

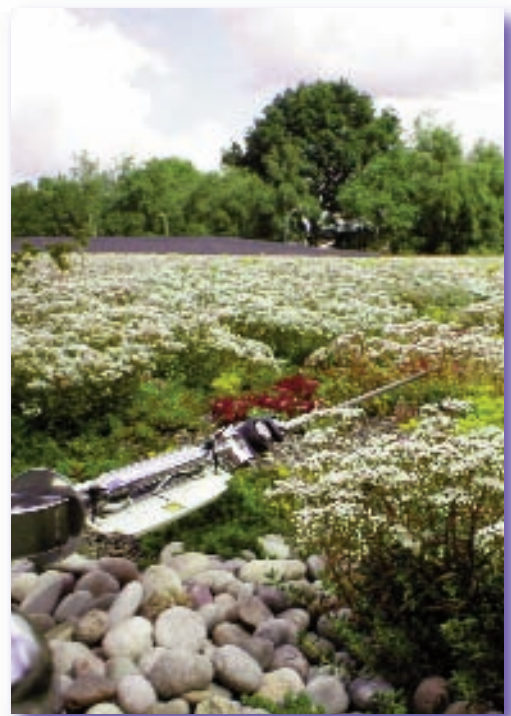
Highgate

Environmentally Friendly Green Roof



Scope of Works:

Cleshar installed the single membrane green roof for Tube Lines on the new control centre building at Highgate. The building forms part of the Northern line signal upgrade project for London Underground. The works involved applying finishes to the roofs of the main building & gatehouse, which totalled in excess of 2,220m² (24,000sq ft).



Project Profile

The site of the control centre backs onto the protected Highgate Woods and following discussions with the local community, the Corporation of London and the local authority, and in order for the building to be as unobtrusive as possible, Tube Lines designers produced an environmentally sensitive single storey design incorporating a green roof.

The Cleshar proposal was to lay a single membrane Sarnafil roof onto which was applied a growing medium substrate system, primed with cuttings and seeds to provide a planted bi-diverse environment and a habitat to support and embrace local wildlife.

Project Profile:

Global climate change is high on our agenda and we are dedicated to enhancing our quality of life and

Project Details:

Client: Tube Lines Ltd

Value: £450,000

Duration: 4 months

For more details contact:

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committed to protecting the environment in which we live. We recognise our social responsibility to ease the impact of our industry on our environment.

Key Elements of the Roof Construction:

The concrete roof structure which was cast to 1:60 falls to an area in excess of 2,220m² had the following roof finishes build up applied to it:

- Foamglas 150mm thick insulation bonded onto concrete roof surface with hot bitumen
- Polyester reinforced bituminous felt bedded in hot bitumen
- Sarnafil polyester fleece separation layer
- Sarnafil PVC membrane - G4776 TEX Drainage & protection layer with geotextile filter
- 70mm thick growing medium
- To the borders was laid a ballast stone margin
- Roof outlets & overflows
- A Latchway mansafe fall arrest system was installed for future maintenance
- Laying concrete paving to plant and maintenance areas

Design Finalisation:

- The incorporation & detailing of the roof outlets, rainwater down pipes and overflow pipes
- Parapet detailing and weather proofing interface with the cladding
- Weathering of the roof upstands and plant bases
- Incorporation of the Latchway, constant force post, mansafe system

Challenges:

The following challenges were overcome to successfully deliver this part of the project.

- Design of a roof guardrail system to allow the roof works to proceed in tandem with the cladding
- Loading out of roof area with scaffold access & hoist towers integrated with other works
- Using a self erecting mobile tower crane to load out 1.5 tonne bags of growing medium
- Meeting a tight programme to achieve the watertight date and the planting & germination window

