



**Dorset  
Council**

## 2022 Air Quality Annual Status Report (ASR)

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

**Date: June, 2022**

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## Executive Summary: Air Quality in Our Area

### Air Quality in Dorset

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas<sup>1,2</sup>.

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages<sup>3</sup>, with a total estimated healthcare cost to the NHS and social care of £157 million in 2016<sup>4</sup>.

Air quality throughout Dorset Council has been assessed and has been found to be broadly very good, due to the predominantly rural environment. However, in certain locations air quality has been found to be close to, or exceeding the objective level for nitrogen dioxide (NO<sub>2</sub>), the main source of pollution being from road traffic. This is due to vehicle emissions and other factors including type and number of vehicles, their speed, congestion and local topographical circumstances. As a result of this, an Air Quality Management Area was declared in Chideock in 2007, and High East Street, Dorchester in 2009. (<https://www.dorsetcouncil.gov.uk/environmental-health/documents/air-quality-management-order-2007-chideock.pdf> <https://www.dorsetcouncil.gov.uk/environmental-health/documents/air-quality-management-order-2009-dorchester.pdf> )

In February 2018, Government approved plans to create two new unitary councils in Dorset. On 1<sup>st</sup> April 2019, the former borough, county and district councils ceased to exist and were replaced by two unitary authorities: BCP Council and Dorset Council.

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<sup>1</sup> Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

<sup>2</sup> Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

<sup>3</sup> Defra. Air quality appraisal: damage cost guidance, July 2021

<sup>4</sup> Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

## Actions to Improve Air Quality

Whilst air quality has improved significantly in recent years and will continue to improve due to national policy decisions, there are some areas where local action is needed to improve air quality further.

The 2019 Clean Air Strategy<sup>5</sup> sets out the case for action, with goals to reduce exposure to harmful pollutants. The Road to Zero<sup>6</sup> sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

Primary actions taken to improve air quality in Dorset principally revolve around the new Air Quality Action Plan for Chideock, (the draft of which has passed local committee and scrutiny stages and is currently with Defra for review), and the harmonisation and streamlining of air quality monitoring practices between teams following formation of the new council. National Highways (formerly Highways England), who hold responsibility for actions regarding the A35 trunk road passing through Dorset – the principal source of NO<sub>2</sub> emissions in the AQMA in Chideock – have seen success also with the extension of the 30mph speed limit, the permanent implementation of which is currently underway. Dorset Council continue to work with our colleagues at National Highways, as well as our own Highways Department, Public Health Dorset and elected members and Parish Councils.

## Conclusions and Priorities

Again, 2021 monitoring has demonstrated an annual average exceedance at one monitoring site in Dorset once bias adjustment has occurred, which is removed once distance correction has been taken into account. It was anticipated in the 2020 report that easing of coronavirus restrictions would result in wholesale increases in NO<sub>2</sub> and PM pollution – this has not been the case with the overall picture more mixed. Some areas have increased, some have decreased, very few have exceeded 2019 levels and those that have are significantly below the NO<sub>2</sub> 40µg/m<sup>3</sup> target. Further caution is advised against making significant strategic

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<sup>5</sup> Defra. Clean Air Strategy, 2019

<sup>6</sup> DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

decision on the basis of 2021 results, however the continuation of the downward trend in air pollution is welcome.

Sites within Dorchester AQMA demonstrate a continuing downward trend for air pollution in the area. Monitoring will continue into 2022 with a view to revoke the AQMA should air quality remain at least 10% below the minimum objective. The above caution regarding strategic decisions is heeded in this case.

Sites within the Bridport East Road area remain at levels equivalent to those seen in 2020, and generally below 2019 levels. Over half of the monitored pollution levels remain below half of the annual objective, including the one site exceeding the 2019 average. Monitoring will continue into 2022

Sites in Weymouth, including the Boot Hill area largely show improved air quality on 2020, with all sites showing continued improvement on 2019. Sites showing increased pollution levels in comparison to 2020 remain around half of the annual objective. Monitoring will continue into 2022.

Air Quality in both former East Dorset and Purbeck districts remains very good, with no identified AQMAs or areas for concern. Two sites in East Dorset and five sites in Purbeck show increased pollution levels in comparison to 2019 (with several of these also showing an increase over 2020), however these sites remain at less than, or in close proximity to, half of the annual mean. Overall downward trends are not affected. Monitoring continues to take place, with careful consideration given to sites near significant developments and those guided by public and member requests.

No exceedances of the PM<sub>10</sub> annual mean objective were detected across four sites in Dorset, with three sites (Beaminster, Blandford and Sandford) having 24-hour means over 50µg/m<sup>3</sup> but within the permitted 35 times per year threshold (4, 18 and 1 times respectively).

Annual mean PM<sub>2.5</sub> levels show a mixed picture across Dorset, with the Beaminster monitoring location remaining constant, Blandford and Ferndown increasing (although not beyond 2019 levels) and Sandford decreasing (with the 2020 result there being anomalously high). PM<sub>2.5</sub> monitoring has only been carried out for four years in Dorset, meaning early conclusions can be drawn that the PM<sub>2.5</sub> situation is improving. This is advised with caution however. An increase in PM monitoring across Dorset is planned for 2022 and beyond. It is also advised that there may be significant changes in the data for next year – as part of a review into DC equipment, it has been discovered that

maintenance and calibration due to take place on the AQMesh Pods used for PM<sub>2.5</sub> measurement has not taken place. This is due to a lack of clarity surrounding the responsibility for doing so. This will be resolved ahead of 2022's report.

We continue to work with other council services including Highways and Planning, the Environment Agency and local businesses by way of the permitting regime to ensure that air quality is continually reviewed. In addition, Public Health Dorset's pan-Dorset PM<sub>2.5</sub> project continues.

## Local Engagement and How to get Involved

Our Local Plan states "Everyone has a role to play in tackling climate change and in adapting to its impacts. Community based initiatives such as local car share schemes, village hall investments, biofuel utilisation, community emergency support and renewable energy part ownership will be supported by the Council. Neighbourhood plans may address the adaptation and mitigation of climate change at the community level as recognition that all neighbourhoods can contribute towards tackling climate change in a way which is appropriate to their local area."

The Dorset Council website <https://www.dorsetcouncil.gov.uk/travel/travel.aspx> includes measures the public can actively use to improve air quality within the area, these include matters such as interactive cycle maps, adult cycle training and walking routes and trails.

## Local Responsibilities and Commitment

This ASR was prepared by the Environmental Protection Department of Dorset Council with the support and agreement of the following officers and departments:

Environmental Protection

Development Control

Building Control

Public Health Dorset

## Highways

This ASR has been signed off by:

Graham Duggan – Head of Community and Public Protection

Sam Crowe – Director of Public Health

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# 1 Local Air Quality Management

This report provides an overview of air quality in Dorset Council during 2021. It 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.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their area, and to determine whether the air quality objectives are likely to be achieved. Where an exceedance is considered likely 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. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Dorset Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1 (Appendix E).

## 2 Actions to Improve Air Quality

### 2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by Dorset Council can be found in Table 2.1. The table presents a description of the two AQMAs that are currently designated within Dorset Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMAs and also the air quality monitoring locations in relation to the AQMAs. The air quality objective pertinent to the current AQMA designations are as follows:

- NO<sub>2</sub> annual mean; 40µg/m<sup>3</sup>

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by National Highways?	Level of Exceedance: Declaration	Level of Exceedance: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
AQMA Chideock	Declared May 2007, Amended March 2012	NO <sub>2</sub> Annual Mean	Properties along the A35 in Chideock. The AQMA was amended in 2012. Further revised draft submitted to Defra in 2022	YES	45.5	35.5	Chideock Air Quality Action Plan (Dec 08 - 2021 version under review)	<a href="https://modern.gov.dorsetcouncil.gov.uk/documents/air-quality-action-plan-2008-chideock.pdf">dorsetcouncil.gov.uk/environmental-health/documents/air-quality-action-plan-2008-chideock.pdf</a> <a href="https://modern.gov.dorsetcouncil.gov.uk/documents/s29184/Appendix1DorsetChideockAQAP2021forconsultation.pdf">https://modern.gov.dorsetcouncil.gov.uk/documents/s29184/Appendix1DorsetChideockAQAP2021forconsultation.pdf</a>
AQMA Dorchester	Declared May 2009	NO <sub>2</sub> Annual Mean	Residential properties along High East Street, Dorchester	NO	43	21.3	Air Quality Action Plan Dorchester (Apr 11)	<a href="https://modern.gov.dorsetcouncil.gov.uk/documents/air-quality-action-plan-2011-dorchester.pdf">dorsetcouncil.gov.uk/environmental-health/documents/air-quality-action-plan-2011-dorchester.pdf</a>

Dorset Council confirm the information on UK-Air regarding their AQMA(s) is up to date.

Dorset Council confirm that all current AQAPs have been submitted to Defra.

## 2.2 Progress and Impact of Measures to address Air Quality in Dorset

Defra's appraisal of last year's ASR concluded:

1. *In response to appraisal comments from 2019, the Council have now included links to the Public Health Outcomes Framework of the fraction of mortality attributable to PM<sub>2.5</sub> emissions.*
2. *Pollutant data are well presented in the report. The Council has presented data tables and trends graphs with respects to location. This is commended as it allows to reader to easily understand trends within different areas and particularly within the AQMAs. The Council have also provided a good discussion of trends and consideration has been given to the impacts of the Covid pandemic.*

The same format of presentation for NO<sub>2</sub> and PM data is utilised in this report.

3. *The Council are highly commended for their discussion on the impacts of Covid-19 in Appendix F. Not only has a discussion on NO<sub>2</sub> been provided but the Council also include the impacts on particulate matter. Trend graphs have been provided which compare pollutant concentrations between 2019, 2020 and an average over a 5-year rolling period. Overall the discussion is very detailed and demonstrates a true consideration and appreciation of the impacts Covid-19 has had on air quality.*
4. *It appears as though the Council regularly review and amend their monitoring locations with 5 new locations being added in 2020. Changes to Dorset Council monitoring locations are continually made, with further sites being added and removed in response to new developments as appropriate.*

Our adaptive approach to monitoring continues, with the addition of a further two sites and the removal of twelve sites. Dorset Council has furthermore adopted another eight sites within Chideock previously managed by Highways England (now National Highways).

5. *Though the Council are supporting the Public Health Dorset PM<sub>2.5</sub> Project through the maintenance of an AQMesh network, there are no measures provided which explicitly address PM<sub>2.5</sub> emissions. It would be beneficial for the Council to utilise the data recorded by these monitors to inform measures that target PM<sub>2.5</sub>.*

Further monitoring is planned for PM emissions along with a Defra-grant funded project investigating the impact of solid-fuel burning stoves within the area. The introduction of targets under the incoming Environment Act 2021 statutory instruments will provide guidance for further targeting of PM<sub>2.5</sub> sources.

6. *Much of the information required from Table 2.2 is absent. The status, estimated cost, KPI or progress to date section of the Table are mostly empty. It is*

*important that these sections, particularly 'progress to date' is filled in and updated in each reporting year. This is as it provides an account of the Council's actions each year and can highlight areas where progress has stalled.*

These actions and targets have been reviewed, however are generally broad-ranging strategic directions as opposed to specific time-limited targets. As much information as possible is provided below.

- 7. An update on the status of the Chideock AQAP has been provided and it is currently under consultation. However, no update has been provided for the Dorchester AQAP, which was published in 2011. This AQAP is now considered to be out of date and requires updating.*

Due to the likelihood of revocation, and the work currently ongoing with the Chideock AQAP, the updating of Dorchester's AQAP has taken a lower priority.

- 8. With respects to the designation of the AQMAs, Chideock AQMA will remain however sites within Dorchester AQMA demonstrate a continuing downward trend for air pollution in the area. As such the Council present a view to potentially revoke the AQMA in 2022 should air quality remain at least 10% below the minimum objective. In light of the Covid-19 pandemic, the Council recognise that NO<sub>2</sub> concentrations in 2020 may be anomalous. Therefore, it encouraged that the Council remain wary of 2020 concentrations and approach the idea of revocation with caution...It would be prudent to delay a review of revocation to 2023 as the inclusion of a "Covid-19" impacted year within the 3 consecutive year guideline may not be appropriate. Furthermore, it would be beneficial and advised for detailed modelling to be conducted to support any application for revocation.*

This is agreed, and data is being reviewed carefully ahead of any changes to the AQMA.

Dorset Council has taken forward a number of direct measures during the current reporting year of 2021 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 26 measures are included within Table 2.2, with the type of measure and the progress Dorset Council have made during the reporting year of 2021 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in their respective Action Plans. The key completed measure is: the introduction and making permanent of new speed limits in affected areas; along with continued progression of adoption of strategies outlined below.

Dorset Council worked to implement the below measures in partnership with stakeholders during 2021, including (but not limited to):

- Neighbouring local authorities;
- National Highways
- Public Health Dorset
- Local and national transport authorities
- Dorset and Wiltshire Fire and Rescue
- Dorset Police
- South West Ambulance Trust
- NHS

Whilst the measures stated above and in Table 2.2 will help to contribute towards compliance, Dorset Council anticipates that further additional measures not yet prescribed may be required in subsequent years to achieve compliance and enable the revocation of Chideock AQMA.

## Low Carbon Dorset Programme

The programme is run by the council and the Dorset Area of Outstanding Natural Beauty (AONB). It aims to help improve energy efficiency, increase the use of renewable energy, and aid the development of new low carbon products. Dorset based businesses, public sector and community organisations can access free support and a fund pot of over £2.15m to help improve energy efficiency and develop renewable energy projects.

<https://www.lowcarbondorset.org.uk/>

## Climate Strategy and Ecological Action Plan

Dorset Council declared a Climate and Ecological Emergency in 2019 and established an Executive Advisory Panel to strategically guide the Councils response. A draft Climate and Ecological Emergency Strategy was produced in July 2020 which presented 8 key areas for action to ensure that Dorset Council becomes Carbon Neutral by 2040 and the Dorset Council Area by 2050 <https://www.dorsetcouncil.gov.uk/climate-emergency>

Measures within the Action Plan will positively affect air quality throughout the Dorset Council area, and include:

- Ensure access to sustainable transport is considered in planning applications
- Indirect Investigate potential for small scale park & ride hubs with electric vehicle charging point availability

- Encourage decarbonisation of road transport through development of public EV charging network & promotion of ultra low emissions vehicles
- Expand cycle training and independent travel training programmes, and
- Explore introduction of a bike share scheme in larger settlements

## Dorset Council Local Plan

Currently, Dorset Council is working on the new Local Plan to shape society, economy and the environment over a 15 year period. Consultation on it commences early 2021, in readiness for its adoption in 2023.

The plan will:

- Protect and enhance Dorset's natural environment and biodiversity
- Deliver suitable housing to Dorset's needs
- Work to provide residents with a good quality of life with high quality and well designed developments
- Provide cycle ways and access to the countryside

Information can be found via [www.dorsetcouncil.gov.uk/dorset-local-plan](http://www.dorsetcouncil.gov.uk/dorset-local-plan)

## Planning Applications

The Environmental Protection Team review all referred and validated planning applications for their air quality impact. Relevant guidance is followed when reviewing these applications, i.e. Land-Use Planning and Development Control: Planning for Air Quality, January 2017 (EPUK and IAQM). Where there is a potential adverse impact, or the development introduces new sensitive receptors within an AQMA, an air quality impact assessment is required. Where this identifies a significant adverse impact on air quality or human health then mitigation measures are required.

## Local Transport Plan 3 2011 – 2026

The Local Transport Plan 3 (LTP3) is a statutory document which sets out a strategy for the management, maintenance and development of the County's transport system. It sets out a way forward to deliver transport needs through short, medium and long term transport solutions and how transport can improve safety and health, support the local economy, protect the environment and reduce carbon emissions and pollution. The LTP3

came into effect in April 2011 and has been produced for the whole of Bournemouth, Poole and Dorset. It covers the period from 2011 to 2026 and is based on a longer term strategy (2011 – 2026) and shorter term implementation plan(s) (3 years). Further information can be found at <https://www.dorsetcouncil.gov.uk/roads-highways-maintenance/transport-planning/local-transport-plan/local-transport-plan-3.aspx>

## Travel choice

This is a County-wide initiative to raise awareness about the impacts of travel behaviour and to encourage people to make informed decisions about journeys they make. For example information is provided on interactive cycle maps, adult cycle training and walking routes and trails. This initiative also promotes Car Share Dorset, an online tool to encourage and facilitate car sharing by matching journeys, run jointly by Dorset Council and Bournemouth, Christchurch and Poole (BCP) Council. More information can be found <https://www.dorsetcouncil.gov.uk/travel/travel.aspx> and <https://liftshare.com/uk/community/dorset>

## Industrial Installations

Certain industrial processes and activities which have the potential to cause pollution are required to have an Environmental Permit to operate. The Environmental Permitting (England and Wales) Regulations 2016 were made under the Pollution Prevention and Control Act 1999 and prescribe those processes and activities which require a permit. These processes are split into three categories: Part A (1), Part A(2) and Part B and are regulated by the Environment Agency and local authorities.

A list of Permitted Processes in the Dorset Council area is available from <https://www.dorsetcouncil.gov.uk/business-consumers-licences/licences-and-permits/environmental-permits/public-register-of-environmental-permits-in-west-dorset>

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Dorset Highways asset management plan (HAMP)	Transport Planning and Infrastructure	Public transport improvements- interchanges stations and services	2018	2022	DC	Capital	NO	Funded		Completed			HAMP	
2	Low Carbon Travel Strategy	Promoting Low Emission Transport	Other	2011	2026	DC/BCP	Capital	NO	Funded		Implementation				2026
3	Promote and, as appropriate, implement road network improvements as identified through the Local Transport Plan and other related processes e.g. links to/from South West/Bristol/M4 e.g. A350/C13, road & rail links to/from Port of Poole and Weymouth/Portland Port, links to/from Bournemouth Airport.	Freight and Delivery Management	Route Management Plans/ Strategic routing strategy for HGV's	2017	2019	DC/BCP, DLEP, FQP, FTA, RHA, NH	Capital	NO	Funded		Completed				Superseded by new HAMP
4	Sustainable Energy across the Common Space (SEACS)	Promoting Low Emission Plant	Other measure for low emission fuels for stationary and mobile sources	2011	2021	Devon County Council Wiltshire Council 2 Local Authority Partners from Brittany	INTERR EG IV	NO	Funded		Completed			Completed	Brexit
5	Dorset Solar Farm Community Benefits	Other	Other	2014	2016	Community Energy Team	Capital	NO	Funded		Completed				
6	Expand EV Charging Points & other ultra-low emission fuel alternatives	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	ongoing		DC	Capital	NO	Funded		Implementation			Ongoing & looking for input from residents on future locations	
7	Improve cycle infrastructure	Promoting Travel Alternatives	Promotion of cycling	2020		DC / BCP	Transforming Cities Fund	NO	Funded		Implementation			Multiple new cycle routes and lanes in key commuting corridors	
8	Highways Maintenance	Traffic Management	Strategic highway improvements, Re-prioritising road space away from cars, including Access management, Selective vehicle priority, bus priority, high vehicle occupancy lane	2019			Capital	NO	Funded		Implementation				
9	Lobby Govt for rail improvements	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019		DC	Capital	NO	Funded		Implementation				
10	Respond to government calls and submit high quality grant applications	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019		DC	Capital	NO	Funded		Implementation				
11	Redirect investment from strategic road schemes to low carbon transport	Promoting Low Emission Transport	Other	2019		DC with STB & LEP	Capital	NO	Funded		Implementation				
12	Reinforce low carbon transport policies through statutory planning documents including refreshed LTP and new Draft Local Plan	Promoting Low Emission Transport	Other	2019		DC	Capital	NO	Funded		Implementation				
13	Ensure access to sustainable transport is considered in planning applications	Alternatives to private vehicle use	Other	2019		DC	Capital	NO	Funded		Implementation				

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
14	Investigate potential for small scale park & ride hubs with electric vehicle charging point availability	Alternatives to private vehicle use	Bus based Park & Ride	2019		DC	Capital	NO	Funded		Planning				
15	Encourage decarbonisation of road transport through development of public EV charging network & promotion of ultra low emissions vehicles, and including on-going management	Freight and Delivery Management	Delivery and Service plans	2019	2024	DC	Capital	NO	Funded		Implementation				
16	Encourage use of ultra low emission public transport vehicles (including taxis) – particularly smaller buses	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019	2024	DC	Capital	NO	Funded		Implementation				
17	Working closely with Dorset Business Travel Network and Digital Dorset to promote the use of ICT to individuals and businesses to avoid travel / encourage working from home	Promoting Travel Alternatives	Encourage / Facilitate home-working	2019	2021	DC / Dorset Business Travel Network / Digital Dorset	Capital	NO	Funded		Completed			Majority of council staff able to or currently are working from home. Full adoption of flexible approach	2021
18	Review & amend procurement procedures to prioritise carbon reduction for Transport Purchases & Leasing	Freight and Delivery Management	Freight Partnerships for city centre deliveries	2019		DC	Capital	NO	Funded		Planning			Further review expected 2022	
19	To green the Council fleet	Vehicle Fleet Efficiency	Fleet efficiency and recognition schemes	2019	2025/26	DC	Capital	NO	Funded		Implementation				2025/26
20	Reduce the need for staff to travel to and for work through remote working and the use of digital	Promoting Travel Alternatives	Workplace Travel Planning	2019	2021	DC	Capital	NO	Funded		Completed				2021
21	Promote behaviour change away from single occupancy private vehicle use	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	2019		DC	Capital	NO	Not Funded		Implementation				Successful bid to the transforming cities fund, currently in implementation phase
22	DC procurement of alternative refuelling infrastructure to promote LEVs, EV recharging, tax emission incentives and taxi licensing conditions	Vehicle Fleet Efficiency	Other	2019	2026	DC	Capital	NO	Funded		Implementation				Strategy under drafting
23	Continue collaborative work with NH to investigate and, where appropriate, direct measures to improve Chideock AQ inc. permanence of 30mph speed limit	Public Information	Other	2018	2022	DC/NH	Capital	NO	Funded		Implementation			Reviewed DRAFT AQAP	
24	Control domestic emissions and promoting of cleaner solid fuel consumption	Promoting Low Emission Plant	Other Policy	2022	2025	DC	Capital	YES	Funded		Implementation				
25	Network Rail Dorset Connectivity Project	Transport Planning and Infrastructure	Other	2021		DC/NR/BCP/DfT	Capital	NO	Not Funded		Planning				
26	Bus Service Improvement Plan	Transport Planning and Infrastructure	Bus route improvements	2021		DC/Bus service providers/ DfT	Capital	NO	Not Funded		Planning				

## 2.3 PM<sub>2.5</sub> – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG16 (Chapter 7), local authorities are expected to work towards reducing emissions and/or concentrations of PM<sub>2.5</sub> (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM<sub>2.5</sub> has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Dorset Council continued supporting the Public Health Dorset's PM<sub>2.5</sub> Project by maintaining the 4 AQMesh Pods within the network, (there are 2 more AQMesh Pods, which sit within Bournemouth, Christchurch and Poole Council). This looks to establish what steps can be taken across the study area to reduce the impact of exposure to particulate matter on the population. To achieve this, the project is focussed on understanding population exposure to background levels of air pollution. The study area includes both rural and urban sites to provide broad geographical coverage and include vulnerable populations.

