

7.8. Predicted odour contour plots for odour emissions for Scenario 1 – Model 6

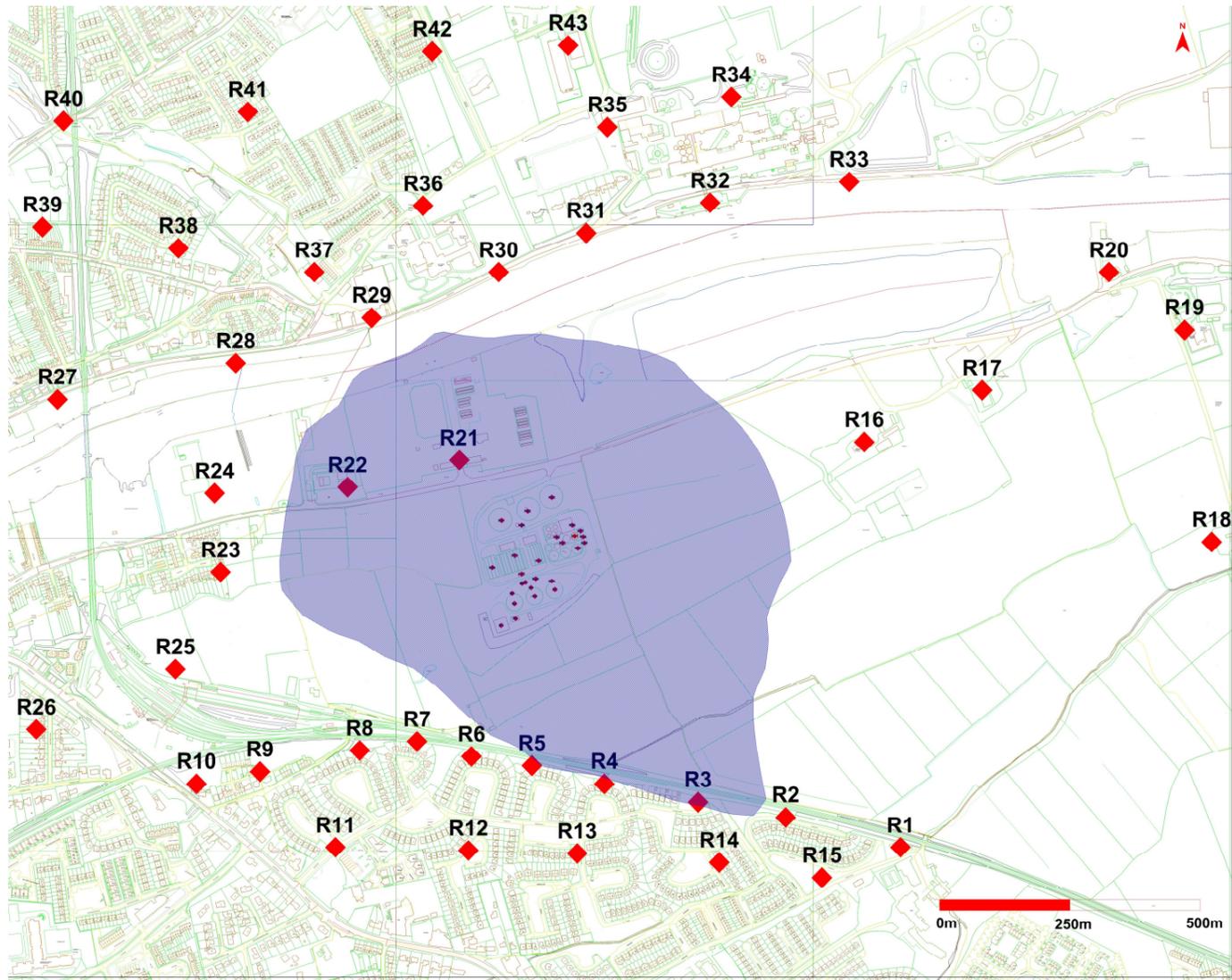


Figure 7.8. Predicted odour emission contribution of existing Drogheda WwTP odour sources for Model 6 to odour plume dispersal for an odour concentration of less than or equal to $1.50 \text{ Ou}_E \text{ m}^{-3}$ (■) for the 99.5th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.9. Predicted odour contour plots for odour emissions for Scenario 1 – Model 7

