

24 December 2012

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Our Ref: MWMW/LUK11-18423_02_Bulls Bridge Post Submission Consultee Responses

Dear Karl,

Re: Proposed Aggregate Recycling Plant, Asphalt Production Plant and Gully Waste Recycling Plant, Bulls Bridge, Hayes

We are writing on behalf of our Client, FM Conway Ltd. in respect of the Full Planning Application ('Application') submitted to London Borough of Hillingdon ('LBH') in September 2012 (Planning Reference 13226/APP/2012/2185) for the proposed redevelopment of the former Powergen Site at Bulls Bridge, Hayes (the 'Proposed Development').

This letter serves to respond to consultee comments received on the technical assessment reports that accompanied the planning application and in particular the:

- Townscape and Visual Amenity Impact Assessment;
- Energy Assessment;
- Air Quality Impact Assessment; and
- Noise and Vibration Impact Assessment.

Our responses in respect of the latter two documents are provided in the accompanying two Addendum Reports (Annex A and B), whilst comments on the first two documents are outlined in Tables 1 and 2 below.

1 Townscape and Visual Amenity Impact Assessment (TVIA)

Table 1: TVIA Consultee Comments and Statements of Clarification		
Consultee	Consultee Comment	Applicant Responses
GLA	No requests for clarification or additional information	No responses required.
LBH	<i>"The sectional elevations shown on figure 5.2 indicate that the retained trees on the east boundary will only partly screen views of the acoustic/ storage walls at their current height. The screening effect will be reduced markedly for six months of the year when the deciduous trees are dormant and not in leaf. In addition to this matter, further thought needs to be given to the</i>	Landscaping on the eastern boundary will be augmented as illustrated in the Proposed Development's landscape proposals to ensure that screening of the boundary wall in summer time is maximised. Screening will be reduced during winter months as acknowledged in the commentary that accompanies the AVRs.

Table 1: TVIA Consultee Comments and Statements of Clarification

Consultee	Consultee Comment	Applicant Responses
	<i>colour and finish of the very high wall adjacent to the canal, which will be partially screened by the existing trees along the tow path. A dark colour and good quality finish should be sought, as it will be some time before the additional planting proposed along this boundary will partially clad and hence soften the visual impact of this structure."</i>	Nevertheless, the prevailing tree structure will continue to break the mass of the wall in winter months so that filtered views of the wall would be afforded. At no time would a bare, solid wall be visible. The wall would be seen as a background feature to the trees. LBH will be consulted in the detailed specification and appearance of the boundary wall and the Applicant will take into account the recommendations made in respect of the colour and finish of the wall.
LBH	<i>"Each of the four elevations demonstrate that the asphalt plant buildings will dominate the site and tower above both the existing trees (on the eastern edge of the site) and the elevated section of the Parkway, to the west."</i>	The appearance of the Proposed Development is dictated by plant requirements. The Applicant has nevertheless sought to reduce the bulk and massing of the asphalt plant, where possible, and has located the structure as far away from the eastern boundary, as is practically and logistically possible.
LBH	<i>"Figure 5.4 provides an artist's impression /bird's eye view of the proposed development. It should be noted that this is not a verified view and the height and mass of both of the plant buildings and the office appear to be significantly under-stated. According to the sections all three of these buildings will be higher than the elevated section of the Parkway – with, for example, the plant building enclosures, at 27.8 metres)"</i>	The assessment acknowledges that this figure is for illustrative purposes only. The Applicant's in-house graphic specialist prepared this figure to scale.
LBH	<i>"Similarly, the viewpoints (8.1 – 8.18) considered in the TVIA are all based upon photographs taken during the summer months – when screening by existing vegetation <u>in leaf</u> will be at its most effective. The screening capacity of the existing vegetation will be reduced during winter months when the trees are not in leaf".</i>	As stated above, commentary on the winter conditions within each assessment view was provided within the assessment to ensure transparency and rigour.
LBH	<i>"Para 133 of the NPPF, advises that where development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss.</i> <i>In this case, the application will be considered for refusal on conservation/</i>	The Assessment concludes and the author maintains that Bulls Bridge Conservation Area and the Grade II listed Bulls Bridge's setting have already been adversely affected by the existing, surrounding industrial context. Nevertheless, the Applicant has sought to plan and design the scheme proposals with due regard to the surrounding context and prevailing environmental sensitivities/

Table 1: TVIA Consultee Comments and Statements of Clarification

Consultee	Consultee Comment	Applicant Responses
	<i>listed buildings grounds unless it can be argued that the public benefits of the scheme, particularly with regard to recycling/sustainability, outweigh the harm to the setting of the Bulls Bridge Conservation Area and associated historic assets."</i>	constraints. The Proposed Development would be constructed and maintained as a high quality facility. This high standard is evident in the Applicant's existing facilities at Erith and Dartford.
Hayes Conservation Area Trust	<i>"The tall structures will also be visible from Minet Country Park to the north of the railway, reducing the green and open feel of that area"</i>	The TVIA and the accompanying AVRs confirmed that the proposed asphalt plant would not be visible from Minet Country Park.
Friends of Minet Country Park	<i>The proposal would degrade the amenity and environment of areas surrounding and compromise the beneficial, appropriate and productive occupation, utilisation and enjoyment of open area, heritage assets, residences and industrial, service and business premises and future development The visual impact of the development, in particular the stack and asphalt plant, would adversely affect and detract from the visual and other amenities of the Conservation Areas and the Green Belt, which includes Minet and Cranford Country Parks."</i>	It is considered that the existing Site condition significantly detracts from the area's visual amenity and townscape character. The Proposed Development would not only bring derelict brownfield land back into beneficial use, but would also generate employment opportunities, make significant contributions in terms of waste minimisation and recycling; and facilitate the townscape and visual enhancement of the Site and its immediate surroundings.
John McDonnell MP	<i>"The scale of the development and the considerable height of the buildings and chimney stack would result in considerable loss of amenity for Minet Country Park and would have a domineering visible impact on the local area."</i>	Commentary as set out above.
Vodafone	<i>"Vodafone Ltd's existing office at North Hyde Gardes has been overlooked within most documents. It is not clear how the site will be operated, due to the lack of a lighting strategy."</i>	A Lighting Strategy will be prepared at the detailed design stage in accordance with best practice guidance. It is expected that this strategy would be secured by means of an appropriately worded planning condition.

2 Energy Assessment (EA)

Table 2: EA Consultee Comments and Statements of Clarification

Consultee	Consultee Comment	Applicant Responses
GLA	<i>"The process component of the Proposed Development will generate a substantial amount of waste heat and although there is no current demand (i.e. local district heating networks), the Applicant should confirm that a heat off take and a connection to a district heating network can and will be incorporated into the</i>	Should a proven heat demand be confirmed in the future, the Applicant would be willing to provide a heat off take and a connection to a district heating network subject to the technical and financial feasibility of this district heating network being confirmed by the proponent.

Table 2: EA Consultee Comments and Statements of Clarification		
Consultee	Consultee Comment	Applicant Responses
	<i>process at some future date should a heat demand be available."</i>	
GLA	<i>"The Applicant should commit to installing a suitably designed facility to ensure that waste heat can be removed from the flue gases created by the asphalt processing plant. This facility should enable the installation of a heat exchanger at a future date to provide a heat source for any district heating network in the vicinity without necessitating plant shutdown. The Applicant should safeguard a route for future pipework to the site boundary so that heat can be exported."</i>	The facility will be designed with the potential to remove waste heat from the flue gases and enable the installation of a heat exchanger at a future point in time.
GLA	<i>"The Applicant should engage with the GLA in the district heat network development at its various stages (energy master planning, feasibility etc.)"</i>	The Applicant would be willing to engage with the GLA through a structured and formal process.
GLA	<i>"The Applicant should consider the high-level masterplan of this area with Lakeside EfW plant, BAA Heathrow and Hillingdon and Ealing Councils. The Applicant should clarify:</i> <i>• What waste heat could be recovered from the development in order to supply a potential district heating network</i> <i>• As an alternative, clarify the development's heating requirement (temperature and volume of heat), to establish whether the site might be supplied with it's process heat from the district heating network."</i>	The Applicant estimates that the overall level of available heat is calculated to be in the region of 2 M kWh/year, equating to 500 tCO₂/year valued at £60,000/year. It would not be technically feasible to use heat from a local district heating system as part of the asphalt production process as the required temperature currently delivered by the burner is 800°C which is far higher than the heat provided by conventional district heating systems (80°C flow).

In addition to the above, we wish to note the following in regards to outstanding Environment Agency comments on the Ground Conditions Assessment and Land Remediation Strategy that accompanied the Application:

- Pre-application discussions were held with the Environment Agency in relation to ground contamination. Their response dated 23rd August 2012 (see attached as Annex C) confirmed that no further remediation of hotspots would be required at the Site.
- A draft post application response was subsequently received from the EA on 20th December 2012 (see attached as Annex C) in relation to ground conditions. This sets out three draft conditions in accordance with those proposed by LBH and are considered to be acceptable by the Applicant and ENVIRON.

