Medworth EfW CHP Facility Order:
SI 2024 No.230

Local Air Quality Monitoring Strategy

(Requirement 27)

November 2024

Revision 1.0
Document ref. CP0_R27

We inspire with energy.

Glossary

Term	Description
µg/m³ (micrograms per cubic metre)	A measure of concentration in terms of mass per unit volume. A concentration of 1µg/m^3 means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.
Adjustment	Application of a correction factor to modelled results to account for uncertainties in the model.
Accuracy	A measure of how well a set of data fits the true value.
Air quality objective	A policy target generally expressed as a maximum ambient concentration to be achieved, either without exception or with a permitted number of exceedances within a specific timescale (see also air quality standard).
Air quality standard	The concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The standards are based on the assessment of the effects of each pollutant on human health including the effects on sensitive subgroups (see also air quality objective).
Annual mean	The average (mean) of the concentrations measured for each pollutant for one year.
Data capture	The percentage of all the possible measurements for a given period that were valid.
HSE	Health, Safety and Environmental Manager
Exceedance	A period of time where the concentration of a pollutant is greater than the appropriate air quality standard.
Ha	Hectare (1 ha = 10,000 m^2)
kV	Kilovolt (1 kV = 1000 volts)
NO_2	Nitrogen dioxide
NO_X	Nitrogen oxides (NO_X = NO + NO_2)
PM_{10}	Particulate matter with an aerodynamic diameter of less than 10 micrometres.

Term	Description
$PM_{2.5}$	Particulate matter with an aerodynamic diameter of less than 2.5 micrometres.
Ratification (monitoring)	Critical review of all information relating to a data set, to amend or reject the data. When the data have been “ratified” they represent the final data to be used (see also validation).
SO_2	Sulpur dioxide
Validation (monitoring)	Screening monitoring data by visual examination to check for spurious and unusual measurements (see also ratification).

Acronyms

Acronym	Description
AQMA	Air Quality Management Area
ASR	Annual Status Report
AURN	Automated Urban and Rural (air quality monitoring) Network, managed by contractors on behalf of Defra
BCKLWN	Borough Council of King's Lynn and West Norfolk
CCC	Cambridgeshire County Council
CHP	Combined Heat and Power
CIEH	Chartered Institute of Environmental Health
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DNO	Distribution Network Operator
EfW	Energy from Waste
FDC	Fenland District Council
GRP	Glass Reinforced Plastic
LAQM	Local Air Quality Management
LAQMS	Local Air Quality Monitoring Strategy
LSO	Local Site Operator
MCERTS	Monitoring Certification Scheme (operated by the Environment Agency)

Acronym	Description
MVV	MVV Group companies
NCC	Norfolk County Council
QA/QC	Quality Assurance/Quality Control
TCC	Temporary Construction Compound

Contents

1. Introduction 7
1.1 Background 7
1.2 The Developer and their appointed specialists 7
1.3 The Authorised Development 8
1.4 Purpose of this document 9
1.5 Structure of this document 9

2. Summary of Consultation 10
2.1 Background 10
2.2 Thomas Clarkson Academy 10
2.3 Fenland District Council 11
2.4 Borough Council of King's Lynn and West Norfolk 11
2.5 Combined Council Responses 11

3. Local Air Quality Monitoring Strategy 13
3.1 General commitments 13
3.2 LAQMS delivery 13
3.3 Monitoring period 13
3.4 Equipment and monitoring locations 14
Continuous Automatic Monitoring Station 14
Indicative Real-Time Particulate Monitoring 16
Nitrogen Dioxide Diffusion Tubes 16
Sulphur Dioxide Diffusion Tubes 18
3.5 Complaints and investigation procedure 18
3.6 Access to real-time data 19
3.7 Quality Assurance (QA) and Quality Control (QC) procedures 20
3.8 Data reporting 20
3.9 Annual review 20

Table 3.1: LAQMS diffusion tube monitoring locations 17
Table A.1: Local authority monitoring locations 23
Table B.1: Relevant air quality objectives 25

Graphic 2.1: Proposed location for the AQMS at the Thomas Clarkson Academy 10
Graphic 3.1: Example of a GRP enclosed continuous automatic monitoring station 15
Graphic 3.2: Example of an Earthsense Zephyr indicative real-time particulate monitor 16

Appendix A	WSP's Air Quality Team pen portraits	22
Appendix B	Local Authority Monitoring Locations	23
Appendix C	Relevant Air Quality Objectives	25

Figure 1	Monitoring Locations in Wisbech and along Construction Traffic Routes
Figure 2	Monitoring Locations in Wisbech, Whittlesey and along Operational Traffic Routes

1. Introduction

1.1 Background

1.1.1 Medworth CHP Limited (the Developer) has secured a Development Consent Order (the Order)[1] to construct, operate and maintain an Energy from Waste (EfW) Combined Heat and Power (CHP) Facility on the industrial estate, Algores Way, Wisbech, Cambridgeshire. Together with associated Grid Connection, CHP Connection, Access Improvements, Water Connections, Temporary Construction Compound (TCC), and an acoustic fence, these works are the Authorised Development.

1.1.2 The Authorised Development will recover useful energy in the form of electricity and steam from over half a million tonnes of non-recyclable (residual), non-hazardous municipal, commercial and industrial waste each year. The Authorised Development has a generating capacity of over 50 megawatts and the electricity will be exported to the grid. The Authorised Development also has the capability to export steam and electricity to users on the surrounding industrial estate.

1.2 The Developer and their appointed specialists

1.2.1 The Developer is a wholly owned subsidiary of MVV Environment Limited (MVV). MVV is part of the MVV Energie AG group of companies. MVV Energie AG is one of Germany's leading energy companies, employing approximately 6,500 people with assets of around €5 billion and annual sales of around €4.1 billion. The Authorised Development represents an investment of over £450m.

1.2.2 The company has over 50 years of experience in constructing, operating, and maintaining EfW CHP facilities in Germany and the UK. MVV Energie's portfolio includes a 700,000 tonnes per annum residual EfW CHP facility in Mannheim, Germany.

