

## REVOCATION OF THE AIR QUALITY MANAGEMENT AREA (AQMA) AT ANCHOR HILL, KNAPHILL

### Executive Summary

To seek approval for the Air Quality Management Area (AQMA) on Anchor Hill, Knaphill, to be revoked, following several years of continued compliance with the national Air Quality Objectives (AQO).

Nitrogen Dioxide levels have complied with the AQO at every Anchor Hill monitoring site since 2017 due to the upgrading of the traffic light system.

Appendices:

Appendix 1 - A map showing the boundary of the AQMA to be revoked.

Appendix 2 - Detailed Assessment of Air Quality on Anchor Hill 2022.

Appendix 3 - Letter to residents.

### Recommendations

The Executive is requested to:

#### RESOLVE That

- (i) the Air Quality Management Area (AQMA) on Anchor Hill, Knaphill, be revoked; and
- (ii) the Council revoke the AQMA officially by means of an AQMA Revocation Order and notification to Defra (The Department for Environment, Food and Rural Affairs).

### Reasons for Decision

Reason: To comply with legislative requirements and DEFRA guidance related to air quality, as well as support Woking For All Strategy objectives to improve air quality across the Borough.

The Executive has the authority to determine the recommendation(s) set out above.

### Background Papers:

[Anchor Hill Air Quality Action Plan](#)

[Air Quality Annual Status Report 2022](#)

### Reporting Person:

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## Revocation of the Air Quality Management Area (AQMA) at Anchor Hill, Knaphill

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## **Revocation of the Air Quality Management Area (AQMA) at Anchor Hill, Knaphill**

### **1.0 Introduction**

- 1.1 The Environment Act 1995 places a legal duty on all Local Authorities to regularly monitor the levels of Air Quality within their borough and identify areas where the Government's air quality objectives are likely to be exceeded. This is determined by monitoring levels of Nitrogen Dioxide (NO<sub>2</sub>), which is a pollutant produced by vehicles. The Government's objective for NO<sub>2</sub> is an annual average of no greater than 40ug/m<sup>3</sup> (micrograms per cubic metre). If monitoring identifies high levels of NO<sub>2</sub>, then the objectives are likely to be exceeded, and further action is required. Where exceedance are identified, the Local Authority is required to declare an Air Quality Management Area (AQMA) and produce an Air Quality Action Plan (AQAP) setting out the measures that will be taken to improve Air Quality in the AQMA.
- 1.2 The Local Air Quality Management (LAQM) Framework has required Local Authorities to carry out regular reviews of Air Quality in their areas since 1998. These reviews used to be known as the Updated and Screening Assessment (USA) reports. The USA has now been replaced with the Annual Status Report (ASR), which provides an overview of air quality and fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.
- 1.3 Local air quality reviews have led to Woking Borough Council declaring two Air Quality Management Areas in their jurisdiction, one on Anchor Hill and the second on Guildford Road.

