



Tel: 01978 851199
Paul & Price – Energy Efficiency Consultancy

Code for Sustainable Homes (2010) pre-Assessment

117 no. proposed new dwellings
land at Llay New Road
Rhosrobin
Wrexham
LL11 2UB

- **Client Details:-** Castlemead Group Ltd / Axis Architectural Services Ltd
- **Property Address:-** land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB
- **Proposed Code for Sustainable Homes level:-** Level 3 (57% points required)

Document compiled by Daryl Price, CfSH Consultant – 23rd May 2014



Daryl Price
Unit 4
Pinfold Lane Industrial Estate
Pinfold Lane
Llay
LL12 0PX



Shane Paul
4 Liverpool Road West
Oswestry
Shropshire
SY11 1BJ

Tel: 01978 851199
Paul & Price – Energy Efficiency Consultancy

23rd May 2014

Mr Tim Jones
Axis Architectural Services Limited
Riverdale
Severn Lane
Welshpool
Powys
SY21 7BB

Ref: 117 no. dwellings at land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

Dear Mr Jones,

Please find enclosed your Code for Sustainable Homes pre-Assessment to support the application for the proposed dwellings above. As you can see, the proposed designs will meet and comply with Level 3 of the Code for Sustainable Homes (2010), with over 57 percentage points.

The dwellings' DERs will be at least 36% better than the TER for 2010 Building Regulations. This will give **4 credits** for the **En1** category of the **Code for Sustainable Homes (2010)**. The evidence requirements for demonstrating compliance with Level 3 are listed and detailed in the Credits/Evidence matrix attached.

To summarise:

- Very well insulated building fabric
- Low air-permeability and minimised uncontrolled ventilation
- Water saving taps, showers and WCs
- Extensive recycling facilities
- P.V. panels for renewable electricity generation
- Highly efficient condensing gas boilers for space heating
- 100% LE lighting

Yours sincerely,

Daryl Price, Dip. OCEA
CfSH Consultant



Code for Sustainable Homes 2010 Assessment : 117 no. dwellings, land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

"F-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Ene1	DER % Improvement 2010 TER	>=47% (8% is mandatory).	5	5.85	SAP2009 DER/TER calcs from accredited SAP/OnCon Energy Assessor.
Ene2	Fabric Energy Efficiency (FEE)	<=48 kWh/m ² /year.	3	3.51	CfSH Data Report output from SAP2009 calcs above.
Ene3	Energy Display Devices	Energy Display Device (EDD) fitted.	2	2.34	'Ewgeco-type' or similar device displaying electricity AND gas usage, or British Gas/E.On 'SmartMeter' tariff with EDD; purchase order/receipt from clients.
Ene4	Drying Space	4m+ clothes drying line.	1	1.17	Specifications/plans detailing washing line position and size, adequate ventilation if inside dwelling, purchase order/receipt from clients.
Ene5	Energy Labelled White Goods	EU Labelling information on A+, A++ & B 'white goods'.	1	1.17	Energy Efficient labelling information is made available to the occupants.
Ene6	External Lighting	External space lighting and security lighting LE fittings with daylight cut-off and PIR.	2	2.34	Specifications/plans detailing lighting detail, purchase orders/receipts from clients. All external/security lamps use LEDs/CFLs, daylight-cutoffs and PIR sensors.
Ene7	Low and Zero Carbon Technologies	Reduction in CO ₂ emissions as a result of LZC installed.	2	2.34	PV or other LZC technologies results in lower CO ₂ emissions, see Ene 1 above.
Ene 8	Cycle Storage	Safe and secure storage for 1 cycle per two dwellings.	1	1.17	Suitably sized secure shed/garage/cycle storage system; specifications/plans from clients. Accommodate 1 bicycle per two dwellings.
Ene 9	Home Office	Sufficient space and services for a 'Home Office'.	1	1.17	Specifications/plans detailing 'Home Office' and services from clients. The 'Home Office' must have extra power points, phone jacks, ventilation and daylight factor
		Sub-Total	18	21.06	

Wat1	Indoor Water Usage	<=105 litres per person/day.	3	4.5	Water Usage Efficiency calculations from Assessor. Details of fixtures, 'white goods' & sanitary ware from clients.
Wat2	Rainwater Storage	Rainwater storage installed.	1	1.5	Minimum 150l capacity water-butt for rain-water storage. Correctly specified, installed and secured. Details, purchase-order/receipts and plans from clients.
		Sub-Total	4	6	

Mat1	Environmental Impact of Materials	Min of 'B' for Green Guide Ratings.	10	3	Receipts/Purchase Orders/Specifications from clients detailing all construction materials used. Materials to be assessed against BRE Green Guide .
Mat2	Responsible Sourcing of Basic Materials	80% responsibly sourced building elements.	0	0	
Mat3	Responsible Sourcing of Finishing Materials	80% responsibly sourced finishing elements.	0	0	
		Sub-Total	10	3	

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"F-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Sur1	Surface Water RunOff Attenuation	Impermeable area reduced post-development. (mandatory)	2	1.1	Plans and specs from clients detailing impermeable areas pre- and post-development. Area must be reduced post-development. Hydrologist's Report required.
Sur2	Flood Risk	Hydrologist's report for Zone 1 – Low Flood Risk.	2	1.1	Hydrologist's Report from clients confirming the development is in Zone 1 – Low Annual Probability of Flooding.
		Sub-Total	4	2.2	