- Discussions are on-going in regards to the Environment Agency's current objection to flood risk.

We trust that the above and the attached clarifications are useful in considering the Application for the redevelopment of the Site.

Should you have any questions, please do not hesitate to contact me.

Kind Regards



Michelle Wheeler

Manager: ENVIRON

Annex A: Air Quality Impact Assessment Addendum Report



Aggregate Recycling Plant,
Asphalt Production Plant and
Gully Waste Recycling Plant,
Bulls Bridge, Hayes

Air Quality Impact Assessment
Addendum Report

Prepared for:
FM Conway Ltd.

Prepared by:
ENVIRON
London, UK

Date:
December 2012

Project or Issue Number:

Contract No:	UK11-18423
Issue:	2
Author	Lesley Vining
(signature):	
Project Manager/Director	Michelle Wheeler
(signature):	
Date:	22 December 2012

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1 Introduction

1.1 Background

A Detailed Planning Application ('the Application') was submitted by FM Conway Ltd ('the Applicant') in September 2011 for the development of an Aggregates Recycling, Asphalt Production Plant and Gully Waste Recycling Plant (hereinafter referred to as 'the Proposed Development') at the former Powergen site (hereinafter referred to as 'the Site'), Bulls Bridge, Hayes, London Borough of Hillingdon (LBH). The Application was duly registered under Planning Reference 13226/APP/2012/2185.

At the time the Application was accompanied by a number of discrete Technical Assessment Reports, including an Air Quality Impact Assessment.

Since submission of the Application, a number of consultation responses have been received with requests for clarification and/or supplementary information. LBH has requested appropriate responses to the consultee comments for their consideration in determining the Application.

1.2 Purpose of Addendum Report

The purpose of this report is to consider comments and requests made, in respect of the Air Quality Impact Assessment (AQIA), by the following consultees:

- Nayani Chandran, Environmental Protection Unit, LBH, sent via Karl Dafe, Major Applications Team, LBH; and
- Colin Wilson, Senior Manager Planning Decisions, Greater London Authority (GLA).

The report provides responses to requests for clarification in Section 2 and/or supplementary information where considered appropriate in Section 3. Comments on the suggested Planning Conditions are provided in Section 4.

2 Consultation Comments and Clarifications

The consultation comments received in respect of the AQIA together with the Applicant's response are provided in Table 2.1.

Table 2.1: AQIA Consultee Comments and Statements of Clarification		
Consultee	Consultee Comment	Applicant Responses
LBH	The assessment contains insufficient information to determine whether there is appropriate mitigation measures in place to protect residents from air quality impacts arising from additional HGV movements associated with the Proposed Development.	Further information on the measures that will be taken by the Applicant to mitigate impacts from HGV movements is provided in Section 3.
LBH	An evaluation of traffic management in the area to optimise its operation with regards to easing congestion and moving polluting traffic away from residents should be sought. Any such evaluation should include an assessment of the impact on local air quality.	Work by the Applicant's traffic consultant has indicated that the current junction arrangement has sufficient capacity to accommodate the additional traffic generated by the Proposed Development without causing additional queuing or congestion. This work is currently being reviewed by TfL.
LBH	The Proposed Development needs to incorporate as many measures as possible to ensure pollution emissions are limited and work towards being air quality neutral at a local level.	Further information on the proposed mitigation measures to limit pollution emissions are presented in Section 3.
LBH	As there are potential health implications relating to PM _{2.5} every effort should be made to reduce plant emissions at the Proposed Development.	Plant emission data within the AQIA was provided for total particulates. To ensure a conservative approach the modelling assumed all particulate matter was PM _{2.5} . In reality this will have resulted in an over prediction, because the size of particles emitted will range from greater than PM ₁₀ to less than PM ₁ . Additionally, the modelling was carried out with the emission rate of 50 mg/m ³ given in the Local Air Quality Management (LAQM) process guidance notes ¹ , whereas the plant manufacturer has estimated that the bag house would reduce

¹ Secretary of State, 2004, Secretary of State's Guidance for Roadstone Coating Processes, Process Guidance Note 3/15a (04)

Table 2.1: AQIA Consultee Comments and Statements of Clarification

Consultee	Consultee Comment	Applicant Responses
		emissions to less than 20 mg/m ³ . Additional modelling has been therefore been carried out to predict the more realistic emissions using this lower rate and the results presented in Section 3.
LBH	It is not clear if the 500 additional daily HGV movements includes fuel deliveries.	The estimated 500 HGV movements per day includes fuel deliveries.
LBH	The vehicle fleet as it exists has been considered within the modelling. Although the officers welcome the use of low emission vehicles and practices, it is unlikely a reduction in NO _x /NO ₂ will be achieved. No mitigation measures to address this have been provided.	The modelling used standard emission factors, which is based on the typical predicted mix of Euro Class vehicles for a particular year. As the Applicant's vehicles make up only a proportion of the total vehicles using the roads included within the assessment, it is not possible to take account of the improved emissions performance of the Applicant's vehicles alone. Thus the concentrations predicted at the North Hyde Gardens receptors should be considered a worst case. Further information on the proposed mitigation measures to limit pollution emissions are presented in Section 3.
LBH	Officers would welcome vehicles avoiding peak driving times at the junction to reduce congestion.	Given the nature of the Applicant's business as a service delivery agent to TfL and a number of London Boroughs, it is in their interest to avoid peak hours on the network and associated delays. As indicated in the Proposed Development's Transport Assessment (TA) the core HGV movements will take place from: • 6 – 7 a.m.; and • 3 – 4 p.m. A travel plan will be developed for the Proposed Development which will aim to actively manage the transport of freight to and from the Site in such a way as to minimise the impact on the surrounding highway network.
LBH	No indication of the NO ₂ emission levels exiting the stack have been provided. Further information on how this was incorporated into the air quality assessment is required.	Information on the NO _x concentrations exiting from the stack were provided in Table 3.3 and the predicted ground level concentrations in Table 8.1. For ease of reference they are reproduced in Section 3.
LBH	No secondary measures to limit NO _x emissions from the Asphalt Plant have been identified in the assessment.	The Asphalt Plant will be subject to the conditions of a Local Authority Pollution Prevention Control (LAPPC) Permit, issued by LBH. A requirement of the permit for a new plant is to demonstrate that it complies with BAT/BATNEEC (Best Available Techniques/Best Available Techniques Not Entailing Excessive Cost). Information from the Asphalt Plant manufacturer has indicated that there are no secondary controls suitable for this plant but will incorporate latest technology from a

Table 2.1: AQIA Consultee Comments and Statements of Clarification

Consultee	Consultee Comment	Applicant Responses
		world renowned manufacturer of this type of equipment.
LBH	The biggest impact is from road vehicles (HGVs). The proposed vehicle fleet meets the Low Emission Zone requirements, therefore it will be difficult to reduce emissions further, outside of considering zero emission vehicles or exploring other mitigation measures to reduce NO _x /NO ₂ levels in the vicinity of the junction. No mitigation measures to address this have been provided.	Further information on the proposed mitigation measures to limit pollution emissions are presented in Section 3.
LBH	In the event that the fuel type of the asphalt plant changes an additional air quality assessment will be required.	In the event that the fuel supply for the asphalt plant changes the Applicant will update the air quality assessment. The use of fuel oil is considered a worst case, thus a change to natural gas would reduce the predicted impacts.
LBH	It is not clear if the air quality assessment is consistent with the transport assessment	The transport assessment details peak hour flows, whilst the AQIA details Annual Average Daily Traffic (AADT) flows. The traffic flows used within the AQIA are consistent with those reported in the Traffic Assessment.
LBH	Any traffic management proposals to mitigate Proposed Development's impacts must be accompanied by an air quality assessment of their environmental benefits.	In the event that traffic management proposals significantly change traffic flows or traffic composition, the Applicant will update the air quality assessment as appropriate.
LBH	A detailed fleet management plan for the Proposed Development will be required including expected outcomes of the mitigation measures.	A detailed travel plan has been developed for the Proposed Development with the aim to actively manage the transport of freight to and from the Site in such a way as to minimise the Proposed Development's impact on the surrounding highway network. It is anticipated that this plan would be secured by means of an appropriately worded planning condition. Given the natural variations in air quality concentrations, together with the inherent inaccuracies that any modelling work will include it would be extremely hard to either model or measure with any degree of certainty the likely impact these mitigation measures are likely to have on total pollutant concentrations.

