January to December 2006, List1/11 Organic Substances, Mineral Oil, BTEX were all found to be below the detection limit.

**5.1.2 Groundwater monitoring point 2 (BH2)**

**Location:** E301600 N228550

**pH, Conductivity:**

The pH of the analysed groundwater from BH2 ranged from 10.6 in August 2006 to 12.29 in May 2006. These values are elevated in comparison to the Drinking Water Standards which have a pH range of >6.5 and <9.5. However, the pH value for groundwater in the area was above the limits of the Drinking Water Standards when the samples were taken in September 2004, prior to commencement of activities. Therefore, the elevated pH value throughout 2006 is not thought to be as a result of activities on site, as this baseline assessment indicates that the pH of the groundwater was elevated in September 2004 with values of 11.63 and 11.73 reported for GW2 (BH2) and GW3 (BH3) respectively. Rilta Environmental has already furnished a detailed report on elevated pH levels to the Agency.

The conductivity was ranging from 760 $\mu$ S/cm in November 2006 to 1941 $\mu$ S/cm in May 2006. These values are considerably lower than the Drinking Water Regulations but are higher than the EPA Guideline Values.

**Heavy metals:**

Arsenic at BH2 was recorded within the range 2-8 $\mu$ g/l and this is well within the limit of 50 $\mu$ g/l set in the Drinking Water Regulations. Similar to 2005, all groundwater sampled from BH2 was found to contain a value of Mercury below the detection limit.

Chromium, Copper, Cadmium, Nickel and Zinc were all analysed as part of the annual groundwater set of parameters for BH2. All were below the detection limits set by the Drinking Water Regulation standards and the EPA Guideline Values with the exception of Nickel. Nickel was recorded as 32 $\mu$ g/l, which is elevated in comparison to the EPA Guideline Value of 20 $\mu$ g/l.

**Inorganic:**

All inorganic parameters were within the limits set by the Drinking Water Regulation standards and the EPA Guideline Values with the exception of Chloride, Potassium and Sodium. Chloride was within the limit set by the Drinking Water Regulations but above the EPA Guideline value. Potassium was elevated with a value of 13mg/l compared with the EPA Guideline Value of 5mg/l and slightly elevated in comparison to the Drinking Water Regulation Limit of 12mg/l. Sodium was also elevated in comparison to the EPA Guideline Limit and the Drinking Water Regulations.

**List 1/11 Organic Substances, Mineral Oil, BTEX:**

Similar to 2005, for all groundwater sampled at BH2 from January to December 2006, List1/11 Organic Substances, Mineral Oil and BTEX were found to be below the detection limit.

**5.1.3 Groundwater monitoring point 3 (BH3)**

**Location:** E301630 N228555

**pH, Conductivity:**

The pH of the analysed groundwater from BH3 ranged from 11.96 in February 2006 to 12.43 in May 2006. The values are elevated in comparison to the Drinking Water Standards which have a pH range of >6.5 and <9.5. However, the pH value for groundwater in the area was above the limits of the Drinking Water Standards when the samples were taken in September 2004, prior to commencement of activities. Therefore, the elevated pH value throughout 2006 is not thought to be as a result of activities on site, as this baseline assessment indicates that the pH of the groundwater was elevated in September 2004 with values of 11.63 and 11.73 reported for GW2 (BH2) and GW3 (BH3) respectively. Rilta Environmental has already furnished a detailed report on elevated pH levels to the Agency.

The conductivity was ranging from 1310 $\mu$ S/cm in August 2006 to 1992 $\mu$ S/cm in November 2006. These values are elevated in comparison to the EPA Guideline values. However, all values are within the S.I. No. 439 of 2000 Drinking Water Regulation limit which is 2500 $\mu$ S/cm., compared to the results of the 2005 monitoring period when two quarterly conductivity results were elevated in comparison to this limit.

**Heavy metals:**

Arsenic at BH3 was recorded within the range 2-8 $\mu$ g/l and this is well within the limit of 50 $\mu$ g/l set in the Drinking Water Regulations. All groundwater sampled from BH3 was also found to contain a value of Mercury below the detection limit.

Chromium, Copper, Cadmium, Nickel and Zinc were all analysed as part of the annual groundwater set of parameters for BH3. All were below the detection limits set by the Drinking Water Regulation standards and the EPA Guideline Values with the exception of Copper. Nickel was recorded as 32µg/l, which is elevated in comparison to the EPA Guideline Value of 20µg/l.

Similar to the results of the 2005 monitoring at this facility, Copper was elevated when compared to BH1 and BH2 but was well within the Drinking Water Regulation standards. The value of 40µg/l reported for Copper was elevated in comparison to the EPA Guideline Value of 30µg/l.

#### **Inorganic:**

All inorganic parameters were within the limits set by the Drinking Water Regulation standards and the EPA Guideline Values with the exception of Chloride, Sulphate and Potassium. Chloride and Potassium were elevated above the EPA Guideline Value but within the Drinking Water Regulations. Sulphate was elevated in comparison to both the Drinking Water Regulations and the EPA Guideline limit with a value of 408µg/l.

#### **List 1/11 Organic Substances, Mineral Oil, BTEX:**

For all groundwater sampled at BH3 from January to December 2006, List 1/11 Organic Substances, Mineral Oil, BTEX were all found to be below the detection limit.

### **5.2 Surface Water Emission**

The quarterly reports in respect of Surface Water Emissions have been submitted to the EPA in April, July and October 2006 and January 2007 as required by Schedule E of the licence. The following is a summary of the values recorded for each parameter.

#### **5.2.1 Surface Water Monitoring Point 1: (SW1)**

**Location:** E301670 N228562

#### **pH:**

The pH of the analysed groundwater from SW1 ranged from 7.19 in February 2006 to 8.25 in November 2006. The values are within the normal range and reflect the natural conditions of this surface water.

#### **Chemical Oxygen Demand:**

Similar to 2005, the chemical oxygen demand for SW1 was below the level of detection for all monitoring events.

**Suspended Solids:**

The level of suspended solids in the samples taken for SW1 were below the level of detection for all monitoring events, with the exception of the February sample. This sample recorded a level of suspended solids above the MAC limits, most likely due to meteorological conditions at this time.

**Mineral Oils:**

Similar to 2005, the level of Mineral Oil recorded for SW1 was below the level of detection for all monitoring events.

**5.2.2 Surface Water Monitoring Point 2: (SW2)**

**Location:** E301565 N228555

**pH:**

The pH of the analysed groundwater from SW2 ranged from 7.37 in February 2006 to 8.30 in August 2006. The values are within the normal range and reflect the natural conditions of this surface water.

**Chemical Oxygen Demand:**

Similar to 2005, the chemical oxygen demand for SW2 was below the level of detection for all monitoring events in 2006.

**Suspended Solids:**

The level of suspended solids in the samples taken for SW2 were below the level of detection for all monitoring events, with the exception of the February sample. This sample recorded a level of suspended solids above the MAC limits, most likely due to meteorological conditions at this time.

**Mineral Oils:**

Similar to 2005, the level of Mineral Oils recorded for SW2 was below the level of detection for all monitoring events in 2006.

**5.2.3 Surface Water Monitoring Point 3: (SW3)**

**Location:** E301558 N228560

**pH:**

The pH of the analysed groundwater from SW3 ranged from 7.38 in February 2006 to 8.26 in November 2006. The values are within the normal range and reflect the natural conditions of this surface water.

**Chemical Oxygen Demand:**

Similar to 2005, the chemical oxygen demand for SW3 was below the level of detection for all monitoring events.

**Suspended Solids:**

The level of suspended solids in the samples taken for SW3 were below the level of detection for all monitoring events, with the exception of the February sample. This sample recorded a level of suspended solids of 14mg/l, which although elevated in comparison to other quarterly results was within the limits set in the Drinking Water Regulations.

**Mineral Oils:**

Similar to 2005, the level of Mineral Oils recorded for SW3 was below the level of detection for all monitoring events.

**5.3 Waste Water Emissions**

**Location:** E301655 N228530

The quarterly reports in respect of "Wastewater Emissions to Sewer" have been submitted to the EPA in April, July and October 2006 and January 2007 as required by Schedule E of the licence. The following is a summary of the values recorded for each parameter.

**Volume Emitted:**

The total volume emitted during the reporting period was 17,990m<sup>3</sup>, which is an average of 74m<sup>3</sup> per day, on each of the 243 days on which effluent was discharged. The maximum volume discharged was 140m<sup>3</sup> on 3<sup>rd</sup> February 2006.

**BOD:**

The average value for BOD during the reporting period was 735mg/l, with a maximum and minimum value of 1504mg/l and 20mg/l respectively. The values were well within the limit emission value of 1000mg/l for all events, with the exception of March, August, September and November 2006 when BOD values of 1037mg/l, 1131mg/l, 1307mg/l, 1504mg/l were recorded respectively.

**COD:**

The average value for COD during the reporting period was 1492mg/l, with a maximum and minimum value of 3512mg/l and 198mg/l respectively. The values were well within the limit emission value of 3000mg/l for all events, with the exception of November 2006 when a COD value of 3512mg/l was



recorded.

**Mineral Oils:**

The average value for Mineral Oils during the reporting period was 88µg/l, with a maximum and minimum value of 511µg/l and <10µg/l respectively. The values were well within the limit emission value of 10,000µg/l for all monitoring events, with only the August and September mineral oil results above the detection limit of <10µg/l.

**Suspended Solids:**

The average value for Suspended Solids during the reporting period was 72.75mg/l, with a maximum and minimum value of 340mg/l and <10mg/l respectively. The values were well within the limit emission value of 500mg/l for all monitoring events.

**Sulphates:**

The average value for Sulphates during the reporting period was 477mg/l, with a maximum and minimum value of 1146mg/l and 77mg/l respectively. The values were well within the limit emission value of 1000mg/l for all monitoring events, with the exception of the value in May 2006 -1146mg/l.

**pH:**

The average pH value during the reporting period was 6.73 with maximum and minimum values of 7.08 and 6.07 respectively. These values are within the emission limit band of pH 6-10 for this parameter.

**Temperature:**

The average temperature of effluent discharged to the foul sewer during the reporting period was 13.8°C. This value is dependent solely on ambient temperature as there is no heat generated during the chemical treatment process and therefore no ELV breaches.

**Detergents as Methylene Blue Active Substances (MBAS):**

The average value for Detergents during the reporting period was 9.9mg/l, with a maximum value of 85.5mg/l and a minimum value of 0.7mg/l. These values are significantly lower than the emission limit of 100mg/l, with all below 10mg/l except for the maximum value cited above.

**Toluene:**

The average value for Toluene during the reporting period was 121µg/l, with a maximum and minimum value of 370µg/l and 30µg/l respectively. The values were well within the limit emission value of 1000µg/l for all monitoring events.

**Benzene:**

The average value for Benzene during the reporting period was 85µg/l, with a maximum value of 219µg/l and a minimum value of 16µg/l. These values are significantly lower than the emission limit of 1000µg/l.

**Ethylbenzene:**

The average value for Ethylbenzene during the reporting period was 13µg/l, with a maximum value of 29µg/l and a minimum value of <10µg/l. These values are significantly lower than the emission limit of 1000µg/l.

**Total Xylene:**

The average value for Xylene during the reporting period was 47µg/l, with a maximum value of 137µg/l and a minimum value of <10µg/l. These values are significantly lower than the emission limit of 1000µg/l.

**Zinc (as Zn):**

The average value for Zinc during the reporting period was 21.6µg/l, with a maximum value of 1572µg/l and a minimum value of 9µg/l. These values are significantly lower than the emission limit of 5000µg/l.

**Copper (as Cu):**

The average value for Copper during the reporting period was 8µg/l, with a maximum value of 44µg/l and a minimum value of <1µg/l. These values are significantly lower than the emission limit of 5000µg/l.

**Metals Screen:**

A number of metals were analysed quarterly according to Schedule D of the waste licence. The metals included Lead, Nickel, Selenium, Cadmium, Chromium, Mercury, Boron and Arsenic. The majority of the metals were valued at less than 5µg/l for all monitoring events, with many below the level of detection. Nickel and Boron were the exceptions.

Nickel recorded an average value of 309µg/l, with a maximum and minimum value of 538µg/l and 107µg/l respectively. No wastewater emission limits for Nickel are available in the waste licence.

Boron recorded an average value of 6857µg/l, with a maximum and minimum value of 7811µg/l and 6028µg/l respectively. No wastewater emission limits for Boron are available in the waste licence.

#### 5.4 Air Emissions

Locations: A1: E301630, N228465 A2: E301620, N228440  
A3: E301335, N228445

Odour Monitoring Ireland (OMI) carried out the annual air emission monitoring for T.A. Luft Organics Class 1 and Characterisation of the VOC emission. OMI also carried out the bi-annual Total organic carbon (as C) monitoring. A copy of the report is attached in Appendix A.

The report concludes that all emissions to air are within the limits of Section C3.1, C3.2 and C3.3 of Waste Licence 192-1 with some exceptions:

##### Round 1 –Monitoring

- The mass emission rate of VOCs (as Carbon) from monitoring locations A1 and A3 were found to be in compliance with the emission limit values stated in Schedule C.3.1 to C.3.3 of Waste Licence No. 192-1. Monitoring location A2 was not in compliance due to the non-compliant airflow rate. If the airflow rate was in compliance then VOC's as Carbon should not be compliant with the regulatory agency requirements.
- The volumetric flows from monitoring locations A1 and A3 was found to be in compliance with the emission limit value stated in Schedule C.3 of Waste Licence (No. 192-1). Monitoring location A2 was not in compliance with Schedule C.3. of Waste Licence No. 192-1. According to OMI, this monitoring point was in excess of the regulatory requirement due to the large airflow rate.

##### Round 2 –Monitoring

- The mass emission rate of VOCs (as Carbon) from monitoring locations A1 , A2 and A3 were found to be in compliance with the emission limit values stated in Schedule C.3.1 to C.3.3 of Waste Licence No. 192-1. It should be noted that on the day of sampling process flow was not continuous therefore results obtained from the monitoring were lower than expected.
- The volumetric flows from monitoring locations A1 and A3 were found to be in compliance with the emission limit value stated in Schedule C.3 of Waste Licence (No. 192-1). Monitoring location A2 was not in compliance with Schedule C.3 of Waste Licence No. 192-1

The air emission monitoring points highlighted above have been analysed by OMI following receipt of the bi-annual and annual reports by RILTA Environmental Ltd. At present, action is being taken to assess the air flow rates at the site in order to facilitate balancing of the extraction system.

### 5.5 Dust Emissions

**Locations:** D1: E301630, N228450      D2: E301580, N228550  
D3: E301670, N228555      D4: E301630, N228420

According to Schedule D of the waste licence, dust monitoring is required within three times a year (twice between May and September). Dust monitoring was carried out at four separate locations along the northern boundaries of the subject site. The samples were delivered to Enterprise Ireland, Glasnevin for analysis.

The results for each sample location, D1, D2, D3 and D4 are included in Appendix B. In summary, according to Enterprise Ireland, Glasnevin, the air quality at the monitoring points was generally good, with a number of exceptions (highlighted in Bold below).

**Table 2: Dust Monitoring Results**

Monitoring Period		D1	D2	D3	D4	Source of Dust
From	To	mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d	
18.05.06	19.06.06	<b>470**</b>	130	<b>711*</b>	311	* Dust and spray from neighbouring industry truck wash.
12.07.06	09.08.06	149	62	336	252	** Dust from road and construction adjacent to boundary of subject site.
29.08.06	28.09.06	<b>411**</b>	326	<b>487*</b>	101	

### 5.6 Noise Emissions

**Locations:** N1: E301630, N228450      N2: E301580, N228550  
N3: E301670, N228555      N4: E301630, N228420

TOBIN Consulting Engineers carried out a noise survey as required by Schedule D of the waste licence. Both day-time and night-time noise was monitored in December 2006. A copy of the report is attached in Appendix C.

The analysis concludes that there is no significant noise impact caused by the facility. Noise levels

recorded at all EPA agreed noise monitoring locations contain noise emissions from RILTA , noise emissions from adjacent sites and from traffic on the road network of Greenogue Business Park. These levels are typical of noise levels resulting from industrial activities. The levels are typical of noise levels resulting from industrial activities and are within the site and therefore not a reflection of emissions at noise sensitive locations.

There were no impulsive noise emissions audible at any of the monitoring locations. With regard to tonal emissions Figures 1, 5 and 7, contained in Appendix C, indicate that at N1, N3 and N4 respectively tonal components were present during the daytime frequency analysis measurement at frequencies of 80Hz, 100Hz, and 25Hz respectively. No tonal components were present during the night time frequency analysis measurements. The monitoring locations are all within the site boundary and so tonal components would not be audible at any noise sensitive location.

## 6. Resource and Energy Consumption Summary

The main energy use at RILTA includes:

- Gas
- Electricity
- Water

A review of electricity and gas bills for the period from 01/01/06 to 31/12/06 shows that RILTA used the following quantities.

Energy	Quantity (Dec 2006)
Gas	712,514 KwH
Electricity	305,300 KwH
Water	5,550 m <sup>3</sup>

## 7. Development/ Infrastructural Works

All development/infrastructural works being undertaken at the time of the last AER have now been completed. These include:

- Installation of IBC washing system.
- Installation of industrial centrifuge.
- Installation of protective walls in contaminated soil warehouse.

No other works were undertaken during 2006.

## 8. Environmental Management System

The Environmental Management System has been detailed in the letter forwarded to the Environmental Protection Agency (EPA), 24<sup>th</sup> February 2005.

## 9. Schedule of Environmental Objectives and Targets

The Schedule of Environmental Objectives and Targets has been detailed in the letter forwarded to the Environmental Protection Agency (EPA), 24<sup>th</sup> February 2005. The schedule and associated Environmental Management Program was reviewed and updated periodically during the year. The majority of objectives and targets during this year were achieved with the following exceptions:

- EMS training of general staff incomplete to integration of ISO9002 quality standard. Further training due to be implemented in the coming year.
- The waste audit system has been partially implemented but not for all waste streams.
- Staff have been trained to undertake comprehensive site checks but system needs to be expanded to include all departments.
- While some documentation has been furnished to customers regarding waste acceptance, the detail as per EMP 10 has not been fully implemented.

An updated log of objectives and targets is included as Appendix D

## 10. Written Procedures

No new written procedures were added to the EMS in 2006. A copy of RIALTA's Environmental Management Systems Manual is included in Appendix E.

## 11. Tank, Pipeline and Bund Testing and Inspection Report

The Tank, Pipeline and bund testing and inspection report was lodged with the Environmental Protection Agency (EPA) in February 2005.

## 12. Calibration Certificate on Oil Heating Temperature Cut Off Detection Unit

The certificates for 2006 are included in Appendix F.

## 13. Boiler Efficiency

RILTA commission an independent boiler engineer (Concorde Boiler Engineering Limited) to carry

out an annual assessment of the efficiency of the natural gas boiler at the facility.

The results of the boiler test on January 4<sup>th</sup> 2007 are shown below. A copy of the test certificate is attached in Appendix G.

Parameter 2006	Result 4/1/07
Oxygen	3.5%
Carbon Monoxide	0PPM
Efficiency	80%

#### 14. Reported Incidents

There were three reported incidents during the year. These were all as a result of breaches of licensed limits of BOD and COD on the trade effluent.

#### 15. Complaints Summary

There were four complaints notified to Rilta Environmental during 2006. These all referred to odours emanating from site. Rilta Environmental are still in communication with the parties concerned and are working to minimise fugitive emissions.

#### 16. Review of Nuisance Controls

The nuisance controls in operation at the site by RILTA are outlined in Section 3.6 of the Environmental Impact Statement. Reviews of nuisance control are outlined and updated as part of the Environmental Management Program.

A new improved vermin elimination system was installed in 2006.

#### 17. Financial Provision

A proposal in respect of the financial provision was submitted to the Environmental Protection Agency for agreement, in June 2005.

#### 18. Solvent Management Plan

A solvent management plan was prepared in 2005 with a view to reduce both solvent raw material usage and VOC emissions. The reporting period of 01/01/2005 and 31/12/2005 served to calculate

what existing solvent raw materials were used and what emissions were released. The volume of solvent used in the maintenance of the drum division vents over the last two years is as follows:

Year	Waste Throughput (Kg)	Solvent Used (ltrs)
2005	1742.0	810
2006	1386.2	840

This indicates that more solvent was used per kg of throughput. The figures of what solvent was on site at year end was not considered and will be taken into account for next year's report.

### 19. Waste Recovery Report

The details for waste recovered in the period 1/1/06 – 31/12/06 has been furnished to the Agency as part of the 2006 Waste Survey.

### 20. Report on Staff Training

A large number of training programs were completed in 2006 for both new and existing staff. Rilta Environmental's training program also included two training days for all Rilta staff based on the 2005 legislation on Health, Safety & Welfare in the workplace. A list of all training undertaken from 01/01/06 – 31/12/06 is as follows:

- Jetting training
- Counter Balance Forklift training
- Reach forklift training
- Tanker Training
- Manual Handling
- Fire Safety
- Safe Pass
- Chemical Handling
- Confined Space Entry Training
- Hazardous Chemical Training

In addition to practical training, both Gareth Reville and Colm Hussey completed the FAS Waste Management Course. In addition, another candidate, Pat Kelly, is undertaking the course at the moment.



## **21. Volume of Wastewater Produced and Volume of Wastewater Transported Off-Site**

The waste treatment department is effectively the sole producer of wastewater on site. Other procedures may produce miniscule amounts of wastewater but these would be put through the waste treatment system so the trade effluent figures accurately reflect the wastewater produced on-site from 01/01/06 to 31/12/06, which amounts to 17,990,000 litres. This amounts to 99% of all waste treated. However, water used to mix process polymer for both the effluent and sludge treatment processes uses a significant amount of water and we also treat all our own bund area waste which isn't weighed, so the above figure would not be accurate. The fraction of treated waste made up of oil and sludge accounts for 11.89%, an increase of 25% year on year.

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# APPENDIX A

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**MONITORING OF VOC CONCENTRATIONS AT SITE ENVIRONMENTAL DRUM DIVISION,  
GREENOGUE BUSINESS PARK, RATHCOOLE, CO. DUBLIN**

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**PREPARED BY:** Mr. John Casey  
**ATTENTION:** Ms Siobhan Tinnelly  
**DATE:** 20<sup>th</sup> Jan. 2006  
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**EXECUTIVE SUMMARY**

Odour Monitoring Ireland were commissioned to perform Volatile Organic Compound (VOC) monitoring of the three licensed emission points located within their facility located in Greenogue Business Park, Rathcoole, Co. Dublin.

Monitoring was performed using pre-concentration upon charcoal sorbent tubes and analysis via gas chromatography mass spectrometry (GCMS).

It was concluded from the study that:

1. The mass emission rate of VOCs (as Carbon) from monitoring locations A1 and A3 were found to be in compliance with the emission limit values stated in Section C3.1 and C3.3 of Waste Licence (No. 192-1). Monitoring location A2 was not in compliance due to the large airflow rate. If airflow rate on Monitoring location A2 was in compliance with the emission limit values then VOC as Carbon would be in compliance with the regulatory requirements.
2. The mass emission rate of TA Luft Class I Organics from all 3 monitoring locations were found to be in compliance with the emission limit values stated in Section C3.1, C3.2 and C3.3 of Waste Licence (No. 192-1).
3. The volumetric flows for monitoring locations A3 was found to be in compliance with the emission limit values stated in Section C3.1 of Waste Licence (No 192-1). Monitoring locations A1 and A2 were above the emission limit value set in Section C3.2 and C.3.3 of Waste Licence (No. 192-1). This may due to inaccurate damper control within each of the stacks.

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## 1. Introduction

Odour Monitoring Ireland was commissioned by Tobin Environmental Services to perform monitoring of Volatile Organic Compound (VOC) concentrations emissions from a series of three licensed emission points at the SITA Environmental Drum Division facility, Block 402, Grants Drive, Greenogue Business Park, Rathcoole, Co. Dublin. The monitoring was carried out to determine compliance with the emission limit values stated in Waste Licence (No. 192-1).

## 2. Material and Methods

This section describes the materials and methods used throughout the study period carried out on the 27<sup>th</sup> July 2005.

### 2.1 Monitoring locations

Table 2.1 outlines the three monitoring points where VOC monitoring was performed on the 27<sup>th</sup> July 2005.