1.2.3 MVV's largest operational project in the UK is the Devonport EfW CHP Facility in Plymouth. Since 2015, this modern and efficient facility has been using up to 275,000 tonnes of municipal, commercial and industrial residual waste per year to generate electricity and heat, notably for His Majesty's Naval Base Devonport in Plymouth, and exporting electricity to the grid.

1.2.4 In Dundee, MVV has taken over the existing Baldovie EfW facility and has developed a new, modern facility alongside the existing facility. Operating in tandem since 2021, they use up to 220,000 tonnes of municipal, commercial and industrial waste each year as fuel for the generation of usable energy.

1.2.5 Biomass is another key focus of MVV's activities in the UK market. The biomass power plant at Ridham Dock, Kent, uses up to 195,000 tonnes of waste and non-recyclable wood per year to generate green electricity and is capable of exporting heat.

[1] Statutory Instrument 2024 No. 230 https://www.legislation.gov.uk/uksi/2024/230/schedule/1/made (last accessed 12/11/2024)

1.2.6 The Developer has appointed WSP to prepare the Local Air Quality Monitoring Strategy (LAQMS), and this task has been assigned to Dr Peter Walsh and Dr Justin Lingard, members of WSP's Air Quality Team; their pen portraits are set out in **Appendix A.**

1.3 The Authorised Development

1.3.1 The Authorised Development comprises the following key components:

- The EfW CHP Facility and Site (Work Nos.1/1A/1B/2A/2B);
- CHP Connection (Work Nos.3/3A/3B);
- Access Improvements (Work Nos.4A/4B);
- TCC (Work No.5);
- Water Connections (Work Nos.6A/6B);
- Grid Connection (Work Nos.7/8/9); and
- Acoustic fence (Work No.10).

1.3.2 A summary description of each Authorised Development component is provided below.

- EfW CHP Facility and Site: A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council (FDC) and Cambridgeshire County Council (CCC). The main buildings of the EfW CHP Facility will be located in the area to the north of the Hundred of Wisbech Internal Drainage Board drain bisecting the site and will house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, and laydown maintenance area will be located in the southern section of the EfW CHP Facility Site.
- CHP Connection: The EfW CHP Facility will be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables will be located on a raised, steel structure.
- TCC: Located adjacent to the EfW CHP Facility Site, the compound will be used to support the construction of the Authorised Development. The compound will be in place for the duration of construction.
- Access Improvements: Includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- Water Connections: A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 to join an existing Anglian Water main. An additional foul sewer connection is required to an existing

pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.

- Grid Connection: This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable will be connected underground to the Walsoken Distribution Network Operator (DNO) Substation.
- Acoustic fence: This comprises a 3m high acoustic fence fronting a residential property at 10 New Bridge Lane, Wisbech.

1.4 Purpose of this document

1.4.1 Schedule 2 of the Order requires the Developer to comply with and/or submit detailed information to implement the Authorised Development. Requirement 27 of Schedule 2 states:

> *(1) Prior to the commencement of the authorised development, a local air quality monitoring strategy must be submitted to the relevant planning authority for approval. The local air quality monitoring strategy submitted for approval must be substantially in accordance with the outline local air quality monitoring strategy.*
>
> *(2) The local air quality monitoring strategy must be implemented as approved under sub-paragraph (1).*

1.4.2 **Section 3** of this document provides the detailed information to discharge the pre-commencement of development conditions of Requirement 27; the Local Air Quality Monitoring Strategy (LAQMS).

1.5 Structure of this document

- **Section 2:** Summary of Consultation
- **Section 3:** Local Air Quality Monitoring Strategy

2. Summary of Consultation

2.1 Background

2.1.1 During the DCO examination, an **Outline LAQMS, Revision 3 (Volume 9.21) [REP4-015]** was developed and submitted to the Planning Inspectorate in May 2023.

2.1.2 A general commitment of the **Outline LAQMS** was to prepare a detailed strategy in consultation with the relevant planning authorities (CCC and Norfolk County Council (NCC)) with input from FDC and the Borough Council of King's Lynn and West Norfolk's (BCKLWN) Environmental Health Officers. Once complete, this document will be submitted for review and approval by the relevant planning authorities.

2.1.3 To prepare the **LAQMS**, the Developer and WSP met with the Environmental Health Officers from FDC and BCKLWN on 28th August 2024.

2.1.4 The Developer met with representatives of the Thomas Clarkson Academy on 3rd July and 14th August 2024 to discuss the potential siting of an AQMS at their facility.

2.1.5 Outcomes of these consultations have been incorporated into the final **LAQMS**, see **Section 3**. A summary of the discussions and comments provided by the respective local authorities and the Thomas Clarkson Academy during the meetings are given below.

2.2 Thomas Clarkson Academy

2.2.1 The Thomas Clarkson Academy have agreed to host the AQMS. The proposed location for the AQMS is adjacent to the hard PE multi-use sports pitches within the Academy's grounds and to the north of Weasenham Lane, see **Graphic 2.1**.

Graphic 2.1: Proposed location for the AQMS at the Thomas Clarkson Academy

2.3 Fenland District Council

2.3.1 In response to the presentation of the draft **LAQMS**, including the proposed distribution of nitrogen dioxide (NO_2) diffusion tubes, the Environmental Officer at FDC, requested the inclusion of sulphur dioxide (SO_2) diffusion tubes be reviewed, should SO_2 concentrations detected at the **LAQMS** be determined as high enough to suggest that SO_2 diffusion tube measurements were necessary. The Developer and WSP agreed to review the use of SO_2 diffusion tubes should 24-hour (daily) mean concentrations exceed 50% of the objective levels more than 10 times over three continuous months, subject to source apportionment and wind rose data.

2.4 Borough Council of King's Lynn and West Norfolk

2.4.1 The Senior Environmental Quality Officer at BCKLWN raised the issue of whether the **LAQMS** would include monitoring of meteorological data. Both the Developer and WSP agreed that a wind speed and wind direction sensor would be included within the **LAQMS**.

2.4.2 It was requested that a diffusion tube be placed alongside monitoring location number 14 (at the Thomas Clarkson Academy), where there is an existing MCERTs air quality monitor, to which the Developer and WSP agreed.

