Great North Road Solar and Biodiversity Park

Concept Design Parameters and Principles

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Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, APFP Regulation 5(2)(q)

Contents

1 INTRODUCTION

1 This Concept Design Parameters and Principles document has been prepared by Elements Green Trent Ltd. (the 'Applicant') in support of its application for a Development Consent Order (DCO) to authorise the construction, operation, maintenance, and decommissioning of the Great North Road Solar & Biodiversity Park (the Development).

2 Revision 2 of this document updates the previous version following the Relevant Representations, the Issue Specific Hearing 1 (ISH1) and Open Floor Hearing 1 (OFH1) on 26th and 27th November 2025.

3 This document sets out the design parameters and principles that have informed the Development design and the Environmental Impact Assessment (EIA). It will be secured through a Requirement in Schedule 2 of the draft DCO, ensuring that these guiding principles and parameters shape the detailed design of the Development following the grant of consent.

4 This document should be read alongside Chapter 5 of the Environmental Statement (ES) 'Development Description Chapter' [EN010162/APP/6.2.5].

5 The spatial extent of the Development, referred to as the Order Limits, is illustrated on the Works Plans submitted with the DCO application which are secured through Article 3 of the draft Development Consent Order. The Environmental Impact Assessment (EIA) provided in the Environmental Statement (ES) [EN010162/APP/6.1 – 6.4.18.1] has been carried out based on the maximum extent of each Work Area, as outlined in Schedule 1 to the Draft Development Consent Order. This method adopts the 'Rochdale Envelope' approach, described in footnote 78 to paragraph 4.2.8 of NPS EN-1 as an assessment based on a "*series of maximum extents of a project for which the significant effects are established. The detailed design of the project can then vary within this 'envelope' without rendering the environmental impact assessment inadequate".* Further explanation of how the Rochdale Envelope has been applied can be seen in Section 5.3 of Chapter 5.

6 Due to the rapid pace of technological advancement in the solar photovoltaics and energy storage system sectors, the Development has been designed with inherent flexibility to enable the use of the most up-to-date technology. The detailed design will be finalised at the point of construction and managed post-consent in accordance with the Requirements set out in Schedule 2 of the Draft Development Consent Order.

7 This Concept Design Parameters and Principles document sets out the key design parameters that represent the worst-case scenario assessed in the Environmental Impact Assessment for the Development. As the detailed design will accord with these parameters, the conclusions of the Environmental Statement (ES) will remain valid.

8 The Concept Design Parameters and Principles are presented in the following section in Tables 2.1 to 2.9, structured in line with the description of the Works Areas provided in Schedule 1 to the Draft Development Consent Order [EN010162/APP/3.1]. The spatial extents of each Work Area are defined on the accompanying Works Plans [EN010162/APP/2.3]. Where relevant, this document refers to other submitted DCO application documents that are secured through Requirements in the Draft DCO, such as the Outline Construction Environmental

Management Plan (oCEMP) [EN010162/APP/6.4.5.3] or the Outline Landscape and Ecological Mitigation Plan (oLEMP) [EN010162/APP/6.4.5.1]. Where applicable, these outline management plans provide further detail on design, parameters and mitigation measures to be implemented during the construction, operation, maintenance and decommissioning of the Development.

9 For each Development component outlined in Tables 2.1 to 2.9, the parameters have been defined according to:

- **Location** – the position of the Development component within the overall Development as assessed in the Environmental Statement (ES);
- **Scale** – a minimum or maximum value that has been assessed in the ES; and
- **Design** – the relevant design parameter or principle that has been considered in the ES.

10 All heights defined in Tables 2.1 to 2.9 are measured Above Ground Level (AGL), unless stated otherwise.

Consultation

11 The Undertaker has carried out consultation during the pre-application and examination stages. During this process National Gas Transmission plc have indicated that they would like to be consulted on in relation to elements of the detailed design stage. This would relate to Work No.s 6 and 7. The Undertaker will consult with National Gas Transmission plc before any relevant application to discharge Requirement 6 of the DCO is submitted to the planning authority. The Undertaker will have appropriate regard to any feedback provided by National Gas Transmission plc, with the aim to avoid any operational conflict with National Gas assets.