Was1	Waste Storage Facilities (internal & external)	Space for 30litres storage bin internally, plus space for external bins. (mandatory)	4	3.2	Specifications/plans, purchase orders/receipts detailing internal recycling bins from clients. Space for external bins on specifications/plans from clients.
Was2	Construction Site Waste Management	Compliant Site Waste Management Plan (SWMP) in place.	1	0.8	Approved Site Waste Management Plan in place, provided by clients.
Was3	Composting	Provision of home composting facilities.	1	0.8	A Local Authority green/kitchen waste collection system, or home composting facilities. Supporting evidence required from clients.
		Sub-Total	6	4.8	

Pol1	Global Warming Potential (GWP) of Insulants	Use insulation with blowing agents GWP < 5.	1	0.7	Specifications/plans detailing insulants, from clients.
Pol2	NO _x emissions	Class 5 condensing gas boiler and 'Low NO _x ' settings.	3	2.1	Mains gas condensing boiler fitted, declared NO _x emissions < 40mg/kWh NO _x .
		Sub-Total	4	2.8	

Hea1	Daylighting	Daylighting calculations.	0	0	
Hea2	Sound Insulation	Improved airborne and impact sound insulation.	3	3.51	Tested or 'Robust Details' sound attenuation levels at least 5dB higher/lower than AD E minimums/maximums.
Hea3	Private Space	Private and exclusive outdoor space > 1.5m ² area.	1	1.17	Specifications/plans detailing open spaces, from clients, minimum 1.5m ² . Completed Checklist IDP from clients.
Hea4	Lifetime Homes	All principles of Lifetime Homes have been complied with.	0	0	
		Sub-Total	4	4.68	

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"F-type" dwellings

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Man1	Home User Guide	Provide a Home User Guide (H.U.G.) in various formats.	3	3.33	Provide H.U.G. in multiple formats according to 'Man1' checklist, Part1 and Part2, from clients.
Man2	Considerate Constructors Scheme	Best Practice/Beyond in C.C.S.	1	1.11	Clients & contractor sign up to 'best practice' under Considerate Constructors Scheme (C.C.S.).
Man3	Construction Site Impacts	Adopt 'best practice' in site activities.	0	0	
Man4	Security	Contact ALO/CPDA and accept/follow recommendations.	2	2.22	Contact Crime Prevention Design Advisor / Architectural Liaison Officer, instruct them and commission a report. Clients to comply with all recommendations.
		Sub-Total	6	6.66	

Eco1	Ecological Value of Site	'Low' Ecological value attributed to site.	1	1.33	'Eco1' checklist completed by Ecologist, confirming low ecological value of site.
Eco2	Ecological Enhancement	Appropriate features to enhance ecological value attributed to site.	1	1.33	Clients to commission Ecologist's Report to enhance ecological value of the development site. Clients to follow report's recommendations.
Eco3	Protection of Ecological Features	Default where no features have been found.	1	1.33	Where existing ecological features have been protected. See above.
Eco4	Change in Ecological Value of Site	Ecologist's report to improve ecological value of site.	2	2.66	Follow Ecologists' Report recommendations. (see Eco2 above)
Eco5	Building Footprint	Net Internal Floor Area : Net Internal Ground Floor Area ratio > 2.5 : 1	0	0	
		Sub-Total	5	6.65	

Total % points

57.85

Code for Sustainable
Homes Level 3?

Pass

Code for Sustainable Homes 2010 Assessment : 117 no. dwellings, land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

"2BS-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Ene1	DER % Improvement 2010 TER	>=47% (8% is mandatory).	5	5.85	SAP2009 DER/TER calcs from accredited SAP/OnCon Energy Assessor.
Ene2	Fabric Energy Efficiency (FEE)	<=48 kWh/m ² /year.	3	3.51	CfSH Data Report output from SAP2009 calcs above.
Ene3	Energy Display Devices	Energy Display Device (EDD) fitted.	2	2.34	'Ewgeco-type' or similar device displaying electricity AND gas usage, or British Gas/E.On 'SmartMeter' tariff with EDD; purchase order/receipt from clients.
Ene4	Drying Space	4m+ clothes drying line.	1	1.17	Specifications/plans detailing washing line position and size, adequate ventilation if inside dwelling, purchase order/receipt from clients.
Ene5	Energy Labelled White Goods	EU Labelling information on A+, A++ & B 'white goods'.	1	1.17	Energy Efficient labelling information is made available to the occupants.
Ene6	External Lighting	External space lighting and security lighting LE fittings with daylight cut-off and PIR.	2	2.34	Specifications/plans detailing lighting detail, purchase orders/receipts from clients. All external/security lamps use LEDs/CFLs, daylight-cutoffs and PIR sensors.
Ene7	Low and Zero Carbon Technologies	Reduction in CO ₂ emissions as a result of LZC installed.	2	2.34	PV or other LZC technologies results in lower CO ₂ emissions, see Ene 1 above.
Ene 8	Cycle Storage	Safe and secure storage for 2 cycles per dwellings.	2	2.34	Suitably sized secure shed/garage/cycle storage system; specifications/plans from clients. Accommodate 2 bicycles per dwelling.
Ene 9	Home Office	Sufficient space and services for a 'Home Office'.	1	1.17	Specifications/plans detailing 'Home Office' and services from clients. The 'Home Office' must have extra power points, phone jacks, ventilation and daylight factor
		Sub-Total	19	22.23	

