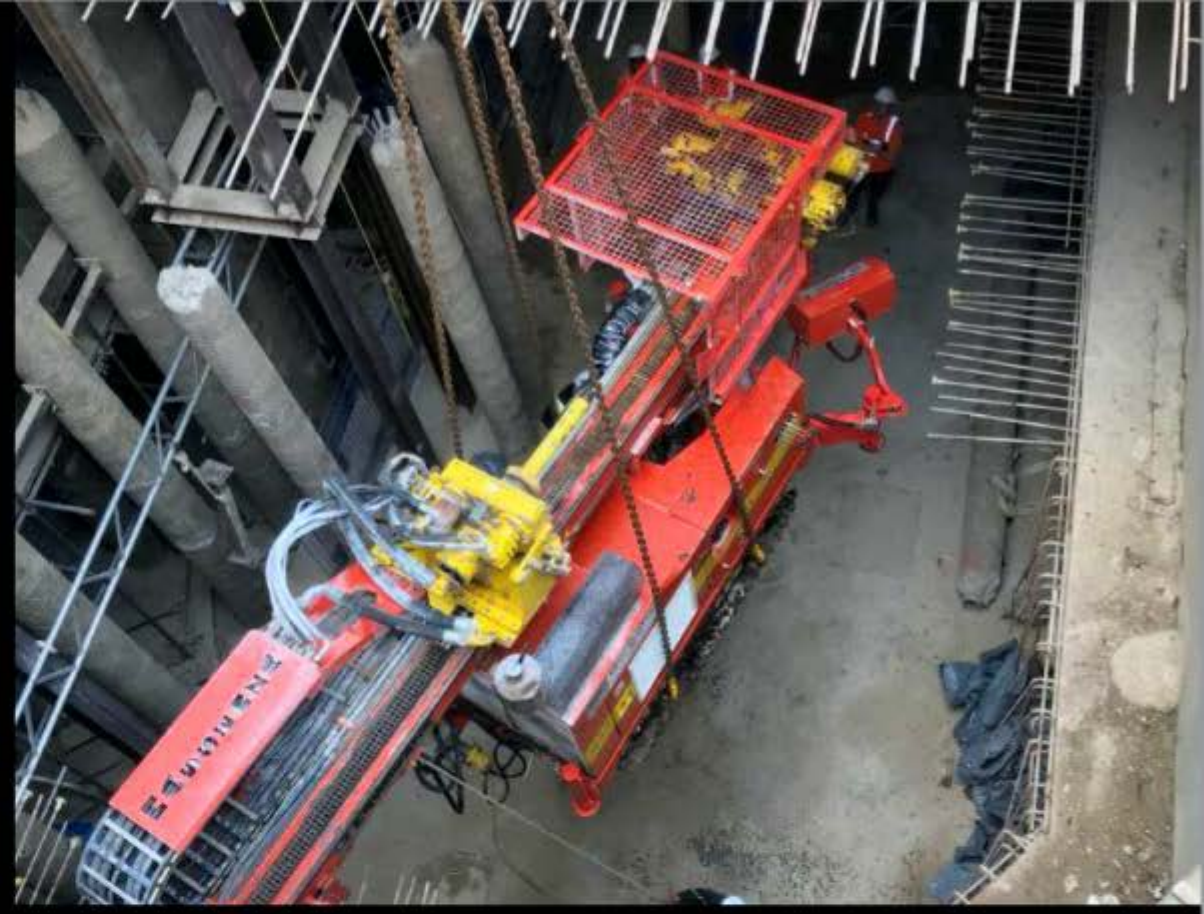
NICHOLLS

BOREHOLES & GROUND SOURCE

OUR EQUIPMENT

Our Equipment Heading to Site




WATERWELL
BOREHOLES
GROUND SOURCE
HEAT PUMPS
01403 820750


MASSENZA
DRILLING RIGS

Our Drilling Rigs

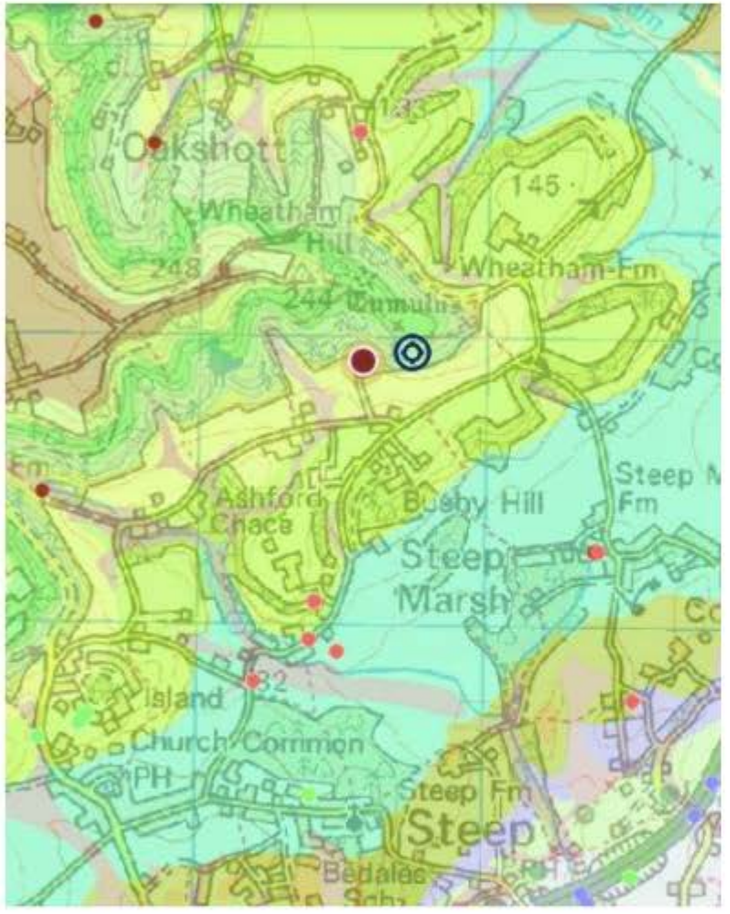
Nicholls Boreholes are one of the very few installers that both drill and install systems in the South East rather than sub-contracting. The installation of the collector is key to the performance of the system and Nicholls can provide a turnkey reliable solution for both water boreholes, ground source heat pumps (GSHPs) and deep bore soakaways.

Our drilling equipment is designed to access sites of all sizes with minimum impact.

- Our drilling rigs can drill to depths of 600m+ and to a diameter between 100mm and 400mm.
- We supply and install geothermal borehole systems and water borehole systems. We also undertake deep bore soakaway drilling. We can offer advice on government support and funding.
- We operate across a large area of the South.
- We provide solutions for domestic, public and commercial users.

Our Drilling Rigs comprise of:

Massenza MI5 which can drill up to 200m
Massenza MI6 which can drill up to 250m
2 x Massenza MI8 which can drill up to 600m
Massenza MI12 which can drill over 600m


Oakshott
Wheatham Hill
248
244 Tumulus
145
Wheatham Fm
Ashford Chace
Busby Hill
Steep Fm
Steep Marsh
32
Island
Church Common
PH
Steep Fm
Steep
Bedales


