London Borough of Camden

Energy Efficiency and Renewable Energy and Sustainability Plan

S106 Pro-forma V.3 – Part A Pre-implementation

(To be submitted for approval : planningobligations@camden.gov.uk)

Scheme address:	254 Kilburn High Road
Planning Reference:	2018/4916/P
Related Planning References:	
Scheme Description:	Residential led, mixed-use development located in the London Borough of Camden
Person/s undertaking review on behalf of applicant *(include organisation name and registration number)***:**	Dominique Stockford – Energist UK

This form must be completed by an appropriately qualified independent Energy and Sustainability Consultant, undertaking the review of the Energy Efficiency and Renewable Energy and Sustainability Plans, as required by the S106 Legal Agreement, on behalf of the applicant. Please complete the form in full. If you have any questions please contact planningobligations@camden.gov.uk

S106 CLAUSE DETAILS

Please summarise how the applicant is meeting their planning obligations relating to energy / sustainability as outlined within the S106 agreement (add/ remove rows as applicable).

S106 clause no.	S106 clause wording	Summary of performance
4.8. Energy Efficiency and Renewable Energy Plan	4.8.3 Not to Occupy or permit Occupation of the Property until a satisfactory post-completion review has been submitted to and approved by the Council in writing confirming that the measures incorporated in the Energy Efficiency and Renewables Energy Plan as approved by the Council have been incorporated into the Property.	A site inspection was carried out on 12th March 2020 By Walker Mower Partnership and concluded that, subject to air pressure test results demonstrating that a design air permeability rate of 4m³/hm² (@50Pa) is achieved the development is considered to have been built in accordance with the approved energy strategy addendum and Conditions 4.8.3 and 4.12.3 have been met.

BUILDING SPECIFICATION TARGETS

Energy and Sustainability Statement key targets:

Please outline in the table below the key targets from the Energy and Sustainability Statements submitted at Full Planning stage and summarise how the detailed design specification compares. Add or delete rows, as necessary.

Please clearly outline any reasons for changes to the approved building specification.

	Approved Planning Documents: energy and sustainability statement targets	**Pre-Implementation (Detailed Design Stage): performance against targets**
Carbon reduction targets	Price & Myers Energy Strategy stated 37.6 % reduction in CO2 emissions compared to Part L 2013 baseline. Walker Mower's addendum report stated 41.06% reduction in CO2 emissions compared to Part L 2013 baseline	The 66 apartments achieve a 38.28% reduction over Part L 2013 baseline. An improvement of 0.68% over the original reduction in the Price & Myers Energy Strategy.
Building fabric u-values and air permeability	Commercial: External Walls 0.19 W/m2K 0.21W/m2K Windows 1.2 W/m2K 1.2 W/m2K External Doors 1.2 W/m2K 1.0 W/m2K Roof N/A Ground 0.15 W/m2K N/A Air Tightness 4 m3/m2/h 4 m3/m2/h Thermal Bridging N/A Residential: External Walls 0.21 W/m2K 0.21W/m2K Windows 1.2 W/m2K 1.2 W/m2K External Doors 1.0 W/m2K 1.0 W/m2K Roof 0.15 W/m2K Ground N/A Air Tightness 4 m3/m2/h 4 m3/m2/h Thermal Bridging Y-value 0.15	Commercial: Residential: Ground 0.11 W/m^2.K, floor over commercial 0.19 W/m^2.K External walls 0.14 W/m^2.K Common area Walls – Heated 0.0 W/m^2.K (Fully filled and sealed) Roofs 0.18, 0.19 and 0.10 W/m^2.K Glazing 1.3 W/m^2.K and 0.63 G Value Air Tightness 4 4 m3/m2/h Thermal Bridging Y – Value 0.15
Low carbon technologies	The Price & Myers Energy Strategy included 184 PV panels. Mechanical ventilation with heat recovery, community heating with centralised gas boilers, hot water cylinders and 100% low energy lighting	Bosch CE19-2NA CHP engine, with a thermal output of 32kWth and electrical output of 19kWe. PV omitted. Mechanical ventilation with heat recovery, community heating with centralised gas boilers, hot water cylinders and 100% low energy lighting all included.
Renewable energy targets		
Decentralised energy network connection	The report concluded that community heating was a viable solution	No energy centre in the local area to serve development. Blanked off connections have been installed for future development.
Metering, monitoring and management	Not assessed	All apartments have individual water and electric meters in communal risers, plus heat meters in the dwellings.
	Price & Myers Preassessment Overall Score – 70.43%	Cannot comment on, as Code for Sustainable Homes assessment was not completed

