

# Working with Drillers

## The Procurement Specification and Commissioning of Drilling Services for Commercial Closed Loop Systems

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# Preamble

- Andy Howley – Who am I?
- LoopMaster ( Europe ) Ltd – Who are we?
- 3<sup>rd</sup> Generation Drilling Contractor starting in the family business in late 70's early 80's and running the business with Iain Howley by mid to late 80's latterly moving into design, Project Management Consultancy for Open and Closed loop commercial installations
- Currently working in India, Middle East, Mainland Europe, Fire and United Kingdom
- Member of GSHPA, ASHRAE and BDA & GSHPA trained in commercial and domestic ground source array design and system installation
- Member of GSHPA Council, Chairman of GSHPA Training & Standards Committee and Ground Loop Working Group

# Agenda

- Design & Installation Timescales for commercial closed loop installations
- Specification – What to include ?
- Due Diligence – What should I ask the drillers ?
- The Don'ts
- The Do's
- Summary

# Design & Installation Timescales

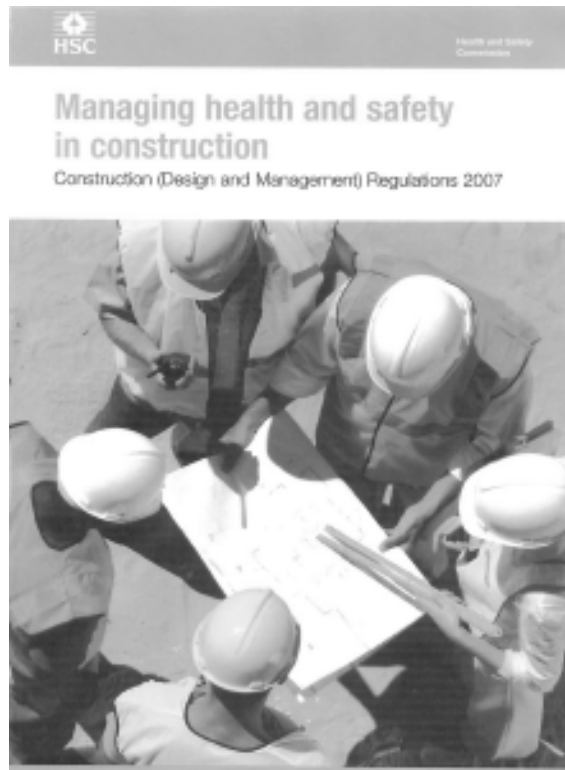
## Things to Consider

- This may, in some cases, require a complete re-think of the heating and cooling design process
- Have the loop field design in place months before the drillers are engaged
- The design process should be commenced at the energy strategy stage for planning, maybe even earlier.
- Do I need any drilling consents or permissions
- What is the likely drilling programme – ask experienced contractors or consultants

**Don't Guess !!  
It's worth it !!!**

# Specification – What to Include

- Pre-Construction Information – CDM 2007



- Services Information Reg 10



- Contamination or other hazards



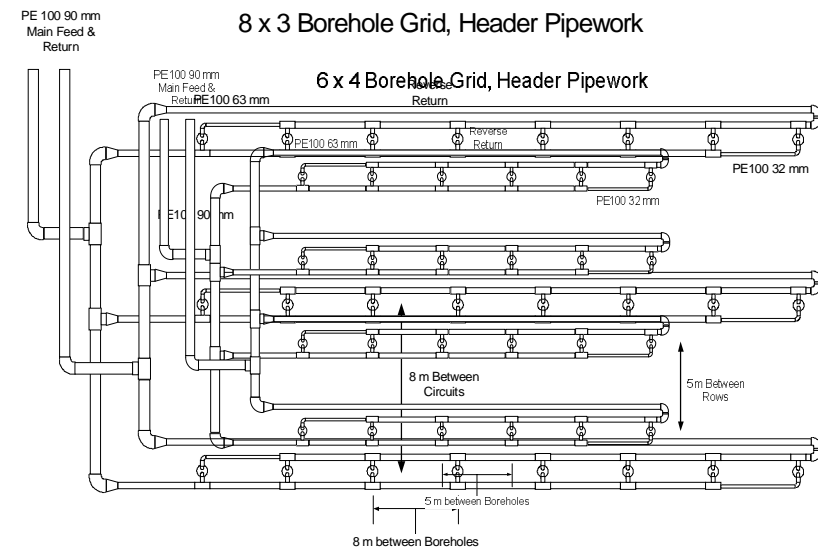
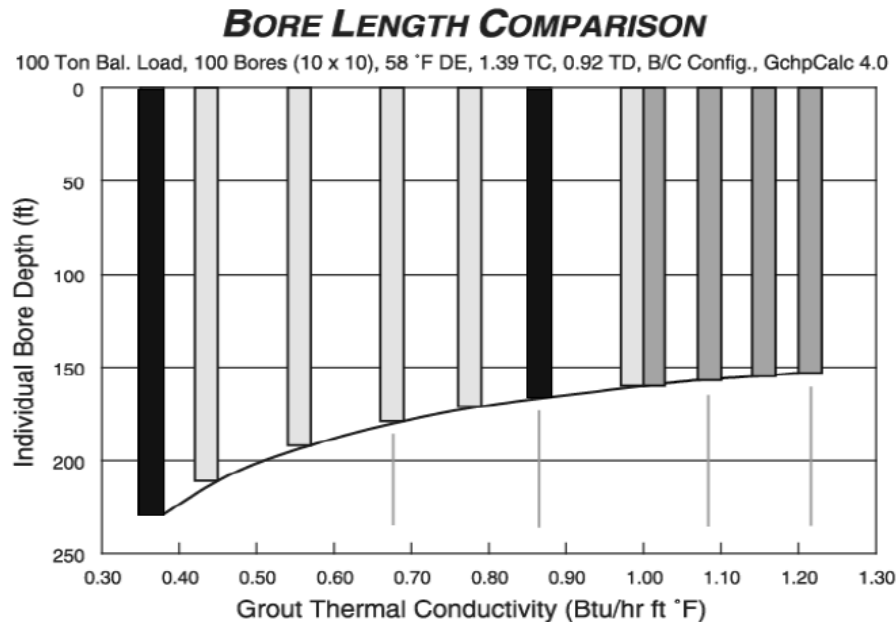
# Specification – What to Include

- Anything that can effect the buildability and the price as a result
  - Site Conditions !!
  - Access !!



