



R J Mitchell School

Hornchurch, Essex – London Borough of Havering

This school is very special and was named after the designer of the famous World War Two Spitfire fighter planes. The school keeps the name of this great designer to the fore, and display paintings and part of Spitfires. Each year an annual event is held in R J Mitchell's name. The school is situated on the former RAF Hornchurch Aerodrome, which was a key quick response fighter station in the Second World War. Part of this airfield has now been landscaped as a Country Park, and some of the old parts of the fighter station can still be seen.

It was a privilege to be chosen by the L B Havering's Consultants Mouchel Parkman to install the first Biomass wood chip fuelled school heating system to be fitted in a Havering school. The contract was valued at £100,000 and involved working in the summer shut down period removing the oil fired boiler plant and hot water cylinder, fitting in place the fully automatic Broag Biomass boiler, a new high efficiency gas fired water heater, and a stand-by Broag 115Kw condensing gas boiler, new controls and pumps. We also carried out all the builders works including the erection of the Biomass store, decorations and all specialised trades needed for a complete finished project.

The old oil tanks were drained degassed and removed. Then the oil store was converted into the pellet store. This required a steel retaining frame around the inside of the walls, a timber framework was then installed with upright timbers then covered with marine ply to line out the store, the bottom panels tapered in to feed the pellet fuel into the boiler worm drive. The storage capacity is about 21 tons, which means very few refills are required each year. A key issue in the design and installation of the bunker is that the fuel must be kept dry, the bunker must be 100% weather proof.

Delivery of the fuel is very interesting, as the pellets are "blown" down a flexible hose under air pressure from the delivery lorry into the 80dia fuel supply pipes. To check the fuel level in the bunker, a series of viewing windows are arranged down one side. These are glazed on the bunker side and removable screwed caps externally, it's very easy to see the fuel level at any time. A good maintenance free simple system.

The carbon footprint of this system is very small. The Biomass boiler automatically delivers burnt ash into a container on the front of the boiler, the amount is minimal measured against the volume of the input fuel, a fraction of 1%, and as pure potash is great for the School's garden!

We are very proud to have installed this pilot scheme, our 40 plus years of practical experience demonstrated to our client that they had made the right choice by inviting us to install the system. The system is performing beautifully the school are delighted with the end results. If you would like to look over the system please contact our office and we would with the School's permission be happy to show the system to you. You can also see a brief demonstration of this boiler on YouTube by [\[clicking here\]](#).