



2015 Air Quality Updating and Screening Assessment for *Isle of Wight Council*

In fulfillment of Part IV of the
Environment Act 1995
Local Air Quality Management

April 2015

Local Authority Officer	Matthew Northard
Department	Environmental Health
Address	Jubilee Stores, The Quay, Newport Isle of Wight PO30 2EH
Telephone	01983 823000
e-mail	eh@iow.gov.uk
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Executive Summary

Isle of Wight Council have kept air quality under review since the Updating and Screening Assessment 2012. Progress Reports were submitted in 2013 and 2014, which indicated that there was unlikely to be any exceedances of statutory air quality standards on the Isle of Wight.

Officers in Environmental Health have a routine of reviewing on a weekly basis all applications for planning consent registered with the Local Planning Authority. In this way, developments with the potential to compromise air quality have been identified and assessed.

This report outlines changes since the 2014 Annual Progress Report was issued. Other changes since the 2012 Updating and Screening Assessment have been reported in the Progress Reports for 2013 and 2014.

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1 Introduction

1.1 Description of Local Authority Area

Isle of Wight Council is a Unitary Authority which covers the whole of the Isle of Wight. The Isle of Wight is an island off the south coast of England. There are urban areas at Newport, Ryde, and the south-east coastal strip between Sandown and Shanklin. However, the majority of the Island is rural in character.

Tourism is a major contributor to the Island economy. It is estimated that the population is approximately double during the holiday season, with a large influx of visitors.

The Isle of Wight is situated approximately 5 km off the coast of the cities of Southampton and Portsmouth. The main urban areas on the Island include Cowes, Shanklin, Sandown, Ventnor, Ryde, Yarmouth and Newport. The main road links include the A3020, A3055, A3054 and the A3021. The primary source of local emissions of the pollutants listed in the Air Quality Strategy are road traffic and shipping with no other significant sources.

1.2 Purpose of Report

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedences are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

The objective of this Updating and Screening Assessment is to identify any matters that have changed which may lead to risk of an air quality objective being exceeded. A checklist approach and screening tools are used to identify significant new sources or changes and whether there is a need for a Detailed Assessment. The USA report should provide an update of any outstanding information requested previously in Review and Assessment reports.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM **in England** are set out in the Air Quality (England) Regulations 2000 (SI 928), The Air Quality (England) (Amendment) Regulations 2002 (SI 3043), and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1 Air Quality Objectives included in Regulations for the purpose of LAQM in England

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
	5.00 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2010
1,3-Butadiene	2.25 $\mu\text{g}/\text{m}^3$	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Lead	0.5 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
	0.25 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2008
Nitrogen dioxide	200 $\mu\text{g}/\text{m}^3$ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2005
Particles (PM ₁₀) (gravimetric)	50 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	24-hour mean	31.12.2004
	40 $\mu\text{g}/\text{m}^3$	Annual mean	31.12.2004
Sulphur dioxide	350 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 $\mu\text{g}/\text{m}^3$, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

1.4 Summary of Previous Review and Assessments

1.4.1 First Round Air Quality Review

The first round of the review in 2000 gave results that indicated that it was not necessary to proceed to a Detailed Assessment, as the specified pollutants were predicted to be below the Air Quality Objectives.

1.4.2 Second Round Updating and Screening Assessment 2004

During the second round, the Updating and Screening report 2004 identified that there was a possibility that, for two of the pollutants, concentrations may exceed the Objectives in specific areas.

A detailed assessment was carried out in 2004, examining **Nitrogen dioxide** and **Sulphur dioxide**. Since the first round of assessment, a new housing estate had been built close to the petrol storage depot at Kingston, East Cowes. Computer modelling was therefore carried out, to predict benzene concentrations in the area. This was supplemented by diffusion tube monitoring for a short period. The results of the monitoring were reported in an Air Quality Progress Report in 2005. The modelling, together with the diffusion tube results, showed that the benzene concentration in air close to the site was very unlikely to exceed the Objective. There was therefore no need to declare an Air Quality Management Area for Benzene.

In addition, the modelling for sulphur dioxide emissions from the three cross-Solent ferry terminals also showed that there would be no exceedences of the short-term Objective for SO₂.

1.4.3 Third Round Updating and Screening Assessment 2006

During the third round, in 2006, it was identified that, at two of the sites (Fairlee Road and Lake Hill) there is a possibility that the Air Quality Objective for Nitrogen dioxide may be exceeded.

It was therefore decided to increase the number of diffusion tubes placed at the two sites, to monitor nitrogen oxides. Diffusion tubes are not as exact as they could be, so there was some doubt about the actual concentrations measured. Using three tubes at each site gives a more reliable result.

1.4.4 Detailed Assessment for Nitrogen Dioxide 2007

This was carried out using additional monitoring, using diffusion tubes. The 2007 Detailed Assessment Report concluded that there were unlikely to be exceedences of the guideline standard for Nitrogen dioxide at either of the two sites referred to above.

1.4.5 Progress report 2008.

Reported on changes, and concluded that the air quality standards were unlikely to be exceeded.

1.4.6 Fourth Round Updating and Screening Assessment 2009

This concluded that the air quality guidelines were unlikely to be exceeded, and that there is therefore no requirement to proceed to a Detailed Review.

1.4.7 Progress Report 2010

This reported the results of additional diffusion tube monitoring of Nox at a second site on Fairlee Road, Newport. The results confirmed the adjusted results from the original monitoring site, that exceedences of NO2 limits are unlikely.

Other changes reported were also assessed as being unlikely to result in exceedences of the air quality standards.

1.4.8 Progress Report 2011

This reported on certain planning developments, and continuing monitoring of NO2 at two sites. It concluded that the changes were assessed as unlikely to result in exceedences of the air quality standards.

1.4.9 Fifth Round Updating and Screening Assessment 2012

This concluded that the air quality guidelines were unlikely to be exceeded, and that there is therefore no requirement to proceed to a Detailed Review.

1.4.10 Progress Report 2013

This reported the results of additional diffusion tube monitoring of Nox at a second site on Fairlee Road, Newport. The results confirmed the adjusted results from the original monitoring site, that exceedences of NO2 limits are unlikely.

Other changes reported were also assessed as being unlikely to result in exceedences of the air quality standards.

1.4.11 Progress Report 2014

This reported on certain planning developments, and continuing monitoring of NO2 at two sites. It concluded that the changes were assessed as unlikely to result in exceedences of the air quality standards.

1.4.12 Conclusion

As a result of previous assessments and Progress Reports, no Air Quality Management Areas have been declared on the Isle of Wight.

