



**LTGDC-07-169-FUL**  
**75 - 77 Chequers Lane**  
**Dagenham Essex RM9 6QT**

**NORTH**

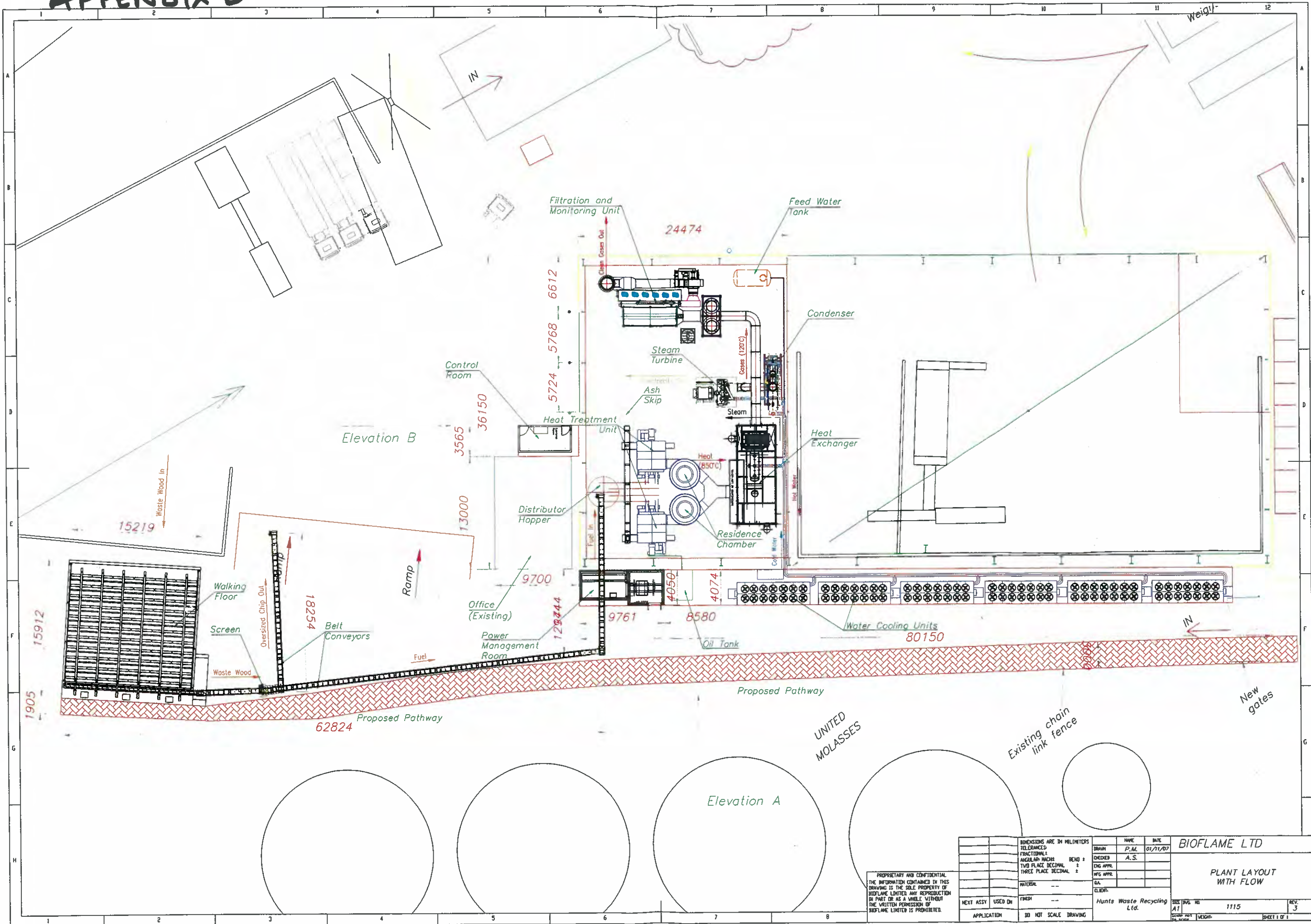


**Scale: 1: 2500**

**Date: July 3rd 2008**

**Drawing Number/File Reference: FP**

# APPENDIX 2



PROPRIETARY AND CONFIDENTIAL  
 THE INFORMATION CONTAINED IN THIS  
 DRAWING IS THE SOLE PROPERTY OF  
 BIOFLAME LIMITED. ANY REPRODUCTION  
 IN PART OR AS A WHOLE, WITHOUT  
 THE WRITTEN PERMISSION OF  
 BIOFLAME LIMITED IS PROHIBITED.