2 DESIGN PARAMETERS AND PRINCIPLES TABLES

2.1 WORKS NO.1 CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.1: Work No.1 Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 1— a ground mounted solar photovoltaic generating station with a gross electrical output capacity of over 50 megawatts including— (a) solar modules fitted to mounting structures; (b) electrical cabling and combiner boxes; (c) conversion units including inverters, transformers, switchgear and monitoring and control systems; and (d) electrical cables connecting Work No. 1 to Work No. 2, Work No. 4 and Work No. 5B, together with any part of Work Nos. 2, 3 and 8, and associated development within the meaning of section 115(2) of the 2008 Act		
Solar PV areas (Works No.1)	Location	Works No. 1 must be located within the corresponding numbered area shown on the Works Plans.
Generation Infrastructure (Solar PV Panels, inverters, transformers, etc).	Scale	11 kV electricity lines (above ground and buried) - not permitted within 3.0 m of the nearest conductor.
	Scale	33 kV electricity lines (above ground and buried) - not permitted within 3.0 m of the nearest conductor.
	Scale	132 kV electricity lines - not permitted within 3.6 m of the nearest conductor.
	Scale	275 kV and 400 kV electricity transmission lines - not permitted within 30 m radius of towers and enable operator's legal access rights.
	Scale	Gas pipelines - not permitted within 10 m of pipeline.
	Scale	Where possible avoid Areas of potential archaeological interest. May be suitable subject to further archaeological investigations
	Scale	Not permitted within 10 m of the centre of a permissive footpath, permissive bridleway or diverted public rights of way.
	Scale	Root protection areas – trees and hedgerows. May be suitable subject to

Scheme Component	Parameter Type	Design Parameters and Principles
		consideration of the specific receptor (type of tree or hedgerow) and a corresponding method statement, based on the ES Volume 4, Appendix 8.12 Arboricultural Impact Assessment (AIA) [EN010162/APP/6.4.8.12].
	Scale	Waterbodies and watercourses - not permitted within 10m of the bank top.
Solar PV Modules	Scale	Total area of solar PV modules can be up to 550ha.
	Scale	Slope of solar PV modules from horizontal will be between 10 to 35°.
	Scale	The nominal direction in which the solar PV modules face will be up to 10º (E/W) maximum deviation from south orientation in specific cases.
	Scale	The Minimum height of Solar PV modules above ground level (AGL) will be 0.50 m.
	Scale	The maximum height of Solar PV modules AGL will be 3.5m.
	Scale	Maximum height of weather stations AGL will be 4m.
	Design principle	Each row of modules would be mounted on a frame supported by galvanised steel poles driven into the ground. Various foundation solutions are available, however, driving poles into the ground is the method most likely to be used for the majority of the Site. The mounting structure of the PV modules will be designed to withstand predicted wind speeds in storm conditions accounting for future climate change, with wind modelling used to predict the maximum forces on the PV modules, and push-pull testing of the mounting poles (when driven into the ground) used to ensure that the resistance to movement of the mounting poles is sufficient to resist at least the expected wind speeds. Between each row of panels there would be a separation distance to facilitate construction and

