



The Sizewell C Project

10.3 Non-Material Change 1: Construction Method Statement - Tracked Changes Version - Revision 3 Against Revision 2

Revision: 3.0

Applicable Regulation: Regulation 5(2)(o)

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Regulations 2009



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Table A - Status of Figures referenced in this document

Figure	Superseded by subsequent approval?
Figure 3D.1: Main Development Site sub areas	No change.
Figure 3D.2: Phase 1: Site establishment and preparation for earthworks	Yes, update approved under Requirement 13(1) and appended to this document.
Figure 3D.3: Phase 2: Bulk earthworks	Yes, update approved under Requirement 13(1) and appended to this document.
Figure 3D.4: Phase 3: Main civils	Yes, update approved under Requirement 13(1) and appended to this document.
Figure 3D.5: Phase 4: Mechanical and electrical installation	Yes, update approved under Requirement 13(1) and appended to this document.
Figure 3D.6: Phase 5: Commissioning and land restoration	Yes, update approved under Requirement 13(1) and appended to this document.
Figure 3D.7: Defined harbour area	No change.
Figure 3D.8: Landscape retention plan	Yes, updated plan discharged via DCO Requirement 9.
Figure 3D.9: Site clearance plan	Yes, updated plan discharged via DCO Requirement 9.
Figure 3D.10: Temporary desalination plant, initial location	No change.
Figure 3D.11: Temporary desalination plant, subsequent location	No change.
Figure 3D.12: Sizewell drain and main platform, typical cross-section	No change

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Figure 3D.13: Surface water drainage units	No change
Figure 3D.14: Temporary Hard Coastal Defence Feature, typical cross sections	No change.
Figure 3D.15: Construction Parameter Plan	Yes, update approved under Requirement 13(1) and appended to this document.
Figure 3D.16: Illustrative view of the temporary Marine Bulk Import Facility	No change.
Figure 3D.17: Illustrative view of the temporary Marine Bulk Import Facility (on the beach)	No change.
Figure 3D.18: Permanent Hard Coastal Defence Feature, typical cross sections	No change.
Figure 3D.19: Flood Mitigation Area and Wet Woodland Habitat, indicative	Yes, <u>Wet Woodland Plan approved updated plan discharged via</u> under DCO Requirement 27 <u>of the DCO</u> , which is now implemented.
Figure 3D.20: Construction Masterplan, indicative	No change.
Figure 3D.21: Benhall Fen Meadow Compensation Area location	No change.
Figure 3D.22: Halesworth Fen Meadow Compensation Area location	No change.
Figure 3D.23: Pakenham Fen Meadow Compensation Area location	No change.
Figure 3D.24: Marsh Harrier Habitat Improvement Area location	Site discounted following DCO Examination

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Figure 3D.25: Leiston Off-Site Sports Facilities location	No change.
Figure 3D.26: Existing Ground Levels	No change.
Figure 3D.27: Phasing Schedule	Phasing updates provided to Councils every quarter.
Figure 3D.28: Permanent Hard Coastal Defence Feature, general arrangement	No change.
Figure 3D.29: Sizewell Marshes SSSI land take	No change.
Figure 3D.30: Temporary desalination plant: general arrangement, elevation and cross-section	No change.
Figure 3D.31: Permanent Coastal Defence Feature, adaptive design, typical section	No change.
Figure 3D.32: Permanent Coastal Defence Feature, typical sections (Northern Mound)	No change.

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Executive Summary

Level 1 control documents will either be certified under the DCO at grant or annexed to the DoO. All are secured and legally enforceable. Some Level 1 documents are compliance documents and must be complied with when certain activities are carried out. Other Level 1 documents are strategies or draft plans which set the boundaries for a subsequent Level 2 document which is required to be approved by a body or governance group. The obligations in the DCO and DoO set out the status of each Level 1 document.

This Construction Method Statement is a Level 1 document which concerns the construction phase of the Sizewell C Project. Under Requirement 13 in **Schedule 2** of the **DCO** (Doc. Ref. 3.1(J)) construction works carried out as part of the authorised development must be carried out in accordance with this Construction Method Statement unless otherwise approved by East Suffolk Council.

