Thorn, Steve

From: Crew, Chris
Sent: 14 July 2010 11:41
To: _planningadvice
Subject: FW: SAPS'S AND SBEM FOR LONG SUTTON PROJECTS
Attachments: EPC_0970-4971-0330-7090-6094.pdf; 1790-002B ELMHURST REVISED jmb - Summary information sheet.pdf; 1790-001b - As Built jmb - Compliance report for England and Wales.pdf

attachments relating to last email, book in as part of that support

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From: Julie Butcher [mailto:JulieB@searcharchitects.co.uk]
Sent: 13 July 2010 14:26
To: Crew, Chris
Subject: RE: SAPS'S AND SBEM FOR LONG SUTTON PROJECTS

Good afternoon Chris

Following Jerry's email below I can confirm the hard copy of the Elmhurst letter, SBEM and SAP's will be issued to you directly by Elmhurst. In the interim I have attached an electronic copy for your perusal.

Kind regards

H11-1273-08
PLANNING & DEVELOPMENT
15 JUL 2010
+ 1 of attachments

Julie Butcher

SEARCH ARCHITECTS

Tel: (01406) 36 46 46

From: Molearch
Sent: 13 July 2010 12:54
To: Crew, Chris
Subject: SAPS'S AND SBEM FOR LONG SUTTON PROJECTS

Chris,

Julie will forward the hard copies and electronic copies of the various certificates.
As you will see from this informed explanation from Elmhurst, we have achieved exceptional environmental performance standards at Unity Gardens and our own offices.

Hope all this helps to put the scheme in context,

Jerry
PS I think Richard has passed it onto us without sending it to you !!

15/07/2010

Dr. Jeremy Harrall RIBA

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ARCHITECTS
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Tel: (01406) 36 46 46
www.searcharchitects.co.uk

15/07/2010

Building Regulation Compliance

Users Ref: 1790-001b - As Built jmb
Issued on: 31.March.2010
EES Ref: NB-EES-68730001-00000000000066
Prop Type Ref:
Property: 2 bedroom bungalow, Plots 1,5,6, Land adj 21 Bridge Road, Long Sutton, England, PE12 9EF
DER: -42.45
TER: 31.49

SAP Rating: 131 A **SAP Energy Cost:** £233.89 **CO2 Emissions:** -2.96 t/year
EI Rating: 136 A **Energy used:** -155 kWh/m2/year **Ene1:** 5 **ZC:** 0.00

Surveyor: 6873-0001, Jonathan Shilling, Tel: 0845 873 8778, Fax: 01205 311217
Address: 20-22 Pen Street, Boston, Lincolnshire, PE21 6TJ
Client: 0004, Lincs Rural IIA

Software Version: EES SAP 2005.018.02, October 2009 (Design System), BRE SAP Worksheet 9.81
SAP version: 9.81 Regs Region: England and Wales (Part L1A 2006), Calculation Type: New Build

CHECKLIST FOR DWELLING AS BUILT

Site reference		**Plot reference**		
Builder		**Contact**		**Tel:**
Builder Control body		**Contact**		**Tel:**
SAP assessment by	Jonathan Shilling	**Contact**	20-22 Pen Street	**Tel:** 0845 873 8778
Evidence of competency:	Elmhurst Energy Systems Accredited Assessor. ID 6873-0001			