Wat1	Indoor Water Usage	<=105 litres per person/day.	3	4.5	Water Usage Efficiency calculations from Assessor. Details of fixtures, 'white goods' & sanitary ware from clients.
Wat2	Rainwater Storage	Rainwater storage installed.	1	1.5	Minimum 150l capacity water-butt for rain-water storage. Correctly specified, installed and secured. Details, purchase-order/receipts and plans from clients.
		Sub-Total	4	6	

Mat1	Environmental Impact of Materials	Min of 'B' for Green Guide Ratings.	10	3	Receipts/Purchase Orders/Specifications from clients detailing all construction materials used. Materials to be assessed against BRE Green Guide .
Mat2	Responsible Sourcing of Basic Materials	80% responsibly sourced building elements.	0	0	
Mat3	Responsible Sourcing of Finishing Materials	80% responsibly sourced finishing elements.	0	0	
		Sub-Total	10	3	

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"2BS-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Sur1	Surface Water RunOff Attenuation	Impermeable area reduced post-development. (mandatory)	2	1.1	Plans and specs from clients detailing impermeable areas pre- and post-development. Area must be reduced post-development. Hydrologist's Report required.
Sur2	Flood Risk	Hydrologist's report for Zone 1 – Low Flood Risk.	2	1.1	Hydrologist's Report from clients confirming the development is in Zone 1 – Low Annual Probability of Flooding.
		Sub-Total	4	2.2	

Was1	Waste Storage Facilities (internal & external)	Space for 30litres storage bin internally, plus space for external bins. (mandatory)	4	3.2	Specifications/plans, purchase orders/receipts detailing internal recycling bins from clients. Space for external bins on specifications/plans from clients.
Was2	Construction Site Waste Management	Compliant Site Waste Management Plan (SWMP) in place.	1	0.8	Approved Site Waste Management Plan in place, provided by clients.
Was3	Composting	Provision of home composting facilities.	1	0.8	A Local Authority green/kitchen waste collection system, or home composting facilities. Supporting evidence required from clients.
		Sub-Total	6	4.8	

Pol1	Global Warming Potential (GWP) of Insulants	Use insulation with blowing agents GWP < 5.	1	0.7	Specifications/plans detailing insulants, from clients.
Pol2	NO _x emissions	Class 5 condensing gas boiler and 'Low NO _x ' settings.	3	2.1	Mains gas condensing boiler fitted, declared NO _x emissions < 40mg/kWh NO _x .
		Sub-Total	4	2.8	

Hea1	Daylighting	Daylighting calculations.	0	0	
Hea2	Sound Insulation	Improved airborne and impact sound insulation.	3	3.51	Tested or 'Robust Details' sound attenuation levels at least 5dB higher/lower than AD E minimums/maximums.
Hea3	Private Space	Private and exclusive outdoor space > 3m ² area.	1	1.17	Specifications/plans detailing open spaces, from clients, minimum 3m ² . Completed Checklist IDP from clients.
Hea4	Lifetime Homes	All principles of Lifetime Homes have been complied with.	0	0	
		Sub-Total	4	4.68	

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"2BS-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Man1	Home User Guide	Provide a Home User Guide (H.U.G.) in various formats.	3	3.33	Provide H.U.G. in multiple formats according to 'Man1' checklist, Part1 and Part2, from clients.
Man2	Considerate Constructors Scheme	Best Practice/Beyond in C.C.S.	1	1.11	Clients & contractor sign up to 'best practice' under Considerate Constructors Scheme (C.C.S.).
Man3	Construction Site Impacts	Adopt 'best practice' in site activities.	0	0	
Man4	Security	Contact ALO/CPDA and accept/follow recommendations.	2	2.22	Contact Crime Prevention Design Advisor / Architectural Liaison Officer, instruct them and commission a report. Clients to comply with all recommendations.
		Sub-Total	6	6.66	

Eco1	Ecological Value of Site	'Low' Ecological value attributed to site.	1	1.33	'Eco1' checklist completed by Ecologist, confirming low ecological value of site.
Eco2	Ecological Enhancement	Appropriate features to enhance ecological value attributed to site.	1	1.33	Clients to commission Ecologist's Report to enhance ecological value of the development site. Clients to follow report's recommendations.
Eco3	Protection of Ecological Features	Default where no features have been found.	1	1.33	Where existing ecological features have been protected. See above.
Eco4	Change in Ecological Value of Site	Ecologist's report to improve ecological value of site.	2	2.66	Follow Ecologists' Report recommendations. (see Eco2 above)
Eco5	Building Footprint	Net Internal Floor Area : Net Internal Ground Floor Area ratio > 2.5 : 1	0	0	
		Sub-Total	5	6.65	

Total % points

59.02

Code for Sustainable
Homes Level 3?

