Welcome to our engagement event

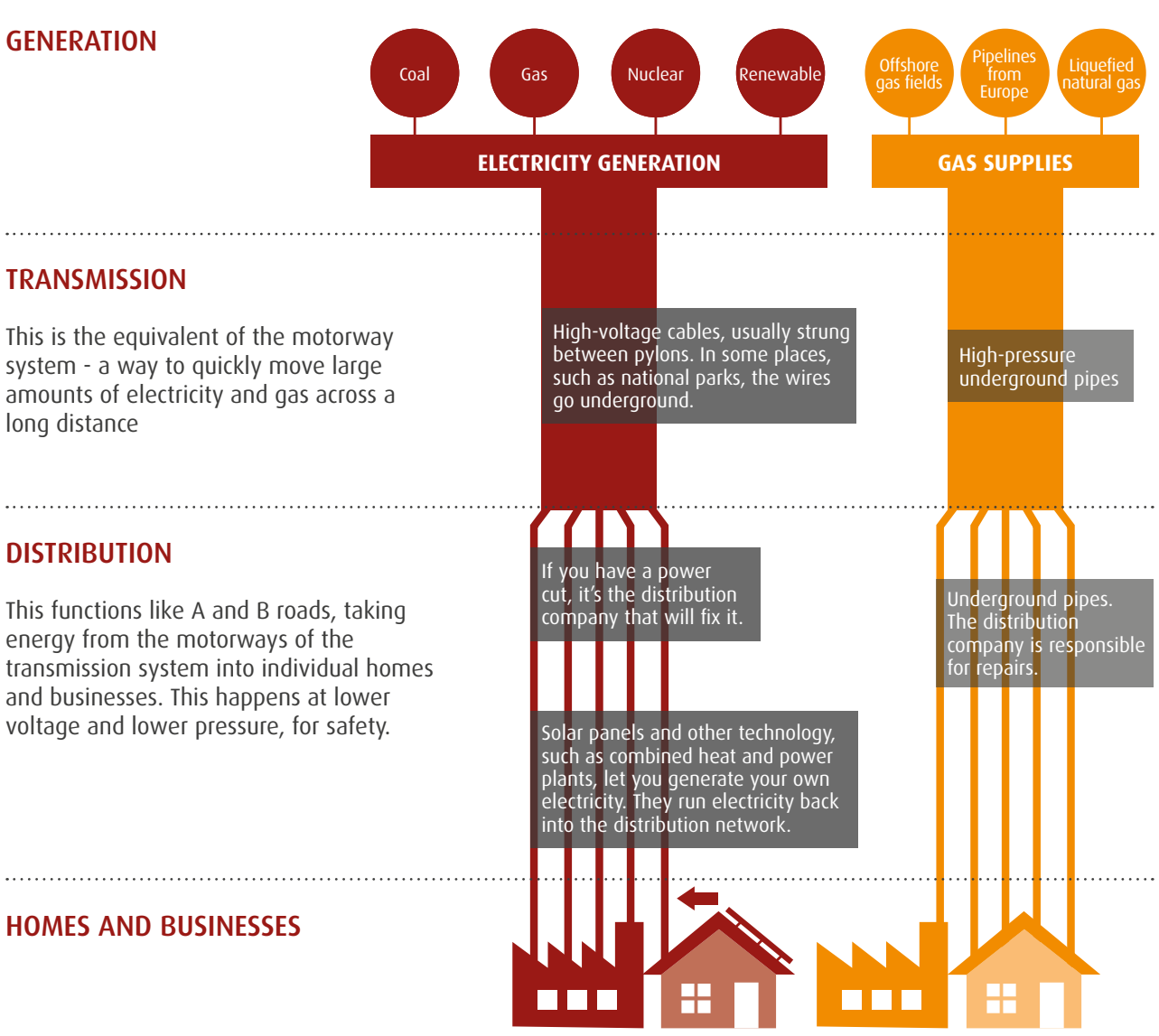
We are here to explain our proposals for a new substation building at Bengeworth Road, part of wider plans to rewire the Capital and ensure the system is future-proofed for the next 50 years.

At this exhibition you can read more about our plans for the new substation building, speak to members of our project team, and comment on our emerging designs.