Monitoring locations can be found at

<https://public.tableau.com/profile/public.health.dorset#!/vizhome/ARUNandPHDnetwork/ARUNandPHDnetowrk>

Defra's most recent background modelling for the entire Dorset Council area provide annual means of a minimum of 2.4µg/m<sup>3</sup> and maximum of 14.8µg/m<sup>3</sup> for 2019.

Dorset Council is currently undertaking a focussed project into the effects of solid-fuel burning stoves to measure the impact of these installations upon the levels of PM<sub>2.5</sub>. This project aims to identify areas of high numbers of solid-fuel installations and cluster them into three monitoring locations, and exclude other sources of PM to identify a predicted level of locally-generated PM<sub>2.5</sub>. This is to be conducted in conjunction with existing monitoring. Behaviour surveys (pre/post monitoring) and a communications campaign are proposed to measure the effect upon levels too, promoting correct installation maintenance, fuel selection and burning practices. Further information from the study will allow for better addressing of local PM sources in Dorset.

## 3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2021 by Dorset Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2017 and 2021 to allow monitoring trends to be identified and discussed.

### 3.1 Summary of Monitoring Undertaken

#### 3.1.1 Automatic Monitoring Sites

Dorset Council did not undertake automatic (continuous) monitoring during 2021. Table A.1 in Appendix A shows the details of the former automatic monitoring sites.

#### 3.1.2 Non-Automatic Monitoring Sites

Dorset Council undertook non-automatic (i.e. passive) monitoring of NO<sub>2</sub> at 76 sites during 2021. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

### 3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

#### 3.2.1 Nitrogen Dioxide (NO<sub>2</sub>)

Table A.3 and Table A.4 in Appendix A compare the ratified and adjusted monitored NO<sub>2</sub> annual mean concentrations for the past five years with the air quality objective of 40µg/m<sup>3</sup>. Note that the concentration data presented represents the concentration at the

location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2021 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

Table A.5 in Appendix A compares the ratified continuous monitored NO<sub>2</sub> hourly mean concentrations for the past five years with the air quality objective of 200µg/m<sup>3</sup>, not to be exceeded more than 18 times per year.

2021 did not as anticipated result in a significant increase in air pollution compared to 2020, rather continued to decline in many areas of Dorset, and almost universally continued the prevailing downward trend of air pollution. Whilst Covid-19 restrictions eased during 2021, restrictions were in place for times during the year, and therefore the data must be viewed with caution, making it still unwise to draw significant strategic conclusions using the data. The two data sets, however, provide an indication that positive change may have been achieved.

Only one annual mean exceedance was measured within bias adjusted means – Chideock Hill House – which falls inside the Chideock AQMA. This is the same situation as occurred in 2020. Likewise, this was the only exceedance within the AQMA and likewise reduced to below 10% below the objective when distance corrected to nearest exposure.

Location	2017	2018	2019	2020	2021
<b>Hope Cottage (W32)</b>	23.0	19.9	17.2	10.4	12.1
<b>Greenhill (W33)</b>	17.9	18.4	19.0	10.4	11.0
<b>Duck St (W34)</b>	<b>41.9</b>	<b>38.0</b>	<b>36.4</b>	20.2	22.1
<b>George Inn (W35)</b>	28.2	24.2	19.5	12.9	13.5
<b>Village Hall (W36)</b>	<b>40.9</b>	<b>39.2</b>	<b>38.7</b>	21.8	23.2
<b>Whitcroft (W37)</b>	<b>56.5</b>	<b>57.2</b>	<b>52.5</b>	30	32.2
<b>Warren House (W38)</b>	26.7	24.8	23.8	13.7	15.2

<b>Chideock Hill House (W39)</b>		<b><u>97.7</u></b>	<b><u>80.2</u></b>	35.1	35.5
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*Figure 1: Annual Mean concentration of NO<sub>2</sub> within Chideock AQMA*

The new Air Quality Action Plan for Chideock AQMA is currently awaiting approval from Defra and will be implemented shortly once approved by cabinet. Whilst not available at time of writing, the Plan outlines the actions that Dorset Council will deliver between 2022 and 2027 in order to reduce concentrations of pollution and exposure to pollution, therefore positively impacting on the health and quality of life of residents and visitors to Chideock and the wider Dorset Council area. Further monitoring as previously carried out by Highways England (now National Highways) has brought into the local authority – tubes H1 – H8 – and will assist in measuring the impact of the new AQAP. Monitoring of all sites continues into 2022.

There are no other areas of former West Dorset District Council that exceed the annual objective for nitrogen dioxide.

There has never been an AQMA declared in Bridport. Following a Detailed Assessment of nitrogen dioxide in Bridport in 2011, the then West Dorset District Council Members resolved not to declare an AQMA but continue monitoring to check future levels of NO<sub>2</sub> here. Annual mean concentrations of NO<sub>2</sub> generally remain below 2019 levels, but slightly increased on 2020. The monitoring within Bridport area will continue for 2022:

<b>Location</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>49 East Road (W27)</b>	<b>44.2</b>	<b>42.7</b>	<b>37.6</b>	25.2	24.9
<b>45 East Road (W28)</b>	<b>46.4</b>	<b>40.52</b>	<b>39.8</b>	26.3	26.5
<b>East Road Rbt Sign (W29)</b>	28.8	26.44	23.8	16	18.1
<b>Askers Mead (W30)</b>	32	30.69	26.1	16.2	17.6
<b>East Road Bus Stop (W31)</b>	27.9	29.13	28.3	17	18.8

*Figure 2: Annual Mean concentration of NO<sub>2</sub> in Bridport*

Results for 2021 in Dorchester show the annual mean for NO<sub>2</sub> was met at all monitoring locations both within and outside of the AQMA. The air quality objectives are now outside 10% of the annual mean objective of 40µg/m<sup>3</sup> which indicate that the AQMA could be revoked. Three years data and background modelling would advise this, however levels have remained broadly equal to 2020 which was predicted to be anomalous. Monitoring will continue during 2022 for W17 and W18, however W26 monitoring has now ceased due to its proximity to the other two sites.

Location	2017	2018	2019	2020	2021
High East Street 2 (W17)	31.4	27.64	24.8	17.2	17.3
High East Street 1 (W18)	37	35.48	<b>36.4</b>	23.6	21.3
Tom Browns (W26)	<b>38.87</b>	<b>36.26</b>	34.3	21.1	22.5

Figure 3: Annual Mean concentration of NO<sub>2</sub> within Dorchester AQMA

Further monitoring sites located in and around Dorchester continue to demonstrate a general downwards trajectory in NO<sub>2</sub>, with no exceedances of the AQO, no sites within 10% of the objective, and none exceeding 2019 data.

The Boot Hill area of Weymouth has previously been an area with cause for concern, and has co-located diffusion tubes, a continuous analyser (which due to technical issues has been out of operation for 2021) and several NO<sub>2</sub> monitoring tubes. Again, 2021 has overall demonstrated an improvement for air quality on this site, with passive monitoring as a minimum set to continue into 2022, and options for a new automatic analyser on site being explored.

Location	2017	2018	2019	2020	2021
Rodwell Road (W3)	27.9	<b>37.9</b>	31.0	25.9	24.6
15 Rodwell Road (W4)	20.7	24.9	23.9	16	18.7
Co-location I (W5)	<b>38.5</b>	31.7	35.9	24	22.8
Portmore Gardens (W6)	<b>38.4</b>	28.1	33.2	22.9	21.0

<b>Co-location II (W7)</b>	31.4	34.2	<b>39.2</b>	23.6	22.8
<b>Co-location III (W8)</b>	30.9	34.5	29.5	23.7	22.8
<b>Rodwell Inn (W9)</b>	32.3	<b>36.3</b>	27.3	24.2	23.2
<b>16 Rodwell Road (W10)</b>	<b>36.0</b>	<b>38.6</b>	32.8	26.3	19.0

Figure 4: Annual Mean concentration of NO<sub>2</sub> within Boot Hill area of Weymouth

No exceedances of the AQO annual mean were detected in the other sites in former Weymouth and Portland Borough Council area tubes. One site exceeded 2020 data, but none provided levels greater than 2019. New sites W46 and W47 show very low levels of air pollution (around 10.4µg/m<sup>3</sup>).

There were no exceedances of the annual NO<sub>2</sub> air quality objective in the former Purbeck District Council area. Whilst some increases were observed on the 2019 and 2020 data, all were below the 2018 data meaning no obvious change in trend is observable yet and increases were marginal with all sites being below half of the annual objective.

There were no exceedances of the annual air quality objective in former East Dorset. Again, there were instances of 2021 data exceeding 2019 levels, but none exceed 2018 levels again demonstrating a continuation of a downward trend. Exceedances of 2019 data occurred at around half the annual objective. New sites E2, E3 and E8 all continue to demonstrate levels of NO<sub>2</sub> way below the AQO.

Sites in North Dorset continue to demonstrate NO<sub>2</sub> levels lower than previously measured, albeit with some sites seeing slightly higher levels than 2020. These increases are minor, and all sites remain below half of the annual objective mean.

Covid-19 restrictions, whilst eased, still caused significant reduction in road traffic during 2021. The following tables show reduction of traffic in 2020 and 2021 against 2019 levels:

2019-2020	<b>A35</b>	<b>B3150</b>	<b>A354</b>	<b>B3081</b>
<b>Jan</b>	2%	n/a	0%	4%
<b>Feb</b>	-5%	n/a	-2%	-1%
<b>Mar</b>	-27%	-28%	-21%	-18%
<b>Apr</b>	-80%	-70%	-69%	-60%
<b>May</b>	-67%	-54%	-46%	-51%
<b>Jun</b>	-46%	-32%	-24%	-25%
<b>Jul</b>	-21%	-18%	-11%	-17%
<b>Aug</b>	-11%	-7%	-1%	-10%
<b>Sep</b>	-1%	n/a	0%	-8%
<b>Oct</b>	-8%	n/a	-7%	-13%
<b>Nov</b>	-38%	n/a	-22%	-26%
<b>Dec</b>	-22%	-19%	-8%	-16%
<b>Average</b>	-27%	-33%	-18%	-20%

*Figure 4: Percentage difference in traffic flows along Dorset Roads between 2019 and 2020*

2019-2021	<b>A35</b>	<b>B3150</b>	<b>A354</b>	<b>B3081</b>
<b>Jan</b>	-48%	n/a	-32%	-32%
<b>Feb</b>	-48%	n/a	-30%	-28%
<b>Mar</b>	-37%	-25%	-20%	-6%

<b>Apr</b>	-19%	-8%	-2%	-5%
<b>May</b>	-7%	-9%	-2%	-2%
<b>Jun</b>	1%	-1%	2%	4%
<b>Jul</b>	-4%	-4%	-1%	-3%
<b>Aug</b>	-4%	0%	1%	-10%
<b>Sep</b>	-5%	n/a	-3%	-2%
<b>Oct</b>	-4%	n/a	0%	-2%
<b>Nov</b>	-9%	n/a	-1%	-5%
<b>Dec</b>	-12%	-12%	-7%	-10%
<b>Average</b>	-16%	-8%	-8%	-8%

*Figure 4: Percentage difference in traffic flows along Dorset Roads between 2019 and 2021*

The roads measured are as follows:

A35 – Winterborne Kingston

B3150 – East of Dorchester

A354 – Weymouth Relief Road

B3081 – South of Gillingham

This demonstrated that overall, traffic flow reductions in 2021 are generally around half that of 2020 reductions. The A35 trunk road saw traffic 40% higher than 2020, and the B3150 75% higher. This explains to some extent the increases in NO<sub>2</sub> monitoring data although not all road monitoring sites increased despite universally increasing traffic flows.

Changes to Dorset Council monitoring locations continue, with further sites being added and removed in response to new developments as appropriate. In addition, known continuing developments are monitored as they progress for slow increases in air pollution due to their effect.

### 3.2.2 Particulate Matter (PM<sub>10</sub>)

Table A.6 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM<sub>10</sub> annual mean concentrations for the past five years with the air quality objective of 40µg/m<sup>3</sup>.

Table A.7 in Appendix A compares the ratified continuous monitored PM<sub>10</sub> daily mean concentrations for the past five years with the air quality objective of 50µg/m<sup>3</sup>, not to be exceeded more than 35 times per year.

Using our AQMesh Pods in partnership with Public Health Dorset, PM<sub>10</sub> has been measured at four school-based sites across Dorset: Blandford Forum, Beaminster, Ferndown and Sandford. None of the sites have annual means exceeding the objective, and whilst three sites (Beaminster, Sandford and Blandford Forum) demonstrate daily means above 50µg/m<sup>3</sup>, neither have exceeded this greater than 35 times in 2021. The levels of PM generally have decreased over 2020 data, and the additional site with a daily mean above 50µg/m<sup>3</sup> only had one occurrence. It is pertinent to note, however, the lack of reliability of the data presented due to low data capture for Beaminster (70.96%) and Blandford (74.79%), and the very low data capture for Ferndown (9.32%). This has resulted in insufficient data capture for annualisation too.

### 3.2.3 Particulate Matter (PM<sub>2.5</sub>)

Table A.8 in Appendix A presents the ratified and adjusted monitored PM<sub>2.5</sub> annual mean concentrations for the past five years.

PM<sub>2.5</sub> concentrations provide a mixed picture for Dorset Council over 2021, however as previously stated, it would not be advisable to draw conclusions on a continuing trend due to the lack of data and data capture being low. Concentrations at Beaminster remained constant on 2020 levels, with Blandford and Ferndown increasing, and Sandford decreasing. All sites have PM<sub>2.5</sub> concentrations below that of 2019 and 2018, and all sites sit below the predicted 10µg/m<sup>3</sup> target due in autumn 2022. Careful attention is to be paid to this site over the coming years to identify a trend and potential solutions.



## Appendix A: Monitoring Results

**Table A.1 – Details of Automatic Monitoring Sites**

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Inlet Height (m)
Boot Hill	Boot Hill	Roadside	367541	78471	NO <sub>2</sub>	NO	Chemiluminescent	N/A	3.5	2
Boot Hill	Boot Hill	Roadside	367541	78471	PM <sub>10</sub>	NO	TEOM FDMS	N/A	3.5	2

**Notes:**

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
P1	Wool, Dorchester Road	Roadside	384430	86880	NO <sub>2</sub>		30.0	2.0	No	2.3
P2	Corfe Castle, East Street	Roadside	396276	81699	NO <sub>2</sub>		1.0	1.0	No	2.2
P3	Swanage, Gilbert Road	Urban Background	402790	78950	NO <sub>2</sub>		7.0	1.0	No	2.3
P4	Swanage, Kings Rd.	Roadside	402860	78830	NO <sub>2</sub>		14.0	1.0	No	2.1
P5	Upton, Blandford Road North	Roadside	397910	93425	NO <sub>2</sub>		19.0	2.0	No	2.2
P6	Upton, Blandford Rd.	Roadside	398421	92644	NO <sub>2</sub>		16.0	1.0	No	2.2
P7	Upton, Poole Road (opp Dacombe Drive)	Roadside	398330	93137	NO <sub>2</sub>		11.5	6.0	No	2.0
P8	Upton, Poole Road (adj Palmerston Road)	Roadside	398572	93137	NO <sub>2</sub>		10.0	3.0	No	2.0
P9	Sandford, Sandford Road	Roadside	393223	89947	NO <sub>2</sub>		20.0	1.0	No	2.3
P10	Wareham, Wogret Road	Roadside	391790	87190	NO <sub>2</sub>		13.0	1.0	No	2.3
E1	Horton Road, Ashley Heath	Roadside	413298	104528	NO <sub>2</sub>		0.0	4.0	No	3.0
E2	Ham Lane (19 Glissons, Longham)	Roadside	406362	98711	NO <sub>2</sub>		0.0	1.0	No	3.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
E3	Leigh Road (byetheway) Wimborne	Roadside	402880	99961	NO <sub>2</sub>		0.0	2.0	No	3.0
E4	45 Davids Lane, Ashley Heath	Urban Background	413425	104429	NO <sub>2</sub>		7.0	0.5	No	3.0
E5	2 Julians Road, Wimborne	Roadside	400677	99998	NO <sub>2</sub>		0.0	1.0	No	3.0
E6	392 Ringwood Road, Ferndown	Roadside	407785	100135	NO <sub>2</sub>		4.0	1.3	No	3.0
E7	opp. 85 Dudsbury Avenue, Ferndown	Other	407668	99889	NO <sub>2</sub>		10.0	1.4	No	3.0
E8	7/9 Wimborne Road, Wimborne	Roadside	401003	100736	NO <sub>2</sub>		0.0	1.5	No	3.0
E9	A31 24 Ringwood Road, Ashley Heath	Roadside	412782	104118	NO <sub>2</sub>		26.0	1.3	No	3.0
E10	235 Christchurch Road, West Parley	Roadside	408384	97986	NO <sub>2</sub>		8.0	1.0	No	3.0
E11	opp. 233 Christchurch Road, West Parley	Roadside	408468	98002	NO <sub>2</sub>		4.0	1.0	No	3.0
E12	28a West Street, Wimborne	Roadside	400833	100042	NO <sub>2</sub>		0.0	1.2	No	3.0
E13	7 West Borough, Wimborne	Roadside	400901	100149	NO <sub>2</sub>		0.0	3.6	No	3.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
W1	St Georges Est, Portland	Urban Background	368779	71706	NO <sub>2</sub>		0.0	2.0	No	2.5
W2	King St, Weymouth	Roadside	368003	79527	NO <sub>2</sub>		0.0	2.0	No	2.5
W3	Rodwell Rd, Weymouth	Roadside	367542	78548	NO <sub>2</sub>		2.5	2.5	No	2.5
W4	15 Rodwell Road, Weymouth	Roadside	367545	78550	NO <sub>2</sub>		0.0	6.0	No	3.0
W6	Portmore Gardens, Weymouth	Roadside	367528	78554	NO <sub>2</sub>		0.0	2.0	No	3.0
W46	Portland Port	Roadside	368888	74356	NO <sub>2</sub>		0.0	0.5	No	3.0
W5, W7, W8	Co-location iii	Roadside	367540	78473	NO <sub>2</sub>		0.0	3.5	No	3.0
W47	Castletown	Roadside	368847	74356	NO <sub>2</sub>		0.0	0.5	No	3.0
W9	Rodwell Inn, Weymouth	Roadside	367550	78485	NO <sub>2</sub>		0.0	2.0	No	3.0
W10	16 Rodwell Road, Weymouth	Roadside	367533	78531	NO <sub>2</sub>		0.0	2.0	No	3.0
W11	Mulberry Ave, Portland	Roadside	368337	74204	NO <sub>2</sub>		0.0	1.0	No	3.0
W12	Upwey St, Weymouth	Roadside	367879	78567	NO <sub>2</sub>		0.0	1.5	No	3.0
W13	Dominoes, Weymouth	Roadside	367995	79528	NO <sub>2</sub>		0.0	2.5	No	3.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
W14	Fortuneswell, Portland	Roadside	368540	73593	NO <sub>2</sub>		0.9	1.5	No	2.5
W15	Stratton House, Dorchester	Roadside	369121	90739	NO <sub>2</sub>		0.0	2.0	No	2.5
W16	Trinity Street, Dorchester	Roadside	369171	90711	NO <sub>2</sub>		0.0	2.0	No	2.5
W17	High East St (Majestic Wines)	Roadside	369484	90759	NO <sub>2</sub>		0.0	2.0	No	2.5
W18	High East St (Church House)	Roadside	369387	90742	NO <sub>2</sub>	Dorchester	0.0	2.0	No	2.5
W19	The Grove, Dorchester	Roadside	368907	90739	NO <sub>2</sub>	Dorchester	0.0	2.0	No	2.5
W20	Maumbry Road, Dorchester	Roadside	368948	90089	NO <sub>2</sub>		0.0	2.0	No	2.5
W21	Great Western Rd, Dorchester	Roadside	369002	90275	NO <sub>2</sub>		0.0	2.0	No	2.5
W22	Church St, Dorchester	Roadside	369381	90698	NO <sub>2</sub>		0.0	2.0	No	2.5
W23	Bridport Road, Dorchester	Roadside	368815	90636	NO <sub>2</sub>		0.0	2.0	No	2.5
W24	Borough Gardens, Dorchester	Urban Background	368982	90453	NO <sub>2</sub>		5.0	2.0	No	2.5
W25	High West St (Homechester Hse)	Roadside	368982	90706	NO <sub>2</sub>		0.0	3.0	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
W26	High East St (Tom Browns) Dorchester	Roadside	369468	90756	NO <sub>2</sub>	Dorchester	0.0	2.5	No	2.5
W27	49 East Rd (Lampost 12) Bridport	Roadside	347557	93023	NO <sub>2</sub>		0.0	2.0	No	2.5
W28	45 East Rd (Lampost 10) Bridport	Roadside	347612	93050	NO <sub>2</sub>		0.0	2.0	No	2.0
W29	East Rd (Rdbt sign) Bridport	Roadside	347277	92867	NO <sub>2</sub>		0.0	4.0	No	2.5
W30	3 East Rd (Askers Mead) Bridport	Roadside	347262	92873	NO <sub>2</sub>		0.0	2.0	No	2.5
W31	East Rd (Bus stop) Bridport	Roadside	347489	92989	NO <sub>2</sub>		0.0	2.0	No	2.0
W32	Hope Cottage, Chideock	Roadside	342364	92814	NO <sub>2</sub>	Chideock	0.0	1.5	No	2.0
W33	Greenhill, Chideock	Roadside	342151	92869	NO <sub>2</sub>	Chideock	0.0	1.5	No	2.5
W34	Duck St, Chideock	Roadside	342190	92840	NO <sub>2</sub>	Chideock	0.0	1.0	No	2.0
W35	George Inn, Chideock	Roadside	342486	92791	NO <sub>2</sub>	Chideock	0.0	0.0	No	2.0
W36	Village Hall, Chideock	Roadside	342015	92887	NO <sub>2</sub>	Chideock	0.0	2.0	No	2.5
W37	Whitcroft, Chideock	Roadside	341946	92908	NO <sub>2</sub>	Chideock	0.0	1.0	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
W38	Warren House, Chideock	Roadside	342025	92894	NO <sub>2</sub>	Chideock	0.0	1.5	No	2.0
W39	Chideock Hill Cottage, Chideock	Roadside	341629	93139	NO <sub>2</sub>	Chideock	3.5	1.0	No	2.5
W40	Lawrence Cotts, Gillingham	Roadside	381302	126181	NO <sub>2</sub>		4.1	1.5	No	2.5
W41	Wyke St, Gillingham	Roadside	380511	126490	NO <sub>2</sub>		9.8	1.7	No	2.5
W42	The Barbers, Sturminster Newton	Kerbside	378606	114009	NO <sub>2</sub>		0.0	1.3	No	2.5
W43	Spinney Cott, Melbury Abbas	Roadside	388206	120321	NO <sub>2</sub>		0.0	0.7	No	2.5
W44	Cerne Ave, Gillingham	Urban Background	382041	125887	NO <sub>2</sub>		1.5	1.7	No	2.5
W45	New Road, Gillingham	Roadside	381083	125868	NO <sub>2</sub>		4.2	2.3	No	2.5
H1	Duck St Sign	Roadside	342164	92841	NO <sub>2</sub>	Chideock	0.0	3.0	No	2.0
H2	Bay Tree House	Roadside	342143	92845	NO <sub>2</sub>	Chideock	0.0	1.5	No	2.0
H3	Willens Cottage	Roadside	342084	92856	NO <sub>2</sub>	Chideock	0.0	1.5	No	2.5
H4	Village Hall	Roadside	342004	92890	NO <sub>2</sub>	Chideock	0.0	1.5	No	2.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) <sup>(1)</sup>	Distance to kerb of nearest road (m) <sup>(2)</sup>	Tube Co-located with a Continuous Analyser?	Tube Height (m)
H5	Southside Cottage	Roadside	341933	92913	NO <sub>2</sub>	Chideock	0.0	3.0	No	2.5
H6	Langdon	Roadside	341881	92934	NO <sub>2</sub>	Chideock	0.0	1.5	No	2.0
H7	Yew Tree House	Roadside	341819	92953	NO <sub>2</sub>	Chideock	1.5	6.0	No	1.5
H8	The Clock	Roadside	342129	92847	NO <sub>2</sub>	Chideock	0.0	1.5	No	2.0