Where further documents or details require approval, this document states which body or governance group is responsible for the approval and/or must be consulted. Any approvals by East Suffolk Council, Suffolk County Council or the MMO will be carried out in accordance with the procedure in Schedule 23 of the DCO. The DoO establishes the governance groups and sets out how these governance groups will run and, where appropriate, how decisions (including approvals) should be made. Any updates to these further documents or details must be approved by the same body or governance group and through the same consultation and procedure as the original document or details.

Where separate Level 1 or Level 2 control documents include measures that are relevant to the measures within this document, those measures have not been duplicated in this document, but cross-references have been included for context. Where separate legislation, consents, permits and licences are described in this document they are set out in the **Schedule of Other Consents, Licences and Agreements** (Doc Ref. 5.11(C)).

For the purposes of this document the term 'SZC Co.' refers to NNB Nuclear Generation (SZC) Limited (or any other undertaker as defined by the DCO), its appointed representatives and the appointed construction contractors.

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1 Introduction

1.1 Purpose

- 1.1.1 This Construction Method Statement (CMS) sets out the programme and methodology for the construction of the main development site.
- 1.1.2 Construction works on the main development site will be controlled by the measures secured through the Development Consent Order (DCO) (Doc Ref. 3.1(J)) and the Deed of Obligation (DoO) (Doc Ref. 10.4), in particular:
- This **Construction Method Statement**: secured pursuant to Requirement 13 of the DCO) (Doc Ref. 3.1(J)). The primary mitigation within this document includes the sequence of the construction phases and the maximum height of temporary buildings, structures, plant and earthworks across the main development site (Section 4).
 - **Code of Construction Practice (CoCP)** (Doc Ref. 10.2) secured by Requirement 2 of the DCO (Doc Ref. 3.1(J))
 - **Construction Traffic Management Plan (CTMP)** (Annex K of the DoO (Doc Ref. 10.4)), **Traffic Incident Management Plan (TIMP)** (Annex M of the DoO (Doc Ref. 10.4)) and **Construction Worker Travel Plan (CWTP)** Annex L of the DoO (Doc Ref. 10.4)). These documents are annexed to and secured by of the DoO (Doc Ref. 10.4) of the DoO (Doc Ref. 10.4).
- 1.1.3 The main development site comprises five components, which are described below, and illustrated in **Figure 3D.1**:
- Main platform: the area that will become the power station itself.
 - Sizewell B relocated facilities and National Grid land: the area that certain Sizewell B facilities will be moved to in order to release existing Sizewell B land for the proposed development, and the area required for the National Grid transmission network.
 - Offshore works area: the area where offshore cooling water infrastructure and other marine works will be located.
 - Temporary construction area (TCA): the area located primarily to the north and west of the proposed Sizewell Marshes Site of Special Scientific Interest (SSSI) crossing, which will be used to support construction activity on the main platform, including the accommodation campus.
 - Land of the East of Eastlands Industrial Estate (LEEIE): the area to the north of the Sizewell Halt and King George Avenue, which will be used to support construction on the main platform and TCA.
- 1.1.4 This CMS also describes construction activities on the following off-site facilities, which for the purposes of the Environmental Statement (ES) are considered to form part of the main development site. Development associated with these sites is secured by Requirements 25, 26 and 27 of the DCO (Doc Ref. 3.1(J)) and associated **Work Plans** (Doc. Ref. 2.3) [REP5-005, REP5-006 and REP7-268]:
- Marsh harrier habitat improvement area (Westleton): land west of Westleton which will be used to mitigate potential disturbance effects on marsh harriers from the temporary loss of foraging habitat during construction in addition to the on-site marsh harrier habitat improvement, if that is considered necessary by the Secretary of State.

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- Fen meadow compensation sites: the areas to the south of Benhall, to the north of Pakenham and to the east of Halesworth, which will be used to compensate for the loss of fen meadow and wet woodland from Sizewell Marshes SSSI. These sites will also be retained as a permanent development as set out in the **Fen Meadow Strategy** (Doc Ref. 10.16) and the **Draft Fen Meadow Plan** (Doc Ref 10.6) secured pursuant to Requirement 25 of the DCO. The **Wet Woodland Strategy** is secured pursuant to Requirement 26 of the DCO.
- Leiston off-site sports facilities: the area to the south of Alde Valley Academy, and east of Leiston leisure centre, which will be used during the construction stage as a shared outdoor sports facility for Alde Valley Academy, the local community and construction workers. The facilities will also be retained as a permanent development.