# Specification – What to Include

- Anything that can effect the Design & Performance
- Grout Thermal Conductivity !!
- Thermo-Loop Diameter & Borehole Spacing etc



# Specification – What to Include

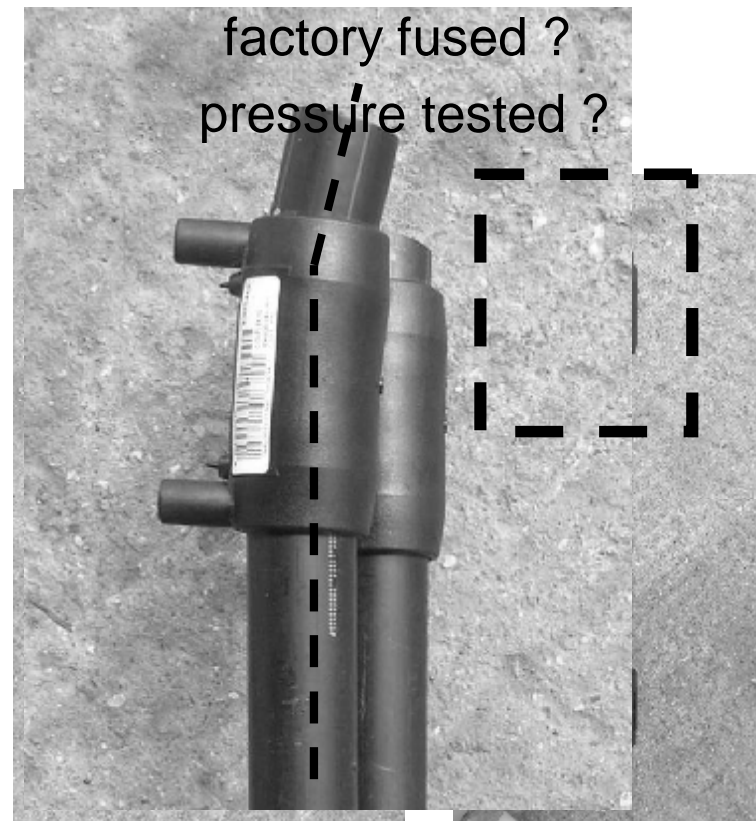
- Anything that can effect the quality control

2 Joints factory fused and  
pressure tested – Shaped  
to fit into a hole !!!



- I Doubt it !!!!!

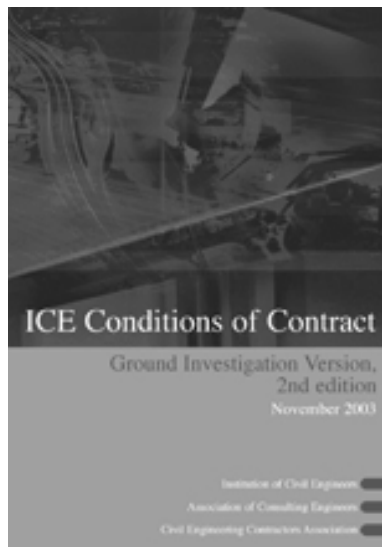
9 Joints





# Specification – What to Include

- Who pays who, when and how
- Conditions of Contract DOM 1 or 2, JCT or even a simple letter exchange, etc.



# Due Diligence

## What to Ask the Drillers

- What experience has the contractor got in the geothermal field ?  
One of these ?
- What type of rigs do you run ?



Or one of these ?



# Due Diligence

## What to Ask the Drillers

- What type of grouters do they run ?

One of these ?



Or one of these ?



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# Due Diligence

## What to Ask the Drillers

- What qualifications have the drillers got ?
- As a minimum they should be CSCS card holders and registered for the NVQ in land based drilling
- They should also be registered with the BDA Audit scheme to ensure that they remain competent.
- If they are headering and fusing etc they should have been suitably trained and be able to provide their certification
- If they have a telehandler on site they need a ticket for that too !!!!

# The Don'ts

- Don't let your fingers do the walking and just take a driller from the yellow pages
- Don't compromise on materials !!!
- Don't engage the drillers based on a few phone calls
- Don't get the drillers on site and then start to agree terms and conditions

# The Do's

- Get the outline design in place early on and refine it to final design before you engage with the drillers.
- Write a “tight” specification so there is little doubt what the drillers have to do and to what standard
- Ensure that the quality of the installation is checked throughout the entire process, including materials being used and regular flow and pressure tests
- There are bespoke materials and equipment for closed loop Ground Source Heating and Cooling systems.....Use them !!

# Summary

- Start the design process as soon as possible
- Start discussions with contractors or consultants early
- Get the specification completed.....early !

## What do you get ?

- A good quality, verifiable installation, installed to the design, safely, on time and hopefully on budget.

# Thanks for Listening

## Andy Howley

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