

Introducing the

Yorkshire Green Energy Enablement (GREEN) Project

Spring 2021



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nationalgrid



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Executive summary

The Yorkshire Green Energy Enablement (Yorkshire GREEN) Project is a proposal by National Grid Electricity Transmission to upgrade and reinforce the high-voltage power network, so that more low-carbon energy gets to homes and businesses in Yorkshire and further afield.

The Project is needed because the existing transmission system does not have enough capacity for all the new low-carbon electricity generation expected to connect to the network over the next ten years and beyond.

In June 2019, Parliament went beyond the UK's existing commitment of an 80% reduction on 1990 greenhouse gas emissions levels, to agree a Net Zero target by 2050.

The decarbonisation of the energy system is one of the biggest challenges facing our world, and we have a critical role to play in the acceleration towards a cleaner future.

In Great Britain, we are in the middle of a transformation, with the energy we use increasingly coming from cleaner, greener sources. In 2019, for the first time since the industrial revolution, most of our electricity came from low carbon sources. National Grid is at the heart of that energy transformation – investing around £1.3bn each year to adapt and develop our transmission network to connect new sources of low carbon and green energy to our homes and businesses.

Yorkshire GREEN Project proposals

Whilst it is vital that more of the energy we use comes from low carbon and renewable sources, both National Grid and the Government recognise it is also important to keep the impact as low as possible on bills, people, communities and our natural environment. National Grid is committed to finding the right balance between these factors to ensure our projects have a sustainable, positive impact.

Great Britain already has 8.5 gigawatts (GW) of offshore wind energy in operation, and another 1.9GW under construction. The Government's recent Energy White Paper outlines a plan to increase energy from offshore wind to 40GW by 2030 – enough to power every home in the UK.¹

The existing electricity transmission system does not have the capacity to transport all the energy that is being developed by 2030, while operating reliably and securely to the standards required. The Yorkshire GREEN Project would ensure the network can manage significantly increased power flows from onshore wind energy projects in Scotland, offshore wind projects based in the North Sea off the North East of England and subsea cables to other countries. This energy needs to flow to Yorkshire and the rest of the country, allowing us to meet the increasing demand for greener energy.

The Yorkshire GREEN Project proposes new infrastructure including substations, overhead lines, underground cables and cable sealing end compounds (where underground cables meet overhead lines). It would also include work to upgrade the existing transmission system, including some installation of new equipment at existing sites.



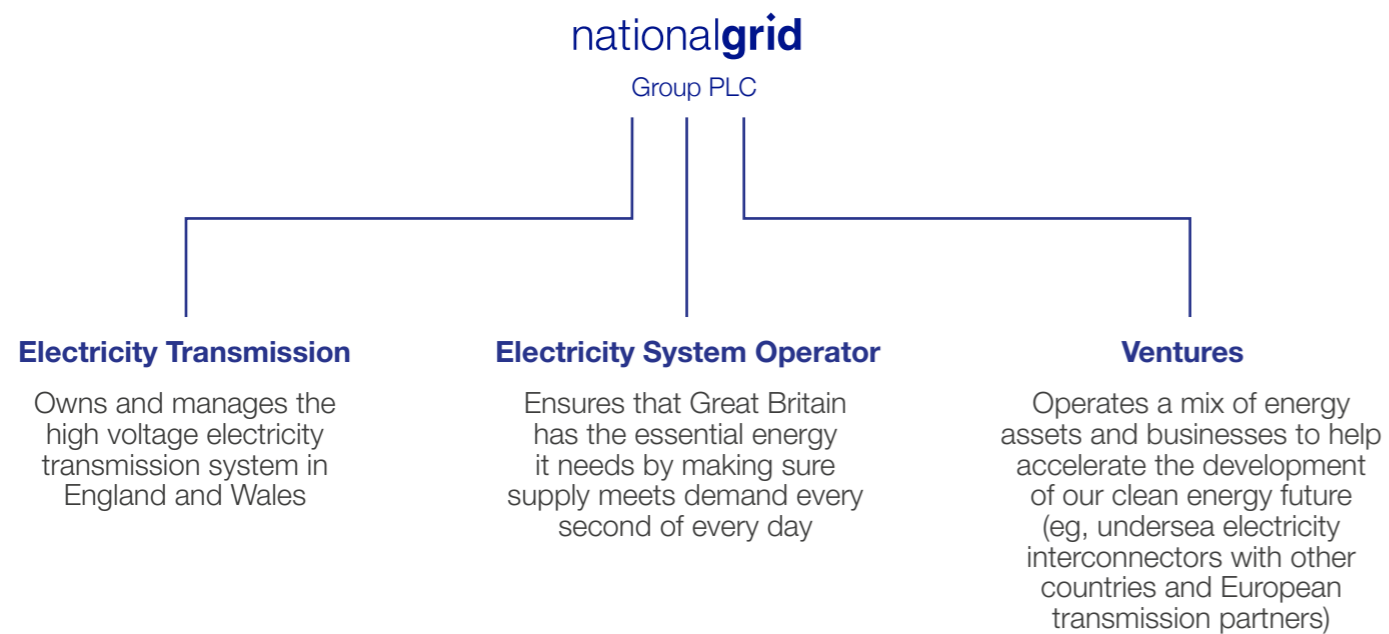
¹HM Government Energy White Paper 'Powering our net zero future', December 2020, p2

National Grid – who we are, and how we work

National Grid sits at the heart of Great Britain’s energy system, connecting millions of people and businesses to the energy they use every day.

We bring energy to life: in the heat, light and power we bring to our customer’s homes and businesses; in the way that we support our communities and help them to grow; and in the way we show up in the world. It is our vision to be at the heart of a clean, fair and affordable energy future.

Within the National Grid Group there are distinctly separate legal entities, each with their individual responsibilities and roles. These are shown in the diagram below.



National Grid Electricity Transmission (NGET) owns, builds and manages the electricity transmission grid in England and Wales, connecting many different sources of energy, safely, reliably and efficiently. It is NGET that is developing plans for the Yorkshire GREEN Project.

National Grid Electricity System Operator (NGESO) controls the movement of electricity around the country, transporting power from generators (such as wind farms) to local distribution network operators, like Northern Powergrid, ensuring that supply meets demand. Generators apply to NGESO when they wish to connect to our network, and NGESO leads the work to consider how the network may need to evolve to deliver that energy safely and securely.

Both NGET and NGESO are licensed by the Government as electricity transmission companies, and are regulated by Ofgem, which sets price controls and monitors how the companies develop and operate their networks on behalf of consumers.

National Grid Ventures sits outside the core regulated businesses, investing in technologies and partnerships that help accelerate our move to a clean energy future. That includes interconnectors - connecting the UK with countries across the North Sea, allowing trade between energy markets and efficient use of renewable energy resources. Each of the different entities within the National Grid Group are working to build a cleaner, fairer and more affordable energy system that will benefit everyone; for our homes, transport and industry.

*None of National Grid’s entities takes electricity directly to homes and businesses, that is the responsibility of distribution network operators, such as Northern Powergrid.

Under the Electricity Act 1989, NGENSO and NGET must develop transmission network proposals in an efficient, coordinated and economical way, whilst minimising impacts on people and places.

Our *Stakeholder, Community and Amenity* policy sets out how we do this. You can find it on our website², as well as our commitments when undertaking works in the UK³. These are summarised below:

- 1. Establishing need** – We only seek to build new parts of the network where existing infrastructure cannot be upgraded, where forecasted increases in demand will not be satisfied by other means, where customer connections are required or where existing infrastructure has been identified for replacement.
- 2. Involving stakeholders and communities** – We undertake genuine and meaningful engagement, meeting and, wherever possible, exceeding the requirements for consultation or engagement.
- 3. Routeing networks and selecting sites** – If we need to build new infrastructure, we seek to avoid areas that are nationally or internationally designated for their landscape, wildlife or cultural significance.
- 4. Minimising the effects of new infrastructure** – When we are developing new infrastructure, we seek to reduce the effect of our work on communities by having particular regard to safety, noise and construction traffic.
- 5. Mitigating adverse effects of works** – We carry out relevant environmental investigations and report on these when we apply for consent for new works. We use best practice environmental impact assessment techniques to assess possible effects of our works and identify opportunities for mitigation measures.
- 6. Offsetting where mitigation is not practicable** – When we cannot mitigate the impacts of our proposals, we offset these impacts in practical and sustainable ways that are developed through engagement with local stakeholders.
- 7. Enhancing the environment around our works** – When undertaking works, we consider what practicable measures can be taken to enhance surrounding areas for the benefit of local communities, as well as the natural and historic environment.
- 8. Monitoring and learning for the future** – We monitor, evaluate and review our engagement processes to learn from previous experiences, as a means to improve our working practices.
- 9. Reviewing our commitments** – We review our commitments at least every five years, and make additional revisions in response to new legislation, policy and guidance.
- 10. Working with others** – We require other organisations working on our behalf to demonstrate these same commitments and continue to create an environment where we can share and deliver best practice.

²<https://www.nationalgrid.com/uk/electricity-transmission/network-and-infrastructure/infrastructure-projects/yorkshire-green>

³<https://www.nationalgrid.com/uk/electricity-transmission/document/81026/download>



How have we developed our plans?

NGESO and National Grid Electricity Transmission have undertaken a phased Options Appraisal process to identify our Strategic Proposal for the Yorkshire GREEN Project.

In doing so, we have balanced technical, socio-economic, environmental, programme and cost considerations in accordance with our statutory and licence obligations.

What is the Options Appraisal process?

Our Options Appraisal is carried out in two parts: a Strategic Options Appraisal and then a more focused Options Appraisal.

The Strategic Options Appraisal process is a robust and transparent methodology which we use to compare different options for new infrastructure and to assess associated advantages and disadvantages across a range of criteria, including environmental, socio-economic, cost and technical factors.

We begin by looking at all of the technically feasible options which meet the determined need, which may cover a very wide geographical area and a number of different technologies. We then narrow down the options through a process of careful analysis with engineers, environmental consultants and internal National Grid experts.