1.1.5 The remainder of this document is structured as follows:

- Project-wide Commitments: which set out the Phasing Schedule and long stop events for the Key Environmental Mitigation Measures.
- Construction method by sub-area sets out the working methods for construction activities on the main development site, focusing on activities that are relevant for the assessment of environmental effects.
- Site-wide construction method sets out the approach to managing construction waste, installation and connectivity of utilities, drainage, lighting, landscaping and rights of way.

1.2 Approval process for future document updates

1.2.1 Sizewell C Limited is required to carry out the construction works in accordance with the approved Construction Method Statement and the approved Main Development Site Construction Parameter Plans, pursuant to Requirement 13 of the Order.

1.2.2 The Order allows for East Suffolk Council to approve subsequent amendments or revisions to these documents, where it has been demonstrated to the satisfaction of the discharging authority (East Suffolk Council) that the subject matter of the approval or agreement sought does not give rise to any materially new or materially different significant environmental effects to those assessed in the environmental information.

1.2.3 The process for approving such amendments or revisions will be through the Planning Group that has been established under the Deed of Obligation. Decisions would be made unilaterally by East Suffolk Council, and the process would satisfy Requirement 13 of the Order.

1.2.4 Any amendments or revisions agreed by the Planning Group will be tracked and noted within the group's agreement log and a working copy of the Construction Method Statement kept up to date which East Suffolk Council will publish online.

1.3 Status of construction methodologies outside East Suffolk Council's administrative area

1.3.1 All construction activities that take place below the Mean High Water Spring (MHWS) tidal limit are consented under the Deemed Marine Licence (DML), which forms Schedule 21 of the DCO. East Suffolk Council also has jurisdiction as far as Mean Low Water, so the Marine Management Organisation and East Suffolk Council jurisdictions overlap between the MHWS and MLW tidal limits.

1.3.2 Each licenced construction activity requires approval of a detailed construction method statement by the Marine Management Organisation in consultation with East Suffolk Council

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prior to works commencing. In the event of any discrepancy between DML Construction Method Statements and this Construction Method Statement, those approved by the Marine Management Organisation under the DML will supersede this document because they will be more detailed and most recent. These discrepancies will be tracked in the Planning Group's agreement log, to ensure there is clarity on which is the most recent agreed construction methodology. Compulsory consultation by the Marine Management Organisation with East Suffolk Council, and subsequent approval, will signal confirmation of "unless otherwise agreed" with the Council, pursuant with Requirement 13.

1.4 Status of Figures and references within this document

- 1.4.1 Figures contained within this CMS may have been superseded by details subsequently approved by discharge of DCO Requirement or other such mechanism within the DCO. The status of each Figure is set out in Table 1 following the Content Pages of this CMS.
- 1.4.2 Where reference is made to a draft document in this CMS, this is superseded by the latest approved version where relevant.

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2 Project-Wide Commitments

2.1 Phasing Schedule

- 2.1.1 The Sizewell C phasing schedule is set out in **Plate 2.1**, along with the anticipated duration of works to construct and start bringing into use the mitigation measures. A larger scale version of the phasing schedule is contained at **Figure 3D.27**.
- 2.1.2 Construction will be undertaken in six main phases:
- Phase 0: Works relating to the relocation of certain Sizewell B facilities will begin approximately two years prior to the start of Phase 1, pursuant to planning permission reference DC/19/1637/FUL or DC/20/4646/FUL issued by East Suffolk Council.
 - Phase 1: Site establishment and preparation for earthworks, as provided in **Figure 3D.2**.
 - Phase 2: Bulk earthworks, as provided in **Figure 3D.3**.
 - Phase 3: Main civils, as provided in **Figure 3D.4**.
 - Phase 4: Mechanical and electrical installation, as provided in **Figure 3D.5**.
 - Phase 5: Commissioning and land restoration, as provided in **Figure 3D.6**.
- 2.1.3 The phasing schedule, **Plate 2.1**, has been based on the forecast length of time required for construction works to take place, providing that all requirements, permissions and any necessary licences have been granted to allow those works to start. Some site set-ups, enabling and site clearance works may be undertaken prior to the commencement of the main works indicated, subject to the relevant approvals having first been obtained.
- 2.1.4 The phasing schedule assumes that works to be carried out pursuant to the DCO will commence after a final investment decision and a three-month period to assess the decision, apply for and obtain formal discharge of any necessary pre-commencement requirements and mobilise contractors.
- 2.1.5 However, the issuing of any approvals and consents required prior to works starting is not within SZC Co.'s control and therefore the timing of the start of construction works would depend on how quickly the consenting bodies can determine any applications.
- 2.1.6 As secured by the **DoO** (Doc Ref. 10.4) SZC Co. must use reasonable endeavours to deliver works indicated on **Plate 2.1** by the milestone dates. Where, despite using reasonable endeavours, the timescales indicated in **Plate 2.1** cannot be met, SZC Co. must nevertheless deliver the following key components of the project in accordance with the following long stop dates, unless otherwise approved in writing by ESC (following the procedure set out in Schedule 23 of the DCO):
- Phase 2 must not commence until either the desalination plant is operational, or an alternative water supply that may otherwise be approved by ESC, is in place.
 - Main Platform Phase 2 backfilling with imported material must not be commenced until the Branch line / LEEIE rail spur (Work No. 4D) and the green rail route (Work No. 4B) are available for use.
 - The Sizewell link road (Work No. 11), the two-village bypass (Work No. 12) and the temporary Beach Landing Facility must be available for use either within six months of the commencement of Phase 3, or before the start of the Phase 3 Installation of the Reactor Building Liner, whichever is the sooner.