Scheme Component	Parameter Type	Design Parameters and Principles
		maintenance and reduce loss of energy by shading of one row by another row.
	Scale	Table width of mounting structures are constrained to 3.5 – 7.5m.
	Scale	North/south distance between tables is constrained to 2.5 – 10m.
	Design principle	Mounting structure material will be Galvanised steel, anodised aluminium or Magnelis (zinc, aluminium and magnesium alloy).
	Scale	The minimum distance between boundary fence and tables areas is 3m.
	Scale	Depths of piles below ground level will be between 0.5 – 2m.
Inverter and transformer stations	Scale	The maximum dimensions are as follows: • Length: up to 15m • Width: up to 3m • Height AGL: up to 3.5m
	Scale	Gantries, if erected, will not extend more than 2m from the station footprint.
	Design principle	Station foundations will use steel piles, concrete strip or concrete slab/raft.
	Design principle	The external colour is limited to whites, greys, (dark) blues or greens.
Other ancillary infrastructure (tracks, cables, fences, CCTV, etc).	Scale	Infrastructure should avoid physical structures. The applicant will follow asset specific design guidance and consider the operator's legal access rights for the following constraints; • 11 kV electricity lines (above ground and buried) • 33 kV electricity lines (above ground and buried) • 132 kV electricity lines • 275 kV electricity transmission lines • 400 kV electricity transmission lines • Gas pipelines
	Scale	Areas of potential archaeological interest - avoid where possible. May be

Scheme Component	Parameter Type	Design Parameters and Principles
		suitable subject to further archaeological investigations.
	Scale	Permissive footpaths (except for Permissive Footpath 22), permissive bridleways and diverted public rights of way - above-ground components not permitted within 10 m of the centre of the route, except features that are part of the route, e.g., gates, stiles, bridges, information boards, etc.
	Scale	Root Protection Areas – trees and hedgerows - subject to AIA, ecological assessment and suitable mitigation.
	Scale	Waterbodies and watercourses - May be suitable subject to further assessment and appropriate design mitigation
Fencing	Scale	Fencing in Works No.1 will be subject to the following limitations: • Fence type: Deer fence (timber and wire) • Height (AGL): between1.6 – 2.1m • Length: maximum of 140km • Mammal gate frequency: at least one every 200m • Mammal gate height: 20 – 25cm.
Closed-circuit television (CCTV) cameras	Design principle	To be pole mounted or attached to nearby structures.
	Scale	To be mounted between 2 – 3.5m in the air.
	Design Principle	CCTV cameras will be directed towards the Order Limits and its immediate environs and not at residential properties nor along Public Rights of Way.
Lighting	Design principle	No visible lighting will be installed during the operational phase. Applicant has proposed PIR motion sensor activated security infra-red lighting (non-visible) where required for CCTV and security purposes.

Scheme Component	Parameter Type	Design Parameters and Principles
Construction Compounds	Design principle	Construction compounds will be located at least 300m from residential properties.

2.2 WORKS NO.2 CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.2: Works No.2 Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 2— works to lay electrical cables and temporary construction laydown areas and compounds for the electrical cables including— (e) underground electrical cables of up to 33kV connecting Work No. 1 to Work No. 4 and Work No. 5B; (f) underground electrical cables of up to 132kV connecting Work No. 4 to Work No. 5B; (g) underground electrical cables of up to 400kV connecting Work No. 5B to Work No. 6 or Work No. 7; (h) tunnelling, trenching, boring and drilling works including horizontal directional drilling compounds; (i) temporary bridges over watercourses; (j) laying down of access tracks, ramps, footpaths and roads, including the laying and construction of drainage infrastructure, signage and information boards; (k) temporary construction and decommissioning laydown areas comprising— (i) areas of hardstanding, compacted ground or track matting; (ii) car parking; (iii) area to store materials and equipment; (iv) site and welfare offices and workshops; (v) security infrastructure, including cameras, perimeter fencing and lighting; (vi) safety infrastructure to manage traffic when crossing roads or other obstacles; (vii) site drainage and waste management infrastructure (including sewerage); and (viii) electricity, water, waste water and telecommunications connections; and (l) auxiliary cables, fibre optic cables, cable joint bays, cable ducts, kiosks, earthing conductors, transposition boxes, communication links, protective barriers and fencing, warning posts and markers on other buried equipment associated with the laying of underground electrical cables, together with any part of Work Nos. 3 and 8.		
Cable Areas (Works No.2)	Location	Works No. 2 must be located within the corresponding numbered area shown on the Works Plans.