Pass

Code for Sustainable Homes 2010 Assessment : 117 no. dwellings, land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

"3BS-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Ene1	DER % Improvement 2010 TER	>=47% (8% is mandatory).	5	5.85	SAP2009 DER/TER calcs from accredited SAP/OnCon Energy Assessor.
Ene2	Fabric Energy Efficiency (FEE)	<=48 kWh/m ² /year.	3	3.51	CfSH Data Report output from SAP2009 calcs above.
Ene3	Energy Display Devices	Energy Display Device (EDD) fitted.	2	2.34	'Ewgeco-type' or similar device displaying electricity AND gas usage, or British Gas/E.On 'SmartMeter' tariff with EDD; purchase order/receipt from clients.
Ene4	Drying Space	6m+ clothes drying line.	1	1.17	Specifications/plans detailing washing line position and size, adequate ventilation if inside dwelling, purchase order/receipt from clients.
Ene5	Energy Labelled White Goods	EU Labelling information on A+, A++ & B 'white goods'.	1	1.17	Energy Efficient labelling information is made available to the occupants.
Ene6	External Lighting	External space lighting and security lighting LE fittings with daylight cut-off and PIR.	2	2.34	Specifications/plans detailing lighting detail, purchase orders/receipts from clients. All external/security lamps use LEDs/CFLs, daylight-cutoffs and PIR sensors.
Ene7	Low and Zero Carbon Technologies	Reduction in CO ₂ emissions as a result of LZC installed.	2	2.34	PV or other LZC technologies results in lower CO ₂ emissions, see Ene 1 above.
Ene 8	Cycle Storage	Safe and secure storage for 2 cycles per dwellings.	2	2.34	Suitably sized secure shed/garage/cycle storage system; specifications/plans from clients. Accommodate 2 bicycles per dwelling.
Ene 9	Home Office	Sufficient space and services for a 'Home Office'.	1	1.17	Specifications/plans detailing 'Home Office' and services from clients. The 'Home Office' must have extra power points, phone jacks, ventilation and daylight factor
		Sub-Total	19	22.23	
Wat1	Indoor Water Usage	<=105 litres per person/day.	3	4.5	Water Usage Efficiency calculations from Assessor. Details of fixtures, 'white goods' & sanitary ware from clients.
Wat2	Rainwater Storage	Rainwater storage installed.	1	1.5	Minimum 200l capacity water-butt for rain-water storage. Correctly specified, installed and secured. Details, purchase-order/receipts and plans from clients.
		Sub-Total	4	6	
Mat1	Environmental Impact of Materials	Min of 'B' for Green Guide Ratings.	10	3	Receipts/Purchase Orders/Specifications from clients detailing all construction materials used. Materials to be assessed against BRE Green Guide .
Mat2	Responsible Sourcing of Basic Materials	80% responsibly sourced building elements.	0	0	
Mat3	Responsible Sourcing of Finishing Materials	80% responsibly sourced finishing elements.	0	0	
		Sub-Total	10	3	

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Was2	Construction Site Waste Management	Compliant Site Waste Management Plan (SWMP) in place.	1	0.8	Approved Site Waste Management Plan in place, provided by clients.
Was3	Composting	Provision of home composting facilities.	1	0.8	A Local Authority green/kitchen waste collection system, or home composting facilities. Supporting evidence required from clients.
		Sub-Total	6	4.8	

Pol1	Global Warming Potential (GWP) of Insulants	Use insulation with blowing agents GWP < 5.	1	0.7	Specifications/plans detailing insulants, from clients.
Pol2	NO _x emissions	Class 5 condensing gas boiler and 'Low NO _x ' settings.	3	2.1	Mains gas condensing boiler fitted, declared NO _x emissions < 40mg/kWh NO _x .
		Sub-Total	4	2.8	

Hea1	Daylighting	Daylighting calculations.	0	0	
Hea2	Sound Insulation	Improved airborne and impact sound insulation.	3	3.51	Tested or 'Robust Details' sound attenuation levels at least 5dB higher/lower than AD E minimums/maximums.
Hea3	Private Space	Private and exclusive outdoor space > 4.5m ² area.	1	1.17	Specifications/plans detailing open spaces, from clients, minimum 4.5m ² . Completed Checklist IDP from clients.
Hea4	Lifetime Homes	All principles of Lifetime Homes have been complied with.	0	0	
		Sub-Total	4	4.68	

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Man3	Construction Site Impacts	Adopt 'best practice' in site activities.	0	0	
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Eco4	Change in Ecological Value of Site	Ecologist's report to improve ecological value of site.	2	2.66	Follow Ecologists' Report recommendations. (see Eco2 above)
Eco5	Building Footprint	Net Internal Floor Area : Net Internal Ground Floor Area ratio > 2.5 : 1	0	0	Some 3 storey dwellings may also be able to claim Eco 5 credits. tbc
		Sub-Total	5	6.65	

Total % points

59.02

Code for Sustainable
Homes Level 3?

Pass

Code for Sustainable Homes 2010 Assessment : 117 no. dwellings, land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

"DS-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Ene1	DER % Improvement 2010 TER	>=36% (8% is mandatory).	4	4.68	SAP2009 DER/TER calcs from accredited SAP/OnCon Energy Assessor.
Ene2	Fabric Energy Efficiency (FEE)	<=60 kWh/m ² /year.	3	3.51	CfSH Data Report output from SAP2009 calcs above.
Ene3	Energy Display Devices	Energy Display Device (EDD) fitted.	2	2.34	'Ewgeco-type' or similar device displaying electricity AND gas usage, or British Gas/E.On 'SmartMeter' tariff with EDD; purchase order/receipt from clients.
Ene4	Drying Space	6m+ clothes drying line.	1	1.17	Specifications/plans detailing washing line position and size, adequate ventilation if inside dwelling, purchase order/receipt from clients.
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Hea4	Lifetime Homes	All principles of Lifetime Homes have been complied with.	0	0	
		Sub-Total	4	4.68	