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

There are no automatic monitoring sites on the Isle of Wight. Data from Automatic monitoring sites at adjacent Local Authorities have not been used as are not considered relevant due to the dilution and dispersion of pollutants expected across the Solent between the Isle of Wight and the mainland.

2.1.2 Non-Automatic Monitoring Sites

There are two main sites on the Isle of Wight where NO₂ is monitored by diffusion tubes. These are:

IOW4 is located on Fairlee Road, Newport close to the cemetery. It has been maintained since the beginning of monitoring in 2000, and therefore provides an estimate of changes year on year.

IOW10 is at Lake on the traffic island close to the railway bridge.

Four further sites were introduced for 3 months half way through this updating and screening assessment year, as areas where it was considered to have heavy traffic flows adjacent to relevant exposures.

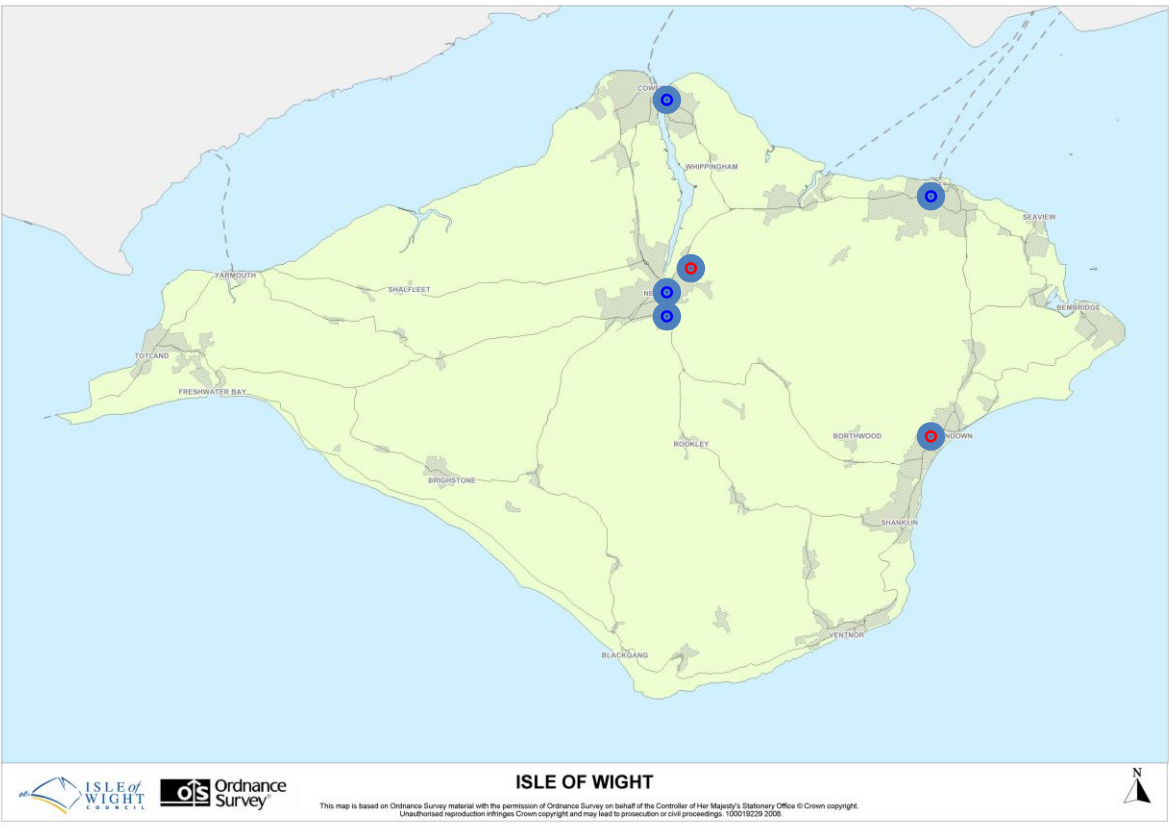
The laboratory used by Isle of Wight Council is the same as in previous years (Bureau Veritas ESGLtd. – Gradco 50% TEA in acetone).

The laboratory in Didcot is listed in the table of the WASP rounds 105 – 113 as having a score of 100%.

The bias adjustment factor used is the national bias adjustment factor for Gradco 50% TEA in acetone. This is 0.93 (for 2011).

Figure 2.2 Map of Non-Automatic Monitoring Sites

2.1.3 Map 1 General map



Red markers indicate permanent sites and blue markers indicate temporary sites.

2.1.4 Map 2 Fairlee Road, Newport



IOW11 is no longer in use.

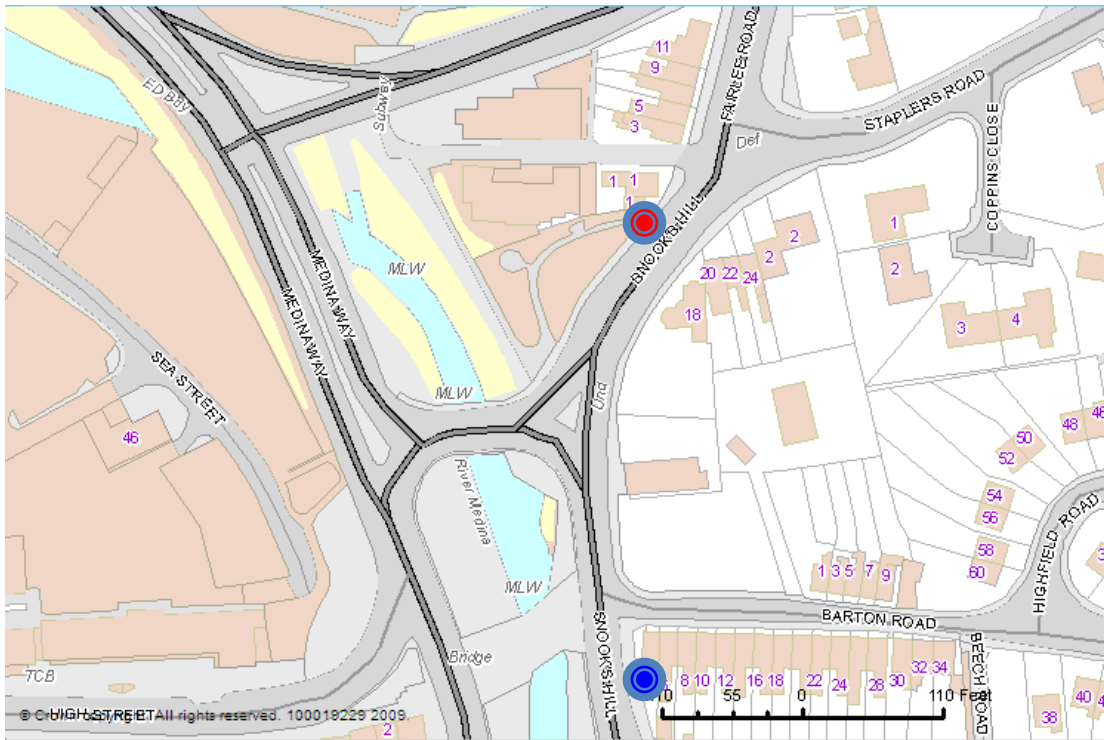
2.1.5 Map 3 Lake



IOW8 is no longer in use.

