



## Design & Build of Biomass Plant and Drying Facility

### Customer:

**Tudor Griffiths Group**  
Ellesmere, Shropshire

### When:

October 2016 - February 2017

## The Project

Tudor Griffiths Group is one of the UK's leading independent businesses in the supply of construction materials and building supplies, ready-mixed concrete, skip hire, waste management and recycling. In 2017 a new department of the business, TG Renewable Energy was to be launched and this required the construction of a Biomass plant and drying facility at their premises at Wood Lane, Ellesmere.

Biomass is a renewable and sustainable source of energy and is used within the industrial and agricultural sectors to produce heat and generate electricity.

Renewable and sustainable energy is a key objective for the group as this considerable investment showed.

## The Solution

Knights Construction Group were chosen as the principle contractor to design and build a facility for drying and storing virgin wood chip and shred which would then be sold as Biomass fuel.

The main requirements were for the plant to house seven 1 megawatt boilers and the provision for efficient delivery and collections by HGV's.

When we carried out the initial geo-technical investigation we discovered that ground conditions at the proposed site were unstable, due to the proposed building's location being a back-filled silt pond from early quarry workings.

This brought its own unique engineering challenges and – working alongside structural engineers – we planned out what steps would be required to improve the poor bearing capacity of the ground. As a result, the building footprint and foundations were stabilised with two metres of granular fill with 500mm of stone capping bringing the footprint to sub formation.

Over a thousand stone column piles were then installed to an average depth of 3.5 metres in order to create a weight bearing platform that would allow for the steel-frame building construction and our concrete-flooring teams to install a 200mm reinforced ground bearing slab. All associated drainage and service ducts were also installed prior to boiler installation by the manufacturer engineers.

## The Outcome

With a tight programme and having to operate within the confines of shorter winter working hours, there were plenty of challenges to overcome. But ultimately, the tasks at hand were well sequenced and professionally coordinated with all sub-contractors complying to Knights Construction Group's Health and Safety policies and working together in a professional manner.

With close attention to detail and co-ordination with sub-contractors we were able to deliver the completed project to TG Group at twenty-two-and-a-half weeks – comfortably inside the twenty-five week project deadline.

This new Biomass plant and drying facility has now opened up the TG Renewable Energy division to a whole new customer base.



### Sub-contractors included:

**RMW Electrical Services**

**Gareth Pugh Steel Framed Buildings**

**Keith Wilson Biomass IEC**