**Notes:**

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

**Table A.3 – Annual Mean NO<sub>2</sub> Monitoring Results: Automatic Monitoring (µg/m<sup>3</sup>)**

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
Boot Hill	367541	78471	Roadside	0	0	32.52	39.6			

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16

Reported concentrations are those at the location of the monitoring site (annualised, as required), i.e. prior to any fall-off with distance correction

**Notes:**

The annual mean concentrations are presented as µg/m<sup>3</sup>.

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Table A.4 – Annual Mean NO<sub>2</sub> Monitoring Results: Non-Automatic Monitoring (µg/m<sup>3</sup>)**

Diffusion Tube 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
P1	384430	86880	Roadside		82.7	24.1	22.8	11.0	12.8	14.4
P2	396276	81699	Roadside		30.8	19.9	17.1	14.0	9.9	9.8
P3	402790	78950	Urban Background		76.9	16.2	17.7	11.0	8.5	9.0
P4	402860	78830	Roadside		65.4	17.4	15.8	10.0	9.2	10.3
P5	397910	93425	Roadside		75.0	28.7	28.1	15.0	16.3	17.4
P6	398421	92644	Roadside	100	40.4	25.9	24.9	14.0	13.8	13.3
P7	398330	93137	Roadside	100	40.4		24.7	19.0	13.2	12.9
P8	398572	93137	Roadside	100	40.4		28.9	17.6	14.8	14.2
P9	393223	89947	Roadside		92.3	20.9	24.6	12.0	13.4	14.0
P10	391790	87190	Roadside		84.6	15.5	15.4	9.0	8.2	8.9
E1	413298	104528	Roadside		100.0	22.0	23.0	20.4	14.7	14.5
E2	406362	98711	Roadside		100.0				14.8	14.6
E3	402880	99961	Roadside		82.7				12.1	11.6

Diffusion Tube 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
E4	413425	104429	Urban Background		100.0	17.0	18.0	11.0	11.6	11.3
E5	400677	99998	Roadside		100.0				17.8	18.9
E6	407785	100135	Roadside		100.0	29.0	29.0	21.0	19.1	18.4
E7	407668	99889	Other	100	40.4	18.0	19.0	16.1	12.5	10.9
E8	401003	100736	Roadside		100.0				10.4	11.4
E9	412782	104118	Roadside		100.0	32.0	33.0	16.0	23.8	21.0
E10	408384	97986	Roadside		100.0	25.0	27.0	16.0	20.2	20.0
E11	408468	98002	Roadside		100.0	31.0	30.0	20.0	18.8	17.2
E12	400833	100042	Roadside		100.0			17.3	12.6	11.6
E13	400901	100149	Roadside		100.0			19.4	14.0	13.3
W1	368779	71706	Urban Background		100.0	6.1	8.2	7.4	6.6	6.6
W2	368003	79527	Roadside		100.0	27.1	28.0	28.4	19.7	17.9
W3	367542	78548	Roadside		100.0	27.9	37.9	31.0	25.9	24.6
W4	367545	78550	Roadside		100.0	20.7	24.9	23.9	16.0	18.7

Diffusion Tube 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
W6	367528	78554	Roadside		100.0	38.4	28.1	33.2	22.9	21.0
W46	368888	74356	Roadside	100	42.3					10.4
W5, W7, W8	367540	78473	Roadside		100.0	38.5	31.7	35.9	24.0	22.8
W47	368847	74356	Roadside	100	42.3					9.5
W9	367550	78485	Roadside		100.0	32.3	36.3	27.3	24.2	23.2
W10	367533	78531	Roadside		82.7	36.0	38.6	32.8	26.3	19.0
W11	368337	74204	Roadside	100	48.1				12.8	9.3
W12	367879	78567	Roadside		100.0	30.8	30.8	35.1	21.9	20.1
W13	367995	79528	Roadside		100.0	31.1	32.5	39.1	22.1	20.8
W14	368540	73593	Roadside		100.0	36.6	36.8	33.0	24.0	21.2
W15	369121	90739	Roadside		100.0	36.6	36.8	33.0	21.5	22.2
W16	369171	90711	Roadside		92.3	30.7	27.5	24.4	15.6	15.5
W17	369484	90759	Roadside		100.0	31.4	27.6	24.8	17.2	17.3
W18	369387	90742	Roadside		100.0	37.0	35.5	36.4	23.6	21.3

Diffusion Tube 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
W19	368907	90739	Roadside		40.4	32.8	32.2	30.2	20.8	16.1
W20	368948	90089	Roadside		40.4	27.5	27.4	25.1	17.1	15.3
W21	369002	90275	Roadside		40.4	23.8	25.8	24.1	15.3	14.0
W22	369381	90698	Roadside		23.1	19.3	20.1	18.2	11.8	11.3
W23	368815	90636	Roadside		40.4	22.0	24.2	28.8	14.7	14.2
W24	368982	90453	Urban Background		92.3	14.6	11.2	10.1	7.4	7.8
W25	368982	90706	Roadside		100.0	29.0	29.8	27.0	18.8	18.5
W26	369468	90756	Roadside		100.0	38.9	36.3	34.3	21.1	22.5
W27	347557	93023	Roadside		100.0	<b>44.2</b>	<b>42.7</b>	37.6	25.2	24.9
W28	347612	93050	Roadside		92.3	<b>46.4</b>	<b>40.5</b>	39.8	26.3	26.5
W29	347277	92867	Roadside		100.0	28.8	26.4	17.0	16.0	18.1
W30	347262	92873	Roadside		100.0	32.0	30.1	26.1	16.2	17.6
W31	347489	92989	Roadside		100.0	27.9	29.1	28.3	17.0	18.8
W32	342364	92814	Roadside		100.0	23.0	19.9	17.2	10.4	12.1

Diffusion Tube 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
W33	342151	92869	Roadside		100.0	17.9	18.4	19.0	10.4	11.0
W34	342190	92840	Roadside		92.3	<b>41.9</b>	38.0	36.4	20.2	22.1
W35	342486	92791	Roadside		100.0	28.2	24.2	19.5	12.9	13.5
W36	342015	92887	Roadside		100.0	<b>40.9</b>	39.2	38.7	21.8	23.2
W37	341946	92908	Roadside		100.0	<b>56.5</b>	<b>57.2</b>	<b>52.5</b>	30.0	32.2
W38	342025	92894	Roadside		90.4	26.7	24.8	23.8	13.7	15.2
W39	341629	93139	Roadside		100.0		<b><u>97.7</u></b>	<b><u>80.2</u></b>	<b>45.1</b>	<b>47.6</b>
W40	381302	126181	Roadside		100.0		32.9	27.0	22.8	23.0
W41	380511	126490	Roadside		32.7		25.8	16.3	13.6	13.2
W42	378606	114009	Kerbside		100.0		37.0	31.4	19.7	20.1
W43	388206	120321	Roadside		100.0		28.0	16.4	12.3	13.0
W44	382041	125887	Urban Background		40.4			7.0	5.4	4.9
W45	381083	125868	Roadside		40.4			19.3	9.5	9.7
H1	342164	92841	Roadside		90.4					16.9

Diffusion Tube 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
H2	342143	92845	Roadside		100.0					21.9
H3	342084	92856	Roadside		100.0					22.3
H4	342004	92890	Roadside		100.0					27.3
H5	341933	92913	Roadside		100.0					29.2
H6	341881	92934	Roadside		100.0					39.9
H7	341819	92953	Roadside		100.0					35.9
H8	342129	92847	Roadside		69.2					27.2

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16

Diffusion tube data has been bias adjusted

Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction

#### Notes:

The annual mean concentrations are presented as  $\mu\text{g}/\text{m}^3$ .

Exceedances of the NO<sub>2</sub> annual mean objective of  $40\mu\text{g}/\text{m}^3$  are shown in **bold**.

NO<sub>2</sub> annual means exceeding  $60\mu\text{g}/\text{m}^3$ , indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.1 – Trends in Annual Mean NO<sub>2</sub> Concentrations

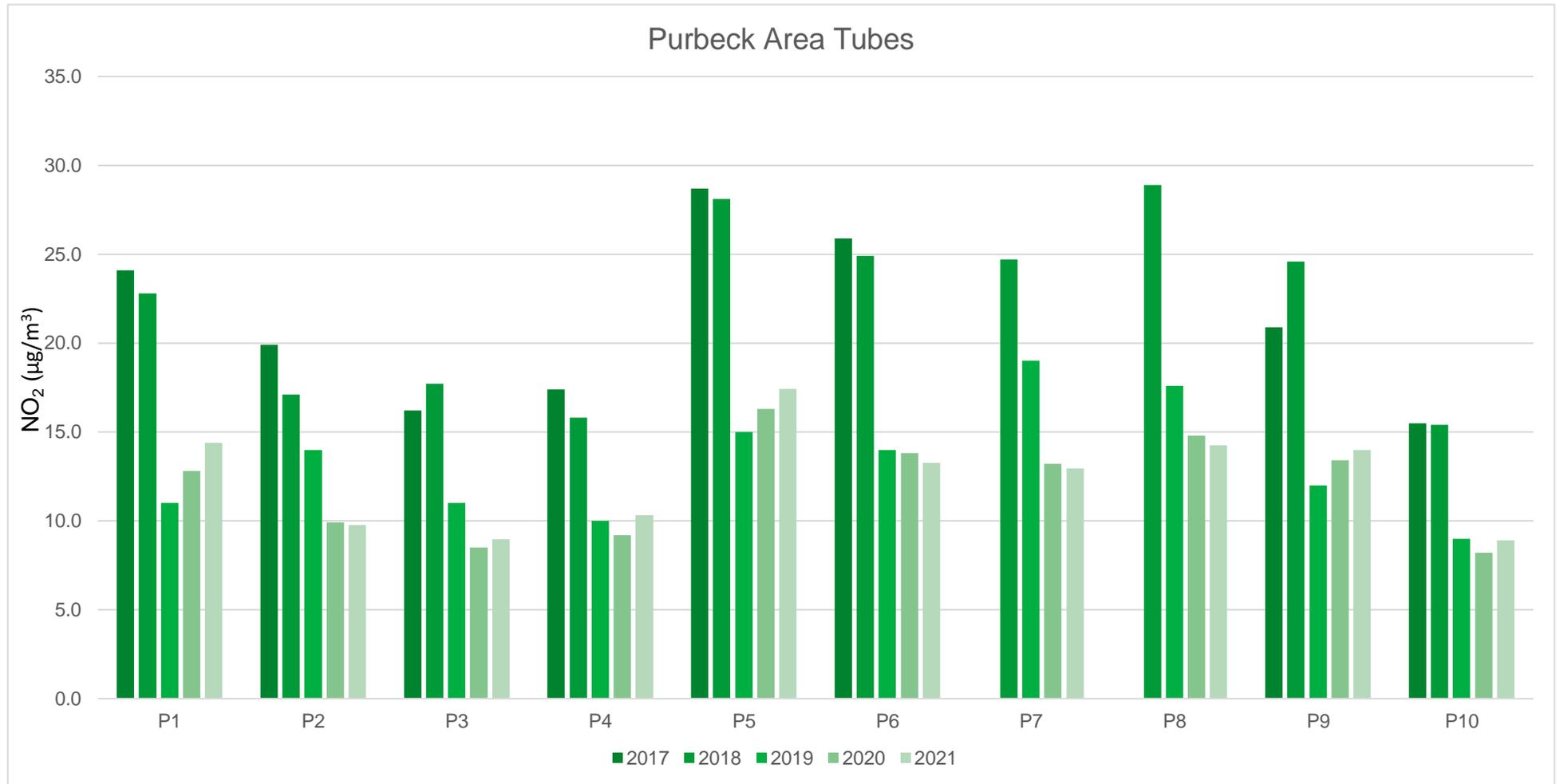


Figure 5: Former Purbeck District Council area annual mean NO<sub>2</sub> results, 2017-2021

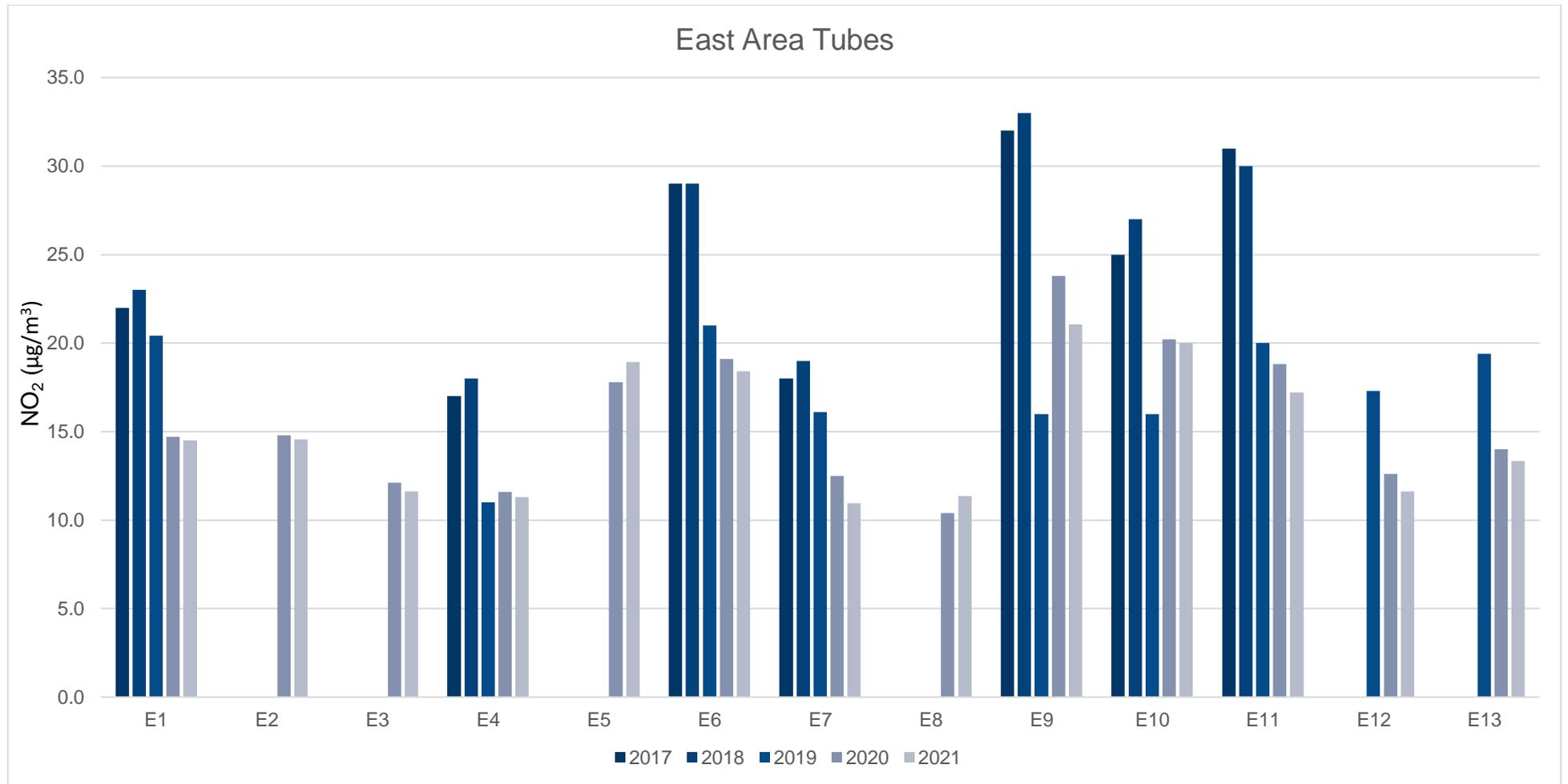


Figure 6: Former East Dorset District Council area annual mean NO<sub>2</sub> results, 2017-2021

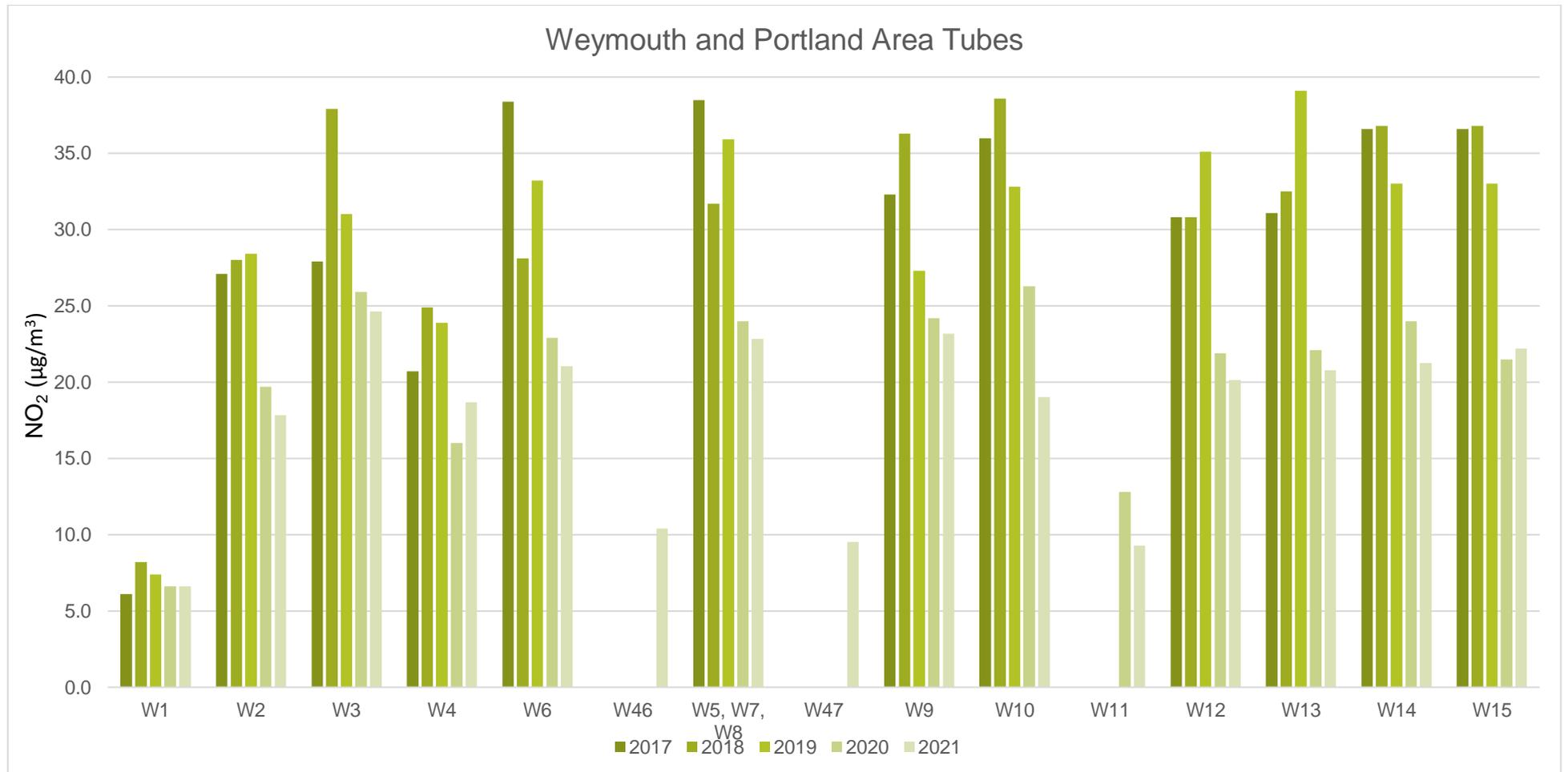


Figure 7: Former Weymouth and Portland Borough Council area annual mean NO<sub>2</sub> results, 2017-2021. N.B. Tubes W3 – W10 in Boot Hill area for concern.