### **2.0 Historical Air Quality Data at Anchor Hill**

- 2.1 The USA 2012 identified that NO<sub>2</sub> was in exceedance of the national objectives at Anchor Hill and that the Local Authority needed to proceed in producing a Detailed Assessment for the area.
- 2.2 The Detailed Assessment identified NO<sub>2</sub> levels were being exceeded, which subsequently required Woking Borough Council (WBC) to declare an AQMA. It also highlighted a need for WBC to install additional diffusion tubes at the façade of the buildings on the northern side of Anchor Hill and gather detailed 24hr traffic data for the junction and Anchor Hill.
- 2.3 Once the AQMA had been declared, WBC were required to produce a progress report within the first 12 months, and an Air Quality Action Plan (AQAP) within 18 months from the date of declaration.
- 2.4 WBC declared the Anchor Hill AQMA in January 2014 following a detailed modelling assessment in 2007, 2012 and 2015 that highlighted monitored and modelled exceedances of the annual mean AQO for NO<sub>2</sub> at the Anchor Hill Junction.
- 2.5 The AQMA incorporates the top of Anchor Hill at the junction with the High Street, Highclere Road and Lower Guildford Road in Knaphill, Woking. A map of the AQMA boundary is attached as Appendix 1.
- 2.6 Movement across this junction was controlled by traffic lights, which was causing queues at peak times, resulting in emissions that were higher than would be the case for free-flowing traffic. Emissions were further increased due to the gradient of the hill.
- 2.7 An Air Quality Action Plan was produced and published in June 2015, detailing how Woking Borough Council would work with other organisations to bring the NO<sub>2</sub> concentrations on Anchor Hill back down to be compliant with the Air Quality Objectives (AQOs). As part of the AQAP, the junction was upgraded to Microprocessor Optimised Vehicle Actuation (MOVA) operation, which uses microprocessors to assess the best signal timings, and changes the lights according to the traffic flow. A copy of the AQAP is available on the Council's website - [Woking Borough Council AQAP Anchor Hill.pdf](#).

## Revocation of the Air Quality Management Area (AQMA) at Anchor Hill, Knaphill

### 3.0 Current Air Quality Data at Anchor Hill

- 3.1 NO<sub>2</sub> levels have complied with the AQO at every Anchor Hill monitoring site since 2017 due to the upgrading of the traffic light system. However, in 2018 and 2019 the highest concentrations recorded, without distance corrections, were 39 µg/m<sup>3</sup> and 38 µg/m<sup>3</sup>, which is just below the annual mean AQO of 40 µg/m<sup>3</sup>.
- 3.2 In addition, guidance was provided by Defra, which stipulated that AQMAs were not to be revoked based upon compliance being achieved in 2020, due to the Covid-19 pandemic resulting in a period of national lockdown and traffic levels that were not representative of the norm.

### 4.0 Intention to Revoke

- 4.1 In accordance with Defra guidance, an AQMA should be revoked when monitoring results from three consecutive years show no exceedances of the AQO, so that a permanent improvement in air quality can be demonstrated.
- 4.2 It is therefore recommended that the AQMA for Anchor Hill be revoked at the beginning of 2023, due to continued compliance since the upgrade of the traffic signals, and concentrations for 2021 recording between 20.6 µg/m<sup>3</sup> and 30.5µg/m<sup>3</sup>, well below the objective of 40µg/m<sup>3</sup>. A copy of the full data set of NO<sub>x</sub> levels recorded between 2017 and 2022 is attached in Table A.2 of the 2022 Annual Status Report available on the Council's website - [Woking Air Quality Report 2022 Final.pdf](#) and in the Detailed Assessment of Air Quality on Anchor Hill 2022 doc. (Appendix 2).
- 4.3 WBC's intention to revoke the AQMA was referenced in the 2022 Annual Status Report and there were no adverse comments raised in the Appraisal Letter from Defra. In addition, Prior advice and agreement has been sought from the LAQM Helpdesk, who have confirmed that the ASR and appraisal is sufficient consultation with Defra for the revocation to move forward and for the Local Authority to raise the revocation order.
- 4.4 A revocation can be completed without public consultation as long as all of the information used to make the decision is widely accessible, e.g. published on the council website. However, it is WBC's intention to consult with residents on the revocation with a letter drop to all residents living in the vicinity. A copy of this letter is attached as Appendix 3.
- 4.5 Woking Borough Council's second Air Quality Management Area, located on Guildford Road, will not be revoked at this time and will remain in situ until such a time that the annual mean AQO is well under the limit of 40µg/m<sup>3</sup>. Between 2017 and 2019 there were locations in exceedance of the AQO along Constitution Hill prior to distance correct being applied, and it is only in the last two years that pollutant levels have started to come down in this location. Locations CH1, CH2, CH3 & CH4 recorded averages ranging from 34.3µg/m<sup>3</sup> (minimum) to 43.5µg/m<sup>3</sup> (maximum) between 2017 and 2019. In these locations there were a total of 5 exceedances of the annual AQO recorded over the three year period of 2017-2019 (before distance correction). Since 2020 however, pollutant levels have dropped to high 20s(µg/m<sup>3</sup>)/ early 30s(µg/m<sup>3</sup>) at the Constitution Hill monitoring locations. The full monitoring data can be found in Table A.2 of the 2022 Annual Status Report available on the Council's website - [Woking Air Quality Report 2022 Final.pdf](#). Having considered the monitoring data, it was agreed that it is too early to revoke the Guildford Road AQMA. It has also been agreed that the Guildford Road AQMA should remain in place to monitor the effects of the anticipated increase in traffic resulting from town centre works and associated road traffic diversions. Compliance is improving, but uncertainty remains given the near completed highways works on Victoria Way and the future of the HIF project to replace the railway arch before WBC can be satisfied that Air Quality is, and will remain, compliant in the Guildford Rd/ Constitution Hill area in the future.