Table 2.1: AQIA Consultee Comments and Statements of Clarification

Consultee	Consultee Comment	Applicant Responses
GLA	All new relevant conditions/requirements included in the revised GLA Best Practice Guidance on the control and emissions from construction and demolition must be followed by the developer, particularly those relating to Non Road Mobile Machinery.	The construction mitigation measures proposed within the AQIA have been obtained from the Institute of Air Quality Management Guidance (IAQM). These are in turn based on a current draft version of the revised GLA Best Practice Guidance. Furthermore the Applicant is committed to complying with best practice to prevent emissions during the construction work.
GLA	The GLA Best Practice Guidance measures should also be followed during Site operation.	The Applicant is committed to complying with best practice to prevent emissions of dust during Site operation. Those measures included within the Best Practice Guidance that are applicable to the operations to be undertaken at the Proposed Development would be taken into consideration.
GLA	Prior to the Phase 2 application the Applicant should look into the inclusion of hydrogen and biomethane vehicles into its fleet in order to reduce emissions.	The Applicant has in previous years trialled the use of hydrogen fuelled vehicles, but to date this was not successful due to equipment reliability and no discernible improvement in fuel efficiency. It was pioneering technology and equipment However, as there is continual advancement in technology, the Applicant will carry out a further hydrogen trial on four 8 wheeler HGVs. If proven to be beneficial, without damaging the vehicles or jeopardizing the vehicle warranty, this will be rolled out to other vehicle types within the fleet. Across the fleet the Applicant will maximize the use of bio –fuel but without risk of damage to the vehicle or jeopardizing the vehicle warranty.
GLA	There is concern regarding the predicted increases in PM ₁₀ and PM _{2.5} . The Applicant should consider additional mitigation measures prior to the Phase 2 application.	Plant emission data within the AQIA was provided for total particulates. To ensure a conservative approach the modelling assumed an emission rate of 50 mg/m³ for both PM₁₀ and PM_{2.5}. In reality this will have resulted in an over prediction, because the size of particles emitted will range from greater than PM₁₀ to less than PM₁. Additionally, the modelling was carried out with the emission rate of 50 mg/m³ given in the LAQM process guidance note, whereas the plant manufacturer has estimated that the bag house would reduce emissions to less than 20 mg/m³. Additional modelling has been carried out to predict the emissions using this lower rate and the results presented in Section 3. The use of this lower emission rate reduces the magnitude of impact and thus the need for additional mitigation is considered unnecessary.

Table 2.1: AQIA Consultee Comments and Statements of Clarification

Consultee	Consultee Comment	Applicant Responses
GLA	It is unclear whether the impact of the acoustic barriers was included within the stack modelling	The acoustic barriers (7 m above finished level) were not included in the modelling as it is considered they will have little impact on the dispersion of emissions arising from a 30 m high stack.
GLA	The GLA would welcome the use of natural gas to fuel the asphalt plant rather than gas oil.	The Applicant is actively pursuing the feasibility of connecting the Site to the mains gas supply as this would be the preferred fuel for the Asphalt Plant. Quotes are currently being obtained for the relevant infrastructure work. However, the feasibility relies on National Grid granting a connection into the Intermediate Pressure Main that passes through the Estate.
Hayes Conservation Area Trust	There is concern regarding potential odour emissions and emissions from HGVs accessing the Proposed Development.	The Applicant already operates a similar operation to the Proposed Development at its site in Erith. The Erith site is not a significant source of odour emissions. To control potential emissions of odour and dust a fugitive emissions management plan will be implemented on the Site. Site inspections will be carried out 3 times per day by the weighbridge operator, which will cover all parts of the Site and observations will be recorded in an Environmental Log Book. The inspections will record the weather, visible dust and odour emissions.
Friends of Minet Park	The additional emissions from operation of the plant and storage areas including associated vehicular traffic to and from the site would further exacerbate the current conditions.	Should abnormal weather conditions, dust or odour emissions be experienced, monitoring will take place more frequently and photographic evidence of dust emissions will be taken. These will be entered in the Environmental Log. Abnormal dust/odour events will be reported to the Site manager, investigated and remedial action implemented to reduce or eliminate the issue as soon as practicable. The actions will be recorded in the Environmental Log. Excessive dust/odour events will result in the immediate shutdown of the Plant until an investigation can be completed and remedial action implemented to eliminate or reduce the dust/odour to an acceptable level. Excessive dust or odour is a significant dust event with visible dust leaving the Site boundaries or the receipt of odour complaints from off-Site sources. Further information on the proposed mitigation measures to limit pollution emissions from traffic are presented in Section 3.
Residents Association	There is concern regarding potential odour emissions and emissions from HGVs accessing the Proposed Development.	
LBH Sport and Recreation	Depending on advice received from EPU a contribution towards air mitigation may be sought.	The Applicant would be amenable to providing a sum towards the funding of on-going air quality monitoring within the Hillingdon area. This sum shall be agreed as part of the Section 106 negotiations.
Vodafone	The assessment does not give detailed consideration to the	Following the guidance provided by DEFRA in LAQM.TG(09) office accommodation is not considered a sensitive receptor to air quality.

Table 2.1: AQIA Consultee Comments and Statements of Clarification

Consultee	Consultee Comment	Applicant Responses
	impacts at the Vodafone office. An air quality management plan was not submitted with the application, it is hard to establish how the air quality impacts would be controlled. The Council should require the Air Quality Assessment to be updated and to seek a detailed plan setting out cleaning, maintenance and filter replacement policies. The plan should also consider odour emissions.	Emissions from the Asphalt Plant will be controlled through the Local Authority Pollution Prevention Control (LAPPC) Permit, issued by LBH. Where relevant the permit will include details of cleaning, maintenance and filter replacement policies. Odour emissions will be controlled through the fugitive emissions management plan.

3 Supplementary Information

It is noted that existing air quality at the Site and in the immediate surroundings already exceeds Air Quality Objectives. Even though the Proposed Development's contributions to existing emission levels are, relative to prevailing conditions, insignificant, they add to the existing exceedances. The number of receptors that are likely to be adversely affected are limited.

The principle of the Site's redevelopment within the industrial estate is acknowledged and promoted in prevailing policy. It is considered that any industrial related development at the Site would result in similar additional emissions to local air quality, especially given the lack of access alternative to the Site.

The Proposed Development is unique. It is at the forefront of recycling pavement infrastructure materials that would otherwise have been sent to landfill. In addition, it enables the Applicant to replicate (but to a smaller degree) its existing operational base in East London and thereby reduce the number of vehicle movements on the regional road network.

The Applicant is constantly seeking to improve its environmental performance. It has been at the forefront of exemplar environmental stewardship and this is exemplified by numerous industry awards, of which the following are recent:

- ISO 14001 Environmental Management System certification;
- Mayor of London's Silver level award for Green Procurement;
- Constructing Excellence in the Built Environment 2007 National Legacy (Sustainability) Award;
- Highways Magazine Excellence 'Environmental Sustainability in the Highways Sector Category Award; and
- Construction Excellence Awards 2012, Sole Winner in the Resource Efficiency Category for its Asphalt Plant.

This section describes the mitigation measures that the Applicant will adopt during the construction and operation of the Proposed Development. It is anticipated that these measures would be secured by means of appropriately worded planning conditions or by means of legal obligations set out in any Section 106 Agreement.

3.1 Traffic Emission Mitigation Measures

3.1.1 Fleet Management

The Applicant will carry out the following measures to ensure that impacts from traffic movements are minimised as far as practicable:

- The Applicant owns, maintains and manages its own fleet of vehicles and thus can ensure that it purchases the best in class vehicles on the market in terms of emissions, vehicles are maintained in good working condition and are updated on a regular basis. It has been estimated that 80 to 90% of the HGV vehicles accessing the Site will be from the Applicant's own vehicle fleet.
- All vehicles within the Applicant's fleet are Euro V standard certified and thus meet the current European standard for low emissions of new vehicles. The Applicant is committed to buying Euro VI when available. The NO_x emissions arising from the Euro

V vehicles selected by the Applicant are some 30% better than that required by Euro V vehicles. The NO_x emissions from a Euro V 8 wheeler lorry must meet an emission standard of 2.00g/kWh whilst those used by the Applicant meet an emission rate of 1.38 g/kWh.

The Applicant has gained the Fleet Operator Recognition Scheme (FORS) silver award and is currently targeting the gold award within the next six months.

“FORS is a funded, voluntary certification scheme aimed at ensuring that fleet operators work lawfully and to best practice by meeting the FORS standard.

FORS can help you to stand out from the crowd and prove to current and prospective customers that you work to standards above the legal minimum.”²

As part of this scheme, and the company's own policy, HGV drivers undergo a one day course on Safe & Fuel Efficient Driving Course (SAFED) provided by the Applicants training officer.

The Applicant is committed to investigating the potential use of alternative cleaner fuels for its vehicles. It has trialled the use of electric vehicles but these were found to be unreliable. It has also completed initial trials on using hydrogen fuel which were unsuccessful, but as technology is continually advancing, the Applicant will carry out further trials on four 8 wheeler HGVs within three months of the aggregate recycling and/or asphalt plant being operational. If the results from these proof operationally feasible, the Applicant will roll this out to move vehicles within its fleet. Additionally, the Applicant is proposing to gradually introduce Mercedes Hybrid 7.5T vehicles to its fleet that reduce fuel usage and emissions by 20%.

