'Baile Glas'
Future-Proofed Social Housing

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Cork County Council

Introduction

- Concept formulated by Cork County Energy Agency and Blackwater Resource Development (Leader Company)
- Project first submitted for Interreg funding by Cork County Council and BRD
- This application was un successful as it did not fully meet guidelines for granting of structural funds (At this stage housing did not qualifyThis has since changed)
- CCC and BRD decided to go it alone from own resources.

Next Steps

- CCC identified an area in need of Social and Affordable housing and where they already owned an amount of Land.
- This site was part of a small rural community and had all relevent services available (Mains Water, Waste Water etc..)
- The site also allowed for Best Practice Passive Solar Design.

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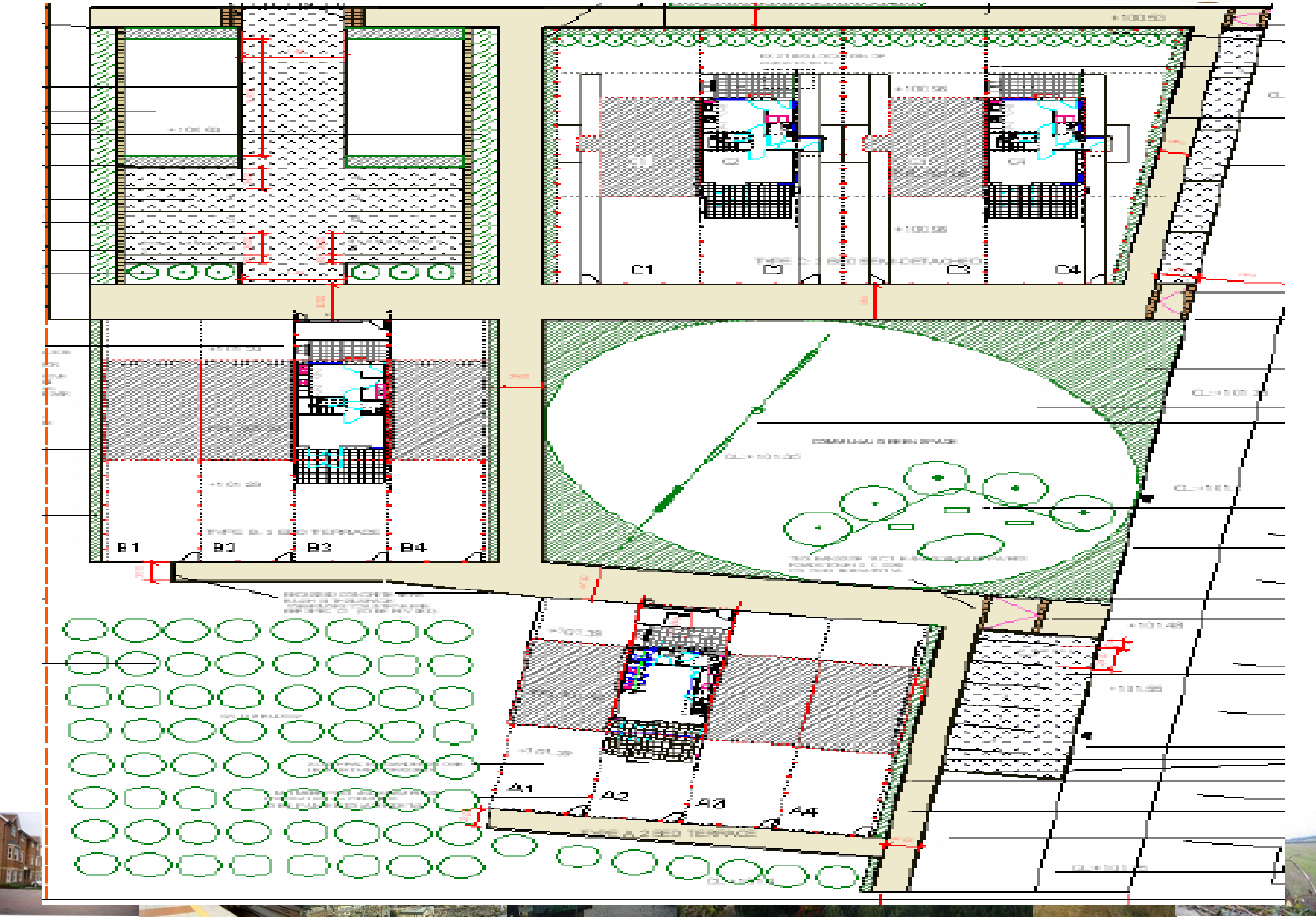
- It was decided that 12 houses would be built (4 affordable, 8 Social)integrating social and environmental sustainablity.
- The construction of these houses was put to tender and out of 15 tenderers 1 was chosen through a process of rigorous interview..
- MCO architects were awarded the contract in early 2005, due to there already large porfolio of Sustainable housing design e.g Bedzed UK.