2.4.3 The Environmental Health Manager at BCKLWN raised the issue of calibration, data verification and provisional data. The Developer and WSP agreed that all **LAQMS** monitoring will be undertaken according to Defra's Technical Guidance on Local Air Quality Management 2022 (LAQM TG22)[2], including a maintenance agreement with the chosen equipment supplier or suitable alternative company to cover routine maintenance of the equipment, monthly span checks, six monthly servicing and calibration visits as well as an allocated QA/QC provider.

2.4.4 An additional set of email communications via was undertaken between WSP and BCKLWN from 1st November 2024 to 8th November 2024. This was in relation to clarifying the deployment of one indicative sensor, and its location, 12 months prior to commencement of operation of the Authorised Development.

2.5 Combined Council Responses

2.5.1 FDC and BCKLWN requested that WSP submit a draft proposal for the additional diffusion tube locations. Officers were able to then review and comment on the suitability of the proposed locations. The draft LAQMS was subsequently issued to the EHO's of both FDC and BCKLWN on 27th September 2024 for final comment. EHO comments were then received back on 16th October 2024 confirming that the LAQMS was acceptable, subject to two minor points concerning inclusion of NO_2 senor in the indicative monitor and the specific relocation of the indicative sensor after the initial monitoring period. These were both incorporated into the final version of the LAQMS which was re-issued to the EHO's on 17th October 2024.

[2] Defra (2022). Local Air Quality Management Technical Guidance (TG22) August 2022 [online]. Available at:.https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf (last accessed 12/11/2024)

2.5.2 Concerning the continuous particulate monitor, FDC and BCKLWN supported the selection of a Zephyr[3], manufactured and supplied by Earthsense, and requested the addition of a NO_2 sensor. Officers requested that the Zephyr monitoring data be made available within the existing monitoring dashboard, to which the Developer and WSP agreed. As requested WSP have nominated a monitoring location where the Zephyr will be sited, and officers reviewed and have approved the suitability of this location.

[3] https://www.earthsense.co.uk/zephyr?gad_source=1&gclid=Cj0KCQjwrp-3BhDgARIsAEWJ6SwjarylyXguBvDCa48ipIFtVK03-fNkx0tOc461_vp6dsR24oFubnUaAtuBEALw_wcB (last accessed 12/11/2024)

3. Local Air Quality Monitoring Strategy

3.1 General commitments

3.1.1 The **Outline LAQMS** provided the following general commitments which align with the outcomes of the stakeholder consultation summarised in **Section 2**:

- The approved **LAQMS** will be implemented, and the equipment maintained for the duration of the monitoring period.
- Data collected by the **LAQMS** will be published quarterly on the Developer's website and, if requested, issued to the relevant planning authority.
- All staff employed at the EfW CHP Facility will be suitably qualified and competent, including the Health, Safety and Environmental Manager[4] (HSE). Once employed, the HSE Manager will produce the quarterly report. The quarterly report will include details of any exceedances, their investigation and, if attributed to the EfW CHP Facility, action to be taken to remedy the situation within an agreed timescale.
- To assist with other local air quality initiatives, the Developer agrees to share with both BCKLWN and FDC, by remote secure access, the information collected by the **LAQMS**.
- All data will be quality controlled in accordance with Defra's LAQM TG22 air quality guidance[2].

3.1.2 How these commitments will be met as part of the **LAQMS** are given below.

3.2 LAQMS delivery

3.2.1 As noted in **Paragraph 1.2.6**, WSP have prepared the **LAQMS** on behalf of the Developer and day-to-day delivery will initially be the responsibility of WSP. Once employed, responsibility will transfer over to the Developer's HSE Manager.

3.2.2 Alternative suitably qualified specialists may be appointed by the Developer, if required, to deliver the LAQMS.

3.3 Monitoring period

3.3.1 The **LAQMS** equipment will be installed in the locations set out below in **Section 3.4** and operational prior to the commencement[5] of the Authorised Development.

[4] Suitable qualifications could include being a member of the Institute of Air Quality Management (IAQM) or Chartered Institute of Environmental Health (CIEH))

[5] Commencement is defined under Article 2 of the Order see Statutory Instrument 2024 No. 230 https://www.legislation.gov.uk/uksi/2024/230/schedule/1/made (last accessed 12/11/2024)

3.3.2 The **LAQMS** equipment will be removed after the fourth anniversary of the date of final commissioning[6] at the EfW CHP Facility.

3.4 Equipment and monitoring locations

3.4.1 Air quality monitoring equipment will be installed at the locations identified in **Table 3.1**. The monitoring locations in Wisbech are shown in **Figure 1** together with the proposed construction vehicle routes and the local authority air quality monitoring locations operated by FDC[7] and BCKLWN[8]. The monitoring locations include those within 200m of the construction and operational vehicle routes and those within Wisbech and the surrounding villages. Details of the local authority monitoring locations are given in **Appendix B.**

3.4.2 **Figure 2** provides similar information but shows a wider extent covering Wisbech and Whittlesey. It includes the proposed operational vehicle routes, the monitoring locations operated by FDC and BCKLWN, and the two continuous SO_2 automatic monitoring stations in Whittlesey.

3.4.3 **Figure 1** includes the location and extent of the Air Quality Management Areas (AQMAs) declared by FDC in Wisbech and **Figure 2** includes the AQMAs in Wisbech and Whittlesey[9].

Continuous Automatic Monitoring Station

3.4.4 One continuous automatic monitoring station will be installed at the Thomas Clarkson Academy in Wisbech. This reflects the location chosen to site the continuous automatic monitoring station used during the baseline monitoring campaign carried out in 2018 to support the air quality assessment presented in the **Environmental Statement (ES) Chapter 8: Air Quality Revision 1 (Volume 6.2) [APP-035]**. The Thomas Clarkson Academy lies north-east of the EfW CHP Facility Site, as shown in **Figure 1**.

