

Green Architecture Day
Saturday 1st March 2008

RETREAD.....

Principles and Case Studies

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www.bbm-architects.co.uk



Unfortunately
this is
Sustainable
Design



However this is not...
but it is beautiful



Is this?



Perhaps



Perhaps



I think this is....
but how is it relevant?

What are we doing?

- Creating well insulated + sometimes well sealed buildings
- That sometimes reduce energy consumption in use
- That often cause 'sick building syndrome'
- That do not consider the energy used + pollution created in construction
- Who is guilty?
- WE ALL ARE

What can we do?

- **Consider 'Designing for Demolition'**
 - *Your building is a future material resource for others*
- **Consider levels of energy + pollution used when selecting materials**
 - *Reducing the extent a material is processed reduces its embodied energy + pollution levels as well as the likelihood of in-built toxins*
- **Consider non-toxic materials**
 - *To reduce the likelihood of 'sick building syndrome'*
 - *To make construction and disposal safer + easier*

What else can we do?

- **SPECIFY LOCAL MATERIALS BECAUSE**
 - *It reduces the amount of pollution created in transport*
 - *They can 'weather' better in native environment*
 - *They can create a sense of place: a local identity*
 - *They can help generate local commerce*
 - *In particular cases they can help support bio-diverse environments*

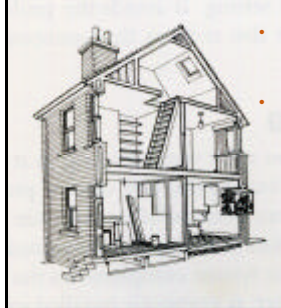


So in order of preference....

FOCUSING ON THE PROBLEM

- Biggest yearly increase in energy consumption is found on our roads
- However approx 40% of all CO2 emissions are from our homes
- There are 20 million houses out there
- 60%-70% of them don't have adequate insulation
- 85% don't use low energy light bulbs

FOCUSING ON THE PROBLEM



- To make a real impact on CO2 emissions we must focus on improving energy efficiency of existing housing stock
- New homes are well insulated but account for only 0.01% of housing stock (each year)

THE GOOD NEWS



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- Everybody is talking about
 - saving energy
 - reducing waste & water consumption
 - buying good local food
 - cycling to work
- It's now a common lifestyle choice to go green
- However it saves lots money so it's not just a fad

AND The Code for Sustainable Homes will be mandatory for all new homes in May 2008

THE GOOD NEWS

- Reusing existing buildings is VERY green
- Building new very green buildings normally has a bigger negative effect on the environment than reusing an existing building
- If you consider the amount of energy and pollution that is created when a building is constructed

GREEN CHECKLIST in order of priority

1. Switch to a green energy supplier that invests in RENEWABLES (Wind/Solar/Tidal/Biomass). Costs an extra £10 per quarter AND replace ALL lights bulbs with energy efficient versions. Cost approx £100
2. Check your boiler is running efficiently. Costs £65
3. Replace boiler with very efficient option. Cost £800 - *there may be a grant for this*
4. Insulate your loft - £100 - *there may be a grant for this*
5. Get a water butt for watering garden - Cost £25

GREEN CHECKLIST in order of priority

6. Get intelligent energy saving plugs for 'white goods'. Cost £75
Also, when buying new buy low water use washing machines & dual flush wc's. No extra cost
7. Insulate external walls if possible - Cost £450-£1,500 - *there may be a grant for this*
8. Insulate the ground floor - Cost £500-£2,500 - *there may be a grant for this*
9. Invest in Solar Thermal Energy ie. a solar panel creating hot or warm water - Cost £3,000- £4,500 - *there are grants for this.*

GREEN CHECKLIST *in order of priority*

- 10. Use non-toxic, local and even recycled materials for insulation, plastering, decorating, floorboards etc. This reduces the likelihood of 'Sick Building Syndrome' which plagues well-sealed, well-insulated buildings AND promoted local green industries of which there are many in Brighton & SE England. Costs of green materials are about twice the norm.
- 11. Invest in rainwater harvesting system - to flush wc's, use with washing machines even showers. Costs £5,500
ALSO invest in low water-use 'white goods'
- 12. Under floor Heating - For some situations. It works with WARM water not HOT water, therefore saving lots of energy. Costs £2,500 to install and runs off normal boiler. Works well with Solar Thermal.
- 13. Photovoltaic Panels/ Tile. Cost about £5,000-£7,500 - there are grants for this. Depending on situation could supply all electricity you need for your low energy light bulbs and more.