Your feedback is important to us so please take the opportunity to let us know your thoughts on our proposals by completing one of the feedback forms available today or visiting the Bengeworth Road website at: **www.ukpowernetworks.co.uk/BengeworthRoad**

UK Power Networks

UK Power Networks is the Distribution Network Operator for London, the South East and East of England. We deliver electricity to over 2.4 million homes and businesses across London, and are responsible for running and maintaining the power cables across your area.



How does the energy market work?

Transporting electricity around the grid is more complicated than it sounds. You could think of it like our system of motorways and roads.

There are two types of electricity network: transmission and distribution.

Transmission networks carry electricity long distances around the country at high voltages of 275,000 or 400,000 volts.

Distribution networks take electricity from the transmission system to distribute electricity at high voltages from 132,000 volts (132kV) down to lower voltages for homes and businesses.

National Grid owns the high-voltage electricity transmission network in England and Wales which ensures electricity is delivered safely and reliably across the country.

UK Power Networks is your Distribution Network Operator. It is responsible for reducing electricity down to a much lower, safer, and usable voltage.

A new substation building at Bengeworth Road

Our proposals for the Bengeworth Road site are part of a wider plan to future-proof local energy networks.

What are we proposing?

UK Power Networks has been operating on the Bengeworth Road site for over 100 years and is part of a network grid that currently distributes electricity to over 2.4 million homes and businesses across London.

To meet the increasing demand for our services, we need to upgrade ageing equipment. This includes constructing a new 132kV substation building at the Bengeworth Road site to house switchgear and other vital equipment. Our new substation building will connect the site to National Grid's transmission network as part of the wider London Power Tunnels project, and will help ensure the best value for end customers.

London Power Tunnels is a seven-year, £1 billion-project to rewire South London via deep underground tunnels. In total, 32.5km of tunnels with high voltage cables are being constructed deep below the road network between Wimbledon and Crayford. The project is due to be complete and fully operational in 2027.

Alongside UK Power Networks' proposals, National Grid is currently building a tunnel access shaft, its own substation building and headhouse at Bengeworth Road to connect to the London Power Tunnels route. By bringing forward both projects at Bengeworth Road together, overall disruption will be minimised to local networks.

The planning process

As UK Power Networks is a statutory undertaker, and substations contain essential infrastructure vital for local electricity supply, the new substation building falls under permitted development rights, which allow for the development of existing operational sites.

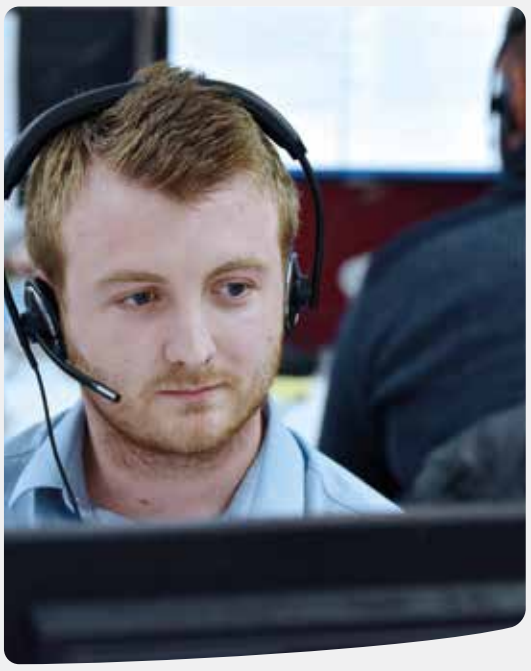
These rights are subject to approval of the design and external appearance of the substation building by Lambeth Council.

We are keen to involve local residents in the development of the design and external appearance of the building, before a prior approval application is submitted to Lambeth Council toward the end of summer 2022.

Existing use of the site

The Bengeworth Road site is used by UK Power Networks for both civil engineering and electrical engineering activities on the network. This includes all emergency and fault repairs in the region.

The operational site comprises vehicle parking (including a multi-storey car park), space to store equipment, materials (including for road making), spare electrical parts and used equipment that is to be refurbished.



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Early design considerations

The project team has been working hard to ensure the scale and positioning of the proposed substation building is carefully thought out bearing in mind the site constraints and nearby properties.