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"DS-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Man1	Home User Guide	Provide a Home User Guide (H.U.G.) in various formats.	3	3.33	Provide H.U.G. in multiple formats according to 'Man1' checklist, Part1 and Part2, from clients.
Man2	Considerate Constructors Scheme	Best Practice/Beyond in C.C.S.	1	1.11	Clients & contractor sign up to 'best practice' under Considerate Constructors Scheme (C.C.S.).
Man3	Construction Site Impacts	Adopt 'best practice' in site activities.	0	0	
Man4	Security	Contact ALO/CPDA and accept/follow recommendations.	2	2.22	Contact Crime Prevention Design Advisor / Architectural Liaison Officer, instruct them and commission a report. Clients to comply with all recommendations.
		Sub-Total	6	6.66	

Eco1	Ecological Value of Site	'Low' Ecological value attributed to site.	1	1.33	'Eco1' checklist completed by Ecologist, confirming low ecological value of site.
Eco2	Ecological Enhancement	Appropriate features to enhance ecological value attributed to site.	1	1.33	Clients to commission Ecologist's Report to enhance ecological value of the development site. Clients to follow report's recommendations.
Eco3	Protection of Ecological Features	Default where no features have been found.	1	1.33	Where existing ecological features have been protected. See above.
Eco4	Change in Ecological Value of Site	Ecologist's report to improve ecological value of site.	2	2.66	Follow Ecologists' Report recommendations. (see Eco2 above)
Eco5	Building Footprint	Net Internal Floor Area : Net Internal Ground Floor Area ratio > 2.5 : 1	0	0	
		Sub-Total	5	6.65	

Total % points

57.85

Code for Sustainable
Homes Level 3?

Pass

Code for Sustainable Homes 2010 Assessment : 117 no. dwellings, land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

"D-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Ene1	DER % Improvement 2010 TER	>=36% (8% is mandatory).	4	4.68	SAP2009 DER/TER calcs from accredited SAP/OnCon Energy Assessor.
Ene2	Fabric Energy Efficiency (FEE)		0	0	
Ene3	Energy Display Devices	Energy Display Device (EDD) fitted.	2	2.34	'Ewgeco-type' or similar device displaying electricity AND gas usage, or British Gas/E.On 'SmartMeter' tariff with EDD; purchase order/receipt from clients.
Ene4	Drying Space	6m+ clothes drying line.	1	1.17	Specifications/plans detailing washing line position and size, adequate ventilation if inside dwelling, purchase order/receipt from clients.
Ene5	Energy Labelled White Goods	EU Labelling information on A+, A++ & B 'white goods'.	1	1.17	Energy Efficient labelling information is made available to the occupants.
Ene6	External Lighting	External space lighting and security lighting LE fittings with daylight cut-off and PIR.	2	2.34	Specifications/plans detailing lighting detail, purchase orders/receipts from clients. All external/security lamps use LEDs/CFLs, daylight-cutoffs and PIR sensors.
Ene7	Low and Zero Carbon Technologies	Reduction in CO ₂ emissions as a result of LZC installed.	2	2.34	PV or other LZC technologies results in lower CO ₂ emissions, see Ene 1 above.
Ene 8	Cycle Storage	Safe and secure storage for 1 cycle per dwellings.	1	1.17	Suitably sized secure shed/garage/cycle storage system; specifications/plans from clients. Accommodate 1 bicycle per dwelling.
Ene 9	Home Office	Sufficient space and services for a 'Home Office'.	1	1.17	Specifications/plans detailing 'Home Office' and services from clients. The 'Home Office' must have extra power points, phone jacks, ventilation and daylight factor
		Sub-Total	14	16.38	
Wat1	Indoor Water Usage	<=105 litres per person/day.	3	4.5	Water Usage Efficiency calculations from Assessor. Details of fixtures, 'white goods' & sanitary ware from clients.
Wat2	Rainwater Storage	Rainwater storage installed.	1	1.5	Minimum 200l capacity water-butt for rain-water storage. Correctly specified, installed and secured. Details, purchase-order/receipts and plans from clients.
		Sub-Total	4	6	
Mat1	Environmental Impact of Materials	Min of 'B' for Green Guide Ratings.	10	3	Receipts/Purchase Orders/Specifications from clients detailing all construction materials used. Materials to be assessed against BRE Green Guide .
Mat2	Responsible Sourcing of Basic Materials	80% responsibly sourced building elements.	0	0	
Mat3	Responsible Sourcing of Finishing Materials	80% responsibly sourced finishing elements.	0	0	
		Sub-Total	10	3	

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"D-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Sur1	Surface Water RunOff Attenuation	Impermeable area reduced post-development. (mandatory)	2	1.1	Plans and specs from clients detailing impermeable areas pre- and post-development. Area must be reduced post-development. Hydrologist's Report required.
Sur2	Flood Risk	Hydrologist's report for Zone 1 – Low Flood Risk.	2	1.1	Hydrologist's Report from clients confirming the development is in Zone 1 – Low Annual Probability of Flooding.
		Sub-Total	4	2.2	

Was1	Waste Storage Facilities (internal & external)	Space for 30litres storage bin internally, plus space for external bins. (mandatory)	4	3.2	Specifications/plans, purchase orders/receipts detailing internal recycling bins from clients. Space for external bins on specifications/plans from clients.
Was2	Construction Site Waste Management	Compliant Site Waste Management Plan (SWMP) in place.	1	0.8	Approved Site Waste Management Plan in place, provided by clients.
Was3	Composting	Provision of home composting facilities.	1	0.8	A Local Authority green/kitchen waste collection system, or home composting facilities. Supporting evidence required from clients.
		Sub-Total	6	4.8	