- A comprehensive Travel Plan has been developed for the Proposed Development, with the following aims:
 - To reduce the overall number of private car journeys to and from the site and to encourage the uptake of lower carbon transport options amongst staff and visitors; and
 - To actively manage the transport of freight to and from the site in such as a way as to minimise the impact on the surrounding highway network.
- Actions included within the Travel Plan to manage the transport of freight include:
 - HGV movements to and from the site will be managed to avoid peak hours and to prevent congestion/queuing on the Site;
 - Vehicles will be regularly maintained to ensure that they comply with the relevant emission standards;
 - drivers will not leave vehicles idling on the site;
 - the use of alternative cleaner fuels will be reviewed on a regular basis.

² <http://www.tfl.gov.uk/corporate/projectsandschemes/24418.aspx>

3.2 Reduction in PM₁₀ and PM_{2.5} Emissions

Additional PM₁₀ and PM_{2.5} modelling of emissions from the asphalt plant has been carried out using an emission rate of 20 mg/m³. This is the emission rate provided by the manufacturer of the asphalt plant and bag house, rather than the higher limit of 50 mg/m³ (the emission limit provided in the LAQM Process Guidance note) previously used. A further reduction in PM₁₀ and PM_{2.5} emissions would be expected if the Applicant is successful in its plans to connect to the natural gas supply.

The results of the modelling are provided in Tables 3.1 to 3.3.

Table 3.1: Predicted Annual Mean PM₁₀ Concentrations at the Receptors (µgm-3)						
Receptor	2016 Baseline	Impact due to Asphalt Plant 50mg/m³ emission rate	Impact due to Asphalt Plant 20mg/m³ emission rate	2016 With Development	Impact Magnitude	Impact Significance
Leisure Mooring South	21.5	0.2	0.1	21.6	Imperceptible	Negligible
Leisure Mooring Central	21.4	2.0	0.6	22.0	Small	Negligible
Leisure Mooring North	21.3	2.4	0.7	22.1	Small	Negligible
Residential N Hyde Rd East	24.1	0.1	0.0	24.2	Imperceptible	Negligible
Residential N Hyde Rd West	22.8	0.2	0.1	23.0	Imperceptible	Negligible
Residential N Hyde Gardens South	22.6	0.3	0.1	22.9	Imperceptible	Negligible
Residential N Hyde Gardens North	21.7	0.3	0.1	22.0	Imperceptible	Negligible
Toll House	21.6	0.4	0.1	21.8	Imperceptible	Negligible
Proposed Residential West Southall	21.1	0.7	0.2	21.3	Imperceptible	Negligible
Minet Park West	23.6	1.1	0.3	23.9	Imperceptible	Negligible
Minet Park Central	21.7	1.3	0.4	22.1	Small	Negligible
Minet Park East	21.2	1.1	0.4	21.6	Imperceptible	Negligible
Crane Corridor	21.6	0.3	0.1	21.7	Imperceptible	Negligible

Table 3.2: Predicted Number of Days PM₁₀ Concentrations exceed 50 µg/m³ at the Receptors (days)

Receptor	2016 Baseline	2016 With Development with 20 mg/m ³ emission rate	Increase due to both Stack and Traffic Impacts	Impact Magnitude	Impact Significance
Leisure Mooring South	6	6	0.1	Imperceptible	Negligible
Leisure Mooring Central	5	6	1.0	Small	Negligible
Leisure Mooring North	5	6	1.2	Small	Negligible
Residential N Hyde Rd East	10	11	0.1	Imperceptible	Negligible
Residential N Hyde Rd West	8	8	0.4	Imperceptible	Negligible
Residential N Hyde Gardens South	7	8	0.6	Imperceptible	Negligible
Residential N Hyde Gardens North	6	6	0.6	Imperceptible	Negligible
Toll House	6	6	0.2	Imperceptible	Negligible
Proposed Residential West Southall	5	5	0.3	Imperceptible	Negligible
Minet Park West	9	10	0.8	Imperceptible	Negligible
Minet Park Central	6	6	0.7	Imperceptible	Negligible
Minet Park East	5	6	0.6	Imperceptible	Negligible
Crane Corridor	6	6	0.2	Imperceptible	Negligible

Table 3.3: Predicted Annual Mean PM_{2.5} Concentrations at the Receptors (µg/m³)

Receptor	2016 baseline	Impact due to Asphalt Plant 50mg/m ³ emission rate	Impact due to Asphalt Plant 20mg/m ³ emission rate	2016 With Development	Impact Magnitude	Impact Significance
Leisure Mooring South	15.5	0.2	0.1	15.6	Imperceptible	Negligible
Leisure Mooring Central	15.5	2.0	0.6	16.1	Small	Negligible
Leisure Mooring North	15.4	2.4	0.7	16.2	Small	Negligible
Residential N Hyde Rd East	17.1	0.1	0.0	17.1	Imperceptible	Negligible

Table 3.3: Predicted Annual Mean PM_{2.5} Concentrations at the Receptors (µg/m³)

Receptor	2016 baseline	Impact due to Asphalt Plant 50mg/m ³ emission rate	Impact due to Asphalt Plant 20mg/m ³ emission rate	2016 With Development	Impact Magnitude	Impact Significance
Residential N Hyde Rd West	16.3	0.2	0.1	16.5	Imperceptible	Negligible
Residential N Hyde Gardens South	16.2	0.3	0.1	16.4	Imperceptible	Negligible
Residential N Hyde Gardens North	15.6	0.3	0.1	15.9	Imperceptible	Negligible
Toll House	15.6	0.4	0.1	15.7	Imperceptible	Negligible
Proposed Residential West Southall	15.3	0.7	0.2	15.5	Imperceptible	Negligible
Minet Park West	16.7	1.1	0.3	17.1	Small	Negligible
Minet Park Central	15.6	1.3	0.4	16.0	Small	Negligible
Minet Park East	15.4	1.1	0.4	15.7	Small	Negligible
Crane Corridor	15.5	0.3	0.1	15.7	Imperceptible	Negligible

¹ For the purposes of the assessment it has been assumed that all PM₁₀ from the Asphalt Plant is PM_{2.5}

In comparison with the results previously predicted using the 50 mg/m³ emission rate, it can be seen from the results that the ground level concentrations have been reduced by over 50%. As a result the impacts on overall pollution concentrations are predicted to be as follows:

- **Annual PM₁₀:** The magnitude of total impacts (traffic and asphalt plant) is predicted to be imperceptible at all receptors but two at the Leisure Moorings and one at Minet Park, where a small increase is predicted. The significance of impacts is **Negligible** at all receptors.
- **Daily PM₁₀:** The magnitude of increase in the number of days exceeding 50 µg/m³ is reduced to either small or imperceptible at all receptors, with a maximum predicted increase of 1 day. The overall impact significance is **Negligible** at all receptors.
- **Annual PM_{2.5}:** The magnitude of increase in annual PM_{2.5} is reduced to a maximum of 0.7 µg/m³ as a result of the Asphalt Plant, which equates to a small increase. At all receptors the magnitude of the total increase from the traffic and Asphalt Plant emissions is either imperceptible or small. The overall significance is **Negligible** at all receptors.

3.3 Stack Emissions of NO_x

As discussed in Section 2, for ease of reference, the following tables from the original assessment have been reproduced:

- Table 3.3 detailing the stack emissions of NO_x; and
- Table 8.1 which provides the predicted ground level concentrations.

Table 3.3: Stack Emissions Modelling Input Parameters			
Parameter	Data		
Stack Height (m)	30		
Stack Diameter (m)	1.25		
Stack Temperature (°C)	80		
Discharge Velocity (m/s)	21		
Assumed Operation (hrs/day)	12		
Pollutant Emissions	At reference conditions (mg/Nm ³)	At stack conditions (mg/m ³)	Emission rate (g/s)
NO _x	NG	50	1.29
PM ₁₀ / PM _{2.5} ¹	50	38.7 ²	1
NG = not given			
¹ All PM ₁₀ is assumed to be PM _{2.5}			
² Corrected for temperature only as other parameters unknown			

Table 8.1: Predicted Annual Mean NO₂ Concentrations at the Receptors (µgm⁻³)						
Receptor	2016 Base-line	Impact due to Traffic	Impact due to Asphalt Plant	2016 With Development	Impact Magnitude	Impact Significance
Leisure Mooring South	40.2	0.2	0.1	40.5	Imperceptible	Negligible
Leisure Mooring Central	39.7	0.2	1.1	40.9	Small	Slight Adverse
Leisure Mooring North	39.3	0.1	1.3	40.6	Small	Slight Adverse
Residential N Hyde Rd East	49.9	0.0	0.1	50.0	Imperceptible	Negligible
Residential N Hyde Rd West	45.2	1.2	0.1	46.4	Small	Slight Adverse
Residential N Hyde Gardens South	44.9	2.3	0.1	47.3	Medium	Moderate Adverse
Residential N Hyde Gardens North	41.7	2.7	0.1	44.5	Medium	Moderate Adverse
Toll House	40.5	0.2	0.2	40.8	Imperceptible	Negligible
Proposed Residential West Southall	38.3	0.0	0.4	38.7	Small	Slight Adverse

Minet Park West	47.8	0.2	0.6	48.6	Small	Slight Adverse
Minet Park Central	40.6	0.1	0.7	41.4	Small	Slight Adverse
Minet Park East	38.9	0.1	0.6	39.6	Small	Slight Adverse
Crane Corridor	40.3	0.3	0.1	40.7	Small	Slight Adverse

4 Planning Conditions

The Memo from Nayani Chandran to Karl Dafe suggested a number of possible planning conditions in relation to air quality that should be attached to the Proposed Development, should it be considered for approval. The Applicant's respective comments to each planning condition are provided in Table 4.1.