**Table 2.1.** Monitoring points for emissions to atmosphere.

Analysis Monitoring Code	EPA location code	Location
SITA A1	A1	Drum Washer Stack
SITA A2	A2	Paint Spray Booth Stack
SITA A3	A3	Drying Tunnel Stack

### 2.2 VOC sampling

In order to pre-concentrate speciated VOC upon each sorbent, a pre-calibrated controlled volume of sample air will be drawn through each tube by a SKC pump for a period of 30 minutes (Active sampling/pumped sampling). Each SKC pump was pre-calibrated with their specific sorbent using a Bios Primary flow calibrator (NIST traceable certified). Each pump was calibrated to a flow rate depending on the sampling pump and sorbent tube as recommended by the sorbent manufacturer and analysing laboratory. When sampling was complete all sample tubes were sealed and stored in flexible air tight containers and transported to the gas chromatography laboratory and analysed by means of thermal desorption/solvent extraction GCMS in a UKAS accredited laboratory.

### 2.3 Airflow and temperature measurement

Using a calibrated pitot manometer and S type pitot tube and PT100 temperature probe, the volumetric airflow rate and temperature of the emission air stream that passes through the emission sources was determined in accordance with ISO 10780 where possible. This allowed for the determination of physical operational parameters such as temperature and volumetric airflow rate. An average of between six and ten measurements (depending on duct diameter) were carried out at two traverses at right angles to each other in a straight section of ducting for airflow rate. Temperature readings were logged continuously to a Testo 400 handheld data logger and downloaded using Com soft software where average readings were computed using Microsoft Excel.

### 3. Results

#### 3.1 Assessment criteria

The results obtained from the assessment have been compared with the emission limit values outlined within Waste licence (192-1).

**Table 3.1.** Emission Limit Values as stated in Waste Licence (192-1).

Emission Point	Emission Volume	TA Luft Class 1 Organics		Total Organic Carbon (as C)	
	Nm <sup>3</sup> hr <sup>-1</sup>	mg Nm <sup>-3</sup>	g hr <sup>-1</sup>	mg Nm <sup>-3</sup>	kg/hr
SITA A1	5,292	20	>100	-	1.0
SITA A2	144	20	>100	-	0.10
SITA A3	2,520	20	>100	-	0.30

#### 3.2 Results of airflow and temperature measurement

The results of the airflow and temperature measurement are presented in *Table 3.1*.

**Table 3.2.** Airflow rate and temperature measurements at three emission points.

Emission Point	Temperature (Kelvin)	Limit Volumetric airflow rate (Nm <sup>3</sup> hr <sup>-1</sup> )	Measured Volumetric airflow rate (Nm <sup>3</sup> hr <sup>-1</sup> )
A1	291.15	5292	9202
A2	292.15	144	1181
A3	311.05	2520	2305

#### 3.3 Results of Speciated Volatile Organic Compound (VOC) measurement

The results of Speciated VOC measurements are presented in *Table 3.2*, *3.3* and *3.4*.

**Table 3.2.** Results of VOC Monitoring at Emission Point A1

Parameter	Concentration of Speciated VOC (mg Nm <sup>-3</sup> )	Mass Flow of Speciated VOC (kg/hr)
o-Xylene	2.168	0.0115
Ethylbenzene	0.974	0.0052
Toluene	0.823	0.0044
1-Butanol	1.259	0.0067
Heptane, 2,2,4,6,6-pentamethyl	0.734	0.0039
o-Xylene	0.694	0.0037
Cyclohexene, 1-methyl-4-(1-methylethenyl)	1.063	0.0056
Benzene, 1,2,4-trimethyl	0.314	0.0017
Undecane	0.312	0.0016
Benzene, 1-ethyl-3-methyl	0.539	0.0029
<b>Total Organics (as C)</b>	<b>&lt;108.36</b>	<b>&lt;0.99</b>
<b>Total Organics (as C) Limit</b>	<b>-</b>	<b>&lt;1.0</b>
<b>Total TA Luft Class I</b>	<b>&lt;8.88</b>	<b>&lt;0.082</b>
<b>Total TA Luft Class I Limit</b>	<b>&lt;20</b>	<b>&lt;0.10</b>

**Table 3.3.** Results of VOC Monitoring at Emission Point A2

Parameter	Concentration of Speciated VOC (mg Nm <sup>-3</sup> )	Mass Flow of Speciated VOC (kg/hr)
o-Xylene	86.82	0.100
Benzene, 1,2,4-trimethyl-	3.85	0.004
p-Xylene	28.94	0.033
Ethylbenzene	2.46	0.003
Benzene, 1-ethyl-3-methyl-	1.73	0.002
Toluene	16.79	0.019
Benzene, 1-ethyl-2-methyl-	7.31	0.008
Limonene	0.71	0.001
Benzene, 1-methyl-3-propyl-	0.68	0.001
<b>Total Organics (as C)</b>	<b>&lt;288.80</b>	<b>&lt;0.34</b>
<b>Total Organics (as C) Limit</b>	-	<b>&lt;0.10</b>
<b>Total TA Luft Class I</b>	<b>&lt;16.74</b>	<b>&lt;0.019</b>
<b>Total TA Luft Class I Limit</b>	<b>&lt;20</b>	<b>&lt;0.10</b>

**Table 3.4.** Results of VOC Monitoring at Emission Point A3

Parameter	Concentration of Speciated VOC (mg Nm <sup>-3</sup> )	Mass Flow of Speciated VOC (kg/hr)
o-Xylene	2.17	0.0050
1-Butanol	1.33	0.0031
Benzene, 1,2,4-trimethyl-	1.25	0.0029
D-Limonene	0.98	0.0023
Undecane	0.68	0.0016
Benzene, 1-ethyl-3-methyl-	0.65	0.0015
Toluene	0.63	0.0014
p-Xylene	0.59	0.0013
Isobornyl acetate	0.44	0.0010
Phenylethyl Alcohol	0.18	0.0004
<b>Total Organics (as C)</b>	<b>43.31</b>	<b>&lt;0.10</b>
<b>Total Organics (as C) Limit</b>	-	<b>&lt;1.0</b>
<b>Total TA Luft Class I</b>	<b>&lt;8.9</b>	<b>&lt;0.021</b>
<b>Total TA Luft Class I Limit</b>	<b>&lt;20</b>	<b>&lt;0.10</b>

#### 4. Discussion of results

The results of the VOC monitoring survey carried out on the 27<sup>th</sup> July 2005 are presented in *Tables 3.2 to 3.4*. These results indicate that emissions to atmosphere of total organics (as carbon) from monitoring emission points A1 and A3 were in compliance with the emission limit values stated in the Waste Licence (Number 192-1). Monitoring location A2 was not in compliance with the Total Organic Carbon (TOC) emission limit value due to the large airflow rate. If this airflow rate was in compliance with the established emission limit values then the TOC value would be in compliance. In addition, emissions of Total TA Luft Organics Class I for all emission points are in compliance with the emission limit values.

The volumetric airflow rate measurements performed on emission points A1, A2, and A3 demonstrated compliance for monitoring location A3 only. Both monitoring location A1 and A2 were not in compliance with set limit values.

#### 5. Conclusions

The following conclusions were drawn from the study:

1. The mass emission rate of VOCs (as Carbon) from monitoring locations A1 and A3 were found to be in compliance with the emission limit values stated in Section C.3.1 to C3.3 of Waste Licence (No. 192-1). Monitoring location A2 was not in compliance with the Total Organic Carbon (TOC)



emission limit value due to the large airflow rate. If this airflow rate was in compliance with the established emission limit values then the TOC value would be in compliance.

2. The mass emission rate of TA Luft Class I Organics from all 3 monitoring locations were found to be in compliance with the emission limit values stated in Section C.3.1 to C3.3 of Waste Licence (No. 192-1).
3. The volumetric flows from monitoring locations A3 was found to be in compliance with the emission limit value stated in Section C.3.1 of Waste Licence (No. 192-1). Monitoring locations A1 and A2 were not in compliance with Section C.3.2 and C.3.3 of Waste Licence (No. 192-1).

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**MONITORING OF VOC CONCENTRATIONS AT SITE ENVIRONMENTAL DRUM DIVISION,  
GREENOGUE BUSINESS PARK, RATHCOOLE, CO. DUBLIN**

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**PREPARED BY:** Mr. John Casey  
**ATTENTION:** Ms Siobhan Tinnelly  
**DATE:** 21<sup>st</sup> Jan. 2006  
**REPORT NUMBER:** 2006A24  
**DOCUMENT VERSION:** Document Ver. 001  
**REVIEWERS:**

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**MONITORING OF VOC CONCENTRATIONS AT SITE ENVIRONMENTAL DRUM DIVISION,  
GREENOGUE BUSINESS PARK, RATHCOOLE, CO. DUBLIN**

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**PREPARED BY:** Mr. John Casey  
**ATTENTION:** Ms Siobhan Tinnelly  
**DATE:** 20<sup>th</sup> Jan. 2006  
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**EXECUTIVE SUMMARY**

Odour Monitoring Ireland were commissioned to perform Volatile Organic Compound (VOC) monitoring of the three licensed emission points located within their facility located in Greenogue Business Park, Rathcoole, Co. Dublin.

Monitoring was performed using pre-concentration upon charcoal sorbent tubes and analysis via gas chromatography mass spectrometry (GCMS).

It was concluded from the study that:

1. The mass emission rate of VOCs (as Carbon) from monitoring locations A1 and A3 were found to be in compliance with the emission limit values stated in Section C3.1 and C3.3 of Waste Licence (No. 192-1). Monitoring location A2 was not in compliance due to the large airflow rate. If airflow rate on Monitoring location A2 was in compliance with the emission limit values then VOC as Carbon would be in compliance with the regulatory requirements.
2. The mass emission rate of TA Luft Class I Organics from all 3 monitoring locations were found to be in compliance with the emission limit values stated in Section C3.1, C3.2 and C3.3 of Waste Licence (No. 192-1).
3. The volumetric flows for monitoring locations A3 was found to be in compliance with the emission limit values stated in Section C3.1 of Waste Licence (No 192-1). Monitoring locations A1 and A2 were above the emission limit value set in Section C3.2 and C.3.3 of Waste Licence (No. 192-1). This may due to inaccurate damper control within each of the stacks.

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## 1. Introduction

Odour Monitoring Ireland was commissioned by Tobin Environmental Services to perform monitoring of Volatile Organic Compound (VOC) concentrations emissions from a series of three licensed emission points at the SITA Environmental Drum Division facility, Block 402, Grants Drive, Greenogue Business Park, Rathcoole, Co. Dublin. The monitoring was carried out to determine compliance with the emission limit values stated in Waste Licence (No. 192-1).

## 2. Material and Methods

This section describes the materials and methods used throughout the study period carried out on the 27<sup>th</sup> July 2005.

### 2.1 Monitoring locations

Table 2.1 outlines the three monitoring points where VOC monitoring was performed on the 27<sup>th</sup> July 2005.

**Table 2.1.** Monitoring points for emissions to atmosphere.

Analysis Monitoring Code	EPA location code	Location
SITA A1	A1	Drum Washer Stack
SITA A2	A2	Paint Spray Booth Stack
SITA A3	A3	Drying Tunnel Stack

### 2.2 VOC sampling

In order to pre-concentrate speciated VOC upon each sorbent, a pre-calibrated controlled volume of sample air will be drawn through each tube by a SKC pump for a period of 30 minutes (Active sampling/pumped sampling). Each SKC pump was pre-calibrated with their specific sorbent using a Bios Primary flow calibrator (NIST traceable certified). Each pump was calibrated to a flow rate depending on the sampling pump and sorbent tube as recommended by the sorbent manufacturer and analysing laboratory. When sampling was complete all sample tubes were sealed and stored in flexible air tight containers and transported to the gas chromatography laboratory and analysed by means of thermal desorption/solvent extraction GCMS in a UKAS accredited laboratory.

### 2.3 Airflow and temperature measurement

Using a calibrated pitot manometer and S type pitot tube and PT100 temperature probe, the volumetric airflow rate and temperature of the emission air stream that passes through the emission sources was determined in accordance with ISO 10780 where possible. This allowed for the determination of physical operational parameters such as temperature and volumetric airflow rate. An average of between six and ten measurements (depending on duct diameter) were carried out at two traverses at right angles to each other in a straight section of ducting for airflow rate. Temperature readings were logged continuously to a Testo 400 handheld data logger and downloaded using Com soft software where average readings were computed using Microsoft Excel.

### 3. Results

#### 3.1 Assessment criteria

The results obtained from the assessment have been compared with the emission limit values outlined within Waste licence (192-1).

**Table 3.1.** Emission Limit Values as stated in Waste Licence (192-1).

Emission Point	Emission Volume	TA Luft Class 1 Organics		Total Organic Carbon (as C)	
	Nm <sup>3</sup> hr <sup>-1</sup>	mg Nm <sup>-3</sup>	g hr <sup>-1</sup>	mg Nm <sup>-3</sup>	kg/hr
SITA A1	5,292	20	>100	-	1.0
SITA A2	144	20	>100	-	0.10
SITA A3	2,520	20	>100	-	0.30

#### 3.2 Results of airflow and temperature measurement

The results of the airflow and temperature measurement are presented in *Table 3.1*.

**Table 3.2.** Airflow rate and temperature measurements at three emission points.

Emission Point	Temperature (Kelvin)	Limit Volumetric airflow rate (Nm <sup>3</sup> hr <sup>-1</sup> )	Measured Volumetric airflow rate (Nm <sup>3</sup> hr <sup>-1</sup> )
A1	291.15	5292	9202
A2	292.15	144	1181
A3	311.05	2520	2305

#### 3.3 Results of Speciated Volatile Organic Compound (VOC) measurement

The results of Speciated VOC measurements are presented in *Table 3.2*, *3.3* and *3.4*.

**Table 3.2.** Results of VOC Monitoring at Emission Point A1

Parameter	Concentration of Speciated VOC (mg Nm <sup>-3</sup> )	Mass Flow of Speciated VOC (kg/hr)
o-Xylene	2.168	0.0115
Ethylbenzene	0.974	0.0052
Toluene	0.823	0.0044
1-Butanol	1.259	0.0067
Heptane, 2,2,4,6,6-pentamethyl	0.734	0.0039
o-Xylene	0.694	0.0037
Cyclohexene, 1-methyl-4-(1-methylethenyl)	1.063	0.0056
Benzene, 1,2,4-trimethyl	0.314	0.0017
Undecane	0.312	0.0016
Benzene, 1-ethyl-3-methyl	0.539	0.0029
<b>Total Organics (as C)</b>	<b>&lt;108.36</b>	<b>&lt;0.99</b>
<b>Total Organics (as C) Limit</b>	-	<b>&lt;1.0</b>
<b>Total TA Luft Class I</b>	<b>&lt;8.88</b>	<b>&lt;0.082</b>
<b>Total TA Luft Class I Limit</b>	<b>&lt;20</b>	<b>&lt;0.10</b>



**Table 3.3.** Results of VOC Monitoring at Emission Point A2

Parameter	Concentration of Speciated VOC (mg Nm <sup>-3</sup> )	Mass Flow of Speciated VOC (kg/hr)
o-Xylene	86.82	0.100
Benzene, 1,2,4-trimethyl-	3.85	0.004
p-Xylene	28.94	0.033
Ethylbenzene	2.46	0.003
Benzene, 1-ethyl-3-methyl-	1.73	0.002
Toluene	16.79	0.019
Benzene, 1-ethyl-2-methyl-	7.31	0.008
Limonene	0.71	0.001
Benzene, 1-methyl-3-propyl-	0.68	0.001
<b>Total Organics (as C)</b>	<b>&lt;288.80</b>	<b>&lt;0.34</b>
<b>Total Organics (as C) Limit</b>	-	<b>&lt;0.10</b>
<b>Total TA Luft Class I</b>	<b>&lt;16.74</b>	<b>&lt;0.019</b>
<b>Total TA Luft Class I Limit</b>	<b>&lt;20</b>	<b>&lt;0.10</b>

**Table 3.4.** Results of VOC Monitoring at Emission Point A3

Parameter	Concentration of Speciated VOC (mg Nm <sup>-3</sup> )	Mass Flow of Speciated VOC (kg/hr)
o-Xylene	2.17	0.0050
1-Butanol	1.33	0.0031
Benzene, 1,2,4-trimethyl-	1.25	0.0029
D-Limonene	0.98	0.0023
Undecane	0.68	0.0016
Benzene, 1-ethyl-3-methyl-	0.65	0.0015
Toluene	0.63	0.0014
p-Xylene	0.59	0.0013
Isobornyl acetate	0.44	0.0010
Phenylethyl Alcohol	0.18	0.0004
<b>Total Organics (as C)</b>	<b>43.31</b>	<b>&lt;0.10</b>
<b>Total Organics (as C) Limit</b>	-	<b>&lt;1.0</b>
<b>Total TA Luft Class I</b>	<b>&lt;8.9</b>	<b>&lt;0.021</b>
<b>Total TA Luft Class I Limit</b>	<b>&lt;20</b>	<b>&lt;0.10</b>

#### 4. Discussion of results

The results of the VOC monitoring survey carried out on the 27<sup>th</sup> July 2005 are presented in *Tables 3.2 to 3.4*. These results indicate that emissions to atmosphere of total organics (as carbon) from monitoring emission points A1 and A3 were in compliance with the emission limit values stated in the Waste Licence (Number 192-1). Monitoring location A2 was not in compliance with the Total Organic Carbon (TOC) emission limit value due to the large airflow rate. If this airflow rate was in compliance with the established emission limit values then the TOC value would be in compliance. In addition, emissions of Total TA Luft Organics Class I for all emission points are in compliance with the emission limit values.

The volumetric airflow rate measurements performed on emission points A1, A2, and A3 demonstrated compliance for monitoring location A3 only. Both monitoring location A1 and A2 were not in compliance with set limit values.

#### 5. Conclusions

The following conclusions were drawn from the study:

1. The mass emission rate of VOCs (as Carbon) from monitoring locations A1 and A3 were found to be in compliance with the emission limit values stated in Section C.3.1 to C3.3 of Waste Licence (No. 192-1). Monitoring location A2 was not in compliance with the Total Organic Carbon (TOC)

emission limit value due to the large airflow rate. If this airflow rate was in compliance with the established emission limit values then the TOC value would be in compliance.

2. The mass emission rate of TA Luft Class I Organics from all 3 monitoring locations were found to be in compliance with the emission limit values stated in Section C.3.1 to C3.3 of Waste Licence (No. 192-1).
3. The volumetric flows from monitoring locations A3 was found to be in compliance with the emission limit value stated in Section C.3.1 of Waste Licence (No. 192-1). Monitoring locations A1 and A2 were not in compliance with Section C.3.2 and C.3.3 of Waste Licence (No. 192-1).

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# APPENDIX B

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**Client:**  
TES Consulting Engineers,  
Block 4B,  
Unit 5,  
Blanchardstown Corporate Park,  
Dublin 15,  
Ireland.

**Test Required:**  
Total dust deposition analysis



**Attention:**  
Siobhán Tinnelly

**Order Ref:** 97339

**Report Ref:** 10002297

**Date Received:** 22<sup>nd</sup> June 2006

**Reported By:** Willie Kelly

**Date:** 29th June 2006

Four samples were received and identified as in table below, the exposure dates where from 18<sup>th</sup> May to 19<sup>th</sup> June 2006.

D 1	D 2	D 3	D 4
mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d
470	130	711	311

The fallout rates of total solids were determined on the four samples using the Begerhoff dust deposition method of analysis, as specified in T A Luft and German Standard VDI 2119, Part 2, 1972.

**Comments:** Samples D 1 and D 3 had noticeable amounts of dust in them and were above the mean daily dust deposition limit value of 350 mg/m<sup>2</sup>.d recommended in T A Luft. Both the other two samples were within this standard.

**Note:** This report relates to the samples analysed only.

Willie Kelly



Environmental Policy Dept

**Client:**  
 TES Consulting Engineers,  
 Block 10-3,  
 Blanchardstown Corporate Park,  
 Dublin 15,  
 Ireland.

**Test Required:**  
 Total dust deposition analysis

**Attention:**  
 Siobhán Tinnelly

**Order Ref:** 1369

**Report Ref:** 10003480

**Date: Received:** 10<sup>th</sup> August 2006

**Reported By:** Willie Kelly

**Date: Reported:** 15<sup>th</sup> August 2006

Four samples were received and identified as in table below:

**Table 1:** Results of Dust Deposition Analysis  
 Units: in milligrams per metre squared per day (mg/m<sup>2</sup>.d)


Monitoring Period	Site D 1	Site D 2	Site D 3	Site D 4
From 12.07.06	mg/m <sup>2</sup> .d	mg.m <sup>2</sup> .d	mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d
To 09.08.06	149	62	336	252

The fallout rates of total solids were determined on the four samples using the Begerhoff dust deposition method of analysis, as specified in T A Luft and German Standard VDI 2119, Part 2, 1972.

**Comments:** All four samples were within the mean daily dust deposition limit value of 350 mg/m<sup>2</sup>.d recommended in T A Luft.

**Note:** This report relates to the samples analysed only.

Willie Kelly  
  
 Environmental Policy Dept

TOBIN CONSULTING ENGINEERS		
PROJECT NO:		
FILE REF:		
Date Received	1 <del>5</del> AUG 2006	
PASS TO	ACTION BY	DATE
		

**Client:**  
 TES Consulting Engineers,  
 Block 4B,  
 Unit 5,  
 Blanchardstown Corporate Park,  
 Dublin 15,  
 Ireland.

**Test Required:**  
 Total dust deposition analysis

**Attention:**  
 Siobhán Tinnelly

**Order Ref:** 97358

**Report Ref:** 10004375

**Date Received:** 6th October 2006

**Reported By:** Willie Kelly

**Date Reported:** 11<sup>th</sup> October 2006

Four samples were received and identified as in table below, the exposure dates where from 29<sup>th</sup> August to 28<sup>th</sup> September 2006.

D 1	D 2	D 3	D 4
mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d	mg/m <sup>2</sup> .d
411	326	487	101

The fallout rates of total solids were determined on the four samples using the Begerhoff dust deposition method of analysis, as specified in T A Luft and German Standard VDI 2119, Part 2, 1972.

**Comments:** Samples D1 and D3 where above the mean daily dust deposition limit value of 350 mg/m<sup>2</sup>.d recommended in T A Luft.

**Note:** This report relates to the samples analysed only.

Willie Kelly



Environmental Policy Dept

TOBIN CONSULTING ENGINEERS		
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FILE REF:		
Date Received	13 OCT 2006	
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# APPENDIX C

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## Document Amendment Record

<b>Client:</b>	RILTA Environmental
<b>Project:</b>	Greenogue Monitoring
<b>Title:</b>	Noise Monitoring Report – December 2006

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Project Number: 1250			Document Ref:		
0	Noise Monitoring – December 2006	AA	MMCK		20/03/07
Revision	Purpose / Description	Originated	Checked	Authorised	Date
					



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## 1 INTRODUCTION

This report deals with the noise monitoring requirement conditions of RILTA Environmental Ltd. Hazardous Waste Facility at Greenogue Business Park, Rathcoole, Co. Dublin, Waste Licence No. 192-1.

## 2 NOISE MONITORING SURVEY

The noise survey was carried out in the environs surrounding the waste facility at the locations agreed with the EPA (see Drawing No. 1250/01/1002). Weather conditions during monitoring were dry and calm with a slight breeze. The recorded wind speed at nearest Synoptic Station (Casement) was 1.34 m/s on 20/12/06.). The following conditions were adhered to in undertaking the survey:

- Measurement of noise levels was undertaken using Type 1 instrumentation;
- Cognisance was taken of the EPA's 'Environmental Noise Survey Guidance Document, 2003;
- The survey was carried out in accordance with ISO 1996 Acoustics - Description and Measurement of Environmental Noise: Parts 1/2/3.

### 2.1 Instrumentation Used

The following instrumentation was used in the environmental noise monitoring survey:

- One Larson Davis 824 Precision Integrating Sound Level Analyser/Data logger with *Real-Time* Frequency Analyser Facility
- Wind Shield Type: Larson Davis 2120 Windscreen.
- Calibration Type: Larson Davis Precision Acoustic Calibrator Model CA200.

### 2.2 Measurement Procedure

Noise monitoring was carried out on 20<sup>th</sup> December 2006 during the day (for 30 minute intervals) at four agreed EPA locations. Night time noise monitoring was also carried out on the 20<sup>th</sup> December 2006. All the environmental noise analysers had data logging facilities set on real-time, the logged data was later downloaded via a personal computer using software. One third octave frequency analysis were taken at the locations using the 824 Precision Integrating Sound Level Analyser/Data logger with *real-time* frequency analyser facility.

The measurement locations were all away from reflecting surfaces and at 1.5m height above local ground.

All acoustic instrumentation was calibrated before and after the survey period and no drift of calibration was observed (calibration level 114dB at 1000Hz).