DIMENSIONS ARE IN MILLIMETERS TELEDIMENSIONS FRACTIONAL ANGULAR DIMS TWO PLACE DECIMAL THREE PLACE DECIMAL HATCH FINISH APPLICATION	NAME P.M. A.S. ENG APPR. MFG APPR. QA CLIENT Hunts Waste Recycling Ltd.	DATE 01/11/07
---	---	------------------

BIOFLAME LTD		
PLANT LAYOUT WITH FLOW		
SIZE (ANSI)	NO	REV.
A1	1115	3
SCALE	VELOC	SHEET 1 OF 1

UNITED  
 MOLASSES

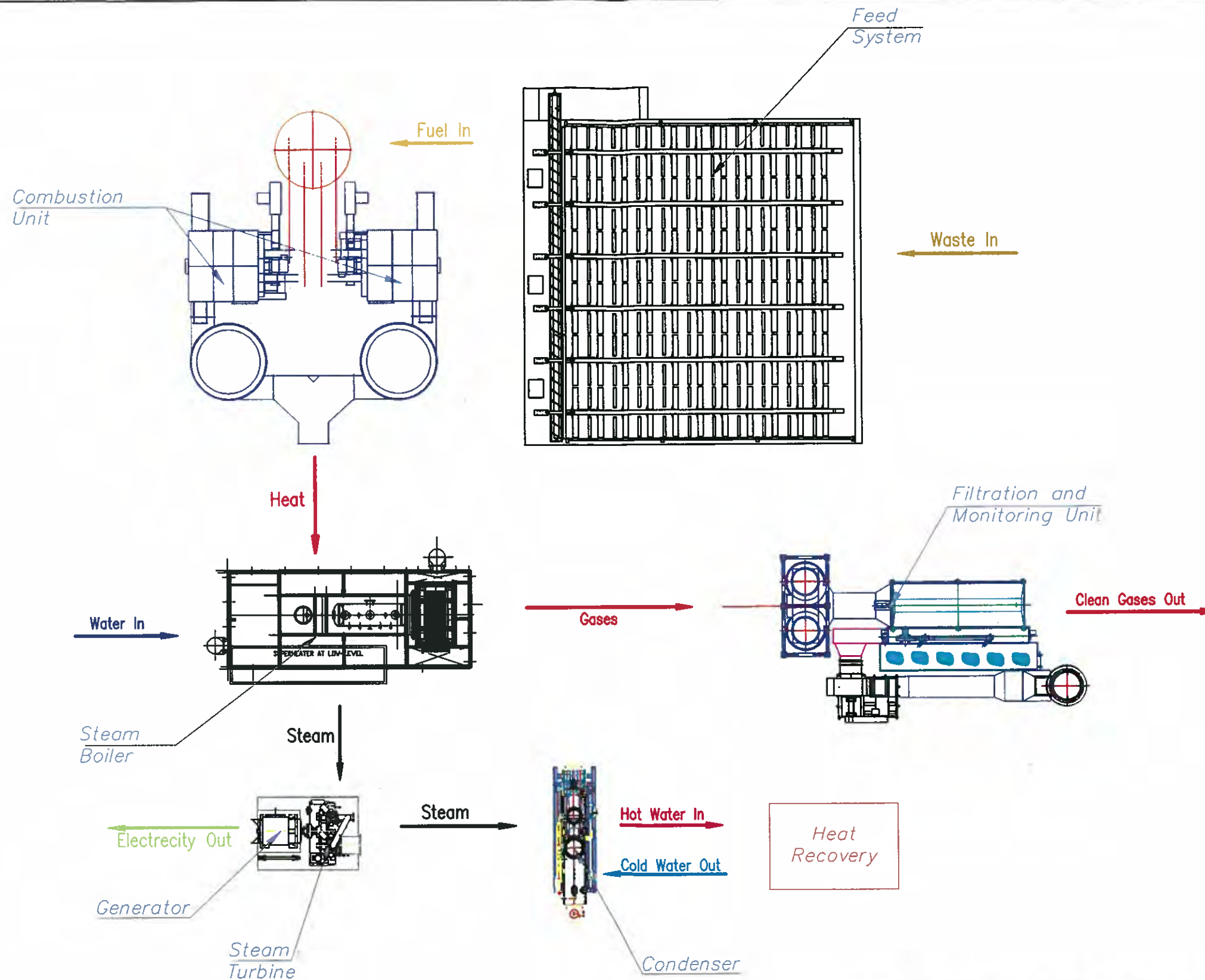
Existing chain  
 link fence

New gates

Elevation A

Elevation B

# APPENDIX 2



PROPRIETARY AND CONFIDENTIAL  
 THE INFORMATION CONTAINED IN THIS  
 DRAWING IS THE SOLE PROPERTY OF  
 BIOFLAME LIMITED. ANY REPRODUCTION  
 IN PART OR AS A WHOLE WITHOUT  
 THE WRITTEN PERMISSION OF  
 BIOFLAME LIMITED IS PROHIBITED.

DIMENSIONS ARE IN MILLIMETERS		NAME	DATE
TOLERANCES:		P.M.	25/09/07
FRACTIONAL ±		CHECKED	V.B.
ANGULAR: MACH ±	BEND ±	ENG APPR.	
TWO PLACE DECIMAL ±		MFG APPR.	
THREE PLACE DECIMAL ±		QA	
MATERIAL	FINISH	CLIENT:	
NEXT ASSY	USED ON		
APPLICATION	DO NOT SCALE DRAWING		

<b>bioflame</b>	
Typical Biomass Power Plant Flow Diagram	
TITLE DWG NO A3	REV. 1
DATE	SHEET 1 OF 1

City Hall  
The Queens Walk  
London SE1 2AA  
Switchboard: 020 7983 4000  
Minicom: 020 7983 4458  
Web: www.london.gov.uk

**Our ref:** AR 03/04/08  
**Your ref:**  
**Date:** 15 April 2008

**Will Steadman**  
Planning Development Officer  
London Thames Gateway Development Corporation  
9th Floor, South Quay Plaza 3  
189 Marsh Wall  
London E14 9SH

RECEIVED  
17 APR 2008

Dear Will

**GLA Officer opinion on the consistency of Hunts Heat and Power, Chequers Lane, Dagenham Dock planning application with London Plan Policy on Waste and Climate Change**

Further to our meeting of 17 January 2008 please find below GLA Officer comments on the extent that Hunts Heat and Power's planning application for a waste wood thermal treatment facility (known as Bioflame) at Chequers