Code for Sustainable Homes - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**	Rating – Level 4 Energy Credits - 46.8% Water Credits - 66.7% Materials Credits - 50.0%	
BREEAM - **Overall % + Rating** - **% credits Energy** - **% credits Water** - **% credits Materials**		MRB Energy & Sustainability Design Stage Assessment – Overall score 71.32% BREEAM Excellent 87.5% 100% 61.54%
Materials, sourcing and waste		
Green infrastructure		
Water efficiency and SuDS	105 litres/person/day	All properties achieve the enhanced Part G water standards.
Other		

ENERGY HIERARCHY

Please enter in the tables below carbon reductions for each stage of the energy hierarchy (Baseline, Be Lean, Be Clean, Be Green) and for each development type, following the guidance outlined in the GLA's *Guidance on Preparing Energy Assessments* and *Camden Planning Guidance CPG3*.

Please be aware that where carbon dioxide reduction targets are not met, the applicant will be required to provide details of their remedial proposals, either to:

1. Retrofit on-site carbon reduction measures with a view to meeting targets, or
2. Implement carbon reduction measures elsewhere in the borough (prior agreement with the Council will be sought)
3. Make a carbon offset payment, where appropriate.

Key targets from approved Energy Statement:

	Commercial New-build (includes major refurbishments assessed under Part L2A)			Residential New-build (includes major refurbishments assessed under Part L1A)			Commercial Refurbishment (assessed under Part L2B)			Residential Refurbishment (assessed under Part L1B)		
	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*
Baseline		N/A	N/A		N/A	N/A		N/A	N/A		N/A	N/A
Be Lean												
Be Clean												
Be Green												
TOTAL												
Target							N/A	N/A	N/A	N/A	N/A	N/A
Shortfall							N/A	N/A	N/A	N/A	N/A	N/A

** reduction calculated against previous stage (except TOTAL, which is calculated against Baseline)*

Pre-implementation (Detailed Design Stage) proposals:

	Commercial New-build (includes major refurbishments assessed under Part L2A)			Residential New-build (includes major refurbishments assessed under Part L1A)			Commercial Refurbishment (assessed under Part L2B)			Residential Refurbishment (assessed under Part L1B)		
	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*
Baseline		N/A	N/A	79.19	N/A	N/A		N/A	N/A		N/A	N/A
Be Lean				75.90		4.15						
Be Clean				48.88		34.13						
Be Green				48.88		N/A						
TOTAL				30.31		38.28						
Target				51.47		35	N/A	N/A	N/A	N/A	N/A	N/A
Shortfall				N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A

** reduction calculated against previous stage (except TOTAL, which is calculated against Baseline)*

EVIDENCE:

Pre-implementation (Detailed Design Stage)

	Enclosed? Yes	N/A	Notes:
Copies of SAP/ SBEM worksheets	☐	☐	Please submit SAP/SBEM calculations evidencing the CO2 savings for each stage of the energy hierarchy, including baseline (TER), alongside this report. State which apartments have been sampled (if applicable). Results need to reflect the detailed design of the development.

