TECHNICAL NOTE

Job Name:	**Bacton Low Rise Redvelopment**
Job No:	26572/004
Note No:	TN001A
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Subject:	**Dust Monitoring Protocol**

1.1 Introduction

1.1.1 The air quality assessment for the Bacton Low Rise redevelopment site (November 2012) determined that the site as a whole represents a high risk in terms of dust effects during demolition and construction activities. This judgement was made in accordance with guidance within the GLA Control of Dust and Emissions from Construction and Demolition Best Practice Guidance (2006) and the IAQM Guidance on the Assessment of the Impacts of Construction on Air Quality (2012). These take account of the nature and scale of the proposed construction works and the proximity of the site to sensitive receptors.

1.1.2 Each Phase of development will, however, take place consecutively, with no overlap of demolition and construction works on site. If each Phase is taken in isolation, the risk of impacts is reduced to medium risk. Real-time dust monitoring is a requirement of the London Borough of Camden (LBC) where the risk is determined as medium.

1.2 Dust Monitoring Guidance

1.2.1 Suitable procedures for undertaking automatic real-time air quality monitoring at construction sites are outlined in the GLA (2006) Guidance. In addition, the IAQM have recently released further guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites (2012). The LBC also has a dust monitoring protocol. The requirements for a Medium Risk site are set out below:

Medium Risk

- Two continuous monitors located on construction site boundary, across a transect in line with the predominant wind direction. Co-located anemometer.
- PM_{10} data automatically polled, via GSM modems, on an hourly frequency.
- System of quality assurance of data - including maintenance contract for monitors.
- Trigger Action Level of 200µg/m^3 PM_{10} as 15 minute mean.
- SMS text messages and/or e-mails to be sent to all on-site alert recipients following a breach of the trigger action level.
- An e-mail specifying details of any alert sent out to LBC the hour following any breach of the trigger action level.

- PM_{10} monitoring data to be made accessible to LBC via a website which identifies breaches of the trigger action level.
- In the event of the breach staff should carry out a visual inspection of dust generating activities to determine the cause of excess emissions. The activity should be stopped and the problem mitigated as soon as practicable. Construction activities shall not resume until dust emissions are mitigated.
- Report submitted to the Council every 3 months identifying date & times of trigger action breaches & remediation.

1.2.2 The following protocol is therefore proposed, which takes into account the most recent IAQM guidance, the abilities of the available monitors, and the practicalities of the site.

1.3 Dust Monitoring Protocol

1.3.1 The 10-year wind rose presented in the Air Quality Assessment (PBA, 2012; Figure 2) for the London City Airport site (2000-2009) identifies the predominant wind direction as southwesterly.

1.3.2 Demolition / construction will take place in three phases:

- Two optical analysers (approximately £6,000 each), one upwind and one downwind of the Phase currently under construction (precise locations will be determined based on availability of appropriate power source; analysers relocated between Phases).
- PM_{10} data automatically polled, via GSM modems, on an hourly frequency.
- Appropriate service and maintenance contract for monitors.
- Trigger Action Level of 250µg/m^3 PM_{10} as 15 minute mean.
- SMS text messages and/or emails to be sent to all on-site alert recipients following a breach of the trigger action level. Staff will carry out a visual inspection of dust generating activities to determine the cause of excess emissions. The activity will be halted, if necessary, and the problem mitigated as soon as practicable. Construction activities will not resume until dust emissions are mitigated.
- Email specifying details of any alert sent out to LBC the hour following any breach of the trigger action level.

- Report submitted to the Council every 3 months identifying date & times of trigger action breaches & remediation.

1.3.3 Monitoring along a southwest to northeast transect across the site, along with simultaneous monitoring of wind speed and direction allows high levels of PM_{10} to be attributed to the site, or for the site to be discounted as the source. In accordance with the IAQM Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites, the use of optical analysers as the principal dust monitoring technique is considered appropriate. These are relatively easily deployed and more cost effective than alternatives (FDMS / TEOM), whilst enabling significant increases in concentrations to be identified so that remedial action can be identified.

1.4 References

GLA, 2006. The Control of Dust and Emissions from Construction and Demolition: Best Practice Guidance.

IAQM, 2012a. Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance.

IAQM, 2012b. Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites.

DOCUMENT ISSUE RECORD

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