

Planning and Access Statement

Camley Street Natural Park workshops

A small low-impact development is proposed to visually improve an area currently used for storage and create a valuable educational and functional on-site resource, in keeping with the Park's objectives.

Amount

Two small, single-storey, temporary lean-to structures are proposed to showcase an innovative renewable energy generation system.

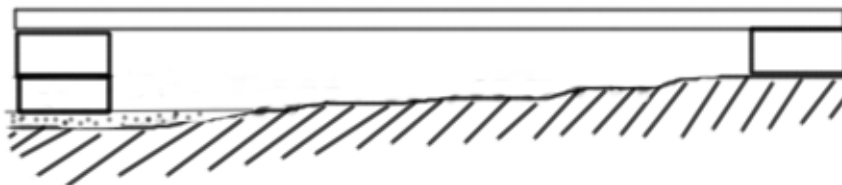
Layout

The development area is sited along the back wall of the visitors centre to facilitate easy access to services including electricity and water. Its location will afford a level of insulation both for the centre and the structures to be developed, helping to reduce heating costs. Double glazed doors and windows and insulated walls will also help reduce heating requirements.

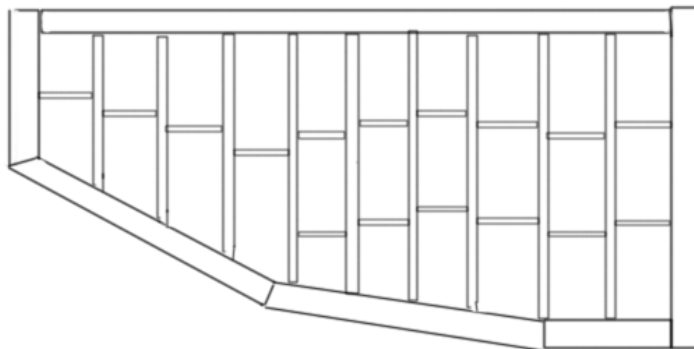
Space between the two structures allows staff access to a door at the back of the visitors centre. Utilising the back wall of the visitors centre and the use of polycarbonate roofing ensures the lean-to structures are lightweight and don't require excavation for concrete foundations.

For both structures:

- The foundations will comprise timber framework (sleepers and 2x4s) upon leveled bases with all work taking place above ground.

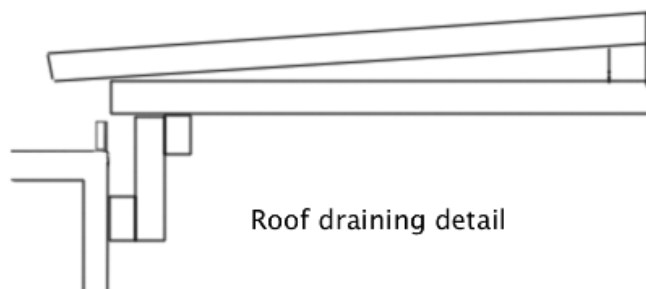


Timber foundation – Greenhouse – section



Timber foundation – Greenhouse – overhead view

- The roofs will be constructed using 25mm polycarbonate sheeting within timber and aluminium frames to maximise natural light and avoid the need for artificial lighting.
- There will be two vents in the digester shed. The greenhouse has three top-opening windows and a vent.
- Sheeps wool insulation will be used in all walls.
- 1.5 – 2m double glazed sliding doors will be installed. They will be the only access/exit points.
- The maximum roof height will be 3.55m at the southeastern end and 3m at the northwestern end, sloping gently to allow surface water to drain directly onto the Park's visitor centre roof for collection in water butts.



Scale

Digester shed

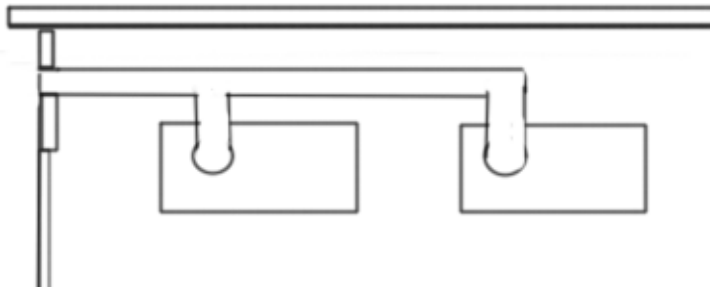
At the northeastern end of the site, a timber lean-to shed is planned to replace a smaller timber shed currently used for storage, which sits on an existing concrete foundation measuring 2.08m x 2.08m. The new shed will cover 3.6m x 2.4m, with timber framework and flooring integrating with the existing concrete pad.