### 2.3 Results of Noise Survey

The noise monitoring locations are described in Table 1 and illustrated on Drawing No. 1250/01/1002. The results of the noise survey are given in Table 2. The 1/3 Octave frequency

analysis data is given in graphical format in Appendix I.

**Table 1 Noise Monitoring Locations**

<b>Monitoring Location</b>	<b>Description</b>
N1	South western boundary of site
N2	North western boundary of site
N3	North eastern boundary of site
N4	South eastern boundary of site

### **Location N1**

Noise monitoring location N1 is located at the south western boundary of the site, adjacent to the site car park and to the access road to RILTA within the Greenogue Business Park. Daytime noise sources included activities on site, site traffic and traffic on the Business Park roads. Night time noise sources included traffic on the Business Park roads, noise from neighbouring premises and occasional aircraft.

### **Location N2**

N2 is located in the north western corner of the site behind the racked storage building. During daytime monitoring periods noise emissions from RILTA were audible, and the dominant sources of noise included heavy goods vehicles (HGVs) within the site, aircraft and traffic on Business Park roads. Aircraft and distant traffic were audible during the frequency analysis measurement. During night time monitoring periods noise emissions from RILTA were not audible and the dominant noise sources included the adjacent river and traffic on Business Park roads.

### **Location N3**

N3 is located at the north eastern boundary of the site, adjacent the bunded tank area. Noise emissions from RILTA were audible at N3 during the daytime noise monitoring period. Dominant noise sources included activity within the site and from activity in adjacent premises. During night time measurement periods, the dominant noise sources included emissions from adjacent pipes within the RILTA premises and traffic on Business Park roads. These noise sources were audible during the frequency analysis measurement.

### **Location N4**

Noise monitoring location N4 is located in the south eastern corner of the site. During the daytime noise monitoring periods activities in the drum centre and site traffic were the dominant sources. These emissions were audible during the frequency analysis measurement. During the night time noise monitoring periods aircraft and distant traffic were the dominant sources of noise emissions. Occasional passing traffic also contributed to noise levels.

Table 2 Noise Monitoring Results – dB(A) and 30 minute intervals

Location	Date	Time	Leq	L <sub>10</sub>	L <sub>90</sub>	Comments
<b>DAYTIME MONITORING</b>						
N1	20 <sup>th</sup> Dec 06	10.04	62.0	64.6	57.4	Site activities, site traffic and Business Park traffic contributed to noise levels.
N2	20 <sup>th</sup> Dec 06	12.08	60.5	61.9	55.8	Site activities were the dominant source of noise emissions. Activity is adjacent premises, birdsong and aircraft also contributed to noise levels.
N3	20 <sup>th</sup> Dec 06	11.27	73.5	77.9	57.9	Site activities and activities in adjacent premises were the dominant noise sources. Occasional aircraft, and bird song also contributed to noise levels. The adjacent flowing river was also audible.
N4	20 <sup>th</sup> Dec 06	10.46	68.3	71.9	63.0	Noise emissions from the drum centre were audible due to the open door (including a radio). Site traffic and passing traffic also contributed to noise levels.
<b>NIGHT TIME MONITORING</b>						
N1	20 <sup>th</sup> Dec 06	23.50	46.6	48.6	43.8	Traffic on Business Park roads was the dominant noise source. Occasional passing traffic and aircraft also contributed to noise levels.
N2	20 <sup>th</sup> Dec 06	22.40	47.7	49.2	45.4	The adjacent river was audible at this location along with distant traffic and occasional aircraft. Occasionally activity in adjacent premises contributed to noise levels.
N3	20 <sup>th</sup> Dec 06	22.04	46.3	47.8	44.0	Noise emissions from RILTA were audible mainly from adjacent pipes. Traffic on Business Parks roads and occasional aircraft also contributed to noise levels.
N4	20 <sup>th</sup> Dec 06	23.16	46.7	48.4	44.3	Traffic on Business Park roads contributed to noise levels along with occasional aircraft.

### 3 CONCLUSION

The noise emission limits given in Waste Licence 192-1 are 55 dB(A) for day time and 45 dB(A) for night time. These levels specifically relate to noise emissions arising from the

activity, measured at any noise sensitive location.

The noise emissions from RILTA Environmental Ltd. are given in Table 2. Noise levels recorded at all EPA agreed noise monitoring locations contain noise emissions from RILTA , noise emissions from adjacent sites and from traffic on the road network of Greenogue Business Park. These levels are typical of noise levels resulting from industrial activities. Note that the EPA agreed noise monitoring locations are all on site and do not reflect emissions at noise sensitive locations.

There were no impulsive noise emissions audible at any of the monitoring locations. With regard to tonal emissions, Figures 1, 5 and 7 indicate that at N1, N3 and N4 respectively tonal components were present during the daytime frequency analysis measurement at frequencies of 80Hz, 100Hz, and 25Hz respectively. No tonal components were present during the night time frequency analysis measurements. The monitoring locations are all within the site boundary and so tonal components would not be audible at any noise sensitive location.

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## APPENDIX 1 – FREQUENCY ANALYSIS

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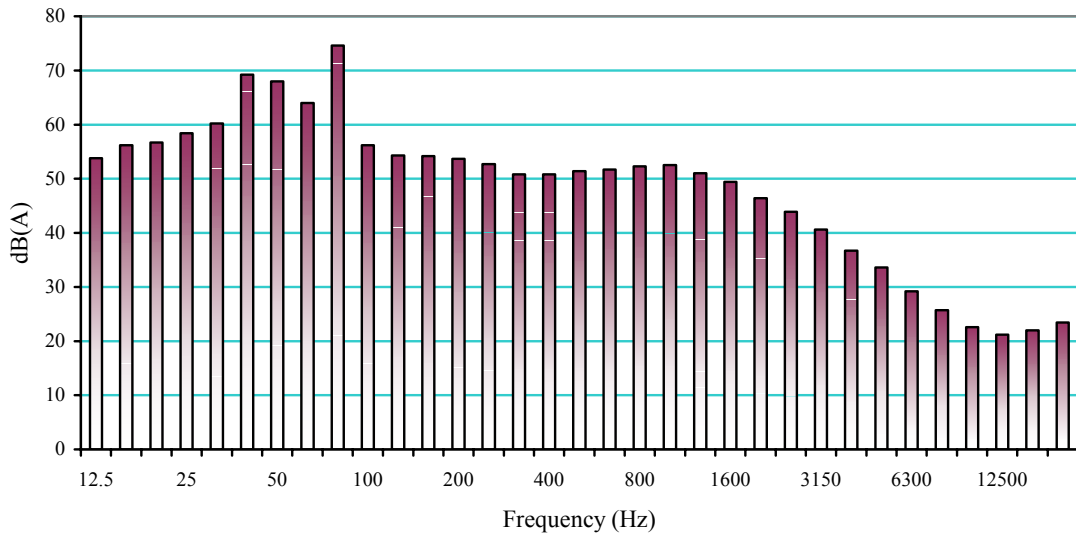


Figure 1 Daytime Frequency Analysis at N1

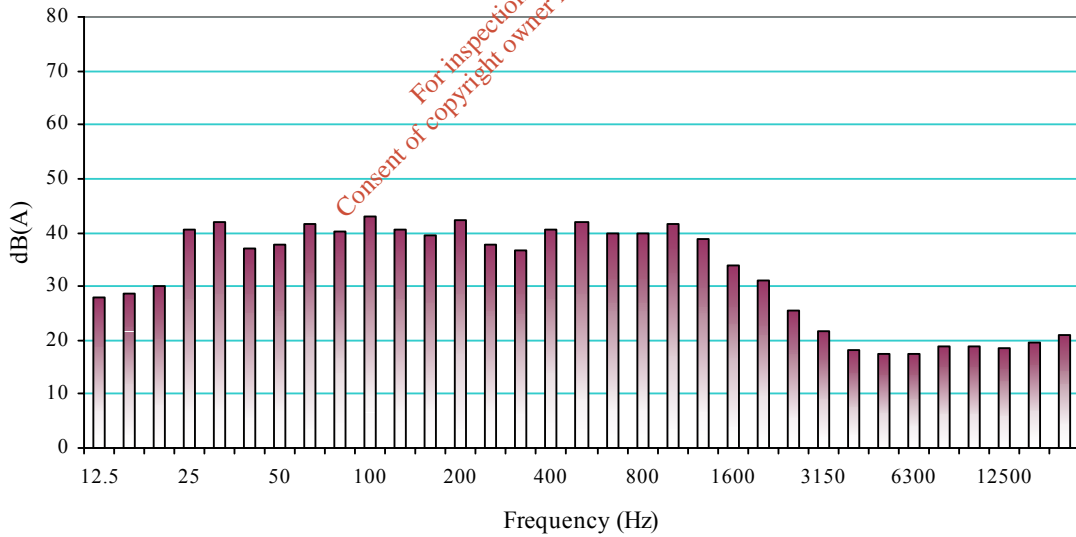


Figure 2 Night time Frequency Analysis at N1

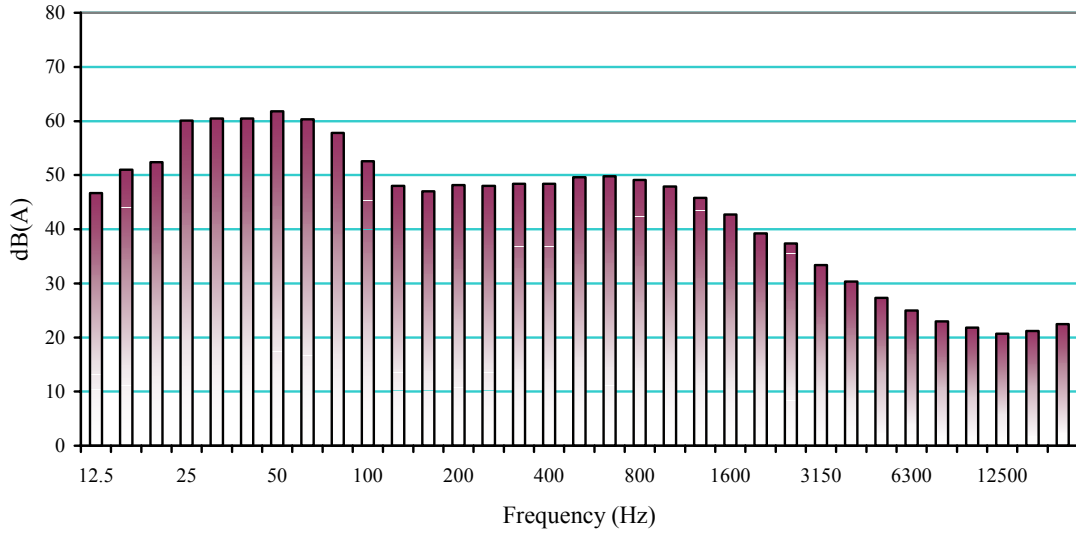


Figure 3 Daytime Frequency Analysis at N2

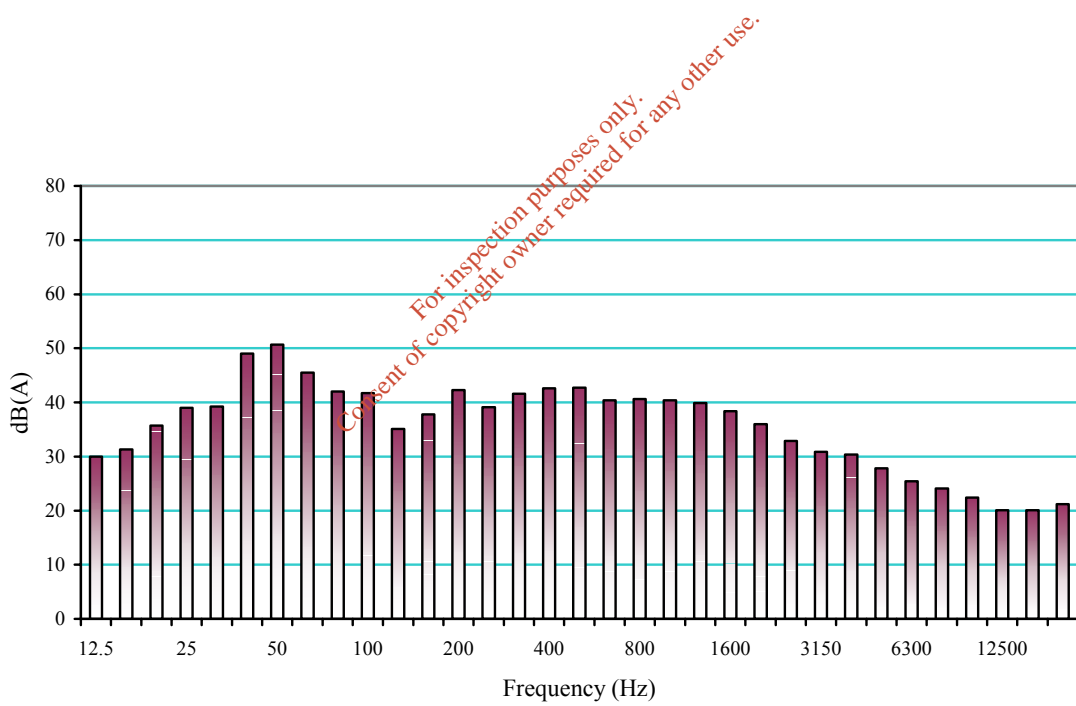


Figure 4 Night time Frequency Analysis at N2



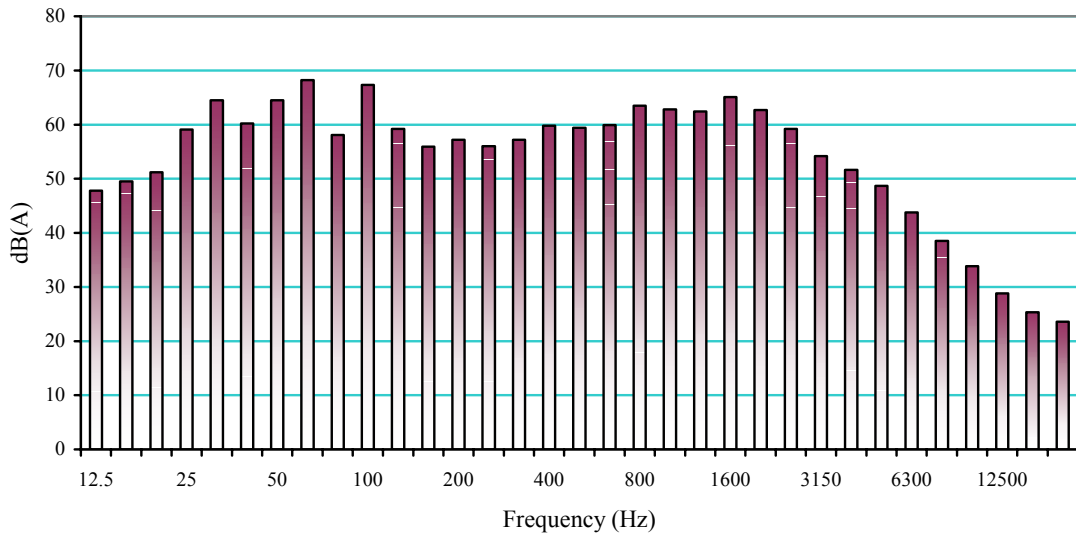


Figure 5 Daytime Frequency Analysis at N3

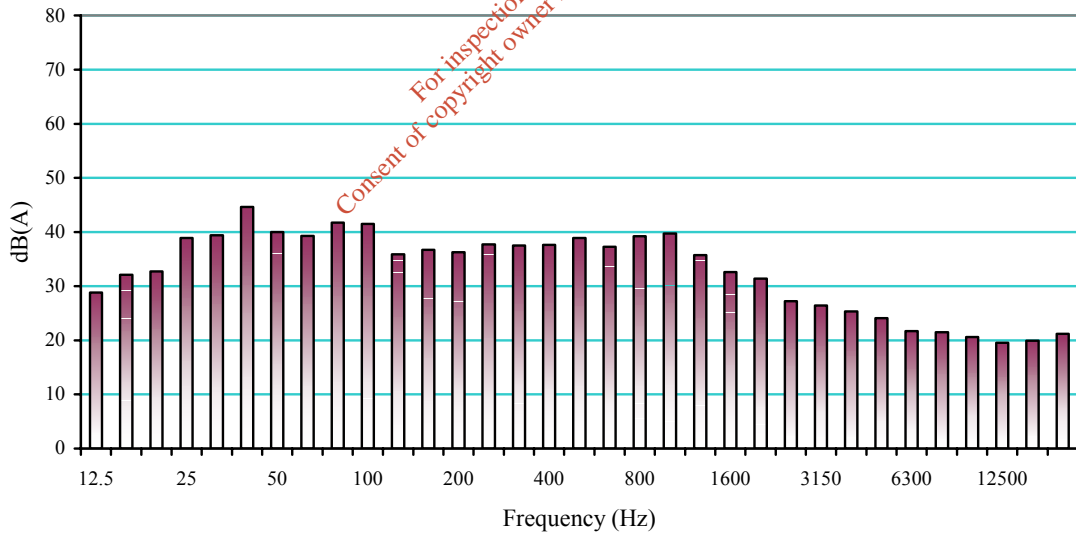


Figure 6 Night time Frequency Analysis at N3

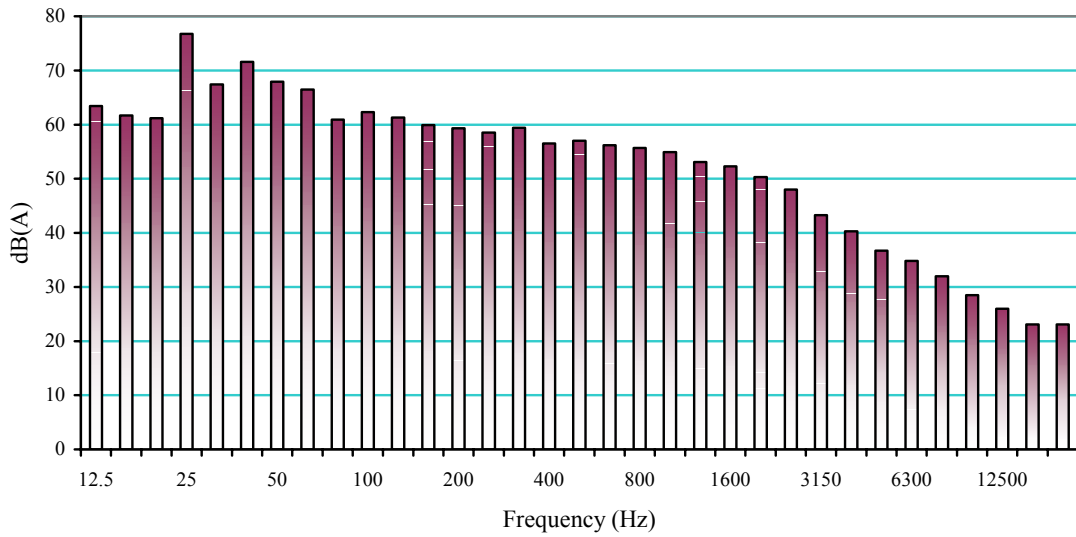


Figure 7 Daytime Frequency Analysis at N4

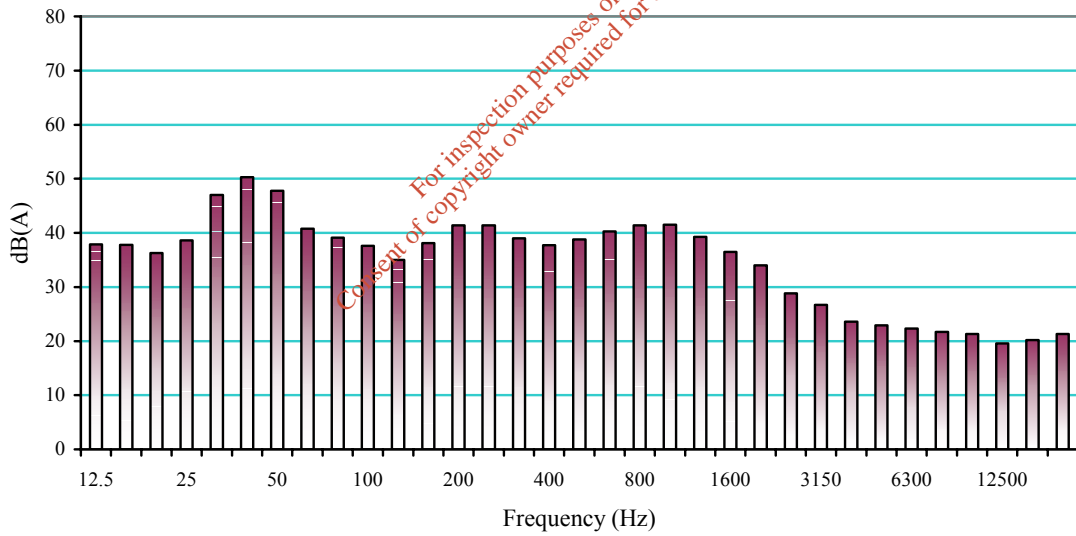


Figure 8 Night time Frequency Analysis at N4

# APPENDIX D

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**RILTA ENVIRONMENTAL Ltd.**

**ENVIRONMENTAL MANAGEMENT SYSTEM**

***ENVIRONMENTAL MANAGEMENT PLAN***

***ER-003***

In accordance with  
***ISO 14001***  
***ISO 9002***

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**ENVIRONMENTAL MANAGEMENT PROGRAMME FOR THE  
ACHIEVEMENT OF OBJECTIVES AND TARGETS**

<b>EMP Ref.</b>	<b>Objective</b>	<b>Environmental Management Programme for the implementation of objectives.</b>	<b>Completion Date</b>	<b>Completed (Y/N)</b>
1	Increase environmental awareness among RILTA staff.	Implement EMS and ERP training as part of employee induction.  Develop and Issue Quarterly Environmental Bulletin for all staff/contractors	Jan 2008  Jan 2008	
2	Promote best practice in the processing of waste generated on site.	Insist on the appropriate segregation and (EWC) classification of wastes before they enter on site.  Reduce skipped waste by 5% year on year  Implement process waste audits to assist in waste minimization.	Ongoing  March 2008  November 2007	

<i>Issue No.</i>	003	<i>Compiled by: Name/Position</i>	Colm Hussey Facility & Environmental Manager
<i>Date:</i>	March 2007	<i>Reviewed by: Name/Position</i>	Nick Beale Managing Director

<b>EMP Ref.</b>	<b>Objective</b>	<b>Environmental Management Programme for the implementation of objectives.</b>	<b>Completion Date</b>	<b>Completed (Y/N)</b>
3	Reduce fugitive emissions.	Annual monitoring of fugitive emissions.  Carry out VOC/Odour survey  Reduce usage of Xylene by 5%	Ongoing  August 2007  February 2008	
4	Reduce levels of process waste sent to landfill.	Reduce waste ratio sent to landfill by 5% based on 2005 waste figures.  Complete and log inspection of all general waste skips leaving site.	February 2008  June 2007	

<i>Issue No.</i>	003	<i>Compiled by: Name/Position</i>	Colm Hussey Facility & Environmental Manager
<i>Date:</i>	March 2007	<i>Reviewed by: Name/Position</i>	Nick Beale Managing Director

<b>EMP Ref.</b>	<b>Objective</b>	<b>Environmental Management Programme for the implementation of objectives.</b>	<b>Completion Date</b>	<b>Completed (Y/N)</b>
5	Improve site housekeeping.	<p>Insist that only fully and correctly labeled drums/IBCs are accepted on site.</p> <p>Train all relevant staff to undertake the daily site checks.</p> <p>Complete and log waste label checks as part of Sales Logix information system</p> <p>Remove backlog of IBCs outside Drum Division</p>	<p>Ongoing</p> <p>June 2007</p> <p>Oct 2007</p> <p>May 2007</p>	
6	Promote best practice for mixing incompatible wastes.	<p>Investigate new waste streams expected as part of the IBC reconditioning line and update 'Stop List' accordingly.</p> <p>Investigate if some of the waste IBC residues can be treated in the aqueous waste treatment system.</p>	<p>May 2007</p> <p>May 2007</p>	

<i>Issue No.</i>	003	<i>Compiled by: Name/Position</i>	Colm Hussey Facility & Environmental Manager
<i>Date:</i>	March 2007	<i>Reviewed by: Name/Position</i>	Nick Beale Managing Director

<b>EMP Ref.</b>	<b>Objective</b>	<b>Environmental Management Programme for the implementation of objectives.</b>	<b>Completion Date</b>	<b>Completed (Y/N)</b>
7	Reduce use of hazardous raw materials used on site.	Reduce amount of Xylene used on site by 5%	Jan 2008	
8	Optimize the quality of effluent discharged to sewer	Implement and document visual and grab sample tests for all effluent tanks released to sewer.  Reassess acceptance of 10 no. waste streams as chosen by Colm Hussey & Colin Moore. Document and implement findings.	May 2007  September 2007	

