



BSL 2



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THE CLIENT

Forest Research – collectively, their staff work across a broad range of scientific disciplines and their ongoing collaboration and discussions with the forestry sector across Britain ensure that research and knowledge exchange activities continue to support the expansion and continued maintenance of increasingly resilient, diverse and sustainable multi-purpose forests and landscape.



R&D/
Biotechnology



20+/-5C



60m²

THE BRIEF

Forest Research required a Cleancube Maxi 2 BSL 2 facility for research on quarantine invasive forest pests which have the capacity to significantly affect both our native and commercial treescapes. In addition it will also be used to handle intercepted material arriving into Britain which may harbour unknown forest pests, allowing for their diagnosis within secure confines. The unit, which required temperature but not humidity control, needed two main process areas, a material waste freezer and a biosafety cabinet.



“An excellent all-round project...”

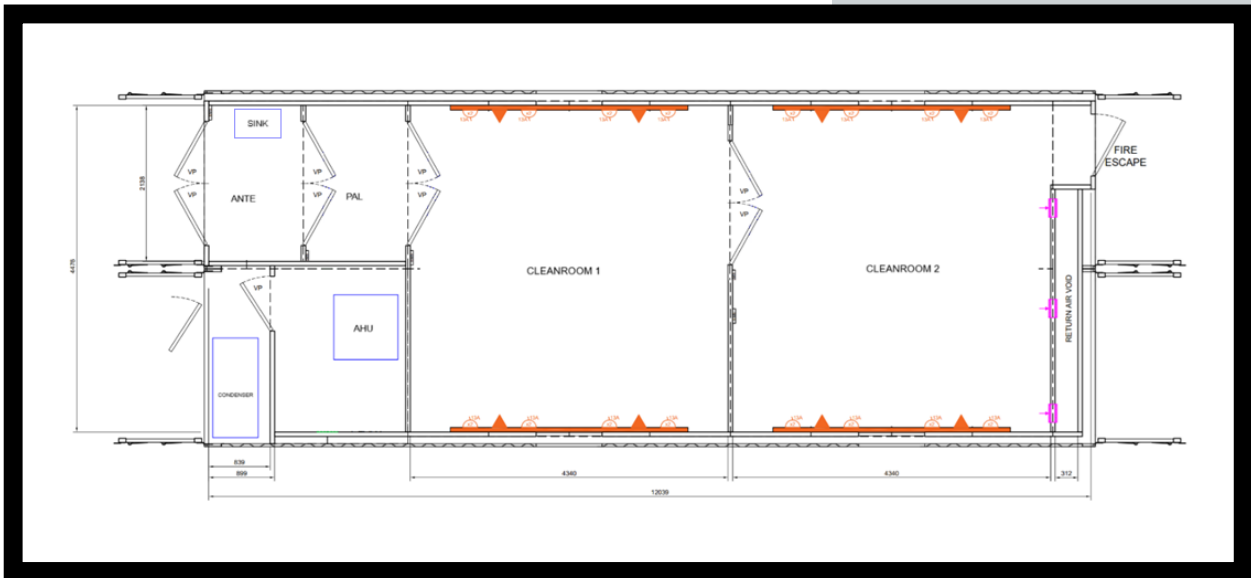
Guardtech Group Project Manager Elliott Pearce said: “Whilst this was a relatively routine Cleancube installation, as with every job, there were small challenges to overcome. Notably, in this instance, the biggest issue was levelling the unit. “We utilised our trusty Jackpad system to ensure that the Cleancube was perfectly level, bringing an excellent all-round project to fruition. We wish the client well with their future endeavours, conducting vital biotech research.”

Elliott Pearce
Guardtech Group
Project Manager



cleancube
mobile cleanrooms

CLEANCUBE MAXI 2



THE TECH SPECS

A controlled environment designed, installed, cleaned and commissioned by Guardtech built to the following specification:

- ◆ **Structural:** GT Shell Plus 55 micron powder-coated steel 60mm Quadcore insulated panels, Hollow core panel &

low-level exhaust grille for transit back to duct spigot, GT Lid Plus panelled ceiling 45mm radius coving between wall & ceiling panel, GT Deck Plus vinyl, hot welded & covered 100mm from floor level, 3 x GT Access Plus double doors, 1 x double & 2 x single powder-coated steel external doors, 1 x fire escape with emergency escape lever, 4 x GT Vision Plus semi-flush mounted double-glazed windows, Jackpad

levelling leg support system.

- ◆ **Electrical:** 12 x GT Lux Lite LED Lighting units flush-mounted in ceiling panel with PIR activation, 15 x double sockets, 3-compartment dado trunking around room perimeter and columns, 2 x ethernet sockets, smoke head in each room feeding back to Fire Alarm Panel, Distribution Board, Doors on Electro-Magnetic Interlock System.

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◆ **Mechanical:** Mechanical: 2 x GT Air Lite 5kW Fan Coil Units serving each process room via a divided plenum – ducted to return air and fresh air intake, 4 x GT Flow Plus Fan Filter Units with H14 HEPA filtration, 2 x fresh air fans ducted to each plenum, digital display on AHU controllers for setting target temperature & fan speed.

◆ **Monitoring:** GT Scan Plus LCD touch screen transmitter with temperature & pressure probes.

◆ **Furniture & Equipment:** Furniture & Equipment: 8 linear metres of Trespa benching on powder-coated frames, 130 litre Ultra Low Temperature Chest Freezer (-80°C), biosafety cabinet, pump-activated 10 litre cold water Mobile Sink.



however, a few minor challenges that the team overcame during the build.

Tight timeframe: Because of the vital nature of the research the client was due to conduct, the project qualified for government funding. However, due to the time of year that the enquiry first came in, the Commercial Team and Cleancube Design Team had to work super-fast to ensure an appropriate proposal was signed off before the end of the financial year to meet the requirements for government support. Fortunately, a great effort was made by all parties to engage in an open, collaborative process to ensure the client received the solution they needed on

terms that worked for both them and the Guardtech Group.

Raising the stakes: One of the vital pieces of equipment to be included in the BSL2 lab was a biosafety cabinet. However, due to the size of the unit, the Cleancube required internal modifications to ensure the separative device fit safely in the process suite. Luckily, the Cleancube team have a great deal of experience in installing such devices, having provided many for PCR testing labs during the COVID pandemic. A cleverly arranged vaulted ceiling was designed into the layout to ensure the client's requirements taken care of.

Level heads required: One of the biggest challenges the team faced was the majorly uneven ground upon which the Cleancube was due to be sited on in a car park at Forest Research's Northern Research Station in Roslin, Midlothian. Project Manager Elliott Pearce and the team utilised our trusty Jackpad system to ensure the client had a perfectly level unit. "We ended up with nine Jackpad incremental packers at one end," he said. "There are often occasions when Cleancubes simply have to be installed on uneven ground, but we've got the knowledge and expertise now to overcome any hurdles having installed so many now."

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THE CHALLENGES

Given the Cleancube team's vast experience of dealing with much larger-scale shipping container cleanroom facilities, this relatively modest Maxi 2 was a fairly straightforward installation – conducted on time and on budget. There were,

CLEANCUBE MAXI 2

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THE RESULT

Guardtech Group Project Manager Elliott Pearce said: "Whilst this was a relatively routine Cleancube installation, as with every job, there were small challenges to overcome. Notably, in this instance, the biggest issue was levelling the unit."

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