Lane, Dagenham Dock is not consistent with the objectives of London Plan Policy on Waste and Climate Change and taking into account the Mayor's environment strategies. The comments do not constitute a formal decision of the Mayor since this matter is not referable and has not therefore been taken to the Mayor for a formal decision.

The primary purpose of this application is to dispose of waste wood currently being delivered to this site from the construction and demolition industry and currently being sorted, bulked and transported to landfill. The application proposes a conventional incinerator treating approximately 30,000 tonnes of wood waste a year with the recovery of energy in the form of electricity being used firstly in the process then secondly fed into the local electricity network. On the basis of this application, consideration has been given to the consistency of this application with the objectives of London Plan policy on waste. However this application has also been considered against the London Plan policies (on climate change, mitigation, waste, energy and a hydrogen economy) in full.

The relevant policies in the London plan to which this application relates are 4A.1, 4A.2, 4A.21 and 4A.23. It is the view of officers that this application is not consistent with the objectives of the London Plan for the reasons out lined below:

1. The proposal does not support the requirement to make the fullest contribution to mitigation and minimise carbon dioxide emissions.
2. The applicant has not explicitly considered advanced conversion technologies at this site. Policy 4A.21 establishes the Mayor's preferred technologies and his aim to encourage preferred technologies. By not considering preferred technologies

and discounting these options before establishing suitability, the proposal therefore fails to encourage preferred technologies.