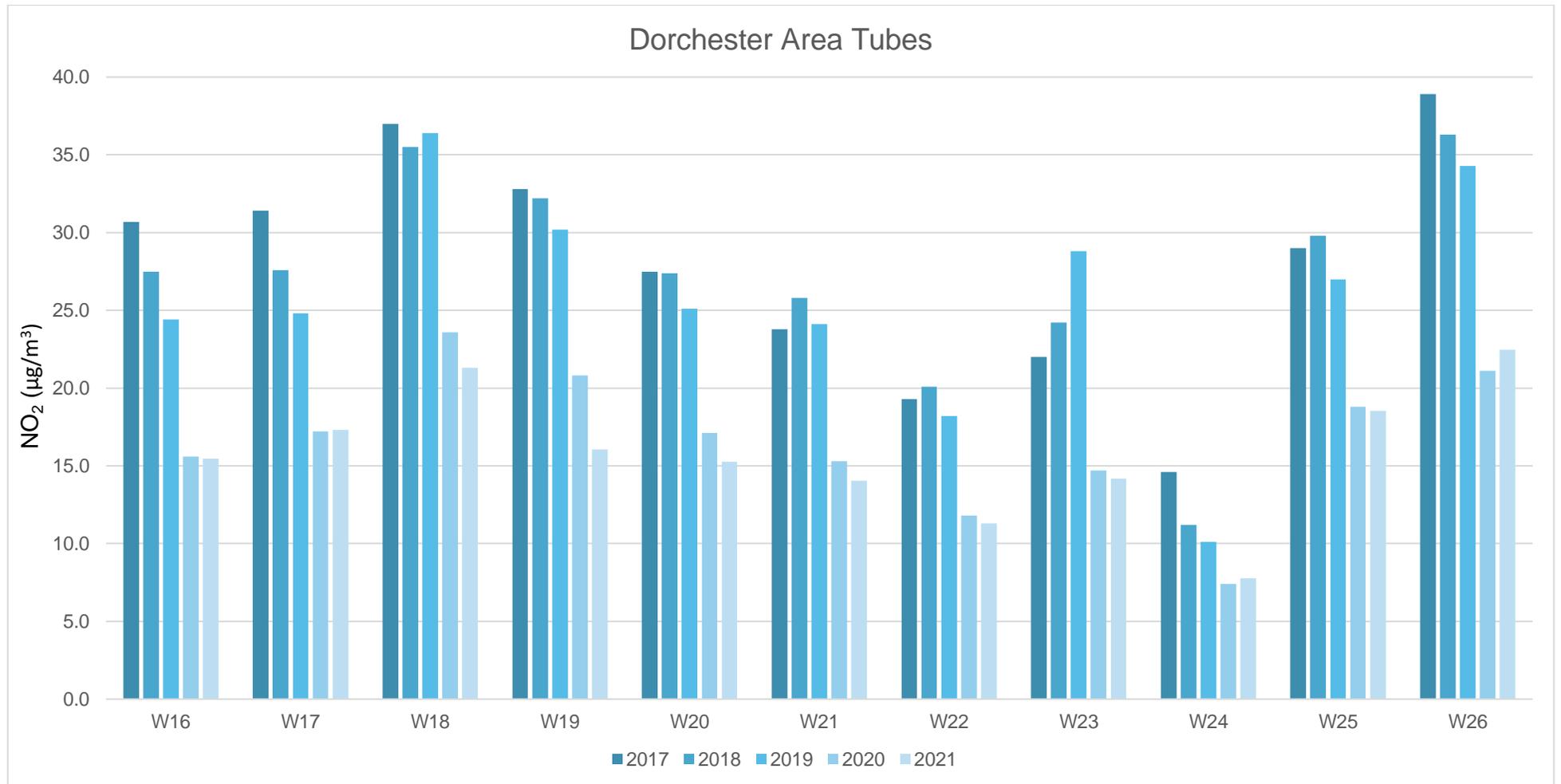


Figure 8: Dorchester (former West Dorset District Council) area annual mean NO<sub>2</sub> results, 2017-2021. N.B. Tubes W17, W18 and W26 within Dorchester High East Street AQMA

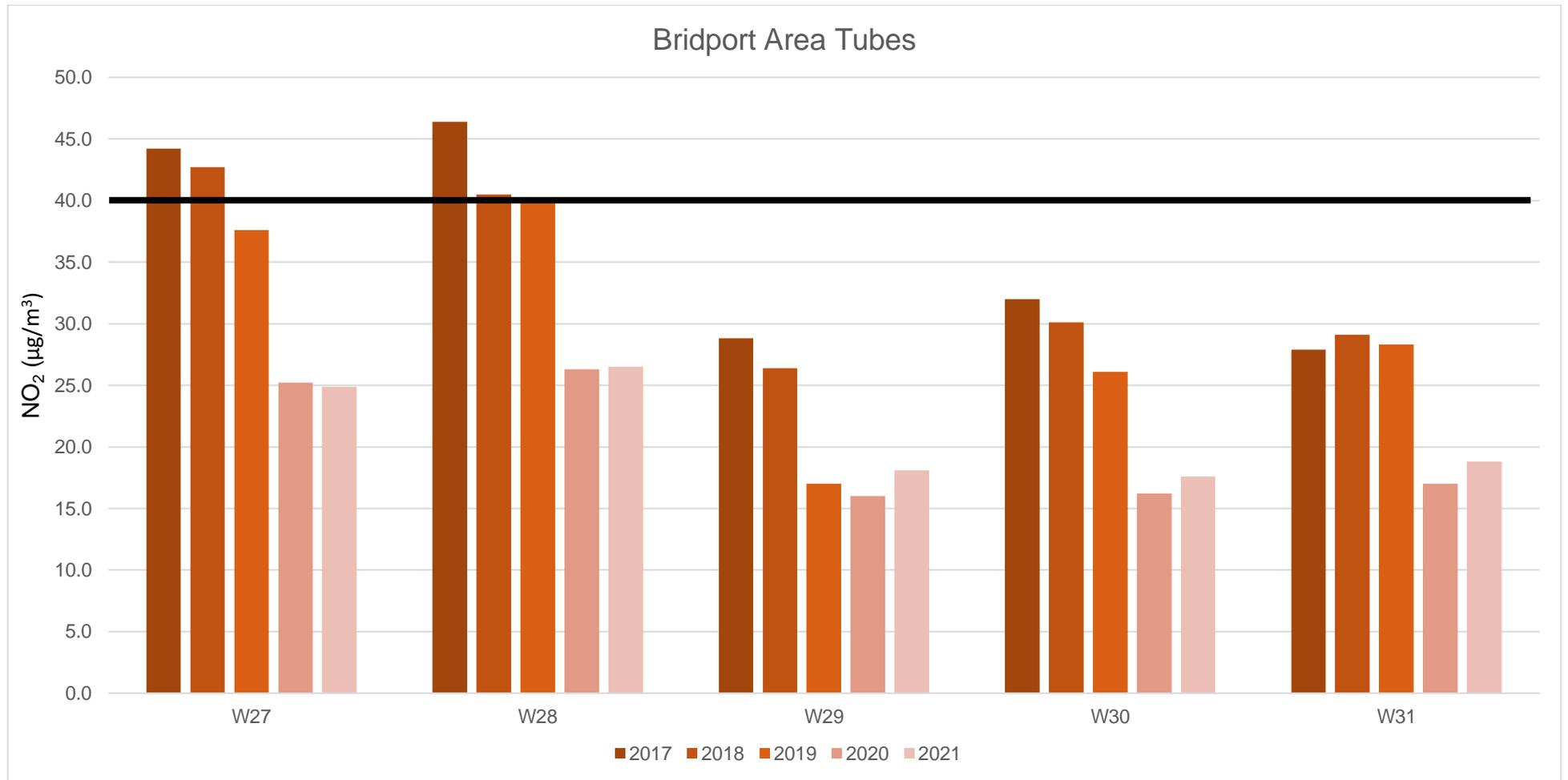


Figure 9: Bridport (former West Dorset District Council) area annual mean NO<sub>2</sub> results, 2017-2021). N.B. All tubes within East Road area for concern

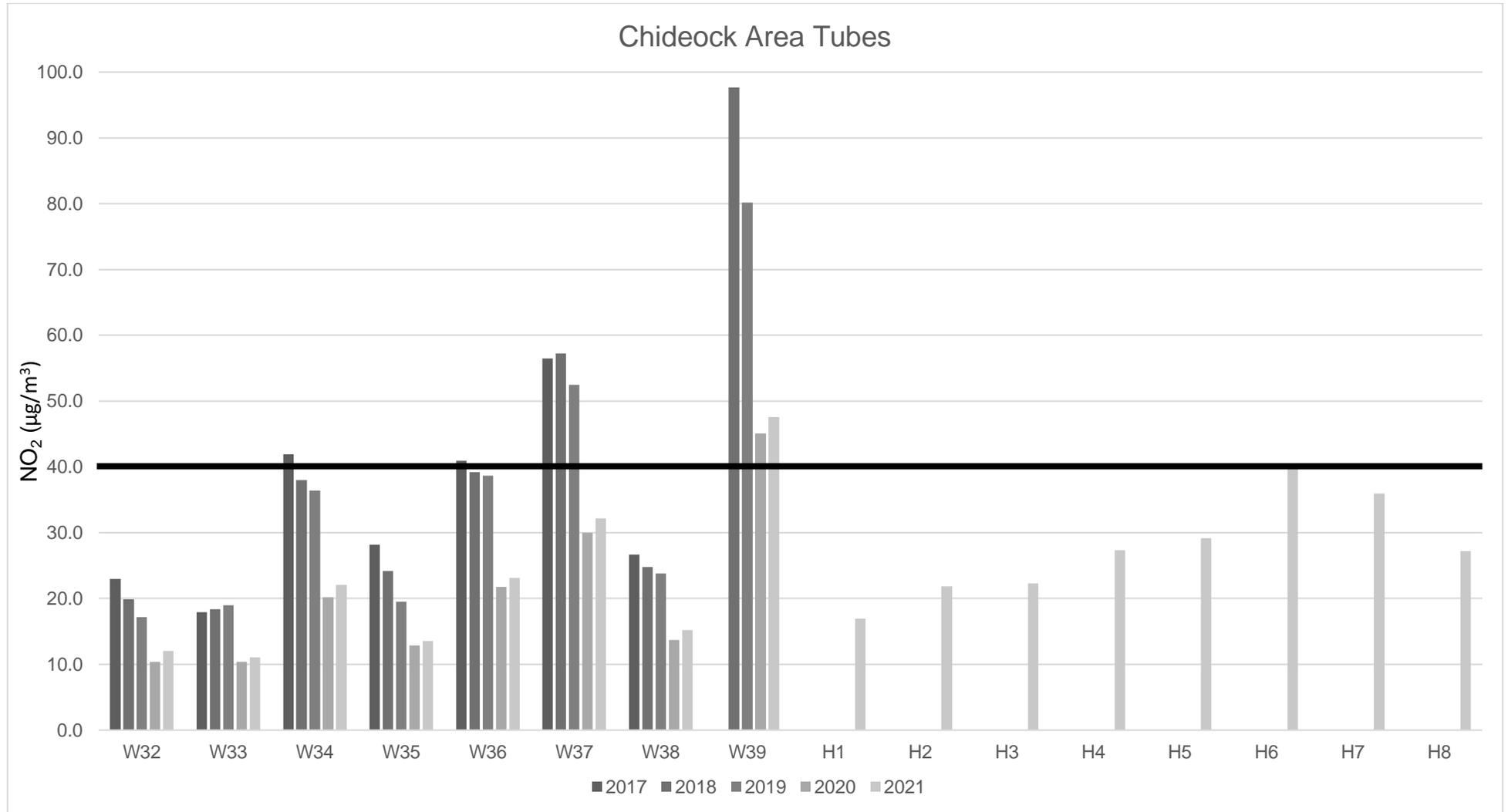


Figure 10: Chideock (former West Dorset District Council) area annual mean NO<sub>2</sub> results, 2017-2021. N.B. i: All tubes within Chideock AQMA. N.B. ii: When corrected for distance to receiver, W39 displays compliance with AQO at 35.5µg/m<sup>3</sup>

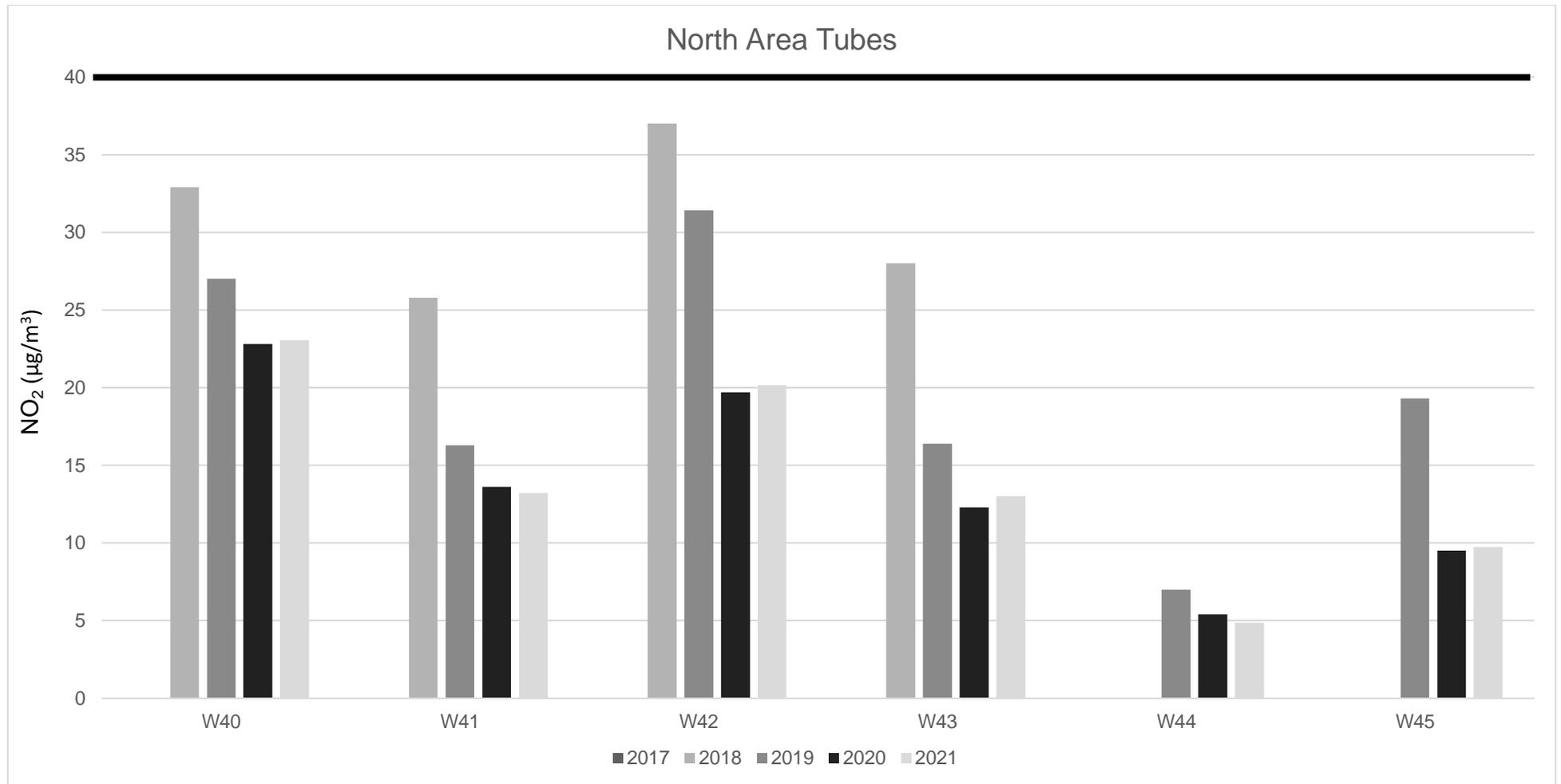


Figure 11: Former North Dorset District Council area annual mean NO<sub>2</sub> results, 2017-2021

**Table A.5 – 1-Hour Mean NO<sub>2</sub> Monitoring Results, Number of 1-Hour Means > 200µg/m<sup>3</sup>**

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
Boot Hill	367541	78471	Roadside	0	0	0	0			

**Notes:**

Results are presented as the number of 1-hour periods where concentrations greater than 200µg/m<sup>3</sup> have been recorded.

Exceedances of the NO<sub>2</sub> 1-hour mean objective (200µg/m<sup>3</sup> not to be exceeded more than 18 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Table A.6 – Annual Mean PM<sub>10</sub> Monitoring Results (µg/m<sup>3</sup>)**

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
Boot Hill	367541	78471	Roadside		0	17.41	21.17	19.76		
Beaminster	347967	101967	Rural		70.96	26.82	<b>38.51</b>	26.8	21.77	18.07
Blandford	387965	106833	Rural		74.79	20.96	<b>45.61</b>	21.4	17.51	18.11
Ferndown	408440	99391	Suburban		9.32	20.19	18.51	12.52	8.7	8.64
Sandford	393245	90156	Suburban		98.9	16.71	10.15	8.74	6.89	6.83

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16 – not possible due to lack of data

**Notes:**

The annual mean concentrations are presented as µg/m<sup>3</sup>.