Table 4.1: Suggested LBTH Planning Conditions	
Initial Conditions	Comments
Air Quality Condition 1: Ingress of Polluted Air Before the development is commenced, a scheme for protecting the proposed offices from external air pollution shall be submitted and approved by the LPA. Any works which form part of such a scheme shall be completed before any part of the development is first occupied or used and measures put in place to ensure it is maintained for the life of the development.	The proposed office building will comply with all relevant Building Regulations to ensure protection of the workforce. In addition, the Applicant will undertake a 6 month diffusion tube monitoring programme to determine current NO₂ concentrations at the Site. In the event that this demonstrates concentrations significantly above the air quality objective, a suitable filtration system will be retrofitted within 6 months of occupation of the offices to provide the office accommodation with a clean source of ventilation air. The Applicant is committed to protecting its workforce, but does not want to put in a ventilation system unless this is absolutely necessary. The approach suggested above would allow the need for a ventilation system to be identified during the early stages of the Proposed Development, whilst not causing undue delay.
Air Quality Condition 2: Traffic Management an Air Quality Any traffic management proposals for mitigation of the impact of the development must be accompanied by an (air quality) assessment of their environmental benefits. The said traffic schemes must also be monitored, for a specified time to be agreed by the LPA, both pre- and post-operation, to ensure the proposed scheme is effective.	Given the natural variations in air quality concentrations, together with the inherent inaccuracies that any modelling work will include, it would be extremely difficult to either model or measure with any degree of certainty the likely impact the traffic management proposals may have on total pollutant concentrations.
Air Quality Condition 3: Environmental Fleet Management Before any part of the development is occupied an environmental fleet management plan shall be submitted for approval to the Local Planning Authority. The said scheme shall include the use of low emission vehicle technologies (e.g. use of electric and/or hybrid vehicles where appropriate, installation of electric charging points), environmentally aware driver training scheme (e.g. no idling), and fleet servicing and maintenance regime. The said scheme shall be	This condition is agreed.

Table 4.1: Suggested LBTH Planning Conditions

Initial Conditions	Comments
implemented for so long as the development is available for use.	
Air Quality Condition 4: Mitigation Requirements in a Poor Air Quality Area Before the development is commenced, details of all mitigation measures to off-set the identified deterioration in air quality as a result of the development shall be submitted to and approved by the Local Planning Authority. The submitted details should include the impact of the final energy provision at the site and impacts on the junction. The mitigation measures shall be integrated within the area affected by the development and thereafter permanently retained and maintained.	It is considered that the Applicant has provided full details of the mitigation measures to offset the impacts from the Proposed Development within the original Air Quality Assessment and this Addendum report. The Applicant would be amenable to providing a sum towards the funding of on-going air quality monitoring within the Hillingdon area. This sum shall be agreed as part of the Section 106 negotiations.

Annex B: Noise and Vibration Impact Assessment Addendum Report



Aggregate Recycling Plant,
Asphalt Production Plant and
Gully Waste Recycling Plant,
Bulls Bridge, Hayes

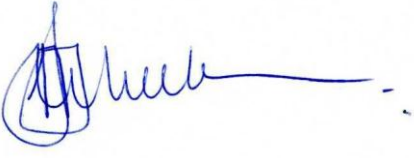
Noise Assessment
Addendum Report

Prepared for:
FM Conway Ltd.

Prepared by:
ENVIRON
London, UK

Date:
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Date:	24 th December 2012

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1 Introduction

1.1 Background

A Detailed Planning Application ('the Application') was submitted by FM Conway Ltd ('the Applicant') in September 2011 for the development of an Aggregates Recycling, Asphalt Production Plant and Gully Waste Recycling Plant (hereinafter referred to as 'the Proposed Development') at the former Powergen site (hereinafter referred to as 'the Site'), Bulls Bridge, Hayes, London Borough of Hillingdon (LBH). The Application was duly registered under Planning Reference 13226/APP/2012/2185.

At the time the Application was accompanied by a number of discrete Technical Assessment Reports, including a Noise Impact Assessment¹. This assessment was technically reviewed and accepted by the Principal Environmental Health Officer within the Environmental Protection Unit (EPU) of Hillingdon Council, who stated "*I have reviewed the noise report and can advise that the proposed mitigation measures [are] satisfactory and the EPU have no objections*".

Since submission of the Application, a number of consultation responses have been received with requests for clarification and/or supplementary information. Notwithstanding approval of the report by the EPU, the Planning Department of LBH has requested responses to the consultee comments for their consideration in determining the Application.

1.2 Purpose of Addendum Report

The purpose of this report is to consider comments and requests made, in respect of the Noise Assessment, by the following consultees and third parties:

- Greater London Authority (GLA);
- Canal and River Trust;
- Friends of Minet Country Park;
- Hayes Conservation Area Advisory Panel; and
- Vodafone.

The report provides responses to requests for clarification in Section 2 and/or supplementary information where considered appropriate in Section 3.

¹ ENVIRON, August 2012. Noise and Vibration Impact Assessment Report. Aggregate Recycling Plant, Asphalt Production Plant and Gully Waste Recycling Plant Bulls Bridge, Hayes (Ref. UK11-17199 Issue: Final)

2 Consultation Comments and Clarifications

The consultation comments received in respect of the Noise Assessment, together with the Applicant's response are provided in Table 2.1.

Table 2.1: Noise Consultee Comments and Statements of Clarification		
	Consultee Comment	Applicant Response
GLA	30 – The assessment presented in the report indicates that noise be adequately controlled provided that the proposed mitigation measures are effective. However, it should be noted the “safety margin” is as low as 0.1dB for some of the assessment scenarios and so there is no margin for error from a noise management perspective. Therefore appropriate noise control conditions will need to be imposed by Hillingdon Council if minded to grant permission.	The noise predictions and assessment were produced utilising typical worst-case assumptions with respect to noise generating activities. The source noise data used in the predictions was directly measured at a comparable existing operation, using the same type of equipment proposed as Bulls Bridge. The assessment and noise criteria were set with respect to the lowest measured existing background/ambient noise levels. Accordingly, a “safety margin” has been built into the predictions and assessment, resulting in confidence that the predicted impacts are representative of a worst case, and for the majority of the time the level of noise would be much lower than predicted. Noise control conditions are considered to be an acceptable method of ensuring that the impact of the development once operational meet the agreed noise limits.
GLA	31 - Hillingdon Council is advised to attach a condition requiring the prior approval of a more detailed noise mitigation scheme that demonstrates compliance with the agreed noise control criteria. The criteria will need to be set locally having regard to local circumstances. The submitted scheme should be required to demonstrate that the noise control criteria can be met with a reasonable degree of certainty.	It is considered that the noise assessment presented in support of the Application already demonstrates that the noise criteria can be met, and with reference to the comments above, with a reasonable degree of certainty. This position is supported by the following comments received by the Principal Environmental Health Officer of the Hillingdon Council's Environmental Protection Unit, which state, <i>“I have reviewed the noise report and can advise that the proposed mitigation measures [are] satisfactory and the EPU have no objections.”</i>
GLA	A more detailed delivery noise assessment should be undertaken and submitted to the Council for further consideration, paying particular attention to when vehicle movements are likely to occur and including specific assessment of night-time delivery noise.	Notwithstanding acceptance of the Noise Assessment of by the EPU of Hillingdon Council, an additional detailed assessment of late evening and night-time delivery noise has been undertaken. This assessment comprised fully attended noise measurements and counts of existing traffic movements along North Hyde Gardens, between 2100 and 0700 on a typical weekday, to allow the potential impact of HGV movements associated with the proposed development to be predicted and assessed on a detailed hour-by-hour basis. The results of this survey, predictions and assessment are presented in full below, but in summary, confirm