## **Revocation of the Air Quality Management Area (AQMA) at Anchor Hill, Knaphill**

### **5.0 Corporate Strategy**

- 5.1 The additional measures arising from this report will support delivery of the corporate plan objectives for maintaining our physical environment, by improving air quality through more targeted monitoring. Through consultation we will also engage the communities most affected by the AQMA in the decision-making process, whilst increasing transparency for residents as a whole.
- 5.2 The Council's priority, as outlined in the Woking for all 2022- 2027 Strategy, to embed wider carbon reductions in our operations has been considered in this decision to revoke the AQMA, as it will enable monitoring capability and equipment to be used in other areas of poor air quality within the Borough.
- 5.3 Other corporate priorities have been met through engagement and consultation improvements by subsequently improving communication rapport and the health and wellbeing of Borough residents.

### **6.0 Implications**

#### Finance and Risk

- 6.1 Removing the additional monitoring requirement under the Anchor Hill AQMA will save on the costs of monitoring and analysis and will allow resources and additional monitoring to be focused in other areas of the Borough.
- 6.2 There is a risk that pollutant concentrations could start to increase again, meaning that the Council would have to re-declare the AQMA. There is a further risk that the new national Air Quality Objectives (AQO) for NO<sub>2</sub> under the Environment Act 2021, could be set a statutory target below that of the existing concentrations measured at Anchor Hill. The NO<sub>2</sub> readings at Anchor Hill have complied, and been well under the national AQO limit, for several years now, meaning that the likelihood of these risks occurring is low.

#### Equalities and Human Resources

- 6.3 No human resource or training and development issues are arising from this paper.

#### Legal

- 6.4 Local authorities are required to revoke their AQMAs officially by means of an AQMA Revocation Order, which will have resource implications on the Council's Legal department.