No.	Check	Evidence	Produced by	Design OK
1	**Criterion 1: Predicted carbon dioxide emission from proposed dwelling does not exceed the target.**			
1.1	**TER** (kg CO_2/m^2)	*Main fuel - Renewable energy* *Fuel factor = 1.00* *TER = 31.49*	Authorised SAP Assessor	N/A
1.2	**DER** for dwelling as built (kg CO_2/m^2)	*DER = -42.45*	Authorised SAP Assessor	N/A
1.3	Are emissions from dwelling as built less than or equal to the target?	*DER -42.45 < TER 31.49*	Authorised SAP Assessor	OK
2	**Criterion 2: The performance of the building fabric and the heating, hot water and fixed lighting systems should be no worse than the design limits.**			
2.1	**Fabric U-values** Are all U-values better than the design limits in Table 2?	Element / Average / Highest *Wall* 0.08 (0.35) 0.08 (0.70) OK *Roof* 0.11 (0.25) 0.11 (0.35) OK *Floor* 0.07 (0.25) 0.07 (0.70) OK *Openings* 1.20 (2.20) 1.20 (3.30) OK	Authorised SAP Assessor	OK
	Common areas in buildings with multiple dwellings (where relevant)			
2.2	If the common areas are un-heated, are all U-values better than the limits in Table 2? (If heated, use L-2A)	Schedule of U-values	Builder's submission	N/A
	Heating and hot water systems			
2.3	Does the efficiency of the heating systems meet the minimum value set out in the Domestic Heating Compliance Guide?	Main heating system: *Wood closed room heat, HETAS approved* *Efficiency - Table 4b: 65.0%* *Minimum permitted: 65.0% - OK* *Secondary heating: None*	Authorised SAP Assessor	OK
2.4	Does the insulation of the hot water cylinder meet the standards set out in the Domestic Heating Compliance Guide?	Cylinder: *No cylinder* Solar Cylinder: *Dedicated solar store volume: 99 litres (separate store) (required: 72 l) - OK*	Authorised SAP Assessor	OK
2.5	Do controls meet the minimum controls provision set out in the Domestic Heating Compliance Guide?	Space heating control: *Appliance thermostats - OK*	Authorised SAP Assessor	OK

Users Ref: 1790-001b - As Built jmb **Issued on:** 31.March.2010
EES Ref: NB-EES-68730001-00000000000066 **Prop Type Ref:**
Property: 2 bedroom bungalow, Plots 1,5,6, Land adj 21 Bridge Road, Long Sutton, England, PE12 9EF **DER:** -42.45 **TER:** 31.49

SAP Rating: 131 A **SAP Energy Cost:** £233.89 **CO2 Emissions:** -2.96 t/year
EI Rating: 136 A **Energy used:** -155 kWh/m2/year **Ene1:** 5 **ZC:** 0.00

Surveyor: 6873-0001, Jonathan Shilling, Tel: 0845 873 8778, Fax: 01205 311217
Address: 20-22 Pen Street, Boston, Lincolnshire, PE21 6TJ
Client: 0004, Lincs Rural IIA

Software Version: EES SAP 2005.018.02, October 2009 (Design System), BRE SAP Worksheet 9.81
SAP version: 9.81 Regs Region: England and Wales (Part L1A 2006), Calculation Type: New Build

CHECKLIST FOR DWELLING AS BUILT

No.	Check	Evidence	Produced by	Design OK
		Hot water control:		
2.6	Does the heating and hot water system meet the other minimum provisions in the Domestic Heating Compliance Guide?	Schedule of compliance provisions	Builder's submission	
	Fixed internal and external lighting			
2.7	Does fixed internal lighting comply with paragraphs 42 and 44?	Schedule of installed fixed internal lighting *Light fittings: 7, L.E.L. fittings: 7 = 100.00% > 25% - OK* *L.E.L. fittings required per 25m2 or part of TFA: 3 < 7 - OK*	Builder's submission (see schedule below)	OK
2.8	Does the external lighting comply with paragraph 45?	Schedule of installed external lighting *External lights: Yes, controlled: Yes*	Builder's submission (see schedule below)	OK
3	**Criterion 3: The dwelling has appropriate passive control measures to limit solar gains.**			
3.1	Does the dwelling have a strong tendency to high summertime temperatures?	*Region: East Anglia (15.5)* *Thermal mass parameter = 19.0* *Ventilation rate in hot weather = 6.0* *Overheating risk (Orientation 'N') = Not significant - OK*	Authorised SAP Assessor	OK
4	**Criterion 4: The performance of the dwelling, as built, is consistent with the DER.**			
4.1	Have the key features of the design been included (or bettered) in practice?	*Wall U-value 0.08 < 0.28* *Floor U-value 0.07 < 0.20* *Design air permeability = 3.7 < 7.0* *Roof U-value 0.11 < 0.15* *Openings U-value 1.20 < 1.80* *Main Heating Fuel: W Wood logs* *Solar panel* *Photovoltaic Array*	Authorised SAP Assessor	N/A
	Fabric construction			
4.2	Have accredited details been adopted?	Schedule of details used and their reference codes.	Builder's submission	
4.3	Have non-accredited details been used?	Evidence that details conform to standards set out in IP/06.	Builder's submission	
4.4	Has satisfactory documentary evidence of site inspection checks been produced?	Completed pro-formas showing checklists have been completed.	Builder's submission	N/A
4.5	**Actual air permeability** ($m^3/(h.m^2)$ at 50Pa)	*Actual air permeability = 3.7*	Authorised SAP Assessor	OK
4.6	Has evidence been provided that demonstrates that the **Actual air permeability** has been achieved satisfactorily (see paragraph 56)	Sample pressure test results in comparison to design value.	Builder's submission (see schedule below)	N/A

