

Stairfoot - DNO Planning Statement

Stairfoot Battery Storage Site
Unit 1a Oaks Business Park,
Oaks Lane,
Barnsley
S71 1HT



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1.0 Introduction

1.1 This Planning Statement accompanies the planning application submitted by Noriker Power Limited for a Distribution Network Operator (DNO) facility to be located on land near the Stairfoot primary substation at Hopewell Street.

1.2 The application is considered to be a Minor Development as it does not meet the criteria set out by the Planning Portal for a Major Development.

1.3 The proposed development will connect the nearby Stairfoot Substation to the adjacent Stairfoot battery storage facility, providing the capacity to store electricity at times of surplus, when electricity from intermittent renewable sources would otherwise be wasted, and return it to the local community when baseload supply falls below the level of demand and there would otherwise be an electricity supply shortage. It is considered to comprise essential infrastructure, for which an urgent need has been identified by National Grid and the Department of Business, Energy and Industrial Strategy (BEIS) to maintain a stable and reliable electricity supply system as both transport and electricity decarbonise, and as a critical step to meeting the UK's legal commitment to achieve an 80% reduction in greenhouse gas emissions by 2050.

1.4 The DCLG Planning Update of 21 December 2017 confirmed that for the purposes of planning, the Government considers that battery storage is a form of generating station. Because battery storage does not involve any generation from fossil-fuels, it therefore constitutes a form of renewable energy generation for the purposes of planning policies and decision making in England and Wales. The Planning Update is provided as Appendix 1 to this statement.

1.5 The purpose of this Planning Statement is to provide a full assessment of the proposed development against the relevant policies of the development plan, and appraise these in the context of all relevant material considerations in order to determine whether planning permission should be granted.

1.6 Part 2 of this statement provides a description of the application site, relevant designations and planning history, followed by a description of the proposed development at Part 3. The local and national planning policies which are relevant to the determination are set out at Part 4. Part 5 sets out an explanation of the general need for battery storage development and the specific need for the development to be situated in the proposed location. Part 6 provides a detailed assessment of the

scheme against planning policies, followed by an appraisal of the overall planning balance and conclusions at Part 7.

2.0 Application Site & Planning History

2.1 The application site relates to an area of land located approximately 150 metres to the north of Stairfoot Substation. It is located within Oaks Business Park, an industrial estate used by commercial trade. Access is via Oaks Lane and Tank Row leading from the A633 Grange Lane.

2.2 The site comprises a rectangular area of unused asphalt. The eastern and southern boundary connects to Stairfoot Battery Storage Site, Unit 1a Oaks Business Park. The nearest neighbours are the surrounding commercial units and serviced offices, owned and rented out by Bizspace Ltd to various commercial tenants, the closest being Unit 1 which is adjacent to the site but separated by an access road to a storage yard at the rear of the units. There are two existing entry points from Oaks Lane to access the neighbouring units 1-7.

2.3 In the immediate context of the site and surrounding the Bizspace Oaks Business Park are other industrial occupants consisting of a haulage company and masonry manufacturer. The Stairfoot primary substation to the South is accessed via residential road Hopewell Street.

2.4 In the wider context, the industrial estate borders green belt land to the North and West, which consists of open grassland and woodland. In addition, the area hosts remnants of the Barnsley Oaks Colliery and 350m to the East lies another industrial estate, Grange Lane. The nearest residential settlements lie 175m to the South- East and 275m to the South-West with layers of trees between providing natural barriers.