Exceedances of the PM<sub>10</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.2 – Trends in Annual Mean PM<sub>10</sub> Concentrations

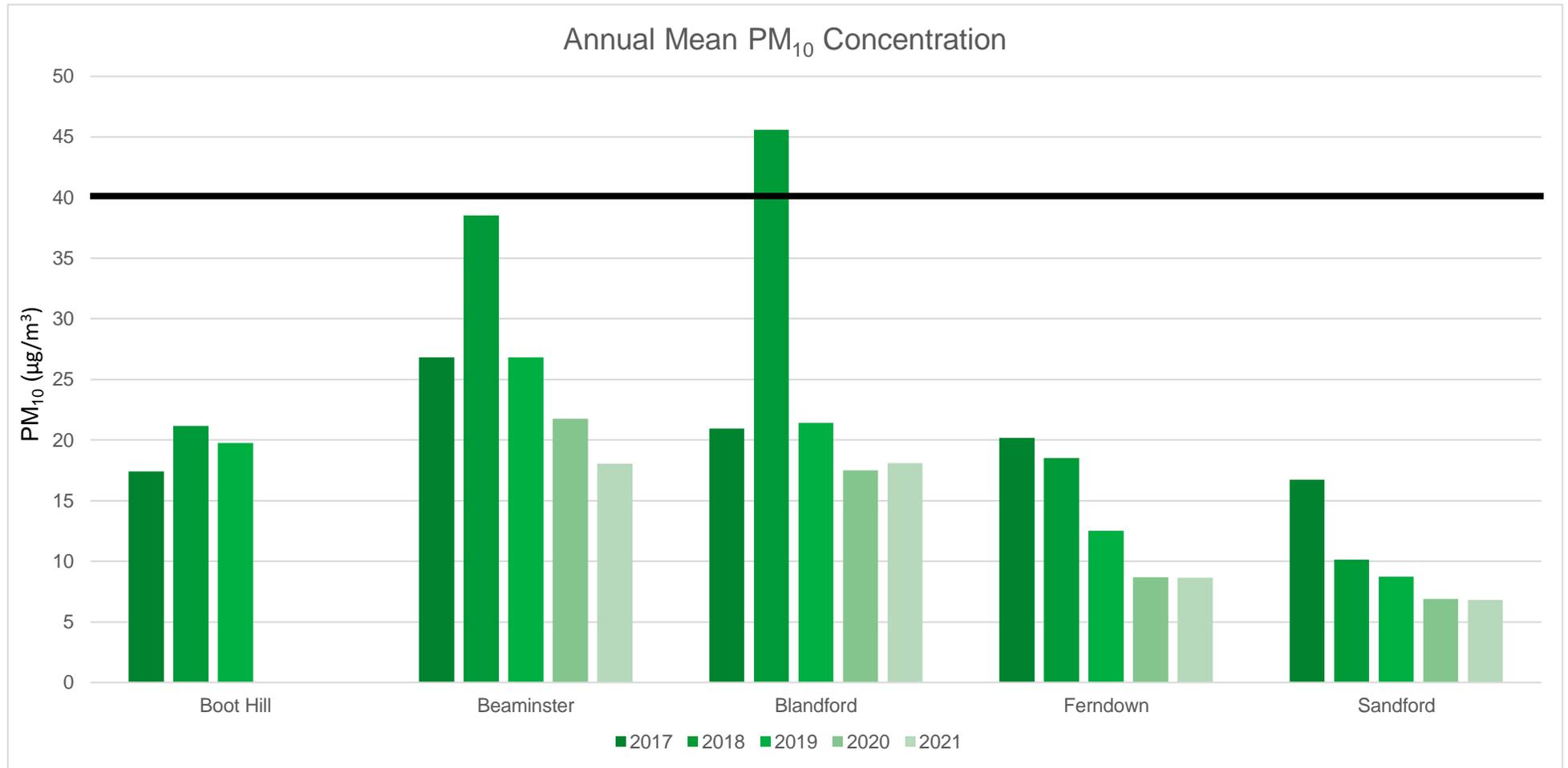


Figure 12: Annual mean PM<sub>10</sub> concentration for Dorset Council 2017-2021

**Table A.7 – 24-Hour Mean PM<sub>10</sub> Monitoring Results, Number of PM<sub>10</sub> 24-Hour Means > 50µg/m<sup>3</sup>**

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
Boot Hill	367541	78471	Roadside		0	0	0	0		
Beaminster	347967	101967	Rural		70.96	22	<b>68</b>	35	16	4
Blandford	387965	106833	Rural		74.79	11	<b>86</b>	17	6	18
Ferndown	408440	99391	Suburban		9.32	10	20	7	0	0
Sandford	393245	90156	Suburban		98.9	3	0	3	0	1

**Notes:**

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m<sup>3</sup> have been recorded.

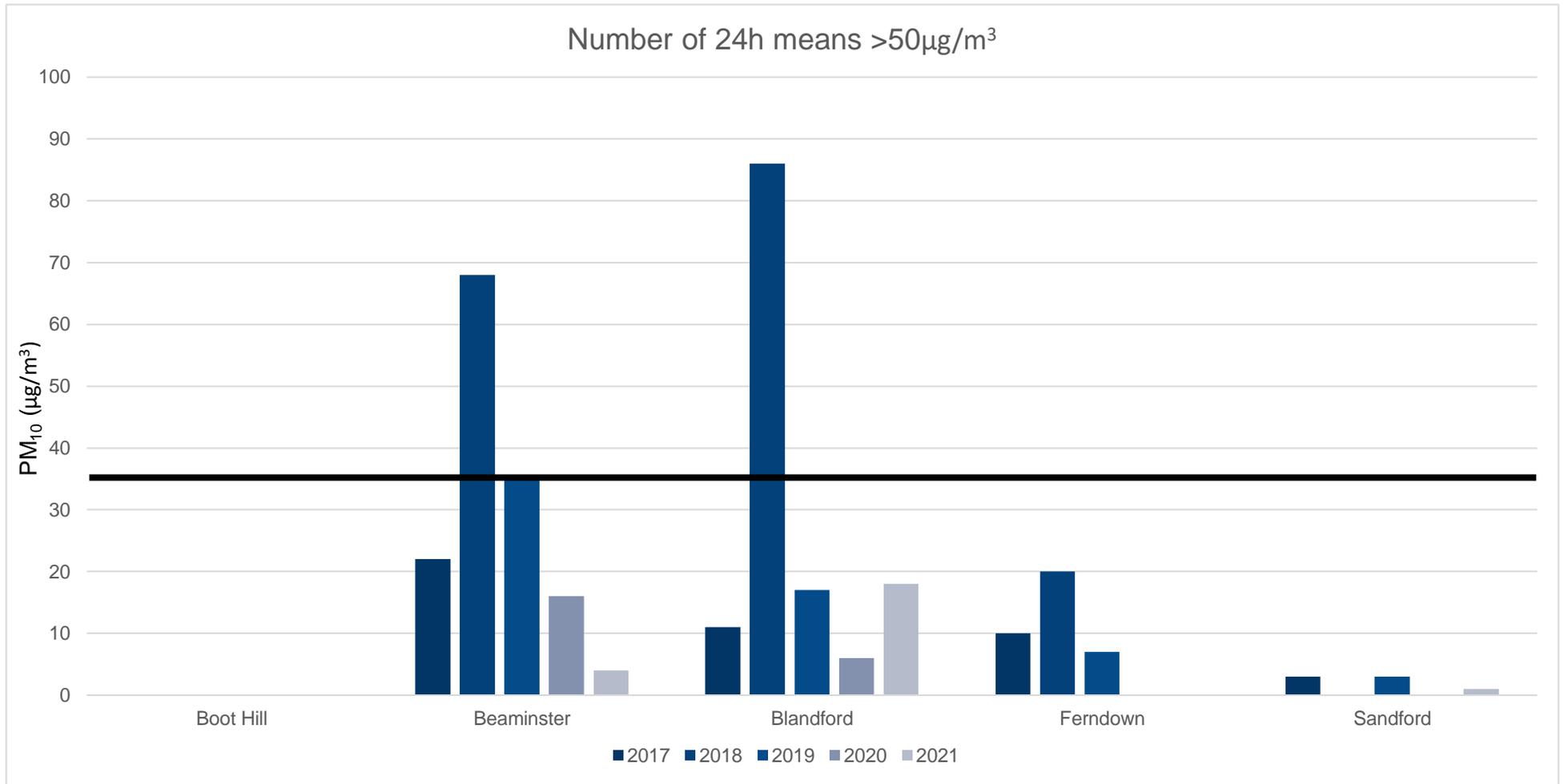
Exceedances of the PM<sub>10</sub> 24-hour mean objective (50µg/m<sup>3</sup> not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Figure A.3 – Trends in Number of 24-Hour Mean PM<sub>10</sub> Results > 50µg/m<sup>3</sup>**



*Figure 13: Trend in number of PM<sub>10</sub> 24-hour means >50µg/m<sup>3</sup>*

**Table A.8 – Annual Mean PM<sub>2.5</sub> Monitoring Results (µg/m<sup>3</sup>)**

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
Beaminster	347967	101967	Rural		70.96		13.85	12.88	9.56	9.6
Blandford	387965	106833	Rural		74.79		12.08	12.06	3.05	7.09
Ferndown	408440	99391	Suburban		9.32		6.52	5.29	3.6	4.51
Sandford	393245	90156	Suburban		98.9		4.54	4.16	8.93	3.41

**Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16 – not possible due to lack of data**

**Notes:**

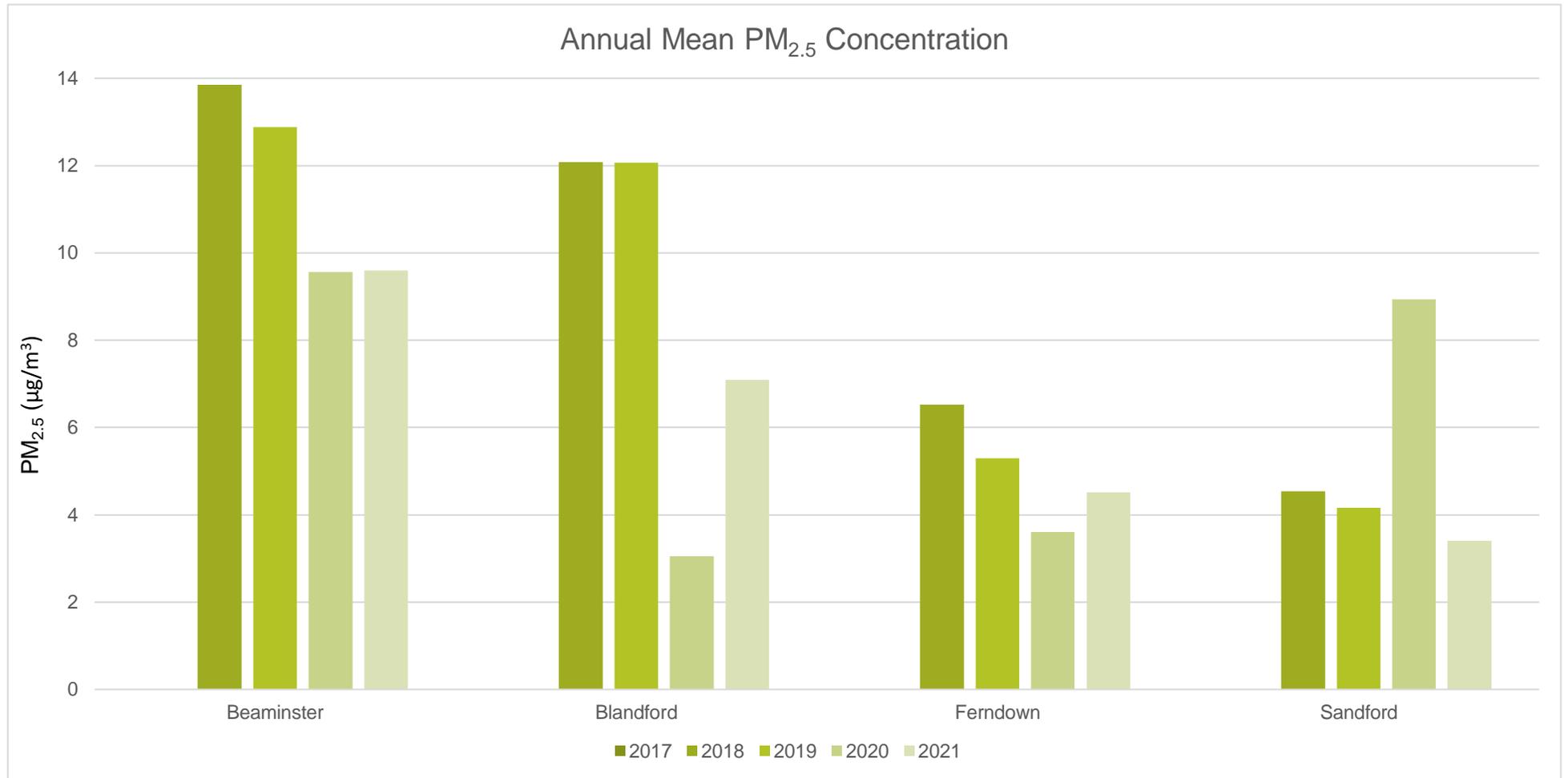
The annual mean concentrations are presented as µg/m<sup>3</sup>.

All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

**Figure A.4 – Trends in Annual Mean PM<sub>2.5</sub> Concentrations**



*Figure 14: Annual mean PM<sub>2.5</sub> concentration for Dorset Council 2018-2021*



## Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO<sub>2</sub> 2021 Diffusion Tube Results (µg/m<sup>3</sup>)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northin g)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.77)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
P1	384430	86880	19.0	16.0	17.0	14.8	19.0	20.0	17.0	18.0	16.0	30.0			18.7	14.4	-	
P2	396276	81699	16.0	14.0	12.0		15.0								14.3	9.8	-	
P3	402790	78950	12.0			9.7	9.0	12.0	13.0	12.0	11.0	18.0		8.0	11.6	9.0	-	
P4	402860	78830	16.0	18.0	13.0			13.0	11.0	14.0	13.0			10.0	13.5	10.3	-	
P5	397910	93425	27.0	23.0	18.0	16.6	22.0	20.0			25.0	37.0		15.0	22.6	17.4	-	
P6	398421	92644	21.0	21.0	20.0	17.1	19.0								19.6	13.3	-	
P7	398330	93137	21.0	22.0	17.0	18.8	17.0								19.2	12.9	-	
P8	398572	93137	25.0	23.0	18.0	20.5	19.0								21.1	14.2	-	
P9	393223	89947	14.0	24.0	15.0	17.9	17.0	15.0	19.0	16.0	19.0	29.0		14.0	18.2	14.0	-	
P10	391790	87190	14.0	16.0	9.0	10.5	8.0		8.0	9.0	12.0	20.0		9.0	11.6	8.9	-	
E1	413298	104528	18.0	23.0	16.0	20.0	20.0	17.0	21.0	13.0	23.0	17.0	18.0	20.0	18.8	14.5	-	
E2	406362	98711	24.0	21.0	17.0	21.0	18.0	16.0	14.0	13.0	20.0	17.0	24.0	22.0	18.9	14.6	-	
E3	402880	99961	18.0	19.0	16.0	15.0	12.0	17.0	10.0	11.0			18.0	15.0	15.1	11.6	-	
E4	413425	104429	16.0	15.0	17.0	17.0	11.0	13.0	12.0	11.0	14.0	13.0	21.0	16.0	14.7	11.3	-	
E5	400677	99998	29.0	22.0	21.0	25.0	25.0	22.0	19.0	24.0	30.0	22.0	33.0	23.0	24.6	18.9	-	
E6	407785	100135	23.0	31.0	23.0	28.0	22.0	22.0	21.0	23.0	27.0	25.0	25.0	17.0	23.9	18.4	-	
E7	407668	99889	16.0	18.0	16.0	18.0	13.0								16.2	10.9	-	
E8	401003	100736	18.0	16.0	15.0	16.0	12.0	14.0	14.0	13.0	14.0	18.0	17.0	10.0	14.8	11.4	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northin g)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.77)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
E9	412782	104118	30.0	32.0	25.0	32.0	31.0	24.0	24.0	26.0	32.0	29.0	28.0	15.0	27.3	21.0	-	
E10	408384	97986	26.0	31.0	24.0	31.0	27.0	25.0	26.0	25.0	21.0	28.0	28.0	20.0	26.0	20.0	-	
E11	408468	98002	24.0	27.0	22.0	30.0	21.0	21.0	20.0	23.0	22.0	20.0	26.0	12.0	22.3	17.2	-	
E12	400833	100042	17.0	18.0	15.0	17.0	16.0	12.0	12.0	11.0	16.0	14.0	20.0	13.0	15.1	11.6	-	
E13	400901	100149	17.0	19.0	16.0	18.0	17.0	18.0	14.0	14.0	18.0	17.0	22.0	18.0	17.3	13.3	-	
W1	368779	71706	8.0	13.0	10.0	9.0	8.0	8.0	7.0	7.0	9.0	5.0	11.0	8.0	8.6	6.6	-	
W2	368003	79527	30.0		20.0	28.0	16.0	16.0	21.0	26.0	34.0	19.0	26.0	19.0	23.2	17.9	-	
W3	367542	78548	29.0	33.0	28.0	40.0	30.0	30.0	33.0	33.0	47.0	27.0	30.0	24.0	32.0	24.6	-	
W4	367545	78550	24.0	23.0	22.0	35.0	21.0	21.0	33.0	26.0	27.0	12.0	29.0	18.0	24.3	18.7	-	
W5	367540	78471	31.0	30.0	28.0	34.0	18.0	18.0	38.0	35.0	39.0	32.0	35.0	22.0	-	-	-	Triplicate Site with W5, W7 and W8 - Annual data provided for W8 only
W6	367528	78554	26.0	31.0	23.0	29.0	20.0	20.0	35.0	28.0	39.0	27.0	25.0	25.0	27.3	21.0	-	
W7	367540	78472	29.0	34.0	28.0	38.0	14.0	14.0	33.0						-	-	-	Triplicate Site with W5, W7 and W8 - Annual data provided for W8 only
W46	368888	74356								12.0	15.0	10.0	14.0	10.0	12.2	10.4	-	
W8	367540	78473	30.0	36.0	27.0	35.0	15.0	15.0	34.0						29.7	22.8	-	Triplicate Site with W5, W7 and W8 - Annual data provided for W8 only
W47	368847	74356								12.0	15.0	9.0	12.0	8.0	11.2	9.5	-	
W9	367550	78485	29.0	33.0	24.0	34.0	23.0	23.0	34.0	31.0	41.0	30.0	33.0	26.0	30.1	23.2	-	
W10	367533	78531	36.0	34.0	24.0	32.0	7.0	7.0	20.0	23.0			41.0	23.0	24.7	19.0	-	
W11	368337	74204	13.0	21.0	10.0	21.0	7.0	7.0							13.2	9.3	-	
W12	367879	78567	26.0	27.0	22.0	26.0	21.0	21.0	30.0	29.0	35.0	23.0	32.0	22.0	26.2	20.1	-	
W13	367995	79528	31.0	28.0	24.0	28.0	26.0	26.0	31.0	28.0	36.0	24.0	29.0	13.0	27.0	20.8	-	
W14	368540	73593	30.0	33.0	29.0	33.0	21.0	21.0	28.0	31.0	33.0	23.0	30.0	19.0	27.6	21.2	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northin g)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.77)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
W15	369121	90739	31.0	26.0	28.0	30.0	25.0	29.0	26.0	30.0	32.0	29.0	34.0	26.0	28.8	22.2	-	
W16	369171	90711	25.0	20.0	20.0	21.0	17.0		18.0	18.0	20.0	17.0	24.0	21.0	20.1	15.5	-	
W17	369484	90759	27.0	23.0	25.0	22.0	18.0	19.0	21.0	18.0	27.0	22.0	27.0	21.0	22.5	17.3	-	
W18	369387	90742	31.0	25.0	25.0	23.0	26.0	22.0	26.0	24.0	34.0	30.0	35.0	31.0	27.7	21.3	-	
W19	368907	90739	29.0	23.0	22.0	25.0	20.0								23.8	16.1	-	
W20	368948	90089	30.0	23.0	22.0	21.0	17.0								22.6	15.3	-	
W21	369002	90275	24.0	22.0	19.0	23.0	16.0								20.8	14.0	-	
W22	369381	90698	19.0	19.0	17.0										18.3	11.3	-	
W23	368815	90636	23.0	18.0	20.0	25.0	19.0								21.0	14.2	-	
W24	368982	90453	12.0	14.0	11.0	10.0		8.0	7.0	5.0	9.0	9.0	13.0	13.0	10.1	7.8	-	
W25	368982	90706	28.0	22.0	24.0	29.0	18.0	24.0	20.0	23.0	29.0	24.0	29.0	19.0	24.1	18.5	-	
W26	369468	90756	36.0	28.0	29.0	27.0	27.0	30.0	25.0	24.0	38.0	27.0	36.0	23.0	29.2	22.5	-	
W27	347557	93023	30.0	31.0	31.0	35.0	29.0	41.0	27.0	37.0	39.0	27.0	35.0	26.0	32.3	24.9	-	
W28	347612	93050	31.0	28.0	29.0	30.0	34.0		38.0	49.0	41.0	35.0	37.0	27.0	34.5	26.5	-	
W29	347277	92867	21.0	21.0	21.0	22.0	21.0	27.0	25.0	28.0	28.0	19.0	27.0	22.0	23.5	18.1	-	
W30	347262	92873	24.0	21.0	21.0	22.0	21.0	26.0	21.0	23.0	25.0	18.0	26.0	26.0	22.8	17.6	-	
W31	347489	92989	24.0	21.0	18.0	22.0	23.0	26.0	23.0	28.0	29.0	24.0	30.0	25.0	24.4	18.8	-	
W32	342364	92814	15.0	17.0	14.0	18.0	13.0	18.0	17.0	18.0	19.0	14.0	10.0	15.0	15.7	12.1	-	
W33	342151	92869	13.0	16.0	16.0	16.0	14.0	13.0	12.0	14.0	19.0	12.0	16.0	11.0	14.3	11.0	-	
W34	342190	92840	25.0	24.0	19.0	28.0		36.0	29.0	32.0	41.0	29.0	28.0	24.0	28.6	22.1	-	
W35	342486	92791	17.0	17.0	17.0	19.0	16.0	20.0	16.0	17.0	21.0	14.0	22.0	15.0	17.6	13.5	-	

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northin g)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.77)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
W36	342015	92887	25.0	22.0	23.0	29.0	26.0	41.0	34.0	28.0	43.0	33.0	35.0	22.0	30.1	23.2	-	
W37	341946	92908	34.0	31.0	33.0	40.0	41.0	51.0	50.0	51.0	53.0	39.0	44.0	35.0	41.8	32.2	-	
W38	342025	92894	17.0	18.0	16.0	22.0	20.0	19.0	20.0	21.0	24.0	15.0	25.0		19.7	15.2	-	
W39	341629	93139	47.0	41.0	46.0	64.0	68.0	59.0	77.0	77.0	81.0	66.0	75.0	41.0	61.8	<b>47.6</b>	35.5	
W40	381302	126181	37.0	32.0	30.0	27.0	27.0	27.0	25.0	27.0	32.0	31.0	37.0	27.0	29.9	23.0	-	
W41	380511	126490	20.0	21.0		20.0	16.0								19.3	13.2	-	
W42	378606	114009	27.0	23.0	22.0	21.0	23.0	26.0	25.0	27.0	31.0	33.0	30.0	26.0	26.2	20.1	-	
W43	388206	120321	13.0	13.0	14.0	12.0	18.0	21.0	23.0	19.0	22.0	15.0	18.0	15.0	16.9	13.0	-	
W44	382041	125887	9.0	10.0	7.0	6.0	4.0								7.2	4.9	-	
W45	381083	125868	19.0	13.0	15.0	15.0	10.0								14.4	9.7	-	
H1	342164	92841	20.0	17.0	17.0	23.0	20.0	27.0	22.0	25.0	27.0	17.0	27.0		22.0	16.9	-	
H2	342143	92845	20.0	23.0	24.0	33.0	27.0	36.0	29.0	31.0	39.0	29.0	29.0	21.0	28.4	21.9	-	
H3	342084	92856	22.0	27.0	25.0	31.0	30.0	38.0	30.0	30.0	41.0	29.0	28.0	17.0	29.0	22.3	-	
H4	342004	92890	25.0	28.0	30.0	35.0	36.0	47.0	39.0	40.0	48.0	38.0	37.0	23.0	35.5	27.3	-	
H5	341933	92913	25.0	29.0	31.0	34.0	39.0	43.0	43.0	47.0	58.0	40.0	35.0	31.0	37.9	29.2	-	
H6	341881	92934	41.0	36.0	49.0	59.0	64.0	56.0	64.0	69.0	61.0	41.0	50.0	32.0	51.8	39.9	-	
H7	341819	92953	32.0	35.0	41.0	50.0	54.0	59.0	57.0	52.0	57.0	45.0	46.0	32.0	46.7	35.9	-	
H8	342129	92847		28.0		38.0			40.0	42.0	42.0	31.0	34.0	27.0	35.3	27.2	-	

- All erroneous data has been removed from the NO<sub>2</sub> diffusion tube dataset presented in Table B.1.
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.
- Local bias adjustment factor used.
- National bias adjustment factor used.
- Where applicable, data has been distance corrected for relevant exposure in the final column.