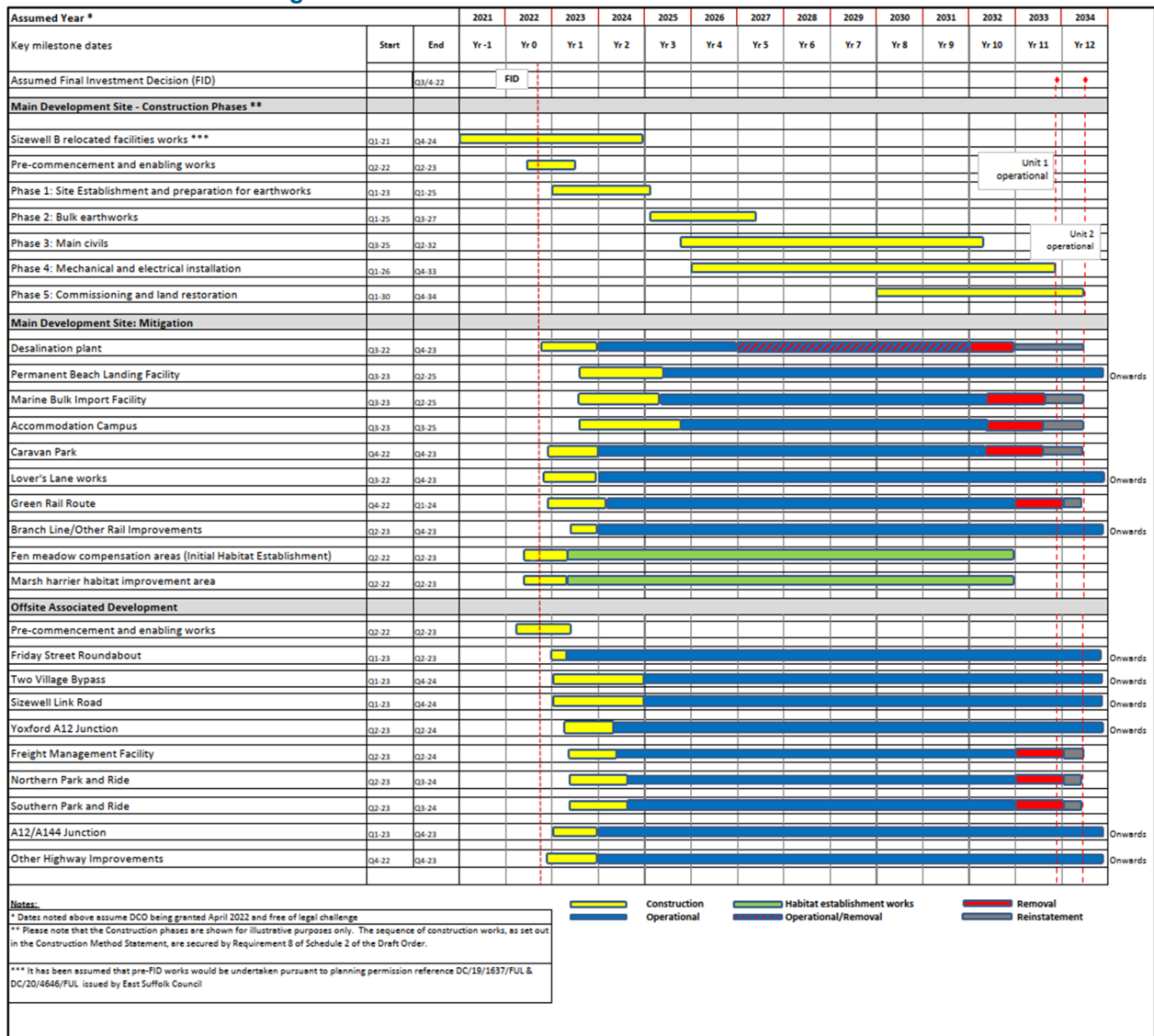
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- Phase 5 Cold-flush testing commissioning works must not commence until operation of the temporary desalination plant has ceased.

