Barrettstown Camp, Co. Kildare

Mechanical & Electrical Scheme

A 250-person capacity Dining Hall & Kitchen facility was constructed to replace the existing Dining Hall at Barrettstown Camp. Blanchfield Heating completed the Mechanical Services Installation to an extremely high standard, comprising Air-Water Heat Pump, Gas Boiler and Gas Services, Underfloor Heating, Air Handling, Kitchen Ventilation, Water, Soils & Wastes and Kitchen Services, with provision for a future District Heating System as other building in the campus progress.

The following outlines the strategy implemented at Barretstown:

Hot Water Storage: The Chartered Institute of Building Services Engineers (CIBSE) recommend storage of 6 litres of hot water per meal was provided, located in the Plant Room, with an oversized Primary Coil to allow rapid recovery from the Air-Water Heat Pump, backed up by the condensing Natural Gas boiler.

Cold Water Storage: The Chartered Institute of Building Services Engineers (CIBSE) recommended storage level of 7 litres total of cold water storage per meal was provided, comprising 2,000 litres cold water storage in total, located within the Plant Room.

Heating Services: Underfloor heating was installed in an extremely neat fashion throughout the Dining Hall, which is a radiant form of heating. The performance of the fabric, and solar harnessing through the South and West-facing glazing, will reduce the reliance on the underfloor heating.



Ventilation Services: Part F Ventilation of the Irish Building Regulations require a minimum 10 litres/second of fresh air per person, which equates to a ventilation rate of 2.5m3/second for 250 persons. A 3.0m3/s Supply Air Handling Unit, which equates to 3 Air Changes per hour, was installed on the roof of the Main Dining Hall, with large openings for Natural Ventilation during summer months. The Supply Air Handling Unit is a Full Fresh Air Unit, located on the roof of the building to use the freshest air. A separate Kitchen & Dishwasher Extract (~35 Air Changes per hour for a 100m2 Kitchen) is provided to balance the system, and both are interlocked via the Cylon Building Management System.