Scheme Component	Parameter Type	Design Parameters and Principles
	Scale	Infrastructure should avoid physical structures. The applicant will follow asset specific design guidance and consider the operator's legal access rights for the following constraints; • 11 kV electricity lines (above ground and buried) • 33 kV electricity lines • 132 kV electricity lines • 275 kV electricity transmission lines • 400 kV electricity transmission lines • Gas pipelines
	Scale	Areas of potential archaeological interest should be avoided where possible. Areas may be suitable subject to further archaeological investigations.
	Scale	Above-ground water-sensitive electrical equipment and connections will be placed outside areas within the extent of the 1:100-year flood event (30% climate change factor applied)
	Scale	Root Protection Areas – trees and hedgerows - may be suitable, subject to Arboricultural Impact Assessment (AIA), ecological assessment and suitable mitigation.
	Scale	Waterbodies and watercourses may be suitable subject to further assessment and appropriate design mitigation.
Construction Compounds	Design principle	Construction compounds will be located over 300 m from residential properties.
Lighting	Design principle	No visible lighting installed during the operational phase. Applicant has proposed PIR motion sensor activated security infra-red lighting (non-visible) if required for CCTV or security purposes.

2.3 WORKS NO.3 CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.3: Works No.3 Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 3— works to create, enhance and maintain green infrastructure, including— (a) soft landscaping including planting and vegetation management; (b) landscape and biodiversity enhancement measures including habitat creation and management; and (c) permissive routes, public rights of way diversions, signage and information boards.		
Mitigation/ Enhancement Areas (Works No.3)	Location	Works No. 3 must be located within the corresponding numbered area shown on the Works Plans.
	Location	No works (including vehicle movements) shall take place within 10m of the built heritage assets known as the M&E plinth, and the Battle HQ at the former RAF Ossington site. These are located as follows: Battle HQ centred on SK 74076 65148 ; M&E Plinth building Centred on SK 74015 65044. These locations will be marked off by a visual barrier during construction.
	Scale	Works should avoid physical structures. The applicant will follow asset specific design guidance and consider the operator's legal access rights for the following constraints; • 11 kV electricity lines (above ground and buried) • 33 kV electricity lines • 132 kV electricity lines • 275 kV electricity transmission lines • 400 kV electricity transmission lines • Gas pipelines
	Scale	Areas of potential archaeological interest may be suitable. May be subject to further archaeological investigations.
	Scale	Root Protection Areas – trees and hedgerows – may be suitable, subject to Arboricultural Impact Assessment

Scheme Component	Parameter Type	Design Parameters and Principles
		(AIA), ecological assessment and suitable mitigation.
	Scale	Waterbodies and watercourses may be suitable subject to assessment and appropriate design mitigation.
Construction Compounds	Design principle	Construction compounds will be located over 300 m from residential properties.

2.4 WORKS NO.4 CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.4: Works No.4 Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 4— intermediate substations including— (d) substation, switch room buildings, concrete foundations and ancillary equipment including reactive power units; (e) underground electrical cables to provide connections with Work No. 1 and Work No. 2; (f) electrical equipment including switchgear, transformers, reactors, transformer bays, feeder bays, cable sealing ends, busbars and ancillary equipment; (g) control buildings including offices, storage containers and space and welfare facilities, monitoring and control systems, and maintenance compounds; (h) surface water drainage systems, runoff outfalls, storm water attenuation systems including storage basins, oil water separators, including channelling and culverting and works to existing drainage networks; and (i) carparking, hardstanding areas and electric vehicle charging points for each intermediate substation, together with any part of Work Nos. 1, 2, 3(a) and (b) and 8(a), (b) and (c).		
Intermediate Substations (Works No.4)	Location	Works No. 4 must be located within the corresponding numbered area shown on the Works Plans.
	Scale	Compounds dimensions are constrained to between 3,000 – 5,000 m^2
Lighting (operational phase)	Design principles	Manually operated lighting to be used only when required by site operatives. Passive infra-red (PIR) motion sensor activated security / emergency lighting. No areas of the Development are proposed to be continuously lit.

