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:	156 West End Lane London NW6 1SD
Planning Reference:	2015/6455/P
Related Planning References:	2019/4140/P
Scheme Description:	The approved development comprises 180 mixed tenure residential dwellings (use Class C3), flexible non-residential use (Class A1-A3, D1, D2), employment floorspace (Use Class B1) and community space (Use Class D1) in buildings ranging from 3 to 7 storeys. New vehicular access from West End Lane and the provision of accessible car parking spaces, in addition to new public open space, the widening of Potteries Path and associated cycle parking and landscaping.
Person/s undertaking review on behalf of applicant *(include organisation name and registration number)***:**	Sustainability Consultant: Barry Rankin, Director, GWP Project Services BREEAM Registration Number: TGWP BR02 Energy Assessor: Ryan Mullin, FHPP CIBSE LCC-LCEA accreditation number: 133390

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).

CLAUSE 2.64 - "SUSTAINABILITY PLAN"

S106 clause no.	S106 clause wording	Summary of performance
2.64 (a)	Achieve the targets set out in the submission document entitled 'Revised Sustainability Plan' dated June 2016 produced by Silver Energy Management Solutions	Please see the 'Building Specification Targets' section of this proforma for a detailed response against each of the targets.
2.64 (b)	Achieve a maximum internal water use of 105 litres/person/day, allowing 5 litres/person/day for external water use	A water management strategy has been developed which addresses water efficiency and water management measures to achieve a calculated water use projection based upon output from recognised software developed in line with Building Regulations Part G. This water management strategy focuses on reducing the consumption of potable water within the development through the use of flow restrictors, spray taps, flow restricted showers, dual flush WCs and promoting low water use washing machines and dishwashers.
2.64 (c)	Include a design stage Building Research Environmental Assessment Method (BREEAM) review report completed by a licensed BREEAM assessor in respect of the Property with a target of achieving 'Very Good' rating and attaining at least 60% of the credits in each of Energy and Water and 40% of the credits in Materials categories	The latest BREEAM Progress Report document has been provided alongside this proforma. The current design target is 61.33%, equivalent to BREEAM 'Very Good'. This provides a 6.33% buffer above the 55% benchmark for BREEAM 'Very Good'. 61.9% of the Energy credits are targeted. 66.7% of the Water credits are targeted. 53.8% of the Materials credits are targeted. The scheme is registered with the BRE and is being assessed by Barry Rankin from GWP Project Services. Barry is a highly experienced BREEAM Assessor and BREEAM Accredited Professional.
2.64 (d)	Include a pre-implementation review by an appropriately qualified recognised and independent professional in respect of the Property, certifying that the measures incorporated in the Sustainability Plan are achievable in the Development and satisfy the aims and objectives of the Council's strategic policies on sustainability contained within its Development Plan	This completed proforma provides a response to this planning obligation.
2.64 (e)	Details of maintenance and management relative to sustainability measures included in the Sustainability Plan	The co-ordination of the implementation of the sustainability measures included in the Sustainability Plan is being undertaken by Barry Rankin.
2.64 (f)	Measures to secure a post construction review of the development by an appropriately qualified recognised and independent professional in respect of the Property (including a written report,	The 'Part B, Post Implementation' section of this proforma will be updated at Post Construction stage with supporting documentation to verify the measures have been implemented.

	photographs and installation contracts) certifying that the measures incorporated in the Sustainability Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation	
2.64 (g)	Identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update	A completed copy of this proforma will be provided to the council.

CLAUSE 2.28 – "ENERGY EFFICIENCY AND RENEWABLE ENERGY PLAN"