For health and safety reasons, the footprint of the construction site for the substation building is larger than the building itself, and this also needs to be considered when deciding on the building's location.

UK Power Networks has explored all possible locations within its existing site at Bengeworth Road and the site of the existing multi-storey car park is the only option.

Large parts of the site are in current operational use and other parts of the site cannot be used because of various physical constraints, including neighbouring National Rail assets.

In addition, the substation building needs to be positioned close to the National Grid circuit and the existing transformer compound, in a location that would avoid crossing (and therefore de-rating) underground electrical cables located throughout the site.

The location of our proposed substation building will allow UK Power Networks to maintain essential operations across the wider UK Power Networks site while construction is undertaken.

Height and size

The size of the proposed substation building is dictated by the switchgear equipment and the bending radius of the 132kV cables. The switchgear is assembled and maintained by a mobile elevated crane inside the building.

The height of the building will be a maximum of 13.5m, and UK Power Networks is considering all engineering solutions possible to reduce the height further.

An underground structure for the switchgear was considered. However, due to several factors including the complexity of delivering high voltage cables, as well as the continued safe maintenance of the switchgear during its lifespan, the substation building will need to be above ground.

Design and external appearance

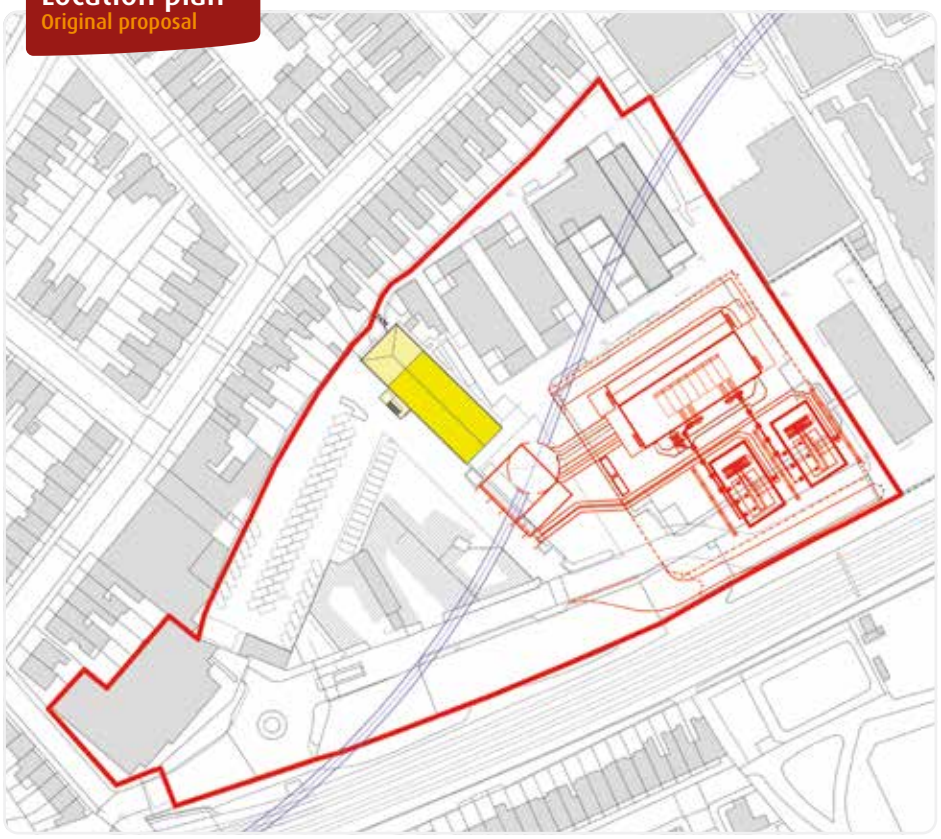
A location for the new substation building was identified earlier this year as part of National Grid's plans for the site. This solution was based on the constraints on the UK Power Networks site noted on the previous board.

Since then, we have taken residents' initial feedback on board regarding the proposed location of the new substation building, and worked with our architect and planning consultant to find the best possible design solution.

This has included reconfiguring the layout of the substation building to pull it back further from the site boundary.