Development Plan & Designations

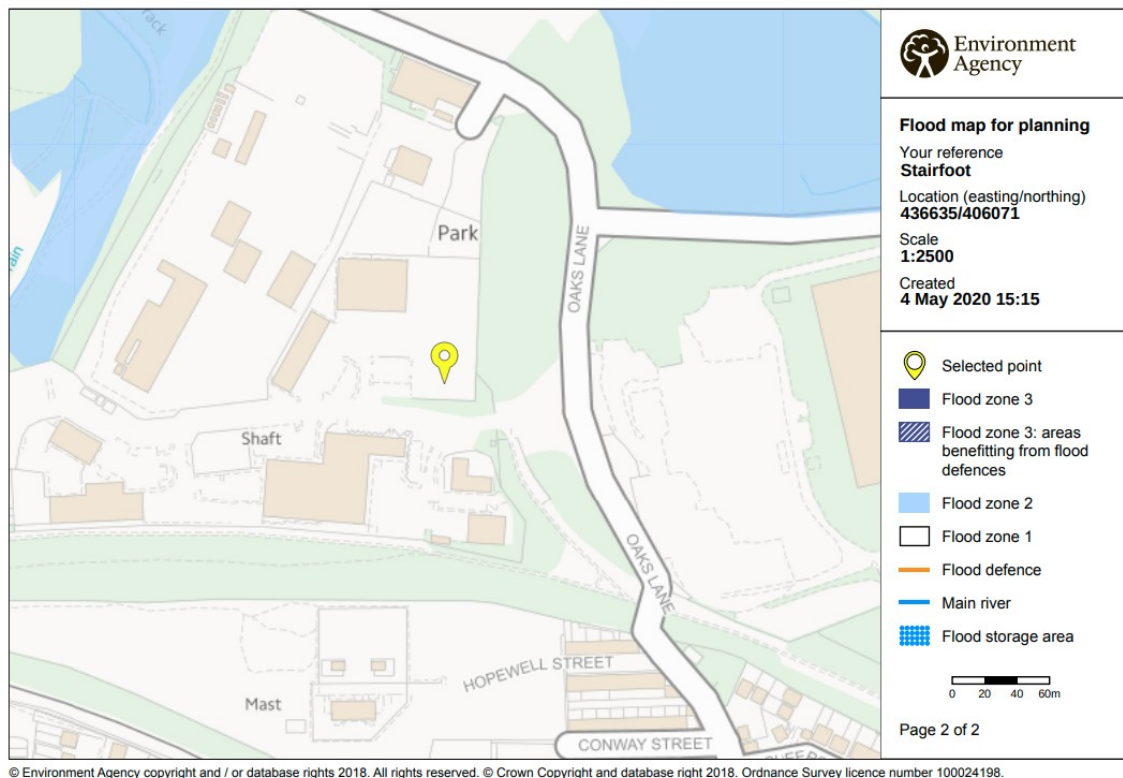
2.5 The site is located in an industrial area for planning purposes. There are no policy designations which apply directly to the application site. Within 5km of the proposed site there are the following designated sites:

- Stairfoot Brickworks, SSSI, 1.9 km
- Carlton Main Brickworks, SSSI, 4.8 km

Both of these designations are of a geological nature.

Flood Risk

2.6 The Environment Agency flood mapping service confirms that the site is located in an area of Flood Zone 1 – the lowest probability of flooding – where the NPPF directs that a Flood Risk Assessment is not required for the proposed form of development. There are no watercourses or bodies of water in the immediate vicinity of the site.



Cultural Heritage Assets

2.7 There are no cultural heritage assets including Listed Buildings or scheduled monuments in the vicinity of the application site. The nearest asset is the Grade II* Listed Barnsley Main Colliery engine house and pithead structures 300m North West, which is of an industrial character.

Planning History

2.8 The Council's online records indicate that the planning history associated directly with the application site is the change of use of land for use within Class B1, B2 and B8 granted under reference B/92/0193/BA in 1992, then the grant of redevelopment of former colliery site/erection of industrial units in 1993 under reference B/93/1226/BA.

2.9 In respect of relevant proposals in the locality, planning permission was granted under reference 2016/0296 on 20th Jul 2016 and later amended under reference 2017/0117 granted on 2nd August 2017 for the erection of a battery storage facility, the latter reference located at Land West of Hopewell Street, Stairfoot, Barnsley. This site is south of the application site adjacent to the substation, land designated as green space. There is also an application for the installation of a gas generation short term operating reserve (STOR) facility, reference 2017/0895, that was withdrawn 28th November 2017. An application for a residential development on the former Beatson Clark Glass Factory land to the east of the application site was refused under reference 2007/2081.

2.10 Noriker Power Ltd applied and were granted planning permission under reference 2020/1373 for the construction of the Stairfoot battery storage facility, an electricity storage facility situated directly adjacent to the proposed site, on 04/01/2021. A further Non-Material Amendment application (Ref: 2021/ENQ/00571) was submitted to outline the revision to the internal site layout, this was subsequently granted on the 15th October 2021.