S106 clause no.	S106 clause wording	Summary of performance
2.28 (a)	The incorporation of measures sets out in the submission document entitled 'Revised Energy Statement' dated June 2016 produced by Silver Energy Management Solutions Ltd to achieve a 35% reduction in CO2 emissions beyond the Part L2013 baseline.	The Energy Strategy prepared by FHP (March 2022) concludes that the proposed strategy will reduce carbon emissions by 59% for dwellings and 43% for non-residential areas. This is a site wide cumulative reduction of 57% of the Part L 2013 Baseline. This means that the entire development will exceed the London Plan target of 35% CO_2 reduction.
2.28 (b)	Further details (including detailed drawings, any necessary surveys and system specifications) of how the Developer will reduce the Developments carbon emissions from renewable energy technologies located on the Property ensuring the developer will target a reduction of at least 12% (or as otherwise agreed in writing between the Developer and the Council) in carbon emissions in relation to the Property using a combination of complementary low and zero carbon technologies.	Please refer to the Energy Strategy prepared by FHP (March 2022), which confirms that the Be Green stage of the GLA Energy Hierarchy will achieve a carbon reduction of 43% compared to the baseline (57% cumulative). This is from the use of PVs across the roof of both west and east buildings and Air Source Heat Pump technology.
2.28 (c)	Separate metering of all low and zero carbon technologies to enable the monitoring of energy and carbon emissions and savings.	It is confirmed that the differing low and zero carbon technologies (ASHP and PV) shall be separately metered to enable the monitoring of energy and carbon emissions and savings.
2.28 (d)	A building management system being an electronic system to monitor the Development's heating and cooling and the hours of use of the plant.	A BMS system shall be provided to control and operate the energy centre efficiently, the system shall also be capable of monitoring the developments heating and cooling and operating hours of the plant.
2.28 (e)	Incorporation of a combined heat and power (CHP) system of a size and specification to be agreed by the Council, including details and method of installation of CHP unit(s) and full energy calculations justifying the size of the CHP and limiting the use of electricity for any heating as reasonable.	The development will no longer use CHP and instead utilise more efficient ASHP's with supplementary gas boilers to provide the heating and hot water production to the development. Clause to be deleted.
2.28 (f)	A CHP air quality assessment	See 2.28 (e) CHP AQ Assessment not applicable – clause to be deleted.

2.28 (g)	Provision of a meter on the CHP unit so the Council can monitor how much energy is being delivered by the CHP	See 2.28 (e) CHP monitoring not applicable – clause to be deleted.
2.28 (h)	Include a pre-implementation design stage review by an appropriately qualified and recognised independent professional in respect of the Property including Full-Design Stage SAP (for residential) and/or NCM (for non-residential) calculations certifying that the measures incorporated in the Energy Efficiency and Renewable Energy Plan are achievable in the Development and satisfy the aims and objectives of the Council's strategic policies on the reduction of carbon emissions contained within its Development.	See 2.28 (e) Not applicable – clause to be deleted.
2.28 (i)	Measures to secure a post construction review of the Development by an appropriately qualified and recognised independent professional in respect of the Property (including but not limited to photographs, installation contracts and full As-Built SAP (for residential) and/or NCM (for non-residential) calculations) certifying that the measures incorporated in the Energy Efficiency and Renewable Energy Plan have been achieved in the Development and will be maintainable in the Developments' future management and occupation;	Contractor to update the SAPs for the residential and SBEMs for the non-residential on completion. The 'Part B, Post Implementation' section of this proforma will be updated at Post Construction stage with supporting documentation to verify the measures have been implemented.
2.28 (j)	Identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update as required time to time.	TBC with the Council's Energy and Sustainability team.

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	The proposed energy strategy will help the entire development to accomplish regulated CO_2 savings of 79.3 tCO_2 which is equivalent to circa 37.2% CO_2 reduction over the Part L 2013 baseline. This means that the entire development will exceed the London Plan target of 35% CO_2 reduction, as required by the London Plan.	The Energy Strategy prepared by FHP (March 2022) confirms that carbon emissions will be reduced by 59% for dwellings and 43% for non-residential areas. This is a site-wide cumulative reduction of 57% of the Part L 2013 Baseline. This means that the entire development will exceed the London Plan target of 35% CO_2 reduction. Please refer to the Energy Strategy produced by FHP for further details.
Building fabric u-values and air permeability	External walls 0.18W/m^2K Roof 0.15W/m^2K First Floor 0.15W/m^2K Windows 1.30 W/m^2K Airtightness 4 (m^3/(hm^2) at 50 Pa	Please refer to pages 22-26 of the Energy Strategy produced by FHP. Overview: **Residential** External walls 0.16W/m^2K Roof 0.12W/m^2K First Floor 0.12W/m^2K Windows 1.20 W/m^2K Airtightness 3 (m^3/(hm^2) at 50 Pa **Non-residential/Commercial** External walls 0.16W/m^2K Roof n/a First Floor n/a Windows 1.20 W/m^2K Airtightness 3 (m^3/(hm^2) at 50 Pa