Nicholls
Boreholes
DAF


BOREHOLES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LOADALL
JCB
WILLIAMS
SOUTHAMPTON
DAF

Pumper Dumpers

Mud Tank

Drilling Fluid Cleaning System


Nicholls
www.nicholisboreholes.co.uk
Thinking Greener

GROUND SOURCE HEAT PUMP DRILLING

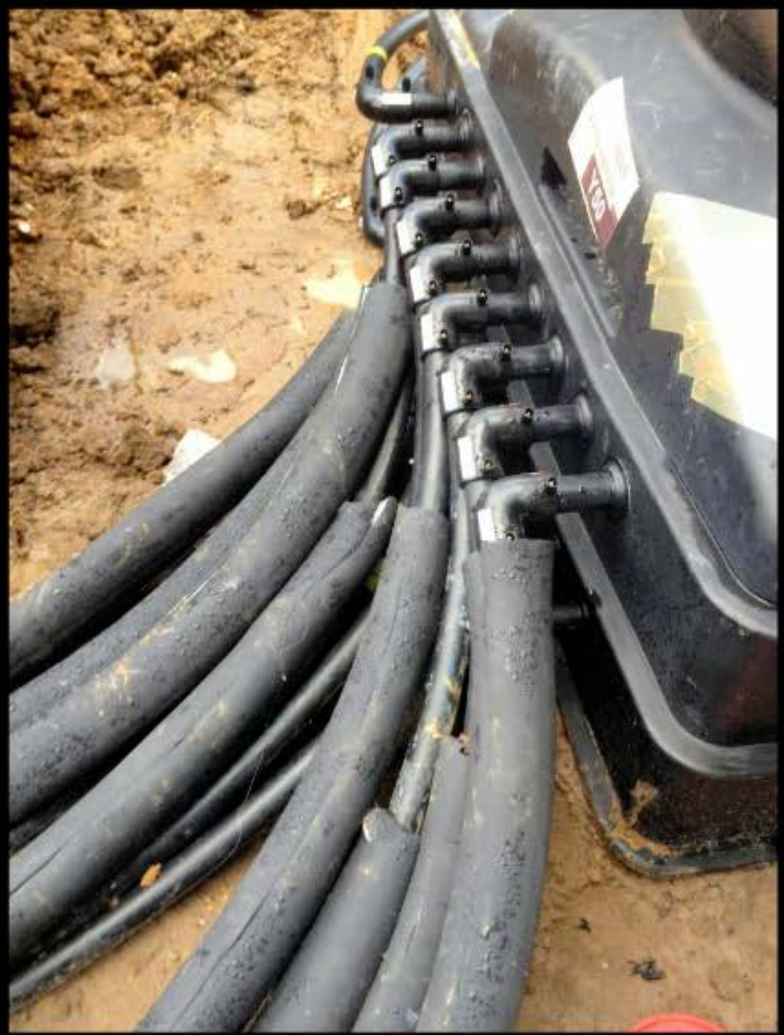
GSHP Drilling in Progress


Nicholls
BOREHOLES



Clean and Tidy Ground Source Heat Pump Loop Tails

External Manifolds and Trenching




Nicholls
Countryside Construction
Limited
Tel. 01403 820750
www.nicholisboreholes.co.uk
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Countryside Construction
Limited
BOREHOLES


REHAU

High Temperature Underground Transfer Pipe

Horizontal Trenches

RENEWABLE HEATING INCENTIVE

AND

GSHP SERVICING

We are MCS accredited installers of Ground Source Heat Pumps giving you access to Renewable Heat Incentive (RHI) Payments.

The Renewable Heat Incentive Scheme – a chance to get paid for investing in renewable heat

RHI – Non-Domestic RHI info for Website

With the help of the Department of Energy and Climate Change and The Green Deal, significant financial support has been made available for all GSHPs installed after the 15 July 2009 through their Renewable Heat Incentive (RHI) scheme. For the non-domestic sector it generally provides a subsidy, payable over 20 years.

The Non-Domestic RHI is open to the non-domestic sector including industrial, commercial, public sector and not-for-profit organisations with eligible installations, and to producers of biomethane.

Incentive Tariffs

The current tariff for Non-Domestic RHI Ground Source Heat Pumps is 8.7p/kWh. The payments will rise every year according to the retail price index (RPI) which come into effect on April 1st each year.

dRHI – Domestic RHI info for Website

Domestic RHI (dRHI) was launched by OFGEM on 9th April 2014 and offers residential customers a financial support scheme which will provide long-term financial incentives for installations of renewable technologies which generate heat.

The Domestic Renewable Heat Incentive (Domestic RHI) is a government financial incentive to promote the use of renewable heat. Switching to heating systems that use naturally replenished energy can help the UK reduce its carbon emissions.

People who join the scheme and stick to OFGEM's rules, receive quarterly payments for seven years for the amount of clean, green renewable heat their system produces.

Your property must be capable of getting a domestic Energy Performance Certificate (EPC). The EPC is the proof needed to confirm that your property is assessed as a domestic 'dwelling'. Without one, you won't be able to apply and can't join the scheme.

An EPC gives information about a property's energy use, plus recommendations on how to reduce energy and save money. It's required every time you buy, sell or rent a property. It's included as part of a Green Deal Assessment, which is a requirement for most to join the Domestic RHI. Nicholls would be able to provide you with access to the Green Deal Assessor database, so you may arrange for an EPC to be undertaken on your property.

The proposal suggests quarterly payments to be made to homeowners over a 7 year period for each kWh of the expected lifetime of the renewable technology, based on deemed heat usage. Targeting approximately a rate of return of 12% p.a. on the additional capital cost of installing GSHP. RHI payments will be claimed by and paid directly to the owner of the equipment based on a deemed or standard calculation basis for small to medium installations. Large installations are likely to be assessed on an individual case basis. To find out more about this publication from the DECC please contact us.