Maps are Crown Copyright License ref. 100019229 2009

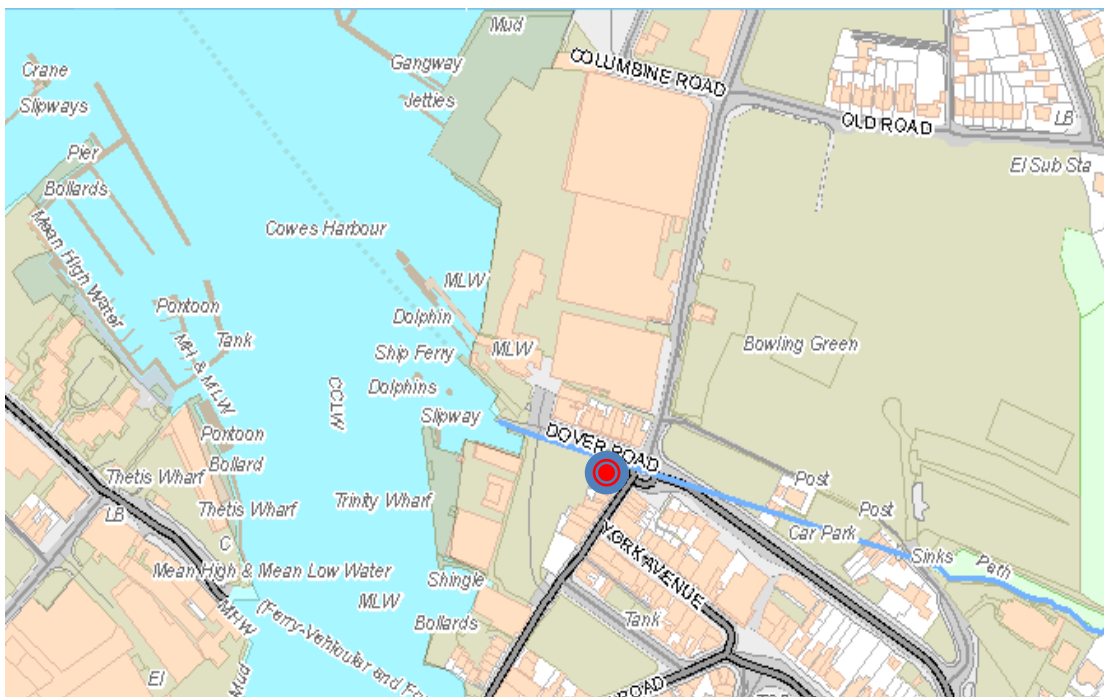
2.1.6 Map 4 – Newport temporary sites



IW 12 (Red marker)

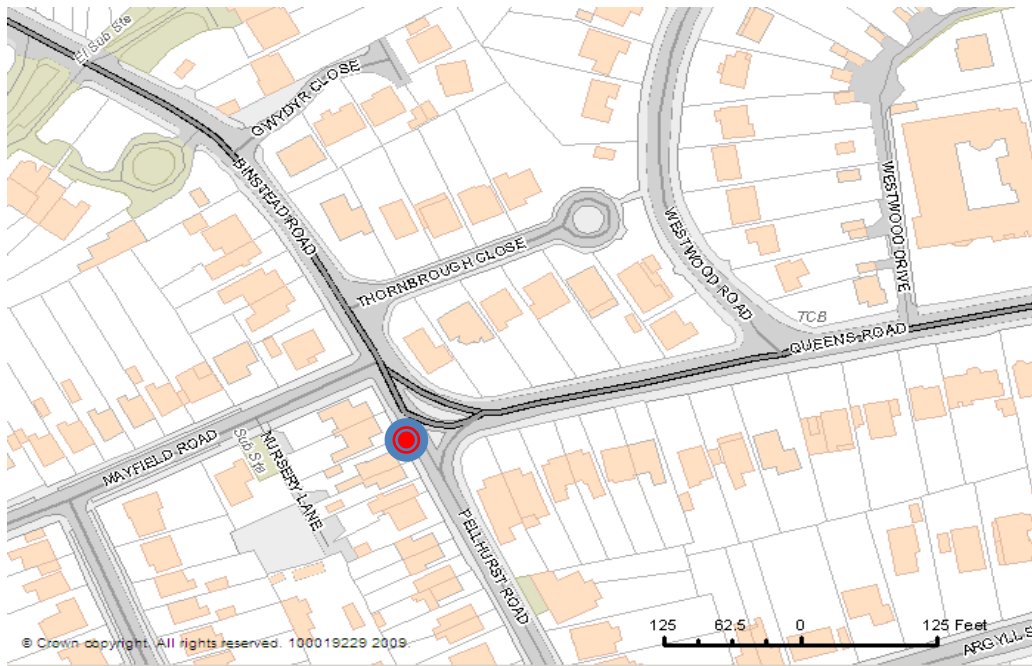
IW 13 (Blue marker)

2.1.7 Map 5 – East Cowes temporary site



IW 14 (Red marker)

2.1.8 Map 6 – Ryde temporary site



IW 15 Red marker

Table 2 Details of Non-Automatic Monitoring Sites

Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Is monitoring collocated with a Continuous Analyser (Y/N)	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
IOW4	Kerbside	450377	089557	NO ₂	N	N	N (11m)	0.5 m	Y
IOW10	Kerbside	459008	083715	NO ₂	N	N	N (23 m)	2 m	Y
IOW12	Kerbside	50309	089347	NO ₂	N	N	N (10m)	0.5 m	Y
IOW13	Kerbside	50298	089221	NO ₂	N	N	N (5m)	0.5 m	Y
IOW14	Kerbside	50221	095694	NO ₂	N	N	N (10m)	0.5 m	Y
IOW15	Kerbside	58464	092263	NO ₂	N	N	N (10m)	0.5 m	Y

2.2 Comparison of Monitoring Results with AQ Objectives

The only monitoring carried out routinely is of Nitrogen dioxide.

2.2.1 Nitrogen Dioxide

Monitoring using diffusion tubes continues at two sites.