The Strategic Options Appraisal concludes with the preparation of a *Strategic Proposal Report*, which also takes account of our licence commitments. For the Yorkshire GREEN Project, the Strategic Proposal is for a new section of overhead line to link together two existing overhead lines.

The next stage of the Options Appraisal is to focus in on broad corridor locations for the new overhead lines, and identified siting areas for specific elements of infrastructure, such as substations. These are assessed by environmental consultants, engineers and other experts to consider and understand the environmental, socio-economic, cost and technical factors.

We then hold internal workshops on how to minimise known effects, taking account of the technical solutions and environmental implications. The whole Options Appraisal process concludes with a *Corridor and Preliminary Routeing and Siting Study*⁹. In the case of the Yorkshire GREEN Project, this report identifies the preferred corridor for the overhead lines, together with broad siting areas for the associated infrastructure.

At each stage of the process we gain more detailed information about the constraints and issues that might affect a particular option. As we learn more, we back-check at each stage to see if any new information has come to light which affects any conclusions previously made regarding technology or options.

Why do we do Options Appraisal?

Options Appraisal provides a framework that allows us to identify and balance technical, socio-economic, environmental and cost considerations in selecting a Strategic Proposal. It also enables us to document, in a transparent way, the information on which we have based our judgements.

The information we collect as part of Options Appraisal informs our discussions with stakeholders, including the public. Alongside community and stakeholder consultation, Options Appraisal is a key tool in helping us develop and make decisions on projects. All projects are different, and where we need to deviate from this process, we will explain the reasons and ensure that we meet our obligations.

⁹<https://www.nationalgrid.com/uk/electricity-transmission/network-and-infrastructure/infrastructure-projects/yorkshire-green>



The need case for the Yorkshire GREEN Project

Why is this Project needed now?

In June 2019, the UK Parliament passed into law a legally-binding commitment to achieve Net Zero greenhouse gas emissions by 2050.

Put simply, 'Net Zero' means removing the same amount of greenhouse gas from the atmosphere as we put into it, to help protect the environment from climate change.

This commitment means many changes to the way we live, such as electric vehicles replacing petrol and diesel vehicles over the next few years.

The decarbonisation of our energy system is another essential part of this, and as a country, we are already making progress.

Great Britain is home to the largest operating offshore wind capacity in the world, with around 8.5 gigawatts (GW) in operation and a further 1.9GW under construction. We recently broke the record for the longest period without burning coal since 1882 – and in recent years, more of our energy has come from renewables than fossil fuels.

Moving away from burning fossil fuels means more investment in lower-carbon technologies, such as wind turbines and nuclear, for the production of electricity. The Government's *Energy White Paper*⁴ outlines an ambitious plan to increase the energy delivered by offshore wind to 40GW by 2030 – enough to power every home in the UK.⁵

The Climate Change Committee⁶ anticipates that electricity demand will at least double by 2050 as we shift to clean energy to charge electric vehicles, heat our homes and power our industry. The Committee estimates that, as a country, we will need more than 100GW of offshore wind⁷ to meet Net Zero by 2050, providing opportunities for growth and job creation across Great Britain.

Up to 250,000 jobs could be created by 2030 in the expanding green energy sector, including up to 60,000 through offshore wind alone. By 2050, our own analysis indicates that the energy sector needs to fill around 400,000 jobs to build the Net Zero energy workforce⁸.

To accommodate this huge increase in energy on our network, we will need to upgrade our energy transmission infrastructure. Our teams at National Grid Electricity Transmission are working hard to make this possible, combining the best of British engineering and ingenuity with smart technology to bring power to the nation.

We are working with the Government and our stakeholders to design network solutions that can facilitate the development of offshore wind at scale, minimise the impact of our infrastructure on local communities, and deliver value for our consumers.

⁴<https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>

⁵HM Government Energy White Paper 'Powering our net zero future', December 2020, p2

⁶<https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/>

⁷<https://www.theccc.org.uk/2020/12/09/building-back-better-raising-the-uks-climate-ambitions-for-2035-will-put-net-zero-within-reach-and-change-the-uk-for-the-better/>

⁸<https://www.nationalgrid.com/document/126256/download>



Why do we need to strengthen our network to and from Scotland and the North East of England?

The shallow waters and regular wind flow of the North Sea make it ideal for the development of offshore wind on a large scale. As offshore wind generation grows towards 40GW in line with Government commitments and the drive towards Net Zero by 2050, and more onshore wind generation is connected in Scotland, power flows between Scotland and England are increasing, placing growing pressure on the network.

More subsea interconnectors (cables that share electricity between countries) are also being developed between other countries across the North Sea to the North East. This could result in a growth of over 6GW of low-carbon generation - the equivalent of two modern nuclear power plants. This means that there is a need to reinforce the transmission system in Yorkshire to ensure that this low-carbon energy can move through the network to meet demand across Yorkshire and Great Britain.

Some of the projects that will be bringing cleaner, greener energy onto the electricity network include:

- **Scotland England Green Link (SEGL) 1:** 2GW offshore link from Torness in East Lothian to Hawthorn Pit in County Durham
- **Continental Link Interconnector:** 1.8GW interconnector (with Norway) and additional offshore wind connecting at Creyke Beck, near Hull
- **Atlantic Superconnection:** 1GW interconnector (with Iceland) also connecting at Creyke Beck
- **Hornsea P4:** 2.6GW offshore wind also connecting at Creyke Beck.

Why upgrade and reinforce the network in this particular part of Yorkshire?

This Project is needed to provide a new link and reinforcement to the transmission network in Yorkshire.

The Yorkshire GREEN Project is a proposal by National Grid Electricity Transmission to provide a new link on the transmission system by upgrading and reinforcing the electricity transmission system in Yorkshire.

With power flows set to double within the next ten years, Yorkshire GREEN is needed to allow energy to flow securely and efficiently on the network in the North and North East of England, balancing and maintaining supply and demand. The Project will link up two existing overhead transmission lines, allowing additional energy to flow north to south. This will increase network capacity and flexibility.

At the moment there are two double circuit transmission lines connecting the north east part of the North England regional transmission system to the southern parts. Without additional reinforcement to help strengthen the network in Yorkshire and provide extra capacity for the increased power flows, the existing transmission system would become overloaded.

To stop these overloads from happening, NGENSO would need to constrain power generation – paying a generator not to produce power in one area to reduce congestion around a particular point of the transmission network.

This type of action is known as a ‘constraint cost’. To balance demand and supply, NGENSO might also need to pay another generator elsewhere to produce power to make up the shortfall.

The National Electricity Transmission System – the ‘grid’ – links different parts of the country together across system ‘boundaries’, which divide the network into sections surrounding major sources of generation, transmission route corridors and areas of energy demand.

We need to transfer power between these boundaries, because generation and demand are typically in different locations. For example, most offshore wind farms connect to the network a long way from major towns and cities.



About Yorkshire GREEN

What does Yorkshire GREEN involve?

We need to build approximately 7km of new overhead lines, some underground cables and two substations, to link up two existing overhead lines (see the blue shaded area on the map at Figure 1), and to reinforce the system to increase the capacity of the network in this area.

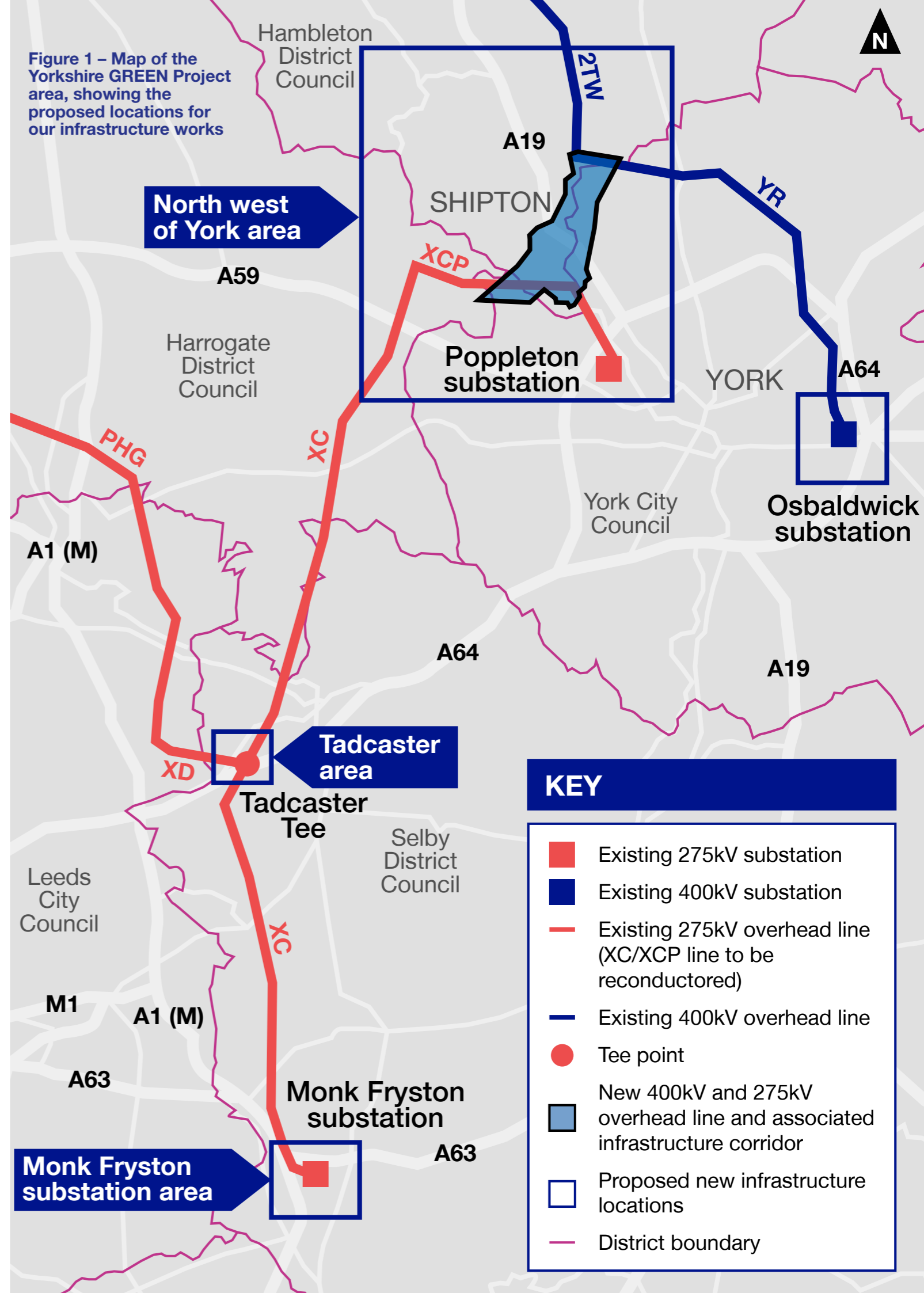
We will also upgrade existing overhead lines, by adding a second set of wires on each side so they can carry more electricity where required, and replace fittings and some pylons where necessary.