Table 2.1: Noise Consultee Comments and Statements of Clarification

	Consultee Comment	Applicant Response
		that the likely impact of HGV movements associated with the Proposed Development will be at most “minor”, which is consistent with the overall impact stated in the Noise Assessment that accompanied the Application.
GLA	33 – Restrictions on operating hours and delivery times may also need to be considered depending on the outcome of these more detailed assessments. Local negotiation and agreement on an appropriate noise control criteria is also recommended as a way forward for dealing with the possible impact of noise on the nearby Coachwork Staff Accommodation proposal.	Given the acceptance of the Noise Assessment by the EPU of Hillingdon Council and the findings of the detailed night-time delivery noise assessment, it is considered that no restrictions to the operating hours of the development are necessary. Furthermore, it is considered that the limiting noise criteria established for the nearby Coachwork Staff Accommodation, that have been demonstrated to be achievable, are appropriate and will afford a commensurate level of the protection against noise for their proposed use.
GLA	34 – The Council should also seek a commitment towards on-going monitoring from the applicant to prove that any attached noise conditions are being complied with and to seek a commitment to undertake remedial measures if the conditions are breached.	It is understood that FM Conway will commit to such monitoring and review of mitigation measures as necessary.
Canal and River Trust	... We are concerned that the use of the mooring site, as leisure or otherwise, could be adversely affected by the proposed aggregate plant, particularly by virtue of noise. We would therefore request that the views of the council's Environmental Health team are sought to establish whether the proposal is likely to affect users of the mooring site and to ensure that any necessary mitigation measures are identified and secured by the scheme.	The Noise Assessment submitted with the planning application demonstrates that with the proposed noise mitigation measures, acoustic emissions associated with the Proposed Development will be adequately controlled at the location of the nearby leisure moorings. The views of the Environmental Health teams have been sought and their comments confirm their acceptance of the mitigation measures proposed.
Hayes Conservation Area Advisory Trust	The noise of the continuous operations will also disturb those living on the canal.	The Noise Assessment submitted with the Application demonstrates that with the proposed noise mitigation measures, acoustic emissions associated with the Proposed Development will be adequately controlled at the location of the nearby leisure moorings.

Table 2.1: Noise Consultee Comments and Statements of Clarification

	Consultee Comment	Applicant Response
Friends of Minet Country Park	The immediate and wider areas surrounding the development site experience existing high concentrations of noise ... Any additional emission or discharge from operation of the plant and storage areas, including associated vehicular traffic to and from the site would further exacerbate these currently unacceptable conditions.	The Noise Assessment submitted with the planning application demonstrates that with the proposed noise mitigation measures, acoustic emissions associated with the Proposed Development will be adequately controlled within all relevant noise sensitive receptor areas.
Vodafone	Vodafone Ltd has concerns about the potential impact of noise and odours arising from the proposed use. No specific consideration is made within the submission of potential impacts on Vodafone Ltd's property in terms of noise. Vodafone Ltd are therefore concerned as to the implications for the amenity of employees working within the office, particularly given the proximity to the application site and proposed location of machinery and plant	No specific consideration was given to the impact of noise from the Proposed Development at the Vodafone Ltd offices, as their location is already substantially impacted by noise from road traffic on the Parkway that lies between Vodafone and the Application Site and it was considered unlikely that the levels of noise emission from the Proposed Development site would be sufficient to adversely impact on Vodafone Ltd office use. The acoustic model of the Proposed Development site has been utilised to predict the worst-case daytime specific noise level at the eastern façade of the Vodafone Ltd office, closest to and facing the Proposed Development site, with a free-field $L_{Aeq,1hour}$ specific noise level of 45.3dB being predicted. With reference to British Standard 8233: 1999: <i>Sound insulation and noise reduction in buildings – code of practice</i> , the “good” design target for “work requiring concentration” in meeting rooms is 35 dB and in open plan offices is 40 dB $L_{Aeq,T}$. Notwithstanding that noise from road traffic on the Parkway would be well in excess of 60dB at this location and require the windows of the Vodafone Ltd office to be kept shut to prevent exceedance of the BS8233 recommended levels, with windows open the level of noise from the Bridge Site inside the Vodafone Ltd office would be 33.3dB and therefore not undermine the design targets presented in BS8233 for such spaces. Accordingly, it is concluded that noise from the Proposed Development is unlikely to result in any significant impact on working conditions at the Vodafone Ltd office, especially given the dominance of existing noise from road traffic on the Parkway.

3 Supplementary Information

3.1 Night-time Delivery Noise Assessment

A detailed assessment of late evening and night-time delivery noise has been undertaken, to allow the potential impact of HGV movements associated with the proposed development to be predicted and assessed on a detailed hour-by-hour basis.

In order to determine the existing noise conditions at North Hyde Gardens, relating to current traffic flows, a noise and traffic survey was undertaken from 2100 on 10th December 2012 to 0700 on 11th December 2012, covering the late evening and night time period, during which the potential impact of noise from the movement of HGVs associated with the Proposed Development is greatest.

The purpose of this survey was to fully understand the current noise climate and vehicle movement along North Hyde Gardens, with regard total vehicle movements and the regularity of HGV movement during the late evening and night-time period. The survey results have been used as a baseline to predict the likely increase in traffic noise due to HGV movements from the Proposed Development once in operation.

Environmental Noise Measurements

Noise measurements were undertaken by consultants certified as competent in environmental noise monitoring, and in accordance with the principles of BS7445: 2003². All acoustic measurement equipment used during the noise survey conformed to Type 1 specification of BS616723. A full inventory of this equipment is shown in Table 3.1.

Table 3.1: Inventory of Acoustic Measurement Equipment		
Item	Make & Model	Serial Number
Calibrator	NC-74	35105086
Sound Level Meter	01-dB Solo Blue	61280
Preamplifier	01-dB Pre 21 S	14175
Microphone	01-dB MCE 212	96399

The noise measurement equipment used during the survey was calibrated at the start and end of the measurement period. The calibrator used had itself been calibrated by an accredited calibration laboratory within the twelve months preceding the measurements. No significant drift in calibration was found to have occurred on the sound level meter. The microphone was fitted with a protective windshield for the measurements. The weather during the survey was suitable for noise measurement, it being dry with light winds.

² British Standards Institute, 2003. British Standard 7445: (2003) Description and measurement of environmental noise. HMSO.

³ British Standards Institute, 2003. Standard 61672: (2003) Electroacoustics. Sound level meters. Part 1 Specifications. HMSO.

The sound level meter was set up at junction between North Hyde Gardens, Nestle's Avenue and the Nestle factory entrance. It was approximately 6 metres from the edge of nearside carriageway of North Hyde Gardens and 18 metres from the nearest residential property. Its position is identified in Figure 3.1 below.



Figure 3.1. Measurement Position

The noise climate at this location was dominated by permanent industrial noise from the nearby Nestle Factory and noise from regular traffic North Hyde Gardens, which contained a high percentage of HGVs. Table 3.2 below summarises the noise levels every one hour period. A full-tabulated noise measurement results is presented in Annex A.

Table 3.2: Full Noise Measurement Results

Start Period (T=1 hour)	Noise Level, dB			
	L _{Aeq,T}	L _{A90,T}	L _{A10,T}	L _{AFmax}
10/12/2012 21:00	64.1	54.9	62.7	97.8
10/12/2012 22:00	64.5	54.0	62.2	96.8
10/12/2012 23:00	60.4	52.4	56.7	90.5
11/12/2012 00:00	60.4	52.1	58.3	84.5
11/12/2012 01:00	57.3	50.8	54.4	84.5
11/12/2012 02:00	61.7	50.4	55.2	96.7
11/12/2012 03:00	63.4	50.6	59.0	97.0
11/12/2012 04:00	64.3	52.2	59.0	97.2

Table 3.2: Full Noise Measurement Results

Start Period (T=1 hour)	Noise Level, dB			
	L _{Aeq,T}	L _{A90,T}	L _{A10,T}	L _{AFmax}
11/12/2012 05:00	65.7	54.8	65.6	96.3
11/12/2012 06:00	69.1	56.0	72.5	95.7

Existing Traffic Flows

During the survey, a detailed record of traffic flows on North Hyde Gardens was kept. Table 3.3 below shows the hourly traffic flow broken down by light vehicles and HGV movements.

Table 3.3: Existing Traffic flow on North Hyde Gardens

Start Period (T=1 hour)	Vehicle Movements			
	Light Vehicles	HGV	Total Movements	% HGV
10/12/2012 21:00	38	20	58	34.5%
10/12/2012 22:00	30	23	53	43.4%
10/12/2012 23:00	12	7	19	36.8%
11/12/2012 00:00	14	10	24	41.7%
11/12/2012 01:00	7	5	12	41.7%
11/12/2012 02:00	13	6	19	31.6%
11/12/2012 03:00	16	14	30	46.7%
11/12/2012 04:00	14	17	31	54.8%
11/12/2012 05:00	70	20	90	22.2%
11/12/2012 06:00	207	25	232	10.8%

Future HGV movements from Proposed Development

The operation of the Proposed Development will involve a number of HGV movements during the late evening and night time, which when added to the existing traffic flow, has the potential to increase the noise levels at sensitive receptors on North Hyde Gardens.