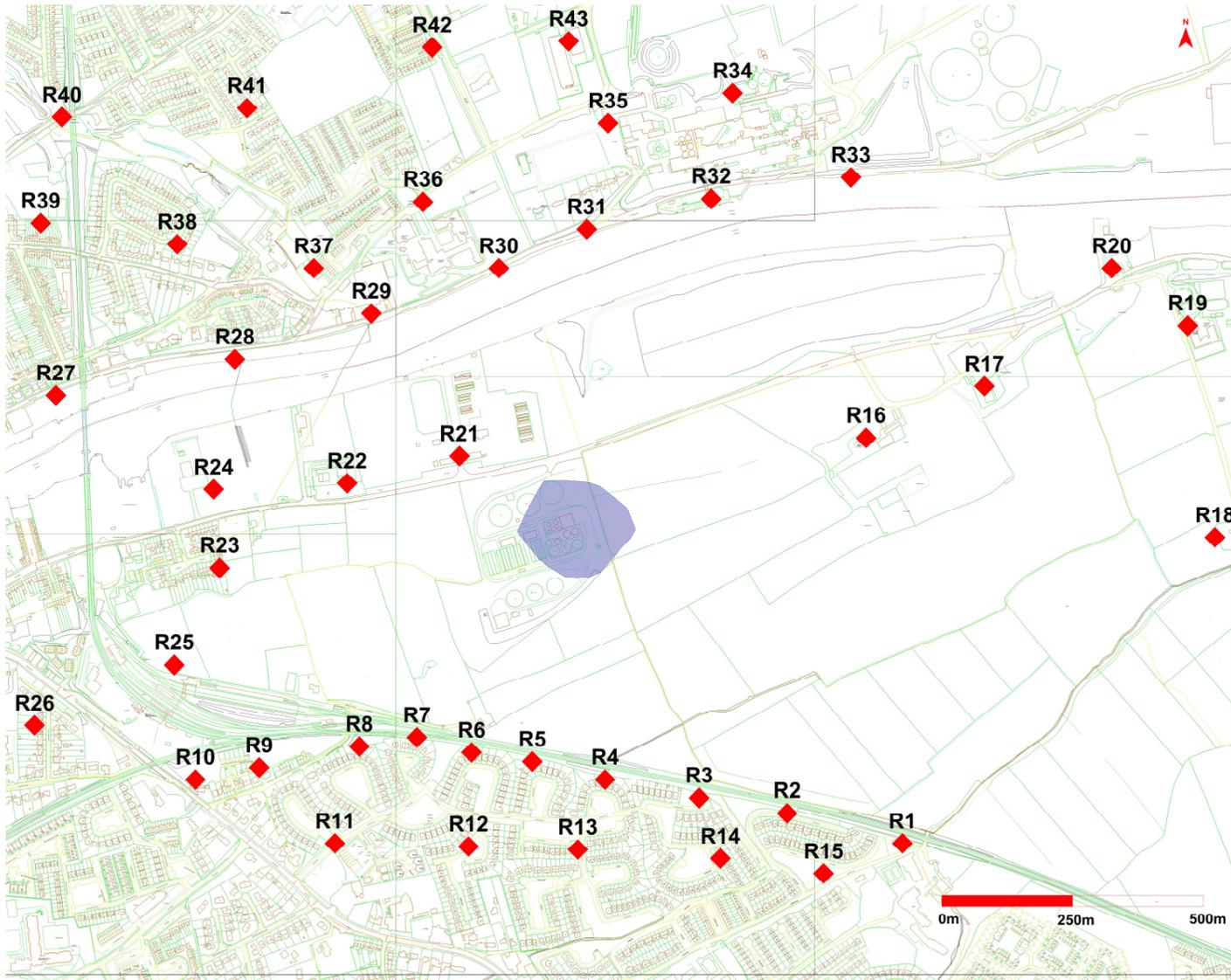


Figure 7.9. Predicted odour emission contribution of existing Drogheda WwTP odour sources for Model 7 to odour plume dispersal for an odour concentration of less than or equal to 1.0 Oue m^{-3} (■) for the 98th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.10. Predicted odour contour plots for odour emissions for Scenario 1 – Model 8

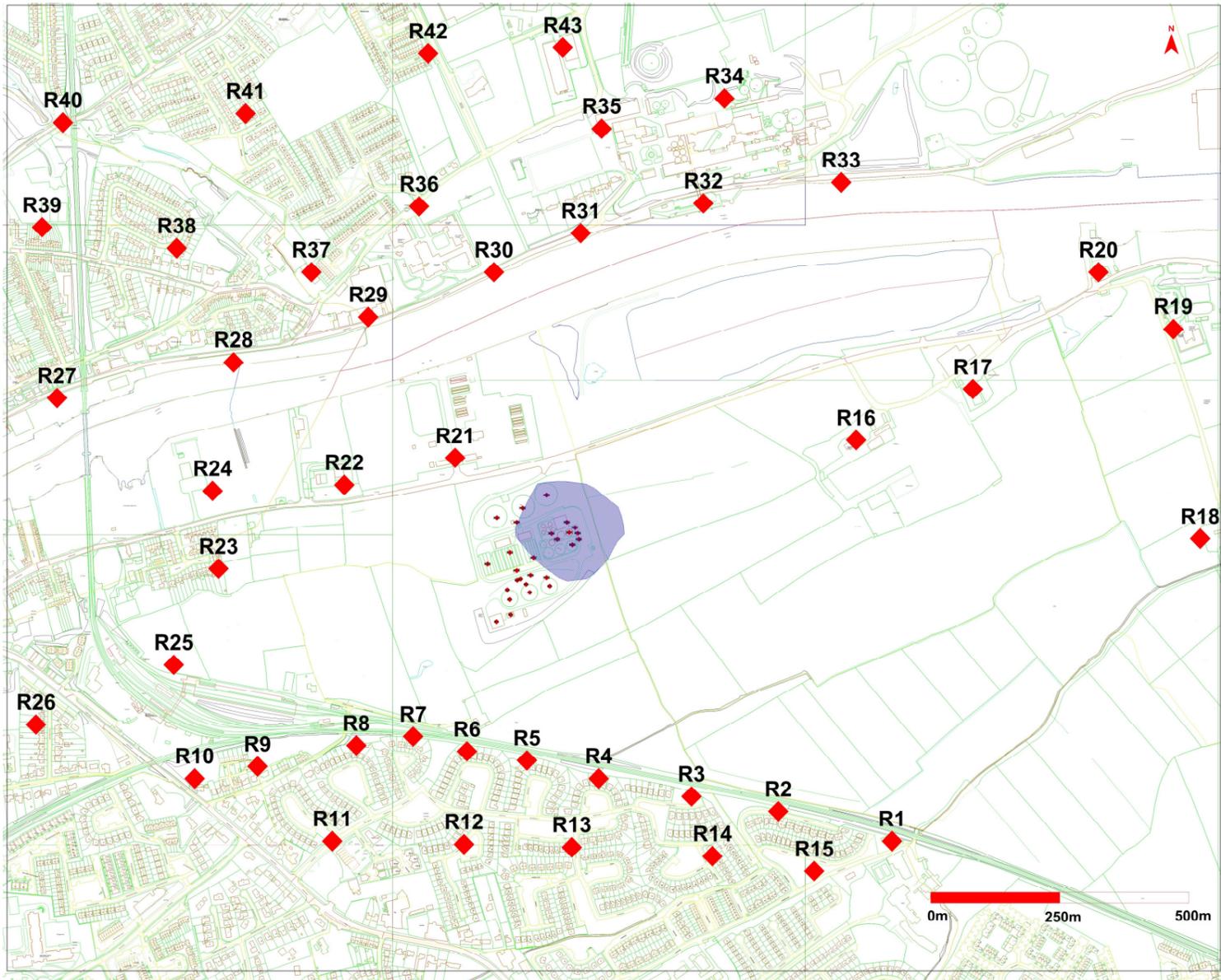


Figure 7.10. Predicted odour emission contribution of existing Drogheda WwTP odour sources for Model 8 to odour plume dispersal for an odour concentration of less than or equal to 1.50 OUE m^{-3} (■) for the 99.5th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.11. Predicted odour contour plots for odour emissions for Scenario 1 – Model 9