2.1.7 The Accommodation Campus and caravan park is then secured separately by **Schedule 3** of the **DoO**.

2.1.8 **Schedule 9** of the **DoO** requires that a detailed implementation plan must be submitted to ESC before construction works commence. This plan will detail the anticipated milestones for main Platform Phase 2 backfilling with imported material and Phase 3 Installation of the Reactor Building Liner. Progress and reporting against these milestones will be made to the Planning Review Group, established pursuant to **Schedule 17** of the **DoO**.

Plate 2.1: Phasing Schedule



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2.2 Construction Materials

- 2.2.1 The Sizewell C Project will require around 12.1 million tonnes of material to be imported to the main development site during the construction period.
- 2.2.2 New rail infrastructure will be implemented to facilitate the import of material by rail on trains, which are assumed to be capable of each carrying up to 1,250 tonnes of construction material. Further details on the frequency of trains are set out below.
- 2.2.3 A temporary Marine Bulk Import Facility (MBIF) will be constructed, which is expected to allow around 1,275,000 tonnes of construction material per year to be imported by sea. Further details on its design and construction are set out in Section 3.1(b)(v) of this document. A permanent beach landing facility (BLF) will also be constructed, and details are set in Section 3.1(b)(iv).
- 2.2.4 The expected proportion of material imported by mode is set out in the **Construction Traffic Management Plan (Annex K of the DoO (Doc Ref. 10.4))**
- 2.2.5 The expected volume of material excavated and managed within Work No. 1A is set out in **Table 2.1**.

Table 2.1: Breakdown of expected excavation material volumes arising

Material Source	Excavation Volume (Million m ³)*
Surface Strip (topsoil)	0.2 (3%)
Main platform Made Ground	1.0 (15%)
Main platform Peat and Alluvium	1.3 (19%)
Main platform Crag	1.4 (21%)
Borrow pit and surrounding area	1.1 (16%)
Cut-off wall arisings	0.2 (3%)
Marine and tunnelling	0.6 (9%)
Other arisings	0.6 (9%)
Associated developments	0.3 (4%)
Sizewell B relocated facilities	0.1 (1%)
Total	6.8 (100%)

* Note: the quantities of excavated materials are current estimates and are likely to change, as detailed design and construction methodologies are confirmed.

2.3 Competent Harbour Authority

- 2.3.1 During the construction period, a Statutory and Competent Harbour Authority will be in place to facilitate the safe delivery of construction materials to site and ensure the safe construction of the offshore elements.

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2.3.2 A Harbour Master will manage navigation within a defined Harbour Area, bounded by the coordinates presented in **Table 2.2** and shown in **Figure 3D.7**.

Table 2.2: Coordinates of Harbour Area

Latitude	Longitude
52° 14' 0"	1° 37' 37"
52° 14' 0"	1° 41' 0"
52° 12' 0"	1° 41' 0"
52° 12' 0"	1° 37' 20.8"

2.3.3 The Harbour Area has been defined by the need to include the full extent of the offshore works including the cooling water intake and outfalls, and the use of discrete lines of latitude and longitude have been chosen as these are easier for mariners to use in the absence of any suitable landmarks.

2.3.4 The Harbour Area (and Harbour Authority) will be in place throughout the construction period but surrendered at the end of the construction period. Although the permanent BLF will remain in place throughout the operation period for occasional delivery of AILs during maintenance periods, deliveries will be infrequent and not require the Harbour Area and Harbour Authority to be in place.