Pol1	Global Warming Potential (GWP) of Insulants	Use insulation with blowing agents GWP < 5.	1	0.7	Specifications/plans detailing insulants, from clients.
Pol2	NO _x emissions	Class 5 condensing gas boiler and 'Low NO _x ' settings.	3	2.1	Mains gas condensing boiler fitted, declared NO _x emissions < 40mg/kWh NO _x .
		Sub-Total	4	2.8	

Hea1	Daylighting	Daylighting calculations.	0	0	
Hea2	Sound Insulation	Improved airborne and impact sound insulation.	4	4.68	Default for detached dwellings.
Hea3	Private Space	Private and exclusive outdoor space > 4.5m ² area.	1	1.17	Specifications/plans detailing open spaces, from clients, minimum 4.5m ² . Completed Checklist IDP from clients.
Hea4	Lifetime Homes	All principles of Lifetime Homes have been complied with.	4	4.68	Designer or Architect to confirm dwellings conform with all 16 no. design criteria of Lifetime Homes.
		Sub-Total	9	10.53	

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"D-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Man1	Home User Guide	Provide a Home User Guide (H.U.G.) in various formats.	3	3.33	Provide H.U.G. in multiple formats according to 'Man1' checklist, Part1 and Part2, from clients.
Man2	Considerate Constructors Scheme	Best Practice/Beyond in C.C.S.	1	1.11	Clients & contractor sign up to 'best practice' under Considerate Constructors Scheme (C.C.S.).
Man3	Construction Site Impacts	Adopt 'best practice' in site activities.	0	0	
Man4	Security	Contact ALO/CPDA and accept/follow recommendations.	2	2.22	Contact Crime Prevention Design Advisor / Architectural Liaison Officer, instruct them and commission a report. Clients to comply with all recommendations.
		Sub-Total	6	6.66	

Eco1	Ecological Value of Site	'Low' Ecological value attributed to site.	1	1.33	'Eco1' checklist completed by Ecologist, confirming low ecological value of site.
Eco2	Ecological Enhancement	Appropriate features to enhance ecological value attributed to site.	1	1.33	Clients to commission Ecologist's Report to enhance ecological value of the development site. Clients to follow report's recommendations.
Eco3	Protection of Ecological Features	Default where no features have been found.	1	1.33	Where existing ecological features have been protected. See above.
Eco4	Change in Ecological Value of Site	Ecologist's report to improve ecological value of site.	2	2.66	Follow Ecologists' Report recommendations. (see Eco2 above)
Eco5	Building Footprint	Net Internal Floor Area : Net Internal Ground Floor Area ratio > 2.5 : 1	0	0	
		Sub-Total	5	6.65	

Total % points

59.02

Code for Sustainable
Homes Level 3?

Pass

Code for Sustainable Homes 2010 Assessment : 117 no. dwellings, land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

"T-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Ene1	DER % Improvement 2010 TER	>=36% (8% is mandatory).	4	4.68	SAP2009 DER/TER calcs from accredited SAP/OnCon Energy Assessor.
Ene2	Fabric Energy Efficiency (FEE)		0	0	
Ene3	Energy Display Devices	Energy Display Device (EDD) fitted.	2	2.34	'Ewgeco-type' or similar device displaying electricity AND gas usage, or British Gas/E.On 'SmartMeter' tariff with EDD; purchase order/receipt from clients.
Ene4	Drying Space	6m+ clothes drying line.	1	1.17	Specifications/plans detailing washing line position and size, adequate ventilation if inside dwelling, purchase order/receipt from clients.
Ene5	Energy Labelled White Goods	EU Labelling information on A+, A++ & B 'white goods'.	1	1.17	Energy Efficient labelling information is made available to the occupants.
Ene6	External Lighting	External space lighting and security lighting LE fittings with daylight cut-off and PIR.	2	2.34	Specifications/plans detailing lighting detail, purchase orders/receipts from clients. All external/security lamps use LEDs/CFLs, daylight-cutoffs and PIR sensors.
Ene7	Low and Zero Carbon Technologies	Reduction in CO ₂ emissions as a result of LZC installed.	2	2.34	PV or other LZC technologies results in lower CO ₂ emissions, see Ene 1 above.
Ene 8	Cycle Storage	Safe and secure storage for 1 cycle per dwellings.	1	1.17	Suitably sized secure shed/garage/cycle storage system; specifications/plans from clients. Accommodate 1 bicycle per dwelling.
Ene 9	Home Office	Sufficient space and services for a 'Home Office'.	1	1.17	Specifications/plans detailing 'Home Office' and services from clients. The 'Home Office' must have extra power points, phone jacks, ventilation and daylight factor
		Sub-Total	14	16.38	

Wat1	Indoor Water Usage	<=105 litres per person/day.	3	4.5	Water Usage Efficiency calculations from Assessor. Details of fixtures, 'white goods' & sanitary ware from clients.
Wat2	Rainwater Storage	Rainwater storage installed.	1	1.5	Minimum 200l capacity water-butt for rain-water storage. Correctly specified, installed and secured. Details, purchase-order/receipts and plans from clients.
		Sub-Total	4	6	

Mat1	Environmental Impact of Materials	Min of 'B' for Green Guide Ratings.	10	3	Receipts/Purchase Orders/Specifications from clients detailing all construction materials used. Materials to be assessed against BRE Green Guide .
Mat2	Responsible Sourcing of Basic Materials	80% responsibly sourced building elements.	0	0	
Mat3	Responsible Sourcing of Finishing Materials	80% responsibly sourced finishing elements.	0	0	
		Sub-Total	10	3	