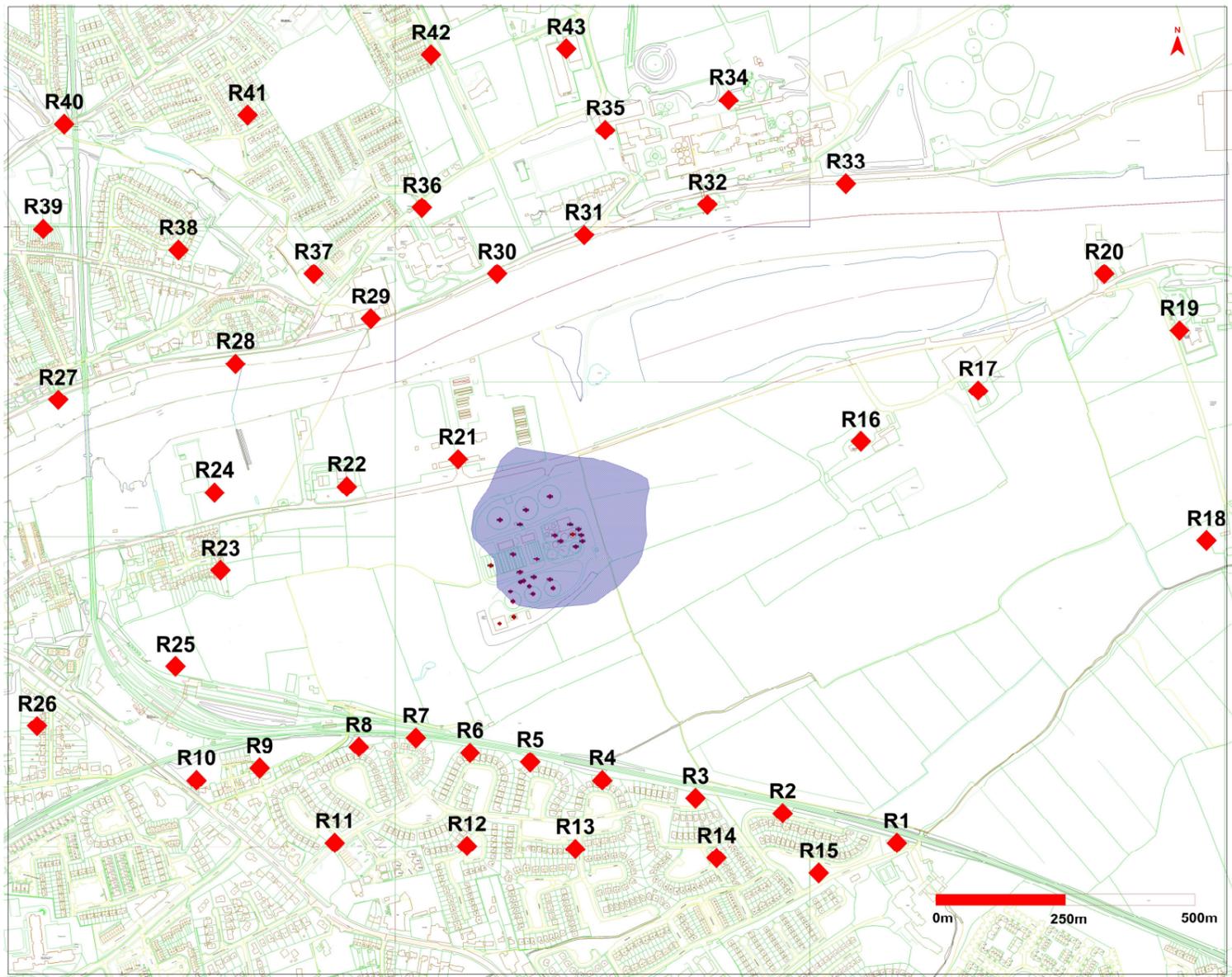


Figure 7.11. Predicted odour emission contribution of existing Drogheda WwTP odour sources for Model 9 to odour plume dispersal for an odour concentration of less than or equal to $1.0 \text{ Ou}_E \text{ m}^{-3}$ (blue) for the 98th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.12. Predicted odour contour plots for odour emissions for Scenario 1 – Model 10