2.11 Provision for the proposal was originally incorporated into the planning for the Stairfoot battery storage facility (ref: 2020/1373). Following detailed survey of a nearby disused mine shaft, it has become necessary to relocate the DNO compound further from the mine shaft for safety reasons.

3.0 Description of Proposed Development

3.1 The proposed development comprises a DNO substation, welfare building, access road and a 2.4m high security fence. The site lies directly adjacent to Stairfoot Battery Storage facility, but will be separated via the security fence. The site will act as the electrical connection between Stairfoot substation, and Stairfoot battery storage facility. Upon completion the proposed facility will form part of, and share the same address as Stairfoot Battery Storage facility, however it will be separated

by a security fence. Once built, the site will be adopted by and operated by the DNO, Northern Powergrid, as a component of the district electricity distribution system. The site and plant are strictly designed to an existing Northern Powergrid standard.

3.2 The following plans and drawings accompany the planning application in order to define the proposals:

Plans

- Site Location Plan – *STR-NOR-DNO Location*
- Proposed Site Plan - *STR-NOR-DNO Site Layout-002*
- Whole Site Plan - *STR-NOR-DNO Elevations-001*

Elevations

- DNO Substation – *43241-00-01 - Oak Lane Substation - General Arrangement External - Rev01 Rev.01 -1*
- Welfare Container - *Toilet Unit with Flush System*
- 2.4m Security Fence Specification – *CLD-Eclipse-60-General-Purpose-Fencing*

3.3 The purpose of the facility is to house the DNO sub-station, connecting the adjacent Stairfoot Battery storage site to the primary Stairfoot substation, located 150m south of the development. This will facilitate the following services provided by the Stairfoot Battery storage facility:

- Smoothing out fluctuations in supply and demand from intermittent renewables, and intermittent demand
- Providing very rapid response to changes in frequency to maintain the stability of the National Grid as traditional plant providing this service are retired in favour of renewables
- Providing automatic adjustment to the voltage of the local grid to ensure power quality within Barnsley as traditional plant providing this service are retired in favour of renewables
- Storage of surplus renewable generation, e.g. from solar during the day, to be used at night
- Acting as a buffer for peak demand to avoid the need for expensive upgrades to Barnsley's constrained electricity distribution system as transportation becomes electric

Full details of the need for the development are set out Part 5 of this report.

3.4 Following installation, the facility will be operated remotely and will require relatively few visits for the purposes of maintenance throughout the year. As such additional vehicular movements associated with the proposed development are expected to be negligible with an average of under 10 per year.

4.0 Relevant Planning Policy

Legislative Background

4.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that applications for planning permission must be determined in accordance with the development plan, unless material considerations indicate otherwise.

The Development Planning

4.2 The adopted development plan for the area, the Barnsley Local Plan (January 2019), is complimentary with the current NPPF.

Local Plan

4.3 The site is allocated in the local plan as Urban Fabric, this does not have any specific allocation so Local Plan Policy GD1 is relevant; Proposals for development will be approved if:

- There will be no significant adverse effect on the living conditions and residential amenity of existing and future residents;
- They are compatible with neighbouring land and will not significantly prejudice the current or future use of the neighbouring land;
- They will not adversely affect the potential development of a wider area of land which could otherwise be available for development and safeguards access to adjacent land;
- They include landscaping to provide a high quality setting for buildings, incorporating existing landscape features and ensuring that plant species and the way they are planted, hard surfaces, boundary treatments and other features appropriately reflect, protect and improve the character of the local landscape;

- Any adverse impact on the environment, natural resources, waste and pollution is minimised and mitigated;
- Adequate access and internal road layouts are provided to allow the complete development of the entire site for residential purposes, and to provide appropriate vehicular and pedestrian links throughout the site and into adjacent areas;
- Any drains, culverts and other surface water bodies that may cross the site are considered;
- Appropriate landscaped boundaries are provided where sites are adjacent to open countryside;
- Any pylons are considered in the layout; and existing trees that are to remain on site are considered in the layout in order to avoid overshadowing.