---

[6] Final commissioning is defined under Article 2 Order, see Statutory Instrument 2024 No. 230 https://www.legislation.gov.uk/uksi/2024/230/schedule/1/made (last accessed 12/11/2024)

[7] Fenland District Council (2023). *2023 Air Quality Annual Status Report* [online]. Available at: https://www.fenland.gov.uk/media/20305/Air-Quality-Annual-Status-Report-2023/pdf/ASR_Template_England_2023_Fenland.pdf?m=1696844848267. (last accessed 12/11/2024)

[8] Borough Council of King's Lynn and West Norfolk (2024). *2024 Air Quality Annual Status Report* [online]. Available at: https://www.west-norfolk.gov.uk/info/20137/air_quality/169/air_quality_information. (last accessed 12/11/2024)

[9] The four AQMAs in Wisbech and Whittlesey are:

1) Wisbech AQMA No. 1 declared for exceedances of the 15-minute SO_2 objective (https://uk-air.defra.gov.uk/aqma/details?aqma_ref=130);

2) Wisbech AQMA No. 2 declared for exceedances of the 24-hour mean PM_{10} objective (https://uk-air.defra.gov.uk/aqma/details?aqma_ref=131);

3) Wisbech AQMA No. 3 declared for exceedances of the annual mean NO_2 objective (https://uk-air.defra.gov.uk/aqma/details?aqma_ref=456); and

4) Whittlesey AQMA No. 1 declared for exceedances of the 15-minute SO_2 objective (https://uk-air.defra.gov.uk/aqma/details?aqma_ref=465).

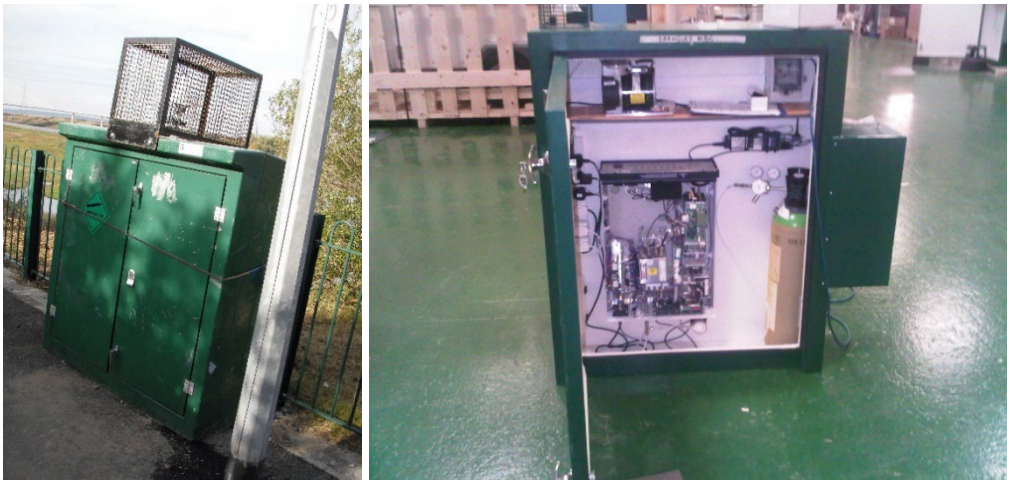
3.4.5 The equipment installed will provide near real-time measurements (<1hr) that can be used to inform ongoing levels of pollutants. The pollutants to be measured and measurement methods are given below:

- Oxides of nitrogen (NO, NO_X and NO_2) will be measured using a Teledyne model N200 Chemiluminescence Analyser[10];
- Sulphur dioxide (SO_2) levels will be derived from a Teledyne model N100 UV Fluorescence Analyser[11]; and
- Particulate matter (PM_{10} and $PM_{2.5}$) will be measured using a Palas Fidas 200; this has received MCERTS approval for continuous ambient air quality monitoring[12].

3.4.6 The measurement methods and techniques[13] chosen are consistent with those used by Defra in the Automated Urban and Rural Network (AURN), as well as FDC and BCKLWN, to determine air quality levels and trends.

3.4.7 The station will consist of a small Glass Reinforced Plastic (GRP) enclosure to accommodate the equipment, see **Graphic 3.1**. The enclosure will be installed adjacent to a hard PE multi-use sports pitch approximately 100m north of Weasenham Lane, with protective fencing on one side.

Graphic 3.1: Example of a GRP enclosed continuous automatic monitoring station



3.4.8 Measurements of wind speed and direction will also be made at this location using a sonic anemometer installed at height, i.e., attached to an adjacent lamp post or nearby fence post. These measurements will be used to determine the prevailing wind conditions and to inform investigation of complaints associated with the

[10] https://www.et.co.uk/products/nox-chemiluminescence-no-no%E2%82%82-nox-analyser-model-n200/ (last accessed 12/11/2024)

[11] https://www.et.co.uk/products/so%E2%82%82-uv-fluorescence-analyser-model-n100/ (last accessed 12/11/2024)

[12] https://uk-air.defra.gov.uk/networks/monitoring-methods?view=mcerts-scheme (last accessed 12/11/2024)

[13] https://uk-air.defra.gov.uk/networks/monitoring-methods?view=eu-standards (last accessed 12/11/2024)

dispersion of emissions from the Authorised Development during the operational phase.

3.4.9 If, for unforeseen circumstances, the continuous automatic monitoring station must be relocated, an alternative suitable location will be agreed with the environmental health officers at BCKLWN and FDC.

Indicative Real-Time Particulate Monitoring

3.4.10 One Earthsense Zephyr[14] indicative real-time particulate monitor will be installed to measure PM_{10}, $PM_{2.5}$ and NO_2. This device has received MCERTS approval for indicative particulate monitoring[15] and is used by BCKLWN to provide similar measurements. These measurements will complement the particulate matter and NO_2 readings provided by the continuous automatic monitoring station at the Thomas Clarkson Academy.

Graphic 3.2: Example of an Earthsense Zephyr indicative real-time particulate monitor

3.4.11 At the commencement of development, which is in excess of 12 months prior to operation of the Authorised Development, the indicative real-time monitor will be sited at BCKLWN diffusion tube monitoring location 100 on Chapnall Road, Walsoken.

3.4.12 It will be co-located with diffusion tube 100 (as shown in **Figure 1**) and attached to available street furniture.

Nitrogen Dioxide Diffusion Tubes

3.4.13 Routine NO_2 monitoring will be undertaken in Wisbech using diffusion tubes at the 13 locations detailed in **Table 3.1** and shown in **Figure 1**. These locations are

[14] https://www.earthsense.co.uk/zephyr (last accessed 12/11/2024) or suitable alternative

[15] https://www.csagroup.org/en-gb/services/mcerts/mcerts-product-certification/mcerts-certified-products/mcerts-certified-products-indicative-ambient-particulate-monitors/ (last accessed 12/11/2024)

consistent with the baseline monitoring locations presented in the **ES Chapter 8: Air Quality, Revision 1 (Volume 6.2) [APP-035]**.