Installers and equipment used must be certified under the Microgeneration Certification Scheme (MCS). Payments will be calculated on the deemed annual heat output, in kilowatt hours, that your GSHP would normally provide. This will allow the homeowner to receive a set amount and should encourage low energy consumption whilst discouraging wasteful over production of heat.

MCS

CERTIFIED

SERVICING OF GROUND SOURCE HEAT PUMPS

Nicholls Boreholes have been installing Ground Source Heat Pumps (GSHPs) for over 12 years, throughout the South East. In that time, we have worked on hundreds of GHSP system and provided a call-out service to most types of systems regardless of who installed them.

The Nicholls Boreholes Premier GSHP Service Agreement – How it works and what it does.

Nicholls Boreholes' Premier Service Agreement specifically tailored to your system. After commissioning you will be provided with a Completion Pack containing service details, costings and enrolment into your service programme. Should you choose to sign up to our Premier Service Agreement you will be asked to sign a direct debit form for monthly/quarterly payments or a one-off annual payment and our Service Team will contact you annually to arrange a convenient time to undertake your service.

The Premier Service Agreement is a 12-month Agreement offering various benefits.

Benefits of this Service Agreement:

- Receive 10% discount on servicing labour – paid monthly by Direct Debit
- Receive an additional 10% discount on parts and call-outs when invoiced after each visit.
- Achieve priority call-outs.
- Have peace of mind
- Supports warranties
- Pay monthly or quarterly spreading the labour cost over the year
- Pay annually to receive the discount and other benefits
- Confidence that you will be looked after

A service will involve the following:

- Check each borehole field flow rate at the manifold (if accessible), and adjust if required;
- Check glycol index (the heat transfer efficiency of the glycol will attenuate over time and will require full replacement.
Should this be required, we will advise you of the charge/litre);
- Top-up Glycol, and adjust working pressure if required
- Visual check of all equipment, valves, strainers & insulation in plant room
- Clean all heat pump related filters;
- Detailed check of all heat pump settings and adjustment if required;
- Check all underfloor heating manifold flow rates, if installed by us. Adjust as required;
- Check for any stored alarm messages;
- Service Hot Water Cylinder;
- Check operation & setting of thermostats; and
- Record for warranty purposes where appropriate.

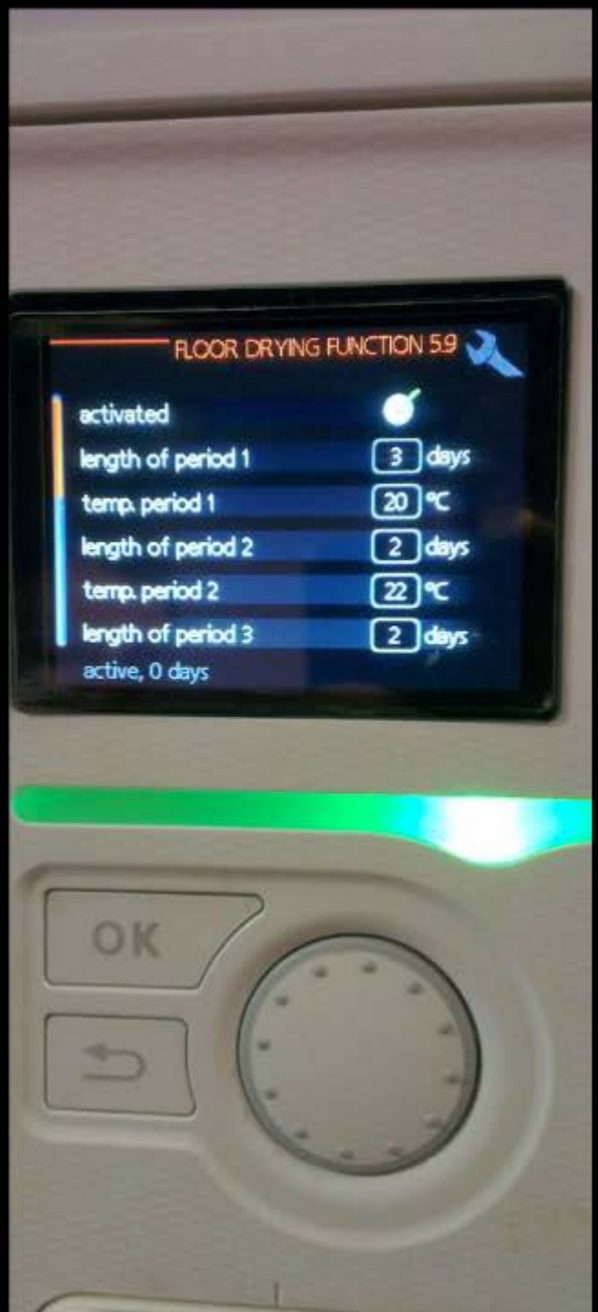
Vaillant ground source heat pump systems, heating large properties with indoor and outdoor pools.