Scheme Component	Parameter Type	Design Parameters and Principles
Electrical infrastructure	Scale	Electrical infrastructure 's maximum height to be between 4.0 – 7.5m.
Buildings including; Site office, storage and welfare building.	Scale	The following limitations will be applied to buildings within the Works area: • Number per compound: 0 to 5 • Length: 5 to 14m • Width: 2.5 to 3.5m • Height: 2.5 to 3.5m
Foundations	Design principles	Will use concrete, pile or footing.
Fencing	Scale	Perimeter fencing cannot exceed 2.75km (between Work no 4 and 5b).
	Scale	Fence height (AGL) to be between 3 – 4m.
	Design principles	Fence type to be Paladin or palisade with electrified inner leaf/topping. Acoustic fence also, if required.
Closed-circuit television (CCTV) cameras	Design principle	To be pole mounted or attached to nearby structures.
	Scale	To be mounted between 2 – 3.5m in the air.
	Design Principle	CCTV cameras will be directed towards the Order Limits and its immediate environs and not at residential properties nor along Public Rights of Way.
Culverts	Design Principle	New and upgraded culverts will utilise mammal-friendly box-section culverts.

2.5 WORKS NO.5A CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.5: Work No.5a Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 5a— an energy storage facility comprising— (j) battery energy storage cells with automatic fire suppression system; (k) a structure protecting the battery energy storage cells comprised in Work No. 5A(a) and ancillary equipment, being either one container or multiple containers, mounted on a reinforced concrete foundation slab or concrete piling; (l) interconnection units including heating, ventilation and air conditioning or liquid cooling systems and temperature management either housed within the containers comprised in Work No. 5A(b), attached to the side or top of each of the containers, or located separate from but near to each of the containers; (m) conversion units including inverters, transformers, switchgear and energy management system; (n) monitoring and control systems housed within a container with Work No. 5A(b) or located separately in its own container or control room; (o) underground electrical cables to provide connections with Work No. 5B; (p) surface water drainage systems, runoff outfalls, storm water attenuation systems including storage basins, oil water separators, including channelling and culverting and works to existing drainage networks; (q) first responder information and notification kiosks; (r) electrical cables including connections; and (s) fire safety infrastructure comprising fire suppression system for the purposes of firefighting comprising fire water tanks and fire water containment, together with any part of Work Nos. 1, 2, 3 and 8.		
BESS (Works area 5a)	Location	Works No. 5a must be located within the corresponding numbered area shown on the Works Plans.
Battery Containers, including associated power conversion system (PCS) units	Scale	The maximum number of battery containers permitted for this work area is 754. The number of PCS units will be sized accordingly at detailed design stage depending on the type of technology and duration of storage required.
	Scale	Storage capacity must be at least 2 MWh per container.
	Design principle	Containers will utilise either air or liquid cooling.

Scheme Component	Parameter Type	Design Parameters and Principles
	Scale	Height of containers to be no more than 4m.
	Design principle	Foundations will utilise steel piles, concrete strip or concrete slab/raft.
	Design principle	Provision of water storage tanks designed to be used for firefighting. The tanks to be located at least 10m away from any BESS container/cabinet.
	Design principle	A minimum of 2no. access points. A minimum of 3.7 m wide internal roads and turning circles sufficient to accommodate a Fire Tender.
	Design principle	Provision of SuDS holding basins sufficient to accommodate spent firefighting water.
Lighting (operational phase)	Design principle	Manually operated lighting to be used only when required by site operatives. Passive infra-red (PIR) motion sensor activated security / emergency lighting. No areas of the Development are proposed to be continuously lit.
Fencing	Scale	Perimeter fencing cannot exceed 2.5km.
	Scale	Fence height (AGL) to be between 2.1 – 4m.
	Design principles	Fence type to be mesh. Acoustic fence if required.
Closed-circuit television (CCTV) cameras	Design principle	To be pole mounted or attached to nearby structures.
	Scale	To be mounted between 2 – 3.5m in the air.
	Design principle	CCTV cameras will be directed towards the Order Limits and its immediate environs and not at residential properties nor along Public Rights of Way.