Title of Submission	Date produced	Author's Name, Organisation & Client
Design Stage SAPs		Emily Mansfield, Whitecode Design Associates

Code for Sustainable Homes Design Stage Assessment	☐	☐	This will need to be a Design Stage Assessment. Although the Council is no longer able to condition new housing developments to achieve CfSH certification, applications already committed through S106 to achieving certification will be required to fulfil this obligation.

Title of Submission	Date produced	Author's Name, Organisation & Client
Price & Myers Pre-Assessment Report	24.03.2015	Jisoo Kim, Price & Myers

BREEAM Design Stage Assessment and Certificate	☐	☐	Please note: this will need to be the Design Stage Assessment revie and not a copy of the "Pre-Assessment" review. Applicants should also submit Design Stage certificates, or evidence from BRE of submission of this review for certification.

Title of Submission	Date produced	Author's Name, Organisation & Client
MRB Energy & Sustainability Design Stage Assessment	08.06.17	Sam Jones, Sustainability Director, MRB Consultant Engineers

Technical details/ plans/ drawings of installed CHP and other low/ zero carbon technologies (where relevant)	☐	☐	Please submit details where relevant, as outlined in the S106.

Title of Submission	Date produced	Author's Name, Organisation & Client
Plant Room Layout	19.12.2018	Alexandra Davis, Walker Mower Partnership
Boiler Schematic	22.03.2018	Alexandra Davis, Walker Mower Partnership

CHP Air Quality Assessment	☐	☐	Please follow the Council's guidance on completing air quality assessments outlined in *CPG6*.

Title of Submission	Date produced	Author's Name, Organisation & Client
Air Quality Addendum	28.11.2014	Dr N Davey, Entran

Decentralised Energy Network connection details.	☐	☐	Details should include: plans/drawings demonstrating: adequate plant room space provision; space for future heat exchanger; details of provisions made for connections (capped pipework, pipe routes, and provision of domestic hot water isolation valves); and any further details demonstrating that the connection has been designed in accordance with the CIBSE Heat Networks Code of Practice for the UK .

Title of Submission	Date produced	Author's Name, Organisation & Client

Remedial CO_2 and renewables proposals	☐	☐	Document containing full details of proposals to fulfil approved carbon reduction targets &/or renewable energy targets by: retrofitting on site, measures elsewhere in Borough, or additional offset contribution.

Title of Submission	Date produced	Author's Name, Organisation & Client

Please provide any further information relevant to this development – prior to implementation:

I confirm that the information supplied in this Proforma (and supporting evidence) is accurate. I will notify the Council should any of the information contained change. The agreed contents of the Energy Efficiency and Renewable Energy and Sustainability Plan, the information contained in this Proforma and the terms of Section 106 agreement pursuant to the planning permission must be complied with, unless otherwise agreed in writing by the Council.

Signed:	D. Stockford
Print full name:	Dominique Stockford
Position:	Energy and Sustainability Specialist
Date:	19/05/2020

Please submit to: planningobligations@camden.gov.uk

End of form A (Pre-Implementation)

London Borough of Camden

Energy Efficiency and Renewable Energy and Sustainability Plan

S106 Pro-forma – Part B Post Completion

(To be completed and submitted for approval prior to occupation)

S106 CLAUSE DETAILS

Please summarise how the applicant is meeting their planning obligations relating to energy / sustainability as outlined within the relevant S106 agreement (please add/remove rows as applicable).

S106 clause no.	S106 clause wording	Summary of performance
4.12. Sustainability Plan	4.12.3 Not to Occupy or permit Occupation of the Property until a satisfactory post-completion review has been submitted to and approved by the Council in writing confirming that the measures incorporated in the Sustainability Plan as approved by the Council have been incorporated into the Property.	A site inspection was carried out on 12th March 2020 By Walker Mower Partnership and concluded that, subject to air pressure test results demonstrating that a design air permeability rate of 4m³/hm² (@50Pa) is achieved the development is considered to have been built in accordance with the approved energy strategy addendum and Conditions 4.8.3 and 4.12.3 have been met.