The new substations are needed to increase and decrease the electricity voltage in the transmission network. We will also need to build four cable sealing end compounds (where underground cables meet overhead lines), with some additional equipment required at existing substations.

We have developed our proposals carefully, and we are carrying out an initial public consultation to find out what local people and our statutory stakeholders think.

We will take account of feedback received as we develop detailed plans, which will then be subject to further, statutory consultation before we submit an application to the Planning Inspectorate in winter 2022/23. Subject to approval of our plans, we plan to start construction in 2025 and finish in 2027.

The following Figures show the geographical extent of the proposed Yorkshire GREEN Project, identifying the locations for new infrastructure; a schematic of the existing electricity transmission network in this area; and a schematic showing the proposed new infrastructure alongside the existing network.







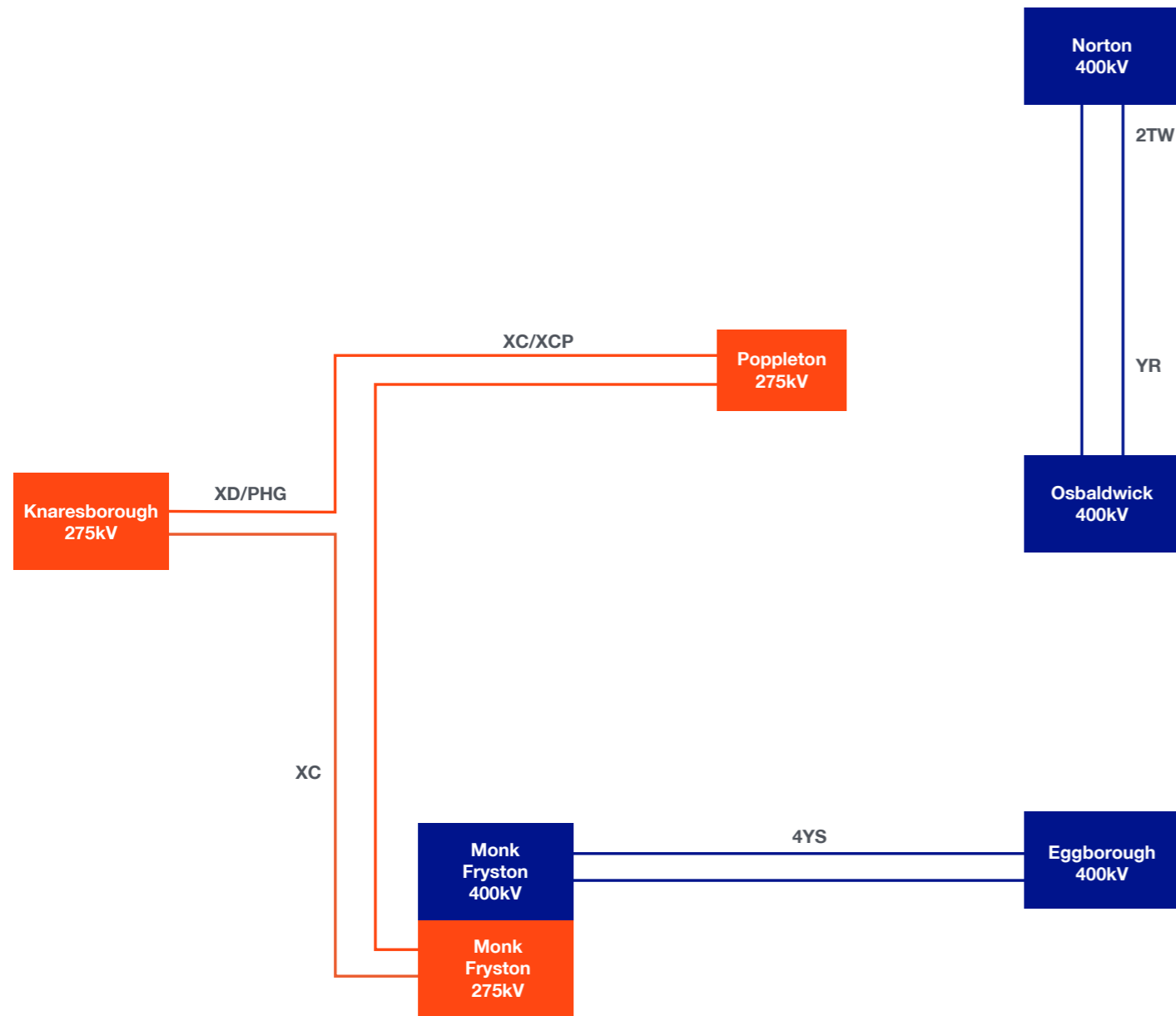




Existing Infrastructure	
	400kV substation
	275kV substation
	Existing 400kV overhead line
	Existing 275kV overhead line

Figure 2 – Schematic overview of existing electricity transmission infrastructure relating to the Yorkshire GREEN Project



Existing Infrastructure	
	400kV substation
	275kV substation
	400kV overhead line
	275kV overhead line










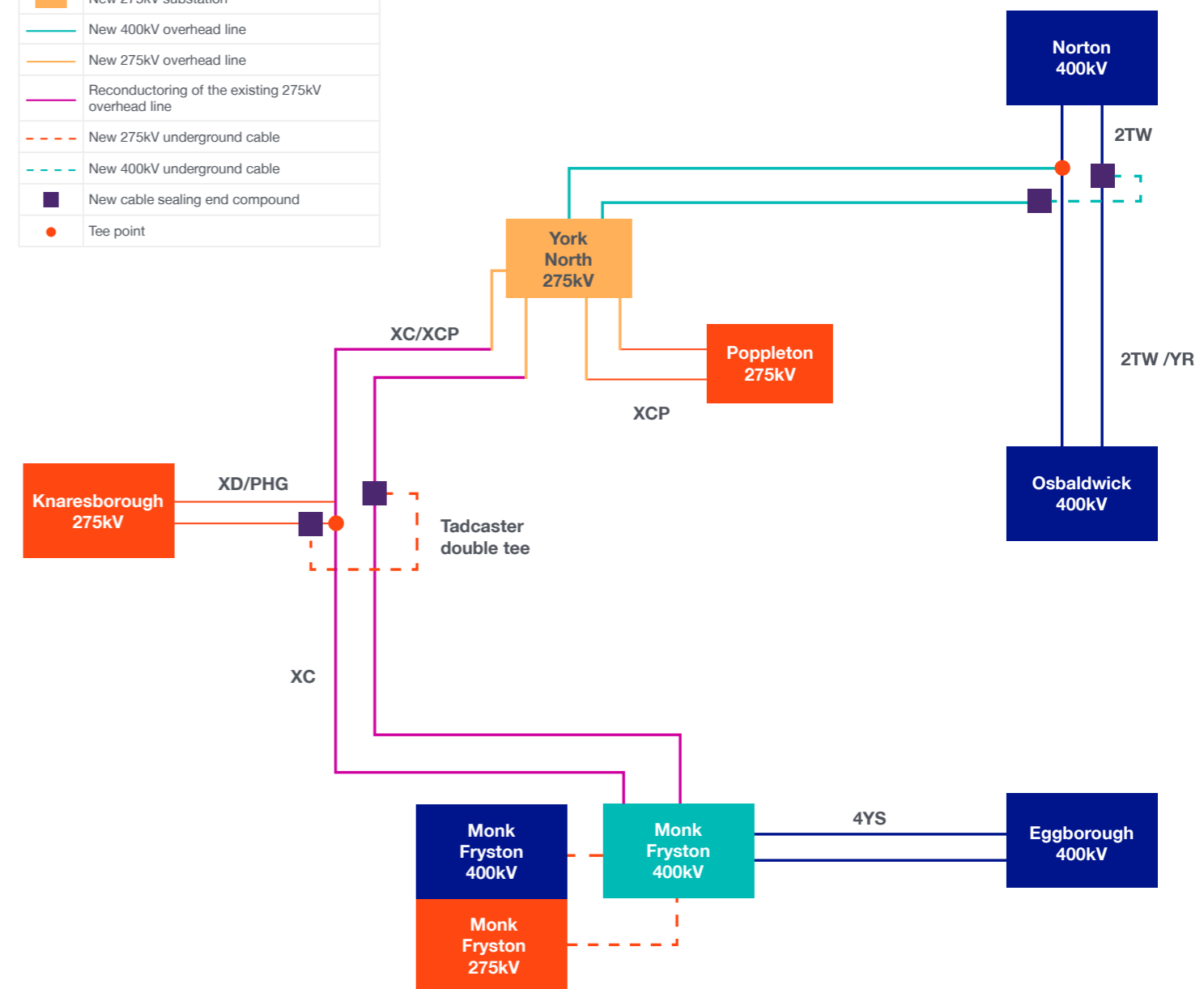
Yorkshire GREEN Works	
	New 400kV substation
	New 275kV substation
	New 400kV overhead line
	New 275kV overhead line
	Reconductoring of the existing 275kV overhead line
	New 275kV underground cable
	New 400kV underground cable
	New cable sealing end compound
	Tee point

Figure 3 – Schematic overview of existing infrastructure, alongside proposed new infrastructure, both relating to the Yorkshire GREEN Project



What is being proposed north west of York?