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<i>Issue No.</i>	003	<i>Compiled by: Name/Position</i>	Colm Hussey Facility & Environmental Manager
<i>Date:</i>	March 2007	<i>Reviewed by: Name/Position</i>	Nick Beale Managing Director



<b>EMP Ref.</b>	<b>Objective</b>	<b>Environmental Management Programme for the implementation of objectives.</b>	<b>Completion Date</b>	<b>Completed (Y/N)</b>
9	Achieve consistent bund integrity and suitability.	Document and implement bund management procedure and create housekeeping procedure to monitor and clear site bund sumps.  Create and document updateable bund testing record.	May 2007  May 2007	
10	Improve waste acceptance procedures	Furnish all new customers with the company's environmental policy along with all relevant licensing and permit regulation conditions as they apply to the customer.  Create and implement a waste acceptance file to document faults in waste deliveries e.g. waste containers and labeling.  Reassess asbestos acceptance procedures and furnish to all Rilta and 3 <sup>rd</sup> Party stakeholders	August 2008  Sept 2007  July 2007	

<i>Issue No.</i>	003	<i>Compiled by: Name/Position</i>	Colm Hussey Facility & Environmental Manager
<i>Date:</i>	March 2007	<i>Reviewed by: Name/Position</i>	Nick Beale Managing Director

<b>EMP Ref.</b>	<b>Objective</b>	<b>Environmental Management Programme for the implementation of objectives.</b>	<b>Completion Date</b>	<b>Completed (Y/N)</b>
11	To be a good and considerate neighbour.	<p>Complete noise monitoring.</p> <p>Review site landscaping project to enhance the visual aspect of the site.</p> <p>Implement and review RILTA housekeeping records.</p> <p>Monitor adjoining river on a yearly basis.</p> <p>Carry out VOC/Odour survey</p> <p>Reassess odour emissions on-site and implement findings.</p> <p>Maintain a 'complaints register' and review annually.</p>	<p>Ongoing</p> <p>Sept 2007</p> <p>May 2007</p> <p>Ongoing</p> <p>August 2007</p> <p>June 2007</p> <p>Ongoing</p>	

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<i>Issue No.</i>	003	<i>Compiled by: Name/Position</i>	Colm Hussey Facility & Environmental Manager
<i>Date:</i>	March 2007	<i>Reviewed by: Name/Position</i>	Nick Beale Managing Director

<b>EMP Ref.</b>	<b>Objective</b>	<b>Environmental Management Programme for the implementation of objectives.</b>	<b>Completion Date</b>	<b>Completed (Y/N)</b>
12	Improve fire safety on site.	Implement and assess fire evacuation drills on-site.  Implement 'Emergency Response Procedure' training as part of staff induction.  Reassess all alarm systems for effectiveness.  Assess use of emergency lighting on site.	Ongoing  June 2007  July 2007  October 2007	
13	Minimize energy usage on-site	Re-assess updated energy audit findings and implement accordingly  <i>For inspection purposes only. Consent of copyright owner required for any other use.</i>	Oct 2007	

<i>Issue No.</i>	003	<i>Compiled by: Name/Position</i>	Colm Hussey Facility & Environmental Manager
<i>Date:</i>	March 2007	<i>Reviewed by: Name/Position</i>	Nick Beale Managing Director

# APPENDIX E

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**RILTA ENVIRONMENTAL Ltd.**  
**ENVIRONMENTAL MANAGEMENT SYSTEM**

***ENVIRONMENTAL MANAGEMENT SYSTEM MANUAL***

In accordance with

**ISO 14001:2004**

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RILTA Environmental Ltd. ENVIRONMENTAL MANAGEMENT SYSTEM	<b>Issue No. 002</b> <b>Date: May 2006</b>
<i>Environmental Management System Manual</i>	Page 1 of 29

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ISO 14001 Section	4.6	Management Review

<i>Issue No.</i>	002	<i>Compiled by:</i> <i>Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by:</i> <i>Name/Position</i>	Nick Beale Operations Director

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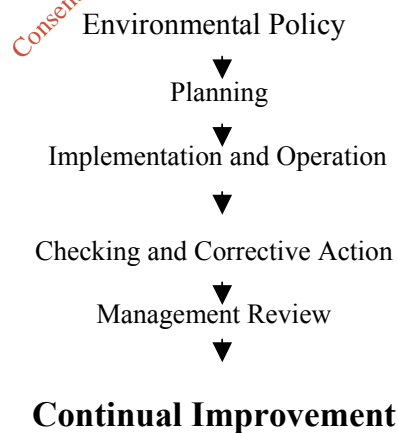
## SCOPE

RILTA Environmental Ltd. is registered at Unit 402, Grants Drive, Greenogue Business Park, Rathcoole, County Dublin. RILTA Environmental operates an integrated waste management facility, combining hydrocarbon waste treatment, drum recycling and hazardous waste/contaminated soil storage. This EMS has been developed for implementation at the Greenogue facility.

The Facility Manager has responsibility for the day to day implementation and maintenance the EMS at the Greenogue facility. The Managing Director has overall responsibility for implementation of the EMS.

The purpose of this manual is to provide the core of RILTA's Environmental Management System (EMS). It summarises the key elements of the EMS and provides a signpost to all related documents and procedures. The EMS has been established and is maintained according to the requirements of EN ISO 14001:2004 as detailed in clause 4 of that standard. This manual is laid out in order to provide ease of cross reference to clause 4.

The Environmental Management System incorporates all departments of the business including Waste Treatment, Drum Recycling, Hazardous Waste Brokerage, Soils Environmental and Cullen Environmental. It details the risks and preventive actions specific to each department to provide for continual improvement for the facility as a whole. As per Clause 4 of the standard, continual improvement is achieved by fully developing, undertaking and auditing all documentation and procedures in the standard, starting from the Environmental Policy right through to the annual Management Reviews:



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## DEFINITIONS

Environment - The surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation.

Environmental Aspect - The element of an organisations' activities, products or services that can interact with the environment. A significant environmental aspect is an environmental aspect that has or can have a significant environmental impact.

Environmental Impact - Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisations activities, products or services.

Environmental Management System (EMS) - The part of the overall management system that includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.

Environmental Objective - Overall environmental goal, arising from the environmental policy, that an organisation sets itself to achieve, and which is quantified where practicable.

Environmental Policy - Statement by the organisation of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives & targets.

Environmental Target - Detailed performance requirement, quantified where practicable, applicable to the organisation or parts thereof, that arise from environmental objectives and that need to be set and met in order to achieve those objectives.

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### RELATED DOCUMENTS

All environmental documentation is included on an index listing held on site by the Facility Manager. Documents of specific importance to this manual are as follows:

RILTA Environmental Waste Management Licence Application

RILTA Environmental Waste management Licence Reg no. 192-1.

ER – 001	Register of Environmental Aspects
ER – 002	Register of Objectives & Targets
ER – 003	Environmental Management Programme
ER - 004	Register of Legislation
ER - 005	Procedures Manual
EOP - 001	Environmental Aspects
EOP - 002	Environmental Legislation
EOP - 003	Objectives & Targets
EOP - 004	Training, Awareness and Competence
EOP - 005a	Internal Communication
EOP – 005b	External Communication
EOP – 005c	Control of Suppliers/Contractors
EOP – 005d	Waste Pre-acceptance & Control
EOP – 005e	Waste tracking system
EOP - 006	Document Control
EOP - 007 a-n	Operational Control
EOP – 008c	Waste Disposal
EOP – 008d	Sump Inspec
EOP - 009a-e	Emissions Monitoring
EOP - 010	Spillage Procedure
EOP - 011	Bund/Sump/Underground Pipe Testing
EOP - 012	Emergency Preparedness & Response
EOP - 013	Maintenance Programme
EOP - 014	Non-Conformance and Corrective and Preventative Action
EOP - 015	Environmental Records
EOP - 016	Internal EMS Audits
EOP - 017	Management Review

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## **ENVIRONMENTAL MANAGEMENT SYSTEM OVERVIEW**

RILTA Environmental has established and maintains an Environmental Management System supported by appropriate organisation and procedures as specified in EN ISO 14001:2004.

In establishing this system, the main objectives were:

- 1 to develop an efficient and cost effective Environmental Management System which compliments the EPA Waste Management Licence,
- 2 to implement an EMS by reference to existing procedures and systems,
- 3 to achieve effective environmental risk management for the site, given the increasing amount of existing and future environmental legislation.
- 4 to demonstrate RILTA Environmental's commitment to continual improvement, waste minimisation and pollution prevention,
- 5 to provide a framework for establishing and reviewing site environmental targets and objectives.

The ISO 14001 EMS is based around a simple "Plan, Do, Check, Act" type management system ie.

1. Plan what we are going to do
2. Do it
3. Check that we have done what we planned to do
4. Review what we have done and act to improve
5. Go back to 1, with improvements in place.

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### **ENVIRONMENTAL MANAGEMENT SYSTEM OVERVIEW Contd.**

The Environmental Policy Statement, along with the Environmental Aspects, Legal and Other Requirements, Objectives and Targets and the Environmental Management Programme make up the “Plan” part of the system (Sections 4.2 and 4.3 of this manual).

Structure and Responsibility, Training, Awareness and Competence, Communication, Documentation and Document Control, Operational Control and Emergency Preparedness and Response make up the “Do” part of the system.

Monitoring and Measurement, Non-Conformance and Corrective and Preventative Action, Records and the Audit System make up the “Check” part of the system (Section 4.5 of this manual).

Management Review achieves the “Act” part of the system (Section 4.6). This brings the system full circle in the performance of the management system back to planning in a time scale of one year and with resulting continuous improvement.

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## **ENVIRONMENTAL POLICY AND COMMITMENT**

There is a commitment at the highest management level within RILTA Environmental to ensure the development, establishment and maintenance of this Environmental Management System. This commitment includes provision of the necessary resources to implement the System and sustain improvements.

The Environmental Policy Statement is communicated to all employees and is displayed in the reception foyer of the offices at Greenogue. Copies of the statement (see following page) are available upon request to the public, the media or to any other interested parties.

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## **ENVIRONMENTAL POLICY STATEMENT**

**RILTA Environmental (formerly SITA Environmental & Pipe & Drain Services)** was established in 1978, the company is a market leader in providing environmental services to industrial and commercial clients. **RILTA Environmental** operates Ireland's largest Hazardous Waste Treatment Facility, EPA Waste Licence No. W192-1. **The Facility provides a Hydrocarbon Treatment and Recycling Facility, a Drum Reconditioning and Recycling Facility, a Hazardous Waste Transfer Station, and a Contaminated Soil Transfer Station.**

The site provides state of the art facilities for the handling, treatment and recycling of materials from a wide range of industrial sources.

**RILTA Environmental** operations have a positive environmental impact and help Irish industry to manage and reduce the potential to cause pollution. However, we are aware of the need to effectively manage and control our own emissions and reduce the potential to cause environmental pollution from our site and activities.

Consequently, **RILTA Environmental** regard environmental protection as an ongoing and essential part of our business. We will therefore take all reasonable steps to ensure that our operations do not have any negative impacts on the environment.

**RILTA Environmental** will strive to meet these commitments by: -

- ❖ Conforming to relevant environmental standards, licences and legislation relating to our business,
- ❖ Continually improving our operations by setting and reviewing environmental objectives and targets,
- ❖ Preventing pollution by monitoring and assessing our activities and emissions,
- ❖ Reducing the quantity of waste disposed of to landfill,
- ❖ Improving the quality of the effluent disposed of to sewer,
- ❖ Segregating and making wastes available for recycling,
- ❖ Communicating our environmental policy to all employees and ensuring that they have the knowledge, resources and authority to implement this policy,
- ❖ Ensuring that the proper managerial, technical and administrative controls shall operate in order to enable this policy to be maintained at all levels,
- ❖ Making our environmental policy available to the public and interested parties.

Whilst all **RILTA Environmental** employees have a duty to ensure that our operations do not cause environmental pollution, the overall responsibility for environmental protection lies with the Managing Director.

Signed: \_\_\_\_\_  
*Séamus A. Clancy, BE MSc MIEI*  
*Managing Director*  
**RILTA Environmental Ltd.**

Date: \_\_\_\_\_

<i>Issue No.</i>	002	<i>Compiled by:</i> <i>Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by:</i> <i>Name/Position</i>	Nick Beale, Operations Director

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## **PLANNING**

This section looks at the way RILTA Environmental undertakes the planning stage of the EMS. This has been achieved by first undertaking environmental reviews of the sites and operations. This process allowed RILTA Environmental to identify and understand the environmental aspects of operations, and achieve comprehensive control over legal and other requirements.

Following production of the Register of Environmental Aspects (ER-001) and Register of Legal and Other Requirements (ER-004), according to procedures EOP-001 and 002, RILTA Environmental Ltd were able to establish Objectives & Targets for the site (ER-002) in order to improve the environmental aspects. The environmental management programme (ER-003) outlines the means and timeframes for completing the objectives and targets. The setting up of environmental objectives, targets and management programmes are detailed in procedure EOP-003.

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### **ENVIRONMENTAL ASPECTS**

Independent Consultants carried out an Environmental Review at RILTA Environmental during April 1998. This review formed the basis of the original waste management licence application to the EPA. A similar review was undertaken in December 2004 on foot of EPA recommendations to reflect the changes involved with moving to the new site at Greenogue.

The review helped to identify the Environmental Aspects of the site, which formed part of the waste licence application. The conditions set down in the waste management licence, together with the compilation of the Aspects Register (ER-001) have been used to set the Objectives and Targets for the site (ER-002). The Aspects Register was compiled in accordance with EOP-001 and the Objectives and Targets Register was compiled in accordance with EOP-003

In compiling the Environmental Aspects Register the following issues were assessed;

- Emissions to air,
- Emissions to sewer,
- Emissions to Ground/Groundwater,
- Waste management,
- Use of raw materials and natural resources,
- Nuisances.
- Other local environmental and community issues.

The main Environmental Aspects of RILTA Environmental Ltd's operations are;

- Effluent discharges to sewer,
- Fugitive emissions to air,
- Sludge disposal to landfill,
- Potential ground water contamination,
- Potential discharges to the Griffeen River
- Site bunding and containment,
- Waste acceptance and handling procedures.

The Facility Manager or designee who receives information on potential new aspects as detailed in EOP-001, will keep the Aspects Register for the site up to date. Following twice yearly updates of the EMP, information on reduction of aspects significance will be added to the register.

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### **References**

- ER-001 Register of Environmental Aspects
- ER-002 Register of Objectives & Targets
- EOP-001 Procedure to Identify Environmental Aspects
- EOP-003 Procedure to Set Objectives & Targets

RILTA Environmental Ltd Waste Management Licence Reg. No.192-1

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### **LEGAL AND OTHER REQUIREMENTS**

The legal and other requirements relating to the site have been assessed. A list of relevant documents is detailed in the Register of Legislation (ER-004). This register is updated and maintained according to procedure EOP-002.

Key legislative documents are held on site by the Facility Manager. Any changes in legislative requirements, that have an effect on RILTA Environmental Ltd operations, are briefed by the Facility Manager to Management as required.

### **References**

ER-004      Register of Legislation  
EOP-002      Procedure for Updating Legal Register

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### **OBJECTIVES AND TARGETS**

RILTA Environmental have established and will maintain documented environmental objectives and targets (ER-002) which apply to all functions and levels within the organisation. These objectives and targets are based on the information outlined in the Aspects Register and as set out in the waste management licence 192-1

The setting and reviewing of these objectives and targets involves consideration of the site environmental aspects, legal and other requirements (eg. EPA requirements, legislation, waste licence), views of interested parties and technological, financial, operational and business requirements. The procedure for setting and reviewing objectives and targets is outlined in EOP-003.

The site objectives and targets are consistent with RILTA Environmental's commitment to continual improvement of the EMS as outlined in our Environmental Policy Statement i.e. the prevention of pollution, waste minimisation etc.

### **References**

ER-002 Register of Objectives & Targets  
EOP-003 Procedure for Setting and Reviewing Objectives and Targets

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<i>Issue No.</i>	002	<i>Compiled by: Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director

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### **ENVIRONMENTAL MANAGEMENT PROGRAMME**

RILTA Environmental has established and will maintain programmes for achieving the environmental objectives and targets. The programme is detailed in ER-003. The programme includes the designation of responsibility, means and timeframes for achieving each of the objectives and targets.

New developments within RILTA Environmental and external developments affecting the site will be included in the EMP where relevant as detailed in procedures EOP-001 and EOP-003.

### **References**

- ER-003 Register of the Environmental Management Program
- EOP-001 Procedure to Identify Environmental Aspects
- EOP-003 Procedure to Set and Review Environmental Objectives & Targets

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<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director

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### **IMPLEMENTATION AND OPERATION**

This section looks at the “Do” part of the EMS and defines the structure and responsibility for implementing the EMS. It details the training, awareness and competence which has been established with site personnel and outlines how relevant information on the EMS is communicated.

This section also deals with the control of EMS documentation and procedures to control operations associated with environmental aspects. Procedures to deal with emergency situations are also covered.

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ISO 14001 Section: 4.4.1

## **STRUCTURE AND RESPONSIBILITY**

RILTA Environmental has an established management and organisational structure in place. The organisational chart outlining the management structure of RILTA Environmental is included on page 17 of this manual. Specific roles and responsibilities of key employees regarding the EMS are summarised below.

**Managing Director** - overall responsibility for the EMS.

**Operations Director** – responsible for supervising the day-to-day implementation of the EMS.

**Facility Manager** – overall responsibility for the day-to-day implementation and maintenance of the EMS at Greenogue. Duties include organising sampling and monitoring of emissions in accordance with the waste license, ensuring that site staff is aware of the EMS and ensuring that appropriate environmental responsibilities are incorporated into an individuals job description.

**Health & Safety Manager** - responsible for overseeing and implementing health and safety issues at the site. Duties include co-ordinating health and safety training throughout the company, monitoring health and safety developments, liaising with Directors, interested parties and regulatory authorities.

**Contracts Supervisor** - responsible for ensuring that site procedures are correctly followed and implemented. Duties include reporting to the Facility Manager any potential problems which might cause pollution, liaising with the regulatory authorities, assisting the Facility Manager and Directors to implement and maintain the EMS at the site.

## **References**

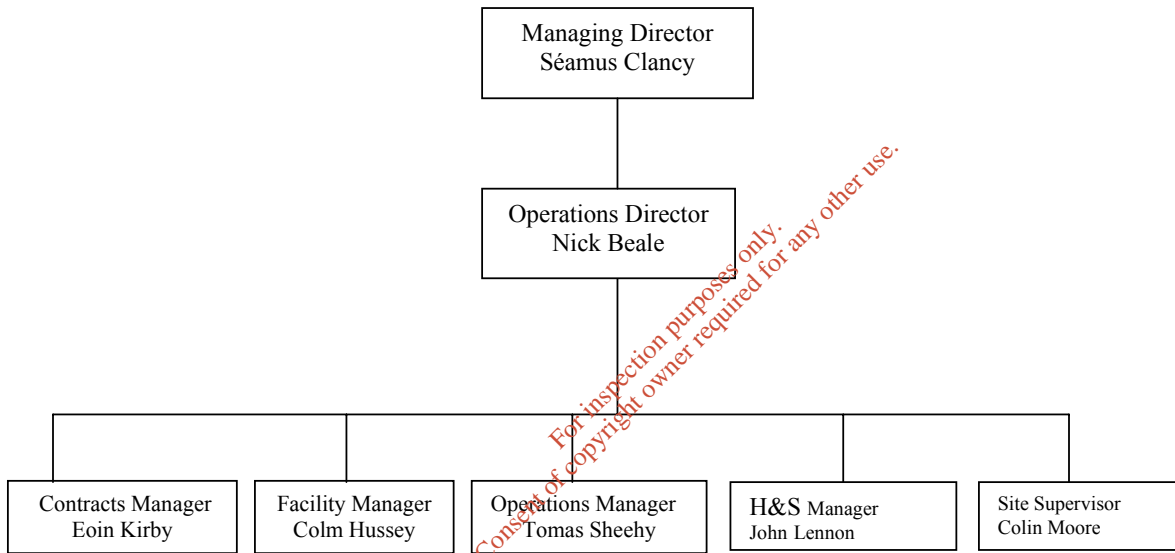
EOP 001-017 Management Responsibilities as set out in the Procedures  
Attached Company Organisational Chart

<i>Issue No.</i>	002	<i>Compiled by: Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section: 4.4.1

**RILTA Environmental Management Structure Chart**



<i>Issue No.</i>	002	<i>Compiled by: Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section: 4.4.2

### **TRAINING, AWARENESS AND COMPETENCE**

It is the policy of RILTA Environment to identify the training needs and requirements of company personnel. All staff employed at the treatment facility will be given environmental awareness training while performing their duties. The training will be carried out by the facility manager and shall have regard to the specific tasks and the significance of their environmental impacts.

General Awareness Training shall comprise:

- Legal and Licence requirements
- The importance of conformance with the environmental policy, procedures and with the requirements of the EMS.
- The importance of individual roles and responsibilities within the EMS.
- The potential environmental impacts of work activities and the environmental benefits of improved personal performances.
- The potential consequences of departure from specified operating procedures.

The aim is that all personnel performing tasks which can cause significant environmental impacts, shall be competent on the basis of education, training and/or experience.

The Operations Director is responsible for the identification and planning of appropriate training for all staff, based on the recommendations of the Facility Manager. The Managing Director has overall responsibility to ensure that the training requirements are met.

A training procedure (EOP 004) has been implemented as part of this EMS. Training records for all relevant RILTA staff are maintained on-site. The Facility Manager maintains an individual Training Record (EFM 001b), a Register of Training Requirements (EFM 001a) and an Annual Training Schedule (EFM 001c) as part of an integrated training matrix. All training records will be kept for the duration of an individual's employment and for a period of not less than three years thereafter.

### **References**

EOP 004	Procedure to identify and implement staff training
EFM 001a	Register of Training Requirements
EFM 001b	Individual Annual Training Record
EFM 001c	Annual Training Schedule

<i>Issue No.</i>	002	<i>Compiled by:</i> <i>Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by:</i> <i>Name/Position</i>	Nick Beale, Operations Director

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## **COMMUNICATION**

RILTA Environmental has implemented procedures (EOP-005a & EOP-005b) to communicate our environmental activities to our internal workforce and externally to interested parties.

Internal communications are facilitated through regular meetings, and the results of environmental monitoring, audits and EMS reviews are passed on to relevant personnel within the Company.

External communications are facilitated through regular reporting to the EPA and through a public information file which is kept by the Facility Manager on site and made available to inspection by the public on request. A copy and record of all reports sent to the EPA is maintained in the operations building by the Facility Manager.

RILTA Environmental is conscious of the need for good internal and external communication in order to motivate the workforce, inform and educate the public and ensure the sustainability of our EMS. RILTA Environmental has stated in our Environmental Policy a commitment to 'have open communication with public authorities and members of the public'.

RILTA Environmental will send questionnaires to suppliers and customers to enquire about their environmental performance and management plans.

## **References**

EOP-005a	Procedure for Internal Environmental Communications
EOP-005b	Procedure for External Environmental Communications
EFM-002a	EPA Recurring Reports
EFM-002b	EPA Once-Off Reports
EFM-003	Environmental Complaint/Incident Form
EFM-021a	Non Conformance Report
EFM-021b	Non Conformance Register

<i>Issue No.</i>	002	<i>Compiled by: Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director



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### **EMS DOCUMENTATION**

This environmental management manual has been written in order to provide a description of the core of RILTA Environmental EMS and the interactions within that system. It is laid out as a 'signpost' to provide direction to other documentation which provides detail as to the running of the environmental management system.

This manual and other environmental documents are available for consultation internally within RILTA Environmental and are held within central files by the Facility Manager.

Other EMS documentation is referenced as follows and is listed in a maintained index held by the Facility manager on site.

EOP-*.*	-	Environmental Operating Procedure
EFM-*.*	-	Environmental Form
ER-*.*	-	Environmental Record

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<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section:	4.4.5
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### **DOCUMENT CONTROL**

RILTA Environmental has implemented and will maintain a document control procedure (EOP-006) as part of this EMS. This procedure will ensure that all documents required by the EMS are controlled and reviewed so that:

1. They can be located and are available at key locations.
2. They are reviewed at least yearly, revised as necessary and approved by authorised personnel.
3. They are current. Any obsolete documents will be removed from work areas and assured against unintended use.
4. All relevant documentation, particularly environmental records are retained for the appropriate periods.