3. The proposal represents an inefficient approach to energy use, inconsistent with the London Plan policy approach on the utilisation of waste heat where possible.
4. The proposal does not provide the long term advantages that preferred technologies do in generating hydrogen to help achieve the Mayor's carbon reduction targets as specified in Policy 4A.2 of the London Plan and promoted in Policy 4A.21 in circumstances where renewable energy generation occurs.

These four points are dealt with one by one and expanded on below:

1. Policy 4A.1 Tackling Climate Change states that;

'The Mayor will, and boroughs should, in their DPDs require developments to make the fullest contribution to the mitigation of and adaptation to climate change and to minimise emissions of carbon dioxide.'

A study commissioned by the GLA entitled 'The Greenhouse Gas balances of waste management scenarios (GHG) study'<sup>1</sup> demonstrates that there are technologies that would perform better in terms of lower carbon dioxide emissions than conventional incineration. The GHG study calculated the GHG balances of 24 waste management scenarios. Conventional incineration performs poorly on greenhouse gas balances due to the technology being locked into the use of a steam turbine to generate electricity, which do not achieve higher efficiencies than about 25%. Gasification offers more potential by thermally treating the waste product to produce a gas that can be used to power a gas turbine, a gas engine or have the hydrogen separated for use as a fuel. It is the production of hydrogen that realises the greatest climate change benefit as hydrogen is a very efficient energy carrier and therefore is capable of offsetting a large amount of fossil fuel use especially when used as a vehicle fuel.

The top 11 performing scenarios of the GHG study all included the production of a biogas or hydrogen either using gasification, plasma gasification or anaerobic digestion. On this basis it can be concluded that this application does not make the fullest contribution to the mitigation of climate change. It is advised that advanced conversion technologies be considered and assessed for this location given that the site is designated as a waste management/transfer use thereby demonstrating its suitability in principle for such technologies.

2. Policy 4A.21 Waste strategic policy and targets states that;

'Where waste cannot be recycled, the Mayor will encourage the production of energy from waste using new and emerging technologies, especially where the products of waste treatment could be used as fuels (e.g. biofuels and hydrogen).'

---

<sup>1</sup> <http://www.london.gov.uk/mayor/environment/waste/climate-change/greenhousegas.jsp>

and

'Having regard to the existing incineration capacity in London and with a view to encouraging an increase in waste minimisation, recycling, composting and the development of new and emerging advanced conversion technologies for waste, the **Mayor will consider these waste management methods in preference to any increase in conventional incineration capacity**'

In addition the policy states that:

'current incinerator capacity will, over the lifetime of this plan, become orientated towards non-recyclable residual waste. The Mayor will also consider, in preference to incineration, technologies that have the potential to produce renewable hydrogen from waste.'

In our meeting of 17 January 2008 the applicant stated that the waste was not suitable for recycling and therefore would be used to produce energy and this has been accepted unquestioned. This production of energy from waste that cannot be recycled is supported where the technology employed is capable of producing a fuel such as a biofuel or hydrogen.

It is considered that the proposed scheme does not accord with London Plan policy in that the technology chosen is not a new and emerging advanced conversion technology and as a result does not produce a gas that can either be used to generate onsite heat and power, be used as a vehicle fuel offsite or be converted into hydrogen. Technologies that produce a gas are preferred because they are versatile and flexible in their output and can lend themselves to the development of a hydrogen economy.

The objective of the 'Planning for Waste' sub-chapter in the London Plan and in particular Policy 4A.21 is to consider waste as a resource and to manage that resource in a way that maximises the benefit to the environment. In order to calculate and measure the benefit a particular treatment method of a resource can have, its contribution to climate change is considered. The GHG study confirmed the Mayor's view that waste reduction and then recycling are the two most positively contributing treatment methods with regards to climate change followed by advanced treatment technologies that are capable of producing a fuel such as a biogas and hydrogen. Gasification is a technology that would fulfil the requirements of this policy.