Vaillant

NIBE ground source heat pump systems

Stiebel Eltron Ground Source Heat Pump systems installed
with 7 year warranty

High temperature pre-insulated pipe



Underfloor heating and NIBE heat pump control

3 x 11kw Nibe single phase heat pumps including buffer tanks and hot water cylinder in swimming pool plantroom

16m stainless steel purpose built private swimming pool

NIBE ground source heat pump system

Completed projects with ground source heat pumps

UFH Spreader Plate

UFH Manifold

UFH Manifold

Case Study - Non-Domestic Vaillant GSHP in Solihull

Nicholls Boreholes were contracted by J Tomlinson Builders of Nottingham to design, supply and install 3 x 38kW Vaillant heat pumps with 2 x 800 litre buffer tanks for 5 blocks of flats within a retirement village in Solihull. The system included 25 boreholes drilled to 120 metres simultaneously by 2 drilling rigs.

The buildings were originally supplied by electric heating which was extremely expensive so the GSHPs not only supplied 'green' energy but will also generate revenue. The initial project cost the client in the region of £290k, but as Nicholls is an MCS Accredited Installer our client will be able to apply for a 20 year, Non-Domestic Renewable Heating Incentive for the district heating and will receive quarterly payments equating to approximately £10k per year. Nicholls were able to provide a minimal switch over time from their existing heating system to the renewable system.

To avoid any disturbance on site, the plant room was built at Nicholls' site in West Sussex and transported to Solihull (as shown in the photos).

As a Vaillant approved installer, Nicholls are also able to offer the client a 7-year free parts warranty and Service Agreement.

Testimonial from Client

After a rigorous tender process, Nicholls Boreholes were awarded the works to supply and install a very complex borehole field and energy centre project in Solihull. From the outset it was very clear Ben and his team were a very competent and professional company that could offer us an ideal solution for our client. They embraced tenant consultations and delivered their works on time and on budget. They are very reliable and transparent with their works. Myself and J Tomlinson look forward to working with them on future schemes and would not hesitate to recommend their services.

Kevin Cox - Operations Manager, J Tomlinson - on behalf of end client Bromford Housing

Case Study - Commercial Ground Source Heat Pump Project for private residence

Nicholls Boreholes were selected by a client in Alresford, near Winchester to supply a Ground Source Heat Pump system (GSHP) to provide both heating and hot water to their house, office, swimming pool and pool house.

Nicholls drilled and installed 15 boreholes at 150 metres supplying free energy to the 92kw bivalent Stiebel Eltron system – a 52kw and a 40kw ground source heat pump with a back-up oil boiler. We selected this advanced heat pump due to the age of the property and the need to integrate with their existing heating system. These heat pump units have the added advantage of being monitored by Stiebel Eltron's ISG (Internet Service Gateway) allowing comfortable and easy adjustments via PC, laptop or tablet on site in conjunction with Stiebel Eltron's Head Office. It is a fully integrated service so Stiebel Eltron can log in to check the status of the heat pump system at any time.
The Client has already been successful in applying for the Commercial Renewable Heating Incentive (RHI) which they will receive over a period of 20 years based on their metered usage readings taken and paid quarterly.

Testimonial from Client

'I am very pleased that we made the decision to use Nicholls Boreholes. Our project was complex requiring great attention to detail, patience and team work with our other contractors and in all of these areas the Nicholls' team excelled. They were also excellent in dealing with problems and in their service once the system was installed to make sure it was working optimally. I would certainly recommend them.'

Case Study - Ground Source Heat Pump in Greater London

We were contacted by our Client to provide a quotation for the installation and supply of a Ground Source Heat Pump system for their refurbishment project of their home. Nicholls Boreholes have an extensive range of GSHP's and discuss at length the aims of the client and suggest the most appropriate system for them. As a result of these discussions, we drilled 4 no. GSHP boreholes to a depth of approximately 100m and installed a NIBE 17kw GSHP. This GSHP system provides the heating and hot water to the house and heats the outdoor swimming pool in the summer months when the house heating is not required. As part of the installation the Client also had underfloor heating installed which enabled them to get the best from their GSHP system. There was no back up boiler fitted as the GSHP was able to provide all the heating and domestic hot water required.