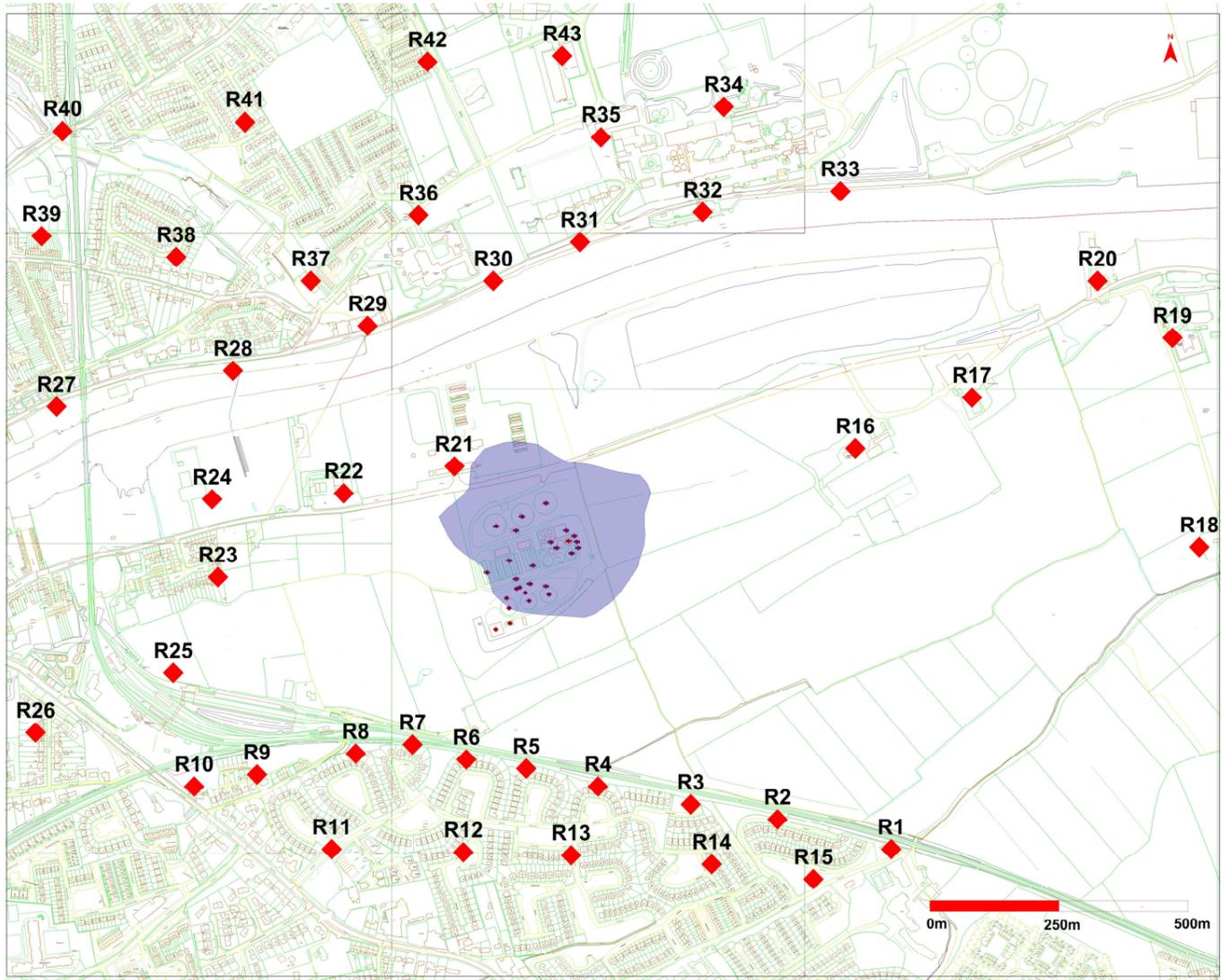


Figure 7.12. Predicted odour emission contribution of existing Drogheda WwTP odour sources for Model 10 to odour plume dispersal for an odour concentration of less than or equal to $1.50 \text{ Ou}_E \text{ m}^{-3}$ (■) for the 99.5th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.13. Predicted odour contour plots for odour emissions for Scenario 2 – Model 11

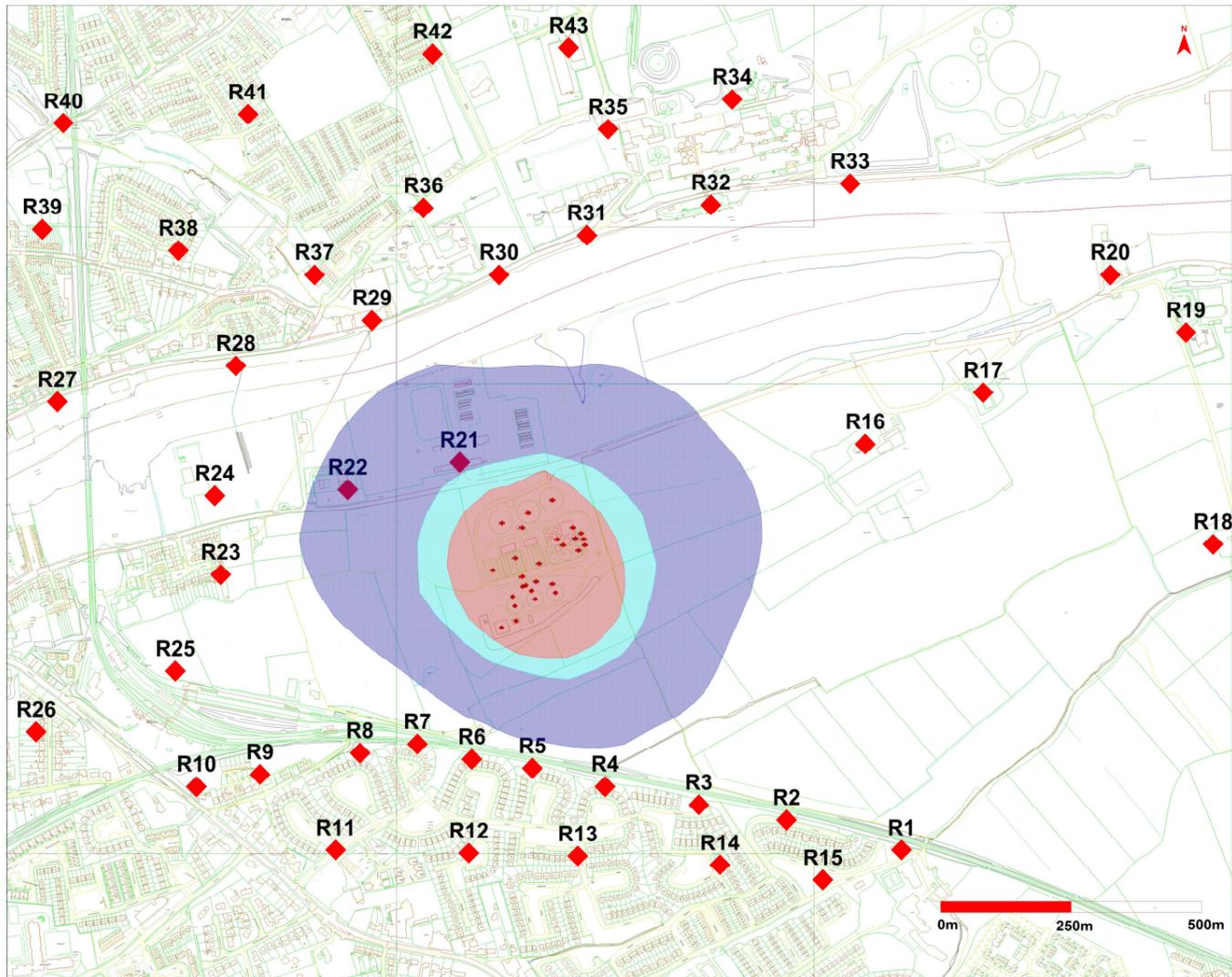


Figure 7.13. Predicted odour emission contribution of proposed Drogheda WwTP odour sources for Model 11 to odour plume dispersal for an odour concentration of less than or equal to 1.0 Ou_E/m^3 (blue), 3.0 Ou_E/m^3 (cyan) & 5.0 Ou_E/m^3 (red) for the 98th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.14. Predicted odour contour plots for odour emissions for Scenario 2 – Model 12

