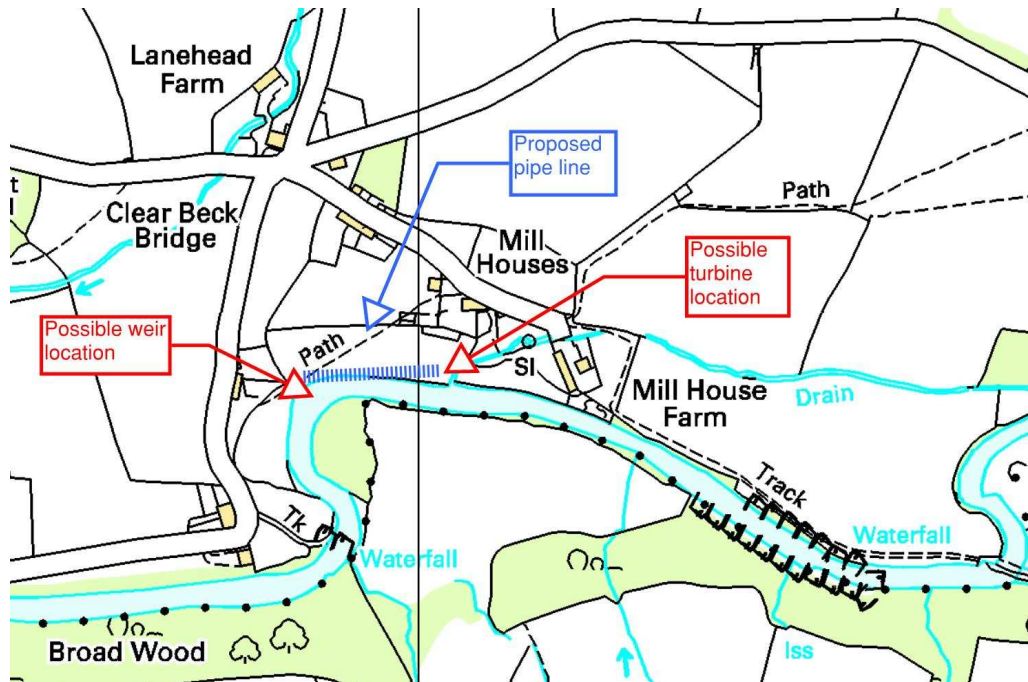


## Site 23: Millhouses, Wray

### Site Assessment

Figure 1 Map showing general layout



There is some mill history at this location, but the mill is thought to have fallen into ruin. There is unfortunately no weir remaining in the river. Any potential scheme here would involve the construction of a new weir and either the installation of a turbine directly on this weir, or the digging of a mill race through the field and the installation of a turbine at the end of this mill race. Due to the lack on an existing weir and the limited amount of fall on this meander, it is not likely that this scheme is viable.



Figure 21 The potential intake location



Figure 2 Looking downstream – the pipeline would run through the field on the left hand side

## Hydropower Analysis

Gross Head [m]	1.2
Net Head [m]	1.1
Design Flow [m <sup>3</sup> /s]	1.7 m <sup>3</sup> /s
Rated Capacity [kW]	14 kW
Average Annual Energy Output [MWh]	55 MWh
Average annual Carbon Dioxide offset	127 tonnes

## Conclusion

It is likely that a grid connection for this scheme would not be economically viable, but that energy produced could make a partial contribution to the energy requirements of the proximal properties. The total value of the generated electricity would be 24.9p/kWh, giving an average annual value of approximately **£13,000**. The cost of development would be approximately **£300,000**. The simple payback time for this scheme is **24** years.

It is likely that the installation of a new weir here would come under environmental and political scrutiny, as ultimately the UK is committed to reducing the extent of engineering in rivers in line with the European Water Framework Directive.

Due to the fact that there is no existing weir at this site, and only limited head, it is unlikely that a scheme here would be economic.

## Further Information

This site report is produced by Inter Hydro Technology on behalf of Forest of Bowland AONB, and funded by a partnership including Lancashire County Council, Lancaster & District Local Strategic Partnership, Pendle Borough Council and Ribble Valley Local Strategic Partnership.

This site report should be read in conjunction with the rest of the Forest of Bowland AONB Hydro Feasibility Study which can be downloaded at

<http://www.forestofbowland.com/climatechange#hydro>