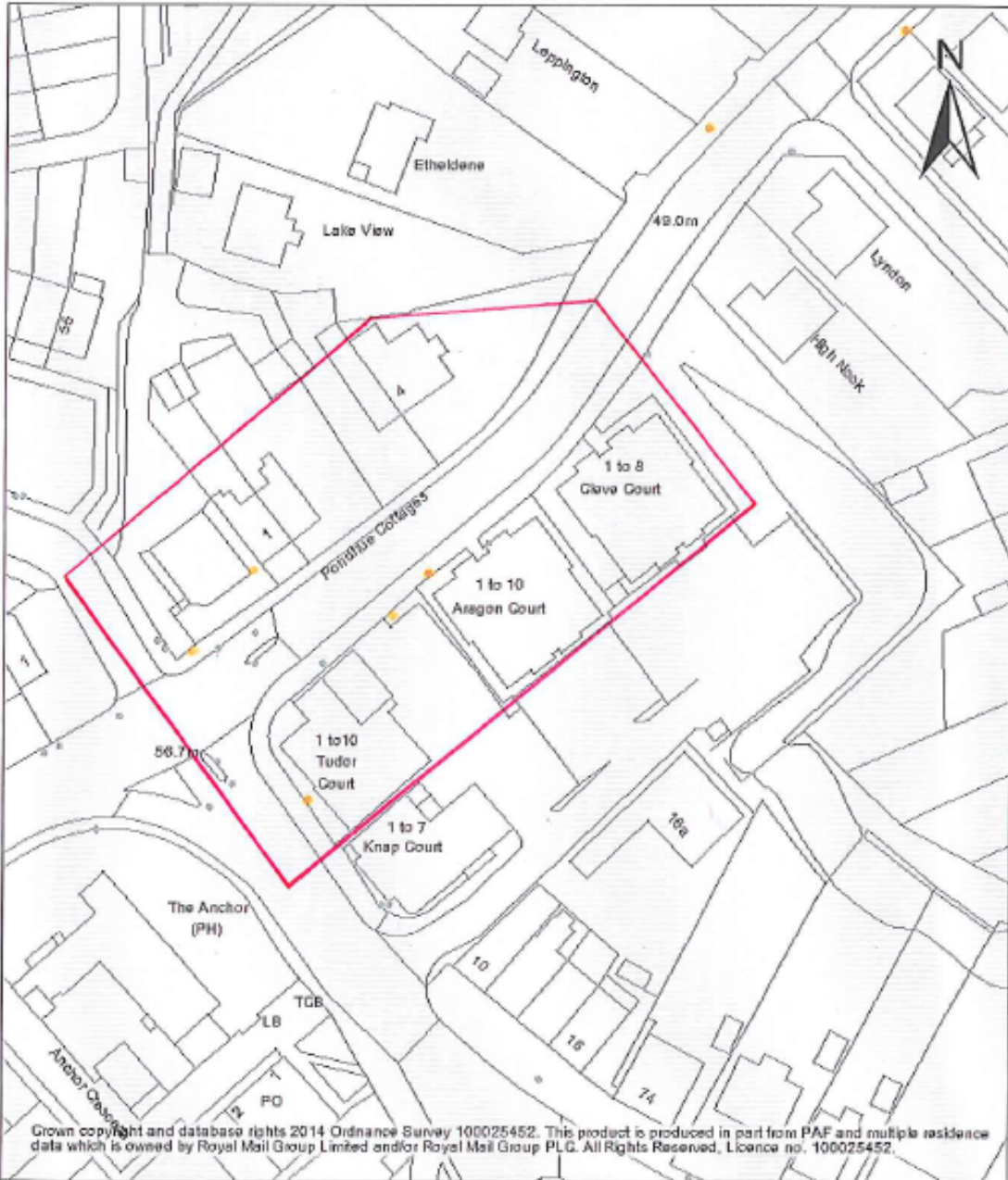
### **7.0 Engagement and Consultation**


- 7.1 The Council's relevant Portfolio Holders, Councillor Liam Lyons and Cllr Graves, the Shadow Portfolio Holder, and professional environmental health bodies have been engaged in the preparation of this report.

REPORT ENDS

## **Revocation of the Air Quality Management Area (AQMA) at Anchor Hill, Knaphill**

**Map of Anchor Hill AQMA**



 Woking Borough Council	Title	Scale 1:750
		Date 10/04/2014
	Project / Details	XY centrepoint 496628,158696
		Drawing / Reference Number

- Location of NO<sub>2</sub> monitoring tubes
- Area covered by Air Quality Management Area

## **Revocation of the Air Quality Management Area (AQMA) at Anchor Hill, Knaphill**



**Detailed Assessment of Air Quality on Anchor Hill 2022**

**Summary**

Committee to consider the revocation of the Air Quality Management Area on Anchor Hill, Knaphill, which is no longer required because the measured levels of nitrogen dioxide are well below the levels set by the national Air Quality Objective.