Users Ref: 1790-001b - As Built jmb
Issued on: 31.March.2010
EES Ref: NB-EES-68730001-00000000000066
Prop Type Ref:
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DER: -42.45
TER: 31.49

SAP Rating: 131 A **SAP Energy Cost:** £233.89 **CO2 Emissions:** -2.96 t/year
EI Rating: 136 A **Energy used:** -155 kWh/m2/year **Ene1:** 5 **ZC:** 0.00

Surveyor: 6873-0001, Jonathan Shilling, Tel: 0845 873 8778, Fax: 01205 311217
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Client: 0004, Lincs Rural IIA

Software Version: EES SAP 2005.018.02, October 2009 (Design System), BRE SAP Worksheet 9.81
SAP version: 9.81 Regs Region: England and Wales (Part L1A 2006), Calculation Type: New Build

CHECKLIST FOR DWELLING AS BUILT

No.	Check	Evidence	Produced by	Design OK
	Commissioning heating and hot water systems			
4.7	Evidence that the heating and hot water systems have been commissioned satisfactorily	Commissioning completion certificate	Builder's submission (see schedule below)	N/A
5	**Criterion 5: The necessary provisions for energy efficient operation of the dwelling are put in place.**			
5.1	Has all the relevant information been provided?	O&M instructions *SAP = 131*	Builder's submission	N/A

Schedule of supporting competencies

No.	Organisation providing evidence	Telephone	Evidence of competency
2.7			
2.8			
4.6			
4.7			

DESIGN INPUT & RESULTS

Users Ref: 1790-002B ELMHURST REVISED jmb **Issued on:** 31.March.2010
EES Ref: ND-EES-68730001-00000000000065 **Prop Type Ref:**
Property: 3 bedroom bungalow, Plots 2,3,4, Land adj 21 Bridge Road, Long Sutton, England, PE12 9EF **DER:** -37.84 **TER:** 30.76

SAP Rating: 129 A **SAP Energy Cost:** £251.06 **CO2 Emissions:** -3.33 t/year
EI Rating: 135 A **Energy used:** -132 kWh/m2/year **Ene1:** 5 **ZC:** 0.00

Surveyor: 6873-0001, Jonathan Shilling, Tel: 0845 873 8778, Fax: 01205 311217
Address: 20-22 Pen Street, Boston, Lincolnshire, PE21 6TJ
Client: 0004, Lincs Rural HA

Software Version: EES SAP 2005.018.02, October 2009 (Design System), BRE SAP Worksheet 9.81
SAP version: 9.81 Regs Region: England and Wales (Part L1A 2006), Calculation Type: New Build

SUMMARY OF INPUT DATA FOR DWELLING AS DESIGNED:

Region & Orientation	Region: EA East Anglia (15.5), House Orientation: N North
1.0 Property Type	B Bungalow, D Detached
2.0 Number of Storeys	1
3.0 Date Built	2008
4.0 Sheltered Sides	3
5.0 Sunlight/Shade	L Very little overshading
6.0 Internal Walls Perimeter	49.40 m
7.0 Internal Floor Area	81.26 m2
8.0 Living Area	29.20, fraction: 0.36
9.0 Average Storey Height	2.80 m
9.1 Conservatory	None

Openings	Description	Glazing Type	Solar Trans	Frame or Door Type	Air Gap	Argon Fill	Orientation	Uvalue	Area
11.0 Windows	W8,W9,W10, W11,W12,D1	Double,Low E,Soft Coat	0.63	Wood	16 mm	No	North (0°)	1.20 (M)	5.58
	W1,W2,W3,W4,W5,W6,W7,	Double,Low E,Soft Coat	0.63	Wood	16 mm	No	South (180°)	1.20 (M)	30.62