Although the system was installed in 2011, the installation was MCS compliant and as a result our customer is now able to claim feed-in tariff from the renewable heating incentive which will pay him quarterly for a period of 7 years.

Following the successful installation of the GSHP boreholes, our client requested that we drill and install a water borehole to provide water to his home.

Testimonial from Client

The Client, Mr Ian Andrews quoted "We have had the GSHP and Water borehole for over three years and it is the best decision we made during our new build. What the summary above failed to mention is that we also use the GSHP to heat our salt water swimming pool for which we maintain a constant 30 degree temperature throughout the summer whilst maintaining consistent heating and hot water in the home.

Whilst it is welcome to be receiving a grant, the savings on water and heating bills, particularly taking into account the pool are significant.

We strongly recommend Nicholls as an installer and perhaps more importantly they continue to be available for any customer support queries following this. Within reason and by arrangement, we would be available for queries."


nichollsboreholes.co.uk
MASSENZA
DRILLING RIGS
M18

Case Study - Domestic GSHP Project for a private house in Kingston Upon Thames

Nicholls Boreholes were contacted by Elite Technical Services to design, supply and install a 40kW Stiebel-Eltron Ground Source Heat Pump for a client in Kingston-upon-Thames. The client was looking for a GSHP system to heat their indoor pool and pool house. Nicholls drilled 10 x 150m boreholes supply the system. The GSHP also provided heating to a separate guest house using pre-insulated pipes. GSHP's are the most efficient type of renewable heating with 1kW of energy going into the system providing about 4kW of energy out of the system.

As a Stiebel-Eltron approved supplier, we are able to offer our Client a 7-year free parts Service Agreement.

Testimonial from client

The team at Nicholls were very helpful not only with planning the works but also with technical advice for what in the end turned out to be quite a complicated solution. The weekly reports on progress also gave my client peace of mind as well as allowing us to coordinate other works that needed to be integrated into the programme to ensure everything went to plan.

All in all, an excellent company that delivered what it said without fuss or complication.

Case Study - Ground Source Heat Pump project for Scandia-Hus

Nicholls Boreholes were selected by Scandia-Hus to do the installation of a Vaillant Ground Source Heat Pump system at their Business Park in West Sussex. We drilled 2 x 108m boreholes and installed the Ground Source Heat Pump System which powers the underfloor heating and the hot water system at their brand new 2,806 sq.ft show home, which is a contemporary twist on the chalet style homes commonly seen around the European ski-resorts. GSHPs are the most efficient type of renewable heating - with 1KW of energy going into the system providing about 4KW of energy out of the system. As of Monday 21st September 2015, Nicholls Boreholes are now able to offer this site as one of their Ground Source Heat Pump showrooms situated in Felcourt, Nr East Grinstead.

Testimonial from Client

Derek Dawson, Managing Director at Scandia-Hus adds "We are absolutely delighted with the install by Nicholls Boreholes. As our show home showcases the top end of our specification, it was important to us to work with a local supplier that had a first class installation team. Our houses are designed to be energy efficient and many of our customers install renewable technology in their builds. We therefore wanted to use a Ground Source Heat Pump to meet our heating and hot water requirements"


BOSS EXPANSION
BOSS VESSEL

Case Study - NIBE GSHP Project for a private house in West Sussex

In conjunction with our sister company Nicholls Countryside Construction Limited, Nicholls Boreholes installed a NIBE 30kW (three phase) heat pump at a stunning barn conversion in Wisborough Green, West Sussex. For this system we drilled 8 x 100m boreholes. The heat pump supplies space heating & hot water to the house and to an annexe located 40 metres from the house via pre-insulated pipes.

As an MCS Accredited Installer, we are able to design, supply and certify the system so the client is now claiming the Commercial Renewable Heating Incentive (RHI) feed-in tariff and receiving substantial quarterly payments over 20 years from the Government. As we are an approved NIBE VIP Installer, we were able to service and offer a 7 year parts and labour warranty on this system.

GSHPs are the most efficient type of renewable heating - with 1KW of energy going into the system providing about 4KW of energy out of the system.