All documents will be legible, dated, identified and maintained in an orderly manner. The Operations Director is responsible for authorising documents within the EMS unless otherwise specified. The Environmental Operating Procedures (EOP's) shall be authorised by the Facility Manager and the Operations Director.

### **References**

EOP 006                      Document Control, Review & Amendment Procedure  
 Obsolete Master Copy File

<i>Issue No.</i>	002	<i>Compiled by: Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director

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### **OPERATIONAL CONTROL**

RILTA Environmental has identified operations and activities that are associated with significant environmental aspects (EOP-001, ER-001). Objectives and targets (ER-002) have been set for these aspects and RILTA Environmental Ltd will ensure that such operations and activities shall be carried out in order to reduce significant aspects.

This will be achieved by:

1. Establishing and maintaining documented procedures to cover situations where their absence could lead to deviation from the sites policy and objectives and targets.
2. Monitoring or verifying outputs from the activity.
3. Carrying out corrective action in the event of a breach of performance or operational control limits.

The relevant operational controls for each Environmental Aspect (ER-001) are detailed in the Environmental Procedures Manual (ER-005).

### **References**

EOP-001	Procedure for Establishing Environmental Aspects
ER-001	Register of Environmental Aspects
ER-002	Register of Environmental Objectives and Targets
ER-005	Procedures Manual

<i>Issue No.</i>	002	<i>Compiled by:</i> <i>Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by:</i> <i>Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section:	4.4.7
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**EMERGENCY PREPAREDNESS AND RESPONSE**

RILTA Environmental has established and will maintain emergency response procedures (EOP-010 & EOP-012).

RILTA Environmental will review and revise, where necessary, the emergency preparedness and response procedures, in particular after the occurrence of an accident or emergency situation.

Testing of emergency procedures shall be undertaken on a regular basis.

**References**

- EOP-010 Spillage Procedure
- EOP-012 Emergency Response Procedure

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<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section:	4.5
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### **CHECKING AND CORRECTIVE ACTION**

This section deals with the 'check' element of the Plan, Do, Check, Act system. Checking is important to assess whether RILTA Environmental is doing what we planned to do, and implement corrective and preventive action where non-conformances with the plans are occurring. In order to be able to check that plans are being carried out, it is necessary to have established monitoring, measuring and recording schemes. This information will provide the means to gauge whether RILTA Environmental is achieving the results which we have committed to achieve.

Records shall be kept of all measurements, audits, investigations and corrective actions as well as other records such as training records and external communications.

Internal auditing is a major part of the checking element and is undertaken in order to determine whether the EMS has been properly implemented, maintained and conforms to the plans and requirements of EN ISO 14001:2004.

Record keeping and monitoring provides a means to demonstrate sustained improvements and provide feedback to management regarding the effectiveness of the EMS.

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<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section: 4.5.1

## **MONITORING AND MEASURING**

RILTA Environmental has established and will maintain documented procedures to regularly monitor and measure key environmental aspects and licence requirements (EOP-007a to EOP-009e). The results of monitoring and measurement activities will be used to track performance, relevant operational controls and conformance with the site environmental objectives and targets and where relevant, environmental legislation and regulations.

### **References**

EOP 007a	Liquid Waste Acceptance
EOP 007b	Liquid Waste Sampling/Testing/Analysis
EOP 007c	Liquid Waste Handling
EOP 007d	Liquid Waste/Chemical Storage
EOP 007e	Water Treatment
EOP 007f	Treated Effluent Discharge
EOP 007g	Oil Treatment
EOP 007h	Sludge Treatment
EOP 007j	Soil Acceptance/Handling & Storage
EOP 008a	Steel & Plastic Drum Disposal
EOP 008b	Ink Cartridge Waste Disposal
EOP 008c	General Waste Disposal
EOP 008d	Settlement Tank/Interceptor Sump Inspection
EOP 008e	Ink Sump Inspection
EOP 009a	Air Emissions Monitoring
EOP 009b	Sewer Discharge Monitoring
EOP 009c	Groundwater Monitoring
EOP 009d	Noise Monitoring
EOP 009e	Nuisance Monitoring
EOP 008f	Hazardous Waste Disposal

EFM 004- EFM020c Monitoring Record Forms

<i>Issue No.</i>	002	<i>Compiled by:</i> <i>Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by:</i> <i>Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section:	4.5.2
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**NON-CONFORMANCE AND CORRECTIVE AND PREVENTATIVE ACTION**

RILTA Environmental has established and will maintain a procedure (EOP 014) for implementing corrective and preventive action as part of this EMS.

Corrective and preventive actions taken to eliminate the causes of actual and potential non-conformance's will be appropriate to the magnitude of problems and commensurate with the environmental impact encountered.

Any changes to documented procedures resulting from corrective action shall be implemented and recorded.

**References**

EOP 014	Non-Conformance & Corrective Action Procedure
EFM 021a	Non-Conformance Report
EFM 021b	Non-Conformance Register

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<i>Date:</i>	May 2006	<i>Reviewed by:</i> <i>Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section:	4.5.3
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## **RECORDS**

RILTA Environmental has established and will maintain a procedure (EOP-015) for the identification, maintenance, storage and disposition of environmental records as part of our EMS.

All environmental procedures contain the prefix EOP-\*\*\*

All environmental reports contain the prefix ER-\*\*

All environmental recording forms contain the prefix EFM- \*\*

A number of environmental recording forms eg. incoming liquid waste, waste disposal forms etc are the same as those developed for the existing site management system. These record forms will continue to be used and stored in the EMS files which are held in the site Facility building.

All records will be legible, identifiable and traceable to the activity, product or service. Storage is such that records are readily retrievable and protected against damage, deterioration and loss.

All environmental records shall be kept on site as required by Conditions 10.1 of the EPA waste licence.

Records to be held shall be appropriate to the site EMS, Waste Licence and demonstrate conformance to the requirements of EN ISO 14001.

## **References**

EOP-015	Procedure to Control Environmental Records
ER-***	Environmental Reports
EOP-**	Environmental Operating Procedures
EFM-**	Environmental Recording Form

<i>Issue No.</i>	002	<i>Compiled by: Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by: Name/Position</i>	Nick Beale, Operations Director



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ISO 14001 Section:	4.5.4
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### **ENVIRONMENTAL AUDITS**

RILTA Environmental has established and will maintain a procedure (EOP 016) and programme (EFM 022), for carrying out periodic internal audits of the EMS. This procedure will ensure that internal audits will be carried out to determine the effectiveness of the EMS and to ensure compliance with ISO 14001.

The EMS audit programme and schedule is based on the environmental importance of activities to be audited and on the results of any previous audits. The EMS audit schedule is shown on EFM 022. The internal EMS audit procedure (EOP-016) details the scope, frequency and methodology of audits as well as responsibilities and requirements for conducting audits and reporting results.

Environmental audits will be of two types;

1. monthly internal audits of specified parts of the EMS to ensure its effectiveness,
2. yearly intensive EMS audit involving external personnel to ensure compliance with ISO 14001.

This combined approach should ensure the continued improvement of environmental performance and the EMS.

### **References**

EOP 016	Procedure to Set/Conduct Internal EMS Audits
EFM 022	Internal EMS Audit Schedule
EFM 023	Internal EMS Audit Report

<i>Issue No.</i>	002	<i>Compiled by:</i> <i>Name/Position</i>	Colm Hussey Facility Manager
<i>Date:</i>	May 2006	<i>Reviewed by:</i> <i>Name/Position</i>	Nick Beale, Operations Director

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ISO 14001 Section:	4.6
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## **MANAGEMENT REVIEW**

RILTA Environmental's senior staff will review the EMS on a yearly basis to ensure its continuing suitability, adequacy and effectiveness (EOP 017). The Operations Director shall ensure the collection of the necessary information to allow the management board to carry out this evaluation.

The review will address any needs for changes to policy, objectives and targets and other elements of the EMS which may have become apparent from audits, changing circumstances at the site and the commitment to continual improvement.

The Managing Director shall have responsibility for advancing specific recommendations for actions to upgrade or modify the EMS following each annual review. The Operations Director will schedule and supervise implementation of any recommendations for upgrading or modifying the EMS.

The review will be documented in the form of minutes of the meeting and the report of the Operations Director.

### **References**

EFM 024a	EMS Meeting Agenda
EOP 017	EMS Management Review
EFM 024	EMS Meeting/Agenda Record
EFM 025	EMS Meeting Minutes

<i>Issue No.</i>	002	<i>Compiled by:</i> <i>Name/Position</i>	Colm Hussey Facility Manager
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# APPENDIX F

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# Industrial Temperature Sensors Ltd.

Unit 18, Nass Industrial Estate, Naas, Co. Kildare

Tel: 045-898164 Fax: 045-896521 Web: www.itsirl.com email: info@itsirl.com



## CERTIFICATE OF CALIBRATION

Certificate No: C207097/C1

Customer: Rilta Enviromental

Order No.:553

Instrument: Resistance Thermometer Insert & Tx's

Model:PR5331B3B1

Serial:970249650

Range: 0+100C

### Test Equipment:

(1) AMETEK DTI 1000 S/N. 013.02-01-950702 CERT No. N1154335T  
AMETEK PT100 S/N. 515361-01 CERT No. N1154335T

(2) AMETEK Macal mA LOOP CALIBRATOR  
S/N. 008653-00239 CERT No. 54789

REFERENCE TEMPERATURE	INSTRUMENT READING	
	MA	ERROR MA
0.003C	4.005	0.005
49.974C	12.004	0.004
99.961	20.02	0.02

TESTED BY: STEPHEN RALPH

DATE: 12/02/07

A handwritten signature in black ink, appearing to read 'Stephen Ralph', is written over a horizontal line.

# Industrial Temperature Sensors Ltd.

Unit 18, Nass Industrial Estate, Naas, Co. Kildare

Tel: 045-898164 Fax: 045-896521 Web: www.itsirl.com email: info@itsirl.com



## CERTIFICATE OF CALIBRATION

Certificate No: C207097/C2

Customer: Rilta Environmental

Order No.:553

Instrument: Resistance Thermometer Insert & Tx's

Model: PR5331B3B1

Serial: 970249643

Range: 0+100C

### Test Equipment:

(1) AMETEK DTI 1000 S/N. 013.02-01-950702 CERT No. N1154335T  
AMETEK PT100 S/N. 515361-01 CERT No. N1154335T

(2) AMETEK Macal mA LOOP CALIBRATOR  
S/N. 008653-00239 CERT No. 54789

REFERENCE TEMPERATURE	INSTRUMENT READING	
	MA	ERROR MA
DEGREE C		
0.003C	3.996	-0.004
49.974C	12.00	0
99.961	20.015	0.015

TESTED BY: STEPHEN RALPH

DATE: 12/02/07

*Stephen Ralph*

# APPENDIX G

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CLIENT

No 18810

# Concord Boiler Engineering Limited

Industrial Boiler & Mechanical Engineering Specialists

Marrowbone House  
Marrowbone Lane  
Dublin 8

Phone 453 2727 / 8 / 9 & 453 2566

Fax 453 3849

e-mail info@concord.ie

ENG. NAME / CODE <i>Sain Neagh</i> CODE	JOB No
INVOICE TO (BLOCK LETTERS) <i>Reactor Gas Ltd.</i>	SITE (BLOCK LETTERS)

DATES	% COMPLETE	SITE HOURS	TRAVEL HOURS	MILEAGE	MILEAGE RATE			
<i>Mon 4/1/07</i>		<i>3.5</i>	<i>1</i>					

BOILER No <i>Luton</i>	TYPE	BREAK DOWN	LABOUR
------------------------	------	------------	--------

REPORT

*Isolated water gauge glasses and checked pressure. Removed glasses and joints (2 bolts removed and tensioned out). Collected glasses. Fitted same with new joints. Fitted up and brought to pressure. Left on line.*

*Combustion checked 3.5% O<sub>2</sub> CO approx. Efficiency 80%*

QTY	MATERIAL SUPPLIED DESCRIPTION	CARRIAGE		
		FOC	CAT No.	PRICE
<i>2</i>	<i>B6 Water gauge glasses</i>			
<i>4</i>	<i>B6 joints</i>			

CLIENTS SIGNATURE 	MAT / LAB
	VAT
	TOTAL €

TERMS: 30 DAYS NETT      ORDER NO:

## **Appendix 7.1**

### **Analytical Water Results**

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- Interim
- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B00515/01**

Client: TES (Dublin)

Date of Receipt: 1/27/2006  
(of first sample)

**Sample Type: WATER**

Location: SITA

Client Contact: Siobhan Tinnelly

Client Ref: 1250

Detection Method			5 DAY ATU	GC	GC	GC	GC	GC FID/CALC	GRAVIMETRIC	ICP MS	ICP MS	KONE	MBAS	METER	SPECTRO		
Method Detection Limit			<2mg/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10mg/l	<1ug/l	<1ug/l	<3mg/l	<0.2mg/l	napH Units	<15mg/l		
UKAS Accredited			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
ALcontrol Reference	Sample Identity	Other ID	BOD	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Total Suspended Solids	Dissolved Copper Low Level	Dissolved Zinc Low Level	Sulphate	Surfactants	pH	COD Settled		
			mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	ug/l	ug/l	mg/l	mg/l	pH Units	mg/l	
06-B00515-S0001	WW1	UNKNOWN	20	87	31	<10	<10	<10	41	21	217	379	1.2	6.66	913		

**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. NDP = NO DETERMINATION POSSIBLE

THE DATA ON THIS PRELIMINARY REPORT IS NOT VALIDATED AND MAY BE SUBJECT TO CHANGE.

Checked By : Dylan Halpin

Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B00992/01**

**Sample Type: WATER**

Client: TES (Dublin)

Location:

Date of Receipt: 2/17/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: SITA

Detection Method			5 DAY ATU	CV AA	GC	GC	GC	GC	GC	GC	GC FID/CALC	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS
Method Detection Limit			<2mg/l	<0.05ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	n/a	n/a	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l
UKAS Accredited			✓		✓	✓	✓	✓	✓	✓	✓		✓				
ALcontrol Reference	Sample Identity	Other ID	BOD	Dissolved Mercury Low Level	Petrol Range Organics C5 C9	Petrol Range Organics C10-12	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Semi Volatile Organics	Volatile Organic Compounds	Dichlorvos**	Mevinphos**	alpha-BHC**	beta-BHC**
			mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l			ug/l	ug/l	ug/l
06-B00992-S0003	BH1	UNKNOWN	-	<0.05	<10	<10	<10	<10	<10	<10	<10	Done	Done	<0.01	<0.01	<0.01	<0.01
06-B00992-S0004	BH2	UNKNOWN	-	<0.05	<10	<10	<10	<10	<10	<10	<10	Done	Done	<0.01	<0.01	<0.01	<0.01
06-B00992-S0005	BH3	UNKNOWN	-	<0.05	<10	<10	<10	<10	<10	<10	<10	Done	Done	<0.01	<0.01	<0.01	<0.01
06-B00992-S0006	SW1	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B00992-S0007	SW2	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B00992-S0008	SW3	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B00992-S0009	WW1	UNKNOWN	59	<0.05	4761	3753	48	86	<10	23	<10	-	-	-	-	-	-

**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE  
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Checked By : Dylan Halpin

Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B00992/01**

**Sample Type: WATER**

Client: TES (Dublin)

Location:

Date of Receipt: 2/17/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: SITA

Detection Method			GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	
Method Detection Limit			<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	
UKAS Accredited																	
ALcontrol Reference	Sample Identity	Other ID	gamma-BHC (Lindane)***	Diazinon**	Methyl parathion**	Heptachlor**	Fenitrothion**	Malathion**	Aldrin**	Parathion**	Heptachlor epoxide**	Endosulfan 1**	p,p'-DDE**	Dieldrin**	Endrin**	Endosulfan 2**	p,p'-DDD**
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
06-B00992-S0003	BH1	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B00992-S0004	BH2	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B00992-S0005	BH3	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B00992-S0006	SW1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B00992-S0007	SW2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B00992-S0008	SW3	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B00992-S0009	WW1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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- Interim
- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B00992/01**

Client: TES (Dublin)

Date of Receipt: 2/17/2006

(of first sample)

**Sample Type: WATER**

Location:

Client Contact: Siobhan Tinnelly

Client Ref: SITA

Detection Method			GCMS	GCMS	GCMS	GCMS	GCMS	GRAVIMETRIC	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	
Method Detection Limit			<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<10mg/l	<1ug/l	<3ug/l	<1ug/l	<1ug/l	<1ug/l	<1ug/l	<1ug/l	<1ug/l	
UKAS Accredited								✓	✓	✓	✓	✓	✓	✓	✓	✓	
ALcontrol Reference	Sample Identity	Other ID	Ethion**	p,p'-DDT**	Endosulfan sulphate**	p,p'-Methoxychlor**	Azinphos methyl**	Total Suspended Solids	Dissolved Arsenic Low Level	Dissolved Boron Low Level	Dissolved Cadmium Low Level	Dissolved Chromium Low Level	Dissolved Copper Low Level	Dissolved Lead Low Level	Dissolved Nickel Low Level	Dissolved Selenium Low Level	Dissolved Zinc Low Level
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
06-B00992-S0003	BH1	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	<1	-	-	-	-	-	-	-	-
06-B00992-S0004	BH2	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	2	-	-	-	-	-	-	-	-
06-B00992-S0005	BH3	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	3	-	-	-	-	-	-	-	-
06-B00992-S0006	SW1	UNKNOWN	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-
06-B00992-S0007	SW2	UNKNOWN	-	-	-	-	-	80	-	-	-	-	-	-	-	-	-
06-B00992-S0008	SW3	UNKNOWN	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-
06-B00992-S0009	WW1	UNKNOWN	-	-	-	-	-	51	3	6028	<1	124	44	2	538	5	414

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Checked By : Dylan Halpin

Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B00992/01**

**Sample Type: WATER**

Client: TES (Dublin)

Location:

Date of Receipt: 2/17/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: SITA

Detection Method			KONE	MBAS	METER	SPECTRO										
Method Detection Limit			<3mg/l	<0.2mg/l	napH Units	<15mg/l										
UKAS Accredited			✓		✓	✓										
ALcontrol Reference	Sample Identity	Other ID	Sulphate	Surfactants	pH	COD Settled										
			mg/l	mg/l	pH Units	mg/l										
06-B00992-S0003	BH1	UNKNOWN	-	-	-	-										
06-B00992-S0004	BH2	UNKNOWN	-	-	-	-										
06-B00992-S0005	BH3	UNKNOWN	-	-	-	-										
06-B00992-S0006	SW1	UNKNOWN	-	-	7.19	<15										
06-B00992-S0007	SW2	UNKNOWN	-	-	7.37	<15										
06-B00992-S0008	SW3	UNKNOWN	-	-	7.38	<15										
06-B00992-S0009	WW1	UNKNOWN	404	1.3	6.07	88										

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# ALcontrol Laboratories Ireland

## Table Of Results

**06-B01549/01**

TES (Dublin)

3/10/2006

**Sample Type: WATER**

Location: SITA

Client Contact: Siobhan Tinnelly

Client Ref: 1250

Detection Method			GC	GC	GC	GC	GC FID/CALC	GRAVIMETRIC	ICP MS	ICP MS	KONE	MBAS	METER	SPECTRO		
Method Detection Limit			<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10mg/l	<1ug/l	<1ug/l	<3mg/l	<0.2mg/l	napH Units	<15mg/l		
UKAS Accredited			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
ALcontrol Reference	Sample Identity	Other ID	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Total Suspended Solids	Dissolved Copper Low Level	Dissolved Zinc Low Level	Sulphate	Surfactants	pH	COD Settled		
			ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	ug/l	ug/l	mg/l	mg/l	pH Units	mg/l		
06-B01549-S0027	WW1	UNKNOWN	128	96	<10	40	<10	340	<1	88	595	4.1	6.81	1324		

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**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.      **NDP** = NO DETERMINATION POSSIBLE  
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# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B02017/01**

Client: TES (Dublin)

Date of Receipt: 3/31/2006  
(of first sample)

**Sample Type: WATER**

Location: SITA

Client Contact: Siobhan Tinnelly

Client Ref: 1250

			Detection Method	5 DAY ATU											
			Method Detection Limit	<2mg/l											
			UKAS Accredited	✓											
ALcontrol Reference	Sample Identity	Other ID	BOD												
			mg/l												
06-B02017-S0004	WW	UNKNOWN	1037												

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# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B02292/01**

Client: TES (Dublin)

Date of Receipt: 4/12/2006  
(of first sample)

**Sample Type: WATER**

Location:

Client Contact: Siobhan Tinnelly

Client Ref: SITA 1250

	Detection Method	5 DAY ATU	GC	GC	GC	GC	GC	GC	GC FID/CALC	GRAVIMETRIC	ICP MS	ICP MS	KONE	MBAS	METER	SPECTRO	
	Method Detection Limit	<2mg/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10mg/l	<1ug/l	<1ug/l	<3mg/l	<0.2mg/l	napH Units	<15mg/l	
	UKAS Accredited	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
ALcontrol Reference	Sample Identity	Other ID	BOD	Petrol Range Organics C5 C9	Petrol Range Organics C10-12	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Total Suspended Solids	Dissolved Copper Low Level	Dissolved Zinc Low Level	Sulphate	Surfactants	pH	COD Settled
			mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	ug/l	ug/l	mg/l	mg/l	pH Units	mg/l
06-B02292-S0001	WW1	11/04/06	685	4649	1322	100	43	<10	27	<10	30	1	791	415	2.7	6.87	1273

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Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. NDP = NO DETERMINATION POSSIBLE  
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# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B03184/01**

**Sample Type: WATER**

Client: TES (Dublin)

Location: SITA

Date of Receipt: 5/18/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: 1250

Detection Method			5 DAY ATU	CV AA	FLAME PHOTO	FLAME PHOTO	GC	GC	GC	GC	GC FID/CALC	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS
Method Detection Limit			<2mg/l	<0.05ug/l	<0.2mg/l	<0.2mg/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	n/a	n/a	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l
UKAS Accredited			✓		✓	✓	✓	✓	✓	✓		✓					
ALcontrol Reference	Sample Identity	Other ID	BOD	Dissolved Mercury Low Level	Potassium	Sodium	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Semi Volatile Organics	Volatile Organic Compounds	Dichlorvos**	Mevinphos**	alpha-BHC**	beta-BHC**
			mg/l	ug/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l			ug/l	ug/l	ug/l
06-B03184-S0013	SW1	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B03184-S0014	SW2	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B03184-S0015	SW3	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B03184-S0016	BH1	UNKNOWN	-	<0.05	4.7	19.0	<10	<10	<10	<10	<10	Done	Done	<0.01	<0.01	<0.01	<0.01
06-B03184-S0017	BH2	UNKNOWN	-	<0.05	13.0	210.0	<10	<10	<10	<10	<10	Done	Done	<0.01	<0.01	<0.01	<0.01
06-B03184-S0018	BH3	UNKNOWN	-	<0.05	9.6	28.5	<10	<10	<10	<10	<10	Done	Done	<0.01	<0.01	<0.01	<0.01
06-B03184-S0019	WW1	UNKNOWN	624	<0.05	-	-	35	88	10	54	<10	-	-	-	-	-	-

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# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B03184/01**

**Sample Type: WATER**

Client: TES (Dublin)

Location: SITA

Date of Receipt: 5/18/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: 1250

Detection Method			GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	
Method Detection Limit			<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	
UKAS Accredited																	
ALcontrol Reference	Sample Identity	Other ID	gamma-BHC (Lindane)***	Diazinon**	Methyl parathion**	Heptachlor**	Fenitrothion**	Malathion**	Aldrin**	Parathion**	Heptachlor epoxide**	Endosulfan 1**	p,p'-DDE**	Dieldrin**	Endrin**	Endosulfan 2**	p,p'-DDD**
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
06-B03184-S0013	SW1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B03184-S0014	SW2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B03184-S0015	SW3	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B03184-S0016	BH1	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B03184-S0017	BH2	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B03184-S0018	BH3	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B03184-S0019	WW1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Checked By : Dylan Halpin

- Interim
- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B03184/01**

Client: TES (Dublin)

Date of Receipt: 5/18/2006  
(of first sample)

**Sample Type: WATER**

Location: SITA

Client Contact: Siobhan Tinnelly

Client Ref: 1250

ALcontrol Reference	Sample Identity	Other ID	Detection Method	GCMS	GCMS	GCMS	GCMS	GCMS	GRAVIMETRIC	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS		
			Method Detection Limit	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<10mg/l	<1ug/l	<3ug/l	<1ug/l	<120ug/l	<1ug/l	<1ug/l	<2ug/l	<1ug/l	<100ug/l
			UKAS Accredited						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
			Ethion**	p,p'-DDT**	Endosulfan sulphate**	p,p'-Methoxychlor**	Azinphos methyl**	Total Suspended Solids	Dissolved Arsenic Low Level	Dissolved Boron Low Level	Dissolved Cadmium Low Level	Dissolved Calcium Low Level	Dissolved Chromium Low Level	Dissolved Copper Low Level	Dissolved Iron Low Level	Dissolved Lead Low Level	Dissolved Magnesium Low Level	
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
06-B03184-S0013	SW1	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	
06-B03184-S0014	SW2	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	
06-B03184-S0015	SW3	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	
06-B03184-S0016	BH1	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	2	41	<1	111800	5	3	<2	<1	20550	
06-B03184-S0017	BH2	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	7	86	<1	38290	2	11	<2	<1	<100	
06-B03184-S0018	BH3	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	8	3	<1	162500	13	40	11	<1	<100	
06-B03184-S0019	WW1	UNKNOWN	-	-	-	-	-	<10	5	7811	<1	-	16	<1	-	<1	-	

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Checked By : Dylan Halpin

- Interim
- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B03184/01**

Client: TES (Dublin)

Date of Receipt: 5/18/2006

(of first sample)

**Sample Type: WATER**

Location: SITA

Client Contact: Siobhan Tinnelly

Client Ref: 1250

Detection Method			ICP MS	ICP MS	ICP MS	ICP MS	KONE	KONE	MBAS	METER	SPECTRO	SPECTRO	TITRATION				
Method Detection Limit			<1ug/l	<1ug/l	<1ug/l	<1ug/l	<1mg/l	<3mg/l	<0.2mg/l	napH Units	<15mg/l	<0.05mg/l	<1mg/l				
UKAS Accredited			✓	✓	✓	✓	✓	✓		✓	✓		✓				
ALcontrol Reference	Sample Identity	Other ID	Dissolved Manganese Low Level	Dissolved Nickel Low Level	Dissolved Selenium Low Level	Dissolved Zinc Low Level	Chloride	Sulphate	Surfactants	pH	COD Settled	Total Cyanide	Total Alkalinity as CaCO3				
			ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	pH Units	mg/l	mg/l	mg/l				
06-B03184-S0013	SW1	UNKNOWN	-	-	-	-	-	-	-	8.12	<15	-	-				
06-B03184-S0014	SW2	UNKNOWN	-	-	-	-	-	-	-	8.19	<15	-	-				
06-B03184-S0015	SW3	UNKNOWN	-	-	-	-	-	-	-	7.93	<15	-	-				
06-B03184-S0016	BH1	UNKNOWN	2	3	-	23	22	10	-	-	-	<0.05	240				
06-B03184-S0017	BH2	UNKNOWN	>1	32	-	28	69	170	-	-	-	<0.05	220				
06-B03184-S0018	BH3	UNKNOWN	<1	8	-	23	67	408	-	-	-	<0.05	150				
06-B03184-S0019	WW1	UNKNOWN	-	107	4	468	-	1146	85.5	7.02	1275	-	-				

**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE  
 THE DATA ON THIS PRELIMINARY REPORT IS NOT VALIDATED AND MAY BE SUBJECT TO CHANGE.

