

# Willow Ranch

## Eco-build Project



### *Remit:*

Design and Build a high-quality home to standards beyond normal building control requirements for energy efficiency and water conservation, incorporating Renewable Energy.

Mechanical & Electrical, Building Design Consultant – E-Si  
Builder – Nigel Gale  
Architect – David Torode

Project Manager / Owner – Keith Tostevin

# Willow Ranch

## Eco-build Project



Ground source panels

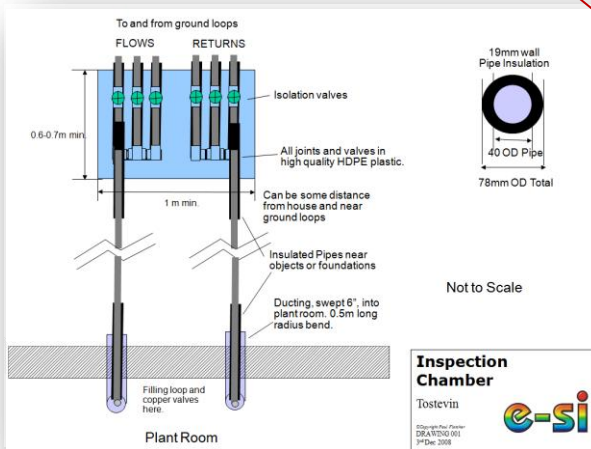
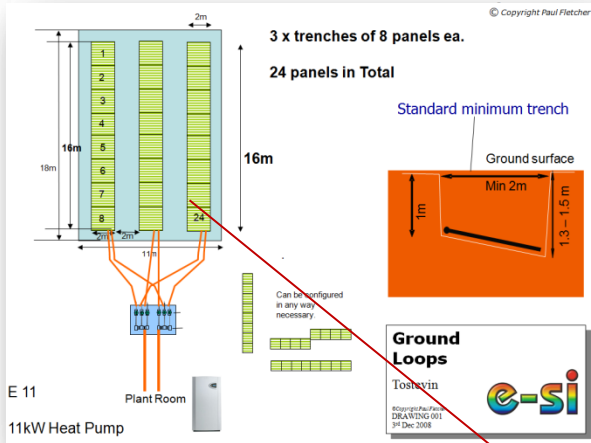


Ground Source Heat Pump

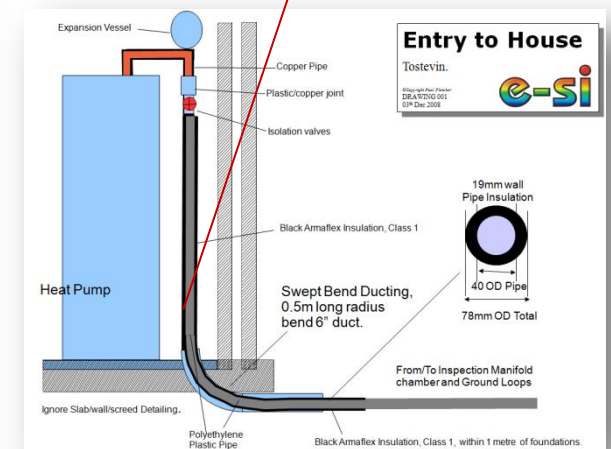
### Key Features:

- Ground Source Heat Pump.
- Ground source panels.
- 500 Litre Hi-efficiency Hot Water tank.
- Unipipe Underfloor Heating.
- Multi-zone control.
- Heat Recovery Ventilation.
- Heat recovery from wood burner stove.
- Recycled greywater.
- Heat recovery from greywater into heating.
- Solar Photovoltaics, grid connected, roof integrated (largest in CI).
- Large Carbon Sink in form of trees.
- Sensitive landscaping converting derelict glass into conservation area for wildlife.

# Willow Ranch Eco-build Project Preliminary Works

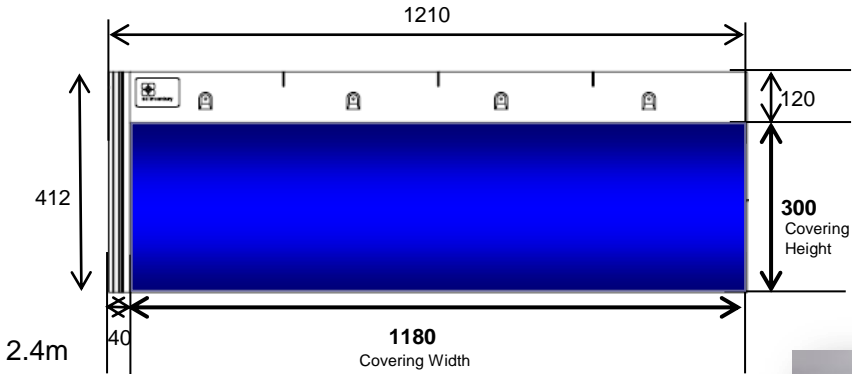


Ground Loop panels installed here.

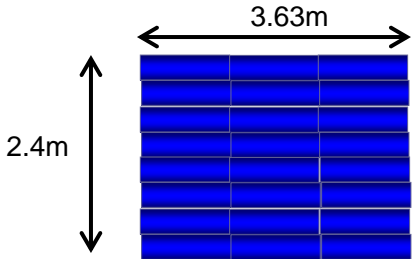
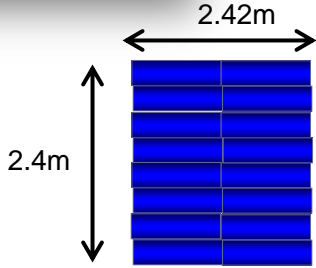
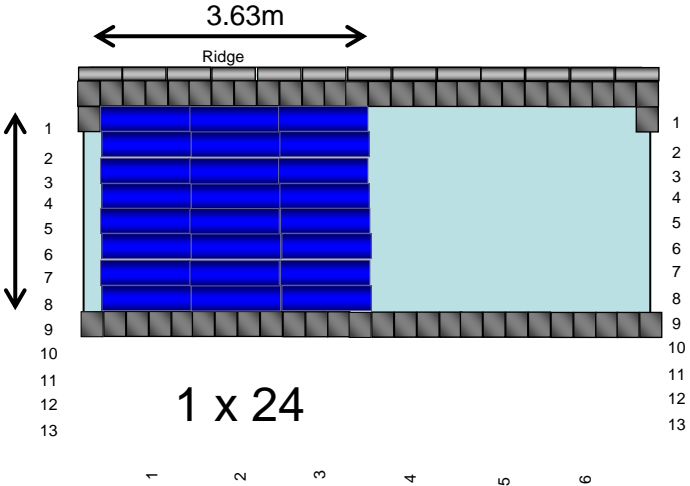
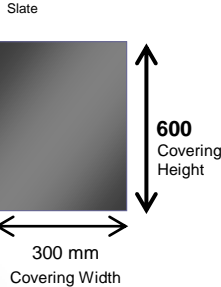


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Replaces 4 x Tiles  
 Weight per PV = 8kg  
 Weight per 1 x tile = 5.3kg



64 Panels in total  
 Solar Century Tile / Slate PV System

To be Revised due to new sizes 21Sep10 Now 1210 x 412