**Recommendation**

To revoke the Air Quality Management Order for Anchor Hill under section 83(2)(b) of the Environment Act 1995.

**Financial implications**

Revocation of the Anchor Hill AQMA will remove the need for additional monitoring and reporting which is resource intensive and will allow resources to be focused elsewhere, or additional monitoring to be installed in other areas of the Borough, if/where required. The number of monitoring locations in Anchor Hill's AQMA is no longer necessary because there is no likely exceedance of air quality national objective levels.

**Background**

Part IV of the Environment Act 1995 introduced a requirement on all local authorities to carry out duties in relation to local air quality management. All local authorities are obliged to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives for different pollutants are likely to be achieved. Where it is likely that air quality levels are such that certain pollutants are above specified levels the Local Authority must 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.

WBC declared the Anchor Hill AQMA in January 2014 following a detailed modelling assessment in 2007, 2012 and 2015 that highlighted monitored and modelled exceedances of the annual mean AQO for NO<sub>2</sub> at the Anchor Hill Junction. The AQMA incorporates the top of Anchor Hill at the junction with the High Street, Highclere Road and Lower Guildford Road in Knaphill, Woking. Movement across this junction is controlled by traffic lights, which was causing traffic queues at peak times, resulting in emissions that are higher than would be the case for free-flowing traffic. Emissions were further increased due to the gradient of the hill.

An Air Quality Action Plan was produced and published in June 2015, detailing how Woking Borough Council will work with other organisations to bring the NO<sub>2</sub> concentrations on Anchor Hill back down to be compliant with the Air Quality Objectives (AQOs). As part of the AQAP, the junction was upgraded to Microprocessor Optimised Vehicle Actuation (MOVA) operation, which uses microprocessors to assess the best signal timings, and changes the lights according to the traffic flow.

## Revocation of the Air Quality Management Area (AQMA) at Anchor Hill, Knaphill

In accordance with Defra guidance, an AQMA should be revoked when monitoring results from three consecutive years show no exceedances of the AQO, so that a permanent improvement in air quality can be demonstrated.

NO<sub>2</sub> levels have complied with the AQO at every Anchor Hill monitoring site since 2017 due to the upgrading of the traffic lights. However, in 2018 and 2019 the highest concentrations recorded, without distance corrections, were 39 µg/m<sup>3</sup> and 38 µg/m<sup>3</sup>, which is just below the annual mean AQO. In addition, guidance was provided by Defra, which stipulated that AQMAs are not to be revoked based upon compliance being achieved in 2020, due to the covid-19 pandemic resulting in a period of national lockdown. It is therefore recommended that the AQMA be revoked at the end of this year, 2022, due to continued compliance since the upgrade of the traffic signals, and concentrations for 2021 recording between 20.6 µg/m<sup>3</sup> and 30.5µg/m<sup>3</sup>, well below the objective of 40µg/m<sup>3</sup>.

### Full data set

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) <sup>(1)</sup>	Valid Data Capture 2021 (%) <sup>(2)</sup>	2017	2018	2019	2020	2021
AH	496618	158699	Kerbside	84.6	84.6	34.6	39.0	38.0	28.4	35.3
AH2	496615	158696	Roadside	57.7	57.7	31.6	31.2	30.9*	25.7	30.5
AH3	496646	158750	Roadside	84.6	84.6	22.5	23.9	23.0	18.8	20.6
AH4	496679	158767	Roadside	84.6	84.6	27.3	28.6	22.0	23.0	28.7
AH5	496594	158698	Roadside	84.6	84.6	26.3	31.1	25.7	20.2	22.4
AH6	496586	158686	Roadside	84.6	84.6	29.2	34.0	37.2*	20.1	23.1
LGR	496601	158668	Roadside	84.6	84.6	23.7	27.0	26.7	21.6	20.6

### Conclusions

Monitoring has shown that the Air Quality Objective for nitrogen dioxide in the Anchor Hill AQMA has not been exceeded for the past 6 years. Our intention to revoke the AQMA was highlighted in the 2022 Annual Status Report, with no objections highlighted by Defra in their appraisal of the report. The assessment indicates that the AQO is not likely to be exceeded in the future based on the downward trend of the concentrations over the last 6 years and the research carried out for the AQAP, which indicates that the reduction in emissions associated with the national replacement of older vehicles, with new lower emitting models are likely to further reduce NO<sub>2</sub> concentrations, so that the AQO is no longer exceeded. As such, the AQMA for Anchor Hill should be removed.