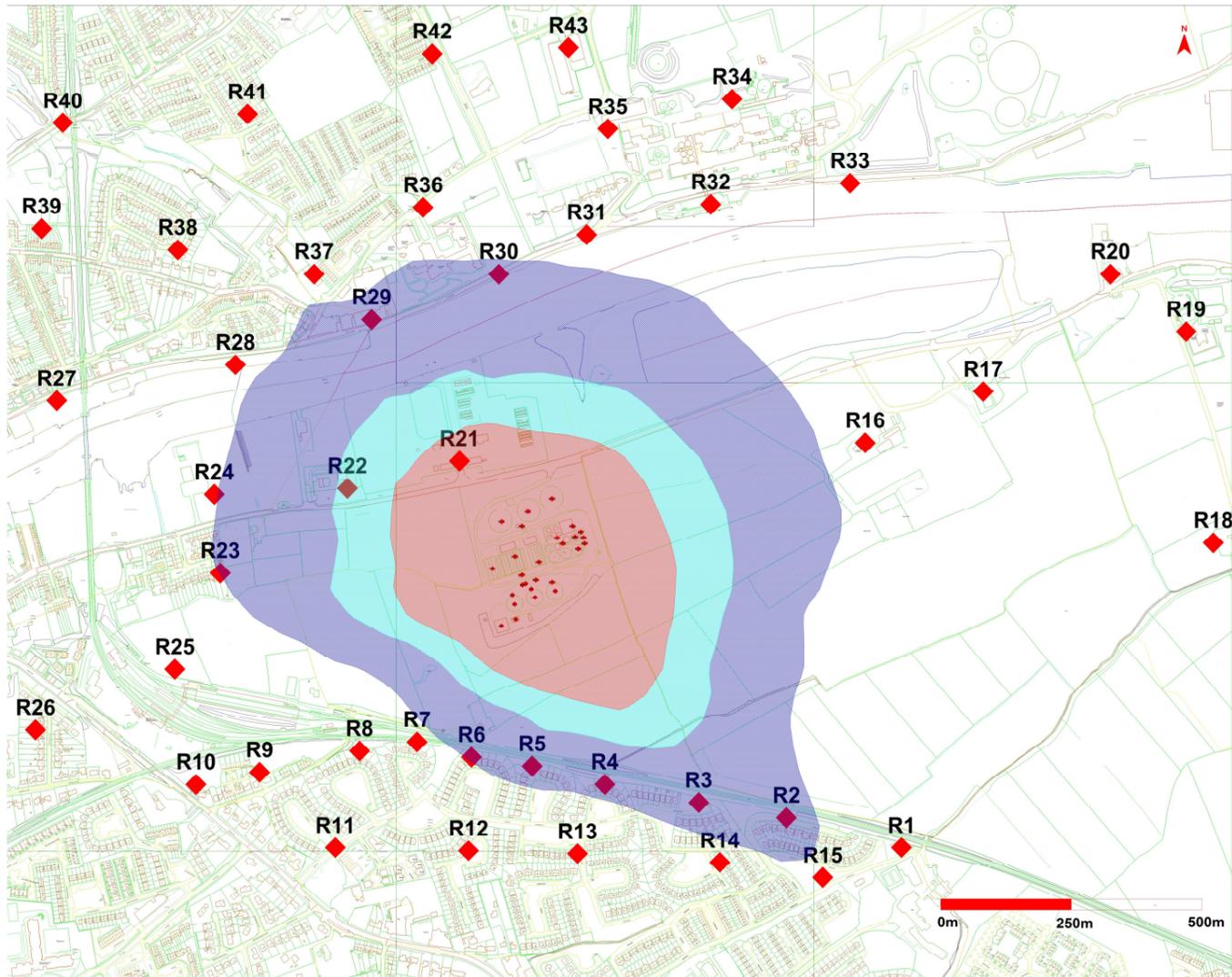


Figure 7.14. Predicted odour emission contribution of proposed Drogheda WwTP odour sources for Model 12 to odour plume dispersal for an odour concentration of less than or equal to 1.50 Ou_E/m^3 (blue), 3.0 Ou_E/m^3 (cyan) & 5.0 Ou_E/m^3 (red) for the 99.5th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.15. Predicted odour contour plots for odour emissions for Scenario 2 – Model 13