Checked By : Dylan Halpin

- Interim
- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B03617/01**

**Sample Type: WATER**

Client: TES (Dublin)

Location:

Date of Receipt: 6/9/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: SITA

Detection Method			5 DAY ATU	GC	GC	GC	GC	GC	GC	GC FID/CALC	GRAVIMETRIC	ICP MS	ICP MS	KONE	MBAS	METER	SPECTRO
Method Detection Limit			<2mg/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10mg/l	<1ug/l	<1ug/l	<3mg/l	<0.2mg/l	napH Units	<15mg/l
UKAS Accredited			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
ALcontrol Reference	Sample Identity	Other ID	BOD Filtered	Petrol Range Organics C9	Petrol Range Organics C10-12	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Total Suspended Solids	Dissolved Copper Low Level	Dissolved Zinc Low Level	Sulphate	Surfactants	pH	COD Settled
			mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	ug/l	ug/l	mg/l	mg/l	pH Units	mg/l
06-B03617-S0004	WW1	UNKNOWN	193	1180	844	16	33	<10	14		18	8	100	331	4.9	7.03	1223

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.

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Checked By : Dylan Halpin

Interim

Validated

# ALcontrol Laboratories Ireland

## Table Of Results

Ref Number: 06-B04534/01

Sample Type: WATER

Client: Tobin Consulting Engineers (Dublin)

Location:

Date of Receipt: 7/21/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: SITA

			Detection Method	5 DAY ATU	GC	GC	GC	GC	GC FID/CALC	GRAVIMETRIC	ICP MS	ICP MS	KONE	MBAS	METER	SPECTRO		
			Method Detection Limit	<2mg/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10mg/l	<1ug/l	<1ug/l	<3mg/l	<0.2mg/l	napH Units	<15mg/l		
			UKAS Accredited	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
ALcontrol Reference	Sample Identity	Other ID	BOD Unfiltered	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Total Suspended Solids	Dissolved Copper Low Level	Dissolved Zinc Low Level	Sulphate	Surfactants	pH	COD Unfiltered			
			mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	ug/l	ug/l	mg/l	mg/l	pH Units	mg/l			
06-B04534-S0016	WW1	UNKNOWN	932	42	30	<10	<10	<10	80	<1	1375	649	9.1	6.96	1176			

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Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.

NDP = NO DETERMINATION POSSIBLE

THE DATA ON THIS PRELIMINARY REPORT IS NOT VALIDATED AND MAY BE SUBJECT TO CHANGE.

Checked By : Anne Kelly

Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

Ref Number: 06-B04892/01

Sample Type: WATER

Client: Tobin Consulting Engineers (Dublin)

Location: SITA

Date of Receipt: 8/9/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: 1250

Detection Method			5 DAY ATU	CV AA	GC	GC	GC	GC	GC	GC	GC FID/CALC	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS
Method Detection Limit			<2mg/l	<0.05ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	n/a	n/a	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l
UKAS Accredited			✓		✓	✓	✓	✓	✓	✓	✓		✓				
ALcontrol Reference	Sample Identity	Other ID	BOD Unfiltered	Dissolved Mercury Low Level	Petrol Range Organics C5 C9	Petrol Range Organics C10-12	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Semi Volatile Organics	Volatile Organic Compounds	Dichlorvos**	Mevinphos**	alpha-BHC**	beta-BHC**
			mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l			ug/l	ug/l	ug/l
06-B04892-S0003	SW1	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B04892-S0004	SW2	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B04892-S0005	SW3	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B04892-S0006	BH1	UNKNOWN	-	<0.05	<10	<10	<10	<10	<10	<10	<10	Done	Done	<0.01	<0.01	<0.01	<0.01
06-B04892-S0007	BH2	UNKNOWN	-	<0.05	<10	<10	<10	<10	<10	<10	<10	Done	Not Done	<0.01	<0.01	<0.01	<0.01
06-B04892-S0008	BH3	UNKNOWN	-	<0.05	<10	<10	<10	<10	<10	<10	<10	Done	Not Done	<0.01	<0.01	<0.01	<0.01
06-B04892-S0009	WW1	UNKNOWN	1131	<0.05	2099	640	48	48	<10	13	511	-	-	-	-	-	-

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Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.

NDP = NO DETERMINATION POSSIBLE

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Checked By : Janne Juurikas

- Interim
- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B04892/01**

Client: Tobin Consulting Engineers (Dublin)

Date of Receipt: 8/9/2006

(of first sample)

**Sample Type: WATER**

Location: SITA

Client Contact: Siobhan Tinnelly

Client Ref: 1250

Detection Method			GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS		
Method Detection Limit			<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l		
UKAS Accredited																		
ALcontrol Reference	Sample Identity	Other ID	gamma-BHC (Lindane)***	Diazinon**	Methyl parathion**	Heptachlor**	Fenitrothion**	Malathion**	Aldrin**	Parathion**	Heptachlor epoxide**	Endosulfan 1**	p,p'-DDE**	Dieldrin**	Endrin**	Endosulfan 2**	p,p'-DDD**	
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
06-B04892-S0003	SW1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B04892-S0004	SW2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B04892-S0005	SW3	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B04892-S0006	BH1	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B04892-S0007	BH2	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B04892-S0008	BH3	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B04892-S0009	WW1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE  
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Checked By : Janne Juurikas



- Interim
- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B04892/01**

**Sample Type: WATER**

Client: Tobin Consulting Engineers (Dublin)

Location: SITA

Date of Receipt: 8/9/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: 1250

Detection Method			GCMS	GCMS	GCMS	GCMS	GCMS	GRAVIMETRIC	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	
Method Detection Limit			<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<10mg/l	<1ug/l	<3ug/l	<1ug/l	<1ug/l	<1ug/l	<1ug/l	<1ug/l	<1ug/l	
UKAS Accredited								✓	✓	✓	✓	✓	✓	✓	✓	✓	
ALcontrol Reference	Sample Identity	Other ID	Ethion**	p,p'-DDT**	Endosulfan sulphate**	p,p'-Methoxychlor**	Azinphos methyl**	Total Suspended Solids	Dissolved Arsenic Low Level	Dissolved Boron Low Level	Dissolved Cadmium Low Level	Dissolved Chromium Low Level	Dissolved Copper Low Level	Dissolved Lead Low Level	Dissolved Nickel Low Level	Dissolved Selenium Low Level	Dissolved Zinc Low Level
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
06-B04892-S0003	SW1	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-
06-B04892-S0004	SW2	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-
06-B04892-S0005	SW3	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-
06-B04892-S0006	BH1	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	>1	-	-	-	-	-	-	-	-
06-B04892-S0007	BH2	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	8	-	-	-	-	-	-	-	-
06-B04892-S0008	BH3	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	2	-	-	-	-	-	-	-	-
06-B04892-S0009	WW1	UNKNOWN	-	-	-	-	-	49	2	7432	<1	5	<1	<1	465	2	9

**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE

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Checked By : Janne Juurikas

Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B04892/01**

**Sample Type: WATER**

Client: Tobin Consulting Engineers (Dublin)

Location: SITA

Date of Receipt: 8/9/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: 1250

Detection Method		KONE	MBAS	METER	SPECTRO												
Method Detection Limit		<3mg/l	<0.2mg/l	napH Units	<15mg/l												
UKAS Accredited		✓		✓	✓												
ALcontrol Reference	Sample Identity	Other ID	Sulphate	Surfactants	pH	COD Unfiltered											
			mg/l	mg/l	pH Units	mg/l											
06-B04892-S0003	SW1	UNKNOWN	-	-	8.00	<15											
06-B04892-S0004	SW2	UNKNOWN	-	-	8.30	<15											
06-B04892-S0005	SW3	UNKNOWN	-	-	8.20	<15											
06-B04892-S0006	BH1	UNKNOWN	-	-	-	-											
06-B04892-S0007	BH2	UNKNOWN	-	-	-	-											
06-B04892-S0008	BH3	UNKNOWN	-	-	-	-											
06-B04892-S0009	WW1	UNKNOWN	546	2.6	7.08	1488											

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**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE  
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- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B05755/01**

**Sample Type: WATER**

Client: Tobin Consulting Engineers (Dublin)

Location: SITA

Date of Receipt: 9/15/2006  
(of first sample)

Client Contact: Siobhan Tinnelly

Client Ref: 1250

Detection Method			5 DAY ATU	GC	GC	GC	GC	GC	GC	GC FID/CALC	GRAVIMETRIC	ICP MS	ICP MS	KONE	MBAS	METER	SPECTRO
Method Detection Limit			<2mg/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10mg/l	<1ug/l	<1ug/l	<3mg/l	<0.2mg/l	napH Units	<15mg/l
UKAS Accredited [Testing Laboratory] No. 1291			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
ALcontrol Reference	Sample Identity	Other ID	BOD Unfiltered	Petrol Range Organics C5-C9	Petrol Range Organics C10-12	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Total Suspended Solids	Dissolved Copper Low Level	Dissolved Zinc Low Level	Sulphate	Surfactants	pH	COD Unfiltered
			mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	ug/l	ug/l	mg/l	mg/l	pH Units	mg/l
06-B05755-S0003	WW1	UNKNOWN	1307	1945	2069	219	335	29	137	445	98	13	1090	77	4.9	6.12	1982

**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE  
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Checked By : Janne Jurikas

- Interim
- Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B06830/01**

**Sample Type: WATER**

Client: Tobin Consulting Engineers (Dublin)

Location: SITA

Date of Receipt: 10/27/2006

Client Contact: Siobhan Tinnelly

(of first sample)

Client Ref: 1250

Detection Method			5 DAY ATU	GC	GC	GC	GC	GC FID/CALC	GRAVIMETRIC	ICP MS	ICP MS	KONE	MBAS	METER	SPECTRO
Method Detection Limit			<2mg/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10mg/l	<1ug/l	<1ug/l	<3mg/l	<0.2mg/l	napH Units	<15mg/l
UKAS Accredited [Testing Laboratory] No. 1291			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ALcontrol Reference	Sample Identity	Other ID	BOD Unfiltered	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Total Suspended Solids	Dissolved Copper Low Level	Dissolved Zinc Low Level	Sulphate	Surfactants	pH	COD Unfiltered
			mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	ug/l	ug/l	mg/l	mg/l	pH Units	mg/l
06-B06830-S0011	WW1	27/10/06	521	75	139	16	68	<10	41	<1	46	368	0.7	6.76	1226

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**Notes :** METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP = NO DETERMINATION POSSIBLE**  
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Checked By : Janne Juurikas

- Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B07574/01**

**Sample Type: WATER**

Client: Tobin Consulting Engineers (Dublin)

Location: SITA

Date of Receipt: 11/28/2006

Client Contact: Leo Brogan

(of first sample)

Client Ref: 1250

Detection Method			5 DAY ATU	CV AA	FLAME PHOTO	FLAME PHOTO	GC	GC	GC	GC	GC FID/CALC	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS
Method Detection Limit			<2mg/l	<0.05ug/l	<0.2mg/l	<0.2mg/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	<10ug/l	n/a	n/a	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l
UKAS Accredited [Testing Laboratory] No. 1291			✓		✓	✓	✓	✓	✓	✓	✓		✓				
ALcontrol Reference	Sample Identity	Other ID	BOD Unfiltered	Dissolved Mercury Low Level	Potassium	Sodium	Benzene	Toluene	Ethylbenzene	Total Xylene	Mineral Oil by GC	Semi Volatile Organics	Volatile Organic Compounds	Dichlorvos**	Mevinphos**	alpha-BHC**	beta-BHC**
			mg/l	ug/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l			ug/l	ug/l	ug/l	ug/l
06-B07574-S0009	SW1	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B07574-S0010	SW2	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B07574-S0011	SW3	UNKNOWN	-	-	-	-	-	-	-	-	<10	-	-	-	-	-	-
06-B07574-S0012	BH1	UNKNOWN	-	<0.05	5.9	19.0	<10	<10	<10	<10	<10	Done	Done	<0.01	<0.01	<0.01	<0.01
06-B07574-S0013	BH2	UNKNOWN	-	<0.05	17.0	58.0	<10	<10	<10	<10	<10	Done	Not Done	<0.01	<0.01	<0.01	<0.01
06-B07574-S0014	BH3	UNKNOWN	-	<0.05	12.0	32.0	<10	<10	<10	<10	<10	Done	Not Done	<0.01	<0.01	<0.01	<0.01
06-B07574-S0015	WW1	UNKNOWN	1504	<0.05	-	-	77	149	14	62	<10	-	-	-	-	-	-

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Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.

NDP = NO DETERMINATION POSSIBLE

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Checked By : Andrea Bergin

- Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B07574/01**

Client: Tobin Consulting Engineers (Dublin)

Date of Receipt: 11/28/2006  
 (of first sample)

**Sample Type: WATER**

Location: SITA

Client Contact: Leo Brogan

Client Ref: 1250

Detection Method			GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	GCMS	
Method Detection Limit			<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	
UKAS Accredited [Testing Laboratory] No. 1291																	
ALcontrol Reference	Sample Identity	Other ID	gamma-BHC (Lindane)***	Diazinon**	Methyl parathion**	Heptachlor**	Fenitrothion**	Malathion**	Aldrin**	Parathion**	Heptachlor epoxide**	Endosulfan 1**	p,p'-DDE**	Dieldrin**	Endrin**	Endosulfan 2**	p,p'-DDD**
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
06-B07574-S0009	SW1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B07574-S0010	SW2	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B07574-S0011	SW3	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-B07574-S0012	BH1	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B07574-S0013	BH2	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B07574-S0014	BH3	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
06-B07574-S0015	WW1	UNKNOWN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. NDP = NO DETERMINATION POSSIBLE

THE DATA ON THIS PRELIMINARY REPORT IS NOT VALIDATED AND MAY BE SUBJECT TO CHANGE.

Checked By : Andrea Bergin

Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

**Ref Number: 06-B07574/01**

Client: Tobin Consulting Engineers (Dublin)

Date of Receipt: 11/28/2006  
(of first sample)

**Sample Type: WATER**

Location: SITA

Client Contact: Leo Brogan

Client Ref: 1250

Detection Method			GCMS	GCMS	GCMS	GCMS	GCMS	GRAVIMETRIC	ICP IRIS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	
Method Detection Limit			<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<0.01ug/l	<10mg/l	<0.05mg/l	<1ug/l	<3ug/l	<1ug/l	<120ug/l	<1ug/l	<1ug/l	<2ug/l	<1ug/l
UKAS Accredited [Testing Laboratory] No. 1291								✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ALcontrol Reference	Sample Identity	Other ID	Ethion**	p,p'-DDT**	Endosulfan sulphate**	p,p'-Methoxychlor**	Azinphos methyl**	Total Suspended Solids	Total Chromium	Dissolved Arsenic Low Level	Dissolved Boron Low Level	Dissolved Cadmium Low Level	Dissolved Calcium Low Level	Dissolved Chromium Low Level	Dissolved Copper Low Level	Dissolved Iron Low Level	Dissolved Lead Low Level
			ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
06-B07574-S0009	SW1	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-
06-B07574-S0010	SW2	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-
06-B07574-S0011	SW3	UNKNOWN	-	-	-	-	-	<10	-	-	-	-	-	-	-	-	-
06-B07574-S0012	BH1	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.05	<1	89	<1	117100	-	<1	<2	<1
06-B07574-S0013	BH2	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.05	2	66	<1	47800	-	<1	<2	<1
06-B07574-S0014	BH3	UNKNOWN	<0.01	<0.01	<0.01	<0.01	<0.01	-	<0.05	2	34	<1	83560	-	3	<2	<1
06-B07574-S0015	WW1	UNKNOWN	-	-	-	-	-	41	-	273	6157	<1	-	25	<1	-	<1

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL.

NDP = NO DETERMINATION POSSIBLE

THE DATA ON THIS PRELIMINARY REPORT IS NOT VALIDATED AND MAY BE SUBJECT TO CHANGE.

Checked By : Andrea Bergin

- Interim  
 Validated

# ALcontrol Laboratories Ireland

## Table Of Results

Ref Number: **06-B07574/01**

Sample Type: **WATER**

Client: Tobin Consulting Engineers (Dublin)

Location: SITA

Date of Receipt: 11/28/2006

Client Contact: Leo Brogan

(of first sample)

Client Ref: 1250

Detection Method			ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	KONE	KONE	METER	SPECTRO	SPECTRO	TITRATION				
Method Detection Limit			<100ug/l	<1ug/l	<1ug/l	<1ug/l	<1ug/l	<1mg/l	<3mg/l	napH Units	<15mg/l	<0.05mg/l	<1mg/l				
UKAS Accredited [Testing Laboratory] No. 1291			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
ALcontrol Reference	Sample Identity	Other ID	Dissolved Magnesium Low Level	Dissolved Manganese Low Level	Dissolved Nickel Low Level	Dissolved Selenium Low Level	Dissolved Zinc Low Level	Chloride	Sulphate	pH	COD Unfiltered	Total Cyanide	Total Alkalinity as CaCO3				
			ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	pH Units	mg/l	mg/l	mg/l				
06-B07574-S0009	SW1	UNKNOWN	-	-	-	-	-	-	-	8.25	<15	-	-				
06-B07574-S0010	SW2	UNKNOWN	-	-	-	-	-	-	-	8.11	<15	-	-				
06-B07574-S0011	SW3	UNKNOWN	-	-	-	-	-	-	-	8.26	<15	-	-				
06-B07574-S0012	BH1	UNKNOWN	20310	<1	2	-	13	22	215	-	-	<0.05	120				
06-B07574-S0013	BH2	UNKNOWN	105	1	6	-	16	31	173	-	-	<0.05	60				
06-B07574-S0014	BH3	UNKNOWN	<100	<1	8	-	13	15	40	-	-	<0.05	90				
06-B07574-S0015	WW1	UNKNOWN	-	-	125	854	89	-	422	6.35	3512	-	-				

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. NDP = NO DETERMINATION POSSIBLE  
 THE DATA ON THIS PRELIMINARY REPORT IS NOT VALIDATED AND MAY BE SUBJECT TO CHANGE.

Checked By : Andrea Bergin





**Appendix 10.1**  
**Traffic Survey Results**

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

Name: \_\_\_\_\_  
 Location: Rilla Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 7 am  
 Time Finish: 8 am

Date: 27/02/07

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																															BUS	HGV										
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81

Consent of Applicant for proposed works subject to approval of the Council

TOBIN CONSULTING ENGINEERS		
PROJECT NO:	3686	
FILE REF:		
13 MAR 2007		
Date Received		
PASS TO:	ACTION BY:	DATE:
Gyer Regan	G-R	15/3/07

Name: \_\_\_\_\_  
 Location: Rilta Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 8 am  
 Time Finish: 9 am

Date: 27/02/07

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS	HGV																
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9			
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18			
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37		
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46		
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55		
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	64		
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	73		
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81	82		
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9		
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18		
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	64	
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	73	
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81	82	
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9		
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18		
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	64	
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	73	
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81	82	
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9		
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18		
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	64	
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230																															



Name: \_\_\_\_\_  
 Location: Rilla Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 9am  
 Time Finish: 10am

Date: 27/02/07

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																														BUS		HGV											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9				
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																														BUS		HGV											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9				
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																														BUS		HGV											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9				
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																														BUS		HGV											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9				
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111																								

Name: \_\_\_\_\_  
 Location: Rilla Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 10 am  
 Time Finish: 11 am

Date: 27/02/07

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS		HGV													
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9	
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18	
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81	
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	2																											



Name:  
Location: Riita Site Access Junction  
Weather:

Time Start: 11am  
Time Finish: 12am

Date: 27/02/07

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																														BUS	HGV													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		31	1	2	3	4	5	6	7	8	9				
Site Access Road	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9			
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18	
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81	
	Site Access Road	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
Site Access Road		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
	Site Access Road	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247</												





Name: \_\_\_\_\_  
 Location: Riita Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 1 pm  
 Time Finish: 2 pm

Date: 27/02/07

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																																BUS	HGV									
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81

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Name: \_\_\_\_\_  
Location: Rilita Site Access Junction  
Weather: \_\_\_\_\_

Time Start: 2 pm  
Time Finish: 3 pm

Date: 27/02/07

DIRECTION			PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS	HGV													
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9	
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18	
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81	
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249																																									



Name: \_\_\_\_\_  
Location: Rilita Site Access Junction  
Weather: \_\_\_\_\_

Time Start: 3pm  
Time Finish: 4pm

Date: 27/02/07

DIRECTION			CAR/TAXI/LGV																												BUS		HGV																	
PEDAL CYCLE	MOTOR CYCLE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9						
1	2	1	2																																															
3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18					
5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	30	31	
7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40	
9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49	
11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	56	57	58	
13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	64	65	66	67	
15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	73	74	75	76	
17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81					

DIRECTION			CAR/TAXI/LGV																												BUS		HGV																
PEDAL CYCLE	MOTOR CYCLE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9					
1	2	1	2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18				
3	4	3	4	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	30	31
7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40
9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49
11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	56	57	58
13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	64	65	66	67
15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	73	74	75	76
17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81				

DIRECTION			CAR/TAXI/LGV																												BUS		HGV																
PEDAL CYCLE	MOTOR CYCLE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9					
1	2	1	2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18				
3	4	3	4	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	30	31
7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40
9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49
11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	56	57	58
13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	64	65	66	67
15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	73	74	75	76
17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81				

DIRECTION			CAR/TAXI/LGV																												BUS		HGV																
PEDAL CYCLE	MOTOR CYCLE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9					
1	2	1	2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18				
3	4	3	4	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	30	31
7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40
9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49
11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186															

Name: \_\_\_\_\_  
 Location: Riita Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 4 pm  
 Time Finish: 5 pm

Date: 27/02/07

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																													BUS	HGV													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		30	31	1	2	3	4	5	6	7	8	9			
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																													BUS	HGV													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		30	31	1	2	3	4	5	6	7	8	9			
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																													BUS	HGV													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		30	31	1	2	3	4	5	6	7	8	9			
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																													BUS	HGV													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		30	31	1	2	3	4	5	6	7	8	9			
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114																					





Name: \_\_\_\_\_  
 Location: Rilla Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 7 am  
 Time Finish: 8 am

Date: 27/02/07

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV	BUS	HGV																															
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279

Consent of Applicant for proposed works subject to approval of Council

TOBIN CONSULTING ENGINEERS		
PROJECT NO:	3660	
FILE REF:		
13 MAR 2007		
Date Received		
PASS TO	ACTION BY	DATE
Glen Rogers	G.R.	15/3/07











Name: \_\_\_\_\_  
 Location: Riita Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 11am  
 Time Finish: 12am

Date: 27/02/07

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																													BUS	HGV														
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9	
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18	
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81	
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242																	



Name:  
Location: Rilita Site Access Junction  
Weather:

Time Start: 12am  
Time Finish: 4pm

Date: 27/02/07

Table 1: Directional traffic flow diagram for Site Access Junction. Shows 'Access Road' on the left and 'Access Road' on the right. Pedal cycle 1-2, Motor cycle 1-2. CAR/TAXI/LGV and BUS/HGV flow data.