The Design

- 2 principle Guidelines:
  - Cork Rural Design Guide
  - Cephus Passive House targets
- Designed to minimise domestic energy use and losses
- Passive solar design pre-heating the air as it enters the houses.
  - Large Glazing to the South and minimal amount to the North.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Contd…

- The houses main elevation lies behind a glass layer creating a ‘Winter Garden’
- The winter garden creates and traps the heat required in the house.
- The main living area is located between 2 buffer zones, which stabilise and control the temperature in the area.
- The houses are timber framed construction.

Heating

- The result of this is that the houses require virtually no space Heating.
- Any additional surplus heat requirements are met by an Air to Air heat pump with high COP.
- Underfloor Heating on the Ground Floor and low surface temperature Rads on the first floor.

Insulation

- Ground Floor
  - 100mm Concrete slab acting as a heat sink retaining heat energy. (U-value 0.17W/m^2k)
- Walls
  - 2 Layers of insulation 90mm between stud and 50mm inside.(U-value 0.14 W/m^2k)
- Roofs
  - Pitched roofs insulated above the ceilings achieveing U-value of 0.12W/m^2k
- Windows
  - Argon filled low–e Double Glazing in timber frames

Also

- A childrens Play area has been built and a community centre is in the planning stage
- The playground has been made from environmentally responsible materials, and is central to the development.
- Parking is kept away from the housing and so it is safer for the kids playing
- Wind and solar powered street lighting is being piloted
- 1/10 of the site is set aside for Bio-diversity and the growing of native species

Training Element

- Firstly training courses were held for the in-house staff (technical and non-technical) to aid them deal with any queries
- An information pack of a non-technical nature was prepared
- Pre-purchase and pre-tenancy courses were given
- Follow up contact is continually ongoing in management of the site

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- This has created an immediate acceptance by the tenants to the ethos of sustainable living which is of great importance to achieving maximum benefit of sustainable elements to the scheme for residents.

Community Living

- Environmental and Social sustainability.
- Maximised Communal Areas.
- Urban housing in a Rural setting
- Sustainable living will be the key ethos for all Occupants in the development.
- Reduced energy costs for the whole community.

The Results

- The average energy spend is < €2/day/house including heating, lighting and Cooking
- Approx 50% than average Irish Household
- A strong link has been created between the social and affordable housing tenants
- The estate was featured on the National news programme (Six-One)

Contd…

- Following the success of this development Cork County Council have used the concepts in further housing developments.
- National Building regs have been updated twice since this development and are still below *'Baile Glas'* standards

Funding

- Overall const c.€2.2 million
- €840,000 from Blackwater Resource Development – biggest single leader fund award in Europe to-date.
- Land bank and match funding from Cork County Council and the sale of the Affordable housing.
- Funding from Sustainable Energy Ireland House of Tomorrow programme.

Conclusion

- Housing built to Highest Sustainable and Environmental Best Practice
- Unique for a Social development in Ireland
- Houses will be monitored to ascertain running costs
- A flagship Local Authority Project incorporating innovation and forward thinking w.r.t Sustainability, Energy usage and Social Housing
- Houses of Tomorrow – Today!!!

Pictorial Review

Artists Impression


26/5/2011


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THANK YOU FOR YOUR ATTENTION!!

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