Scheme Component	Parameter Type	Design Parameters and Principles
Culverts	Design Principle	New and upgraded culverts will utilise mammal-friendly box-section culverts.

2.6 WORKS NO.5B CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.6: Work No.5b Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 5b— a substation with works comprising— (t) an up to 400kV substation, with associated transformer bays, feeder bays, cable sealing ends, transformers, switchgear buildings, concrete foundations and ancillary equipment including reactive power units; (u) control building or container relay rooms with associated offices, storage and welfare facilities; (v) underground electrical cables to provide connections Work No. 2 or Work No. 5A; (w) electrical equipment including switchgear, transformers, reactors, transformer bays, feeder bays, cable sealing ends, busbars and ancillary equipment; (x) surface water drainage systems, runoff outfalls, storm water attenuation systems including storage basins, oil water separators, including channelling and culverting and works to existing drainage networks; (y) carparking, hardstanding areas and electric vehicle charging points; (z) installation of electrical equipment within substation compound including cables, indoor and outdoor switchgear and associated busbars, auxiliary control and switch rooms, transformers, gantries; and (aa) first responder information and notification kiosks, together with any part of Work Nos. 1, 2, 3, 5A and 8.		
400kV Substation (Works area 5b)	Location	Works No. 5b must be located within the corresponding numbered area shown on the Works Plans.
Compound	Scale	Compound to be between 20,000 – 30,000 m^2
Electrical infrastructure	Scale	Maximum height for Busbar/bushings is 14m.
	Scale	Maximum height for Transformer is 7m.
Buildings; Site office, storage and welfare building.	Scale	The following limitations will be applied to buildings within the Works area: • Number per compound: 3 to 5 • Length: 8 to 30m • Width: 3 to 15m

Scheme Component	Parameter Type	Design Parameters and Principles
		• Height: 3 to 6m
Foundations	Design principle	Concrete pad/column, potentially in conjunction with piles/screw piles.
Lighting (operational phase)	Design principle	Manually operated lighting to be used only when required by site operatives. Passive infra-red (PIR) motion sensor activated security / emergency lighting. No areas of the Development are proposed to be continuously lit.
Fencing	Scale	Perimeter fencing cannot exceed 2.75km (between Work no 4 and 5b).
	Scale	Fence height (AGL) to be between 3 – 4m.
	Design principles	Fence type to be Paladin or palisade with electrified inner leaf/topping. Acoustic fence also, if required.
Closed-circuit television (CCTV) cameras	Design principle	To be pole mounted or attached to nearby structures.
	Scale	To be mounted between 2 – 3.5m in the air.
	Design Principle	CCTV cameras will be directed towards the Order Limits and its immediate environs and not at residential properties nor along Public Rights of Way.
Culverts	Design Principle	New and upgraded culverts will utilise mammal-friendly box-section culverts.

2.7 WORKS NO.6 CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.7: Work No.6 Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 6— works to the existing substation to facilitate connection of the authorised development into the national grid, including— (bb) electrical equipment including switchgear, cable sealing ends, busbars, protection and control equipment, compounds and associated buildings; (cc) earthing works; and (dd) works to lay underground electrical cables, together with any part of Work Nos. 2, 3 and 8.		
National Grid Staythorpe Substation Connection (Work No.6)	Location	Works No. 6 must be located within the corresponding numbered area shown on the Works Plans.