Table 2: Directional traffic flow diagram for Site Access Junction. Shows 'Access Road' on the left and 'Access Road' on the right. Pedal cycle 1-2, Motor cycle 1-2. CAR/TAXI/LGV and BUS/HGV flow data.

Table 3: Directional traffic flow diagram for Site Access Junction. Shows 'Access Road' on the left and 'Access Road' on the right. Pedal cycle 1-2, Motor cycle 1-2. CAR/TAXI/LGV and BUS/HGV flow data.

Table 4: Directional traffic flow diagram for Site Access Junction. Shows 'Access Road' on the left and 'Access Road' on the right. Pedal cycle 1-2, Motor cycle 1-2. CAR/TAXI/LGV and BUS/HGV flow data.

Table 5: Directional traffic flow diagram for Site Access Junction. Shows 'Access Road' on the left and 'Access Road' on the right. Pedal cycle 1-2, Motor cycle 1-2. CAR/TAXI/LGV and BUS/HGV flow data.

Table 6: Directional traffic flow diagram for Site Access Junction. Shows 'Access Road' on the left and 'Access Road' on the right. Pedal cycle 1-2, Motor cycle 1-2. CAR/TAXI/LGV and BUS/HGV flow data.

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Name: \_\_\_\_\_  
 Location: Riita Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 1 pm  
 Time Finish: 2 pm

Date: 27/02/07

DIRECTION	PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS	HGV																																																										
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		29	30	31	1	2	3	4	5	6	7	8	9																																															
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9																																												
	3	4	3	4	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	3	4	10	11	12	13	14	15	16	17	18																																														
	5	6	5	6	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	5	6	19	20	21	22	23	24	25	26	27	28	29	30	31																																												
	7	8	7	8	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40	41																																													
	9	10	9	10	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54																																											
	11	12	11	12	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	11	12	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																																				
	13	14	13	14	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	13	14	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	15	16	64	65	66	67	68	69	70	71	72																																				
	15	16	15	16	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	15	16	64	65	66	67	68	69	70	71	72	17	18	73	74	75	76	77	78	79	80	81																																															
	17	18	17	18	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	17	18	73	74	75	76	77	78	79	80	81	17	18	73	74	75	76	77	78	79	80	81																																																	
	19	20	19	20	19	20	21	22	23	24	25	26	27	28	29	30	31	19	20	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																				
	21	22	21	22	21	22	23	24	25	26	27	28	29	30	31	21	22	91	92	93	94	95	96	97	98	99	100	21	22	91	92	93	94	95	96	97	98	99	100																																																			
	23	24	23	24	23	24	25	26	27	28	29	30	31	23	24	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124																																																		
	25	26	25	26	25	26	27	28	29	30	31	25	26	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	25	26	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124																																											
	27	28	27	28	27	28	29	30	31	27	28	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155																																									
	29	30	29	30	29	30	31	29	30	31	29	30	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	29	30	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155																		
	31	32	31	32	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	31	32	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
	33	34	33	34	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	33	34	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72				
35	36	35	36	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	35	36	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72									
37	38	37	38	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	37	38	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72													
39	40	39	40	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	39	40	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																	
41	42	41	42	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	41	42	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																					
43	44	43	44	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	43	44	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																									
45	46	45	46	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	45	46	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																													
47	48	47	48	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	47	48	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																																	
49	50	49	50	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	49	50	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																																					
51	52	51	52	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	51	52	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																																									
53	54	53	54	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	53	54	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																																													
55	56	55	56	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	55	56	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																																																	
57	58	57	58	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	57	58	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72																																																					
59	60	59	60	59	60	61	62	63	64	65	66	67	68	69	70	71	72	59	60	59	60	61	62	63	64	65	66	67	68	69	70	71	72																																																									
61	62	61	62	61	62	63	64	65	66	67	68	6																																																																														



Name: \_\_\_\_\_  
Location: Rilita Site Access Junction  
Weather: \_\_\_\_\_

Time Start: 2 pm  
Time Finish: 3 pm

Date: 27/02/07

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS	HGV																																
Access Road	Site	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9																						
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18																		
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	30															
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40														
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63									
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63																		
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72																		
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81																		

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS	HGV																																
Access Road	Site	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9																						
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18																		
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	30	31														
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40														
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63									
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63																		
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72																		
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81																		

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS	HGV																																
Access Road	Site	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9																						
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18																		
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	30	31														
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40														
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63									
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63																		
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72																		
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81																		

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS	HGV																																
Access Road	Site	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9																						
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18																		
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	28	29	30	31														
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	37	38	39	40														
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172																																											





Name: \_\_\_\_\_  
 Location: Riita Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 4 pm  
 Time Finish: 5 pm

Date: 27/02/07

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS		HGV													
	1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9	
	3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18	
	5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27	
	7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36	
	9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45	
	11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54	
	13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63	
	15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72	
	17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81	
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238																					

Name: \_\_\_\_\_  
 Location: Riita Site Access Junction  
 Weather: \_\_\_\_\_

Time Start: 5 pm  
 Time Finish: 6 pm

Date: 27/02/07

DIRECTION		PEDAL CYCLE	MOTOR CYCLE	CAR/TAXI/LGV																												BUS	HGV																
X		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9		
		3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18		
		5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27		
		7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36		
		9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45		
		11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54		
		13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63		
		15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72		
		17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81		
		R		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
				3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
				5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
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				9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
				11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
				13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
				15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
				17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
X				1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
				3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
				5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
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				9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
				11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
				13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
				15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	15	16	64	65	66	67	68	69	70	71	72
				17	18	17	18	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	17	18	73	74	75	76	77	78	79	80	81
		R		1	2	1	2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	1	2	3	4	5	6	7	8	9
				3	4	3	4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	3	4	10	11	12	13	14	15	16	17	18
				5	6	5	6	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	5	6	19	20	21	22	23	24	25	26	27
				7	8	7	8	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	7	8	28	29	30	31	32	33	34	35	36
				9	10	9	10	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	9	10	37	38	39	40	41	42	43	44	45
				11	12	11	12	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	11	12	46	47	48	49	50	51	52	53	54
				13	14	13	14	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	13	14	55	56	57	58	59	60	61	62	63
				15	16	15	16	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233																										



**ABACUS TRANSPORTATION SURVEYS**

**ABACUS TRANSPORTATION SURVEYS**

GREENOGE INDUSTRIAL ESTATE TRAFFIC COUNT  
MANUAL CLASSIFIED JUNCTION COUNT

FEBRUARY 2007 GREENOGE INDUSTRIAL ESTATE TRAFFIC COUNT  
ATH/07/072 MANUAL CLASSIFIED JUNCTION COUNT

FEBRUARY 2007 GREENOGE I  
ATH/07/072 MANUAL CL

SITE: 01 DATE: 27th February 2007 SITE: 01 DATE: 27th February 2007 SITE:  
LOCATION: Greenoge Industrial Estate Roundabout DAY: Tuesday LOCATION: Greenoge Industrial Estate Roundabout DAY: Tuesday LOCATION:

TIME	MOVEMENT 1					TOT	MOVEMENT 2					TOT	MOVEMENT 3					TOT	TIME	MOVEMENT 4					TOT	MOVEMENT 5					TOT	MOVEMENT 6					TOT	TIME	CAR
	CAR	LGV	OGV1	OGV2	BUS		CAR	LGV	OGV1	OGV2	BUS		CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		CAR	LGV	OGV1	OGV2	BUS		CAR	LGV	OGV1	OGV2	BUS			
7:00	2	1	3	1	0	12.2	0	1	0	1	0	3.3	0	2	2	0	0	6.6	7:00	12	9	1	1	0	25.6	136	16	0	6	0	165.8	8	0	0	0	0	8	7:00	11
7:15	0	1	1	6	0	17.1	1	0	0	0	0	1	6	4	2	2	0	19.2	7:15	18	5	0	1	0	25.3	111	21	3	6	1	154.7	5	1	0	0	0	6	7:15	16
7:30	0	3	3	2	0	14.5	1	0	0	0	0	1	1	1	1	1	0	6.6	7:30	16	8	3	0	0	30.9	138	21	1	7	0	177.4	5	0	0	0	0	5	7:30	22
7:45	2	1	2	3	0	14.5	0	1	0	0	0	1	1	1	0	1	0	4.3	7:45	32	9	1	2	0	47.9	135	17	4	5	1	174.7	5	0	0	0	1	7	7:45	27
H/TOT	4	6	9	12	0	58.3	2	2	0	1	0	6.3	8	8	5	4	0	36.7	H/TOT	78	31	5	4	0	129.7	520	75	8	24	2	672.6	23	1	0	0	1	26	H/TOT	76
8:00	4	3	1	2	0	13.9	0	0	0	0	0	0	4	5	3	0	0	15.9	8:00	38	9	4	2	0	60.8	157	17	1	2	0	180.9	7	0	0	0	0	7	8:00	19
8:15	7	6	3	4	0	29.1	0	0	0	0	0	0	3	0	3	0	0	9.9	8:15	46	12	1	1	0	62.6	106	16	2	6	1	142.4	3	1	0	0	0	4	8:15	9
8:30	2	7	2	5	0	25.1	1	0	0	0	0	1	2	8	3	0	0	16.9	8:30	40	12	2	0	0	56.6	127	22	4	7	1	176.3	3	2	0	0	0	5	8:30	8
8:45	9	6	3	2	0	26.5	0	0	0	0	0	0	3	5	3	0	0	14.9	8:45	49	11	3	1	0	69.2	102	20	3	7	0	145	3	1	0	0	0	4	8:45	8
H/TOT	22	22	9	13	0	94.6	1	0	0	0	0	1	12	18	12	0	0	57.6	H/TOT	173	44	10	4	0	249.2	492	75	10	22	2	644.6	16	4	0	0	0	20	H/TOT	44
9:00	5	9	4	2	0	27.8	2	0	0	0	0	2	18	6	1	0	0	26.3	9:00	24	8	2	0	0	36.6	105	15	5	8	3	155.9	10	0	0	0	0	10	9:00	11
9:15	12	9	7	5	0	48.6	0	0	1	0	0	2.3	11	6	5	1	0	30.8	9:15	30	7	0	1	0	39.3	118	14	9	6	0	166.5	8	0	1	0	0	10.3	9:15	13
9:30	12	12	6	4	0	47	0	0	1	0	0	2.3	13	5	3	0	0	24.9	9:30	28	10	1	2	0	44.9	117	14	4	3	0	147.1	5	0	0	1	0	7.3	9:30	6
9:45	19	10	3	5	0	47.4	1	0	0	0	0	1	18	10	1	0	0	30.3	9:45	15	6	2	0	0	25.6	65	18	3	7	0	106	5	0	1	0	0	7.3	9:45	13
H/TOT	48	40	20	16	0	170.8	3	0	2	0	0	7.6	60	27	10	1	0	112.3	H/TOT	97	31	5	3	0	146.4	405	61	21	24	3	575.5	28	0	2	1	0	34.9	H/TOT	43
10:00	20	11	3	3	0	44.8	1	1	0	0	0	2	11	4	3	2	0	26.5	10:00	25	11	1	1	0	40.6	61	13	6	4	1	99	4	2	0	0	0	6	10:00	10
10:15	16	10	8	4	0	53.6	0	0	0	0	0	0	12	7	5	0	0	30.5	10:15	21	12	1	0	0	35.3	53	12	1	5	1	80.8	1	0	0	0	0	1	10:15	6
10:30	10	6	7	6	0	45.9	2	1	0	1	0	5.3	10	11	4	0	0	30.2	10:30	13	7	1	0	0	22.3	44	5	5	7	0	76.6	1	0	0	0	0	1	10:30	8
10:45	28	13	5	3	0	59.4	1	0	0	0	0	1	9	11	4	1	0	31.5	10:45	15	7	3	1	0	31.2	51	4	3	6	0	75.7	0	0	1	0	0	2.3	10:45	6
H/TOT	74	40	23	16	0	203.7	4	2	0	1	0	8.3	42	33	16	3	0	118.7	H/TOT	74	37	6	2	0	129.4	209	34	15	22	2	332.1	6	2	1	0	0	10.3	H/TOT	30
11:00	17	8	7	3	0	48	1	2	1	0	0	5.3	14	6	5	0	0	31.5	11:00	13	4	3	1	0	26.2	30	5	7	4	0	60.3	1	2	0	0	0	3	11:00	4
11:15	18	17	5	4	0	55.7	3	0	0	0	0	3	7	2	3	0	0	15.9	11:15	8	7	6	1	0	31.1	49	10	7	13	2	109	0	0	0	0	0	0	11:15	2
11:30	14	8	6	4	0	45	1	0	0	0	0	1	11	9	3	0	0	26.9	11:30	10	6	2	0	0	20.6	35	11	2	1	0	52.9	0	0	0	0	0	0	11:30	4
11:45	22	7	4	3	0	45.1	0	1	0	1	0	3.3	7	2	5	2	0	25.1	11:45	9	5	4	0	0	23.2	55	9	2	2	0	73.2	3	1	1	0	0	6.3	11:45	13
H/TOT	71	40	22	14	0	193.8	5	3	1	1	0	12.6	39	19	16	2	0	99.4	H/TOT	40	22	15	2	0	101.1	169	35	18	20	2	295.4	4	3	1	0	0	9.3	H/TOT	23
12:00	13	9	4	2	0	35.8	1	1	0	1	0	4.3	19	2	2	1	0	27.9	12:00	8	6	1	0	0	16.3	42	4	2	1	0	52.9	3	0	0	0	0	3	12:00	8
12:15	19	10	6	3	0	49.7	1	0	2	0	0	5.6	19	9	2	2	0	37.2	12:15	8	6	2	1	0	20.9	52	10	6	10	1	100.8	9	1	0	0	0	10	12:15	10
12:30	24	9	4	0	0	42.2	2	0	0	0	0	2	13	8	5	2	0	37.1	12:30	21	4	3	0	0	31.9	52	7	1	5	0	72.8	8	0	1	0	0	10.3	12:30	12
12:45	28	9	3	2	0	48.5	2	1	0	1	0	5.3	19	8	3	0	0	33.9	12:45	6	6	4	1	0	23.5	37	6	3	7	2	70	3	0	0	0	0	3	12:45	5
H/TOT	84	37	17	7	0	176.2	6	2	2	2	0	17.2	70	27	12	5	0	136.1	H/TOT	43	22	10	2	0	92.6	183	27	12	23	3	296.5	23	1	1	0	0	26.3	H/TOT	35

**ABACUS TRANSPORTATION SURVEYS**

**ABACUS TRANSPORTATION SURVEYS**

GREENOGE INDUSTRIAL ESTATE TRAFFIC COUNT  
MANUAL CLASSIFIED JUNCTION COUNT

FEBRUARY 2007 GREENOGE INDUSTRIAL ESTATE TRAFFIC COUNT  
ATH/07/072 MANUAL CLASSIFIED JUNCTION COUNT

FEBRUARY 2007 GREENOGE I  
ATH/07/072 MANUAL CL

SITE: 01 DATE: 27th February 2007 SITE: 01 DATE: 27th February 2007 SITE:  
LOCATION: Greenoge Industrial Estate Roundabout DAY: Tuesday LOCATION: Greenoge Industrial Estate Roundabout DAY: Tuesday LOCATION:

TIME	MOVEMENT 1					TOT	MOVEMENT 2					TOT	MOVEMENT 3					TOT	TIME	MOVEMENT 4					TOT	MOVEMENT 5					TOT	MOVEMENT 6					TOT	TIME	CAR
	CAR	LGV	OGV1	OGV2	BUS		CAR	LGV	OGV1	OGV2	BUS		CAR	LGV	OGV1	OGV2	BUS			CAR	LGV	OGV1	OGV2	BUS		CAR	LGV	OGV1	OGV2	BUS		CAR	LGV	OGV1	OGV2	BUS			
13:00	31	10	5	1	0	54.8	8	0	0	0	0	8	47	5	0	3	0	58.9	13:00	13	7	1	5	0	33.8	47	12	5	4	1	81.7	2	1	0	0	0	3	13:00	13
13:15	21	8	4	2	0	42.8	0	0	0	0	0	0	22	5	0	1	0	29.3	13:15	18	5	3	1	0	32.2	45	8	4	4	0	71.4	1	1	0	0	0	2	13:15	8
13:30	19	7	5	3	0	44.4	2	1	0	0	0	3	11	9	2	0	0	24.6	13:30	21	8	14	1	0	63.5	49	8	5	3	0	75.4	0	0	0	0	0	0	13:30	6
13:45	20	12	4	4	0	50.4	0	0	0	0	0	0	16	8	0	3	0	30.9	13:45	27	6	3	0	0	39.9	62	5	2	3	1	80.5	6	0	0	0	0	6	13:45	6
H/TOT	91	37	18	10	0	192.4	10	1	0	0	0	11	96	27	2	7	0	143.7	H/TOT	79	26	21	7	0	169.4	203	33	16	14	2	309	9	2	0	0	0	11	H/TOT	33
14:00	20	10	4	2	0	43.8	0	0	0	0	0	0	12	6	3	2	0	29.5	14:00	17	10	1	0	0	29.3	50	11	3	4	2	81.1	1	0	0	1	0	3.3	14:00	7
14:15	20	7	3	4	0	43.1	0	0	0	0	0	0	13	9	2	1	0	28.9	14:15	17	2	3	0	0	25.9	48	10	6	5	0	83.3	2	1	0	0	0	3	14:15	13
14:30	22	5	4	5	0	47.7	2	0	0	0	0	2	14	9	0	2	0	27.6	14:30	9	9	2	1	0	24.9	42	13	3	8	0	80.3	2	0	1	0	0	4.3	14:30	13
14:45	15	4	5	6	0	44.3	2	0	0	0	0	2	11	6	1	0	0	19.3	14:45	10	4	2	0	0	18.6	60	18	2	2	0	87.2	5	0	0	0	0	5	14:45	12
H/TOT	77	26	16	17	0	178.9	4	0	0	0	0	4	50	30	6	5	0	105.3	H/TOT	53	25	8	1	0	98.7	200	52	14	19	2	331.9	10	1	1	1	0	15.6	H/TOT	45
15:00	10	9	4	3	0	35.1	0	0	0	0	0	0	14	6	1	0	0	22.3	15:00	10	5	2	1	0	21.9	53	8	3	2	2	76.5	2	0	1	2	0	8.9	15:00	13
15:15	28	19	12	7	0	90.7	1	0	0	0	0	1	26	14	2	1	0	46.9	15:15	7	6	0	0	0	13	62	7	5	4	1	91.7	2	1	0	0	0	3	15:15	7
15:30	23	7	3	3	0	43.8	2	0	1	0	0	4.3	23	10	2	2	0	42.2	15:30	8	5	1	1	0	17.6	64	12	6	4	3	105	1	0	0	0	0	1	15:30	8
15:45	16	9	3	2	0	36.5	1	0	0	0	0	1	17	4	2	0	0	25.6	15:45	21	9	2	2	0	39.2	58	13	5	12	0	110.1	4	0	0	1	0	6.3	15:45	20
H/TOT	77	44	22	15	0	206.1	4	0	1	0	0	6.3	80	34	7	3	0	137	H/TOT	46	25	5	4	0	91.7	237	40	19	22	6	383.3	9	1	1	3	0	19.2	H/TOT	48
16:00	18	10	3	3	0	41.8	1	0	0	0	0	1	28	11	1	1	0	43.6	16:00	14	4	5	3	0	36.4	56	7	0	7	1	81.1	5	1	0	0	0	6	16:00	9
16:15	32	5	5	2	0	53.1	3	0	0	0	0	3	29	11	0	2	0	44.6	16:15	10	2	2	1	0	18.9	66	13	3	8	0	104.3	1	0	0	0	0	1	16:15	8
16:30	27	14	2	1	0	47.9	2	0	0	0	0	2	43	4	0	0	0	47	16:30	9	3	1	1	0	16.6	52	14	4	1	2	81.5	5	1	0	0	0	6	16:30	16
16:45	25	8	3	3	0	46.8	7	2	0	0	0	9	23	11	1	0	0	36.3	16:45	10	4	0	0	0	14	83	17	1	2	0	106.9	11	3	1	1	0	18.6	16:45	17
H/TOT	102	37	13	9	0	189.6	13	2	0	0	0	15	123	37	2	3	0	171.5	H/TOT	43	13	8	5	0	85.9	257	51	8	18	3	373.8	22	5	1	1	0	31.6	H/TOT	50
17:00	30	7	3	3	0	50.8	28	4	0	0	0	32	74	12	3	2	0	97.5	17:00	8	2	0	1	0	12.3	74	10	3	5	1	104.4	6	1	0	0	0	7	17:00	11
17:15	23	4	3	3	0	40.8	17	2	0	2	0	23.6	35	5	2	0	0	44.6	17:15	9	0	1	1	0	13.6	68	11	1	3	0	88.2	8	1	0	0	0	9	17:15	14
17:30	36	7	0	0	0	43	7	2	0	0	0	9	39	12	0	0	0	51	17:30	2	2	0	0	0	4	69	7	3	1	0	85.2	3	1	0	0	0	4	17:30	10
17:45	28	3	0	0	0	31	0	0	0	0	0	0	17	6	1	0	0	25.3	17:45	7	0	0	0	0	7	91	9	0	2	1	106.6	4	0	0	0	0	4	17:45	12
H/TOT	117	21	6	6	0	165.6	52	8	0	2	0	64.6	165	35	6	2	0	218.4	H/TOT	26	4	1	2	0	36.9	302	37	7	11	2	384.4	21	3	0	0	0	24	H/TOT	47
18:00	22	1	0	0	0	23	3	0	0	0	0	3	14	3	1	0	0	19.3	18:00	2	0	1	0	0	4.3	53	6	1	1	1	65.6	0	0	0	0	0	0	18:00	23
18:15	14	2	0	0	0	16	2	1	0	0	0	3	12	4	0	0	0	16	18:15	4	2	0	0	0	6	72	4	1	2	0	82.9	2	0	1	0	0	4.3	18:15	13
18:30	9	2	0	0	0	11	0	1	0	0	0	1	11	0	1	0	0	13.3	18:30	3	1	0	2	0	8.6	47	3	1	0	1	54.3	0	0	0	0	0	0	18:30	14
18:45	10	0	0	0	0	10	0	0	0	0	0	0	11	3	0	0	0	14	18:45	6	3	0	0	0	9	48	5	2	0	1	59.6	3	0	0	0	0	3	18:45	9
H/TOT	55	5	0	0	0	60	5	2	0	0	0	7	48	10	2	0	0	62.6	H/TOT	15	6	1	2	0	27.9	220	18	5	3	3	262.4	5	0	1	0	0	7.3	H/TOT	59
P/TOT	822	355	175	135	0	1890	109	22	6	7	0	160.9	793	305	96	35	0	1399	P/TOT	767	286	95	38	0	1358.9	3397	538	153	222	32	4862	176	23	9	6	1	235.5	P/TOT	533