We need to provide additional network capacity in the area north west of York, as follows:

- A new 400kV overhead line, connecting to a new substation (currently known as the York North substation), from the existing 400kV Norton to Osbaldwick (2TW/YR) overhead line.
- The proposed new 400kV overhead line would connect to the near side of the existing overhead line through a direct 'tee' connection, and to the far side through a short section of underground cable between two new cable sealing end compounds (where underground cables are joined to overhead lines).
- Two proposed new 275kV overhead lines, connecting the proposed new substation to the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line.

This work will also allow us to remove a section of the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line, between the two new 275kV overhead lines.



What options did we consider north west of York?

We considered four potential corridors for the new overhead lines proposed for the area north west of York (A, B, C and D) and an extension corridor (A1) - See Figure 4.

We also identified four areas for two new cable sealing end compounds (A, B, C and D - See Figure 5), and 12 areas for the proposed York North substation and associated infrastructure (See Figure 6).

As part of the Options Appraisal process, we looked at 21 different combinations of the above, and subjected each combination to review and analysis by environmental, socio-economic and technical specialists.

We then carried out a screening process to identify the 'least preferred' options - those which were less accessible, or required longer and more complex overhead line routes that increased the landscape and visual impact, as well as cost. A 'preferred' option was then selected (highlighted in blue in Figures 4, 5, 6) following a technical workshop attended by the Project team.

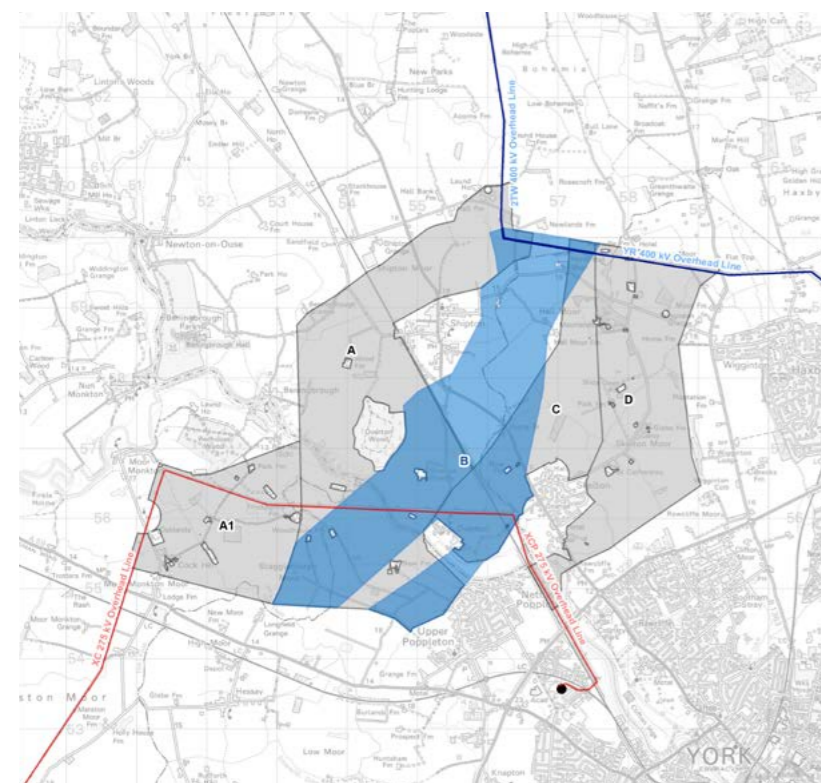


Figure 4 – Route corridors considered for the proposed 400kV and 275kV overhead lines



Key	
■	Preferred overhead line corridor option
■	Alternative overhead line corridor options considered
—	Existing 400kV overhead line
—	Existing 275kV overhead line



Figure 5 – Siting areas considered for two proposed cable sealing end compounds and associated infrastructure



Key	
■	Preferred Option
■	Alternative Option Considered
—	Existing 400kV overhead line

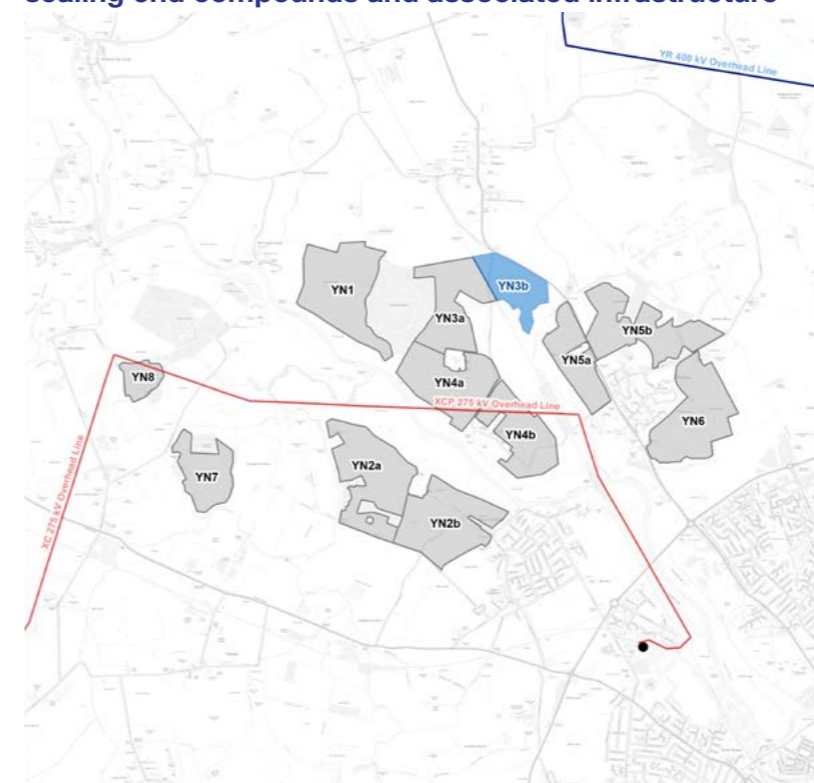


Figure 6 – Siting areas considered for the proposed location of the York North substation



Key	
■	Preferred substation option
■	Alternative substation options considered
—	Existing 400kV overhead line
—	Existing 275kV overhead line



Developing proposals for the north west of York

The maps overleaf (**Figures 7 and 8**) show a 'graduated swathe' of land within the broad route corridor where the new overhead lines could be routed, along with the two cable sealing end compounds and the 275kV York North substation.

The darker areas of the graduated swathe show our preferred location for the infrastructure, but the final locations will depend on any potential modifications following feedback from the public and stakeholders to our initial consultation.

We have identified two potential options for the proposed new 275kV overhead line between the proposed York North substation and the existing 275kV Poppleton to Monk Fryston (XC/XCP) overhead line. The orange graduated swathe shows our preferred location for either option within the broad corridor.

Both options also include a blue graduated swathe, which is our preferred location within the broad corridor for:

- the proposed new 400kV overhead line
- a siting area for the cable sealing end compounds at the existing Norton to Osbaldwick (2TW/YR) overhead line, which would link the existing line to the proposed 400kV overhead line
- a siting area for the proposed 275kV (York North) substation.

In our first round of consultation, we would welcome your feedback on the full extent of the broad route corridor, and also on the blue and orange graduated swathes (our preferred routes and sites for the infrastructure within the corridor).

Further details of the options are set out overleaf.