Openings Average: U: 1.20

Uvalue legend: (T) – Uvalue defaulted from SAP Table (M) – Manufacturer supplied

13.0 Draught Proofing	100%
14.0 Thermal Bridging	Default - Robust Construction
Thermal Bridges Y	0.080 Description
15.0 Pressure Test (q50)	Air permeability 4.0 $m^3/h.m^2$ (assumed)
16.0 Mechanical Ventilation	None, Windows open during hot weather: Windows fully open
	Cross ventilation possible: Yes
17.0 Fans, Chimneys, Flues	3, 1, 0
17.1 Lighting	Light fittings: 9, L.E.L. fittings: 9, External lights: Yes, controlled: Yes

	Description	U-value	Shelter	Room in Roof	Area	Timber	Curtain Walling
18.0 Wall Types	North facing, render	0.08	0.00		95.14 (X)	No	No
	South facing, exposed	0.08	0.00		6.98	No	No
	Walls uvalue average: U: 0.08						
19.0 Plane Roofs	Roof flat	0.11			85.04		
	Roofs uvalue average: U: 0.11						
20.0 Ground Floor Types	Ground floor	0.07			81.26 (X)	No	
	Floors uvalue average: U: 0.07						

20.1 Thermal Mass	Simple Thermal Mass Parameter calculation: 19.00
	Ground Floor Mass: Medium - solid floor
	External Wall Mass: High - masonry walls (cavity fill or external insulation) with dense plaster
	Separating Wall Mass: High - masonry walls dense plaster
	Internal Partition Mass: High - masonry internal walls with dense plaster
20.2 Fixed Air Conditioning	No
21.0 Main Heating	RWM Wood closed room heat, HETAS approved
MHS Efficiency	Table 4b: 65.0%
Manufacturer & Model	Heating system from SAP table 4a/4b
Heating Controls	CRB Appliance thermostats
	Boiler interlock - Yes
Underfloor Heating	None

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DESIGN INPUT & RESULTS

Users Ref: 1790-002B ELMHURST REVISED jmb
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EES Ref: ND-EES-68730001-00000000000065
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SUMMARY OF INPUT DATA FOR DWELLING AS DESIGNED:

21.1 Secondary Heating	None
SHS Details	
22.0 Hot Water Heating	HES Instantaneous Electric
Solar Water Heating	Solar panel: Yes, aperture area: 5.38 m2, Type: TF Flat plate, glazed
	Collector zero-loss efficiency: 0.75
	Collector heat loss coefficient: 6.00
	Solar panel ratio A/G: 0.90
	Orientation: South, Elevation: 30°, Overshading: None or little (< 20%)
	Electrically powered pump, Dedicated solar store volume: 99 litres (separate store)
23.0 Thermal Store	None
24.0 Hot Water Cylinder	None
Insulation	No cylinder
Volume	
25.0 Community Heating	None
CHP Unit	
26.0 Electricity Tariff	S - Standard
27.0 Photovoltaic Unit	PV cells Peak Power: 8.50
	Orientation: South, Elevation: 30°, Overshading: None or little (< 20%)
27.1 Micro Wind Turbines Count	0
27.2 Small-scale Hydro electricity	0.00
28.0 Special Features	None

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Energy Performance Certificate