Case Study - Open Loop Ground Source Heat Pump project for a Private Client in Kensworth, Bedfordshire

Nicholls Boreholes were selected by our client to supply and install an open loop Ground Source Heat Pump system (GSHP) with a 100 metre water borehole at their private residence. Due to the client having an existing waterwell they wanted to install an open-loop GSHP system which would save them having an additional borehole drilled. In open-loop systems, groundwater is abstracted at ambient temperature from the ground, passed through a heat pump before being re-injected back into the ground or discharged at the surface. We designed, supplied and installed a 13kW (single phase) Stiebel Eltron Ground Source Heat Pump and associated equipment which is located in an external plant room. We also supplied underfloor heating for the client.

We were able to utilise our extensive knowledge of water borehole projects along with 7 years of Ground Source Heat Pump installation experience.

As we are an MCS Accredited Installer, the client has achieved success in obtaining revenue through the Government's Domestic Renewable Heating Incentive (R.H.I.) and this will almost pay for the full installation after the 4 years of incentive has been paid.

As part of our commitment to customer service, our client has accepted an annual maintenance service agreement for complete peace of mind. As an approved partner with Stiebel Eltron we are providing our client with a free parts and labour warranty for a period of 7 years.

Case Study - Horizontal Collectors for a Ground Source Heat Pump & Underfloor Heating in Northchapel, West Sussex

Following a refurbishment and building of a new extension to a beautiful house in Northchapel, completed by our sister company, Nicholls Countryside Construction Limited, Nicholls Boreholes were requested to quote for a Ground Source Heat Pump using horizontal collectors to their client.

After undertaking and completing full design a Nibe 30W heat pump was installed to supply heating and hot water to their entire house and underfloor heating for their ground floor. As MCS Accredited installers, we were able to issue them with an MCS Compliance Certificate which enables them to claim for the Renewable Heat Incentive should they wish to.

Horizontal collectors were chosen rather then drilling a borehole as the client could utilise unused land that they had.

Nicholls Boreholes are also supplying them an on-going Service Agreement for their GSHP and UFH.

Case Study - Non-Domestic Vaillant Ground Source Heat Pump System in Ditchling

Nicholls Boreholes were contacted by a client in Ditchling, West Sussex who were waiting on a planning application to build a very impressive 6 bedroom modern house. Their designs incorporated a Ground Source Heat Pump that would provide heating to the house, office and outdoor swimming pool. Once planning was granted Nicholls were contracted to design, supply and install a 38kW Vaillant Heat Pump using horizontal collectors.

As Nicholls is an MCS Accredited Installer our client was able to apply for a 20 year Non-Domestic Renewable Heating Incentive for the house and the office for their vineyard and is now receiving quarterly payments.

As a Vaillant approved installer, Nicholls are also able to offer the client a 7 year free parts warranty and Service Agreement.

Testimonial from client

It wasn't the easiest of installations. It was during the incredibly rainy months of November and December in 2016. The trenches were constantly full of water and lots of mud everywhere. However, Nicholls carried on valiantly with our builders and the GSHP was successfully all connected up. The system is up and running and providing our new home with plenty of warmth and steaming hot water in a very cost efficient manner. We are so pleased we decided to go with Nicholls as they have been incredibly helpful and professionally throughout the process and continue to assist us when need be.


Vaillant

Case Study - Domestic Ground Source Heat Pump Project for a Grade II Listed Property in Fittleworth, West Sussex

Nicholls Boreholes was contacted by a client in the South Downs National Park who lives in a beautiful Grade II listed country house in Fittleworth looking for a more environmentally-friendly system to provide heating to the property. The 800 square metres of interior space was being heated by an old oil boiler with high running costs.

Nicholls designed and supplied a new GSHP system installing 2 x 30 kW Vaillant heat pumps using 17 x 80m boreholes, along with a domestic hot water storage and large heating tanks to support the existing radiator circuit and the underfloor heating in the newly renovated section of the property. The system also heats the indoor swimming pool at vastly reduced running costs.

As an MCS accredited installer Nicholls Boreholes systems are eligible for RHI funding which in this case will pay back 100% of the installation costs.

Testimonial from client

Many thanks to the great team at Nicholls. A very large project converting our Grade II listed Georgian property (and pool) entirely to ground source heating. They have patiently guided us through every aspect from the initial drilling to the final grant application. Projects like this will never run entirely to plan but, thanks to the excellent customer service, it has been relatively painless. We are very happy to recommend them.