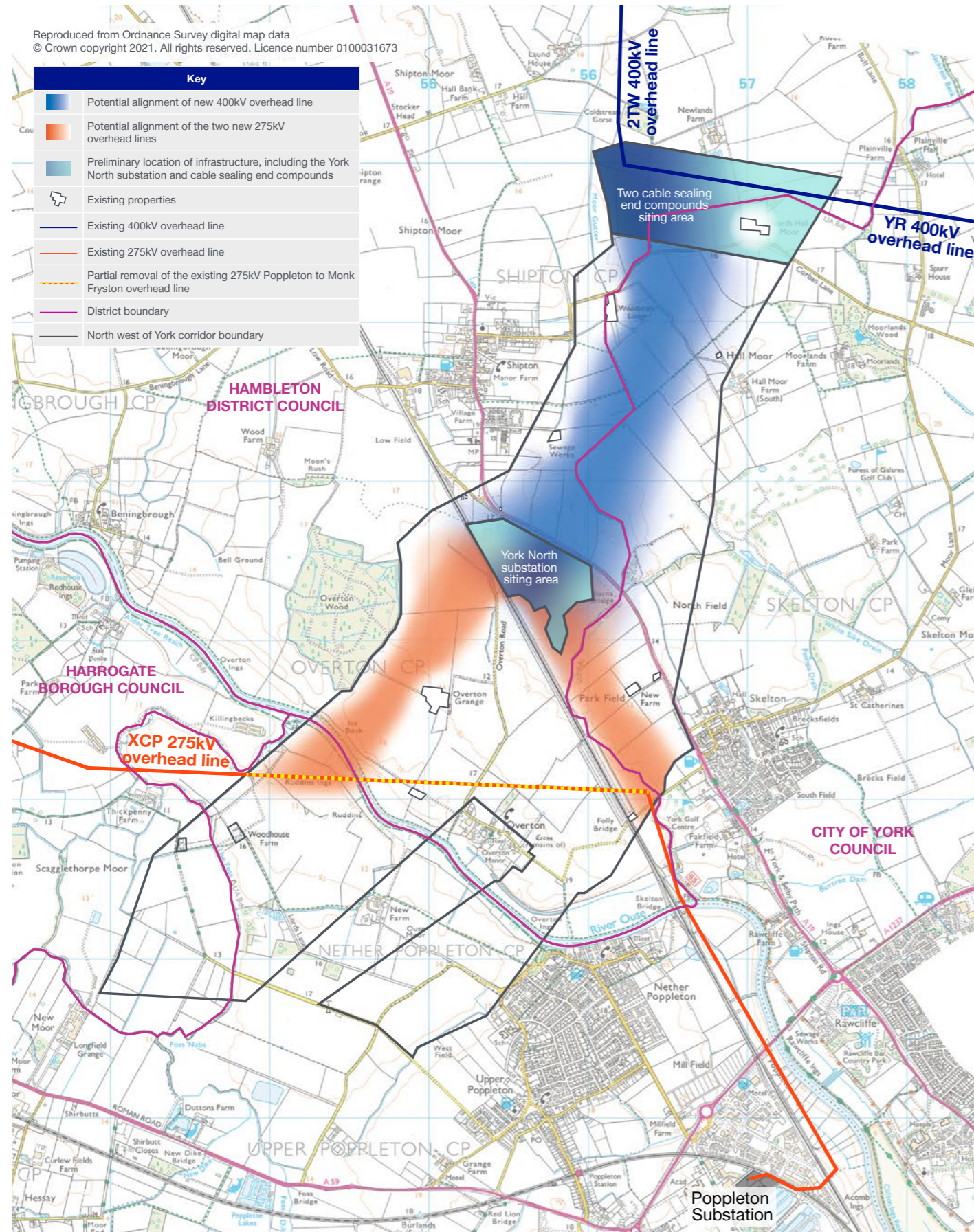


Figure 7 – North west of York graduated swathe – option 1

North west of York graduated swathe – option 1

Option 1 includes a siting area for the proposed 275kV York North substation, a broad corridor for the new 400kV overhead line previously described, and a siting area for the proposed new cable sealing end compounds. The proposed new 275kV overhead lines would be located as follows:

- A new 275kV overhead line from the proposed York North substation siting area, crossing the East Coast Mainline railway line, heading south west towards Overton Wood and continuing south west towards the River Ouse. The line would then cross the River Ouse, and connect into the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line.
- In addition, a new 275kV overhead line, heading south from the York North substation area, parallel with the East Coast Mainline railway line (not crossing), and connecting into the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line where it turns south towards Poppleton.

Benefits of option 1

- This would allow the removal of up to 2.5km of the existing 275kV Poppleton to Monk Fyston (XCP) overhead line, reducing the ‘wirescape’ and improving the views from Overton, Nether Poppleton, Upper Poppleton and the community to the south and north of the River Ouse.
- Trees and shrubs along the railway would soften the view of the overhead line from different directions.
- Overton Wood would provide screening of the proposed 275kV overhead line from the west and would reduce the impact of the new line on the view from the south east and east.
- It’s unlikely that the proposed 275kV overhead line would have a greater effect on the view from Overton Grange than that of the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line, due to the intervening farm buildings.
- This option provides an opportunity to reinstate and enhance vegetation in the Site of Importance for Nature Conservation (SINC) following the installation of the new 275kV overhead line and potential replacement of the existing pylon within the SINC.

Disadvantages of option 1

- The new 275kV overhead line crosses the River Ouse, which would result in some loss of habitat and potentially increase risk of bird collision. However, we would remove the existing overhead line, which also crosses the river, which would reduce risk of bird collision.
- The 275kV overhead line route proposed in option 1 would be longer than that in option 2.
- There would be temporary disruption along the River Ouse, while we build the new 275kV overhead line and remove up to 2.5km of the existing 275kV overhead line.
- The new line would make several crossings of Hurns Gutter, identified as a network enhancement zone. This could result in some potential ecological impacts during and after construction, including some potential loss of vegetation.
- Construction work related to potentially replacing the pylon within the SINC and installing the new 275kV overhead line could have an ecological impact on land in the SINC.
- Small areas of existing woodland could be affected during the dismantling of up to 2.5km of the existing 275kV Poppleton to Monk Fyston (XCP) overhead line.

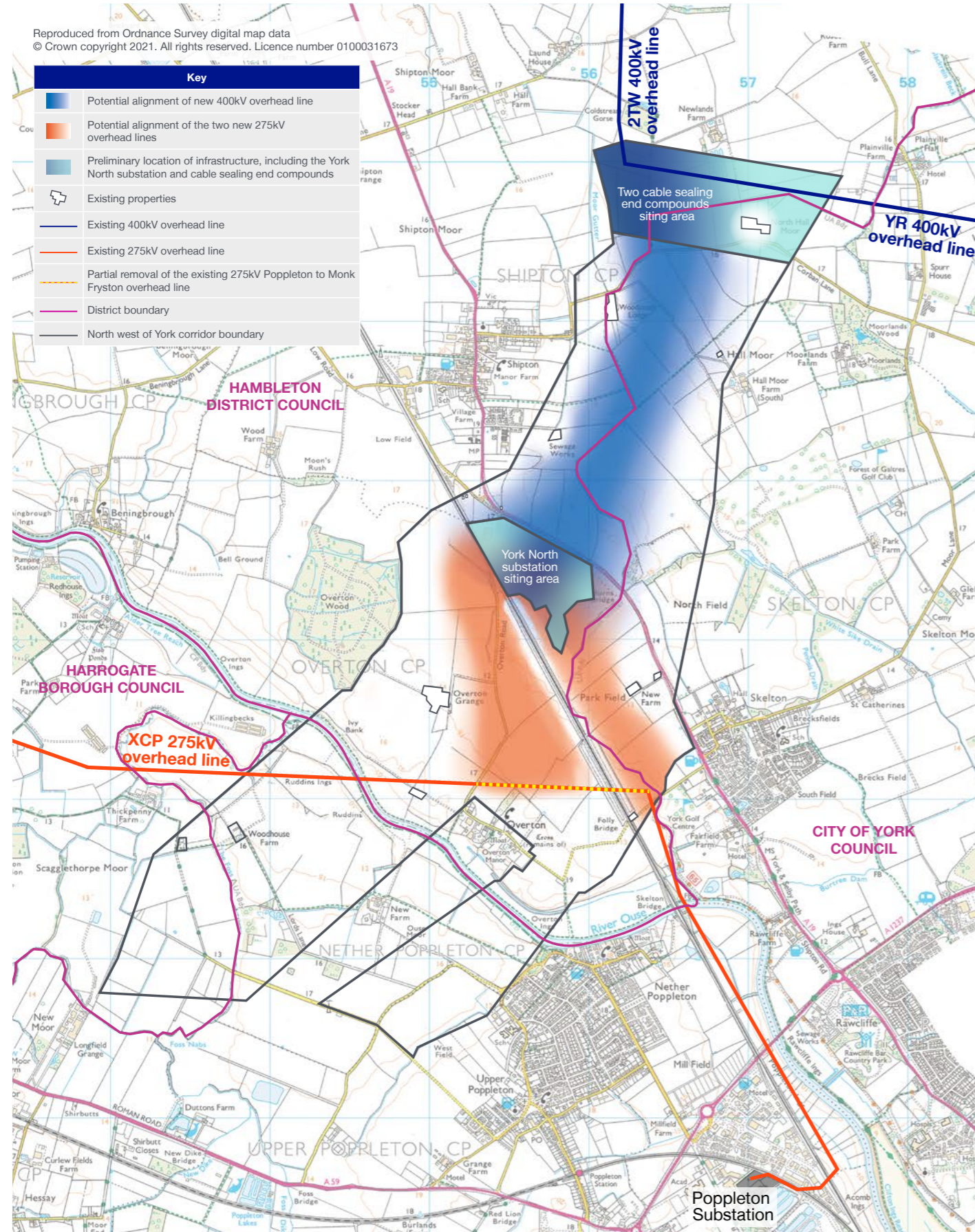


Figure 8 – North west of York graduated swathe – option 2

North west of York graduated swathe – option 2

Option 2 includes a siting area for the proposed 275kV York North substation, a broad corridor for the new 400kV overhead line previously described, and siting area for the proposed new cable sealing end compounds, the same as displayed in option 1. The proposed new 275kV overhead lines would instead be located as follows:

- A new 275kV overhead line from the proposed York North substation siting area, crossing the East Coast Mainline railway line, then turning sharply south, parallel with the railway, before connecting into the existing 275kV Poppleton to Monk Fyston (XCP) line.
- In addition, a new 275kV overhead line from the proposed York North substation siting area, heading south, parallel with the railway (not crossing), connecting into the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line where it turns south towards Poppleton (as option 1).

Benefits of option 2

- This option would provide an opportunity to reinstate and enhance vegetation in the Site of Importance for Nature Conservation (SINC) following the installation of the new 275kV overhead line and potential replacement of the existing pylon, situated within the SINC.
- Both 275kV overhead lines are further away from the River Ouse and its floodplain than option 1.
- Trees and shrubs along the railway line would reduce the visual impact of the ‘wirescape’ from different viewpoints.
- Removal of up to 700m of the existing 275kV Poppleton to Monk Fyston (XCP) overhead line would improve the views from Overton, Nether Poppleton and Upper Poppleton.

Disadvantages of option 2

- Option 2 does not allow for the removal of up to 2.5km of the existing 275kV Poppleton to Monk Fyston (XCP) overhead line, but does allow the removal of 700m of that line.
- The new line would make several crossings of Hurns Gutter, identified as a network enhancement zone. This could result in some potential ecological impacts during and after construction, including some potential loss of vegetation (as with option 1).
- Construction work related to potentially replacing the pylon within the SINC and installing the new 275kV overhead line could have an ecological impact on land in the SINC (as with option 1).
- Small areas of existing woodland could be affected during the dismantling of up to 700m of the existing 275kV Poppleton to Monk Fyston (XCP) overhead line.
- Some additional pylons would be visible from Overton, Nether Poppleton and Upper Poppleton (even with several existing pylons removed).

What are we proposing in the area?



To manage the power flows on the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line, we need to create a second connection between it and the existing Monk Fyston to Knaresborough and Poppleton to Knaresborough (both XD/PHG) overhead line.

The overhead lines have a circuit on each side. To connect into the circuit (which allows electricity to flow from one point to another) on the 'near' side we can use a direct 'tee' connection from one overhead line to the other.

To connect to the 'far' side we need to install a short section of underground cable to get the electricity safely from one side to the other, between two proposed cable sealing end compounds (where underground cables meet overhead lines).