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3 Construction Method by Sub-Area

3.1 Main Platform

3.1.1 The main platform refers to the area within which the main construction activity will occur and where the majority of permanent plant and buildings will be constructed, together with the foreshore works. It is bounded by Sizewell B power station to the south, Sizewell Marshes SSSI to the west and north, and a gravel beach to the east with the North Sea beyond, as shown on **Figure 1.2** of **Chapter 1** of **Volume 2** of the **ES** [APP-179].

a) Main Platform: Phase 1

i. Main Platform: Establishment of Construction Area

3.1.2 Enabling works must take place prior to formal site establishment, including archaeological and protected species mitigation works (translocation of species such as reptiles and water voles, and related local habitat removal).

3.1.3 Construction work must then begin by securing the site through installation of security fencing and site clearance, demolition of above and below ground structures and buildings and diversion of existing utilities as necessary. Areas of vegetation clearance and retention are shown on **Figure 3D.8** and **Figure 3D.9**.

3.1.4 Acoustic fences and earth bunds must be used, as shown on **Figure 3D.15**, to attenuate noise levels. Earth bunds must be grassed/seeded.

3.1.5 Contractor compounds will be erected including welfare and office accommodation. Storage and handling areas, facilities for and equipment for processing of excavated materials and other temporary facilities, plant, cranes and machinery will also be provided.

3.1.6 Temporary buildings must use modular (prefabricated) buildings on concrete foundations, as far as practicable.

ii. Main Platform: Desalination Plant

3.1.7 Construction of the desalination plant is expected to take 4-6 months and must only commence once site clearance works are complete on the relevant part of the main platform. For the first 9-12 months of Sizewell C construction, potable water will be imported by road via water tanker truck. The number of tanker deliveries is expected to rise gradually during this period to 40 deliveries per day (80 two-way tanker movements) and will be within the early years Heavy Duty Vehicle (HDV) limits secured in the Construction Traffic Management Plan (CTMP) (Annex K of the Deed of Obligation (Doc Reg 8.17(H))). Indicative details of the desalination plant are shown at **Figure 3D.30**.

3.1.8 The modular desalination plant will initially be capable of producing up to 2,600m³ of potable water per day in order to meet the water demand during the early works. If required, its capacity will subsequently be increased to 4,000m³ potable water per day to meet the peak water demand during the main construction phase.

3.1.9 The technology must be Sea Water Reverse Osmosis (SWRO) desalination. The plant will consist of up to nine containerised plant modules with associated chlorination units, equipment and other tanks. The plant will operate up to 24 hours per day, 7 days per week.

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- 3.1.10 Plant will be delivered by road and is unlikely to comprise any Abnormal Indivisible Loads (AILs).
- 3.1.11 The plant must initially be located in the Main Platform area (see **Figure 3D.10**). The height of the desalination plant will be up to 10m above ground level. The diesel generators will each have a stack 4m above ground level. Slurry tanks and sludge processing units must be covered or containerised. Carbon filters will be used as a precautionary measure. Ultra-low sulphur diesel (gas oil) will be used for the diesel generators.
- 3.1.12 Mobile crane units and a directional drilling rig will be required to install plant and drill the tunnels. The drilling rig will be temporarily sheet-piled into the ground for stability.
- 3.1.13 The desalination plant must be subsequently relocated to the Temporary Construction Area in Phase 2, (see **Figure 3D.11**). The capacity of the desalination plant will be increased there to up to 4,000m³ per day at this location, if required. East Suffolk Council must be notified at least 10 days before the desalination plant is relocated to the TCA and the notification must include details of the TCA location.
- 3.1.14 Up to two on-site diesel generators will be necessary to provide up to 1.6 MVA of electricity for the desalination plant located in the Main Platform. Generators must be containerised or within noise hoarding or similar. Once the construction site's permanent electricity connection is installed and operational then the desalination plant must be connected to the fixed power supply and diesel generators must be decommissioned. This connection must be made before the plant is relocated from the Main Platform to the Temporary Construction Area and the diesel generators will not be operational for more than two years.
- 3.1.15 Seawater contains dissolved solids other than salt and other minerals, which are also removed as part of the desalination process. This non-hazardous slurry material will be dried to produce a cake (around 25% dry solids) which will require regular off-site disposal. At peak desalination (equivalent to producing 4,000m³ potable water per day), around one HGV-load of this material will be generated and exported per day.

