

ELGIN ACADEMY

Case Study



Project and Building Description :

Elgin Academy is a new build six year comprehensive non- denominational school catering for approx.1200 pupils, replacing the existing Academy as part of The Moray Councils Building for Learning Project. (Brown field site).

- The Building consists of 3 levels:
Lower Ground, Ground (Entrance level) and First floor.
Educational facilities typically catering for English, Maths, Science subjects, Home Economics, Art, Computing & Business studies, Physical education, Music, Drama, Modern Languages, Design & Technology. There is also additional support for learning.
Flood lit all weather sports pitches and Ecologically friendly landscaping
Large areas for Community use.

2. Key Innovative and Low-Impact Design Features :

- Arrangement of Main Entrance off Morriston Road to minimise traffic impact and management issues.
- Working with the site topography to provide a low profile, low impact visually to adjacent buildings.
- Considered location of buildings thus avoiding potential issues with existing river Lossie flood plain.
- Careful use of circulation and flexibility for teaching and social spaces.
- Natural light to corridors on top floor via roof cupolas coupled with stack ventilation minimising roof penetrations
- Considered location of Sports pitch and amenity spaces in order to maintain existing mature environment along the river bank

3. Summary of Measures Implemented During Construction to Reduce Environmental Impacts

- The new school was constructed as a 'tandem build' with comprehensive segregation to minimise disruption to the existing school during construction.
- Considered location of Construction site accommodation to minimize impacts on existing school and adjacent properties / neighbours.
- Construction companies procedure in regards to pollution controls and waste management implemented.
- Maximise materials obtained from sustainable sources and potential to recycle where practical

4. Summary of Social or Economically Sustainable Measures Achieved.

- Utilisation of 'brownfield' site by replacing existing school.
- Maximisation of views to the south, whilst by means of curved façade and overhanging eaves mitigating / minimizing the potential for solar gain
- Considered location on site to utilize topography and retain and enhance ecology to lower part of site and river bank.
- Retention and protection of woodland / mature trees.
- Maintained cycle network route.
- Utilisation of PV (solar panels)
- Utilisation of rainwater harvesting
- Energy efficiency via lighting controls.
- Community access and useage of both school buildings and amenity / sports facilities.

5. Key Project Information

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| BREEAM Rating Achieved | <i>Targeted Rating is Very Good (to be updated on the completion)</i> |
| BREEAM Score Achieved | <i>Targeted score is 58.64% (to be updated on the completion)</i> |
| Project Cost £ | £ 35.175.000 |
| Basic Building Cost (£/m ²) | £ 1903/m ² |
| Services Cost (£/m ²) | £ 336.59/ m ² |
| External Works (£/m ²) | £ 682.40/ m ² |
| Gross Floor Area (m ²) | 18480 m ² |
| Total Area of Site (hectares) | 4.5 Ha (45000 m ²) |
| Breakdown of Key Function Areas (m ²): | |
| • E.g. Teaching | 6057.20 m ² |
| • Dining | 661 m ² |
| • Halls | 1262.6 m ² |
| • Offices | 617.7 m ² |
| • Sanitary Provision | 568 m ² |
| • Staff Base | 482.5 m ² |
| • Plant | 405.6 m ² |
| • SFL | 302.6 m ² |
| Area of Circulation Spaces (m ²) | 338.2 m ² |
| Area of Storage (m ²) | 919 m ² |
| % Area of Grounds to be used by the Community | 53 % (23625 m ²) |
| % Area of Buildings to be used by the Community | 16 % (2956.7 m ²) |
| Predicted Electricity Consumption (kWh/m ²) | 41.12 kWh/m ² |
| Predicated Fossil Fuel Consumption (kWh/m ²) | 11.07 kWh/m ² (gas) |
| Predicated Renewable Energy Generation (kWh/m ²) | 0.56 kWh/m ² (10430 kWh total solar contribution.) |
| Predicted Water Use (m ³ /person/year) | 0.84 m ³ / person / year |
| % Predicted Water Use to be provided by Rainwater/ Greywater | 80% |

6. Energy Performance Certificate

The school has an Energy Performance Certificate (EPC) from CIBSE Certification Ltd (LCEA002521). Date of issue is 14th March 2012 and the following criteria is applied: -

Building Rated B (16 to 60)

CO₂ Emissions = 26 kg/m² of Floor Area/Year

Energy Use / m² of Floor Area = 116 kWh/m²
