Contaminated Land
Air Quality
Environmental Audit

SMITH GRANT
Environmental Consultancy
LLP

Partnership No: OC 300776

FERME PARK, HORNSEY
PROPOSED CONCRETE PLANT
ADDENDUM AIRBORNE DUST ASSESSMENT
for: LONDON CONCRETE Ltd
June 2005

R616-R02a

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Section 1: Introduction

1 Smith Grant LLP was instructed in February 2003 to undertake an airborne dust assessment of a proposed concrete batching plant at Ferme Park, Hornsey. This was carried out in accordance with the then existing guidance [1], which has since been effectively reiterated in MPS 2 [2]. The assessment, in the form of a Report [3] dated November 2003, accompanied a planning application for the erection of a concrete batching plant, with associated hoppers, conveyors and ancillary facilities, which was submitted to the LPA in January 2004.

2 This application was appealed on the grounds of non-determination in December 2004. At the same time a duplicate application, which was again accompanied by the Smith Grant Report, was submitted to the LPA and this now forms the application before Haringey Council (Ref: HGY/2005/0007).

3 Amendments to the proposed development, which have implications in terms of the findings of the original airborne dust assessment, have recently been submitted to the LPA.

4 The original assessment and findings with regard to the original scheme, as detailed in the submitted Report, are summarised in Section 2 below.

5 An assessment of the implications, in terms of airborne dust, of the amendments to the original scheme then follows in Section 3.

Section 2: Assessment of Impacts

6 Adverse impacts due to dust from modern concrete plants of the type operated by London Concrete are uncommon and the assessment considers therefore only potential receptors in the immediate vicinity.

7 Aggregates will be imported by rail via a bottom discharge hopper into storage bins and will be transferred as required directly into the batching plant by conveyor. The plant will be fully enclosed with extraction ducts to retain any dust from the weighing and loading areas. The cement silos will be fitted with alarms and pressure relief valves and will be vented through reverse jet filters. Slurry mixes will be used for most of the batching operations. The loading

[1] *The Environmental Effects of Dust from Surface Mineral Workings*, HMSO, 1995
[2] Minerals Policy Statement 2: *Controlling and Mitigating the Environmental Effects of Minerals Extraction in England*, ODPM, 2005
[3] Report No R616-R01, *Ferme Park, Hornsey, Airborne Dust Assessment*, Smith Grant LLP, 2003

bay will be covered and enclosed on three sides to provide shelter from the wind and to contain any dust which might be released. The yard will be surfaced with concrete.

8 The site setting is urban, with industrial land on Cranford Way to the north, housing at Chettle Court to the south and Uplands Road to the west, a main railway line to the east and, beyond that, further housing at Wightman Road. A children's play area lies below Chettle Court and the edge of the railway land is designated as a "green corridor". There is little effective screening from the effects of dust between the site and the closest potentially sensitive receptors.

9 The annual wind rose for Heathrow, which the Met Office advises is the most appropriate weather station for the locality, shows that the prevailing winds blow from south, southwest and west for a total of 54% of the time annually.

10 Typical dust deposition rates [4] range from 30 to 80 mg/m^2/day in suburban areas and from 80 to 160 mg/m^2/day in town centre or industrial areas. The site setting, with busy urban roads, the industrial estate and loose potentially dusty deposits throughout, suggests that the dust deposition rates are likely to lie towards the upper end of the typical range for suburban areas and the lower end of the typical range for industrial areas, ie, about 80 mg/m^2/day.

11 Mapped air quality data do not indicate any requirement to declare an Air Quality Management Area (AQMA) in the area. However, on the basis of nitrogen dioxide concentrations measured at a roadside location about 3.5km to the northeast of the application site, Haringey Council has declared a borough-wide AQMA. The Council has since produced an Air Quality Action Plan which includes proposals for the promotion of a Low Emission Zone for London and improved enforcement of Part B industrial processes.

12 On the basis of the likely dust regime in the area, the potential onset of nuisance may occur when dust deposition exceeds 200 mg/m^2/day. Modern planning conditions typically include a requirement to submit a scheme of measures for the suppression of dust from processes such as concrete batching. Concrete batching processes are subject to Local Air Pollution Prevention and Control (LAPPC), under which operating and management procedures are specified in accordance with the guidance in PGN 3/1 (04) [5]. The guidance notes the desirability of a structured approach to environmental management.