4.4 Policy E4 looks to protect existing employment land. Land or premises currently or last used for employment purposes will be retained in order to safeguard existing or potential jobs. The development of employment land and premises for non-employment uses will only take place if:

- Development would not result in a significant loss of existing jobs or employment potential;
- There will still be an adequate supply of employment land or premises in the locality; and
- The land or premises cannot satisfactorily support continued employment use.

If the above criteria can be satisfied then redevelopment will be allowed.

4.5 Policy CC1 tackles Climate Change. Relevant points in this policy are:

- Giving preference to development of previously developed land in sustainable locations
- Promoting and supporting the delivery of renewable and low carbon energy

4.6 Policy RE1 deals Low Carbon and Renewable Energy providing the detailed policy framework for the implementation of interventions/ initiatives identified in policy CC1 and will allow development that produces renewable energy as long as there is no material harm upon:

- The character of the landscape and appearance of the area;
- Living conditions;
- Biodiversity, Geodiversity and water quality;
- Heritage assets, their settings and cultural features and areas;

- Key views of, from or to scenic landmarks or landscape features;
- Highway safety, or
- Infrastructure including radar.

In assessing effect appropriate mitigation which could reduce harm to an acceptable level will be considered.

4.7 The application site is within the Dearne Valley Green Heart Nature Improvement Area. Paragraph 17.44 of the local plan states The Council expects to adopt an NIA Planning Advice Note which will encourage major developments to incorporate biodiversity enhancements in their proposals.

The National Planning Policy Framework (“the NPPF”) February 2019

4.8 The revised NPPF was published in February 2019. It sets out the Government’s overarching planning policies relating to both plan-making and decision-taking. It is applicable to the determination of planning applications both in that development plan policies which are not in accordance with relevant policies in the NPPF are considered to be out-of-date – causing the Presumption in Favour of Sustainable Development to be engaged – and as a principal material consideration in its own right.

4.9 Paragraph 11 of the NPPF establishes the Presumption in Favour of Sustainable Development. For the purposes of decision-taking this means “approving development proposals that accord with an up-to-date development plan without delay,” or, “where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless,” of relevance to these proposals, “ii. Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole.”

4.10 Paragraph 127 sets out overarching aims for good design applicable to all development proposals. These include the requirement that schemes should be “visually attractive as a result of good architecture, layout and appropriate and effective landscaping,” and should be “sympathetic to local character and history, including the surrounding built environment and landscape setting.”

4.11 As detailed at Section 5 of this Planning Statement, the proposed development comprises essential infrastructure for the delivery of renewable sources of energy due to the need for increased peaking capacity to accommodate intermittent sources of electricity such as wind and solar, and due to the grid stabilisation services the facility will provide. Policies relating to renewable energy are therefore applicable to the proposals, including paragraph 154 of the NPPF, which states:

“When determining planning applications for renewable and low carbon development, local planning authorities should:

- a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and
- b) approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.”

5.0 The Need for the Proposed Development

5.1 The UK electricity supply is mainly derived from its network of baseload power stations, comprising both traditional fossil-fuel generating stations and renewable electricity generation. The output from the baseload power stations varies and does not always match domestic demand for electricity, which similarly fluctuates according to the time of day and throughout the year. In order to ensure that there is a constant supply to match demand and avoid electricity shortages, the National Grid uses a range of balancing services to secure additional electricity on a short term basis at times when baseload supply drops below demand, as well as preventing excess electricity on the grid when supply would exceed demand to avoid overloading the system.

5.2 As a result of successful policies to increase the proportion of the UK’s electricity consumption which is derived from renewable generation, the amount of intermittency in the system is rapidly increasing. This results from the nature of wind and solar technologies, which generate according to wind speeds and the time of day respectively, rather than reflecting current demand. As intermittency increases, the amount of flexibility required by the National Grid to balance supply and demand also increases. As a result there is an urgent need to increase the availability of flexible

electricity infrastructure in order to support the increasing supply from renewables and prevent electricity shortages from occurring due to fluctuating supply and demand.

5.3 The replacement of traditional steam turbine generation and with inverter driven renewable technology has two important effects: it removes the generation plant that were supplying services that National Grid used to maintain grid stability, while at the same time reducing the natural stability of the grid. National Grid therefore need to procure grid stabilisation services from new suppliers that can operate in conjunction with renewable generation, and they need more of it. Battery storage facilities are the primary source of these new services, and without a substantial increase in battery storage, the proportion of renewables on the electricity grid cannot be increased.