What options did we consider for the Tadcaster area?

The sites for the two cable sealing end compounds need to be as close as possible to the existing overhead lines and, where feasible, as close to each other as possible, to limit the length of underground cable needed.

The sites must be able to accommodate the cable sealing end compounds, each of which measure approximately 50m x 40m.

We identified three possible siting areas on the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line and seven on the existing 275kV Tadcaster Tee to Knaresborough (XD/PHG) overhead line (See **Figure 9**), and assessed each site against our Options Appraisal process.

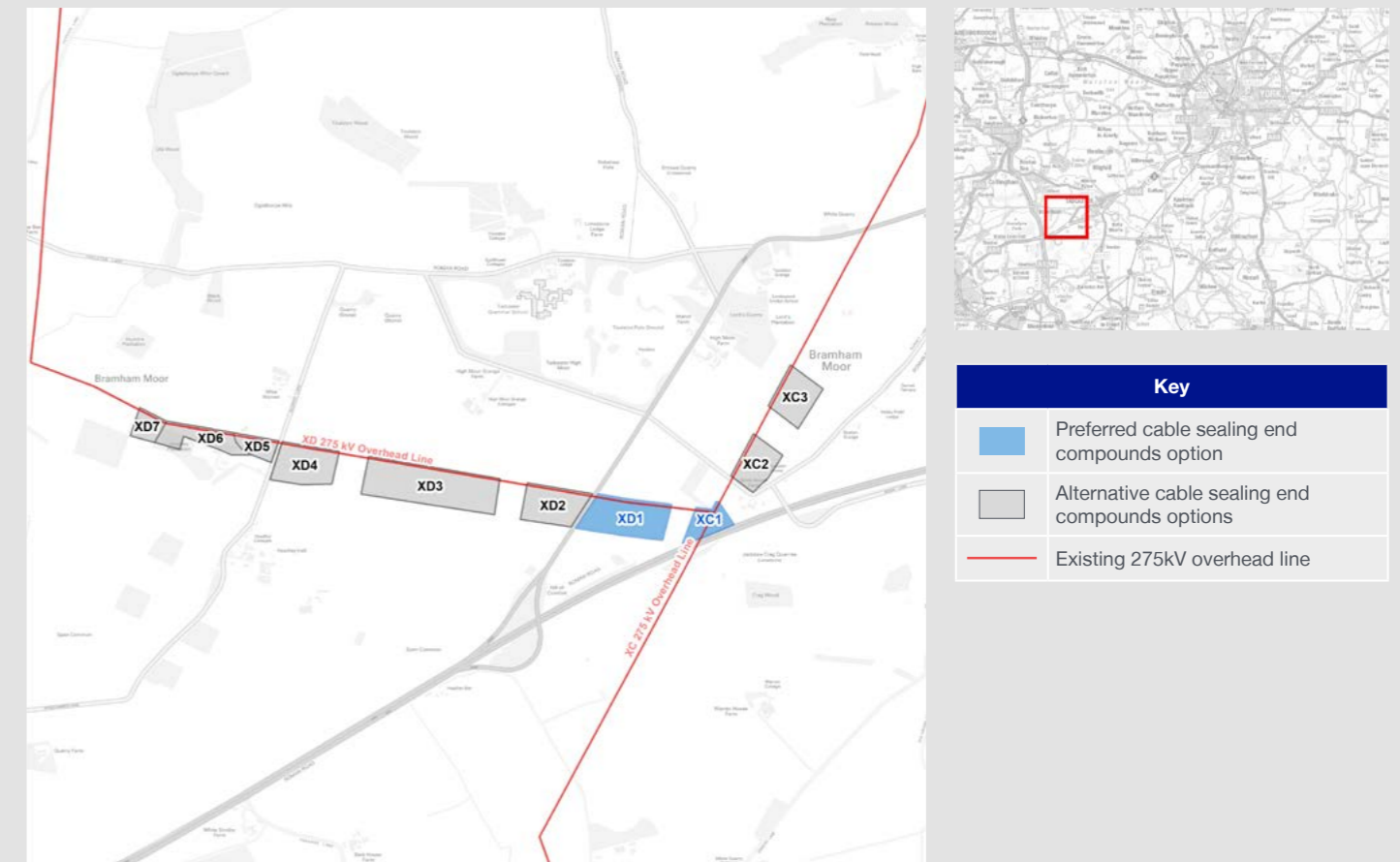
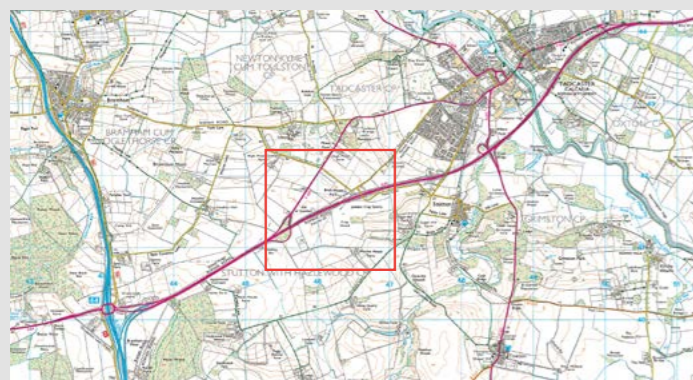
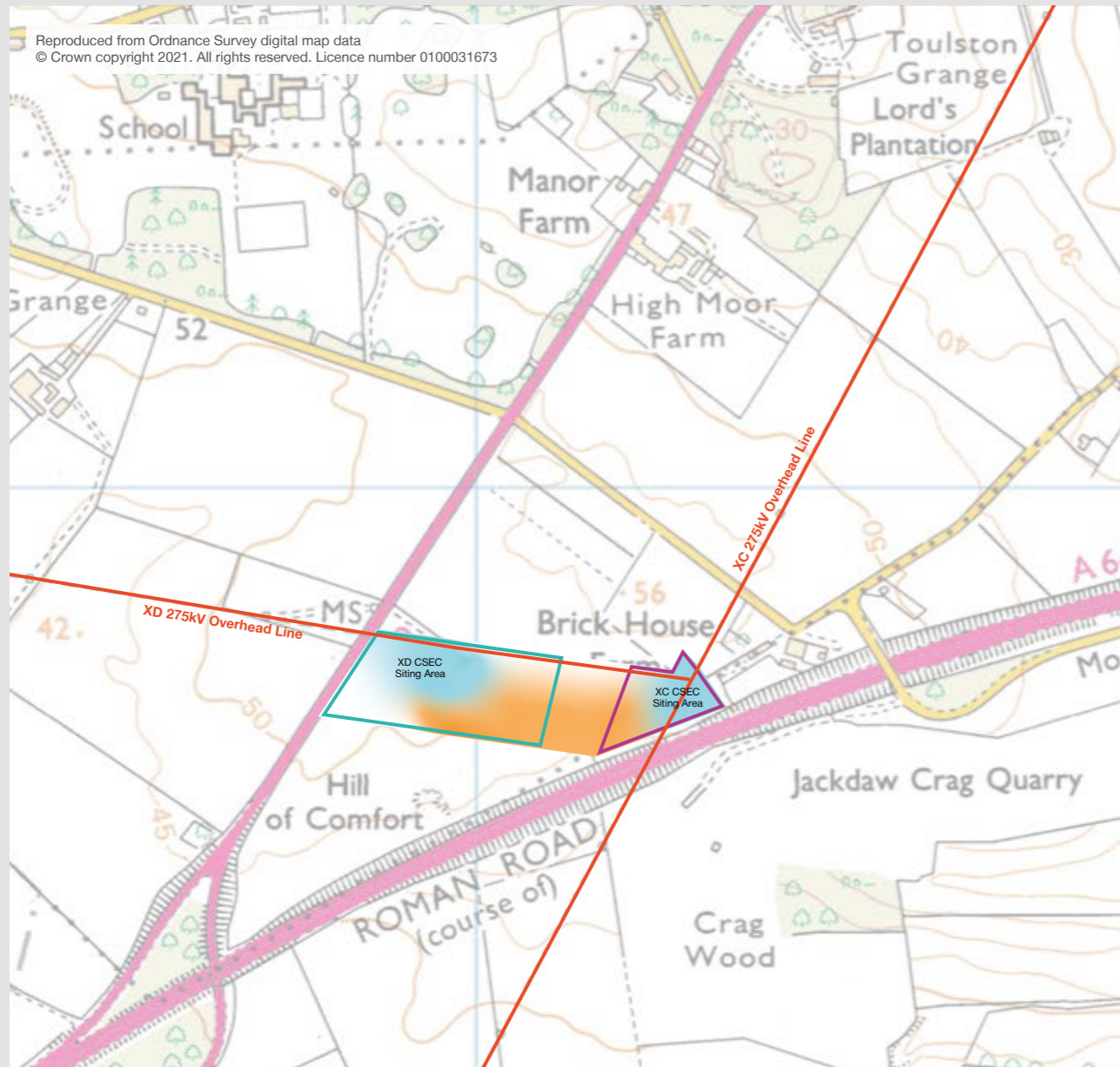


Figure 9 – Siting areas considered for the proposed new cable sealing end compounds in the Tadcaster area



Key	
	Location of proposed new cable sealing end compound
	Location of proposed underground cabling
	Existing 275kV overhead line
	Proposed XD cable sealing end compound location
	Proposed XC cable sealing end compound location

Figure 10 – Tadcaster area graduated siting area for proposed cable sealing end compounds

Developing proposals for the Tadcaster area

Following the options appraisal process, we identified two sites, XC1 and XD1 (See Figure 9), as the preferred options for the cable sealing end compounds. These two sites are close to each other and there is good access. They allow for the shortest underground cable length of approximately 0.5km, which limits potential impacts on the local community and the environment.

The map below shows a ‘graduated siting area’ where the cable sealing end compounds and underground cables could go (See Figure 10). The final locations within the graduated area will depend on any potential modifications following feedback from the public and stakeholders to our initial consultation, and further detailed design work.