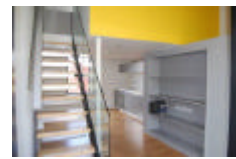
Case Study SALFORD QUAYS Urban Splash



Case Study Salford Quays



Case Study Salford Quays



Case Study New House + Studio Hove



Case Study New House + Studio Hove



Case Study
New House + Studio Hove



Case Study
New House + Studio Hove



Case Study
New House + Studio Hove



Case Study
House + Studio Hove

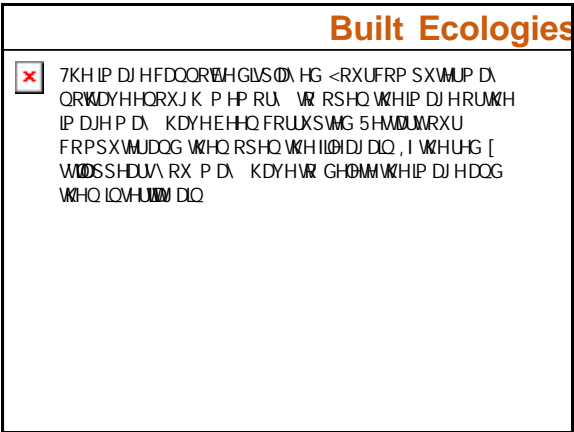
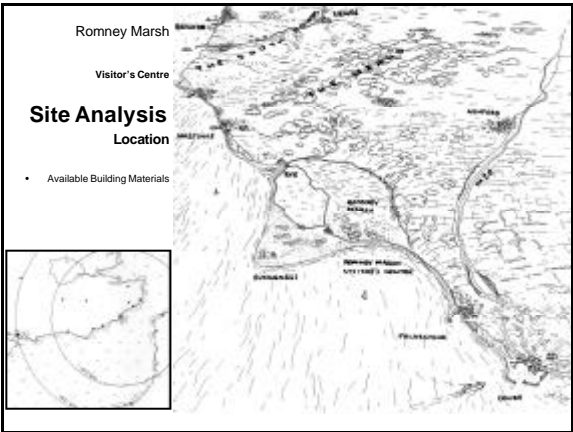
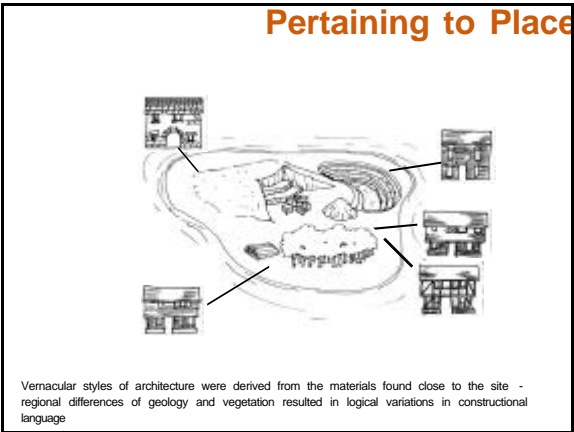


Case Study
Hamsey Village Hall



Case Study
Hamsey Village Hall





Creating a new vernacular



And a sense of place



SEASCAPE Romney Marsh Visitor's Centre



- **Location**
 - The Dungeness peninsula is one of the largest on-shore drift beaches in the world, stretching for miles in all directions
 - The agglomerated beach shingle was once locked into the south coast chalk cliffs of East Sussex and Kent
 - Farming land to the north of the site makes straw readily available

SEASCAPE Romney Marsh Visitor's Centre



SEASCAPE Romney Marsh Visitor's Centre
On Site



SEASCAPE

Romney Marsh

Visitor's Centre

On Site





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The Future

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Sweet Chestnut The Process



Harvesting Wood

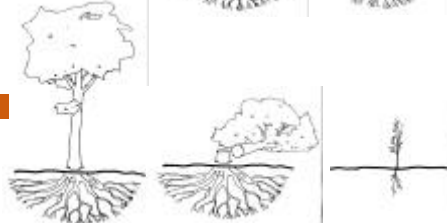
• Coppicing

25-30 yrs to commercial harvest



• Felling

150 yrs+ to commercial harvest



Sweet Chestnut The Process



Sweet Chestnut The Process



Case Study The Bridge



Case Study No.2 Extension to St.Pancras School



Sweet Chestnut
The Process



Sweet Chestnut
The Process



Case Study
The Bridge



Case Study No.2
Extension to St.Pancras School



Case Study No.1
Sparrowhouse Lewes



Case Study No.1
Sparrowhouse Lewes



Case Study No.1
Sparrowhouse Lewes



Case Study No.1
Sparrowhouse Lewes



Case Study
The Bridge



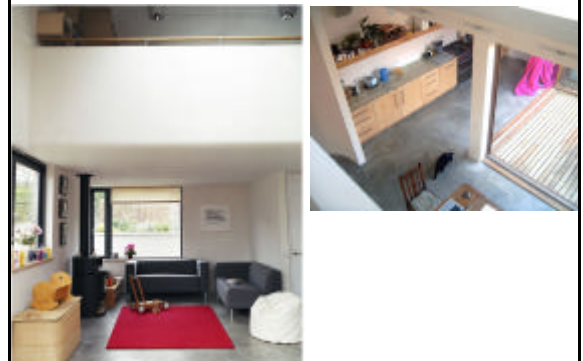
Case Study
The Bridge



Case Study No.1
Sparrowhouse Lewes



Case Study No.1
Sparrowhouse Lewes



Case Study No.1

Sparrowhouse Lewes



On Site



Case Study

The Bridge



Case Study No.2

Extension to St.Pancras School

