

Cleaning Air & Diluting Fumes at Wimbledon, All England Club

April 2017

Key Wimbledon Facts

- The grounds hold a maximum of 39,000 spectators
- It's the largest single annual sporting catering operation in Europe
- Over 50,000 plants are supplied each year
- 177,135 glasses of Pimms are served
- 139,435 portions of strawberries enjoyed
- 2,772 kilos of bananas consumed by the players

Court No.1 Improvement project required:

- A new fixed and retractable roof
- New wider and more comfortable seating
- Two additional tiers accommodating 900 seats
- New two-level public plaza
- Improved catering facilities
- New hospitality facilities

Ventilating restricted space during top down excavation

The All England Lawn Tennis Club in South West London, more commonly known as Wimbledon, continually aims to be regarded as the finest stage in world tennis. This requires regular improvements to be carried out. In 2013, a master plan was published which set out the vision for the future of the club's grounds. One of the first major projects in it was the improvement to Court No.1.



The Challenge

An improvement project of this scale takes considerable time, during which the 2017 Championships would take place. Therefore, a key constraint was the need to have the site cleared by the end of April 2017 to ensure the club was ready for its June tournament.

Players and members of the public were not to notice that the Wimbledon grounds were in the midst of major construction work. For this reason, a 'top down' excavation was agreed on, to ensure all public spaces remained walkable throughout.

Key benefits of RVT Solution

- The Ventex 450CF Fans provide sufficient clean air to even the furthest part of the dig
- Fumes within the confined space would be diluted and displaced
- Incorporating exhaust particulate filters adds another level of protection by controlling fumes at their source

" We have had to deliver fresh air into a basement excavation as it has progressed. We contacted RVT Group who made an initial site visit to review our requirements. We then received a proposal which was very well detailed so we were aware of power requirements and set up. We have found the equipment to be very effective. Set up of the equipment was very straightforward We have received excellent support from RVT throughout the process."

Gareth Avery, Project Manager,
Byrne Bros

Overcoming the challenge of a 'top down' basement excavation

To make way for the new catering facilities, Court No.19 was demolished so that it could be converted into the Aorangi Terrace and Food Court. Drilling down into the ground using a piling rig creates the walls of the 'top down' basement excavation. The roof is then cast and the ground beneath dug out using heavy diesel powered equipment, operated by site personnel.

This creates the biggest challenge with this type of excavation method. Air quality must be continually managed within the restricted space that a top down excavation generates, in order to protect the health of site workers at all times. This is where specialist equipment is required. RVT Group was called in for an initial site assessment and consultation. It was agreed that we would design a ventilation system that could manage the air quality within the area.



[Click below for video >](#)



The RVT solution

We proposed a pair of Ventex 450CF fans to be positioned adjacent to the light well with flexible ducting running to the back of the excavation. These would supply clean air to the furthest part of the dig, displacing and diluting the toxic diesel fumes. In addition to this, each of the O'Keefe machines being used in the area would be fitted with a Ravex HT exhaust particulate filter to control the fumes at source.