In our first round of consultation, we would welcome your feedback on the graduated siting area for the Tadcaster area which shows our preferred location for the underground cabling and cable sealing end compounds.



What are we proposing in the Monk Fryston substation area?



To increase and strengthen network capacity to accommodate the increasing energy flows in the Monk Fryston substation area, we need:

- a proposed 400kV substation near to, and connecting back into, the existing Monk Fryston substation
- to connect the existing 275kV Poppleton to Monk Fryston (XC/XCP) overhead line, which currently goes into the existing Monk Fryston substation, into the proposed 400kV substation. This will include a short section of proposed overhead line and will require some of the existing overhead line to be dismantled
- to connect the existing 400kV Monk Fryston to Eggborough (4YS) overhead line, which currently goes into the existing Monk Fryston substation, into the new Monk Fryston substation. This will require some additional equipment in the substation and a section of the existing overhead line to be dismantled.

What options did we consider for the Monk Fryston substation area?

We need a site close to our existing Monk Fryston substation, with sufficient space to accommodate a new substation covering an area approximately 350m x 210m.

We identified three potential siting areas which meet our technical and engineering requirements, and which we believe best balance the impact on the local community and the environment (See Figure 11).

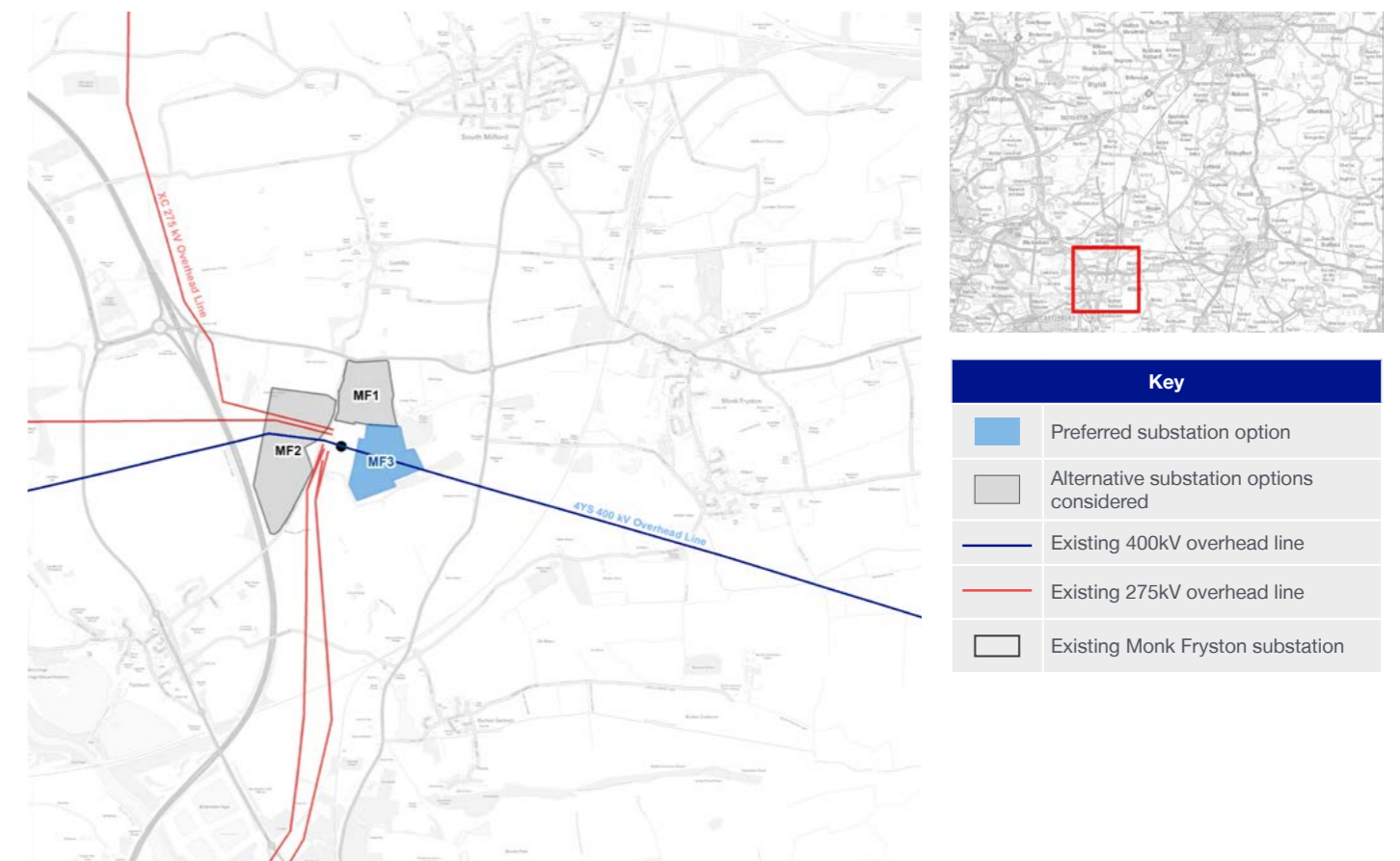
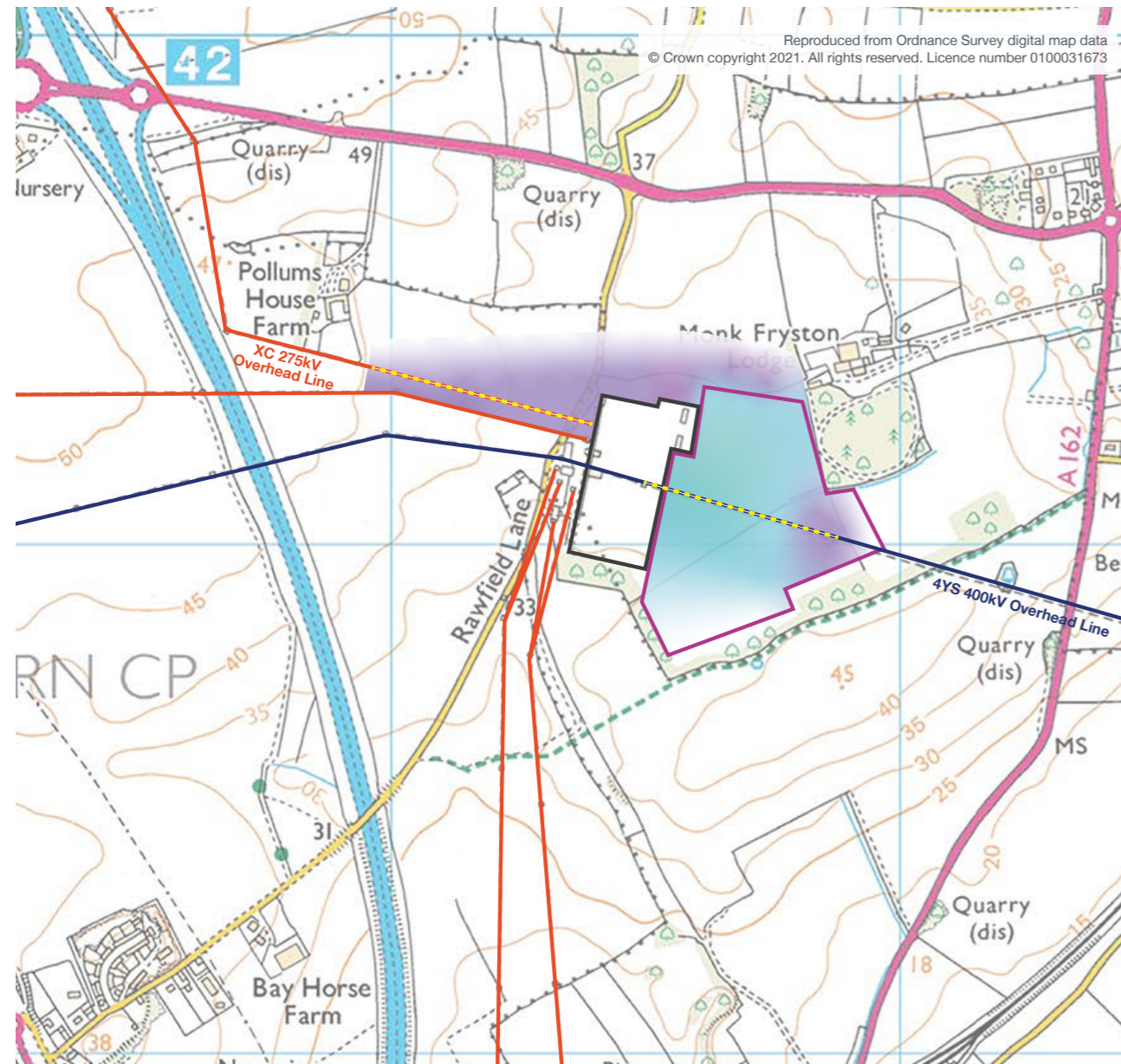


Figure 11 – Siting Areas considered for the proposed new substation and associated infrastructure in the Monk Fryston substation area



Key	
	Proposed location of associated infrastructure connecting to proposed, new MF3 substation
	Proposed location of new substation
	Existing 275kV overhead line
	Existing 400kV overhead line
	Partial removal of the existing 275kV XC/XCP overhead line (Poppleton to Monk Fyston)
	Partial removal of the existing 400kV 4YS overhead line (Monk Fyston to Eggborough)
	Proposed MF3 substation location
	Existing Monk Fyston substation

Figure 12 – Monk Fyston substation graduated siting area for a proposed new substation and associated infrastructure

Developing proposals for the Monk Fyston substation area

Our preferred site is immediately east of the existing Monk Fyston substation and provides the least complex technical solution. We have developed a 'graduated siting area' (See Figure 12) to show where the substation and associated infrastructure could go. The exact location of the substation within this siting area will depend on consultation with stakeholders and further detailed design work.

In our first round of consultation, we would welcome your feedback on the graduated siting area for the Monk Fyston substation area which shows our preferred location for the new substation and associated infrastructure.

What else do we need to do?

