

## LACC



Project:	LACC
Sector	Sports, Leisure and Recreation
Client:	Liverpool City Council
Contractor:	Bovis
Value (approx.):	£2.535 Million
Completion Date:	2008
Description of Works:	<p>To ensure a high quality and comfortable internal environment in the new Liverpool Arena and Convention Centre, ductwork for ventilation, heating and cooling services were provided by specialist, Hargreaves. The work falls under a contract from Haden Young who have overall responsibility for the Centre's electrical, mechanical and public health services installation and commissioning. The new development will be a cornerstone of the City of Culture celebrations in 2008 and is part of a major regeneration initiative.</p> <p>The Liverpool development benefits from Hargreaves HVAC experience with similar world-class venues. These include the International Conference Centre and MEN Arena in Manchester, the International Conference Centre, Arena and Symphony Hall at Birmingham, Wimbledon Number One Court, Bolton's Reebok Stadium and extensive works at Manchester United's Old Trafford Stadium.</p> <p>In keeping with the prestigious location, next to the Grade 1 listed Albert Dock and the Three Graces (a World Heritage site), the city of Liverpool sought an outstanding architectural design. Award winning architects Wilkinson Eyre have created a complex that combines a 9,500 seat multi-purpose arena for concerts and sports along with a 1,350 seat auditorium and an exhibition space of 7000 square metres. The two wings of the development are linked by a central galleria that provides access to all major facilities, a variety of hospitality and catering services and a through pedestrian route to the riverside.</p> <p>Flexibility for different events and levels of occupancy is a key element in the building services, designed by consultants Faber Maunsell. This in turn, is part of the energy conservation strategy for the building that matches rates of airflow, heating or cooling to</p>

	<p>the occupancy demand.</p> <p>Engineers faced several challenges in meeting the exacting environmental standards and demands for flexibility. In addition to the variable cooling, heating and comfort demands, care has been taken to avoid harsh airflow. All critical systems are suitably attenuated to avoid the transmission of fan noise or vibration.</p> <p>Kitchens and catering concessions posed potential fire hazards and so the exhaust ventilation systems from these are made from Hargreaves tested HFD fire resistant ductwork. These insulated ducts effectively contain the dangerous products of combustion. In the event of fire, break-out from these ducts is avoided and the products of combustion are safely discharged to outside of the building. Fire dampers will isolate the general ventilation system in the event of fire and interlinks will switch off the fans that are normally used for everyday comfort control.</p> <p>Large plant rooms are commonplace in such heavily serviced buildings. This has been overcome by distributing these facilities to open roof decks on the flanks of the building. There are four of these areas that are screened off from street level.</p> <p>Logistics and access also tested Hargreaves ingenuity. The programme schedule has required close coordination between the Bury factory, fitters on site and the transport team. Equipment has been manufactured, delivered to site and installed within tight time frames. The wide-span roof, up to 23 metres above the arena floor, meant using high-level scaffolding and mechanical access for both men and material. Skilled fitting teams then had to optimise the pathway for the ductwork through the complex roof truss matrix.</p> <p>The principal contractor for the development is Bovis Lend Lease. Completion is expected in 2007 in readiness for the 2008 celebrations.</p>
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