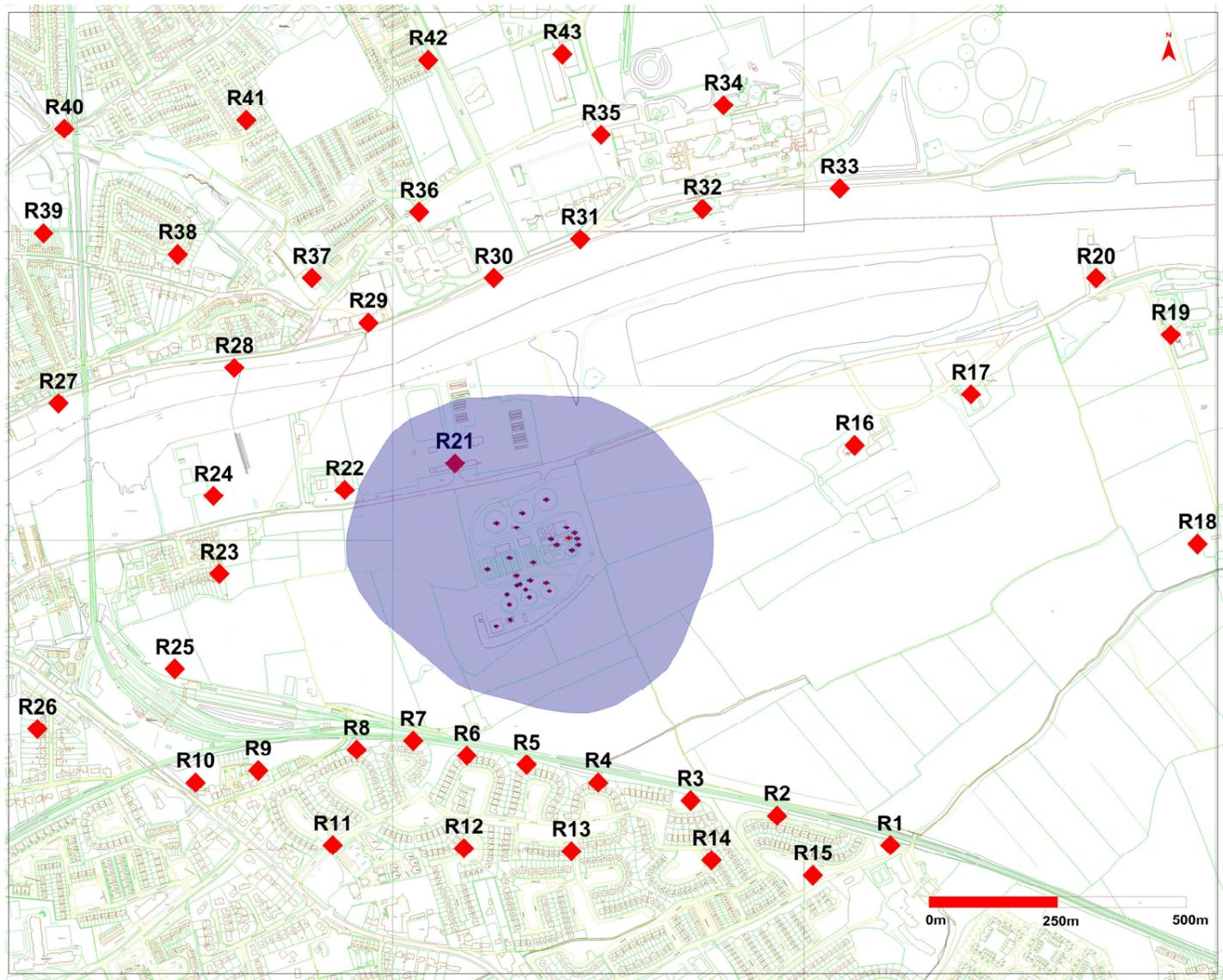


Figure 7.15. Predicted odour emission contribution of proposed Drogheda WwTP odour sources for Model 13 to odour plume dispersal for an odour concentration of less than or equal to $1.0 \text{ Ou}_E \text{ m}^{-3}$ (■) for the 98th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.16. Predicted odour contour plots for odour emissions for Scenario 2 – Model 14

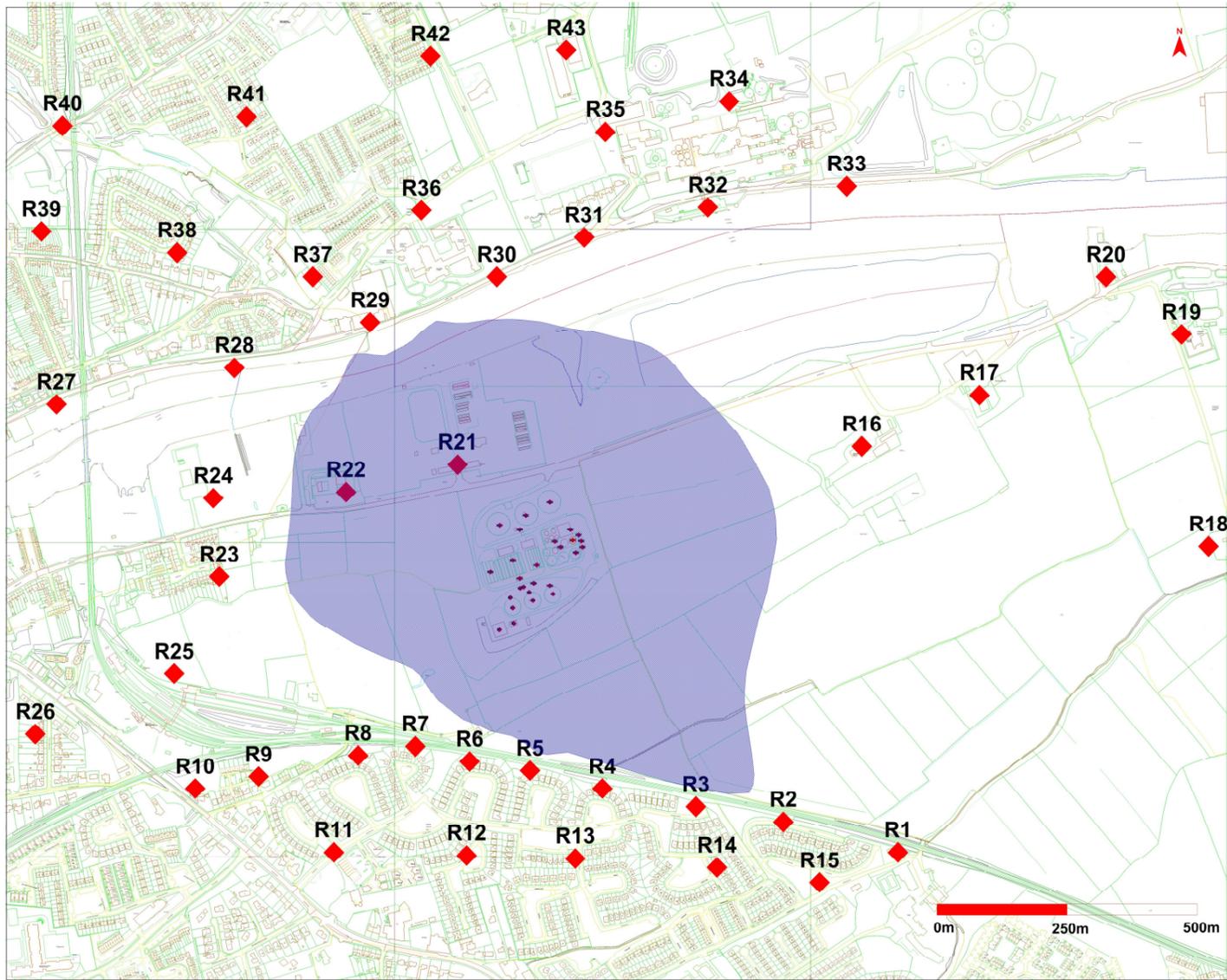


Figure 7.16. Predicted odour emission contribution of proposed Drogheda WwTP odour sources for Model 14 to odour plume dispersal for an odour concentration of less than or equal to 1.50 OUE m^{-3} (—) for the 99.5th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.17. Predicted odour contour plots for odour emissions for Scenario 2 – Model 15