Low carbon technologies	CHP technology 27.3% CO2 savings from CHP	Please refer to pages 4 and 32 of the Energy Strategy, which confirms that since the GLA guidance update, there is limited, if any, emissions saving for a scenario where heat is delivered from CHP. It is therefore not considered to be feasible and will not be used within the development. It is noted that the only heat source which is shown to provide significant emissions savings is heat pumps. It is therefore proposed to utilise Air Source Heat Pumps. Page 36 of the Energy Strategy confirms that the heat pumps shall provide 504MWh, 70% of the total 720MWh annual heat demand for the site. Supporting documentation for the Air Source Heat Pumps can be found within Appendix C of the Energy Strategy.
Renewable energy targets	Photovoltaics: • Total PV system capacity: 31.7kW • Roof area covered: 475.5m2 • Estimated total electricity production: 25,360 kWh/year 6.2% CO2 savings from PV.	Page 37 of the Energy Strategy confirms that Air Source Heat Pumps shall be incorporated along with 128 kWp PV array on the roofs of both east and west buildings. Photovoltaics: • Total PV system capacity: 128kWp • Roof area covered: 615m2 • Estimated total electricity production: 102,307 kWh/year Page 39 confirms a 59% CO2 reduction for the residential scheme and a 43% CO2 reduction for the commercial scheme as a result of the inclusion of the ASHP and PV. Page 41 confirms that this provides a site wide 57% cumulative reduction in CO2 emissions.
Decentralised energy network connection	The site is located within the district heating opportunity area. A site-wide heating network with CHP to supply hot water and space heating to both residential and non-residential parts of the development. Capped pipework connections will be provided to enable physical connection of the on-site heat network to the near-site energy generation facilities and networks should they become available and feasible in the future.	Pages 31 and 32 of the Energy Strategy confirm that there are currently no existing district heating networks within the vicinity of the development, and although the area is identified as close to a potential opportunity area for decentralised energy, the Local Authority has advised that there are currently no plans for a decentralised heat network in the vicinity. An on-site heat network has been proposed due to the size and density of the development. The community heating system shall be designed in such a way as to allow for efficient connection to a future district scheme, should one become available. One community heating system is proposed to provide heat to both blocks. Page 33 of the Energy Strategy also confirms 'the design team are committed to designing and delivering the communal heating systems in compliance with the CIBSE Heat Networks: Code of Practice for the UK and in partnership with energy services companies that are, or are working towards, being registered participants of the Heat Trust…Should a DH network become available in the future, the development can connect to it, if economically feasible.' The Mechanical, Electrical & Public Health Services Specification confirms that the systems will be designed in accordance with CIBSE Heat Networks Code of Practice for the UK.