When the development is at full capacity, (worse case), it is understood that approximately 176 HGV movements are likely during the period 2100 to 0700 on a typical weekday, with the hourly distribution of the Proposed Development HGV movements and the effect on overall vehicle movements for North Hyde Gardens presented In Table 3.4.

Table 3.4: Future Traffic flow on North Hyde Gardens

Period	Vehicle Movements				
	HGV Development	Future Total HGV	Future Total Vehicles	Future %HGV	% HGV increase
21:00 - 22:00	32	52	90	57.8%	23.3%

Table 3.4: Future Traffic flow on North Hyde Gardens

Period	Vehicle Movements				
	HGV Development	Future Total HGV	Future Total Vehicles	Future %HGV	% HGV increase
22:00 - 23:00	36	59	89	66.3%	22.9%
23:00 - 00:00	13	20	32	62.5%	25.7%
00:00 - 01:00	14	24	38	63.2%	21.5%
01:00 - 02:00	9	14	21	66.7%	25.0%
02:00 - 03:00	3	9	22	40.9%	9.3%
03:00 - 04:00	0	14	30	46.7%	0.0%
04:00 - 05:00	4	21	35	60.0%	5.2%
05:00 - 06:00	16	36	106	34.0%	11.7%
06:00 - 07:00	49	74	281	26.3%	15.6%

Changes in Future Traffic Noise

In order to determine the magnitude of changes in traffic noise level that are likely to occur on North Hyde Gardens as a result of the Proposed Development, noise levels have been predicted in accordance with the methodology contained within the Calculation of Road Traffic Noise (CRTN)⁴.

The calculation method uses a number of input variables to predict the $L_{A10,18\text{hour}}$ noise level for any receptor point at a given distance from the road. However, in this assessment, the key factors are changes in traffic flows and the composition of the traffic (i.e. percentage HGV's). Therefore, the likely increase in road traffic noise levels as a direct result of the Proposed Development has been calculated in accordance with the BNL prediction method detailed in CRTN. This method considers the relative change in noise level for a notional road-side receptor at a distance of 10 m from the kerb and at a height of 1.5 m (free-field).

The Design Manual for Roads and Bridges (DMRB) presents a significance matrix for assessing the magnitude of long-term changes in noise level, which is reproduced in Table 3.5 and has been utilised in this assessment to consider the effect of any changes in road traffic noise levels. An increase in noise level represents an adverse effect whilst a reduction in noise represents a beneficial effect.

Table 3.5: Road Traffic Noise Criteria (Long Term)

Change in Noise Level, dB(A)	Significance of Effect
0.0	No Change - No Effect
0.1 - 2.9	Negligible

⁴ Department of Environment, 1988. Calculation of Road Traffic Noise, HMSO.

Table 3.5: Road Traffic Noise Criteria (Long Term)	
Change in Noise Level, dB(A)	Significance of Effect
3.0 - 4.9	Minor
5.0 - 9.9	Moderate
>10.0	Major

On this basis, the relative change in traffic noise level has been predicted, using the 1 hour average existing traffic levels as a baseline, and considering the expected movements of HGV per hour from the Proposed Development. The results and its significance effects are presented in Table 3.6.

Table 3.6: Residual Effect of Road Traffic Noise		
Period	Change in Noise Level – dB(A)	Significance Effect
21:00 - 22:00	3.7	Minor
22:00 - 23:00	3.8	Minor
23:00 - 00:00	4.2	Minor
00:00 - 01:00	3.5	Minor
01:00 - 02:00	4.1	Minor
02:00 - 03:00	1.5	Negligible
03:00 - 04:00	0.0	No Change
04:00 - 05:00	0.9	Negligible
05:00 - 06:00	2.1	Negligible
06:00 - 07:00	3.3	Minor

The predicted changes in noise level presented above identify that HGV movements associated with the Proposed Development, during the late evening and night-time period in which the greatest potential for impacts exists, will result in Negligible to Minor Adverse impacts. This is consistent with the results of overall traffic noise impact assessment presented within the Noise Assessment that accompanied the Application. Accordingly, no further mitigation to control the impact of HGV movements is considered necessary.

Annex A: Full Tabulated Noise Measurement Results

Table A1: Full Noise Measurement Results Location 1

Start Period (T=5 min)	Noise Level, dB			
	L _{Aeq,T}	L _{A90,T}	L _{A10,T}	L _{AFmax}
10/12/2012 21:00	59.6	54.4	57.3	77.4
10/12/2012 21:05	61.5	54.9	60.5	79.4
10/12/2012 21:10	59.3	55.0	57.9	81.2
10/12/2012 21:15	62.8	55.4	62.8	81.7
10/12/2012 21:20	62.2	55.3	60.8	80.8
10/12/2012 21:25	62.9	54.4	61.3	88.5
10/12/2012 21:30	65.3	54.9	63.1	89.8
10/12/2012 21:35	63.4	55.1	63.5	80.0
10/12/2012 21:40	64.9	54.6	65.4	86.4
10/12/2012 21:45	68.9	55.9	66.8	97.8
10/12/2012 21:50	66.1	55.1	62.6	94.2
10/12/2012 21:55	62.2	54.5	65.3	76.4
10/12/2012 22:00	65.0	54.1	67.3	89.2
10/12/2012 22:05	63.4	54.1	58.8	88.7
10/12/2012 22:10	64.1	54.3	66.4	79.9
10/12/2012 22:15	60.9	53.8	60.9	80.2
10/12/2012 22:20	61.6	54.5	58.7	81.4
10/12/2012 22:25	69.6	54.8	66.2	96.7
10/12/2012 22:30	63.8	55.1	65.2	86.9
10/12/2012 22:35	65.7	54.0	57.0	96.8
10/12/2012 22:40	64.8	53.8	63.1	84.4
10/12/2012 22:45	61.9	53.6	59.0	81.7
10/12/2012 22:50	62.5	53.4	62.8	81.7
10/12/2012 22:55	62.6	53.4	62.3	83.2
10/12/2012 23:00	60.7	52.2	55.8	88.0
10/12/2012 23:05	53.9	52.3	55.0	58.5
10/12/2012 23:10	62.7	52.8	62.4	80.1
10/12/2012 23:15	56.2	52.8	56.2	78.7
10/12/2012 23:20	61.7	53.3	58.3	79.9
10/12/2012 23:25	54.1	52.5	55.2	58.0

Table A1: Full Noise Measurement Results Location 1

Start Period (T=5 min)	Noise Level, dB			
	L _{Aeq,T}	L _{A90,T}	L _{A10,T}	L _{AFmax}
10/12/2012 23:30	60.6	52.3	55.4	83.7
10/12/2012 23:35	55.8	52.2	56.0	73.3
10/12/2012 23:40	61.5	52.8	56.9	90.5
10/12/2012 23:45	62.8	52.1	59.4	90.4
10/12/2012 23:50	54.7	52.2	55.7	67.3
10/12/2012 23:55	64.1	52.5	62.8	90.2
11/12/2012 00:00	53.4	51.8	54.5	68.3
11/12/2012 00:05	58.5	52.3	57.5	76.5
11/12/2012 00:10	62.7	52.4	62.1	80.3
11/12/2012 00:15	61.7	52.1	58.3	82.5
11/12/2012 00:20	64.3	53.2	63.3	84.5
11/12/2012 00:25	61.2	51.7	59.6	80.3
11/12/2012 00:30	61.9	52.0	59.7	80.2
11/12/2012 00:35	55.9	52.3	55.8	73.3
11/12/2012 00:40	56.6	52.2	55.7	75.3
11/12/2012 00:45	53.9	51.9	55.2	62.3
11/12/2012 00:50	58.0	52.1	55.9	76.3
11/12/2012 00:55	61.9	53.1	60.6	82.7
11/12/2012 01:00	54.1	51.4	55.3	65.4
11/12/2012 01:05	53.1	51.9	53.9	56.7
11/12/2012 01:10	61.0	52.0	59.5	79.1
11/12/2012 01:15	57.1	50.9	54.3	76.4
11/12/2012 01:20	61.4	51.3	56.7	80.2
11/12/2012 01:25	58.5	51.0	53.8	79.7
11/12/2012 01:30	54.6	50.6	53.8	72.3
11/12/2012 01:35	58.4	50.3	55.5	78.3
11/12/2012 01:40	52.1	50.6	53.2	58.7
11/12/2012 01:45	51.7	50.1	52.8	57.6
11/12/2012 01:50	55.5	51.0	54.0	78.0
11/12/2012 01:55	57.5	50.6	54.8	84.5