Table 3.1: LAQMS diffusion tube monitoring locations

Site ID	Site location	Site type	Site coordinates (based on OS grid reference, m)		In AQMA?	Distance to kerb (m)	Approximate Distance to the EfW CHP Facility Site (km)[16]
			X	Y			
1	Thomas Clarkson Academy	Roadside	546612	308501	No	3.9	1.1
2	New Bridge Lane	Roadside	545331	307796	No	1.2	0.1
3	New Drove	Roadside	546453	308232	No	1.8	0.8
4	Cromwell Road	Roadside	545503	308691	No	1.2	0.6
5	Cromwell Road	Roadside	544979	307825	No	2.4	0.4
6	Wisbech Bypass (A47)	Suburban	545729	307468	No	15.0	0.4
7	Weasenham Lane	Roadside	546600	308401	No	1.6	1.0
8	Weasenham Lane	Roadside	546444	308355	No	0.8	0.9
9	Railway Road	Roadside	546215	308856	No	1.4	1.0
10	Algores Way	Roadside	546106	308390	No	1.6	0.6
11	Elm High Road	Roadside	547083	307871	No	2.3	1.4
12	Elm High Road	Roadside	546904	308258	No	5.5	1.3
13	Churchill Road	Roadside	546531	309265	Yes	1.7	1.5

3.4.14 Tubes will be deployed following Defra's NO_2 diffusion tube calendar[17], this will ensure that tube changeovers and exposure periods are consistent with those deployed by FDC and BCKLWN allowing for easy comparison of datasets. All tubes will be installed at a minimum height of 2.4m to limit interference and tampering.

3.4.15 Diffusion tubes using 50% triethanolamine (TEA) in acetone will be supplied and analysed by an accredited UKAS Testing laboratory. Socotec (certificate number 1252) currently supply and analyse tubes for both FDC and BCKLWN and will be approached by the Developer to provide the service, though alternatives may be sought, if necessary.

3.4.16 Diffusion tube monitoring will take place predominantly along key routes in Wisbech, complementing current measurements undertaken by FDC and BCKLWN. These

[16] Distance is measured from the diffusion tube monitoring location to the nearest point on the EfW CHP Facility Site boundary.

[17] https://laqm.defra.gov.uk/air-quality/air-quality-assessment/diffusion-tube-monitoring-calendar/ (last accessed 12/11/2024)

measurements will be used to determine changes in NO_2 levels that maybe a consequence of the construction and operation of the Authorised Development.

3.4.17 As agreed with FDC and BCKLWN, routine NO_2 monitoring outside of Wisbech and away from the routes used by construction and operational traffic, will be undertaken in the surrounding villages of West Walton[18], Walton Highway, Walpole Highway, Marshland St. James and Emneth. Diffusion tubes will be deployed in the centre of each village at kerbside locations. The duration of this additional monitoring will follow the same period as the deployment of the wider air quality monitoring undertaken as part of this LAQMS.

Sulphur Dioxide Diffusion Tubes

3.4.18 As agreed with FDC and BCKLWN, routine monitoring of SO_2 using diffusion tubes will only be implemented if specific criteria (given below) are breached.

3.4.19 SO_2 data recorded by the continuous monitoring station will be reviewed on a rolling 3-month basis and compared against the 24-hour mean SO_2 objective of 125µg/m^3. A threshold of 10 exceedances of 50% of the 24-hour mean SO_2 objective, i.e., 62.5µg/m^3, will be used to determine the need for routine monitoring.

3.4.20 The monitoring strategy shall be reviewed if this threshold is breached and appropriate comparisons with available local authority data will be undertaken to identify the potential source and/or conditions that have led to levels above the threshold before implementing additional monitoring. This approach recognises that there are other potential industrial sources of SO_2 that could lead to elevated levels being detected in Wisbech[9].

3.5 Complaints and investigation procedure

3.5.1 The procedure for reporting and investigating complaints and, if attributed to the EfW CHP Facility, action to be taken to remedy the situation is given below. Information provided in the quarterly report is detailed at **Section 3.8**.

3.5.2 Complaints relating to air quality can be registered by contacting the Developer's Community Liaison Manager and/or the Project Director . The following details will be required, as a minimum, for the complaint to be registered and investigated:

- Date
- Time
- Location
- Nature of complaint
- Contact details

[18] BCKLWN monitoring location 99 lies on School Road in West Walton.

3.5.3 The Developer will undertake an investigation of the complaint and contact the complainant if any further details are required. Where a complaint can be dealt with straight away, the Developer will do so and inform the complainant of the outcome.

3.5.4 If necessary, further investigation will be undertaken to ensure a comprehensive response can be provided to the complainant. This will include interrogation of weather and air quality monitoring data, as well as a review of all activities taking place in the area. The complainant will be updated as the investigation progresses.

3.5.5 Where complaints require an investigation to be undertaken by an external body due to the specialist nature of the issue, a suitably competent person or organisation may be engaged to assist with the investigation. These may include specialist staff appointed by the Developer. The complainant will be notified periodically as the investigation progresses.

3.5.6 Once the complaint has been resolved, the complainant will be notified of the outcome. If the complainant is dissatisfied, they may request that their complaint is escalated to MVV's Communications and Community Relations Manager in the first instance, who will review the complaint and any investigation, reporting back to the complainant on their findings.

3.5.7 Should the complainant remain unsatisfied with the outcome, the complaint will be escalated further to a Managing Director.

3.5.8 The complaints and investigation procedure for members of the public is the same and can be initiated by contacting the Developer's Community Liaison Manager and/or the Project Director, via the contact details provided on site notice boards and on the Developer's project-specific website.

3.5.9 From commencement of development and for the duration of the **LAQMS**, local air quality monitoring will be a standing item on the agenda at future local liaison group meetings.