		A mechanical services drawing (0001-M-FHP-DRG-56-XX-5502) provided by FHP confirms the district heating connection detail.
Metering, monitoring and management	**Residential Metering** Use of intelligent controls and a high degree of sub metering / monitoring will be used to optimise the efficiency of energy systems through analysis of empiric data. Smart metering systems including smart in-home displays are proposed for dwellings to assist occupiers in reducing energy consumption and to control the cost energy. **Commercial Metering** Sub metering of major energy consuming systems together with an accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol systems will be provided. The energy metering and monitoring strategy will be fully compliant with the BREEAM energy monitoring requirements.	**Residential Metering** Page 20-21 of the A2 Dominion Design Guide sets out the intentions for the sub-metering strategy. This Design Guide has been provided within the supporting evidence. Smart water meters will be fitted that allow remote monitoring by Thames Water. These shall be located within the apartment utility cupboards. Electricity meters shall be installed within the utility cupboard of each apartment. **Commercial Metering** Separate dedicated water supplies will be provided for the non-residential floorspace (office, commercial and start-up units), with a meter in the ground outside and the supply terminating at a valved and capped connection inside. The energy metering strategy for the commercial units has been designed to align with the BREEAM criteria for ENE02. Electrical sub-meters are to be installed on the electrical supply to each of the commercial units. The supply will be metered with separate accessible energy sub-meters with pulsed output to enable a future connection to an energy monitoring and management system.
Code for Sustainable Homes - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**	Not applicable - the Code for Sustainable Homes method was withdrawn in March 2015	Not applicable - the Code for Sustainable Homes method was withdrawn in March 2015.
BREEAM - **Overall % + Rating** - **% credits Energy** - **% credits Water** - **% credits Materials**	61.85%, equivalent to BREEAM 'Very Good' 61.1% Energy Credits 62.5% Water Credits 53.8% Material Credits	The latest BREEAM Progress Report document has been provided alongside this proforma. The current design target is 61.33%, equivalent to BREEAM 'Very Good'. This provides a 6.33% buffer above the 55% benchmark for BREEAM 'Very Good'. 61.9% of the Energy credits are targeted. 66.7% of the Water credits are targeted. 53.8% of the Materials credits are targeted. The scheme is registered with the BRE and is being assessed by Barry Rankin from GWP Project Services. Barry is a highly experienced BREEAM Assessor, BREEAM Accredited Professional and is a Fellow of the BRE Academy.

Materials, sourcing and waste	The proposed development will specify new materials with high ratings in the BRE Green Guide to Specification. Prior to construction, a Site Waste Management Plan will be produced with benchmarks to divert the majority of non-hazardous construction waste from landfill. The proposed development will incorporate compliant, appropriately sized and located external waste and recycling storage facilities. Dedicated refuse and recycling storage facilities are proposed to accommodate the waste streams associated with the use of residential and non-residential units.	As part of the BREEAM Assessment, 3no 'MAT01 Life Cycle Impacts credits' are targeted. This is currently a work in progress but material are specified against the principles of the BRE Green Guide to Specification and more recent additions to Material Life Cycle Impact (LCA) which looks at embodied carbon content and Whole Life Carbon of building products. Principal Contractor, Henry Construction has provided a copy of their Site Waste Management Plan. As part of the BREEAM assessment, under WST01, 2no. credits are targeted for 'Construction Resource Efficiency', therefore a target waste figure for a maximum of 6.5tonnes per 100sqm (GIFA) has been established. In addition, 1no. credit is targeted for 'Diversion of resources from landfill', which targets 80% (tonnage) of 'non demolition' waste to be diverted from landfill. This is reinforced within the SWMP. Dedicated refuse and recycling storage facilities as per approved floorplans will be provided for both the west and east buildings.
Green infrastructure	The ecological features of the site will be protected and enhanced where possible. Green areas and green roof are incorporated into the design.	As part of the BREEAM assessment, the LE02, LE03, LE04 and LE05 credits are targeted. There are no features of ecological value on the site, which comprised of buildings and a large area of hardstanding prior to demolition/construction. There are no trees on site. There are some branches overhanging the site on the norther boundary with Lymington Road rear gardens. The following elements will be incorporated within the design: • biodiverse green roofs • sedum roofs • hedge and shrub planting • amenity grassland; and • new trees. Further detail has been provided in the suite of landscape drawings prepared by Fabrik.
Water efficiency and SuDS	Low flow water use fittings and fixtures will be specified to ensure that the estimated water consumption will comply the regulatory maximum requirements of 105 litres per person per day (plus an additional 5 litres for external water use). In order to reduce external water	A water management strategy has been developed which addresses water efficiency and water management measures to achieve a calculated water use projection based upon output from recognised software developed in line with Building Regulations Part G. This water management strategy focuses on reducing the consumption of potable water within the development through the use of flow restrictors, spray taps, flow restricted showers, dual flush WCs and promoting low water use washing machines and dishwashers. Current calculations confirm a maximum of 104 litres per person per day.