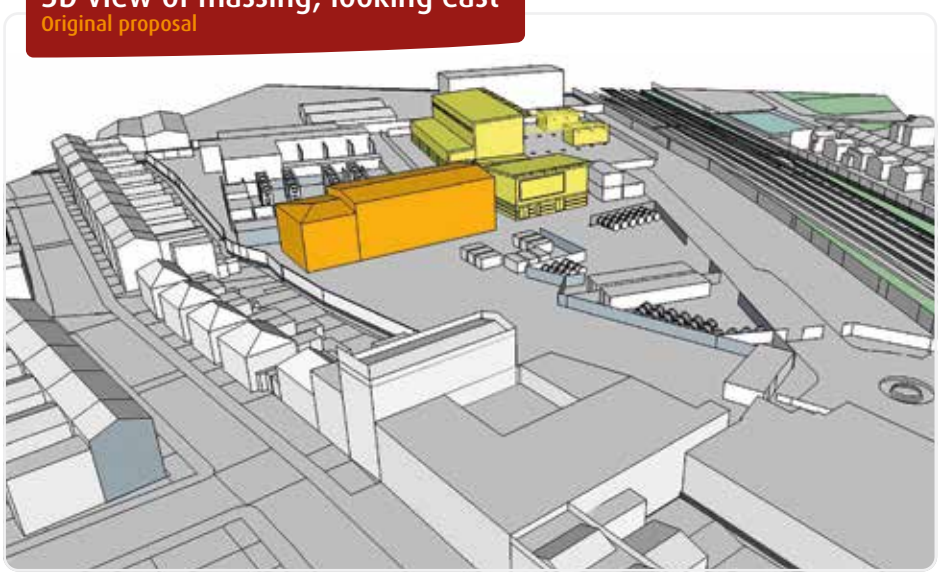
A location plan of our progressed proposals is shown below, in comparison with the orginal proposal that was included as part of National Grid's masterplan.