IOW4 is attached to a lamp-post on the kerb. Fairless Road is the main route between Newport and Ryde, and also forms the main route from the vehicle ferry terminal at Fishbourne and destinations to the West and South of Newport. Three tubes are exposed at this site. The nearest relevant public exposure is at the façade of the dwelling-house 51 Fairlee Road, set back about 11m from the kerb.

IOW10 is attached to a lamp-post on the triangular green on the junction of Lake Hill, Sandown Road and The Fairway. The nearest relevant public exposure is at TESCO Express, and dwellings at 1 Denness Road and 38 and 40 Sandown Road. It is also likely to be representative of levels at other locations along Sandown Road and Lake Hill, where there is relevant exposure. One tube is located at this site.

During the Updating and Screening Assessment year, diffusion tubes were deployed at four further sites for three months. These sites were chosen as had not previously been considered, but all a number of factors which could affect air quality.

Department of Transport traffic data for the Isle of Wight is used along with information from the Local Highways' Authority to identify where monitoring, using diffusion tubes, should be considered. The table in Appendix E shows the changes in traffic flows between 2007 and 2013. On the whole there has been a negligible increase in traffic with the exception of location 78304, where there was an increase of 1000 vehicles. Diffusion tube monitoring site IOW10 is roughly this location and measurements are below the annual mean objective for NO₂. Therefore no further investigation was considered necessary at this location.

Diffusion Tube Monitoring Data

Table 3 Results of Nitrogen Dioxide Diffusion Tubes in 2011

Site ID	Location	Site Type	Within AQMA?	Triplicate or Collocated Tube	Data Capture 2011 (Number of Months or %)	Data with less than 9 months has been annualised (Y/N)	Confirm if data has been distance corrected (Y/N)	Annual mean concentration (Bias Adjustment factor = 0.81)
								2014 ($\mu\text{g}/\text{m}^3$)
IOW4	Lamppost outside 51 Fairlee Road, Newport	Kerbside	N	Triplicate	12 months	N/A	See column to the right	53.1 (kerbside) 34.2 (corrected for distance)
IOW10	Lamppost on the green at Lake Hill / The Fairway, Lake	Kerbside	N	Single tube	12 months	N/A	N	33.5 (kerbside) 20.8 (corrected for distance)
IOW 12	Lamp post outside 1 Fairlee Road, Newport	Kerbside	N	Single tube	12 months	N/A	N	45.7 (kerbside) 32.8 (corrected for distance)
IOW 13	Lamp post alongside 4 Barton Road, Newport	Kerbside	N	Single tube	12 months	N/A	N	47.7 (kerbside) 34.0 (corrected for distance)
IOW 14	Lamp post opposite 4 Dover Road	Kerbside	N	Single tube	12 months	N/A	N	37.6 (kerbside) 28.0 (corrected for distance)
IOW 15	Lamp post outside 2 Pellhurst Road, Ryde	Kerbside	N	Single tube	12 months	N/A	N	43.3 (kerbside) 27.8 (corrected for distance)

The corrected lever was calculated using the Nitrogen Dioxide fall off with distance tool at: <http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html>

As outlined above, there were only two sites used IOW4 and IOW11 which were in place for the monitoring year. The results in the table show IOW4 was measured to have exceeded the annual mean objective for NO₂ objective, with an annual mean concentration of 53.1 µg/m³.

In terms of relevant exposure, Site IOW 4 is a kerbside location outside 51 Fairlee Road, Newport. The nearest relevant exposure is set back approximately 11m from this location, and will therefore experience lower concentrations than that measured by the tube. To demonstrate this a façade correction, (as set out in LAQM. TG(09)) has been applied. Using a background NO₂ concentration of 12.5 µg/m³, the correction method shows the facade concentration to be 34.2 µg/m³, which is significantly below and annual mean objective.

The second permanent diffusion tube location in Lake, Site IOW10, shows an annual mean of 35.5 µg/m³. This is below the annual mean objective for NO₂ without calculating the drop of to relevant exposure.

The results in the above Table show there to have been exceedences at the temporary Sites IOW 12, 13, 14 and 15 for the three months whilst in place. However given the façade correction calculations for these Sites, actual exceedences of the objective are considered unlikely.

Annual ratified data sets as shown in Table 2.4b are useful for assessing directly against the NO₂ annual mean objective for that given year, but do not give any indication of concentration patterns over time

Table 4 Results of Nitrogen Dioxide Diffusion Tubes (2010 to 2014

Site ID	Site Type	Within AQMA?	Annual mean concentration (adjusted for bias) $\mu\text{g}/\text{m}^3$				
			2010 (Bias Adjustment Factor = 1.03)	2011 (Bias Adjustment Factor = 0.93)	2012 Bias Adjustment Factor = 0.79	2013 Bias Adjustment Factor = 0.81	2014 Bias Adjustment Factor = 0.81
IOW4	Kerbside	N	58.42	45.77	47.81	52.8	53.1
IOW10	Kerbside	N	30.64	24.58	21.83	26.68	33.5
IOW 12	Kerbside	N	N/A	N/A	N/A	N/A	45.7
IOW 13	Kerbside	N	N/A	N/A	N/A	N/A	47.7
IOW 14	Kerbside	N	N/A	N/A	N/A	N/A	37.6
IOW 15	Kerbside	N	N/A	N/A	N/A	N/A	43.3

Note: The figures in the table above are the kerbside results. Bias adjustment factors in this table are the national bias adjustment factors for the year in question. Some reports in previous years used bias adjustment factors for the year before, and therefore may not correspond to those used here. This report is submitted in April 2015, using this year's bias adjustment value. The value of 0.81 was therefore used.

2.2.2 PM₁₀

PM10 is not currently monitored on the Isle of Wight. There have been no new combustion, quarrying or construction activities on the Isle of Wight which would cause significant rises in PM10 levels. Department of Transport screening models are used with traffic count data to identify where there may be exceedances which then require actual air quality monitoring. PM10 level have been found to be significantly below the Air Quality objectives. For example the annual PM10 levels for the NOx tube location IW4 (Fairlee Road, Newport) is predicted as being 21µg/m³ using 2013 data.

2.2.3 Sulphur Dioxide

Sulphur Dioxide SO₂ is not monitored on the Isle of Wight. There are no coal or heavy fuel oil combustion processes which would significantly increase in SO₂ pollution levels. The 2005 detailed assessment of the shipping ports predicted that exceedances were not likely and that the impact of the ship emissions upon local receptors was not significant. There have been no significant increases in activity to require a re-assessment.