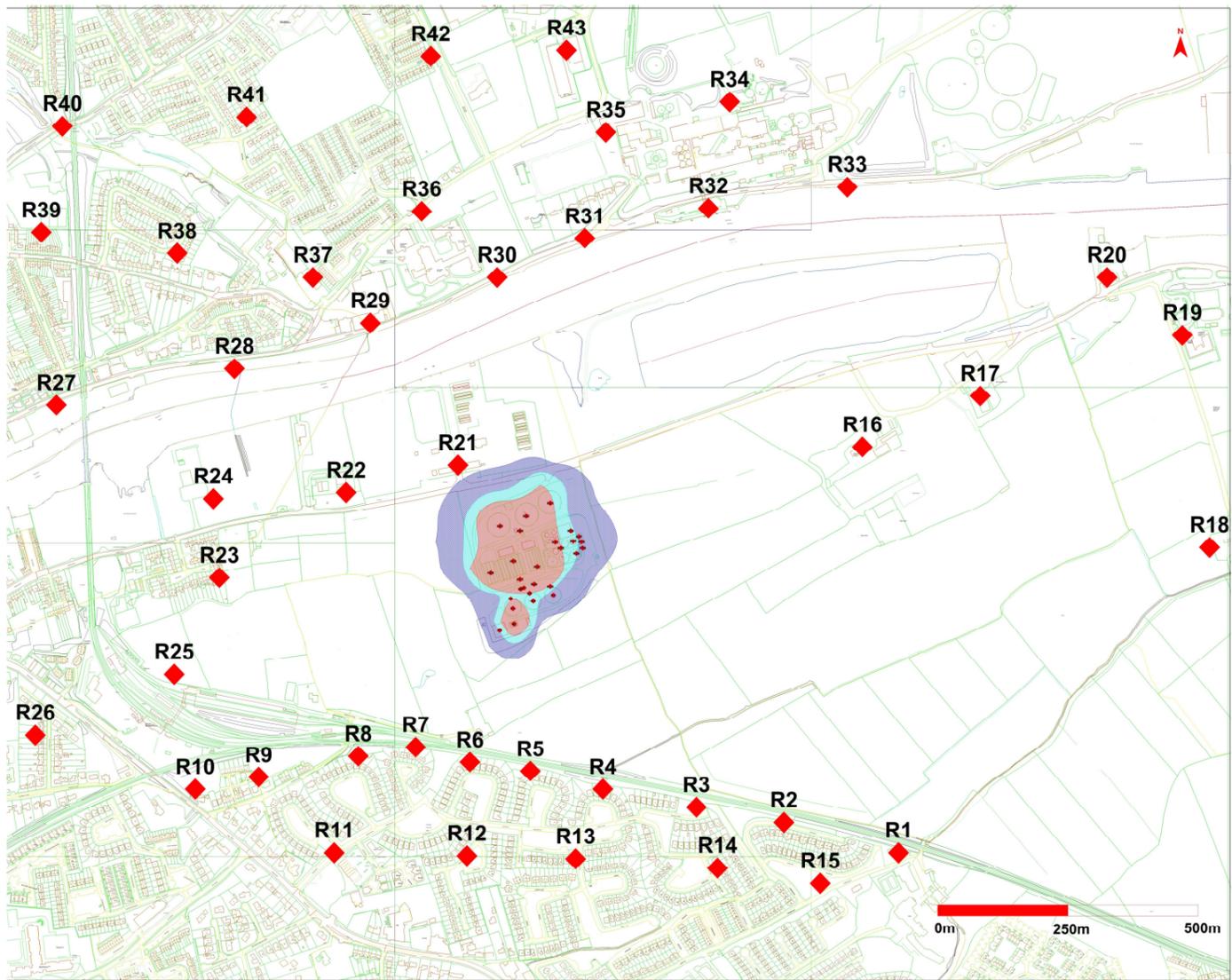


Figure 7.17. Predicted odour emission contribution of proposed Drogheda WwTP odour sources for Model 15 to odour plume dispersal for an odour concentration of less than or equal to 1.50 Oue/m³ (purple), 3.0 Oue/m³ (blue) & 5.0 Oue/m³ (red) for the 98th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