BUILDING SPECIFICATION TARGETS

Key targets from approved Energy and Sustainability Statements:

Please outline in the table below the key targets from the Energy and Sustainability Statements submitted at Full Planning stage, and summarise how the as-built building compares. Add or delete rows as necessary.

Please clearly outline any reasons for changes to the approved building specification.

	Approved Planning Documents: energy and sustainability statement targets	Post completion (Post Construction Stage): performance against targets
Carbon reduction targets	Price & Myers Energy Strategy stated 37.6 % reduction in CO2 emissions compared to Part L 2013 baseline. Walker Mower's addendum report stated 41.06% reduction in CO2 emissions compared to Part L 2013 baseline	38.68% reduction against baseline taken from the TER/DER of the As Built SAPs completed
Building fabric u-values and air permeability	Commercial: External Walls 0.19 W/m2K 0.21W/m2K Windows 1.2 W/m2K 1.2 W/m2K	Check As Built SAP checklist External Walls 0.14 W/m2K Windows 1.3 W/m2K

	External Doors 1.2 W/m2K 1.0 W/m2K Roof N/A Ground 0.15 W/m2K N/A Air Tightness 4 m3/m2/h 4 m3/m2/h Thermal Bridging N/A Residential: External Walls 0.21 W/m2K 0.21W/m2K Windows 1.2 W/m2K 1.2 W/m2K External Doors 1.0 W/m2K 1.0 W/m2K Roof 0.15 W/m2K Ground N/A Air Tightness 4 m3/m2/h 4 m3/m2/h Thermal Bridging Y-value 0.15	Roof 0.10/0.18/0.19 W/m2K Exposed floor 0.11 or 0.19 halved to 0.10 W/m2K Air Tightness 4 m3/m2/h – penalty of +2 added to the non tested dwellings Thermal Bridging Y-value 0.15
Low carbon technologies	The Price & Myers Energy Strategy included 184 PV panels. Mechanical ventilation with heat recovery, community heating with centralised gas boilers, hot water cylinders and 100% low energy lighting	Bosch CE19-2NA CHP engine, with a thermal output of 32kWth and electrical output of 19kWe. PV omitted. Mechanical ventilation with heat recovery, community heating with centralised gas boilers, hot water cylinders and 100% low energy lighting all included.
Renewable energy targets		
Decentralised energy network connection	The report concluded that community heating was a viable solution	No energy centre in the local area to serve development. Blanked off connections have been installed for future development.
Metering, monitoring and management	Not assessed	All apartments have individual water and electric meters in communal risers, plus heat meters in the dwellings.
Code for Sustainable Homes - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**	Price & Myers Preassessment Overall Score – 70.43% Rating – Level 4 Energy Credits - 46.8% Water Credits - 66.7% Materials Credits - 50.0%	Cannot comment on, as Code for Sustainable Homes assessment was not completed
BREEAM rating - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**	Price & Myers BREEAM 2014 Pre-Assessment Report Overall Score 78.41% BREEAM Excellent 87.5% 100% 69.2%	MRB Energy & Sustainability Design Stage Assessment Overall score 71.32% BREEAM Excellent 87.5% 100% 61.54%
Materials, sourcing and waste		
Green infrastructure		
Water efficiency and SuDS	105 litres/person/day	105 litres/person/day
Other		

Post-Completion (Post Construction Stage) results:

Please enter in the tables below the carbon reductions for each stage of the energy hierarchy (Baseline, Be Lean, Be Clean, Be Green) and for each development type, following the guidance outlined in the GLAs *Guidance on Preparing Energy Assessments* and *Camden Planning Guidance CPG3*.

Please be aware that where carbon dioxide reduction targets are not met, the applicant will be required to provide details of their remedial proposals either:

1. Retrofit on-site carbon reduction measures with a view to meeting targets
2. Implement carbon reduction measures elsewhere in the borough (prior agreement with the Council will be sought)
3. Make a carbon offset payment, where appropriate.