Residents Letter and Q&As



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Ref AQMA/AHR/TS

January 2023

Dear Sir/Madam

**ENVIRONMENT ACT 1995, PART IV  
REVOCATION OF AIR QUALITY MANAGEMENT AREA ORDER  
AT TOP OF ANCHOR HILL, WOKING, SURREY WITH JUNCTION WITH LOWER GUILDFORD  
ROAD AND HIGHCLERE ROAD**

Local authorities have a legal obligation to monitor air quality within their borough under the Environment Act 1995. To meet this legal requirement, Woking Borough Council currently have 38 Nitrogen Dioxide (NO<sub>2</sub>) tubes located throughout the borough, proactively monitoring the levels of NO<sub>2</sub>. Every year, progress reports are produced based on the results obtained, which is then submitted to the Department for Environment, Food and Rural Affairs (DEFRA).

The latest Annual Status Reports identified that the level of NO<sub>2</sub> at the top of Anchor Hill, which was designated an Air Quality Management Area in 2013, has reduced significantly over time, following the implementation of the Air Quality Action Plan and the installation of the MOVA traffic light system. Measured concentrations at this location have been compliant with the National Objectives consistently over the last 5 years, since 2018. The latest monitoring data can be found enclosed with this letter.

As per Government guidance, and the guidelines stated in the Air Quality Action Plan for Anchor Hill, the designation of an Air Quality Management Area should be revoked following three consecutive years of compliance with the National Air Quality Objective (AQO), of 40µg/m<sup>3</sup>.

The Environment Act 1995 lists statutory consultees we need to consult with prior to revoking the AQMA. The role of this consultation process is to provide information to all parties concerned regarding the reasoning for revoking the AQMA, and to this effect, a short report outlining the data and our conclusions can be found enclosed. A list of FAQs has also been included for your information.

If you require any further information or have any questions, please do not hesitate to contact me on the details below.

You will be notified when the AQMA order is revoked.

Yours faithfully

Tara Hellaby

Environment Officer

For further information please contact Tara Hellaby on 01483 743436 (Direct Line)

or Email [tara.stevenson@woking.gov.uk](mailto:tara.stevenson@woking.gov.uk)

## **Air Quality Management Areas Frequently Asked Questions**

### **What is the air pollution like in Woking?**

Generally, the air quality within the borough is good. Recent monitoring shows that NO<sub>2</sub> Air Quality Objectives (AQO) are not exceeded at any relevant locations in the Borough, and this includes the relevant locations within the two designated AQMAs on Anchor Hill and Constitution Hill. The monitoring data has identified that the average annual level of Nitrogen Dioxide (NO<sub>2</sub>) at the top of Anchor Hill by the junction with Lower Guildford Road and Highclere Road is now meeting the Government's National Objective and has been since 2018.

### **How is air quality monitored?**

Woking Borough Council currently have 38 NO<sub>2</sub> diffusion tubes located throughout the Borough, which are changed over every month, with the old tubes sent off for analysis. Progress reports are then produced annually using the results from the monitoring and using modelling programs. These can be found at; <https://www.woking.gov.uk/airquality>

### **Where does nitrogen dioxide come from?**

The burning of coal, natural gases and fuel produce oxides of nitrogen (NO<sub>x</sub>) emissions, mainly in the form of Nitrogen Oxide (NO). Chemical reactions then occur in the atmosphere with the NO, which produces nitrogen dioxide. The main source of NO<sub>x</sub> emissions are from road vehicles. Older and larger cars will produce higher levels of NO<sub>x</sub>.