5.4 Battery storage represents the most sustainable form of balancing infrastructure because it is able to store electricity at times of surplus and return it at times of shortage without the need for additional generation. In recent years battery storage technology has become increasingly viable, but due to its requirements for a sufficient amount of both import and export capacity at the connecting substation, suitable sites are rare, and therefore opportunities for development should be prioritised and supported wherever they occur.

5.5 The National Grid published its latest Future Energy Scenarios report in July 2020. The document identifies the changes to the UK energy infrastructure and consumer behaviour that would be required in order to achieve the UK's 2050 decarbonisation target under four scenarios. All scenarios identify that there will be a high flexibility requirement to be supported by an increase in installed electricity storage capacity. The fastest route to carbon neutrality, the Leading the Way scenario, requiring 40,000MW of installed electricity storage by 2050; around 8 times more than the current installed levels.

The Essential Need for the Proposed Site Location

5.6 It is essential for the proposed site to be adjacent to the Stairfoot battery site as it forms the terminal connection point of the distribution network to the battery site, and contains the protective switchgear that must be closely electrically connected. The facility will directly support and safeguard the electricity supply to the local communities served by the Stairfoot primary substation providing decentralised infrastructure to store and release electricity and balance supplies in the local area.

5.7 The Barnsley distribution network is currently highly constrained with all the surrounding primary substations showing very little headroom for further connection capacity. Increasing available connection capacity on constrained distribution networks comes at a substantial cost to reinforce existing infrastructure; cost which is ultimately passed on to end electricity users. Active Network Management (ANM) is an initiative that seeks to utilise a combination of demand side response, generation, energy storage and real time monitoring of the system to support a flexible grid. Northern Power Grid are working on introducing this management to more areas to enable them to release capacity for Low Carbon Technologies and reduce reinforcement costs. Battery storage projects are invaluable to this type of management.

Applicability of Renewable Energy Policies to the Proposed Development

5.8 The Chief Planner's Planning Update Newsletter issued on 21st December 2017 sets out the Government's position regarding the status of battery storage in the context of policies relating to renewable energy (Appendix 1, p.9). It sets out the Government's position that "electricity storage facilities are a form of generating station." Since battery storage does not involve the production of electricity from fossil fuels, it therefore constitutes renewable energy development for the purposes of planning. All national and local planning policies which address renewable energy development therefore also apply to battery storage development. The assessment of the proposed development must therefore be carried out on this basis.

5.9 The UK Government is legally committed under the Climate Change Act 2008 to achieve an 80% reduction in greenhouse gas emissions by 2050, and has resolved to commit to a more ambitious target of net zero emissions by 2050. This target will be unachievable without the wide scale delivery of battery storage infrastructure, which represents the only renewable method of balancing electricity supply and demand. For this reason, all opportunities to deliver battery storage facilities must be supported and given critical priority through the planning system, and in light of the scarcity of technically suitable sites and the need to provide a decentralised service, they should be considered to have an essential need to be located in close proximity to their connection point.

6.0 Assessment of Proposed Development

Design

6.1 Addressing the relevant requirements of Policy GD1, the proposed development is compatible with neighbouring land, positively integrating with its industrial surroundings. The woodland beyond the borders on the southern and eastern edges of the site provides natural coverage from outside of the industrial estate. These trees are not affected by the proposal, protecting the existing character of the local landscape. Using the existing landscape to conceal the development within the current industrial setting, will ensure the development will not prejudice the current or future use of neighbouring land; nor will it impact potential development of the wider area.

Biodiversity and Ecology

6.2 The site is currently a disused parking area, and entirely covered by asphalt. It is a relatively small area with no contribution to biodiversity or ecology, and the proposal will have no impact in this respect.

Noise Impacts

6.3 There are no noise producing components in the proposal, therefore there is no noise impact.

Transport and Highways Impacts

6.4 The proposed facility will be remotely operated and will only require infrequent trips by service personnel for the purposes of maintenance. The traffic impact is therefore considered to be negligible, and as such there will be no material harm to highway safety. The proposal is consistent with Policy RE1.