13 On the basis of dust monitoring carried out previously at an older batching plant operated by another company, and observations made of London Concrete's plant at Battersea, the operation of the proposed plant at Hornsey is unlikely to cause any discernible dust-related

[4] *Environmental Effects of Surface Mineral Workings*, HMSO, 1991
[5] Process Guidance Note 3/1 (04), *Secretary of State's Guidance for Blending, Packing, Loading, Unloading and Use of Bulk Cement*, DEFRA, 2004

impact in the vicinity. This is consistent with advice [6], to the effect that batching plants have *LOW emission potential (with mitigation)*, and with London Concrete's operating experience at its existing plants which have been in operation for several years without giving rise to any substantiated complaints about dust.

14 The impact in Tottenham Lane of exhaust emissions from vehicles associated with the proposed plant was assessed using the DMRB screening model [7]. The modelling shows that vehicles serving the plant will not have a significant impact on local air quality. London Concrete uses a modern fleet of truck mixers, most of which already comply with Euro III emission standards, thus according with any Low Emission Zone which may be promoted in due course. The supply by rail of aggregates to the plant will make a positive contribution to the air quality action plans being developed throughout London.

15 It is London Concrete's policy to minimise the impact of its operations. Standard good practices, complying with the Best Available Techniques detailed in PGN 3/1 (04), will be adopted by the company at the proposed plant. The Plant Manager will be required to undertake daily inspections with specific reference to dust control and to take any necessary action to prevent visible emissions beyond the site boundaries or from the cement silos. Strict adherence will be made to any scheme of measures which may be agreed with the Council and to the conditions attached to the LAPPC permit for the process.

16 It was concluded that it is unlikely that the operation of the proposed concrete batching plant at Hornsey will cause any adverse impacts due to airborne dust or air quality at any potentially sensitive receptor in the vicinity of the site.

Section 3: Revised Application

17 Notwithstanding the acceptability of the original scheme, the amended details to the batching plant were drawn up in response to points raised at various meetings with the Council. From a dust perspective, these include;

a) plant rotated anti-clockwise, with the loading bay now facing northeast, away from Chettle Court, towards the railway tracks,
b) a 5m high acoustic screen along the southeast side of the loading bay, and
c) full enclosure of the conveyor discharge into the plant.

[6] Best Practice Guide, appended to *The Environmental Effects of Dust from Surface Mineral Workings*, HMSO, 1995

18 The proposed amendments will give the following benefits over the original scheme:

a) the re-orientation of the plant will provide enhanced shelter to the loading bay from the prevailing winds, thus providing additional containment to any dust which might otherwise be released,
b) further shelter and containment to the loading bay will be provided by the acoustic screen, and
c) the full enclosure of the conveyor discharge into the top of the plant will reduce the already low risk of dust emissions from the conveyor to near zero.

19 Additionally, the relevant amendments to the storage bins include:

a) additional cladding at the base of the bins to provide full enclosure of the discharge chutes and bottom conveyor, and
b) full enclosure at roof level of the conveyor discharge into the bins.

20 These amendments will reduce the already low risk of dust emissions from the storage bins to near zero.

21 It has been identified therefore that, although the original scheme was unlikely to cause any adverse impact in terms of airborne dust, the proposed amendments confer some additional benefits.

Section 4: Conclusions

22 The original assessment and this addendum have reviewed the salient matters affecting the probable incidence of airborne dust emissions due to the proposed concrete batching plant at Hornsey, and the likely effects on the surrounding area.

23 It is unlikely that the operation of the proposed plant will cause harmful impacts due to airborne dust at any potentially sensitive receptor in the vicinity of the site.

24 The impact of HGV emissions will not be discernible and the importation of aggregates by rail confers a general benefit in terms of a reduction in the number of HGVs which would otherwise transport these materials in and around London.

[7] *Design Manual for Roads and Bridges*, Version 1.02, Highways Agency, 2003