Inside, a bund area of 2.35m x 2.6m will be constructed to contain any spillage from the main equipment consisting of a timber frame lined with shuttering ply and EPDM to a level of 0.55m. The shed will have one double glazed window for viewing purposes.

Greenhouse structure

A lean-to structure will be constructed on the southeastern end of the site. It will measure 4.5m x 2.7m narrowing to 1.4m at the south end. Double glazed windows will extend around the structure above lower timber walls for viewing purposes.

- Where windows in the back wall of the visitors' centre fall within the greenhouse structure, flue piping will be installed for ventilation, exiting the greenhouse above one of the windows.



Flue detail from internal windows to greenhouse external wall

Boundary fence

The existing fence will be removed (taken down to ground level) where the new structures are proposed and retained in the space between the two structures.

Appearance

The buildings will have white window frames and brown shiplap walls. The design of these low-cost, light-filled buildings aim for a simple, uncluttered aesthetic, integrated by trellis attached to the outer walls of the structures and the remaining fence in between. The trellis will support a variety of native climbing plants. An attractive feature, it will frame the equipment showcased within the structures and enhance the visual impact of the site.

Access

Access will be from an existing pedestrian path, which leads from road access into the Park. A gate in the fence between the two structures will enable access to both proposed structures.

Clear signage will explain the technology and the closed-loop waste-to-energy-to-food cycle it demonstrates for educational purposes. Equipment will be viewed from outside the buildings only, with building access restricted to trained staff. The sliding doors will be pre-fitted with 4-point high security locking systems and steel lock keeps.

Landscaping

Landscaping will not be a feature of this site as we are aiming for a low-impact temporary development.

Purpose

The workshop will be an R&D site for LEAP – an LBC funded project (Innovation and Development fund), aiming to address a range of social, economic and environmental issues during 2012-14.

The Camden Council contact for LEAP is:
Eloise Shepherd
Communities and Third Sector Team
020 7974 5193

Eloise.Shepherd@camden.gov.uk

The project aims to develop cost-effective micro anaerobic digestion (AD) to pioneer a low carbon, odour-free local approach to urban food waste management and renewable energy generation, with the potential to create green employment opportunities, reduce emissions and support urban agriculture.

Equipment and Processes

The micro AD system will comprise:

- 2m³ anaerobic digester
- .6m³ predigester
- 1m³ IBC (intermediate bulk container) for digestate storage
- 2.5m³ gasholder
- Gas scrubber/compressor
- 2 micro CHP units

All equipment will be housed in the two proposed structures except for the micro CHP units, which will be installed in the visitors centre's existing boiler room nearby.

The digester will be fed with 50kgs of food waste, collected locally using the Centre's bicycles and trailers. Around 4m³ biogas will be produced daily and stored in a gasholder situated outdoors in between the 2 proposed structures. It will then be cleaned by the gas scrubber/compressor before going to a CHP unit.

Feedstock (food waste) will remain in the digester for a minimum of 28 days after which, it will be stored in a container within the building prior to being transferred to nearby outdoor compost areas for maturing. Once mature it will be used for food growing and other horticultural activities.

Gas composition for a maximum 2.5m³ biogas (2.95g) to be stored at any one time on-site, is approximately:

- 60% CH₄ (methane)
- 33% CO₂
- 6% H₂O
- 1% N₂ (Nitrogen)
- H₂S – 250-2250mg (hydrogen sulphide)

N.B. The trace amounts of hazardous gases are so small they would not register on the planning application form but can be calculated from the figures above.

Gas Use

After scrubbing, the gas will generate heat and electricity to supply the centre's base load and peak energy requirements including the digester's heating needs.

Electricity not used by either the AD system or the visitor's centre will be fed back into the grid. The units will be installed by Gas Safe MCS accredited engineers.