	consumption, a compliant rainwater harvesting system will be provided for irrigation and landscaping purposes. Attenuation from roof water run-off will be provided by the use of rainwater harvesting systems and green spaces. If required, permeable paving and other sustainable urban drainage systems will be also considered for the proposed development.	A rainwater harvesting tank is to be provided with a 5000L capacity (as approved under 2020/0395/P). Permeable paving is to be provided as part of the landscaping strategy.
Management	The applicant will register the site with the Considerate Constructors Scheme and will aim to meet beyond practice standards. The construction site impacts of the proposed development will be monitored in line with the BREEAM requirements. An Architectural Liaison Officer has been consulted. It is anticipated that the proposed building will comply with the principles of Secured by Design standards.	As part of the BREEAM strategy, 2no. BREEAM credits are targeted against MAN03 Considerate Construction. This will require the contractor to achieve a score of above 35, and a minimum of 7 in each section. A commitment for this is included within the BREEAM compliance clause. In addition, 2no. credits are targeted against MAN03 Monitoring of Construction Site Impacts; the contractor will be required to monitor, record and report energy and water use during the construction period, alongside impacts resulting from transport of materials to site and waste from site. Further consultation with the Designing out Crime Officer has been undertaken. It is anticipated that the proposed building will comply with the principles of Secured by Design standards.
Health & Wellbeing	Mechanical Ventilation with Heat Recovery (MVHR) to improve the indoor air quality. Energy efficient cooling system for the private residential units and large non-residential units to ensure thermal comfort. Sound insulation for separating walls and floors will be improved beyond Building	Apartments will have ventilation provided by continuous mechanical supply and extract ventilation with heat recovery (MVHR) units located in utility cupboards. This approach will allow each apartment to meet the continuous ventilation requirements of the Building Regulations Approved Document F, whilst delivering the thermal efficiency required to comply with the Building Regulations Approved Document L1A and maintain the acoustic integrity of the facade. Sound insulation for separating walls and floors will be improved beyond Building Regulations requirements.

	Regulations requirements. The proposed dwellings will be provided with private and/or semi-private open space terraces and gardens. All the apartments will be designed in line with the Lifetime Homes criteria.	The apartments will have private terraces, balconies and/or gardens as per the approved plans. All the apartments will be designed in line with the Lifetime Homes criteria.
Pollution	To minimise air quality impacts during construction, a number of best practice mitigation measures will be implemented by the contractors In terms of the operation phase, BREEZE Roads calculations have predicted that annual mean concentrations of NO2, PM10 and PM2.5 will not exceed the NAQO's. As a result, the development of this site should not be constrained in any way by air quality. The Noise Impact Assessment has identified that the development would require noise mitigation to be installed on site to ensure that noise does not result in any constraints. Decentralised energy plant will be selected to have low NOx emissions to minimise impact on air quality.	The Best Practice mitigation measures outlined within section 6.1 of the revised Air Quality Assessment (June 2016) have been implemented by the contractors to ensure that the air quality impacts experienced in close proximity to the construction site are minimal. Two air quality monitors have been installed on site and are monitoring dust levels. No changes / updates to report. A further Environmental Noise Assessment was produced by Ian Sharland Limited in July 2020. Recommendations for noise attenuation measures are outlined within section 5 of that report. A significant benefit of heat pumps over gas-fired CHP is that there is no combustion involved (combustion of gas in air emits oxides of nitrogen). Page 39 of the Energy Statement confirms that the proposed boilers (used for residential only), will have NOx emissions that are less than 40mg/kWh.
Transport	310 secure, easily accessible, cycle parking spaces together with 13 on-site car parking bays for blue badge holders only will be provided for the development.	The approved drawings show that 118no. secure long-stay cycle spaces will be provided in the West Block for the dwellings. 24no. secure cycle spaces are provided in the West Block for the office floorspace. 170 cycle spaces are provided in the East Block for the residential long-stay. Short-stay (residential and non-residential) spaces are provided along Potteries Path.

		8 on-site parking bays for blue badge holders will be provided for the development – no other car parking is to be made available.