2.2.4 Benzene

Benzene is not monitored on the Isle of Wight. The East Cowes petrol storage depot was identified during the first round of review and assessment, as a new housing estate had been built adjacent to the site. Dispersion modelling for benzene supplemented with benzene diffusion tube monitoring for a short period (The results of which were reported in the 2005 Progress Report), identified that exceedances of the benzene objective were unlikely at the worse case receptors. There was therefore no need to declare an Air Quality Management Area for benzene.

As there have been no significant changes to the site in terms of either exposure or emissions since the 2004 Detailed Assessment, there is no need to reassess the depot again in this report.

2.2.5 Other pollutants monitored

No other pollutants are monitored.

2.2.6 Summary of Compliance with AQS Objectives

Isle of Wight Council has examined the results from monitoring in the Unitary Authority area. Concentrations are all below the objectives, therefore there is no need to proceed to a Detailed Assessment.

3 Road Traffic Sources

3.1 Narrow Congested Streets with Residential Properties Close to the Kerb

Isle of Wight Council confirms that there are no new/newly identified congested streets with a flow above 5,000 vehicles per day and residential properties close to the kerb, that have not been adequately considered in previous rounds of Review and Assessment.

3.2 Busy Streets Where People May Spend 1-hour or More Close to Traffic

Isle of Wight Council confirms that there are no new/newly identified busy streets where people may spend 1 hour or more close to traffic.

3.3 Roads with a High Flow of Buses and/or HGVs.

Isle of Wight Council confirms that there are no new/newly identified roads with high flows of buses/HGVs.

3.4 Junctions

Isle of Wight Council confirms that there are no new/newly identified busy junctions/busy roads.

3.5 New Roads Constructed or Proposed Since the Last Round of Review and Assessment

Isle of Wight Council confirms that there are no new Roads Constructed or Proposed Since the Last Round of Review and Assessment

3.6 Roads with Significantly Changed Traffic Flows

Isle of Wight Council confirms that there are no roads with Significantly Changed Traffic Flows

3.7 Bus and Coach Stations

Isle of Wight Council confirms that there are no relevant bus stations in the Local Authority area.

4 Other Transport Sources

4.1 Airports

Two airfields for light aircraft (Bembridge and Sandown) have previously been assessed as having no significant impact on air quality.

Isle of Wight Council confirms that there are no airports in the Local Authority area.

4.2 Railways (Diesel and Steam Trains)

4.2.1 Stationary Trains

Isle of Wight Council confirms that there are no locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m.

4.2.2 Moving Trains

Isle of Wight Council confirms that there are no locations with a large number of movements of diesel locomotives, and potential long-term relevant exposure within 30m.

4.3 Ports (Shipping)

Sulphur dioxide emissions from the cross-Solent ferries has previously been the subject of a Detailed Assessment. This demonstrated that emissions from the ferries at all three ports (Yarmouth, East Cowes and Fishbourne) are not resulting in exceedences of air quality standards. Since that Detailed Assessment there have been no net changes in the ferry fleets, and any alterations to timetables have not affected emission rates.

Isle of Wight Council confirms that there are no ports or shipping that meet the specified criteria within the Local Authority area.

5 Industrial Sources

5.1 Industrial Installations

5.1.1 New or Proposed Installations for which an Air Quality Assessment has been Carried Out

Planning applications

The following table lists planning applications received since the last Updating and Screening assessment was undertaken, which included an air quality assessment.

Table 5

Planning application reference	Address and application details
P/01271/12	Pan Meadows, land between Staplers Road and, St. Georges Way, Newport, Isle Of Wight, PO30 – 3600KW combined heat and power plant
P/00973/12	IOW Grain Terminal "Medina Wharf", Arctic Road, Cowes - Replacement drying plant and 1900 KW biomass plant
P/01586/14	St Mary's Hospital, Parkhurst Road, Newport, Isle Of Wight – 700kw combined heat and power plant to replace existing plant
P/01593/14	Replacement CHP plant to provide 22MW of energy across their two sites.
P/00219/15	land known as Pennyfeathers Smallbrook Lane Ryde - 904 residential properties and 2MW combined heat and power plant
P/00830/13	Sewage Treatment Works, East Yar Road, Sandown – 300kw combined heat and power plant
P/01378/12	Stag Lane Newport Isle Of Wight PO30 - Anaerobic digestion plant with 500kw combined heat and power plant
P/00438/13	Land opposite Lynbottom landfill site, Briddlesford Road Newport - Proposed waste transfer and recycling plant
P/00198/13	Land opposite Gore Cemetery, Blackwater Road, Arreton- Anaerobic digestion plant and combined heat and power plant.

New Permitted Installations

There have been no significant newly permitted installations since the last Updating and Screening Assessment. Applications have been received for a mobile crusher, two small waste oil burners and cleaning with solvents.

Isle of Wight Council has assessed new/proposed industrial installations, and concluded that it will not be necessary to proceed to a Detailed Assessment.

5.1.2 Existing Installations where Emissions have Increased Substantially or New Relevant Exposure has been Introduced

Since the last Updating and Screening Assessment activity at St Georges Down Blackwater has increased as a result of the major project to upgrade the island's roads. This has resulted in increased operation of the crushing and screening plant at the Recycling Centre to process road plannings into new base material, and production of asphalt at the roadstone coating plant. This along with the additional HGV movements will increase air pollution in that area, namely particulate matter and NO2. The relevant exposures are the residential properties along the A3056. This area is very open, and therefore it is not expected air quality objectives will be exceeded at these locations.

Isle of Wight Council confirms that there are no industrial installations with substantially increased emissions or new relevant exposure in their vicinity within its area or nearby in a neighbouring authority.

5.1.3 New or Significantly Changed Installations with No Previous Air Quality Assessment

Isle of Wight Council confirms that there are no new or proposed industrial installations for which planning approval has been granted within its area or nearby in a neighbouring authority.

5.2 Major Fuel (Petrol) Storage Depots

There is a major fuel (petrol) storage depot within the Local Authority area, but this has been considered in previous reports. There have been no changes, and therefore it is not necessary to proceed to a further detailed assessment.

5.3 Petrol Stations

Isle of Wight Council confirms that there are no petrol stations meeting the specified criteria.

5.4 Poultry Farms

Isle of Wight Council confirms that there are no poultry farms meeting the specified criteria.

6 Commercial and Domestic Sources

6.1 Biomass Combustion – Individual Installations

The table below lists planning applications for biomass plant above 50kw since the 2012 Updating and Screening Assessment. These were assessed during the planning application process and not consider causing any exceedences of air quality objectives.