ABACUS TRANSPORTATION SURVEYS

ABACUS TRANSPORTATION SURVEYS

INDUSTRIAL ESTATE TRAFFIC COUNT  
ASSIFIED JUNCTION COUNT

FEBRUARY 2007 GREENOGE INDUSTRIAL ESTATE TRAFFIC COUNT  
ATH/07/072 MANUAL CLASSIFIED JUNCTION COUNT

FEBRUARY 2007  
ATH/07/072

01 DATE: 27th February 2007 SITE: 01

DATE: 27th February 2007

Greenoge Industrial Estate Roundabout

DAY: Tuesday LOCATION: Greenoge Industrial Estate Roundabout

DAY: Tuesday

MOVEMENT 7					MOVEMENT 8					MOVEMENT 9					MOVEMENT 10					MOVEMENT 11					MOVEMENT 12										
LGV	OGV1	OGV2	BUS	TOT	CAR	LGV	OGV1	OGV2	BUS	TOT	CAR	LGV	OGV1	OGV2	BUS	TOT	TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	CAR	LGV	OGV1	OGV2	BUS	TOT	CAR	LGV	OGV1	OGV2	BUS	TOT
5	1	4	0	27.5	4	1	1	1	0	9.6	1	0	0	0	0	1	7:00	2	1	0	1	0	5.3	36	7	1	3	1	54.2	7	3	2	1	0	16.9
3	0	1	0	21.3	7	0	0	1	0	9.3	0	0	0	0	0	0	7:15	2	0	0	0	0	2	42	6	2	4	0	61.8	13	4	1	0	0	19.3
7	3	2	0	40.5	12	1	1	1	0	17.6	0	0	0	0	0	0	7:30	0	0	0	0	0	0	53	11	1	1	0	68.6	19	1	2	1	0	26.9
4	2	3	0	42.5	17	3	3	0		26.9	2	0	0	0	0	2	7:45	6	0	0	0	0	6	69	12	4	0	1	92.2	23	1	2	0	0	28.6
19	6	10	0	131.8	40	5	5	3	0	63.4	3	0	0	0	0	3	H/TOT	10	1	0	1	0	13.3	200	36	8	8	2	276.8	62	9	7	2	0	91.7
7	1	1	0	30.6	17	8	3	0	0	31.9	3	1	1	0	0	6.3	8:00	1	0	0	0	0	1	52	7	2	1	1	67.9	20	9	4	4	0	47.4
8	5	4	0	37.7	20	9	1	0	0	31.3	1	0	0	0	0	1	8:15	0	0	0	0	0	0	50	10	4	2	0	73.8	20	8	1	0	0	30.3
4	2	3	0	23.5	16	4	0	1	0	22.3	0	1	0	0	0	1	8:30	0	0	0	0	0	0	48	10	3	2	0	69.5	11	6	2	0	0	21.6
3	1	1	0	15.6	25	1	5	0	0	37.5	2	0	0	0	0	2	8:45	2	1	1	0	0	5.3	61	13	4	4	1	94.4	21	9	2	2	0	39.2
22	9	9	0	107.4	78	22	9	1	0	123	6	2	1	0	0	10.3	H/TOT	3	1	1	0	0	6.3	211	40	13	9	2	305.6	72	32	9	6	0	138.5
4	3	1	0	24.2	13	4	1	1	0	21.6	2	0	1	1	0	6.6	9:00	2	0	0	0	0	2	54	13	4	3	1	85.1	19	7	1	4	0	37.5
0	2	1	1	21.9	9	1	2	0	0	14.6	0	0	0	0	0	0	9:15	3	1	0	0	0	4	53	9	4	6	1	87	21	5	3	2	0	37.5
7	0	1	0	15.3	10	3	1	0	0	15.3	0	0	0	0	0	0	9:30	0	0	0	0	0	0	34	12	2	2	0	55.2	13	7	3	2	0	31.5
3	0	3	0	22.9	5	3	2	0	0	12.6	2	0	1	0	0	4.3	9:45	1	0	0	1	0	3.3	49	15	2	5	1	82.1	16	11	3	1	0	36.2
14	5	6	1	84.3	37	11	6	1	0	64.1	4	0	2	1	0	10.9	H/TOT	6	1	0	1	0	9.3	190	49	12	16	3	309.4	69	30	10	9	0	142.7
0	0	3	0	16.9	5	1	0	3	0	12.9	1	0	0	0	0	1	10:00	0	0	0	0	0	0	34	10	2	7	0	64.7	21	7	2	3	0	39.5
5	2	0	0	15.6	1	0	0	0	0	1	1	0	0	0	0	1	10:15	1	0	1	1	0	5.6	33	14	3	3	1	62.8	16	6	3	1	0	31.2
0	3	2	0	19.5	0	4	1	2	0	10.9	1	0	0	0	0	1	10:30	1	0	2	0	0	5.6	41	6	4	10	1	81.2	18	9	2	3	0	38.5
2	1	3	0	17.2	2	3	0	1	0	7.3	1	0	0	0	0	1	10:45	1	0	0	0	0	1	35	4	3	2	2	54.5	23	8	5	4	0	51.7
7	6	8	0	69.2	8	8	1	6	0	32.1	4	0	0	0	0	4	H/TOT	3	0	3	1	0	12.2	143	34	12	22	4	263.2	78	30	12	11	0	160.9
2	2	2	0	15.2	0	3	1	1	0	7.6	0	0	1	0	0	2.3	11:00	1	0	0	0	0	1	52	7	6	7	0	88.9	11	14	4	4	0	43.4
2	0	1	0	6.3	1	0	1	0	0	3.3	1	0	0	0	0	1	11:15	0	0	0	0	0	0	36	6	5	5	2	69	28	5	2	6	0	51.4
0	2	0	0	8.6	4	0	2	1	0	10.9	0	0	0	2	0	4.6	11:30	1	0	0	0	0	1	48	13	2	3	0	72.5	17	4	2	8	0	44
5	0	2	0	22.6	2	1	0	0	0	3	0	0	0	0	0	0	11:45	0	0	0	0	0	0	47	4	8	5	0	80.9	10	5	2	1	0	21.9
9	4	5	0	52.7	7	4	4	2	0	24.8	1	0	1	2	0	7.9	H/TOT	2	0	0	0	0	2	183	30	21	20	2	311.3	66	28	10	19	0	160.7
0	1	1	0	12.6	2	4	2	2	0	15.2	2	0	0	0	0	2	12:00	0	0	0	0	0	0	61	4	0	3	0	71.9	27	11	3	1	0	47.2
0	0	4	0	19.2	0	1	1	0	0	3.3	2	0	0	1	0	4.3	12:15	0	0	0	0	0	0	51	12	8	0	0	81.4	15	6	3	1	0	30.2
2	0	0	0	14	2	0	1	0	0	4.3	1	0	1	0	0	3.3	12:30	1	0	0	0	0	1	66	13	10	3	1	110.9	17	6	2	0	0	27.6
0	1	3	0	14.2	3	1	0	0	0	4	3	0	0	1	0	5.3	12:45	1	0	1	0	0	3.3	55	16	5	3	1	91.4	23	5	5	3	0	46.4
2	2	8	0	60	7	6	4	2	0	26.8	8	0	1	2	0	14.9	H/TOT	2	0	1	0	0	4.3	233	45	23	9	2	355.6	82	28	13	5	0	151.4

**ABACUS TRANSPORTATION SURVEYS**

**ABACUS TRANSPORTATION SURVEYS**

INDUSTRIAL ESTATE TRAFFIC COUNT  
ASSIFIED JUNCTION COUNT

FEBRUARY 2007 GREENOGE INDUSTRIAL ESTATE TRAFFIC COUNT  
ATH/07/072 MANUAL CLASSIFIED JUNCTION COUNT

FEBRUARY 2007  
ATH/07/072

01 DATE: 27th February 2007 SITE: 01

DATE: 27th February 2007

Greenoge Industrial Estate Roundabout

DAY: Tuesday LOCATION: Greenoge Industrial Estate Roundabout

DAY: Tuesday

MOVEMENT 7					MOVEMENT 8					MOVEMENT 9					MOVEMENT 10					MOVEMENT 11					MOVEMENT 12										
LGV	OGV1	OGV2	BUS	TOT	CAR	LGV	OGV1	OGV2	BUS	TOT	CAR	LGV	OGV1	OGV2	BUS	TOT	TIME	CAR	LGV	OGV1	OGV2	BUS	TOT	CAR	LGV	OGV1	OGV2	BUS	TOT	CAR	LGV	OGV1	OGV2	BUS	TOT
5	1	2	0	24.9	4	0	0	0	0	4	0	2	0	0	0	2	13:00	1	0	0	1	0	3.3	68	11	1	3	1	90.2	16	6	4	2	0	35.8
0	1	2	0	14.9	0	0	0	1	0	2.3	0	0	0	0	0	0	13:15	0	0	1	0	0	2.3	57	11	8	6	0	100.2	20	5	7	5	0	52.6
0	0	3	0	12.9	2	0	1	1	0	6.6	0	0	0	0	0	0	13:30	0	0	0	0	0	0	40	5	1	0	0	47.3	25	10	3	2	0	46.5
2	1	3	0	17.2	0	0	1	1	0	4.6	0	1	0	0	0	1	13:45	2	0	1	0	0	4.3	58	9	1	4	1	80.5	28	8	2	2	0	45.2
7	3	10	0	69.9	6	0	2	3	0	17.5	0	3	0	0	0	3	H/TOT	3	0	2	1	0	9.9	223	36	11	13	2	318.2	89	29	16	11	0	180.1
1	1	0	0	10.3	5	1	0	2	0	10.6	0	0	0	1	0	2.3	14:00	1	0	0	1	0	3.3	59	11	3	5	1	90.4	27	12	4	2	0	52.8
1	1	0	0	16.3	1	1	3	3	0	15.8	1	0	0	1	0	3.3	14:15	1	0	0	0	0	1	71	19	1	8	1	112.7	19	4	5	5	0	46
0	0	0	0	13	0	3	1	1	0	7.6	0	1	0	1	0	3.3	14:30	0	0	0	0	0	0	90	8	2	4	0	111.8	22	6	3	3	0	41.8
0	3	1	0	21.2	0	0	0	0	0	0	1	0	1	1	0	5.6	14:45	1	0	0	0	0	1	56	7	5	3	0	81.4	18	9	7	1	0	45.4
2	5	1	0	60.8	6	5	4	6	0	34	2	1	1	4	0	14.5	H/TOT	3	0	0	1	0	5.3	276	45	11	20	2	396.3	86	31	19	11	0	186
3	3	1	0	25.2	4	4	2	1	0	14.9	0	0	1	0	0	2.3	15:00	0	0	0	0	0	0	71	18	5	2	1	107.1	15	6	3	1	0	30.2
3	1	1	0	14.6	4	1	2	0	0	9.6	0	0	0	0	0	0	15:15	1	1	0	0	0	2	75	15	4	7	2	119.3	14	9	2	4	0	36.8
2	0	1	0	12.3	0	2	1	1	0	6.6	0	0	0	0	0	0	15:30	0	0	0	1	0	5.3	72	24	5	7	1	125.6	12	8	5	4	0	40.7
0	0	1	0	22.3	0	3	1	1	0	7.6	2	0	2	1	0	8.9	15:45	2	0	0	1	0	4.3	61	11	4	10	0	104.2	10	8	2	0	0	22.6
8	4	4	0	74.4	8	10	6	3	0	38.7	2	0	3	1	0	11.2	H/TOT	6	1	0	2	0	11.6	279	68	18	26	4	456.2	51	31	12	9	0	130.3
1	1	1	0	14.6	2	0	2	0	0	6.6	0	0	0	0	0	0	16:00	1	0	0	0	0	1	97	25	3	4	1	140.1	7	6	3	1	0	22.2
1	1	0	0	11.3	1	1	1	3	0	11.2	1	0	0	0	0	1	16:15	2	1	0	0	0	3	116	27	2	3	1	156.5	14	7	1	2	0	27.9
3	1	3	0	28.2	1	0	2	4	0	14.8	1	1	0	0	0	2	16:30	1	2	0	0	0	3	113	23	5	5	0	159	6	7	4	1	0	24.5
3	0	0	0	20	1	0	1	5	0	14.8	1	1	0	0	0	2	16:45	1	0	0	0	0	1	112	18	2	4	1	145.8	4	3	0	1	0	9.3
8	3	4	0	74.1	5	1	6	12	0	47.4	3	2	0	0	0	5	H/TOT	5	3	0	0	0	8	438	93	12	16	3	601.4	31	23	8	5	0	83.9
1	0	1	0	14.3	2	0	1	2	0	8.9	1	0	0	0	0	1	17:00	2	0	1	0	0	4.3	117	18	4	1	1	148.5	4	3	2	0	0	11.6
2	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	17:15	3	0	0	0	0	3	126	11	4	2	0	150.8	6	3	1	0	0	11.3
1	0	0	0	11	1	0	1	0	0	3.3	0	0	0	0	0	0	17:30	2	2	0	0	0	4	123	12	2	1	0	141.9	3	0	1	1	0	7.6
2	0	1	0	16.3	1	0	0	2	0	5.6	1	0	0	0	0	1	17:45	3	1	0	0	0	4	158	22	4	0	1	191.2	3	2	1	0	0	7.3
6	0	2	0	57.6	4	0	2	4	0	17.8	2	0	0	0	0	2	H/TOT	10	3	1	0	0	15.3	524	63	14	4	2	632.4	16	8	5	1	0	37.8
3	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	18:00	2	0	1	0	0	4.3	106	17	1	0	1	127.3	5	0	0	1	0	7.3
2	0	0	0	15	1	0	0	0	0	1	0	0	0	0	0	0	18:15	1	0	0	0	0	1	145	11	0	2	0	160.6	7	1	0	2	0	12.6
1	0	0	0	15	0	1	0	1	0	3.3	0	0	0	0	0	0	18:30	1	0	0	0	0	1	135	9	1	0	2	150.3	3	0	1	0	0	5.3
2	0	0	0	11	2	0	0	0	0	2	0	0	0	0	0	0	18:45	3	0	0	0	0	3	119	7	0	1	0	128.3	2	2	0	0	0	4
8	0	0	0	67	3	1	0	1	0	6.3	0	0	0	0	0	0	H/TOT	7	0	1	0	0	9.3	505	44	2	3	3	566.5	17	3	1	3	0	29.2
112	47	67	1	909.2	209	73	49	44	0	495.9	35	8	9	10	0	86.7	P/TOT	60	10	9	7	0	106.8	3405	583	157	166	31	4793	719	282	122	92	0	1493

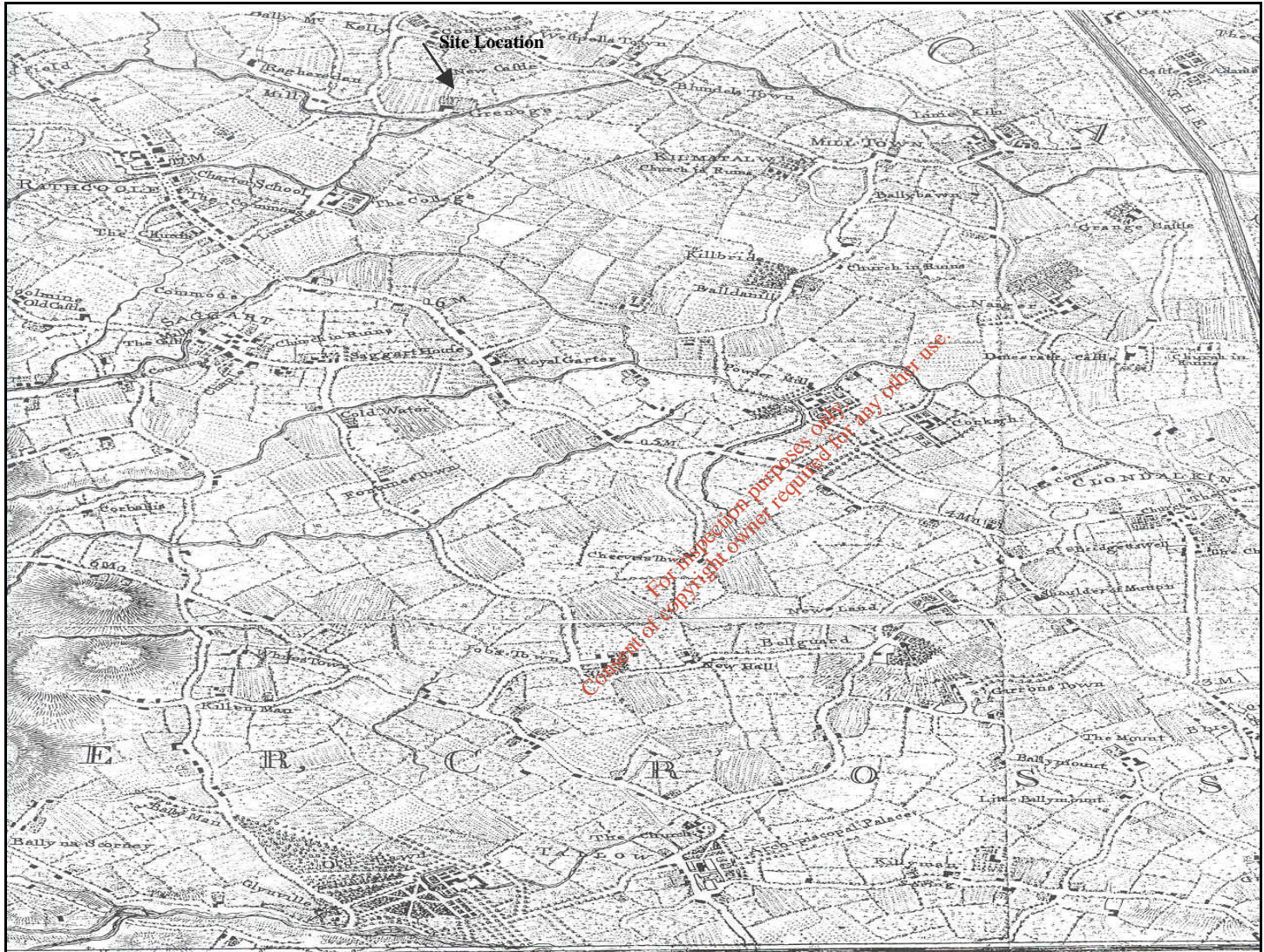
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## **Appendix 12.1**

### **RMP Sites in the Study Area**

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**TES**  
**Consulting Engineers**  
Greenogue, Co. Dublin  
Fig. 4 Rocque 1760

## Appendix 1

<b>SMR No.</b>	DU021-003
<b>Townland</b>	Kilmactalway
<b>Barony</b>	Newcastle
<b>National Grid Reference</b>	30276/23099
<b>Site Type</b>	Ecclesiastical Remain

### Description

The site is approximately 1.6 km's north of the proposed development. This site consists of a large medieval single chamber church in a circular enclosure covered with ivy. It is built of roughly coursed limestone bonded with a gravelly mortar. The north wall is now entirely missing. This church is not divided into a nave and chancel. Four buttresses have been added to the building. It has considerable dimensions, measuring 44 ft by 17ft 2". The east window is built up and covered with ivy. The large window in the south wall is probably a late insertion and is rectangular and formed of cut limestone. There is a slightly pointed door in the south wall. The western gable has a limestone-ogee headed window and the remains of a double belfry. The church is in good condition apart from the bulges in the wall and is somewhat overgrown with ivy. It was said by Monck Mason to have been dedicated to Saint Magnanus and was one of the churches reserved after the Anglo Norman Conquest to the Archbishop of Dublin. The graveyard marks the burial place of the Hartes of Greenogue. In the graveyard lies a very ancient baptismal font (Dalton, 1839).

<b>SMR No.</b>	DU021-004
<b>Townland</b>	Kilbride
<b>Barony</b>	Newcastle
<b>National Grid Reference</b>	30387/23009
<b>Site Type</b>	Castle (site of)

### Description

The site is approximately 2km north east of the proposed development. This site is marked on the first and third editions of the OS maps. It is situated in a small valley. There are farm buildings on the site. There are no visible surface remains.

<b>SMR No.</b>	DU021-005 (01-03)	
<b>Townland</b>	Kilbride	
<b>Barony</b>	Newcastle	
<b>Site Type</b>	Church and graveyard	NGR 30396/23004

Ringfort  
Earthwork

NGR 30398/23002  
NGR 30396/22999

### Description

The site is approximately 2.5km north east of the proposed development. This site is not marked on the first or third edition of the OS map. It is located in a circular raised graveyard at the edge of a broad-bottomed valley. This may be the remains of an early ecclesiastical enclosure. This site comprises a small rectangular building with a northwest turret in ruinous conditions. The original door in the west end has been damaged. There is an ambulatory in the east end of the north wall of the church. The southeast window jamb is of tuffs (internal dimension: length 5.8m, width 3.63m). There are remnants of another window in the west end of the south wall. The northwest turret is entered through a lintelled doorway off the church. It has a corbelled roof. There are traces of a stairwell in the southside. This church was attached to Saint Patrick's Cathedral and was described at the Dissolution in 1547 as an old chapel (Ball, 1906). There is no information in the Records of Monuments and Places (RMP)files on the earthwork and ringfort.

**SMR No.** DU021-018  
**Townland** Cornerpark  
**Barony** Newcastle  
**National Grid Reference** 30074/22931  
**Site Type** Enclosure

### Description

The site is approximately 1.3km north west of the proposed development. This site is not indicated on either the first or third edition of the OS maps. An aerial photograph taken in 1971 (Fairey Survey) shows the site as a penannular ditch cropmark, with an entrance feature to the northwest. There are no visible surface remains.

**SMR No.** DU021-019  
**Townland** Collegeland  
**Barony** Newcastle  
**National Grid Reference** 30218/22843  
**Site Type** Potential Site

### Description



This site is approximately 1.1km south east of the proposed development. This site is not indicated on either the first or third edition of the OS maps. An aerial photograph taken in 1971 (Fairey Survey) shows a possible field system exists here. There are no visible surface remains.

<b>SMR No.</b>	DU021-020
<b>Townland</b>	Baldonnell Little
<b>Barony</b>	Newcastle
<b>National Grid Reference</b>	30448/22906
<b>Site Type</b>	Ringfort

### **Description**

This site is approximately 1.5 km north east of the proposed development. This site is marked on the first and third edition of the Ordnance Survey six-inch maps. This site is located in flat low-lying land. It comprises a raised circular area defined by a bank from the southeast to the west (internal diameter 33m) with traces of external fosse (width 7m-13m). There is possibly an entrance at the northeast side. The ringfort is approximately 70 metres in diameter.

<b>SMR No.</b>	DU021-021
<b>Townland</b>	Collegeland
<b>Barony</b>	Newcastle
<b>National Grid Reference</b>	30360/22817
<b>Site Type</b>	Ringfort

### **Description**

This site is approximately 1.1km south east of the proposed development This site is not marked on either the first or third editions of the Ordnance Survey Maps. It was still visible in 1943, but the land is now tilled.

<b>SMR No.</b>	DU021-023
<b>Townland</b>	Brownsbarn
<b>Barony</b>	Newcastle
<b>National Grid Reference</b>	30575/22875
<b>Site Type</b>	Fulacht Fiadh

### **Description**

This site is approximately 1.3km east of the proposed development This site is not marked on either the first or third edition of the Ordnance Survey Maps. It was identified during monitoring of the North Eastern Gas Pipeline, the site was visible as a spread of fire blackened soil and shallowed fire cracked stones beside a stream (diameter 7-10m).

**SMR No.** DU021-027  
**Townland** Rathcreddan  
**Barony** Newcastle  
**National Grid Reference** 30104/22743  
**Site Type** Earthwork Site

### Description

This site is approximately 1.1km south west of the proposed development This site is not marked on either the first or third editions of the Ordnance Survey Maps. This site was destroyed many years ago. It was a mound of indeterminate dimensions. No visible surface remains exist.

**SMR No.** DU021-028  
**Townland** Greenogue  
**Barony** Newcastle  
**National Grid Reference** 30169/22724  
**Site Type** Burial Possible

### Description

This site is approximately 1.5 km south east of the proposed development. This site is not marked on either the first or third editions of the Ordnance Survey Maps. This possible cist burial was uncovered during ploughing operations in 1944. The remains comprised a pit lined with stones and covered with the capstones. There are no visible surface remains of the site.

**Townland** Commons  
**Barony** Newcastle  
**National Grid Reference** 30206/22728  
**Site Type** Ringfort

### Description

This site is approximately 1.3 km south of the proposed development This site is not marked on either the first or third editions of the Ordnance Survey Maps. This site was originally

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identified from an aerial photograph. The site is located on low lying ground. There are no upstanding remains.

<b>SMR No.</b>	DU021-032
<b>Townland</b>	Collegeland
<b>Barony</b>	Newcastle
<b>National Grid Reference</b>	30352/22720
<b>Site Type</b>	Potential Site

### **Description**

This site is approximately 1km south east of the proposed development. This site is not marked on either the first or third editions of the Ordnance Survey Maps. An aerial photograph taken in 1971 shows conjoined irregular fields defined by low earthworks. This area has since been landscaped for the creation of a golf course. There is no visible trace of this potential site.

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