3.6 Access to real-time data

3.6.1 Access to real-time **LAQMS** data will be provided to both BCKLWN and FDC via a monitoring supplier data dashboard. Separate usernames and passwords will be provided to identified staff at both local authorities providing access to the data but will not include editing or administration rights.

3.6.2 Likewise, access to real-time Zephyr data will be provided to both BCKLWN and FDC via a monitoring supplier data dashboard with separate usernames and passwords being provided to identified staff allowing access to the data but no editing or administration rights.

3.6.3 Monitoring data for the **LAQMS** will be initially supplied as flagged provisional data on the data dashboard, until it is ratified. The monitoring system will include auto data reporting, where agreed average data for set sampling durations will be reported, and any threshold exceedances will result in email alerts being issued.

3.7 Quality Assurance (QA) and Quality Control (QC) procedures

3.7.1 All monitoring data will be collated, ratified and verified in line with Defra's LAQM TG22 guidance.

3.7.2 QA and QC of the continuous automatic monitoring data will follow the data validation and ratification principles used in Defra's AURN air quality monitoring network[19] ensuring the provision of robust and defensible data.

3.7.3 Servicing and maintenance of the continuous automatic monitoring equipment will be undertaken once every six months by the supplier.

3.7.4 A third party suitably qualified organisation will undertake equipment calibration.

3.7.5 Local Site Operator duties will be undertaken by either the equipment supplier or a dedicated service provider and will follow the principles set out by the Environment Agency for the operation of Defra's AURN air quality monitoring network[20, 21].

3.7.6 NO_2 diffusion tube sampling and analysis will also follow current Local Air Quality Management guidance[22].

3.8 Data reporting

3.8.1 The Developer's HSE Manager will undertake weekly (as a minimum) checks to ensure that the real-time monitoring station(s) is operational and providing data.

3.8.2 Quarterly reports will also be collated by the Developer's HSE Manager, a quarter in arrears, to accommodate the inclusion of diffusion tube data. Confirmation of the ratification status, data capture and measured levels, benchmarked against the relevant air quality objectives, given in **Appendix C**, will be included in the report.

3.8.3 Any additional and/or unusual activity in the vicinity of the particulate monitoring equipment will be noted in the report, particularly where this may have an impact on the data; for example, local road works and bonfire night will contribute significantly to particulate levels.

3.9 Annual review

3.9.1 For the duration of the **LAQMS** and following the issue of the fourth quarterly review, an annual review meeting will take place between the Developer, FDC and

---

[19] https://uk-air.defra.gov.uk/assets/documents/Data_Validation_and_Ratification_Process_Apr_2017.pdf (last accessed 12/11/2024)

[20] Environment Agency (2021). *Automatic Urban and Rural Network (AURN) LSO Manual - Part A, version 1.1* [online]. Available at: https://uk-air.defra.gov.uk/assets/documents/reports/empire/lsoman/AURN_LSO_Manual_Part_A_Version_1.1_October_2021.pdf. (last accessed 12/11/2024)

[21] Environment Agency (2022). *Automatic Urban and Rural Network (AURN) LSO Manual - Part B, version 1.2* [online]. Available at: https://uk-air.defra.gov.uk/assets/documents/reports/empire/lsoman/AURN_LSO_Manual_Part_B_Version_1.2_November_2022_Issue_1.pdf. (last accessed 12/11/2024)

[22] AEA Technology (2008). Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance AEA/ENV/R/2504 - Issue 1a. [online]. Available at: https://laqm.defra.gov.uk/documents/0802141004_NO2_WG_PracticalGuidance_Issue1a.pdf. (last accessed 12/11/2024)

BCKLWN. The meeting will review results and, if required, consider any variations to the established **LAQMS**.

3.9.2 Any material variations to the **LAQMS**, such as the relocation of Zephyr equipment, will be agreed in writing between the Developer, FDC and BCKLWN and notification sent to CCC and NCC. Variations to the **LAQMS** will be reported to the local liaison group at the next scheduled meeting.

Appendix A WSP's Air Quality Team pen portraits

Dr Peter Walsh, Technical Director Air Quality WSP UK Ltd: Peter has 29 years' experience of sampling and analysis of environmental contaminants and health impact assessment. Peter is familiar in the regulation of industrial processes, including enforcement of conditions on air quality, odour management and abatement. He has knowledge on management of air quality monitoring stations, establishing new monitoring stations, both in the UK and overseas. Peter also has an extensive experience in a senior enforcement role within the UK environment regulatory system. Prior to WSP, Peter held air quality roles in two local authorities (Torbay and Newham), as well as operating as an environmental scientist in analytical laboratories within several institutions including a Public Analysts. Peter is a full member of both the Institute of Air Quality Management (MIAQM) and Institute of Environmental Science (MIEnvSc) as well as a Chartered Environmentalist (CEnv).

Dr Justin Lingard, Associate Air Quality Specialist WSP UK Ltd: Justin has over 15 years of measurement and modelling experience. He has provided services to private and government clients covering transport, land development and local air quality management sectors. His experience includes working on the delivery of high-level policy assessments and large infrastructure projects, such as the appraisal of sustainability for the draft Airports National Policy Statement, for DfT, and the A66 Northern Trans-Pennine Project for National Highways. Prior to joining WSP in 2016, he worked for Ricardo Energy & Environment gaining over seven years' experience on large UK Government programmes, delivering air quality services to Defra, the Scottish Government and the Government of Gibraltar including the provision of air quality monitoring data to national compliance networks. Having successfully gained his PhD from the University of Leeds in 2004, he worked as an academic researcher characterising marine and urban aerosols for five years prior to entering commercial consultancy. He is also a full member of both the Institute of Air Quality Management (MIAQM) and Institute of Environmental Science (MIEnvSc) and a Chartered Scientist (CSci).

Appendix B Local Authority Monitoring Locations

The monitoring locations operated by FDC and BCKLWN shown in both **Figure 1** and **Figure 2** are given in **Table A.1.** These include monitoring locations within 200m of the construction and operational vehicle routes, those within Wisbech and the surrounding villages, and the two continuous automatic SO_2 automatic monitoring stations in Whittlesey.