**Dorset Council confirm that all 2021 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

**Notes:**

Exceedances of the NO<sub>2</sub> annual mean objective of 40µg/m<sup>3</sup> are shown in **bold**.

NO<sub>2</sub> annual means exceeding 60µg/m<sup>3</sup>, indicating a potential exceedance of the NO<sub>2</sub> 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

## **Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC**

### **New or Changed Sources Identified Within Dorset Council During 2021**

Dorset Council has not identified any new sources relating to air quality within the reporting year of 2021.

### **Additional Air Quality Works Undertaken by Dorset Council During 2021**

Dorset Council has not completed any additional works within the reporting year of 2020.

### **QA/QC of Diffusion Tube Monitoring**

2021 diffusion tubes were sourced South Yorkshire Air Quality providing a preparation method of 50% TEA in acetone. All of the data presented in this report has been bias adjusted using the national adjustment databased available on the LAQM Support website. The data has been adjusted using version 03/22 of the spreadsheet giving a factor of 0.77 for South Yorkshire Air Quality Samplers.

The Chemiluminescent Analyser is no longer in operation, therefore a local bias adjustment factor was not available.

### **QA/QC of Monitoring Data**

AIR PT is an independent analytical proficiency-testing (PT) scheme, operated by LGC Standards and supported by the Health and Safety Laboratory (HSL). AIR PT is a new scheme, started in April 2014, and offers a number of test samples designed to test the proficiency of laboratories undertaking analysis of chemical pollutants in ambient indoor, stack and workplace air. One such sample is the AIR NO<sub>2</sub> test sample type that is distributed to participants in a quarterly basis. AIR NO<sub>2</sub> PT forms an integral part of the UK NO<sub>2</sub> Networks QA/QC, and is a useful tool in assessing the analytical performance of those laboratories supplying diffusion tubes to local authorities for use in the context of Local Air

Quality Management (LAQM). SYAQS takes part in the AIR PT scheme. The results of the AIR PT scheme for 2021 are provided in Figure 15 below and are determined as satisfactory.

AIR PT round	AIR PT AR031	AIR PT AR033	AIR PT AR034	AIR PT AR036	AIR PT AR037	AIR PT AR039	AIR PT AR040	AIR PT AR042
Period	Apr – May 2019	Jul – Aug 2019	Sept – Nov 2019	Jan – Feb 2020	May – June 2020	Jul – Aug 2020	Sept – Oct 2020	January – March 2021
South Yorkshire Air Quality Samplers	100%	100%	75%	100%	NR	NR	100%	100%

Figure 15: AIR PT figures for SYAQS for 2019 - 2021

### Diffusion Tube Annualisation

The following sites required annualisation:

- P2 – Corfe Castle
- P4 – Swanage, Kings Road
- P6 – Upton, Blandford Road
- P7 – Upton, Poole Road Dacombe Drive
- P8 – Upton, Poole Road Palmerston Road
- E7 – Dudsbury Ave, Ferndown
- W46 – Portland Port
- W47 - Castletown
- W11 – Mulberry Ave, Portland
- W19 – The Grove, Dorchester
- W20 – Maumbury Road, Dorchester
- W21 – Great Western Road, Dorchester
- W22 – Church Street, Dorchester
- W23 – Bridport Road, Dorchester
- W41 – Wyke Street, Gillingham
- W44 – Cerne Avenue, Gillingham
- W45 – New Road, Gillingham
- H8 – The Clock, Chideock

Details of the calculation method undertaken is provided in Table C.2. Annualisation is required for any site with data capture less than 75% but greater than 33%.

## Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2021 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO<sub>x</sub>/NO<sub>2</sub> continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Dorset Council have applied a national bias adjustment factor of 0.77 to the 2021 monitoring data. A summary of bias adjustment factors used by Dorset Council over the past five years is presented in Table C.1.

As per Table C.1 version 03/22 of the national spreadsheet has been used to obtain the above bias adjustment factor. One study was used to determine this factor.

**Table C.1 – Bias Adjustment Factor**

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	03/22	0.77
2020	National	03/21	Gradko: 0.82 SYAQS: 0.77
2019	National	03/20	Gradko: 0.89 SYAQS: 1.01

## NO<sub>2</sub> Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO<sub>2</sub> concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO<sub>2</sub> fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO<sub>2</sub> concentrations corrected for distance are presented in Table B.1.

If fall-off-with-distance calculations were required for any non-automatic monitoring sites, a summary of the sites should be provided here and the output data from the LAQM NO<sub>2</sub> fall-off with distance calculator, or output from the Diffusion Tube Data Processing Tool

should be presented in Table C.3. Distance correction should be considered at any monitoring site where the annual mean concentration is greater than  $36\mu\text{g}/\text{m}^3$  and the monitoring site is not located at a point of relevant exposure (taking the limitations of the calculator into account).

## QA/QC of Automatic Monitoring

Dorset Council utilises ACOEM AQMesh Pods. The data is operated and managed by ACOEM UK.

The data provided to the ASR is ratified, and live and historic data is available through [airmonitors.net](http://airmonitors.net)

The type of  $\text{PM}_{10}/\text{PM}_{2.5}$  monitor(s) utilised within Dorset Council do not required the application of a correction factor.

## PM<sub>10</sub> and PM<sub>2.5</sub> Monitoring Adjustment

The type of  $\text{PM}_{10}/\text{PM}_{2.5}$  monitor(s) utilised within Dorset Council do not require the application of a correction factor.

## Automatic Monitoring Annualisation

Under typical circumstances, annualisation would be required for two of the automatic monitoring sites operated by Dorset Council – Beaminster and Blandford. However, due to a lack of suitable data capture from the other two analysers, annualisation is not possible. The data is presented as collected, with the caveat above presenting a likely source of inaccuracy.

## NO<sub>2</sub> Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the  $\text{NO}_2$  concentration at the nearest location relevant for exposure has been estimated using the  $\text{NO}_2$  fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean  $\text{NO}_2$  concentrations corrected for distance are presented in Table B.1.

No automatic  $\text{NO}_2$  monitoring locations within Dorset Council required distance correction during 2021.

Table C.2 – Annualisation Summary (concentrations presented in  $\mu\text{g}/\text{m}^3$ )

Site ID	Annualisation Factor Honiton	Annualisation Factor Chilbolton	Annualisation Factor Yarner Wood		Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
P2	0.9822	0.8367	0.8522		0.8904	14.3	12.7	
P4	1.0172	0.9870	0.9733		0.9925	13.5	13.4	
P6	0.9870	0.8302	0.8139		0.8770	19.6	17.2	
P7	0.9870	0.8302	0.8139		0.8770	19.2	16.8	
P8	0.9870	0.8302	0.8139		0.8770	21.1	18.5	
E7	0.9870	0.8302	0.8139		0.8770	16.2	14.2	
W46	0.9362	1.0973	1.2830		1.1055	12.2	13.5	
W47	0.9362	1.0973	1.2830		1.1055	11.2	12.4	
W11	1.0160	0.8883	0.8479		0.9174	13.2	12.1	
W19	0.9870	0.8302	0.8139		0.8770	23.8	20.9	
W20	0.9870	0.8302	0.8139		0.8770	22.6	19.8	
W21	0.9870	0.8302	0.8139		0.8770	20.8	18.2	
W22	0.8781	0.7356	0.7916		0.8018	18.3	14.7	
W23	0.9870	0.8302	0.8139		0.8770	21.0	18.4	
W41	0.9895	0.8460	0.8386		0.8914	19.3	17.2	

Site ID	Annualisation Factor Honiton	Annualisation Factor Chilbolton	Annualisation Factor Yarners Wood		Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
W44	0.9870	0.8302	0.8139		0.8770	7.2	6.3	
W45	0.9870	0.8302	0.8139		0.8770	14.4	12.6	
H8	0.9822	0.9940	1.0312		1.0025	35.3	35.3	

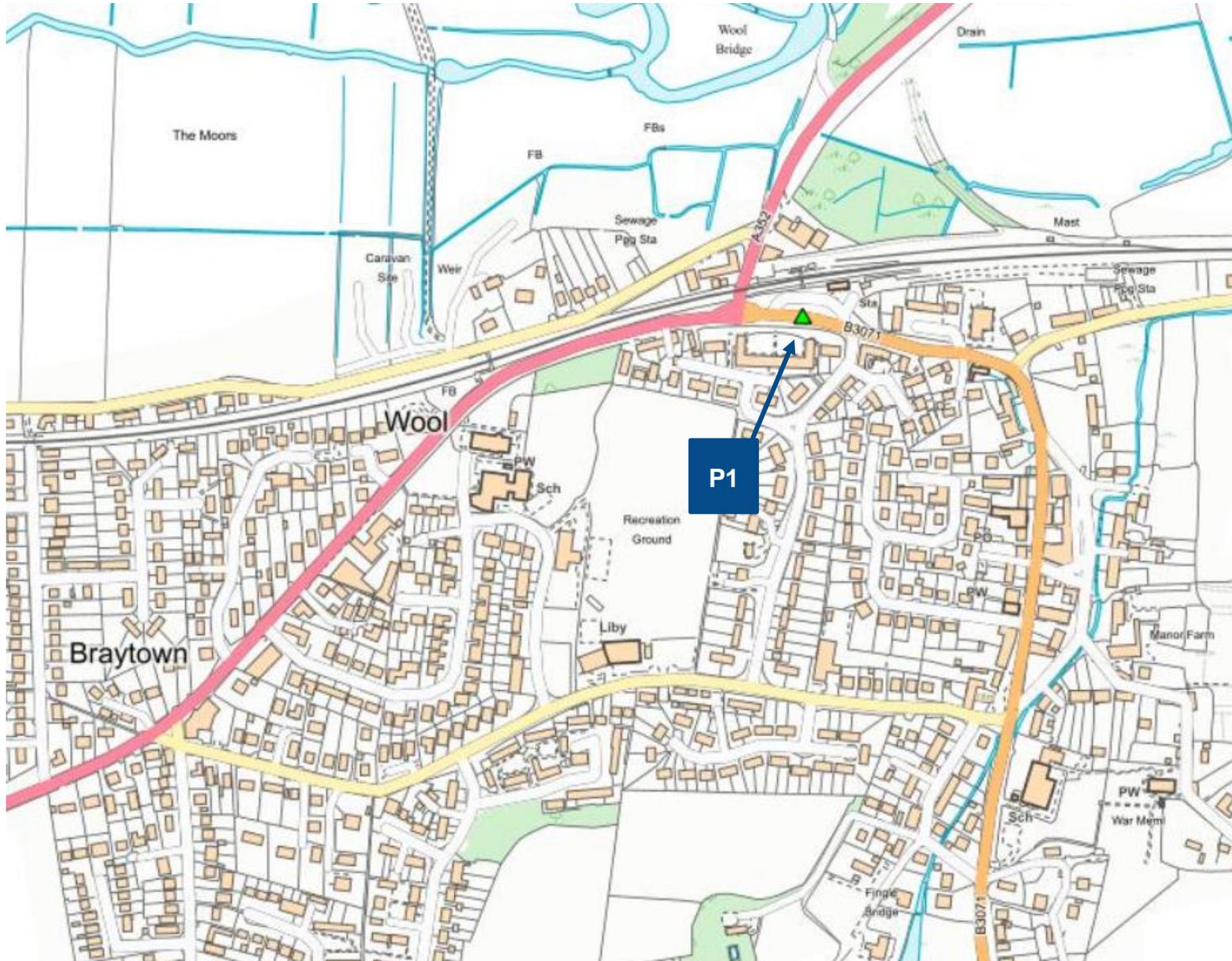
**Table C.3 – NO<sub>2</sub> Fall off With Distance Calculations (concentrations presented in µg/m<sup>3</sup>)**

Site ID	Distance (m): Monitoring Site to Kerb	Distance (m): Receptor to Kerb	Monitored Concentration (Annualised and Bias Adjusted)	Background Concentration	Concentration Predicted at Receptor	Comments
W39	1.0	4.5	47.6	7.8	35.5	W39

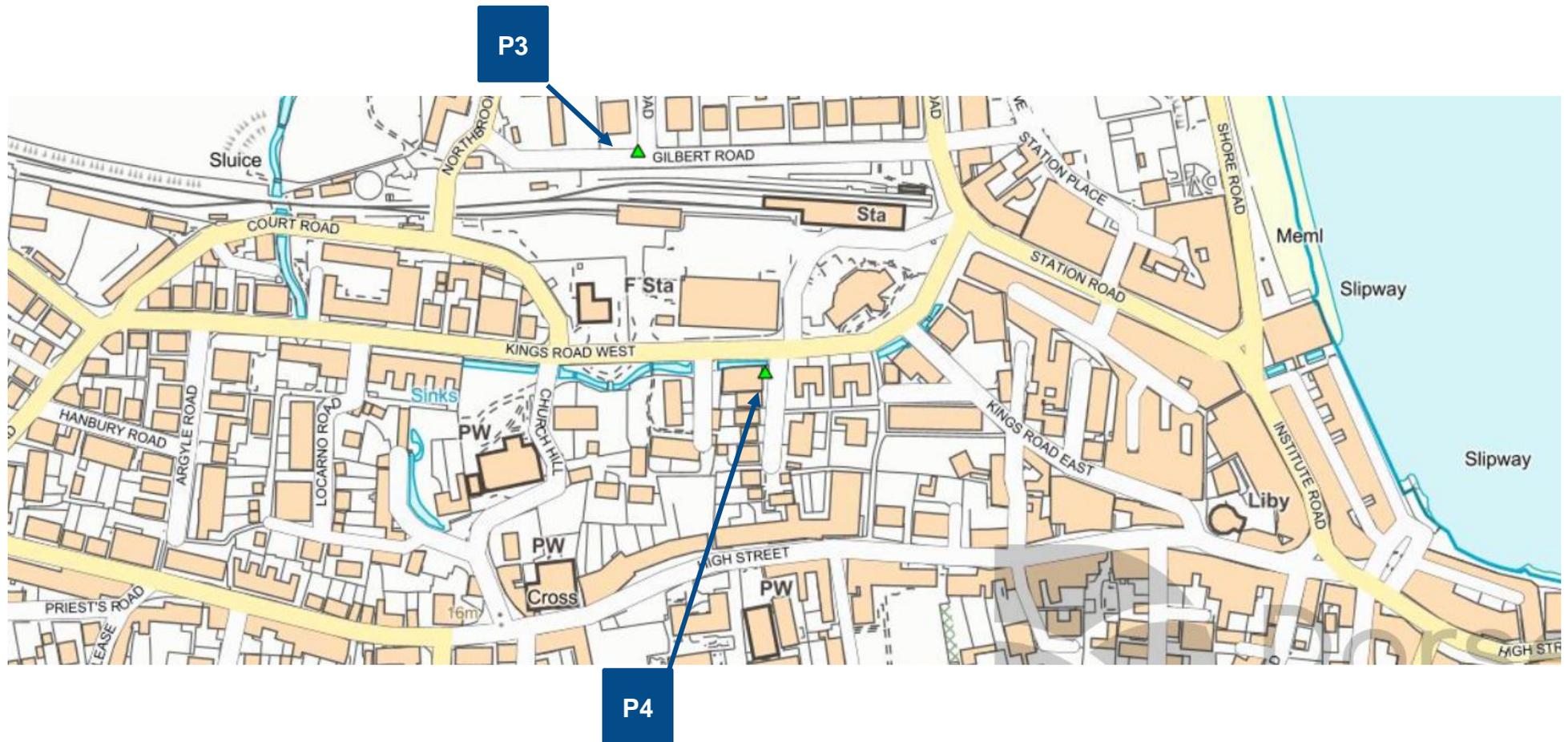
## Appendix D: Map(s) of Monitoring Locations and AQMAs