Non-Domestic Building

HM Government

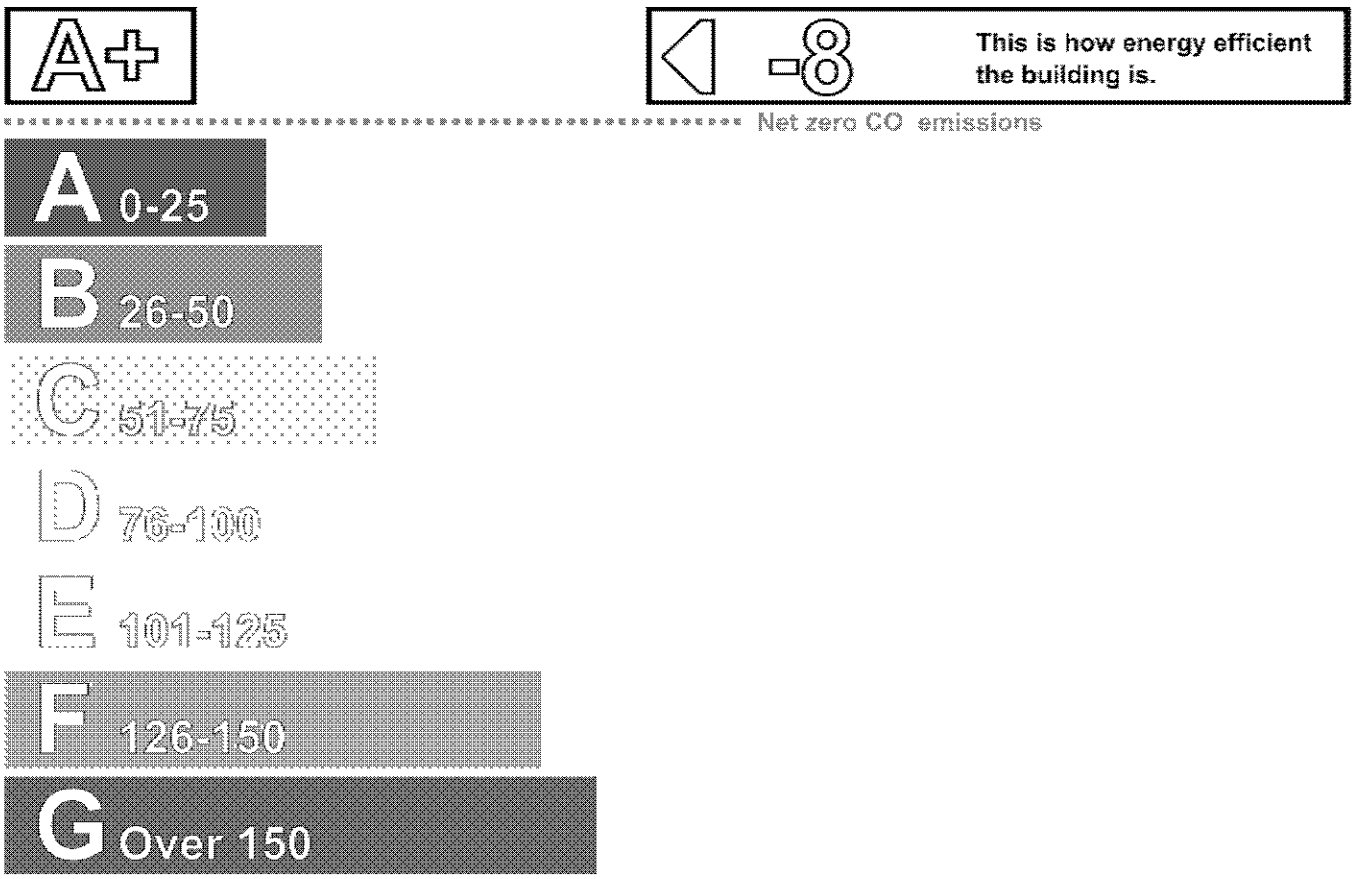
9 Hoddins Way
Long Sutton
SPALDING
PE12 9JB

Certificate Reference Number:
0970-4971-0330-7090-6094

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information on the Government's website www.communities.gov.uk/epbd.

Energy Performance Asset Rating

More energy efficient



Less energy efficient

Technical information

Main heating fuel:	Biomass
Building environment:	Heating and Natural Ventilation
Total useful floor area (m^2):	129
Building complexity (NOS level):	4
Building emission rate ($kgCO_2/m^2$):	-7.8

Benchmarks

Buildings similar to this one could have ratings as follows:

35 If newly built

66 If typical of the existing stock

Administrative information

This is an Energy Performance Certificate as defined in SI2007:991 as amended

Assessment Software:	iSBEM v3.5.a using calculation engine SBEM v3.5.a.0
Property Reference:	493716970000
Assessor Name:	Richard Smith
Assessor Number:	EES/005369
Accreditation Scheme:	Elmhurst Energy Systems Ltd
Employer/Trading Name:	Elmhurst Energy Services
Employer/Trading Address:	Unit 16,St Johns Business Park
Issue Date:	23 Apr 2010
Valid Until:	22 Apr 2020 (unless superseded by a later certificate)
Related Party Disclosure:	Not related to the owner

Recommendations for improving the property are contained in Report Reference Number: 9479-4097-0703-0600-0195

If you have a complaint or wish to confirm that the certificate is genuine

Details of the assessor and the relevant accreditation scheme are on the certificate. You can get contact details of the accreditation scheme from the Government's website at www.communities.gov.uk/epbd, together with details of the procedures for confirming authenticity of a certificate and for making a complaint.

CARBON TRUST

For advice on how to take action and to find out about technical and financial assistance schemes to help make buildings more energy efficient visit **www.carbontrust.co.uk** or call us on **0800 085 2005**