Table A.1: Local authority monitoring locations

Site ID	Site Name	Site Type	Site coordinates (based on OS grid reference, m)		Pollutants Monitored	In AQMA?
			X	Y		
Fenland District Council						
Continuous Automatic Monitoring Station						
AM1	Park Lane	Urban Background	526382	296859	SO_2	Yes, Whittlesey AQMA 1
AM2	Bradley Fen	Industrial	523924	297974		
Passive Diffusion Tube						
S3	Ramnoth Road	Roadside	546860	308532	NO_2	Yes, Wisbech No.3
S5	Churchill Road	Roadside	546415	309602		Yes, Wisbech No. 1, 2 & 3
S8	Westmead Ave	Kerbside	546890	308368		Yes, Wisbech No. 3
S9	Thorney Toll	Roadside	534526	303907		No
S12	Lynn Road AWS	Urban Background	546592	310191		Yes, Wisbech No. 1 & 2
S13	Lynn Road/Mt Pleasant	Roadside	546664	310342		Yes, Wisbech No. 1 & 2
S14	Aldi, Chatteris	Roadside	538976	287094		No
S15	Weasenham Lane	Roadside	546818	308568		Yes, Wisbech No. 3

Site ID	Site Name	Site Type	Site coordinates (based on OS grid reference, m)		Pollutants Monitored	In AQMA?
			X	Y		
S16	Lynn Road R/A	Kerbside	546238	309981		Yes, Wisbech No. 1, 2 & 3
S17	Weasenham Lane/Cromwell Road	Roadside	545509	308735		No
S20	Napier Court	Roadside	546481	309387		Yes, Wisbech No. 1 & 3
S26	Peas Hill R/A	Kerbside	540245	297613		No
S31	White Lion, Wisbech	Roadside	545986	309618		Yes, Wisbech, No. 1
S32	North End, Wisbech	Roadside	545997	310092		Yes, Wisbech No. 1
S33	Weasenham Lane/New Drove, Wisbech [B198]	Roadside	546567	308374		No
S34	Weasenham Lane AQY, Wisbech	Roadside	546756	308522		Yes, Wisbech No. 3
S36	Gaul Road, March	Roadside	450918	296641		No
S41	Knights End Road, March	Roadside	540578	294878		No
Borough Council of King's Lynn and West Norfolk						
Passive Diffusion Tube						
99	108 School Road, Wisbech	Suburban	547960	313115	NO_2	No
100	83 Chapnall Road, Wisbech	Suburban	547902	310395		No
101	62 Elm High Road, Wisbech	Roadside	547094	307850		No
110	14 Elm High Rd, Wisbech	Roadside	546884	308315		No

Appendix C Relevant Air Quality Objectives

The air quality objectives and limit values for the protection of human health are given in **Table B.1**.

Table B.1: Relevant air quality objectives

Pollutant	Concentration ($\mu g/m^3$)	Objective	Measured as
Nitrogen dioxide (NO_2)	40	Limit value not to be exceeded.	Annual mean
	200	Not to be exceeded more than 18 times a year.	1-hour (hourly) mean
Particulate matter less than 10 micrometres in diameter (PM_{10})	40	Limit value not to be exceeded.	Annual mean
	50	Not to be exceeded more than 35 times a year.	24-hour (daily) mean
Particulate matter less than 2.5 micrometres in diameter ($PM_{2.5}$)	20	Limit value not to be exceeded.	Annual mean
	12	Interim target concentration not to be exceeded by the end of January 2028.	Annual mean
	10	Target concentration not to be exceeded by the end of 2040.	Annual mean
Sulphur dioxide (SO_2)	125	Not to be exceeded more than 3 times a year.	24-hour (daily) mean
	350	Not to be exceeded more than 24 times a year.	1-hour (hourly) mean
	266	Not to be exceeded more than 35 times a year.	15-minute mean

\\corp.pbwan.net\GLB-E&I\UK\GBSBR400-SAL\SAL-FS12-SHARED\Projects\41310 Wisbech\Design_Technical - GIS\Drawings\ArcGIS\Workspaces\41310-Shr558a.mxd Originator: UKJXP782

545000 546000 547000 548000 549000

310000 309000 308000 307000

Wisbech AQMA No.2 (PM10)

Wisbech AQMA No.1 (SO2)

Wisbech AQMA No.3 (NO2)

S13 S12 S32 S16 S31 S5 S20 S17 S15 S3 S34 S33 S8

13 9 4 14 1 10 8 7 3 12 11 2 5 6

100 110 101

Thomas Clarkson Academy

Fenland

King's Lynn and West Norfolk

A47 B198 B1542 B1169

Walsoken Chapnall Field Burcroft Field Fenland Field Great Boleness Field Little Boleness Field South Bridge Field Northfield House Whitehouse Farm Redmoor Mill Field Balcony Farm Three Lakes Nurseries Oak Lodge Walnut Lodge Estover Lodge

Wisbech Park The Hudson Leisure Centre

Redmoor Drain The Railway Line

Key

- EfW CHP Facility Site
- Temporary Construction Compound
- Local Authority boundary
- Construction vehicle routing

Air Quality Management Area

- Wisbech AQMA No.1 (SO2)
- Wisbech AQMA No.2 (PM10)
- Wisbech AQMA No.3 (NO2)