Location plan
Original proposal

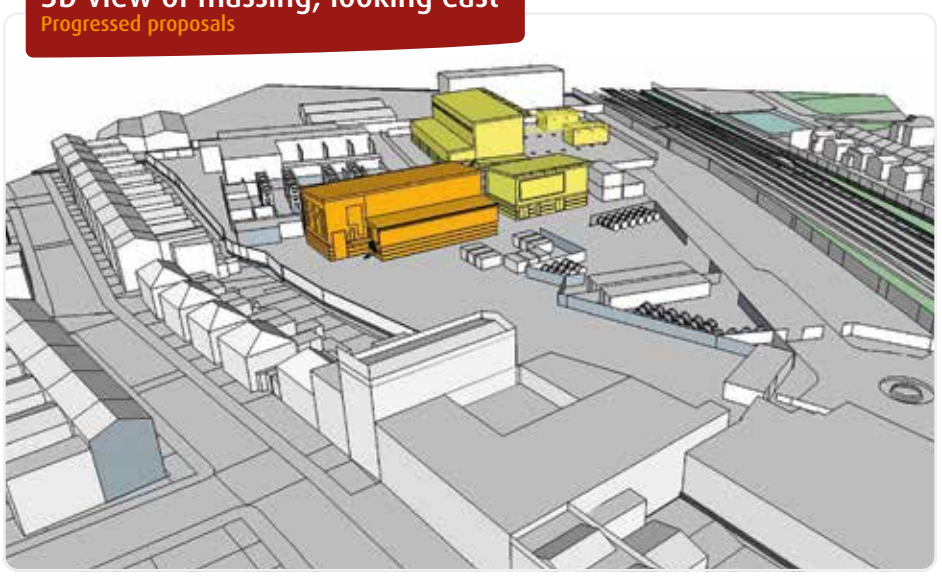


Location plan
Progressed proposals

3D view of massing, looking east
Original proposal

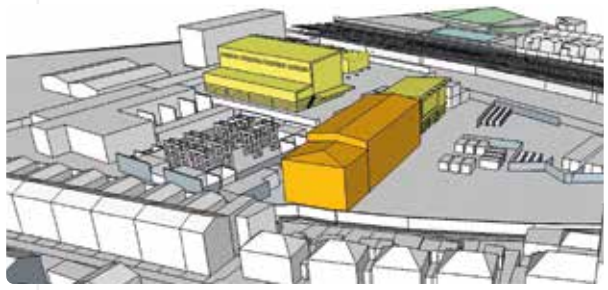


3D view of massing, looking east
Progressed proposals

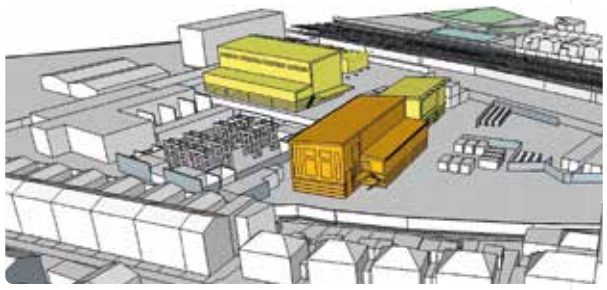


Design and external appearance

3D view of massing, looking south east



Original proposal



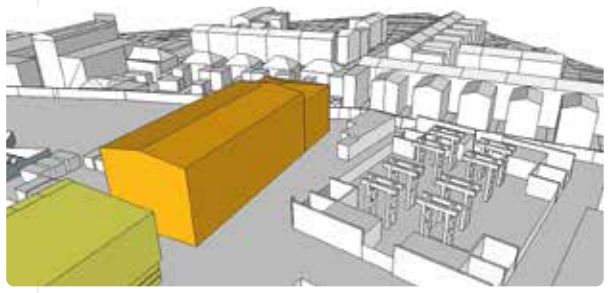
Progressed proposals

3D view of massing, with yellow National Grid massing in foreground

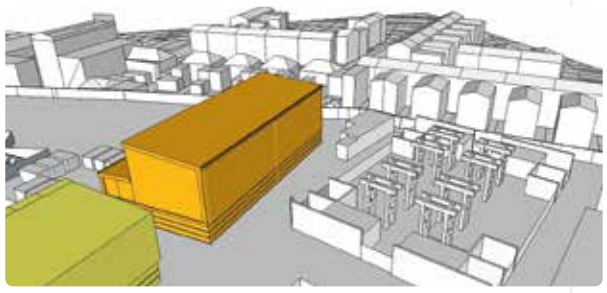
Original proposal

Progressed proposals

3D view of massing, looking toward Southwell Road

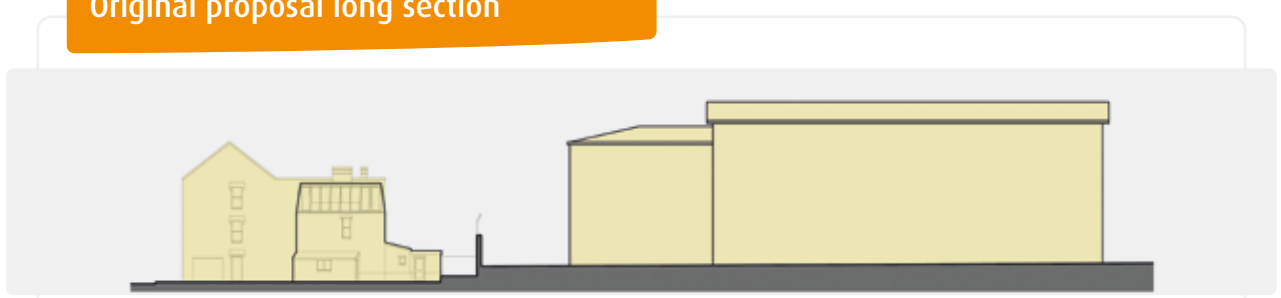


Original proposal

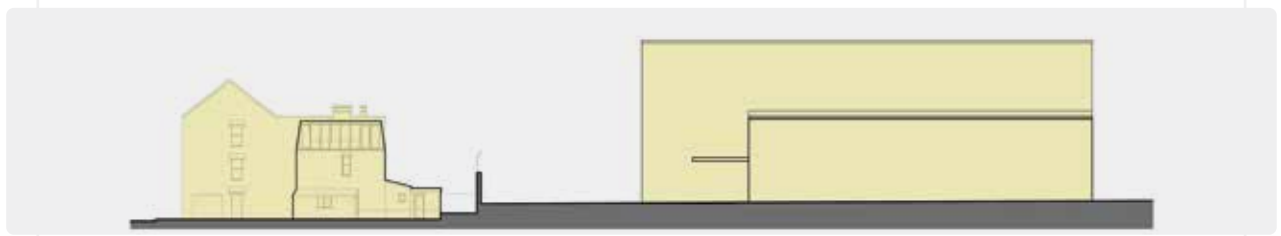


Progressed proposals

Original proposal long section



Progressed proposals long section



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Design and external appearance