An example, which can be cited is Novera Energy plc, which was granted planning permission from the LTGDC in September 2006, for their Enerkem gasification technology at Ford Dagenham. The GLA is also aware of other gasification technology providers in search of land on which to site a facility. The Mayor seeks not only to encourage recycling, composting and the production of biogas and hydrogen but also encourage technologies that can achieve the highest levels of energy efficiency and actively discourage technologies such as incineration, that crowd out recycling, composting and advanced conversion technologies, which are often in commission for at least 15 years and often much longer.

3. Policy 4A.23 Criteria for the selection of sites for waste management and disposal states that;

"Wherever possible, opportunities should be taken to include provision for Combined Heat and Power and Combined Cooling Heat and Power...".

The proposed incinerator does not include the provision of a network of pipes to distribute the waste heat and will operate in electricity mode achieving an electrical efficiency of 20%. This means of the potential energy available 20% of it will be harnessed. Further the incinerator does not provide for the distribution of 'heat' to achieve higher overall electrical and thermal efficiency. The applicant has not provided evidence to satisfy officers that the incinerator can operate in combined heat and power mode or that other waste to energy technologies have been fully considered, and their reasons for exclusion, before choosing this one.

Therefore it is the view of officers that the incinerator proposed for this site does not accord with policy 4A.23 in that it will not include the provision of a heat distribution network and it has not been demonstrated that this is not possible.

4. Policy 4A.2 Mitigating climate change

As stated earlier under point 1, the proposal does not look to achieve maximum generation efficiencies and therefore does not contribute as fully as possible to achieving the overall carbon dioxide reduction targets for London in policy 4A.2 and as required by policy 4A.1.

Furthermore, the applicant has not produced any evidence to establish that alternative technologies such as a gasification, or similar, technology is not feasible. These technologies are used in Europe, and the rest of the world. The Mayor has a preference for these technologies because they are 'future proof'. Advanced conversion technologies that produce a biogas are more flexible than incineration technologies that are limited to producing energy, in the form of electricity, using a steam turbine. The production of a biogas means that the fuel (the biogas) can be stored until required, can be transported, can be used as a vehicle fuel and can be used for the production of hydrogen. Using hydrogen in a hydrogen fuel cell is considered to be a key clean energy solution of the future. Investment in technology today that will be around for 15 years or more needs to be adaptable to future developments such as hydrogen fuel cell development. The proposed incinerator is not flexible as it can only produce electricity using a steam turbine and is not capable of producing a biogas or hydrogen. Furthermore, under European law, the Bioflame process, operating at such low efficiency, is regarded as a disposal operation.

On this basis the Bioflame application is not considered to be consistent with the objectives of the London Plan. For this proposal to be considered consistent with the objectives of the London Plan, the technology proposed would need to be one classified as an advanced conversion technology under the Government's Renewables Obligation and would need to operate in Combined Heat and Power mode.

In conclusion the proposed incineration application does not accord with London Plan policy for waste or climate change as it does not make the fullest contribution to the mitigation of climate change and minimise carbon dioxide emissions (Policies 4A.1 and 4A.2). The proposal is not for a New and Emerging Advanced Conversion Technology (Policy 4A.21) and will not produce a biofuel or hydrogen but instead will incinerate a fuel that would have had the potential to produce a biofuel or hydrogen. The application is not for a Combined Heat and Power or Combined Cooling, Heat and Power facility (Policy 4A.23), as it does not include a proposal to utilise the waste heat.

Therefore it is our view that you should refuse the application and suggest that a reason to refuse could read: -

The use of the site as a waste wood thermal treatment facility is not in accordance with London Plan policies 4A.1, 4A.2, 4A.21 and 4A.23 in that it does not minimise carbon dioxide emissions, is not a new and emerging technology, and does not include CHP/CCHP. Therefore it does not maximise energy generation and minimise carbon emissions directly or indirectly. It therefore undermines the achievement of London's carbon dioxide reduction targets.

Should you require further assistance, please do not hesitate to contact me.

Yours sincerely,



Giles Dolphin  
**Head of Planning Decisions**