Scheme Specific Baseline Monitoring

- Air quality monitoring location

Fenland District Council

- Continuous automatic monitoring station
- Diffusion tube

Borough Council of King's Lynn and West Norfolk

- Diffusion tube

0 200 400 600 800 m

Scale at A3: 1:15,000

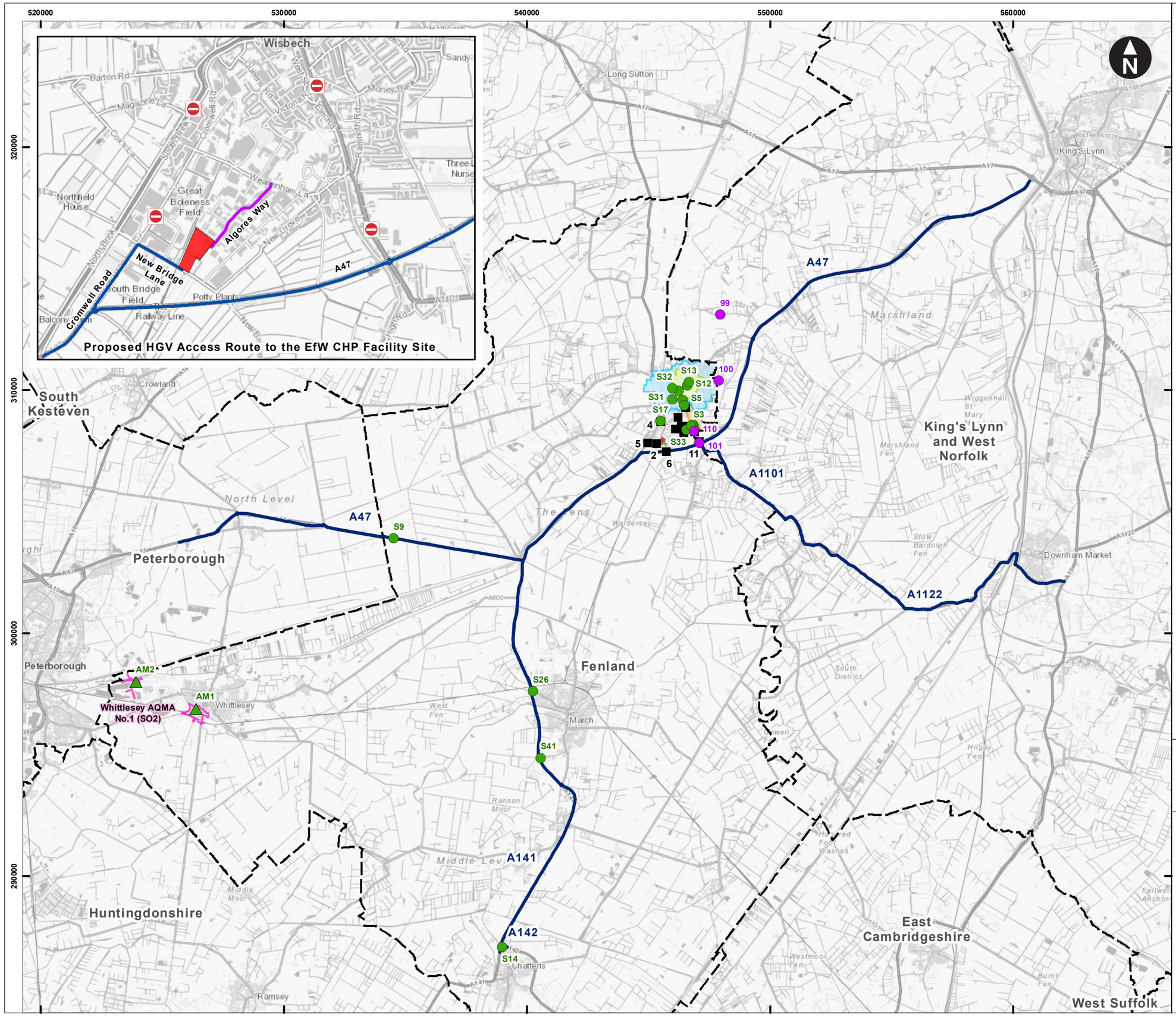
Client

Medworth CHP Limited
Medworth Energy from Waste Combined Heat and Power Facility DCO
Local Air Quality Monitoring Strategy (LAQMS)

Figure 1
Monitoring Locations in Wisbech and along Construction Traffic Routes

September 2024

41310-Shr558a


520000
530000
540000
550000
560000
320000
310000
300000
290000
Wisbech
Barton Rd
Magazine La
Cox's La
Cromwell Rd
South Brink
Queens Rd
West St
Victoria Rd
Elm Rd
Ramnoth Rd
Money Bank
Sandy
Three L
Nurse
Northfield House
Great Boleness Field
Weasenham La
New Drove
Algores Way
North Brink
New Bridge Lane
Cromwell Road
South Bridge Field
Potty Plants
Railway Line
A47
A1101
Proposed HGV Access Route to the EfW CHP Facility Site
Long Sutton
A17
King's Lynn
A1076
A148
A149
A134
A10
Marshland
Wiggenhall St Mary
Marshland Fen
King's Lynn and West Norfolk
A1101
A47
99
100
S13
S32
S12
S31
S5
S17
S3
4
110
5
S33
101
2
11
6
A1122
Downham Market
Stow Bardolph Fen
South District
Hilgay Fen
Feltwell Anchor
South Kesteven
Crowland
North Level
A47
S9
Peterborough
A605
The Fens
Waldersey
Fenland
S26
March
West Fen
S41
Ranson Moor
Middle Level
A141
Middle Moor
Huntingdonshire
A142
S14
Chatteris
Ramsey
Hundred Foot Washes
East Cambridgeshire
Westmoor Fen
Burnt Fen
West Suffolk
AM2
AM1
Whittlesey
Whittlesey AQMA No.1 (SO2)
N
Key
EfW CHP Facility Site
Temporary Construction Compound
Local Authority
Operational vehicle routing
Air Quality Management Area
Whittlesey AQMA No.1 (SO2)
Wisbech AQMA No.1 (SO2)
Wisbech AQMA No.2 (PM10)
Wisbech AQMA No.3 (NO2)
Scheme Specific Baseline Monitoring
Air quality monitoring location
Fenland District Council
Continuous automatic monitoring station
Diffusion tube
Borough Council of King's Lynn and West Norfolk
Diffusion tube
Inset Map
HGV access route
Staff and visitor access route to the EfW CHP Facility Site
Operational HGV route restrictions (unless exempt)
0
2,000
4,000
6,000
8,000 m
Scale at A3: 1:150,000
Contains OS data © Crown Copyright and database right 2020
Client
Medworth CHP Limited
Medworth Energy from Waste Combined Heat and Power Facility DCO
Local Air Quality Monitoring Strategy (LAQMS)
Figure 2
Monitoring Locations in Wisbech, Whittlesey and along Operational Traffic Routes
September 2024
41310-Shr559a
\\corp.pbwan.net\GLB-E&I\UK\GBSBR400-SAL\SAL-FS12-SHARED\Projects\41310 Wisbech\Design_Technical - GIS\Drawings\ArcGIS\Workspaces\41310-Shr559a.mxd Originator: UKJXP782