Table A1: Full Noise Measurement Results Location 1

Start Period (T=5 min)	Noise Level, dB			
	L _{Aeq,T}	L _{A90,T}	L _{A10,T}	L _{AFmax}
11/12/2012 02:00	62.1	49.5	58.9	82.6
11/12/2012 02:05	61.1	51.4	58.3	79.0
11/12/2012 02:10	52.3	50.8	53.4	60.1
11/12/2012 02:15	58.0	50.2	53.5	80.5
11/12/2012 02:20	56.8	50.1	54.1	78.0
11/12/2012 02:25	60.0	50.8	53.9	88.8
11/12/2012 02:30	68.1	50.3	56.4	96.7
11/12/2012 02:35	54.2	50.8	54.1	70.8
11/12/2012 02:40	65.7	50.4	54.1	95.9
11/12/2012 02:45	55.8	50.2	53.6	78.0
11/12/2012 02:50	58.1	50.1	56.0	77.0
11/12/2012 02:55	60.7	50.8	58.8	80.1
11/12/2012 03:00	63.2	50.7	61.1	87.1
11/12/2012 03:05	56.3	50.2	53.2	77.5
11/12/2012 03:10	62.3	49.8	60.9	90.4
11/12/2012 03:15	66.7	50.1	60.5	94.9
11/12/2012 03:20	68.6	50.7	58.9	97.0
11/12/2012 03:25	61.3	50.8	62.6	87.2
11/12/2012 03:30	57.3	50.5	56.9	76.6
11/12/2012 03:35	57.4	51.2	54.4	80.4
11/12/2012 03:40	57.8	50.6	54.4	78.1
11/12/2012 03:45	64.8	51.1	59.2	92.9
11/12/2012 03:50	64.7	51.7	61.3	87.6
11/12/2012 03:55	60.7	51.4	59.2	85.5
11/12/2012 04:00	62.9	51.9	57.6	89.5
11/12/2012 04:05	53.0	51.5	54.1	60.3
11/12/2012 04:10	52.6	51.2	53.6	65.4
11/12/2012 04:15	56.5	52.3	55.4	75.4
11/12/2012 04:20	62.2	52.6	61.5	83.5
11/12/2012 04:25	58.0	52.1	56.8	78.0

Table A1: Full Noise Measurement Results Location 1

Start Period (T=5 min)	Noise Level, dB			
	L _{Aeq,T}	L _{A90,T}	L _{A10,T}	L _{AFmax}
11/12/2012 04:30	60.5	52.8	58.1	81.7
11/12/2012 04:35	66.1	53.2	57.5	94.8
11/12/2012 04:40	63.5	53.6	58.4	89.5
11/12/2012 04:45	68.4	54.1	66.0	96.4
11/12/2012 04:50	70.2	53.9	64.9	97.2
11/12/2012 04:55	63.2	54.2	64.2	80.3
11/12/2012 05:00	59.2	54.2	57.1	77.4
11/12/2012 05:05	63.0	53.9	58.5	93.5
11/12/2012 05:10	64.6	54.3	62.0	89.6
11/12/2012 05:15	65.3	54.3	58.5	95.1
11/12/2012 05:20	64.8	54.8	67.6	81.6
11/12/2012 05:25	66.1	55.0	67.2	90.5
11/12/2012 05:30	67.0	55.4	64.2	94.4
11/12/2012 05:35	59.7	55.5	60.5	74.9
11/12/2012 05:40	67.6	56.1	67.7	95.1
11/12/2012 05:45	67.1	56.3	70.4	93.4
11/12/2012 05:50	69.1	56.1	69.3	96.3
11/12/2012 05:55	65.3	55.6	68.8	84.2
11/12/2012 06:00	64.3	55.0	66.4	80.0
11/12/2012 06:05	65.4	55.4	66.5	89.9
11/12/2012 06:10	66.5	56.3	69.9	82.9
11/12/2012 06:15	69.8	56.1	71.5	95.4
11/12/2012 06:20	65.6	56.2	70.3	79.2
11/12/2012 06:25	64.0	55.7	66.7	84.0
11/12/2012 06:30	69.0	56.1	71.8	95.7
11/12/2012 06:35	72.1	59.1	74.5	95.2
11/12/2012 06:40	71.1	59.3	74.7	91.7
11/12/2012 06:45	69.1	59.5	73.5	90.8
11/12/2012 06:50	71.0	58.9	75.1	91.1
11/12/2012 06:55	71.0	59.2	75.5	92.0

Annex C: Environment Agency Correspondance

Sarah Cowdy
Environ UK Ltd
5 Stratford Place
London
W1C 1AX

Our ref: NE/2012/114931/02-L01

Date: 23 August 2012

Dear Sarah

Bulls Bridge Site, Hillingdon.

Aggregate recycling facility, asphalt storage and production plant.

Thank you for your email which was sent to my colleague Michael in the Groundwater and Contaminated Land Team. As discussed over the telephone we are satisfied that sufficient measures are in place to ensure that there will be no significant risk of pollution to groundwater.

We can confirm that the hotspots on site do not need to be remediated as part of this development. This is because anything released will be remediated once it reaches the existing funnel and gate interceptor trench.

I appreciate that you are not responsible for the detailed drainage design but please can you forward the following on to the relevant person.

While we are satisfied that the inclusion of soakaways are essential in regards to contamination, additional options still need to be explored. In its present form the drainage strategy would not be acceptable.

The final Flood Risk Assessment should demonstrate that surface water flooding from the proposed development will be safely contained on site, up to and including a 1 in 100 year storm with allowance for climate change. As outlined in my previous response you will need to demonstrate that all SuDS have been considered. We are happy to review this prior to submission.

Please contact me if you have any queries.

Yours sincerely

Natasha Smith
Sustainable Planning Advisor

Direct dial 01707 632332
E-mail SPHatfield@environment-agency.gov.uk



Sarah Cowdy
ENVIRON UK Ltd

Our ref: NE/2012/115935/01-L02
Your ref: 13226/APP/2012/2185

scowdy@environcorp.com

Date: 20 December 2012

Dear Sarah

Redevelopment of the site to provide an aggregate recycling and processing plant, asphalt plant and storage facility, gully waste recycling plant, aggregate storage facility, and term maintenance depot, with ancillary offices, structures and facilities, car and lorry parking, regrading and landscaping.

Bulls Bridge Site, Hillingdon.

Further to your email dated 17 December 2012 regarding the above site, I am writing to provide details of the conditions that we have currently drafted in relation to Groundwater and Contaminated Land.

Please note that these conditions are only draft and as you know our current objection on flood risk still stands. Once we have received satisfactory information to overcome our objection we will be in a position to remove our objection and provide a formal response with a complete set of conditions. Please also note that there will also be flood risk and biodiversity conditions to add, on resolving the objection.

GROUNDWATER AND CONTAMINATED LAND CONDITIONS

If full planning permission is granted for this development the following conditions should apply.

Draft EA Condition 1

No development approved by this planning permission shall take place until a written method statement providing details of the current remediation scheme including how the remediation will be verified to deal with the risks associated with contamination of controlled waters, shall be submitted to and approved, in writing, by the Local Planning Authority.

Reasons

To protect controlled waters from contamination.

National Planning Policy Framework (NPPF) paragraph 109 states that the planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels water pollution. Government policy also states that planning policies and decisions should

Cont/d..



also ensure that adequate site investigation information, prepared by a competent person, is presented (NPPF, paragraph 121).

Draft EA Condition 2

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted a remediation strategy to the Local Planning Authority detailing how this unsuspected contamination shall be dealt with and obtained written approval from the Local Planning Authority. The remediation strategy shall be implemented as approved.

Reasons

To protect controlled waters from contamination.

National Planning Policy Framework (NPPF) paragraph 109 states that the planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels water pollution. Government policy also states that planning policies and decisions should ensure that adequate site investigation information, prepared by a competent person, is presented (NPPF, paragraph 121).

Draft EA Condition 3

No occupation of any part of the permitted development shall take place until a verification report demonstrating completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to and approved, in writing, by the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met. It shall also include any plan (a "long-term maintenance plan") for longer-term maintenance and arrangements for contingency action, as identified in the verification plan. The long-term maintenance plan shall be implemented as approved.

Reasons

The site already benefits from having a site-wide remediation system installed to prevent the contamination of controlled waters. It is a funnel and gate system in which infiltrating surface water flushes contamination through a permeable carbon barrier where the hydrocarbon contamination is removed. The proposed work should not have an impact on the existing funnel and gate system, and the funnel and gate system should be subject to an ongoing maintenance programme.

National Planning Policy Framework (NPPF) paragraph 109 states that the planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels water pollution. Government policy also states that planning policies and decisions should ensure that adequate site investigation information, prepared by a competent person, is presented (NPPF, paragraph 121).

Yours sincerely

Ms Jane Wilkin
Planning Liaison Officer

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E-mail: northlondonplanning@environment-agency.gov.uk
Based at: Eastbury House, Albert Embankment
Postal address: FAO Planning Liaison, London Team, Apollo Court, 2 Bishops Square Business Park, St Albans Road West, Hatfield, AL10 9EX

Cc Karl Dafe, London Borough of Hillingdon