	Commercial New-build (includes major refurbishments assessed under Part L2A)			Residential New-build (includes major refurbishments assessed under Part L1A)			Commercial Refurbishment (assessed under Part L2B)			Residential Refurbishment (assessed under Part L1B)		
	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*	Total tCO2	tCO2 reduction*	% reduction*
Baseline		N/A	N/A	79.19	N/A	N/A		N/A	N/A		N/A	N/A
Be Lean				75.90		4.15						
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TOTAL				30.31		38.28						
Target				51.47		35	N/A	N/A	N/A	N/A	N/A	N/A
Shortfall				N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A

** reduction calculated against previous stage (except TOTAL, which is calculated against Baseline)*

Post Completion (Post Construction Stage) Review

	Enclosed? Yes	Enclosed? No	Notes:
Copies of SAP/ SBEM worksheets	☐	☐	Please submit SAP/SBEM calculations evidencing the CO_2 savings for each stage of the energy hierarchy, including baseline (TER), alongside this report. Please provide details of which apartments have been sampled (if applicable). Results will need to reflect the actual constructed building.

Title of Submission	Date produced	Author's Name, Organisation & Client
Detailed Compliance	28.04.2020	Ellen Huelin, Whitecode Design Associates
EPC	28.04.2020	Ellen Huelin, Whitecode Design Associates
DER/TER Calculations	31.03.2020	Ellen Huelin, Whitecode Design Associates

☐ ☐

Code for Sustainable Homes Post Construction Assessment and Certificate	This will need to be the final Post Construction Stage Assessment review and certificate. Although the Council is no longer able to condition new housing developments to achieve CfSH certification, any application which has already committed to achieving certification through S106 will be required to fulfil this obligation.

Title of Submission	Date produced	Author's Name, Organisation & Client
Letter confirming compliance with Lifetime Homes	12.02.20	Jitendra Panchal, Associate, CH&MRP Architects
Block A Sound test results Block B Sound Test Results	13.03.20 16.03.20	Edwin Egbuonu, SES
254 Kilburn High Road Verification Statement	12.03.20	Katy Venables, Sustainability Consultant

BREEAM Post Construction Assessment and Certificate	☐	☐	This will need to be the Post Construction Assessment review and not a copy of the "Pre-Assessment" or "Design Stage" review. Applicants should also submit Post Construction Stage certificates, or evidence from BRE of submission of this review for certification

Title of Submission	Date produced	Author's Name, Organisation & Client

Technical details/ plans/ drawing of installed CHP and other low/ zero carbon technologies (where relevant)	☐	☐	Please provide confirmation/ evidence that approved measures have been implemented.

Title of Submission	Date produced	Author's Name, Organisation & Client

Decentralised Energy Network connection details.	☐	☐	Please provide confirmation/ evidence that approved measures have been implemented.

Title of Submission	Date produced	Author's Name, Organisation & Client

Remedial CO_2 and renewables proposals ☐ ☐ Document containing full details of proposals to fulfil approved carbon reduction targets &/or renewable energy targets by: retrofitting on site, measures elsewhere in Borough, or additional offset contribution.

Title of Submission	Date produced	Author's Name, Organisation & Client

I confirm that the information supplied in this Proforma (and supporting evidence) is accurate. I will notify the Council should any of the information contained change. The agreed contents of the Energy Efficiency and Renewable Energy and Sustainability Plan, the information contained in this Proforma and the terms of Section 106 agreement pursuant to the planning permission must be complied with, unless otherwise agreed in writing by the Council.

Signed:	D. Stockford
Print full name:	Dominique Stockford
Position:	Energy and Sustainability Specialist
Date:	19/05/2020

Please submit to: planningobligations@camden.gov.uk

End of form – B (Post Completion)