### **What are the health effects associated with high NO<sub>2</sub> Levels?**

Nitrogen Dioxide can have both long and short term health effects on local residents. Short term effects include irritation of the eyes and throat and can lead to the increase of symptoms of respiratory conditions including asthma, and bronchitis. The long term health effects will increase the susceptibility to respiratory conditions among healthy individuals, and lead to gradual deterioration in health of people already suffering from respiratory problems, particularly in elderly people.

### **What is an Air Quality Management Area?**

An Air Quality Management Area (AQMA) is declared for an area where the local air quality is unlikely to meet the Government's national objectives. Once an AQMA has been declared, further work is undertaken to monitor air quality in this area, and also identify what action can be implemented to improve the air quality.

### **What are the national air quality objectives?**

The National Air Quality Strategy sets air quality objectives for England and Wales. These air quality objectives have been set with health effects in mind. The aim is to ensure that everyone is able to enjoy acceptable levels of air quality that meet these objectives, posing no significant risk to human health or quality of life. The main concerns within the Borough of Woking are the roadside locations which exceed the nitrogen dioxide annual air quality objective of 40µg/m<sup>3</sup> (micrograms per metre cubed).

### **What steps have the council taken to resolve the matter?**

Once an AQMA has been declared, an Air Quality Action Plan (AQAP) must be produced within 18 months. The AQAP is produced between different organisations, including Surrey County Council, and Highways Agency, and will identify steps which can be implemented to try and reduce the Air Quality within the AQMA below the national objectives. These steps included changing the re-phasing of the traffic lights to reduce the amount of 'Stop-Go' traffic going up Anchor Hill in 2015, which has proven to be effective in improving the Air Quality in the area.

## **Revocation of the Air Quality Management Area (AQMA) at Anchor Hill, Knaphill**

### **When should an AQMA be revoked?**

The process for revoking an AQMA is set out in DEFRA Local Air Quality Management Policy and Technical Guidance 2016 (LAQM.PG(16) & LAQM.TG(16)). Revocation should be implemented when LAs can demonstrate that air quality objectives are being met and will continue to do so. The LA should have confidence that the improvements will be sustained. Compliance with air quality objectives should be for three years or more prior to revocation. Where an Order is revised, a copy of the revocation or amendment Order should be submitted to Defra and other statutory consultees and made publicly available to ensure the public and local businesses are aware of the situation.

### **What happens after an AQMA is revoked?**

It is expected that the local authority will take the relevant action imposed by the Order within four months following receipt of comments from Defra. Following a revocation, if the Council has no other AQMAs within its jurisdiction, then ideally the local authority should put in place a local air quality strategy to ensure air quality remains a high profile issue and to ensure it is able to respond quickly should there be any deterioration in conditions.

### **What will future monitoring look like?**

Although the number of monitoring sites on Anchor Hill may be reduced, we will still continue to monitor in 1 or 2 locations to ensure concentrations remain below the national objective. Woking Borough Council and Surrey County Council continue to be active on measures and initiatives to improve air quality across the borough. Details of individual actions and initiatives are provided in table 2.2 of Woking's 2022 ASR. The AQMA for Guildford Road will remain in situ and will be closely monitored in respect of future Town Centre works and temporary diversions to ensure exceedances in the AQO do not occur.

### **What can I do if I'm worried about the effects of air quality on my health?**

Woking Borough Council are a member of a scheme called airAlert. This service warns local residents who have respiratory problems, such as asthma, COPD or emphysema, when air pollution in Woking is going to be high. This scheme is subsidised by WBC and therefore the subscription service is completely free for Woking residents. By registering to receive alerts, you will receive either an email, text message or voicemail giving an advanced warning of high pollution levels.