We need to do some additional work as part of the Yorkshire GREEN Project proposals to ensure that the network can manage the additional energy flows, including:

- additional equipment at Osbaldwick substation, including an isolator (a safety device which disconnects a circuit from electrical supply) and a circuit breaker (a switch which manages and protects power flow)
- updating substation protection and control equipment and making changes at other remote substations, within the existing substation boundaries.
- replacing the conductors (overhead wires) and fittings on the existing 275kV Poppleton to Monk Fyston (XC/XCP) overhead line. We will need two sets of wires on each side of the pylons; at the moment there is only a single set on each side. We may also need to strengthen or replace some existing pylons to carry the additional weight of the extra wires

Consultation and next steps

Our commitment to you

As we upgrade the electricity transmission network and develop proposals to allow more energy to flow on our network, we will work with a wide range of stakeholders and experts. Listening to the views of communities where the network needs to be developed gives us valuable feedback and insight as we look to minimise any impacts.

Delivering clean energy whilst ensuring everyone benefits and no-one is left behind is also important to us. We work closely with local communities to make sure we minimise construction impacts as much as we can and support community initiatives in areas where we are working to deliver social, economic or environmental benefits.

Where our plans affect you or your community, we encourage you to let us know your opinions on our proposals. Your views are important to us and will help shape our plans as our infrastructure projects develop.

Our approach to public consultation

Certain types of energy infrastructure fall within the categories of Nationally Significant Infrastructure Projects (NSIPs), which require a Development Consent Order (DCO) under the Planning Act 2008.

For National Grid, NSIPs include new overhead lines and pipelines over a certain voltage and length. Applications for DCOs are submitted to and examined by the Planning Inspectorate and are determined by the Secretary of State for Business, Energy and Industrial Strategy (BEIS), not by a local planning authority. The Yorkshire GREEN Project falls into this category.

However, before we undertake statutory consultation we are holding a first round of consultation to make sure we capture the views of local people before developing the Project further. This will help identify potential Project impacts, allowing us to consider and respond to feedback, and inform decision making.

The feedback we receive from this initial stage of consultation, together with information from further environmental and technical work, will inform our Project design and shape the development of our proposals. We will then carry out our statutory consultation, where consultees will have a further opportunity to comment on the refined proposals and see how feedback from this initial stage of consultation has been taken into account.

What we would like your feedback on to help develop the Project

For this initial round of non-statutory consultation, we have developed what we're describing as a 'graduated swathe' for the area identified as the north west of York (**See Figures 7 and 8**).

These figures show a broad corridor for the proposed infrastructure for the north west of York, as well as areas for potential overhead line routes, proposed cable sealing end compounds and substation. We would like your feedback on **Figures 7 and 8**.

We have also developed what we are calling 'graduated siting areas' for the Tadcaster and Monk Fryston substation areas (**See Figures 10 and 12**) and we would like your feedback on the siting areas for the proposed cable sealing end compounds and substation.

To learn more about the preferred options for the proposed infrastructure and how these were defined and selected, please revert to the *Corridor and Preliminary Routeing and Siting Study*¹⁰.

In our first round of consultation, we want to know where people think the overhead lines, sealing end compounds and substations should be placed within the broad corridors and siting areas we've identified, and whether people agree with the graduated areas we have put forward as our preferred options for locating this infrastructure.



We will focus particularly on how the Project may affect local communities and the surrounding environment, and how any adverse impacts may be mitigated. We would like you to consider these factors as part of your feedback.

We also want to know about any concerns or questions people might have about our proposals, or any local factors we should consider.

The feedback received through this first consultation will inform how we develop Yorkshire GREEN, prior to conducting statutory consultation.

Who are we consulting?

We are consulting with prescribed consultees, such as the Environment Agency, Natural England and Historic England, as well as landowners, local businesses, elected representatives, residents, communities and organisations and interest groups such as local wildlife trusts and the RSPB.

During consultation we will reach out to hard-to-reach groups, including younger people, time-constrained people, and those identified in discussions with local authorities.

How to have your say

Our first round of consultation runs from **Thursday 11 March to Thursday 15 April 2021**.

The Coronavirus restrictions mean we can't hold public exhibitions and attend meetings as we normally would. To ensure the consultation is inclusive and open to all, we will use a range of communication channels including webinars and telephone 'drop-in' surgeries to help people access project information and ask questions of the Project team.

Please visit our consultation website or contact us to learn more about the Project, register for consultation events or provide your feedback.

Website:

nationalgrid.com/yorkshire-green

Email:

yorkshiregreen@communityrelations.co.uk

Freephone:

0800 029 4359

Our lines are open Monday to Friday 9am to 5.30pm; please leave a message outside these times.

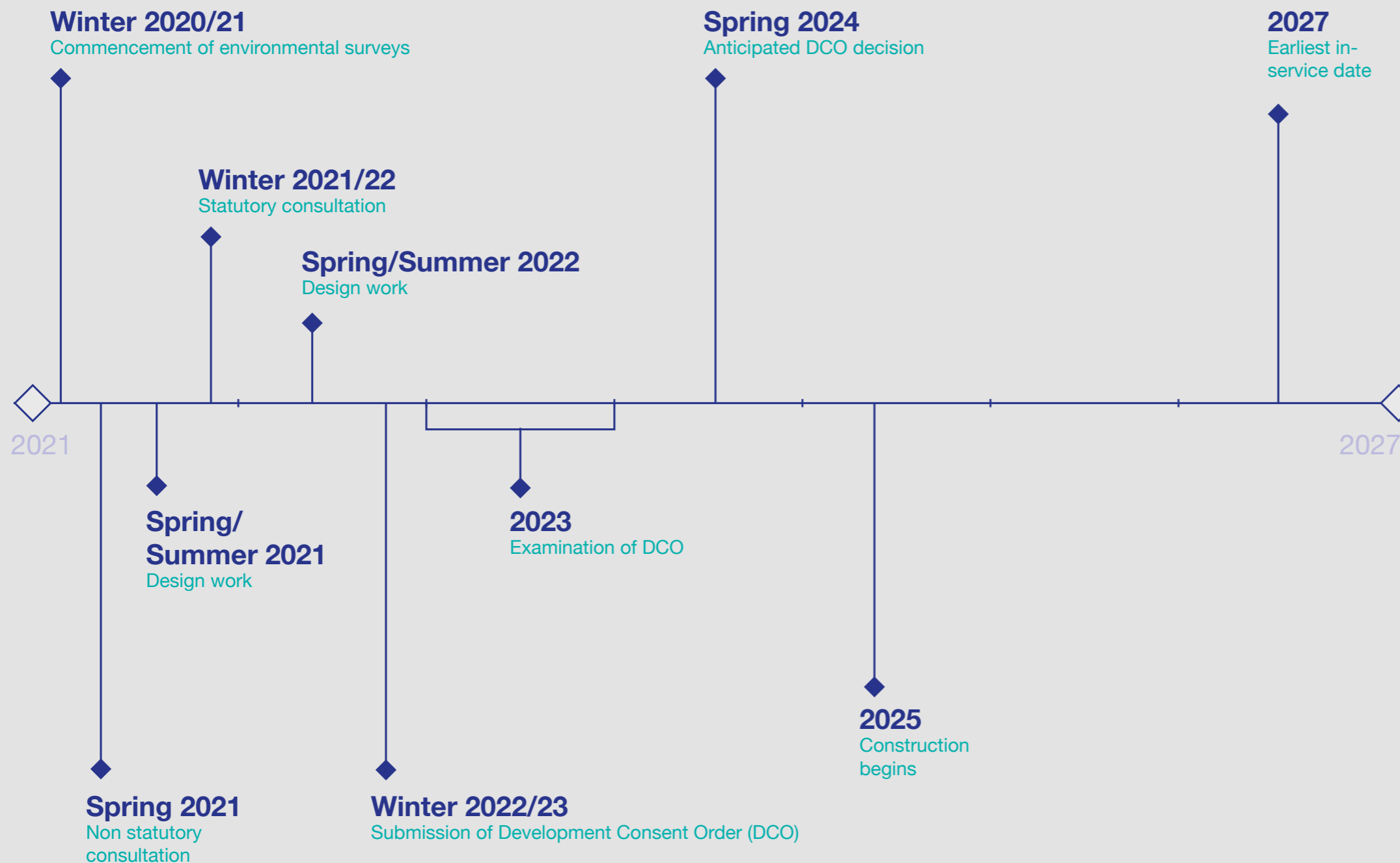
Give us your feedback

We want to make it as easy as possible for you to provide feedback on our proposals. There is an online feedback form on our Project website, but if you would prefer a paper copy, please call our Freephone information line and we will send you one along with a Freepost envelope so you can send your feedback to us free of charge.

If you would prefer to receive any information relating to the consultation through the post, or you need it in another format, please get in touch.

¹⁰<https://www.nationalgrid.com/uk/electricity-transmission/network-and-infrastructure/infrastructure-projects/yorkshire-green>

Yorkshire GREEN Project timeline



Next Steps

The feedback received through the first stage of consultation will inform how the Yorkshire GREEN Project is developed further and will influence the next stage in the design of the Project.

In line with Section 49 (2) of the Planning Act 2008, feedback received through consultation must be considered with respect to the Project design, prior to submitting a DCO application to the Planning Inspectorate for examination.

Once further design work has been undertaken following this initial round of feedback, we will carry out statutory consultation on our detailed proposals. People will be able to see how we have taken their views into account, and provide their feedback on the Project, which will help us further refine the Project design. We will publish a *Statement of Community Consultation* setting out how we plan to carry out the statutory consultation nearer the time.

We will give all stakeholders the opportunity to comment, including those with statutory interests, businesses, local communities, individual residents and affected landowners, as well as those who work or transit through the local area.

At the end of statutory consultation, we will prepare and publish a *Consultation Report*. This will summarise the feedback we received and outline how both non-statutory and statutory consultations were undertaken.

The Yorkshire GREEN Development Consent Order (DCO) application would be examined by a panel of Planning Inspectors who would make a recommendation on the application to the Secretary of State for Business, Energy and Industrial Strategy. The Secretary of State makes the final decision on a DCO application.

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