### Figure D.1 – Map of Non-Automatic Monitoring Site

#### Former Purbeck District Council area monitoring locations



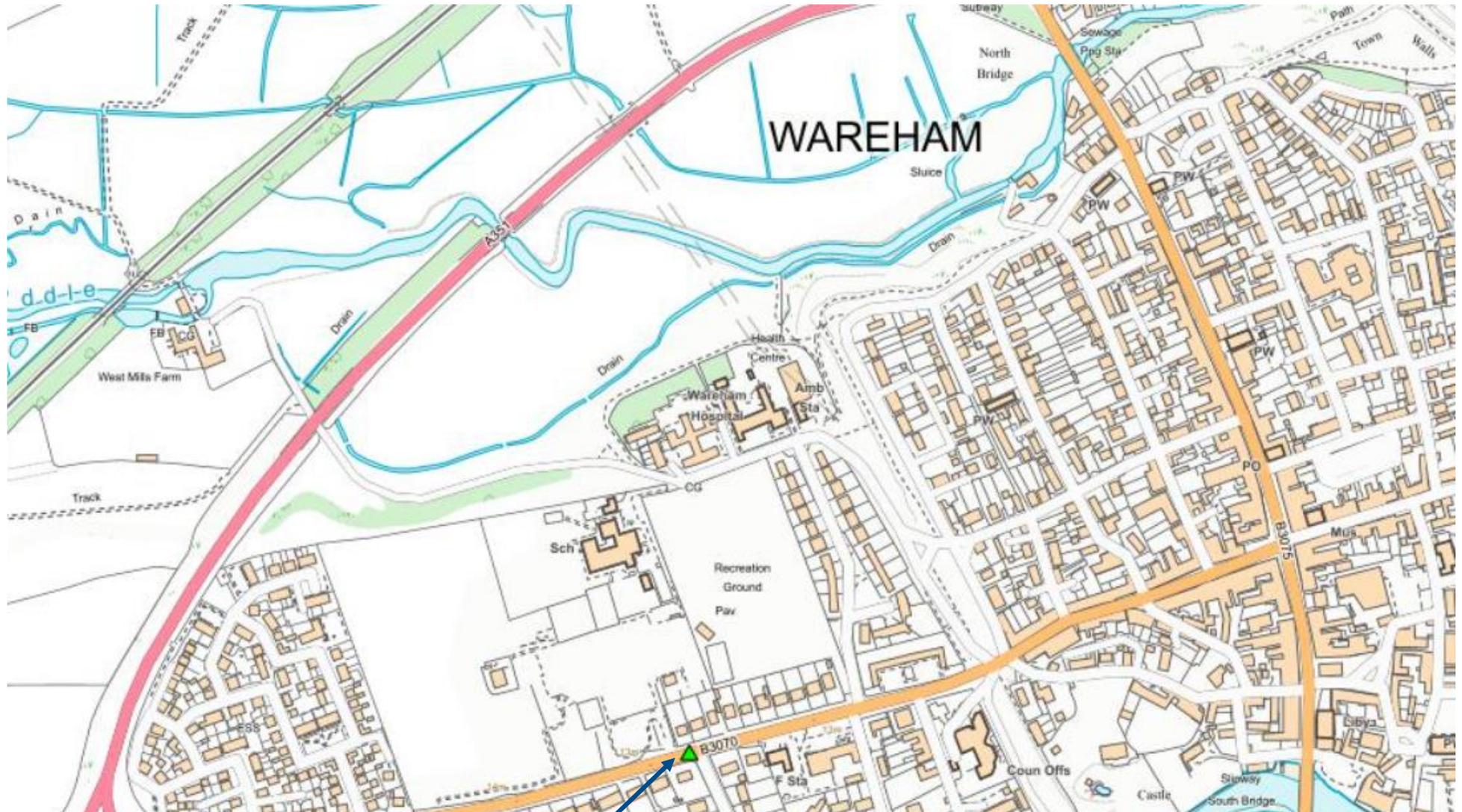






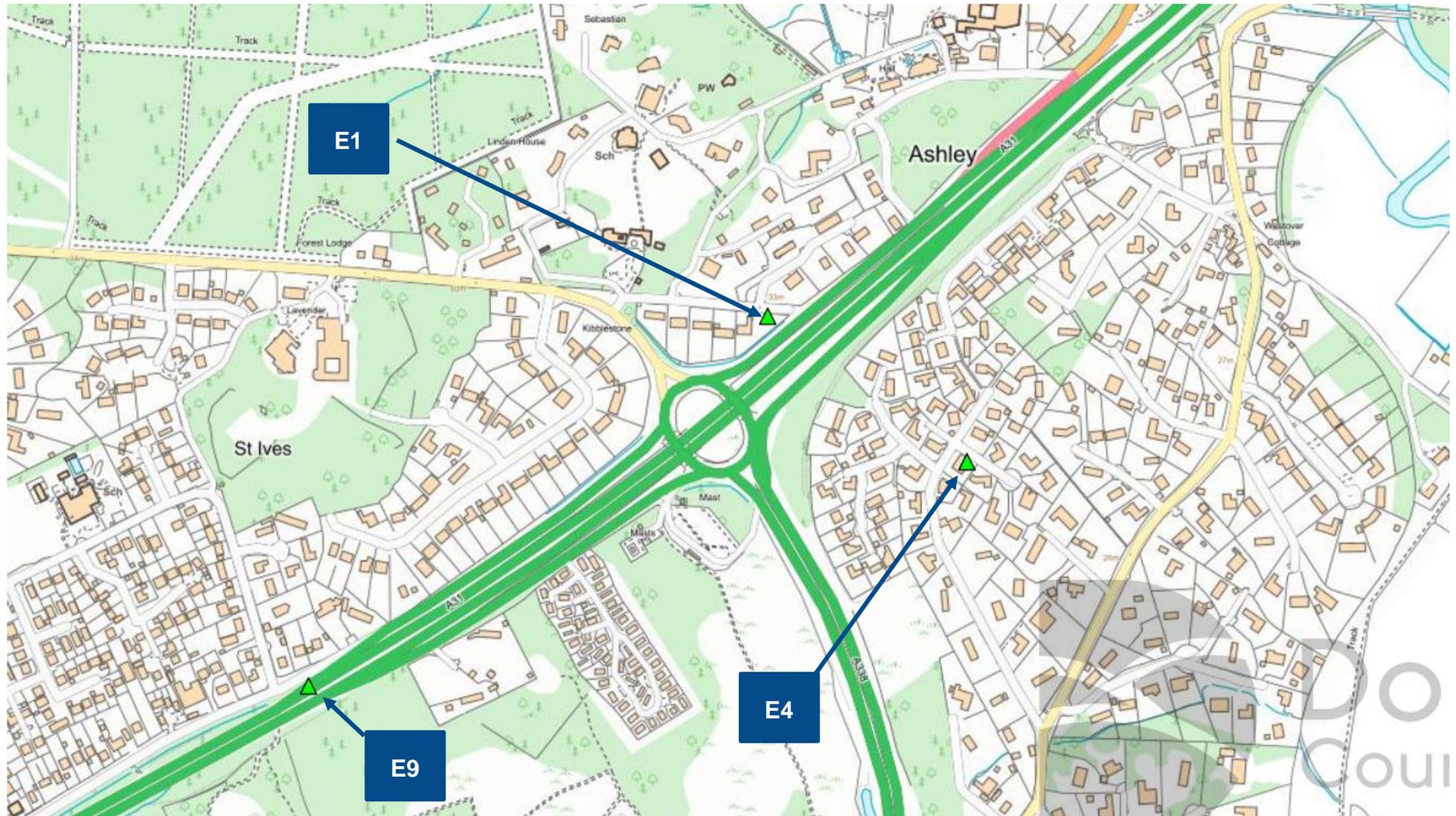


P9



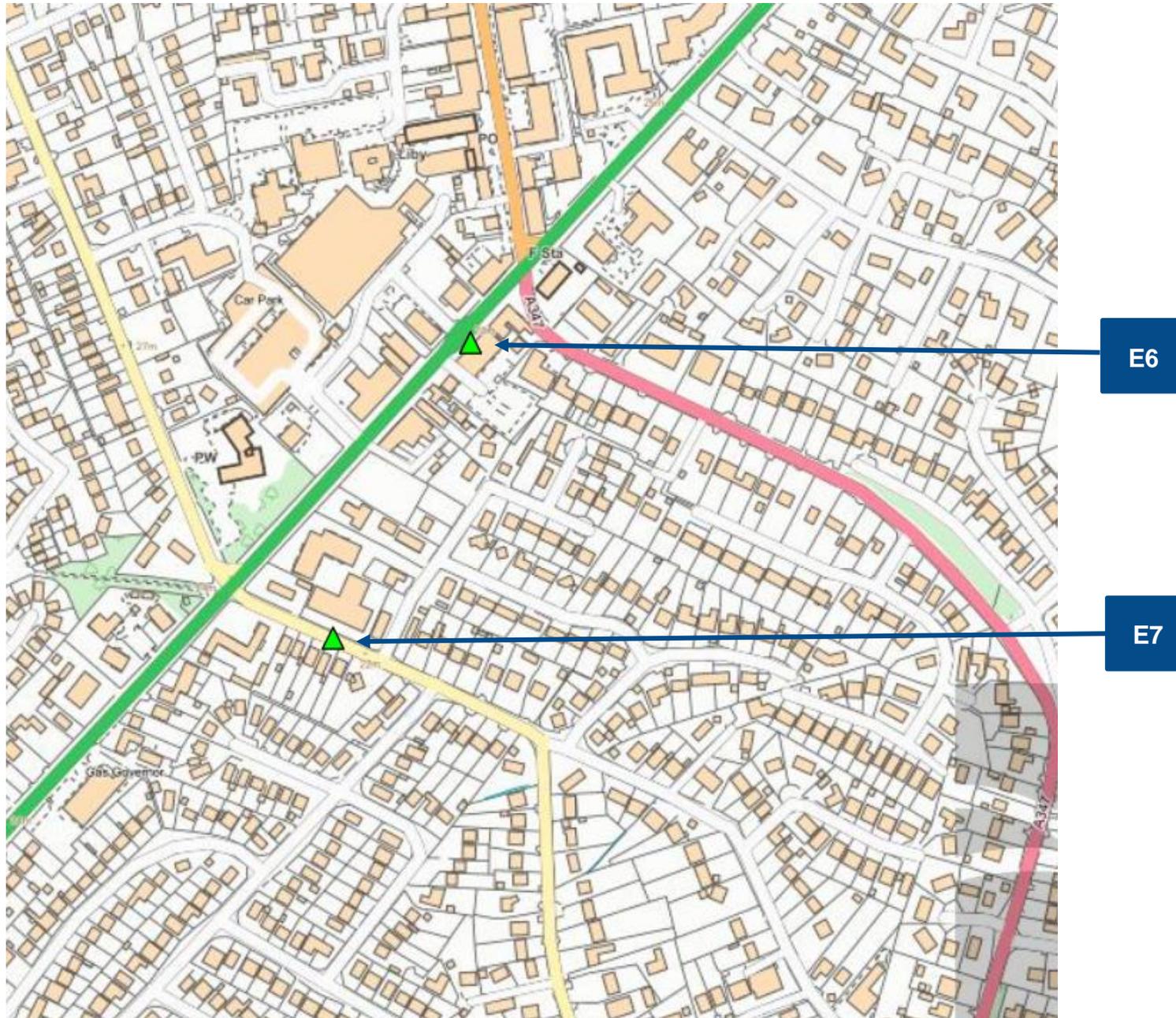
P10

Former East Dorset District Council area monitoring locations

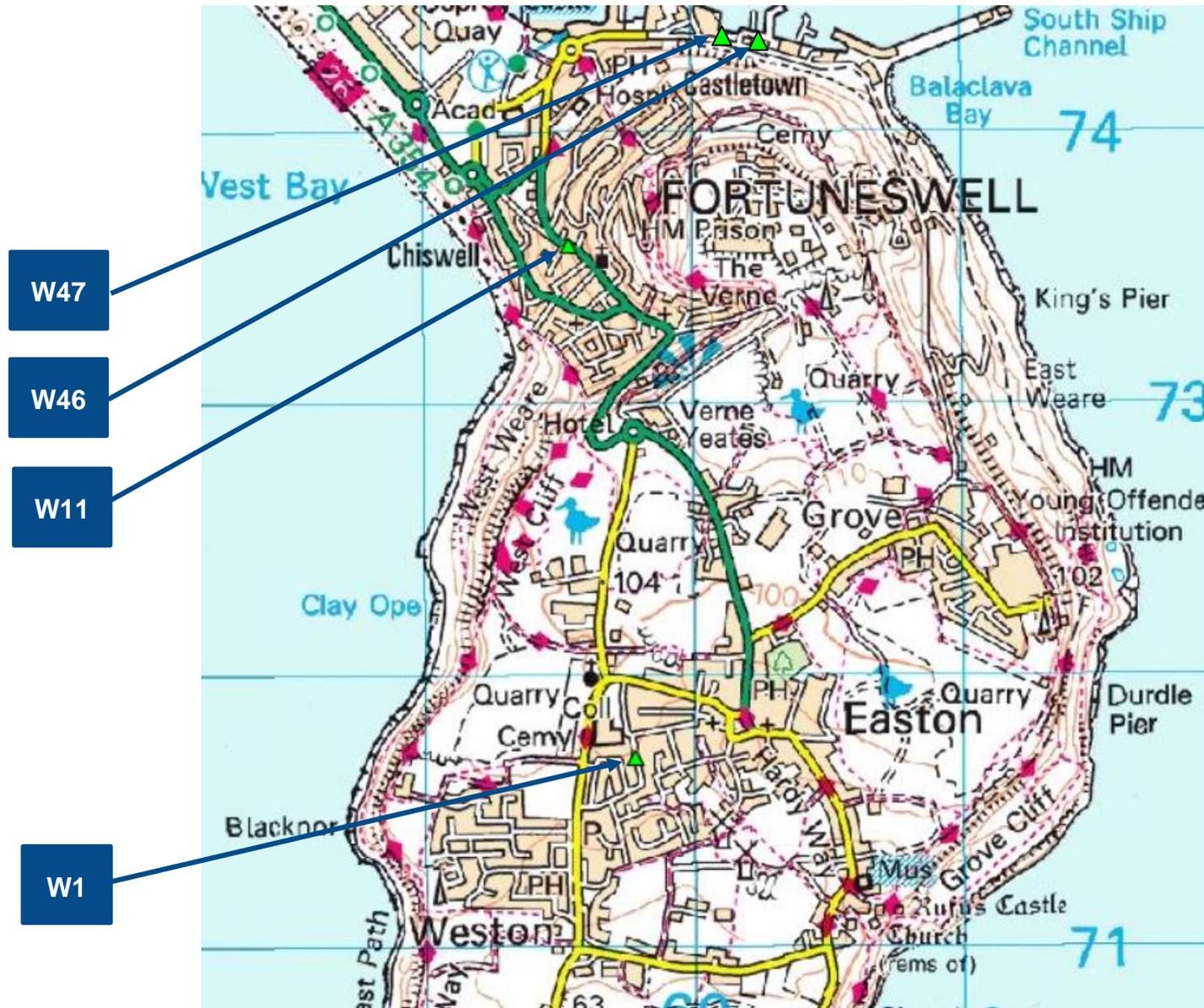


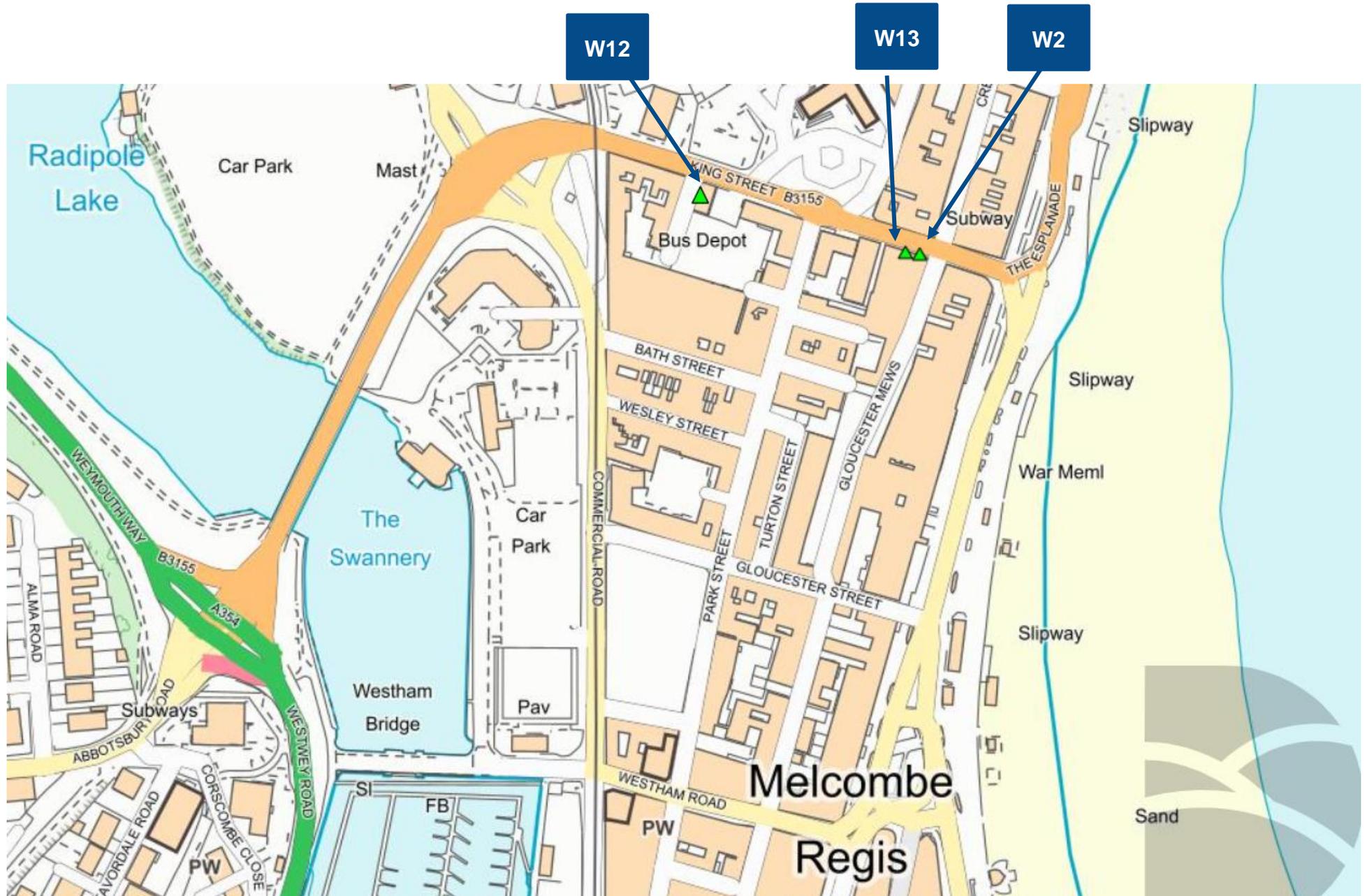


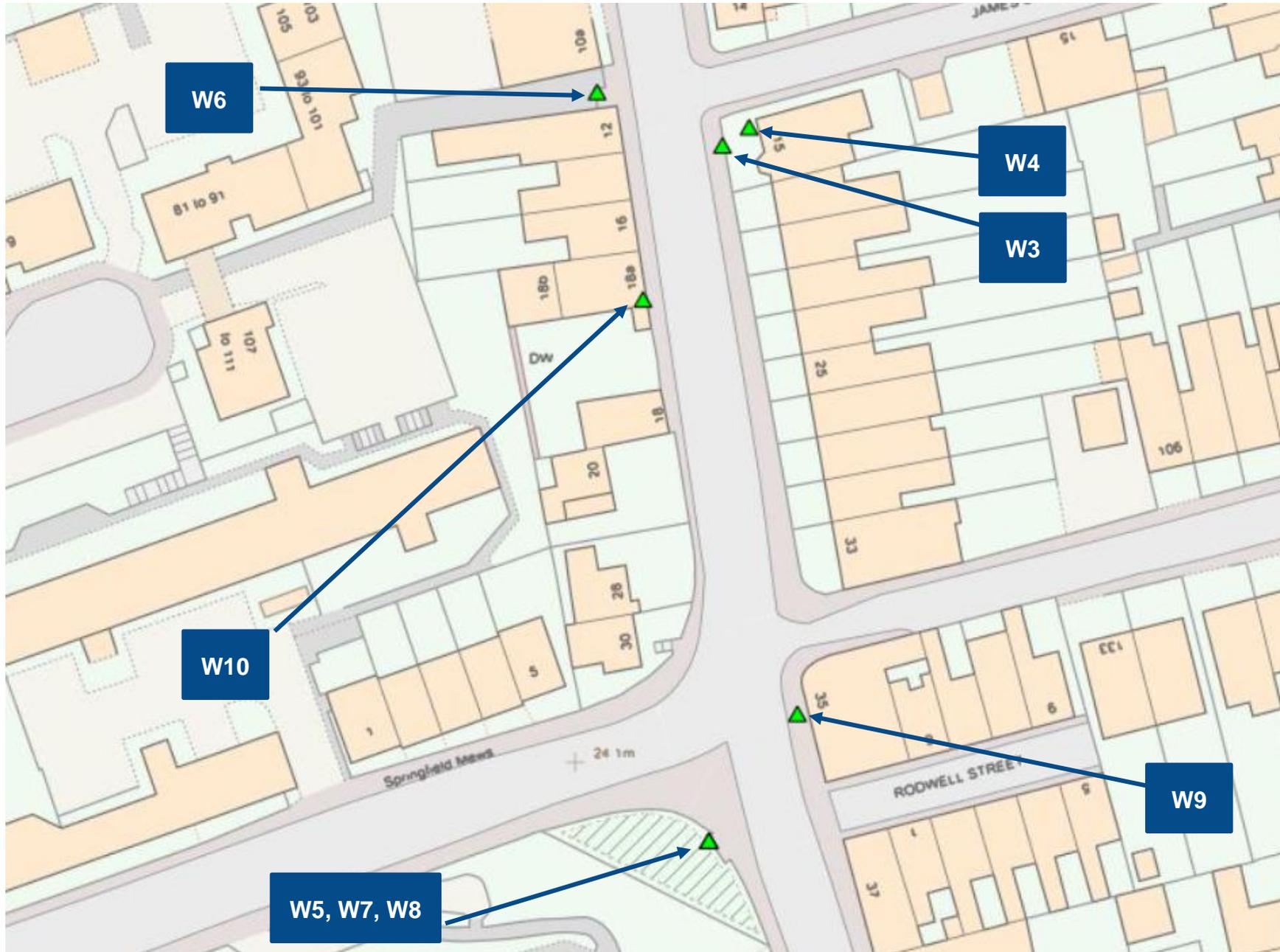




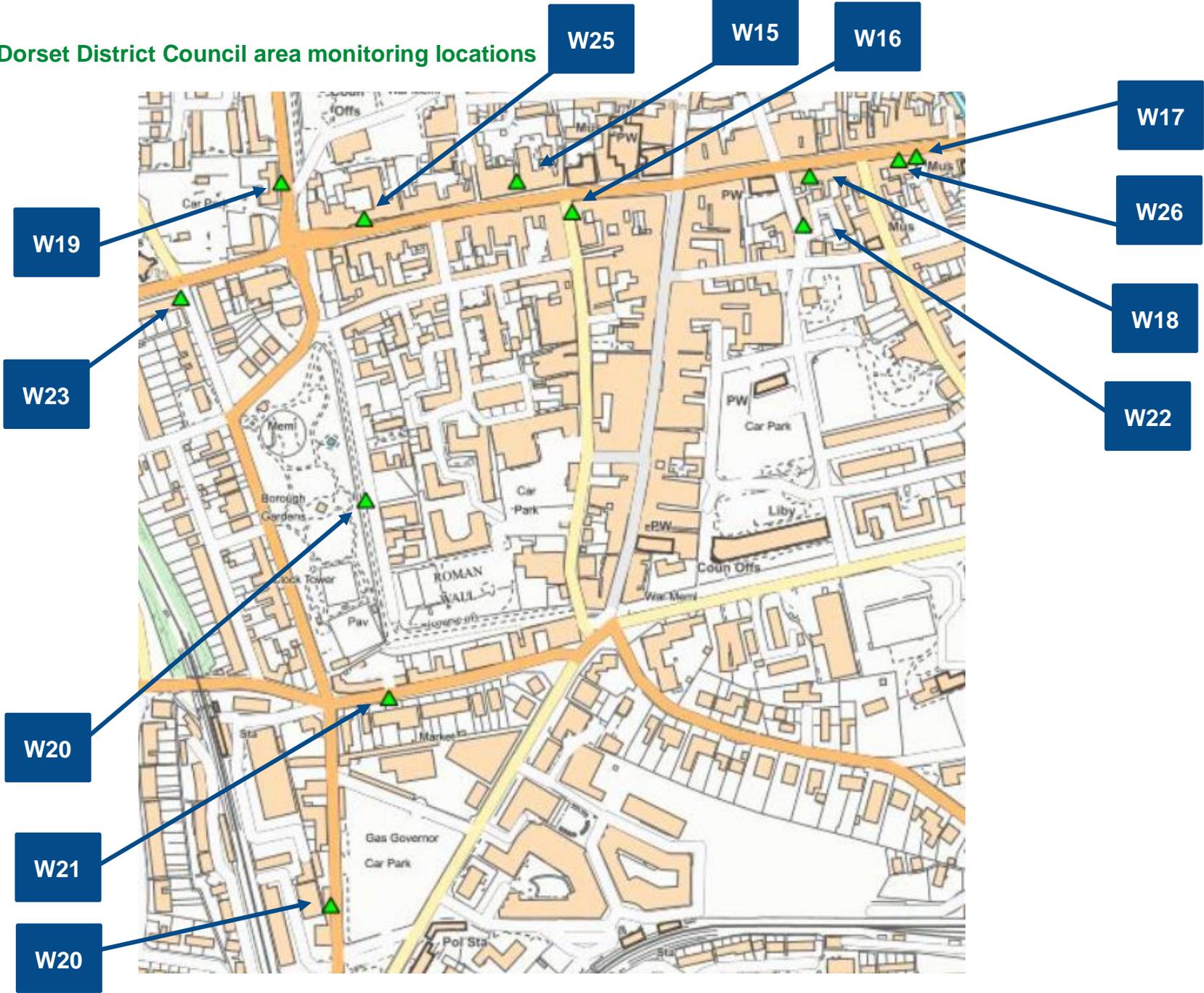
Former Weymouth and Portland Borough Council area monitoring locations