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"T-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Sur1	Surface Water RunOff Attenuation	Impermeable area reduced post-development. (mandatory)	2	1.1	Plans and specs from clients detailing impermeable areas pre- and post-development. Area must be reduced post-development. Hydrologist's Report required.
Sur2	Flood Risk	Hydrologist's report for Zone 1 – Low Flood Risk.	2	1.1	Hydrologist's Report from clients confirming the development is in Zone 1 – Low Annual Probability of Flooding.
		Sub-Total	4	2.2	

Was1	Waste Storage Facilities (internal & external)	Space for 30litres storage bin internally, plus space for external bins. (mandatory)	4	3.2	Specifications/plans, purchase orders/receipts detailing internal recycling bins from clients. Space for external bins on specifications/plans from clients.
Was2	Construction Site Waste Management	Compliant Site Waste Management Plan (SWMP) in place.	1	0.8	Approved Site Waste Management Plan in place, provided by clients.
Was3	Composting	Provision of home composting facilities.	1	0.8	A Local Authority green/kitchen waste collection system, or home composting facilities. Supporting evidence required from clients.
		Sub-Total	6	4.8	

Pol1	Global Warming Potential (GWP) of Insulants	Use insulation with blowing agents GWP < 5.	1	0.7	Specifications/plans detailing insulants, from clients.
Pol2	NO _x emissions	Class 5 condensing gas boiler and 'Low NO _x ' settings.	3	2.1	Mains gas condensing boiler fitted, declared NO _x emissions < 40mg/kWh NO _x .
		Sub-Total	4	2.8	

Hea1	Daylighting	Daylighting calculations.	0	0	
Hea2	Sound Insulation	Improved airborne and impact sound insulation.	4	4.68	Default for detached dwellings.
Hea3	Private Space	Private and exclusive outdoor space > 4.5m ² area.	1	1.17	Specifications/plans detailing open spaces, from clients, minimum 4.5m ² . Completed Checklist IDP from clients.
Hea4	Lifetime Homes	All principles of Lifetime Homes have been complied with.	4	4.68	Designer or Architect to confirm dwellings conform with all 16 no. design criteria of Lifetime Homes.
		Sub-Total	9	10.53	

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"T-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Man1	Home User Guide	Provide a Home User Guide (H.U.G.) in various formats.	3	3.33	Provide H.U.G. in multiple formats according to 'Man1' checklist, Part1 and Part2, from clients.
Man2	Considerate Constructors Scheme	Best Practice/Beyond in C.C.S.	1	1.11	Clients & contractor sign up to 'best practice' under Considerate Constructors Scheme (C.C.S.).
Man3	Construction Site Impacts	Adopt 'best practice' in site activities.	0	0	
Man4	Security	Contact ALO/CPDA and accept/follow recommendations.	2	2.22	Contact Crime Prevention Design Advisor / Architectural Liaison Officer, instruct them and commission a report. Clients to comply with all recommendations.
		Sub-Total	6	6.66	

Eco1	Ecological Value of Site	'Low' Ecological value attributed to site.	1	1.33	'Eco1' checklist completed by Ecologist, confirming low ecological value of site.
Eco2	Ecological Enhancement	Appropriate features to enhance ecological value attributed to site.	1	1.33	Clients to commission Ecologist's Report to enhance ecological value of the development site. Clients to follow report's recommendations.
Eco3	Protection of Ecological Features	Default where no features have been found.	1	1.33	Where existing ecological features have been protected. See above.
Eco4	Change in Ecological Value of Site	Ecologist's report to improve ecological value of site.	2	2.66	Follow Ecologists' Report recommendations. (see Eco2 above)
Eco5	Building Footprint	Net Internal Floor Area : Net Internal Ground Floor Area ratio > 2.5 : 1	0	0	
		Sub-Total	5	6.65	

Total % points

59.02

Code for Sustainable
Homes Level 3?

Pass

Code for Sustainable Homes 2010 Assessment : 117 no. dwellings, land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

"R1, W & C-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Ene1	DER % Improvement 2010 TER	>=36% (8% is mandatory).	4	4.68	SAP2009 DER/TER calcs from accredited SAP/OnCon Energy Assessor.
Ene2	Fabric Energy Efficiency (FEE)		0	0	
Ene3	Energy Display Devices	Energy Display Device (EDD) fitted.	2	2.34	'Ewgeco-type' or similar device displaying electricity AND gas usage, or British Gas/E.On 'SmartMeter' tariff with EDD; purchase order/receipt from clients.
Ene4	Drying Space	6m+ clothes drying line.	1	1.17	Specifications/plans detailing washing line position and size, adequate ventilation if inside dwelling, purchase order/receipt from clients.
Ene5	Energy Labelled White Goods	EU Labelling information on A+, A++ & B 'white goods'.	1	1.17	Energy Efficient labelling information is made available to the occupants.
Ene6	External Lighting	External space lighting and security lighting LE fittings with daylight cut-off and PIR.	2	2.34	Specifications/plans detailing lighting detail, purchase orders/receipts from clients. All external/security lamps use LEDs/CFLs, daylight-cutoffs and PIR sensors.
Ene7	Low and Zero Carbon Technologies	Reduction in CO ₂ emissions as a result of LZC installed.	2	2.34	PV or other LZC technologies results in lower CO ₂ emissions, see Ene 1 above.
Ene 8	Cycle Storage	Safe and secure storage for 1 cycle per dwellings.	0	0	
Ene 9	Home Office	Sufficient space and services for a 'Home Office'.	1	1.17	Specifications/plans detailing 'Home Office' and services from clients. The 'Home Office' must have extra power points, phone jacks, ventilation and daylight factor
		Sub-Total	13	15.21	