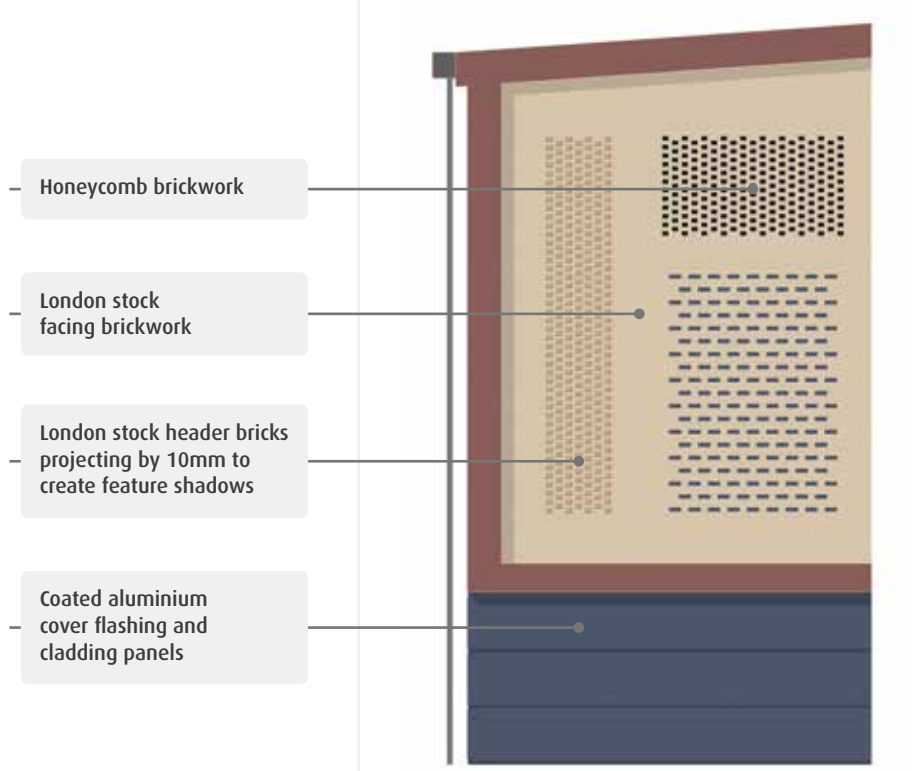
Possible cladding treatment

As the proposed substation building houses operational equipment, there are limitations on the type of materials that can be safely used for the external walls and roof of the proposed building.

UK Power Networks is exploring a treatment containing brick and metal cladding. These proposals have been informed by meetings with residents from neighbouring properties.

Far left: Perspective view one showing brickwork on short elevation facing Southwell Road, and mix of brickwork and vertical metal cladding panels on long elevation facing the UKPN operational site area.

Left: Perspective view two showing brickwork on short elevation facing Southwell Road, and vertical metal cladding panels on roof and long elevation facing the UKPN transformer compound.

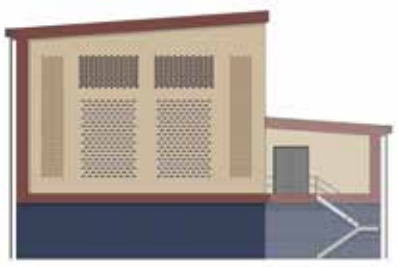


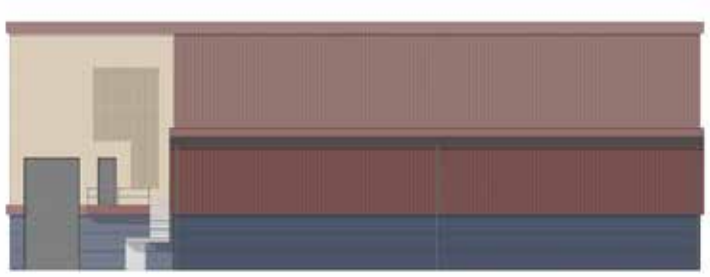
Left: Extract of the short elevation facing Southwell Road showing proposed material treatments.