7.18. Predicted odour contour plots for odour emissions for Scenario 2 – Model 16

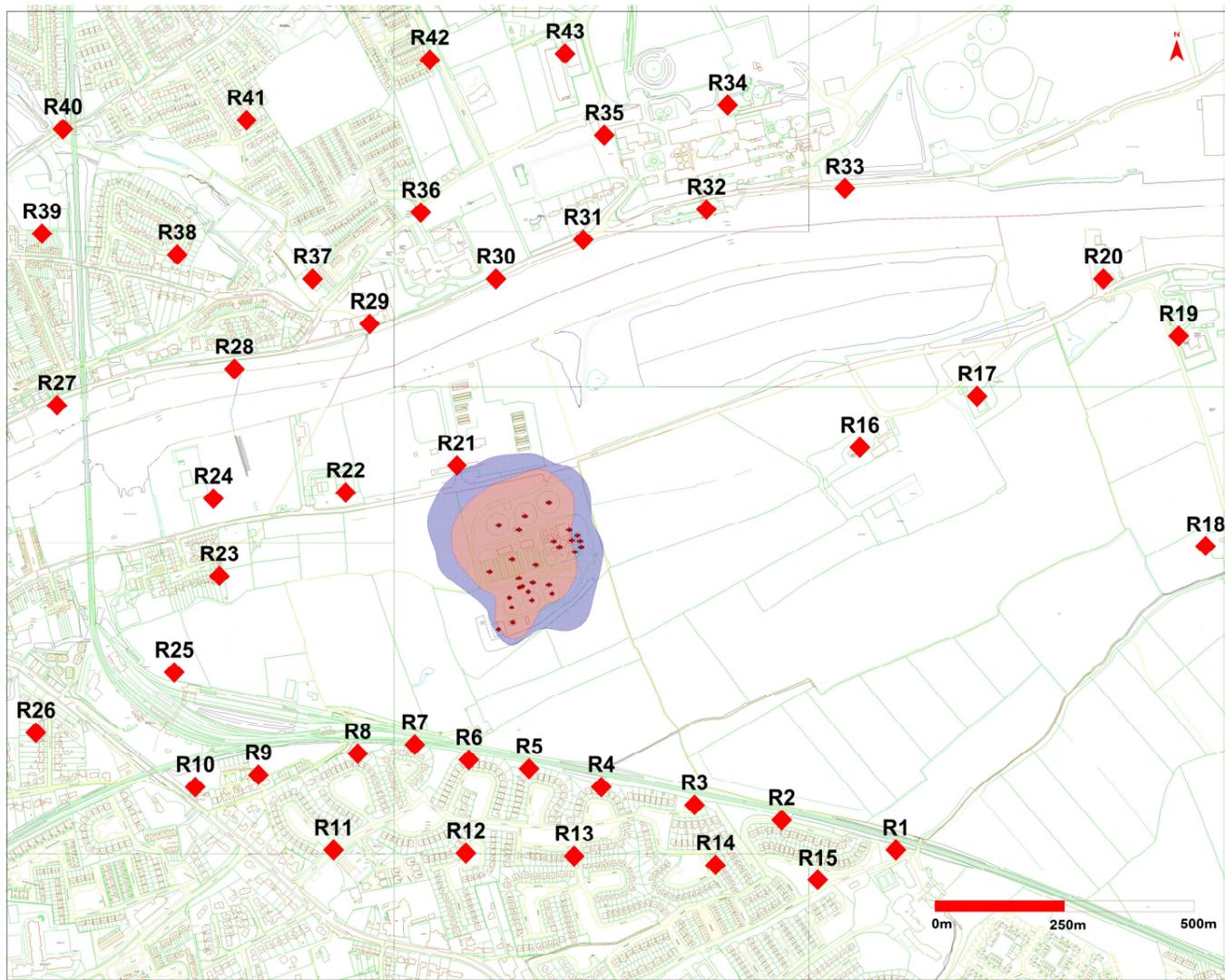


Figure 7.18. Predicted odour emission contribution of proposed Drogheda WwTP odour sources for Model 16 to odour plume dispersal for an odour concentration of less than or equal to 3.0 Oue/m^3 (■) & 5.0 Oue/m^3 (■) for the 99.5th percentile of hourly averages for worst case meteorological year Dublin Airport 2019.

8. References

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9. *Appendix III* - Meteorological data examined and used in the dispersion modelling exercise

Table 9.1. Tabular illustration of Dublin Airport meteorological files for Years 2015 to 2019 inclusive (5 years).

5 year Meteorological file for Dublin Airport 2015 to 2019 inclusive							
Dir \ Speed	<= 1.54 m/s	<= 3.09 m/s	<= 5.14 m/s	<= 8.23 m/s	<= 10.80 m/s	> 10.80 m/s	Total
0.0	0.36	0.48	0.80	0.39	0.09	0.00	2.12
22.5	0.21	0.36	0.85	0.39	0.06	0.00	1.88
45.0	0.15	0.36	1.54	0.61	0.09	0.00	2.75
67.5	0.10	0.31	1.52	0.84	0.28	0.07	3.11
90.0	0.32	0.62	1.97	0.95	0.29	0.12	4.27
112.5	0.59	1.01	2.26	0.79	0.13	0.03	4.81
135.0	0.60	1.24	3.61	2.32	0.56	0.13	8.45
157.5	0.55	0.91	1.76	1.20	0.50	0.18	5.09
180.0	0.41	0.57	0.95	0.76	0.29	0.07	3.05
202.5	0.42	0.82	2.41	2.65	0.80	0.29	7.40
225.0	0.44	1.06	4.99	4.89	1.49	0.57	13.44
247.5	0.43	1.08	5.14	5.36	2.40	1.13	15.54
270.0	0.38	0.98	5.18	5.07	1.89	0.69	14.19
292.5	0.46	0.78	3.04	1.97	0.41	0.20	6.86
315.0	0.44	0.56	1.84	1.22	0.24	0.04	4.33
337.5	0.41	0.45	1.10	0.60	0.10	0.01	2.67
Total	6.25	11.58	38.98	30.02	9.61	3.52	99.96
Calms	-	-	-	-	-	-	0.04
Missing	-	-	-	-	-	-	0.00
Total	-	-	-	-	-	-	100.00

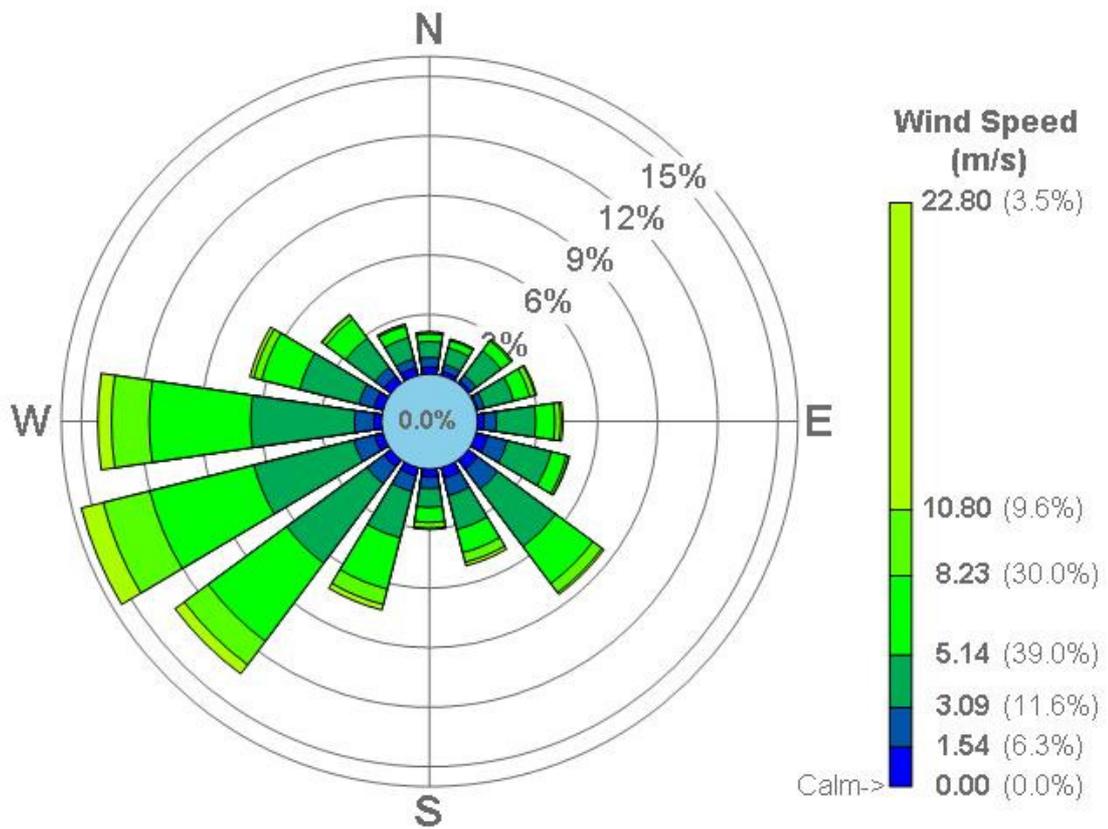


Figure 9.1. Windrose illustration of meteorological files Dublin Airport 2015 to 2019 inclusive.