2.8 WORKS NO.7 CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.8: Work No.7 Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 7— works to the consented BESS to facilitate connection of the authorised development into the national grid, including— (ee) electrical equipment including switchgear, cable sealing ends, busbars, protection and control equipment, compounds and associated buildings; (ff) earthing works; (gg) upgrades to accesses and drainage works; and (hh) works to lay underground electrical cables, together with any part of Work Nos. 2, 3 and 8.		
Consented Staythorpe BESS Connection (Works No.7)	Location	Works No. 7 must be located within the corresponding numbered area shown on the Works Plans.

2.9 WORKS NO.8 CONCEPT DESIGN PARAMETERS AND PRINCIPLES

Table 2.9: Work No8. Concept Design Parameters and Principles

Scheme Component	Parameter Type	Design Parameters and Principles
Work No. 8— works to facilitate access to Work Nos. 1 to 7, including— (ii) creation of accesses from the public highway; (jj) creation and maintenance of visibility splays; (kk) works to street furniture; (ll) works to widen and surface existing highways; and (mm) making and maintaining passing places, together with any part of Work No. 3. In connection with and in addition to Work Nos. 1 to 8 further associated development within the Order limits, including— (nn) fencing, gates, stiles, boundary treatments and other means of enclosure; (oo) bunds, embankments, trenching and swales; (pp) works, improvements or extensions to the existing drainage and irrigation system and works to alter the position and extent of such irrigation system; (qq) irrigation infrastructure, surface water drainage systems, runoff outfalls, storm water attenuation systems including storage basins, oil water separators, including channelling and culverting and works to existing drainage networks; (rr) electrical, gas, water, foul water drainage and telecommunications infrastructure connections, diversions and works to, and works to alter the position of, such services and utilities connections; (ss) works to alter the course of, or otherwise interfere with, non-navigable rivers, streams or watercourses; (tt) works for the provision of security and monitoring measures such as CCTV columns, lighting columns and lighting, cameras, lightning protection masts, weather stations, storage containers, communication infrastructure, and perimeter fencing; (uu) improvement, maintenance, repair and use of existing streets, private tracks and access roads; (vv) laying down, maintenance and repair of new internal access tracks, ramps, means of access, cycle routes and roads, signage and information boards; (ww) temporary footpath diversions; (xx) landscaping; (yy) temporary storage of materials prior to installation; (zz) temporary facilities including— (i) construction laydown areas;		

Scheme Component	Parameter Type	Design Parameters and Principles
(ii) horizontal directional drilling compounds; (iii) areas of hardstanding; (iv) car parking; (v) site and welfare offices and workshops; (vi) security infrastructure, including cameras, perimeter fencing and lighting; (vii) site drainage and waste management infrastructure (including sewerage); and (viii) electricity, water, waste water and telecommunications connections; (aaa) site establishments and preparation works including site clearance (including vegetation planting, removal and management and the demolition of existing buildings and structures), site investigation works, earthworks (including soil stripping and storage and site levelling) and excavations, the alteration of the position of services and utilities, piling and works for the protection of buildings and land; and (bbb) tunnelling, boring and drilling works, and further associated development comprising such other works or operations as may be necessary or expedient for the purposes of or in connection with the construction, operation and maintenance of the authorised development which are within the Order limits and fall within the scope of work assessed in the environmental statement.		
Access Works (Work No.8)	Location	Works No. 8 must be located within the corresponding numbered area shown on the Works Plans.
Access Routes, Points and Tracks.	Scale	Length of new tarmac road created to be up to 3km.
	Scale	Width of new tarmac road to be between 4 – 5m.
	Scale	Length of new stone road created to be up to 50km.
	Scale	Width of new stone road to be 3 – 4m.
Culverts	Design Principle	New and upgraded culverts will utilise mammal-friendly box-section culverts.