Renewable Energy Development Criteria

6.5 The local plan policies set out in CC1 promote and support the delivery of renewable and low carbon energy. Battery storage is a vital part of the whole flexible energy system that National Grid is striving for as more of the grid is supplied by renewable sources, as outlined in Part 5.

6.6 Policy CC1 also states that preference should be given to previously developed land in sustainable locations. The application site is an unused area of laid asphalt that has existed since the development of the industrial estate. It therefore offers no ecological value, and as it is redundant to the present use of the site, it represents a sustainable location suited to the proposal.

6.7 Policy RE1 outlines the criteria that are considerations in allowing such a development to proceed:

- The character of the landscape and appearance of the area,
- Living conditions,
- Biodiversity, Geodiversity and water quality,
- Heritage assets, their settings and cultural features and areas,
- Key views of, from or to scenic landmarks or landscape features,
- Highway safety, or
- Infrastructure including radar.

a) The proposed technology does not have a significant visual impact. The development is very compact and will integrate into the industrial setting. Existing natural barriers prevent visual impacts on the wider landscape outside the industrial estate. Key views of, from scenic landmarks or landscape features are mitigated due to these barriers.

b) There will be no significant harm to the amenity of any neighbouring land uses by virtue of the design or operation of the development, as the localised impacts of the proposed buildings are extremely limited. There are no emissions from the development and no noise pollution;

c) There is no material impact on ecology.

d) There are no heritage assets in the vicinity of the development which could feasibly be impacted by its presence or operation;

e) The development can be safely accessed via the existing vehicular entrance to the site for the purposes of both construction and operation, with limited visits required for maintenance.

f) There will be no interference with radar, telecommunications, air traffic, railways or highway safety as a result of the proposals.

6.8 In conclusion, the proposals fully comply with all of the requirements of Policy CC1 and RE1 and therefore attract substantial weight in favour of approval from the development plan, alongside that set out in paragraph 154 of the NPPF.

Development Plan Compliance

6.9 The preplanning application highlighted the area as one previously or currently used for employment; Policy E4 therefore needs to be considered for such development to be permitted. The

application site has remained vacant since the construction of the business park so has not actively contributed to employment. The proposed development would therefore not result in any loss of existing jobs and no significant loss of employment potential. Within the business park there remain several vacant units and offices are still advertised, indicating an adequate supply of premises for employment purposes in the locality, and the site is too small to represent any material loss to employment area. The material considerations for this development have been outlined in Part 5 highlighting government energy policies and the locational criteria. The proposal therefore outweighs this policy objection.

6.10 The assessment set out above has provided a comprehensive review of the proposals against the policies of the local plan. It demonstrates that the proposed development consistently complies with the requirements of policy, and does not result in a policy conflict in any respect. Planning permission should therefore be granted unless material considerations indicate otherwise. This will be addressed through the consideration of the planning balance in Part 7 of this statement.

7.0 Conclusion

7.1 The assessment set out in Section 6 of this statement has demonstrated that the proposed development is fully compliant with the relevant policies of the emerging development plan and with the requirements of the NPPF.

7.2 In respect of the modest impacts the development has on the immediate area, justification of the development has been clearly established. There is an essential need for the development, the proposed location is appropriate to the character of the proposals, and the facility could not be sited in any other location. The planning justifications for the proposal are:

- The provision of essential electricity balancing infrastructure which will reduce the likelihood and frequency of electricity supply shortages for the local community, and support the national electricity infrastructure, without requiring any short term generation from fossil-fuel engines,
- The wider environmental benefits, which result from the development's critical role in supporting an increase in the proportion of the UK's renewable energy consumption, by negating the impacts of intermittency on the balance between supply and demand, and increasing grid stability,
- The development's own contribution as a component of a renewable energy generation station (in planning policy terms) by effectively storing excess electricity from renewable sources which would otherwise be wasted, and returning this to the local community via the Stairfoot primary substation at times when demand would otherwise exceed supply, and

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- The essential need for the development to be located on the application site in order for it to provide these other benefits.

7.3 The proposed development fully complies with the local plan, and the principal material considerations indicate strongly in favour of the scheme. There are no material considerations which indicate that the development should be prevented. In conclusion, the proposals are entirely suitable for the granting of planning permission.