Case Study - Commercial Ground Source Heat Pump Project for Exclusive Property Group

Nicholls Boreholes were selected by Synergy Property Group – a fully integrated property company based in Stevenage to work with one of their clients, Ion Science in Cambridge to design, supply and install a Ground Source Heat Pump system into their newly built offices in Cambridge. We installed 52kW and 66kW Stiebel Eltron heat pumps using 18 x 140m boreholes to provide heating and hot water to the offices using pre-insulated pipes.

The heat pump system was located in a specifically built external plant room (as pictured). As an MCS Accredited Installer, we were able to design, supply and certify the system so that Ion Science can claim the Government's Non-Domestic Renewable Heating Incentive (RHI) feed-in tariff over a period of 20 years. As we are an approved Stiebel Eltron installer, we were able to service and offer a 7 year parts and labour warranty on this system.

Testimonial from client

Synergy Property Group have been pleased with Nicholls Boreholes performance throughout this project. From the outset both the design and installation teams have acted in a professional manner and been easy to deal with. We would have no hesitation in using Nicholls Boreholes again on future projects.


STIEBEL ELTRON

LOOP FEEDER


www.loopfeeder.co.uk

Hydraulic Loop Feeder

Nicholls Boreholes have designed and developed a hydraulic loop feeder to assist with the safe and controlled installation of 40mm and 32mm borehole probes.

This innovative solution allows the safe installation without staff standing on the drilling rig or other platforms on site (working at height) and therefore saves labour by reducing the need for additional staff at the time of loop installation.
It allows additional controlled pressure to be applied to probes when inserting into boreholes with a drilling fluid and its variable speed allows controlled insertion of probes where the weight of the probe wants to fall into an open borehole, reducing probe tip damage.

Loop Feeders can assist with the removal of a probe where the borehole collapsed at depth and the borehole will require re-drilling. This protects the operative from strain. It can also install and remove grout lines when using a liquid grout to backfill boreholes.

They are compatible with most geothermal drilling rigs and are fully adjustable, hard wearing and more efficient than traditional hand pushing installation technique.

Both double and single loop feeders are available.

Other Services

Nicholls have invested in a support vehicle for better onsite mechanical support to our plant and machinery and to continue our improved service to Clients.

Drilling Fluid Cleaning System

Our purpose-built mobile drilling fluid cleaning system was developed in house. It is a desander which is mounted over a shaker with a fine mesh screen. The mud liquid is fed into the inlet and oscillating plates of the shaker separates the particles from the liquid. The liquid then passes through the hopper and back into the machine. There are also 3 cyclones which remove the smaller particles helping to increase the lifespan of the drilling fluid. The solids then drop off into a hopper for removal.
The benefits of this machine are that it is labour saving and also increases the lifespan of the drilling fluid creating less waste from the drilling process.

Camera Equipment

Nicholls have invested a considerable amount in a state-of-the-art borehole investigation camera which enables us to survey and record in detail the integrity and construction of boreholes. This enables us to offer a superior service for our clients. The camera can record the findings and these can be provided on a DVD.

Nicholls Boreholes is run by Ben Nicholls (pictured), Director and founder of Nicholls Countryside Construction Ltd in conjunction with his brother, Richard.

We have over 65 employees all extremely client-focused and trained in their area of expertise. This includes a dedicated Drilling Manager and Installation Manager to oversee their teams to ensure smooth running and efficient projects as proven in the testimonials below:

THEY HAVE PATIENTLY GUIDED US THROUGH EVERY ASPECT FROM THE INITIAL DRILLING TO THE FINAL GRANT APPLICATION.'

Many thanks to the great team at Nicholls. A very large project converting our Grade II listed Georgian property (and pool) entirely to ground source heating. They have patiently guided us through every aspect from the initial drilling to the final grant application. Projects like this will never run entirely to plan but, thanks to the excellent customer service, it has been relatively painless. We are very happy to recommend them.

'THEIR PROFESSIONALISM THROUGHOUT WAS BRILLIANT AND IT WAS A JOY TO COME ACROSS A BRITISH FIRM PROVIDING SUCH A SERVICE.'

I selected Nicholls Boreholes on recommendation, but mainly because all parts of the operation were carried out by this one company. Their professionalism throughout, from the MD Ben Nicholls to every operative was brilliant and it was a joy to come across a British firm providing such a service. I highly recommend them and would be prepared to discuss my experience with any new customers.


NICHOLLS BOREHOLES
DOWN
VARIABLE FEED PRESSURE
OUT
OPEN
OPEN
OPEN
IN

Gone Home!