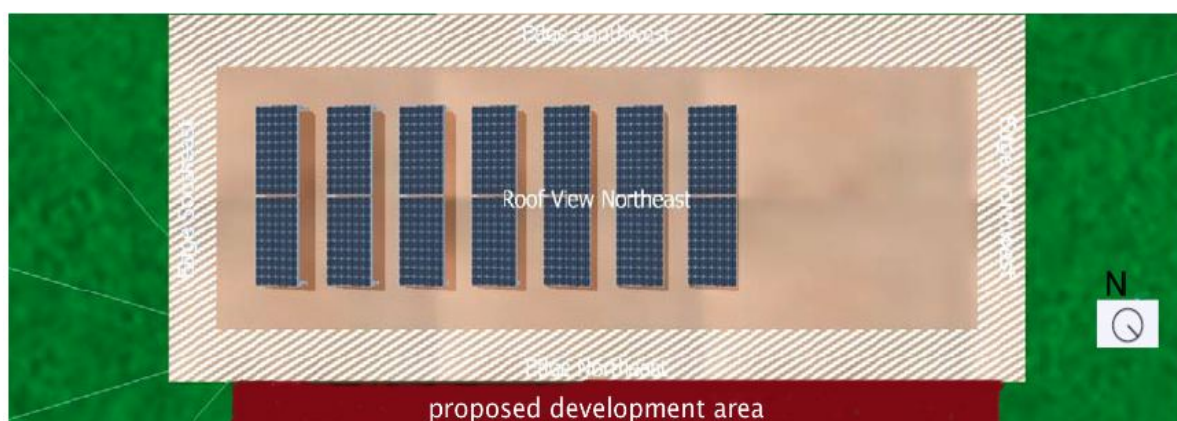
Equipment used will comprise off the shelf, tested components. Where modifications are made, these will be checked and approved by qualified engineers and technicians.

Noise

- The digester will operate almost noiselessly with a 40-watt motor used for mixing every few minutes.
- The predigester will be fitted with a macerator and automated pump. While no dB figures exist for the macerator, it is fitted with full sound insulation and will be operated for a maximum of a few minutes, 3-4 times a week within an insulated building.
- Both CHP units operate below 45Db.

Solar PV

A 3.7kW solar PV installation is proposed alongside the AD system to generate further peak electricity. The flat roof where the installation is proposed lies directly behind the proposed development area and is part of the existing visitors' centre building.



Operation

The AD system will be managed by a small, CIWM accredited trained team and will operate under the following:

- ABPR low risk matrix position;
- Exemption T25;
- Exemption U11;
- Our own operating and HACCP based procedures
- H4 odour guidelines

Temporary use

The structures are proposed as temporary features with a maximum lifespan of 2 years. Camley Street Natural Park is in the process of fundraising to build a new visitor centre (planned for 2014), which any existing structures will

make way for. The technology will then be combined in a more integrated way into the centre.

LWT consent

Camley Street Natural Park and parent organisation the London Wildlife Trust have agreed to host the installation as they have an interest in incorporating renewables in their new centre design. Anaerobic digestion, with its multiple energy and food growing benefits is ideally suited to the park and its activities and may help it become an off-grid low carbon demonstration site.

Contamination

Camley Street Natural Park is situated on what was previously an industrial coal drop site, however, we will not be relocating soil from the site and all construction will be above ground level.

Biodiversity and conservation

The proposed structures will enhance the site's biodiversity, increasing the area available for growth to achieve a net gain in habitat area and species numbers.

This will be achieved by introducing native climbing plants all around the boundary trellis, while the greenhouse will house a range of native plants inside to demonstrate the fertility of the digestate produced.

Tree survey

A tree survey has been conducted to assess potential impacts. Apart from one tree indicated in the plans, there is no other flora on the development site. The only work necessary is to raise the crown of the two nearest willow trees and remove a dead stem on the nearest one as advised in the tree survey.

As all work will take place above ground making excavation unnecessary, tree roots will not be impacted. The development will not impact any features of geological conservation interest.

Flood risk and sewers

The site is not in a flood risk area and is not sited above any sewers – see uploaded sewer search.