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	54.3	N/A	N/A	159.1	N/A	N/A		N/A	N/A		N/A	N/A
Be Lean	50.4	3.9	7.2	155.1	4	2.5%						
Be Clean	49	1.4	2.7	98.2	56.9	36.6%						
Be Green	35.8	13.2	26.9	n/a	n/a	n/a						
TOTAL	35.8	18.5	34.1	98.2	60.9	38.3						
Target	n/a	n/a	35%	n/a	n/a	35%	N/A	N/A	N/A	N/A	N/A	N/A
Shortfall	n/a	n/a	0.9%	n/a	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)*

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	21.8	N/A	N/A	182.1	N/A	N/A		N/A	N/A		N/A	N/A
Be Lean	18.2	3	17	157.1	25	13						
Be Clean	18.2	0	0	157.1	0	0						
Be Green	12.5	5.7	26	74.6	82.5	46						
TOTAL	12.5	8.7	43	74.6	107.5	59						
Target	n/a	n/a	35	0	182.1	100	N/A	N/A	N/A	N/A	N/A	N/A
Shortfall	n/a	n/a	n/a	74.6	n/a	41	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
FHP Energy Strategy **0001-L-FHP-DES-058-0001** **Rev P7** See Appendix E for Sample SAP / SBEM Results. It is confirmed that all areas of the site have been assessed in either SAP or SBEM. Certification is extensive, so sample dwelling reports are provided.	March 2022	Name: Ryan Mullin Organisation: FHP Client: Astir Living

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
n/a	n/a	n/a

BREEAM Design Stage Assessment and Certificate	☒	☐	Please note: this will need to be the Design Stage Assessment review 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
BREEAM Progress Report	10/03/22	Barry Rankin, GWP Project Services, Astir Living

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
FHP Energy Strategy **0001-L-FHP-DES-058-0001** **Rev P7** See Appendix C for details of the ASHP	March 2022	Author: Ryan Mullin Organisation: FHP Client: Astir Living
West Block Roof Plan, General Arrangement	18.11.21	Organisation: Chapman Taylor Client: Astir Living
East Block Roof Plan, General Arrangement	18.11.21	Organisation: Chapman Taylor Client: Astir Living
Photovoltaic product data sheet		Organisation: JA Solar Client: Astir Living

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
n/a	n/a	n/a

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
FHP Energy Strategy 0001-L-FHP-DES-058-0001 Rev P7	March 2022	Name: Ryan Mullin Organisation: FHP Client: Astir Living
Mechanical Services, East Block LTHW Services Schematic 0001-M-FHP-DRG-56-XX-5502	December 2021	Organisation: FHP Client: Astir Living

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
FHP Energy Strategy **0001-L-FHP-DES-058-0001** **Rev P7**	March 2022	Name: Ryan Mullin Organisation: FHP Client: Astir Living

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

As an independent auditor of the Sustainability and Energy strategy and implementation of this aspects it is clear from our review that the project management of commitments and obligations enshrined within the Section 106 agreement to date has been extensively focused and coordinated across the design and construction delivery teams.

These issues are regularly reviewed and discussed at project team level and are included on Design Team meeting agendas and minutes on a regular basis.

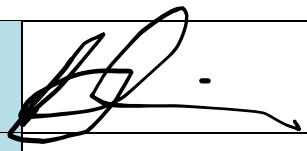
At present I have no concerns that the key principles outlined within the strategies and reports provided at planning stage are at risk of not being implemented within the delivery strategy as the scheme moves into the major construction phases.

Should there be any queries on the above I would be happy to discuss further at officer level.

Best regards

Barry Rankin
GWP Project Services Limited

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:	
Print full name:	Barry Rankin
Position:	Director, GWP Project Services
Date:	10th March 2022

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

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		
Building fabric u-values and air permeability		
Low carbon technologies		
Renewable energy targets		
Decentralised energy network connection		
Metering, monitoring and management		

Code for Sustainable Homes - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**		
BREEAM rating - **Overall % + Rating** - **% credits Energy** - **% credits Water** **% credits Materials**		
Materials, sourcing and waste		
Green infrastructure		
Water efficiency and SuDS		
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		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)*

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

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

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:	

Print full name:	
Position:	
Date:	

Please submit to: planningobligations@camden.gov.uk

End of form – B (Post Completion)