Table 6

Case Reference	Location	Capacity KW
P/00635/09	land to the west of, H M Prison Parkhurst, Clissold Road, Newport, Isle Of Wight, PO30	200
P/00340/10	Quarry Farm, Cheverton Shute, Shorwell, Newport, Isle Of Wight, PO303JE	200
P/01787/12	West Wight Sports Centre, Moa Place, Freshwater, Isle Of Wight, PO409XH	190
P/01968/12	Northcourt House, Main Road, Shorwell, Newport, Isle Of Wight, PO303JG	140
P/00502/13	Old Coach House, Brook, Newport, Isle Of Wight, PO304EJ	140
P/00688/13	Medina Leisure Centre, Fairlee Road, Newport, Isle Of Wight, PO302EW	500
P/01358/14	land at, Tapnell Farm, Newport Road, Yarmouth, Isle Of Wight, PO41	200
P/00973/12	IOW Grain Medina Wharf Arctic Road Cowes Isle Of Wight PO317PG	200

Isle of Wight Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.2 Biomass Combustion – Combined Impacts

Isle of Wight Council is not aware of any large-scale conversion to small domestic or commercial biomass plant. Such plant is excluded from the planning process by Permitted Development rules, making it unlikely that the Local Authority will get to know about any significant areas of cumulative small biomass plant.

Isle of Wight Council has assessed the biomass combustion plant, and concluded that it will not be necessary to proceed to a Detailed Assessment.

6.3 Domestic Solid-Fuel Burning

Isle of Wight Council confirms that there are no areas of significant domestic fuel use in the Local Authority area.

7 Fugitive or Uncontrolled Sources

Isle of Wight Council confirms that there are no new potential sources of fugitive particulate matter emissions in the Local Authority area.

8 Conclusions and Proposed Actions

8.1 Conclusions from New Monitoring Data

Monitoring data for 2014 has demonstrated there is unlikely to be exceedances of the air quality standard for Nitrogen dioxide, and therefore no need to progress to a Detailed Assessment.

However, the situation will be kept under review, and monitoring will continue. Results will be reported annually.

8.2 Conclusions from Assessment of Sources

Having assessed new sources since the 2012 Updating and Screening Assessment, Isle of Wight Council is satisfied that there are unlikely to be exceedances of the Air Quality Standards, and that it is will not be necessary to proceed to a Detailed Review.

8.3 Proposed Actions

Isle of Wight Council Environmental Health will continue to liaise with Isle of Wight Council Planning Services to identify new potentially polluting developments as they arise. Any Air Quality Assessments deemed to be necessary will be asked for at the Planning stage.

Isle of Wight Council will continue to carry out the monitoring programme for Nitrogen dioxide using diffusion tubes.

9 References

Isle of Wight Council, Round 1 Review and Assessment (Stage's I to III)

Isle of Wight Council, Updating and Screening Assessment, 2004.

Isle of Wight Council, Detailed Assessment, 2004.

Isle of Wight Council, Air Quality Progress Report, 2005.

Isle of Wight Council Updating and Screening Assessment, 2006.

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Isle of Wight Council Updating and Screening Assessment, 2012.

Isle of Wight Council, Air Quality Progress Report, 2012.

Isle of Wight Council, Air Quality Progress Report, 2014.

Defra, Part IV of the Environmental Act 1995 Local Air Quality Management Technical Guidance LAQM.TG(09), 2009.

UK Air Quality Archive, Nitrogen Dioxide Fall Off With Distance Calculator Issue 4.

<http://laqm.defra.gov.uk/tools-monitoring-data/no2-falloff.html>

UK Air Quality Archive, Estimated Background Air Pollution Maps for 2008 and Projections for Other Years. <http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html>

National bias adjustment factors, September 2011. <http://laqm.defra.gov.uk/bias-adjustment-factors/national-bias.html>

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Appendix A: QA:QC Data

Diffusion Tube Bias Adjustment Factors

Bias adjustment is effectively a calculated factor which shows whether diffusion tubes are over or under reading ambient concentrations and therefore allows for a correction to be made.

As there is no local automatic monitoring, Isle of Wight Council uses a national factor as given on the review and assessment help desk website¹ for Bureau Veritas (Gradko 50% TEA in acetone).

Factor from Local Co-location Studies (if available)

As the council does not carry out any continuous monitoring on the Island the national bias adjustment factor for Bureau Veritas (Gradko 50% TEA in acetone) has instead been used. The factors used in this assessment are as follows:

2000 - 1.2
2001 - 1.45
2002 - 1.27
2003 - 1.11
2004 - 1.1
2005 - 1.1
2006 - 1.01
2007 - 0.98
2008 - 0.93
2009 - 0.97
2010 - 1.03
2011 – 0.93
2012 – 0.79
2013 – 0.81
2014 – 0.81

Discussion of Choice of Factor to Use

The Council has used the national factor for Bureau Veritas (Gradko 50% TEA acetone) as no local continuous monitoring is carried out.

PM Monitoring Adjustment

The Council does not carry out any local monitoring for PM₁₀.

Short-term to Long-term Data adjustment

This has not been necessary for the three years covered by this report.

QA/QC of automatic monitoring

No automatic monitoring is carried out on the Island.

QA/QC of diffusion tube monitoring

The Workplace Analysis Scheme for Proficiency (WASP) is an independent analytical performance testing scheme, operated by the Health and Safety Laboratory (HSL). WASP formed a key part of the former UK NO₂ Network's QA/QC, and remains an important QA/QC exercise for laboratories supplying diffusion tubes to Local Authorities for use in their Local Air Quality Management work.

Defra and the Devolved Administrations advise that diffusion tubes used for LAQM should be obtained from laboratories that have demonstrated satisfactory performance in the WASP scheme.

Out of a rating of GOOD, ACCEPETABLE, WARNING AND FAILURE, the results for 2008 show that Bureau Veritas (Gradko) were rated as GOOD. This is classified as follows:

GOOD: Results obtained by the participating laboratory, Bureau Veritas (Gradko 50% TEA in acetone) are on average within 13% of the assigned value. This equates to an RPI of 169 or less.

I attach a copy of a report on methodology and QA / QC from Environmental Scientific Group Ltd., Didcot (Appendix B). This report is copyright Environmental Scientifics Group Ltd., Unit 12, Moorbrook, Southmead Industrial Estate, Didcot, Oxfordshire, OX11 7HP and may not be reproduced without their consent.

Appendix B – Report from the laboratory

NO₂ Diffusion Tube Information – 2014/5

Supplier: Environmental Scientifics Group Ltd

Address: Unit 12
Moorbrook
Southmead Industrial Estate
Didcot
Oxfordshire
OX11 7HP

Diffusion Tube Performance:

Tube Type: 50% Acetone : 50% TEA

Uncertainty: Under European guidelines, diffusion tubes are considered an indicative method, and as such the uncertainty is defined as <20%. (In field intercomparisons ESG's diffusion tubes perform at <10% uncertainty.)