Wat1	Indoor Water Usage	<=105 litres per person/day.	3	4.5	Water Usage Efficiency calculations from Assessor. Details of fixtures, 'white goods' & sanitary ware from clients.
Wat2	Rainwater Storage	Rainwater storage installed.	1	1.5	Minimum 200l capacity water-butt for rain-water storage. Correctly specified, installed and secured. Details, purchase-order/receipts and plans from clients.
		Sub-Total	4	6	

Mat1	Environmental Impact of Materials	Min of 'B' for Green Guide Ratings.	10	3	Receipts/Purchase Orders/Specifications from clients detailing all construction materials used. Materials to be assessed against BRE Green Guide .
Mat2	Responsible Sourcing of Basic Materials	80% responsibly sourced building elements.	0	0	
Mat3	Responsible Sourcing of Finishing Materials	80% responsibly sourced finishing elements.	0	0	
		Sub-Total	10	3	

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"R1, W & C-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Sur1	Surface Water RunOff Attenuation	Impermeable area reduced post-development. (mandatory)	2	1.1	Plans and specs from clients detailing impermeable areas pre- and post-development. Area must be reduced post-development. Hydrologist's Report required.
Sur2	Flood Risk	Hydrologist's report for Zone 1 – Low Flood Risk.	2	1.1	Hydrologist's Report from clients confirming the development is in Zone 1 – Low Annual Probability of Flooding.
		Sub-Total	4	2.2	

Was1	Waste Storage Facilities (internal & external)	Space for 30litres storage bin internally, plus space for external bins. (mandatory)	4	3.2	Specifications/plans, purchase orders/receipts detailing internal recycling bins from clients. Space for external bins on specifications/plans from clients.
Was2	Construction Site Waste Management	Compliant Site Waste Management Plan (SWMP) in place.	1	0.8	Approved Site Waste Management Plan in place, provided by clients.
Was3	Composting	Provision of home composting facilities.	1	0.8	A Local Authority green/kitchen waste collection system, or home composting facilities. Supporting evidence required from clients.
		Sub-Total	6	4.8	

Pol1	Global Warming Potential (GWP) of Insulants	Use insulation with blowing agents GWP < 5.	1	0.7	Specifications/plans detailing insulants, from clients.
Pol2	NO _x emissions	Class 5 condensing gas boiler and 'Low NO _x ' settings.	3	2.1	Mains gas condensing boiler fitted, declared NO _x emissions < 40mg/kWh NO _x .
		Sub-Total	4	2.8	

Hea1	Daylighting	Daylighting calculations.	0	0	
Hea2	Sound Insulation	Improved airborne and impact sound insulation.	4	4.68	Default for detached dwellings.
Hea3	Private Space	Private and exclusive outdoor space > 6m ² area.	1	1.17	Specifications/plans detailing open spaces, from clients, minimum 6m ² . Completed Checklist IDP from clients.
Hea4	Lifetime Homes	All principles of Lifetime Homes have been complied with.	4	4.68	Designer or Architect to confirm dwellings conform with all 16 no. design criteria of Lifetime Homes.
		Sub-Total	9	10.53	

Code for Sustainable Homes 2010 Assessment : 117 no. dwellings, land at Llay New Road, Rhosrobin, Wrexham, LL11 2UB

"R1, W & C-type" dwellings

Issue ID	Description	Details	Credits	% Points	Details of evidence required from clients
Man1	Home User Guide	Provide a Home User Guide (H.U.G.) in various formats.	3	3.33	Provide H.U.G. in multiple formats according to 'Man1' checklist, Part1 and Part2, from clients.
Man2	Considerate Constructors Scheme	Best Practice/Beyond in C.C.S.	1	1.11	Clients & contractor sign up to 'best practice' under Considerate Constructors Scheme (C.C.S.).
Man3	Construction Site Impacts	Adopt 'best practice' in site activities.	0	0	
Man4	Security	Contact ALO/CPDA and accept/follow recommendations.	2	2.22	Contact Crime Prevention Design Advisor / Architectural Liaison Officer, instruct them and commission a report. Clients to comply with all recommendations.
		Sub-Total	6	6.66	

Eco1	Ecological Value of Site	'Low' Ecological value attributed to site.	1	1.33	'Eco1' checklist completed by Ecologist, confirming low ecological value of site.
Eco2	Ecological Enhancement	Appropriate features to enhance ecological value attributed to site.	1	1.33	Clients to commission Ecologist's Report to enhance ecological value of the development site. Clients to follow report's recommendations.
Eco3	Protection of Ecological Features	Default where no features have been found.	1	1.33	Where existing ecological features have been protected. See above.
Eco4	Change in Ecological Value of Site	Ecologist's report to improve ecological value of site.	2	2.66	Follow Ecologists' Report recommendations. (see Eco2 above)
Eco5	Building Footprint	Net Internal Floor Area : Net Internal Ground Floor Area ratio > 2.5 : 1	0	0	
		Sub-Total	5	6.65	

Total % points

57.85

Code for Sustainable
Homes Level 3?

Pass