This will be clad with London stock facing brickwork, with subtle detailing including honeycomb brickwork and projecting bricks.

The base of the building will be clad with blue facing brickwork similar to the adjacent new National Grid buildings.

The remaining elevations will be clad in vertical metal wall and roof cladding panels.





Far left: Elevation facing Southwell Road.

Left: Elevation facing the UKPN operational site area.

Managing construction impacts

Construction traffic

To minimise disruption to residents, all HGV access to site for UK Power Networks' construction work will continue to be routed through King's College Hospital (KCH) Business Park, unless a hospital emergency means it is not available to use. This is the same route that is being used by National Grid for its adjacent works.

Working hours

UK Power Networks' working hours, as agreed with Lambeth Council, allow for Saturday working from 8am to 1pm, in addition to our Monday to Friday contracted hours of 8am to 6pm. For the upcoming phase of works we do not intend to work Saturdays. If Saturday working is required to maintain the programme, then it will be considered, and we will notify nearby residents.

Noise

We are looking carefully at how we can minimise noise levels for neighbouring residents for the duration of our construction programme. UK Power Networks has recently taken steps to reduce operational noise, including moving equipment away from residential properties and installing noise barriers.

A noise and vibration monitor has also been installed between the National Grid works area and residential properties on Southwell Road.

If there is a need for further measures, UK Power Networks will look to increase the hoarding around the site as additional noise barriers.

Air quality

Air quality monitoring is currently in place at the perimeter of the site in accordance with the Control of Pollution Act, and air quality will continue to be monitored as per National Grid's Air Quality Monitoring Plan. This will be regularly reviewed as works progress.

Right to Light

UK Power Networks commissioned an initial Right to Light assessment in 2021, which highlighted those properties that would be affected by the proposals for the substation, based on assumed layouts at the time.

As part of the design process for our current emerging proposals, we have employed an independent Right to Light surveyor, and we will be commissioning a new survey to assess the impacted properties once the final design is confirmed.

Feedback
and next steps

Feedback

Your feedback is important to us so please take the opportunity to let us know your thoughts on our proposals by completing one of the feedback forms available today.

This feedback form will also be available via our website, at:

www.ukpowernetworks.co.uk/BengeworthRoad

If you know of someone who is unable to attend today's in-person event or would prefer to submit comments via a hard copy feedback form, please contact us at:

UKPNBengeworthRd@ukpowernetworks.co.uk

or phone us on **0800 028 4587** and we will send you a copy.

We will reflect on your feedback as we finalise our designs. We anticipate that the application to agree the design and external appearance of the substation building will be submitted to Lambeth Council toward the end of summer 2022.

Following today's event, if you have any questions, or would like to be added to our mailing list, please get in touch with us at:

UKPNBengeworthRd@ukpowernetworks.co.uk

Project timeline

April 2022

Architect and planning consultant appointed

May-June 2022

Public engagement events and resident meetings

End of summer 2022

Prior approval application to be submitted to Lambeth Council

Early 2023

Construction scheduled to begin

2025

Anticipated completion of construction phase

We want to make a positive impact in the communities we serve and each year we make significant charitable investments around the UK. When our operations impact local people, we try to give back. Here are some of the ways we do that.

We are committed to supporting the communities we work within as a respected and trusted corporate citizen. We provide STEM education sessions and workshops, apprenticeships and graduate schemes and support for local green initiatives – covering everything from advice and additional support measures via our Priority Services Register (PSR) to community gardens and energy efficiency education.

Through our project teams, we support local charities, food banks and causes that have a positive impact on the environment and the wellbeing of our customers.

Considerate constructors

As members of the Considerate Constructors Scheme, we abide by a Code of Considerate Practice, which encourages best-practice approaches and policies above and beyond statutory requirements.

We are committed to completing the works as quickly and efficiently as possible and will keep the local community informed of progress as we work to deliver the project.