Quality Control: A quality control sample of known concentration is run every 10 samples. The data generated is compared to acceptable limits as determined statistically using a Shewhart Chart control system.

Analytical Repeatability: In 2011 several thousand QC samples were analysed, achieving a relative standard deviation of 1.09%

Confidence Intervals: Assuming a normal distribution, 95.45% of results should fall within 2σ ($\pm 2.18\%$) and 99.73% of results should fall within 3σ ($\pm 3.18\%$) of the expected value.

Limit Of Detection: 0.03 μ g NO₂ on the tube.
Over a 4-week exposure this would equate to 0.6 μ g/m³, or 0.3ppb

Quality Assurance: The manufacture and analysis of NO₂ diffusion tubes is covered by our UKAS accreditation

The method meets the requirements laid out in DEFRA's "Diffusion Tubes For Ambient NO₂ Monitoring: A Practical Guidance."

The laboratory has taken part in the WASP proficiency scheme since its inception, and has maintained the highest ranking of 'Satisfactory'

Analytical Information :

Analytical Technique: Colorimetric

Instrument: Continuous Flow Auto-analyser

Principle: Nitrite ions react with Sulphanilamide to form a diazonium compound. In acidic conditions, this couples with N-(1-naphthyl)-ethylenediamine dihydrochloride to form a purple azo dye. Utilising spectrophotometric analysis at 540nm, the NO₂ concentration is calculated by quantification of the colour change in comparison to that produced by known standards.

Calibration: Standards are made from brought in 1000ppm standard – These standards hold Iso Guide 34 and ISO/IEC 17025 certification

The instrument is calibrated every run

The instrument calibration must achieve a coefficient of linearity >0.999 to be considered acceptable.

System Suitability Checks: System suitability checks are used to ensure performance within expected criteria. These include baseline, peak height and gain.

Extraction: To ensure complete, homogeneous extraction, tubes are mixed on a vibrating tray for not less than 30 minutes.

Appendix C Industrial Permitted Processes

Part A Processes on the Isle of Wight which may impact on air quality

Operator Name	Authorisation No.	Site Address	Process Type
Innogy PLC	AF7169	Cowes Gt Power Station Kingston Road East Cowes Isle of Wight PO32 6JF	Combustion Processes
Contract Heat and Power Ltd	AF8092	Forest Park Forest Road Newport Isle of Wight PO30 5YS	Combustion Processes
GKN Westland Aerospace (Holdings) Ltd	AO0504	Maresfield Works Maresfield Road East Cowes Isle of Wight PO32 6AF	Inorganic Chemical Processes
Island Waste Services Ltd	ISL012/10203	Bridlesford Road Downend Newport	Landfill sites and waste transfer solutions.
Wight Made Diesel	GP3236US	Arctic Road, Cowes, PO31 7PG	

All Part A2 and B Processes on the Isle of Wight

Premises	Installation address/ mobile unit storage site address	Process type
M West	Swiss Cottage, Westminster Lane, Newport, Isle Of Wight, PO30 5DP	Cement Batching
Mr R Carter	Hale Manor Farm, Hale Common, Arreton, Newport, Isle of Wight, PO30 3NR	Cement Batching
Wight Building Materials	St Georges Lane, Newport, Isle Of Wight, PO30 3BX	Cement Batching
Isle of Wight Crematorium	Station Lane, Whippingham, E Cowes, Whippingham PO32 6NJ	Crematorium
H J Bennett	87 -89 High Street, Bembridge, Isle of Wight, PO35 5SA (Sited at Bembridge Beach)	Mobile Crusher
JPC Demolition Ltd (J Peck)	2/3 Pritchett's Way, Rookley, Isle of Wight, PO38 3LT	Mobile Crusher
Knighton Sandpit Ltd	Lower Knighton Road, Newchurch, Sandown, Isle Of Wight, PO36 0NS	Fixed Crusher
Knighton Sandpit Ltd	Lower Knighton Road, Newchurch, Sandown, Isle Of Wight, PO36 0NS	Mobile Crusher
H J Bennett	Recycling Centre, St. Georges Down, Blackwater, Newport, Isle Of Wight, PO30 3BX	Fixed Crushing and Screening
Crestas	1 Old Station Road, Ventnor, Isle of Wight, PO38 1DX	Dry Cleaners

H J Bennett	Bembridge Beach off Embankment Road, Bembridge PO35 5NR SZ64132 88807	Mobile Crusher
Trucast Ltd	Doncasters Trucast, Marlborough Road, Ryde, Isle Of Wight, PO33 1AD	Non-ferrous Metals
Isle of Wight Fuels Ltd	Cowes (Isle of Wight) Depot, Kingston Road, East Cowes, Isle of Wight PO32 6HF	Petrol Storage
Osborne Garage	Osborne Garage, York Avenue, East Cowes, Isle of Wight, PO32 6JT	Petrol Vapour Recovery
Broadway Garage	Weston Road, Totland Bay, Isle Of Wight, PO39 0EY	Petrol Vapour Recovery
Fairlee Service Station	Fairlee Road, Newport, Isle of Wight, PO30 2EJ	Petrol Vapour Recovery
Freshwater Garage Ltd	Afton Road, Freshwater, Isle of Wight PO40 9BD	Petrol Vapour Recovery
Leslie's Group (northwood)	341-351 Newport Road, Cowes, Isle of Wight, PO31 8PG	Petrol Vapour Recovery
Lushington Hill Garage Ltd	t/a Harwoods, 1A Lushington Hill, Wootton Bridge, Ryde, Isle Of Wight, PO33 4NT	Petrol Vapour Recovery
Messrs S, A & T Stubbings		Petrol Vapour Recovery
Sainsburys Supermarkets Ltd	Hunnycross Way, Newport, Isle of Wight, PO30 5ZD	Petrol Vapour Recovery
Sandford Garage IW Ltd	Godshill, Isle of Wight, PO38 3AN	Petrol Vapour Recovery
Tesco Stores Ltd.	Tesco Ryde 3829, Brading Road, Ryde, Isle of Wight, PO33 1QS	Petrol Vapour Recovery
WM Morrisons Supermarkets PLC	Newport Road, Lake, PO36 9PA	Petrol Vapour Recovery
WM Morrisons Supermarkets PLC	Church Litten, Newport	Petrol Vapour Recovery
Wight Building Materials	St Georges Lane, Newport, Isle Of Wight, PO30 3BX	Roadstone Coating
Jewson Ltd	43-53 Trafalgar Road, Newport, PO30 1QF	Timber processing
C S Vehicle Repairs	Unit 1a, Sheat Manor Farm, Chillerton, Newport, Isle of Wight, PO30 3EN	Waste Oil Burning
Lushington Hill Garage Ltd	t/a Harwoods, 1A Lushington Hill, Wootton Bridge, Ryde, Isle Of Wight, PO33 4NT	Waste Oil Burning
Mr B & Mr M Price	Pan Lane, Newport, Isle Of Wight, PO30 2PH	Waste Oil Burning
Mr R Sheath (chale)	Chale Service Station, Church Place, Chale, Ventnor, Isle of Wight, PO38 2HA	Waste Oil Burning
Mrs S J Dollery & Mr I J Gallop	Ashey Road Garage, Ashey Road, Ryde, Isle Of Wight, PO33 4BB	Waste Oil Burning