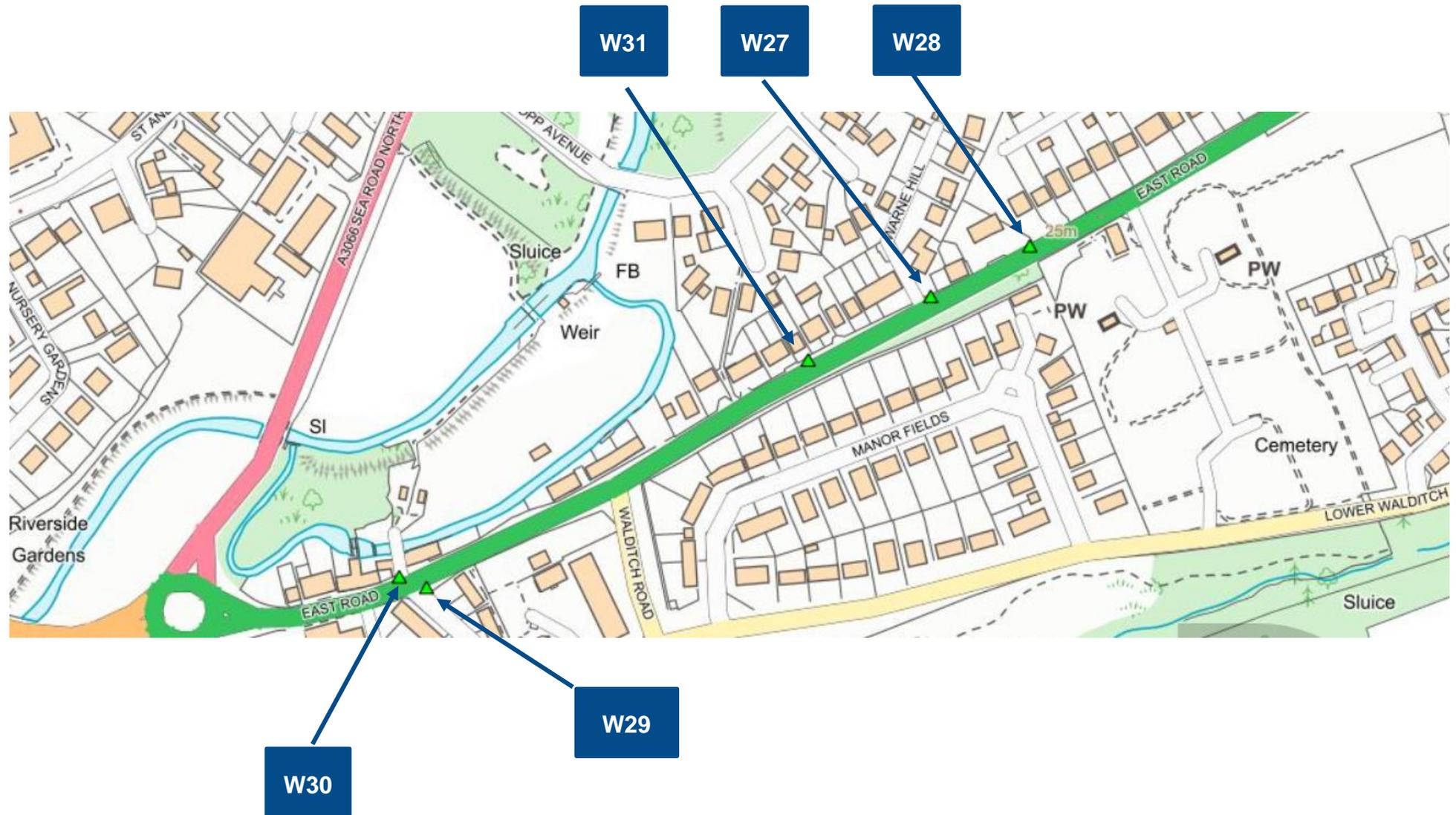




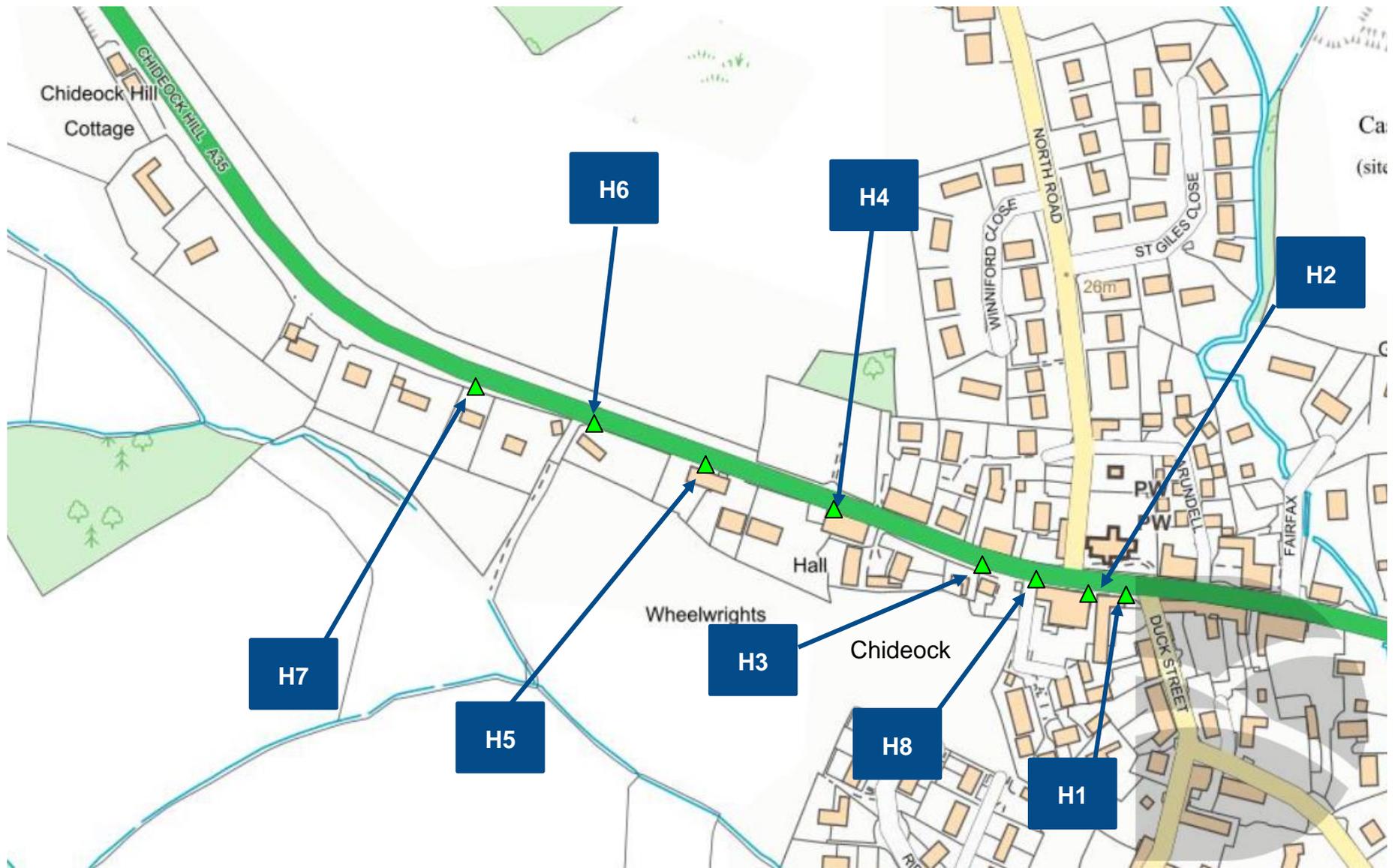


Former West Dorset District Council area monitoring locations

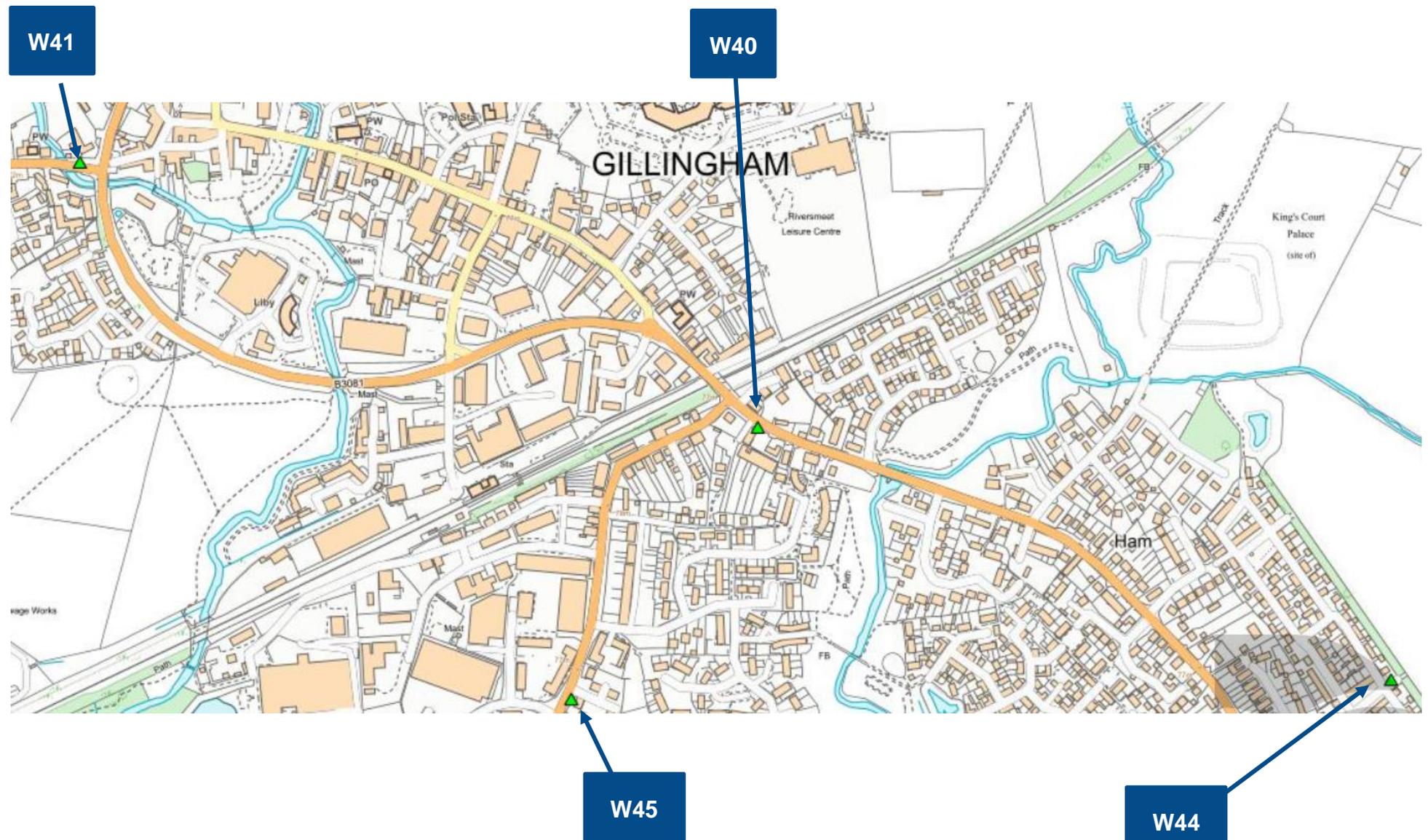








### Former North Dorset District Council area monitoring locations



W42



W43

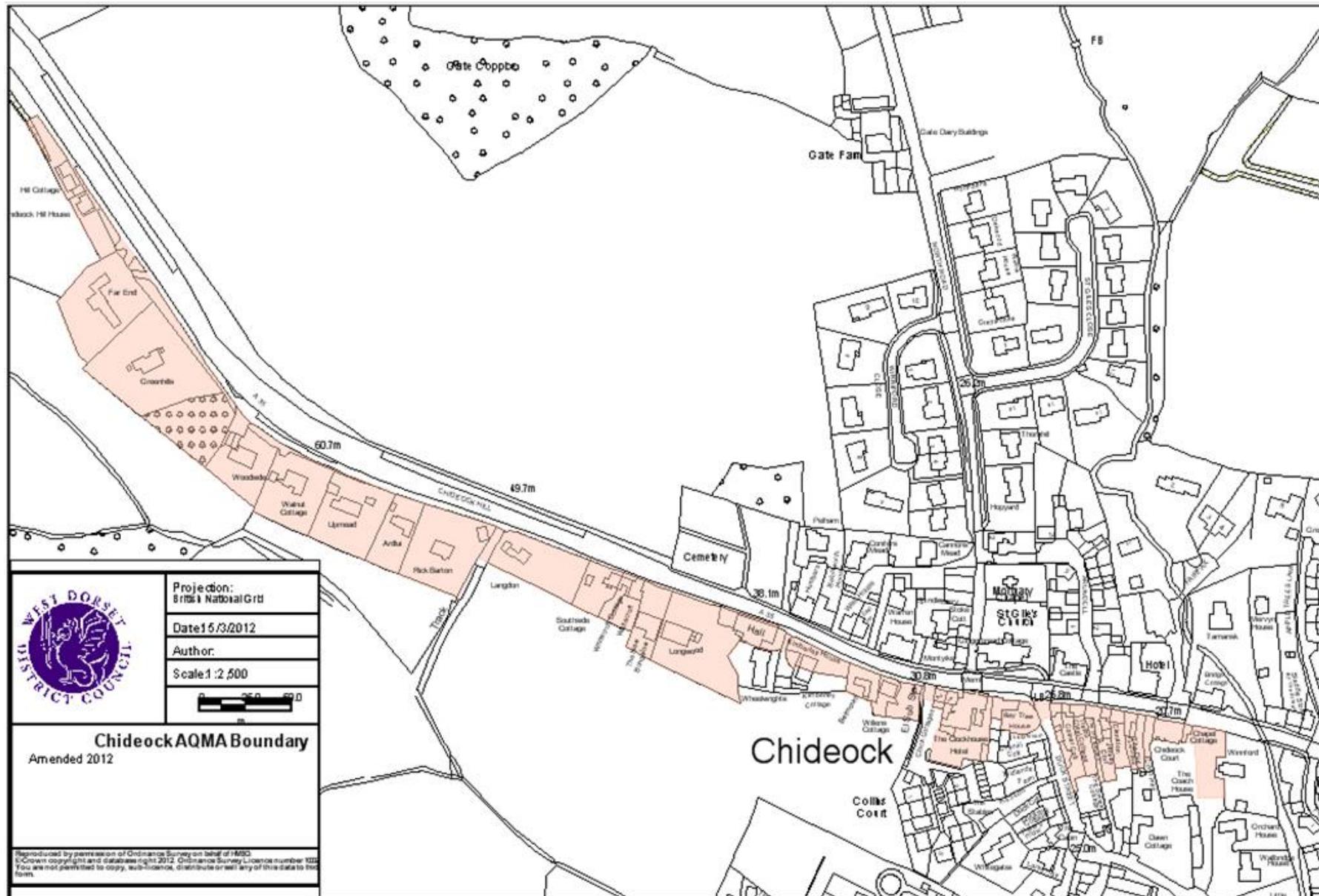


## Figure D.2 – Map of AQMAs

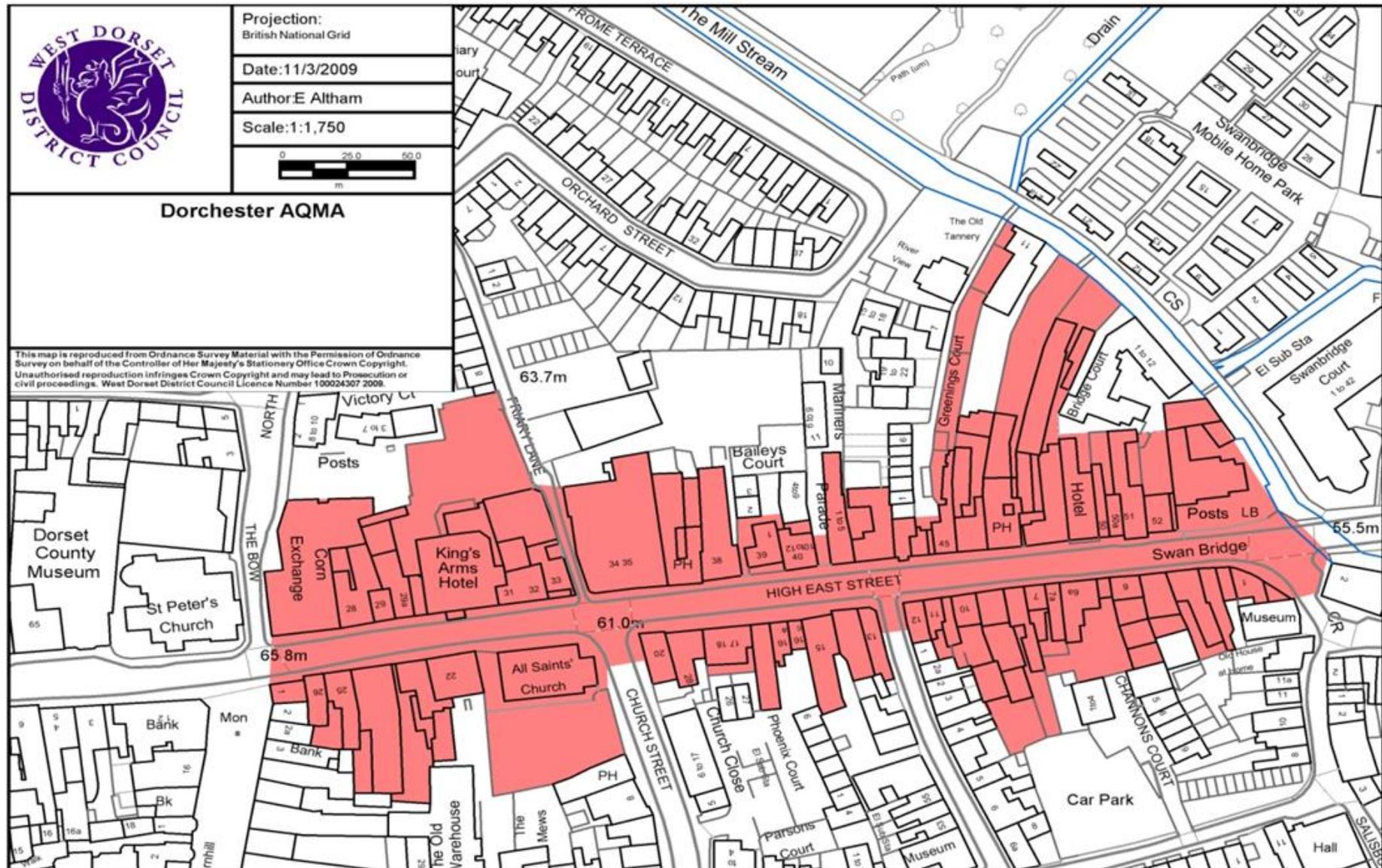
### AQMA Chideock 2007 Boundary



AQMA Chideock 2012 Amended Boundary



AQMA Dorchester 2009





## Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England<sup>7</sup>

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO <sub>2</sub> )	200µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO <sub>2</sub> )	40µg/m <sup>3</sup>	Annual mean
Particulate Matter (PM <sub>10</sub> )	50µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM <sub>10</sub> )	40µg/m <sup>3</sup>	Annual mean
Sulphur Dioxide (SO <sub>2</sub> )	350µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	125µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO <sub>2</sub> )	266µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean

<sup>7</sup> The units are in microgrammes of pollutant per cubic metre of air (µg/m<sup>3</sup>).

## Glossary of Terms

Abbreviation	Description
AQO	Air quality objective
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
EV	Electric Vehicle
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
LEV	Low Emissions Vehicle
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Nitrogen Oxides
PM <sub>10</sub>	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM <sub>2.5</sub>	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO <sub>2</sub>	Sulphur Dioxide

## References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG16. May 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.