On-Off Road Repairs	T/A On/Off Road Repairs, "Greenacres Farm", Burnt House Lane, Newport, Isle of Wight, PO30 2PN	Waste Oil Burning
Paul Whittington Engineering	Little Bramstone Farm, Gotten Lane, Chale, Ventnor, Isle of Wight, PO38 2HQ	Waste Oil Burning
R Hunt (Agricultural Engineers) Ltd	Prichetts Way, Rookley, Ventnor, Isle of Wight, PO38 3LT	Waste Oil Burning
Reynolds & Read Ltd	Blackwater Garage, Blackwater, Newport, Isle of Wight, PO30 3BQ	Waste Oil Burning
Rookley Car Centre	T/A Rookley Car Centre, Pritchetts Way, Rookley, Ventnor, Isle of Wight, PO38 3LT	Waste Oil Burning
Stubbings Brothers	Stubbings Brothers, Chale Green, Ventnor, PO38 2JN	Waste Oil Burning
P D Ash Plant Hire Ltd, Westwicks	Longlands Lane, Newchurch, Sandown, PO36 0NA	Mobile Crushing
Wight Building Materials	St Georges Lane, Newport, Isle Of Wight, PO30 3BX	Roadstone Coating (foam mix)
Tennyson Garage	Avenue Road, Freshwater, PO40 9UU	Waste Oil Burning

Appendix D: Monthly Nitrogen Dioxide Concentrations 2014

Table E1. 2014 Monthly Diffusion Tube Results (non adjusted)

Site Number	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
IOW4	51.97	48.47	53.4	54.8	49.3	49.03	51.93	48.0	55.6	56.3	61.4	57.2
IOW10	26.7	22.6	-	-	-	20.8	27.8	30.3	31.8	34.0	41.3	48.8
IOW12	-	-	-	-	-	-	-	-	-	-	51.0	44.4
IOW13	-	-	-	-	-	-	-	-	-	33.8	46.5	32.6
IOW14	-	-	-	-	-	-	-	-	-	56.5	54.0	19.2
IOW15	-	-	-	-	-	-	-	-	-	48.0	50.9	37.5

Appendix E: Traffic data – Changes in traffic flows from 2007 to 2014

Location reference	StartJunction	EndJunction	2007All HGVs	2013 All HGVs	Increase in HGV 2007 to 2013	2007 All Motor Vehicles	2013 All Motor Vehicles	Increase in AADT 2007 to 2013	%Change in AADT 2007 to 2013
7566	Well Rd	B3321	301	223	-78	8030	6421	-1609	-25
7578	A3054	High St/Albert St	39	26	-13	2596	1999	-597	-30
17546	River Rd roundabout	Standen Ave, Newport	148	153	5	7058	6639	-419	-6
17547	A3020	Whitecross Lane, Shanklin	344	334	-10	13117	11300	-1817	-16
17850	A3054	A3054	922	700	-222	35644	33837	-1807	-5
27619	Shanklin	A3056	163	128	-35	7605	8047	442	5
27633	A3020	A3056	246	74	-172	10405	7688	-2717	-35
28156	Crossways Rd, Cowes	A3054	442	432	-10	14868	14281	-587	-4
37656	Three Gates Rd	ferry	130	54	-76	6894	4775	-2119	-44
38210	A3055	A3055	138	91	-47	6402	5939	-463	-8
47632	A3055	River rd roundabout	112	65	-47	3599	3516	-83	-2
47633	Great Preston Rd	A3054	105	113	8	8809	9302	493	5
56959	A3020	St George's Approach, Newport	609	514	-95	18154	17547	-607	-3
57433	Halberry Lane, Newport	A3021	672	378	-294	19087	19283	196	1
57577	A3021	B3331	495	348	-147	15670	14993	-677	-5
57887	B3331	Newnham Rd, Ryde	476	276	-200	15164	15089	-75	0
70083	Queens Rd	A3055	161	63	-98	7236	6468	-768	-12
70084	Queens Rd	A3055	161	63	-98	7236	6468	-768	-12
70085	A3054	Esplanade	135	61	-74	7130	5663	-1467	-26
74951	A3055 Church St	A3055 Victoria St	67	45	-22	4770	3899	-871	-22
74952	A3055 Church St	A3055 High St	41	19	-22	3651	3025	-626	-21

74953	A3055 Victoria St	B3328 Chine Avenue, Shanklin	45	45	0	4450	4370	-80	-2
74954	Castle St	York Ave	195	193	-2	4866	5175	309	6
74955	Castle St	York Ave	150	32	-118	3173	1673	-1500	-90
74956	Ferry Rd	Castle St	166	81	-85	3315	3793	478	13
74957	Ferry Road	Well Rd	166	81	-85	3315	3793	478	13
78133	Lonsdale Ave, Newport	Three Gates Rd, Cowes	659	361	-298	22064	17144	-4920	-29
78134	B3321	Crossways Rd	334	247	-87	8914	7127	-1787	-25
78269	Approach	B3401	678	571	-107	20153	19478	-675	-3
78270	Standen Avenue	A3020	165	169	4	7836	7368	-468	-6
78271	A3054	Lonsdale Avenue	931	452	-479	24159	20362	-3797	-19
78299	Perowne Way, Sandown	Great Preston Rd, Ryde	197	156	-41	12899	13375	476	4
78300	Newnham Rd	West St	359	292	-67	17174	16928	-246	-1
78301	B3328 Chine Avenue	A3020	47	48	1	4717	4631	-86	-2
78302	Windsor Drive	A3055	70	60	-10	5804	5384	-420	-8
78303	Whitecross Lane	A3055	380	371	-9	14556	12544	-2012	-16
78304	A3056	Perowne Way	183	195	12	15084	16150	1066	7
78339	A3020	Halberry Lane	745	420	-325	21187	21405	218	1