iii. Main Platform: Land take within Sizewell Marshes SSSI

- 3.1.16 Temporary SSSI land take must be minimised where practicable and must not exceed a total of 1.99 hectares. Of this total, temporary fen meadow habitat land take must not exceed 0.61 hectares, wet woodland must not exceed 1.2ha and ditches must not exceed 0.18ha. Further details will be approved by East Suffolk Council pursuant to Requirement 21 of the DCO.
- 3.1.17 In constructing the permanent development, permanent SSSI land take must be minimised where practicable and must not exceed a total of 5.74 hectares. Of this total, permanent fen meadow habitat land take must not exceed 0.46 hectares, wet woodland must not exceed 2.72ha, dry reedbed must not exceed 1.75ha, wet reedbed must not exceed 0.74ha and ditches must not exceed 0.07ha.
- 3.1.18 **Figure 3D.29** shows the spatial distribution of all SSSI land take and safeguarded areas.

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iv. Realignment of the Sizewell Drain

- 3.1.19 Sizewell drain currently runs diagonally across the north-west corner of land that will become the main platform. The drain must be realigned to pass along the western edge of the main platform and connect to Leiston drain to the north, as shown on **Figure 3D.12**.
- 3.1.20 Initial access to the current drain must be made via the north or south for vegetation clearance and species relocation. Ground improvement works may be necessary in the form of piles or equivalent, dependent on ground conditions.
- 3.1.21 The realigned drain must be provided with a falling gradient and width to provide, at a minimum, the same capacity as the current alignment. Banks must be varied to provide a natural appearance.
- 3.1.22 The trench for the realigned drain must be excavated from the east, using standard wheeled equipment. Sheet piling must be installed on the eastern bank of the realigned drain to the depth of the first suitable crag level. Temporary bog matting or similar must be used during the works to prevent settlement of machinery into the soft ground.
- 3.1.23 Once the realignment is complete, the reclaimed area must be infilled with granular material to provide suitable ground conditions for the creation of the cut-off wall platform.
- 3.1.24 Further details of the construction method for individual sections of the realignment works are set out below.

v. Main Platform: Realignment works upstream of IDB DRN163G0201

- 3.1.25 For realignment works upstream of Internal Drainage Board (IDB) DRN163G0201, as shown on **Figure 3D.13**, construction must take place solely from the main platform. The only exceptions to this will be:
- Where vegetation clearance is required to provide adequate clearance for plant;
 - For the supervision of construction works; and,
 - Where new/repositioned structures are required to maintain water levels within the fen meadow habitat.
- 3.1.26 The drain must be realigned immediately following construction of the sheet piling. This will better enable construction of a stable bank for the realigned drain closest to where the piling is to take place.
- 3.1.27 Water levels must be monitored during piling and an allowance made for pumping of land drainage where required to ensure that temporary construction effects are controlled to within acceptable limits.

vi. Main Platform: Realignment works downstream of IDB DRN163G0201

- 3.1.28 For realignment works downstream of IDB DRN163G0201, as shown on **Figure 3D.13**, realignment of the drain would again immediately follow the installation of sheet piling. Access arrangements must be directly from the main platform. Due to the topography and water levels, a new water level control structure is likely to be required on the outer (west) bank to aid water

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level management in the adjacent wetland area, as described below, and therefore some construction is likely to be required on the outer (west) bank.

- 3.1.29 Apart from the above exception, construction access, and therefore any associated compaction of the underlying peat and any further temporary works, must be focused on the inner (east) bank to help protect the SSSI. A temporary crossing point will be required on IDB DRN163G0201 to provide access to Goodram's Fen whilst maintaining existing land drainage, until the realigned drain is in place.

vii. Main Platform: Realignment Works at Leiston Drain

- 3.1.30 Construction works will aim to minimise disturbance to Leiston drain and must generally be limited to:
- Works within approximately 10m of the new confluence of the Sizewell drain and Leiston drain;
 - A further drain connection on the south bank of Leiston drain to a relic drain; and
 - Small-scale works (as necessary) to modify the form and function of Leiston drain.
- 3.1.31 Construction is likely to take place from the outer (north) bank of the channel where ground conditions are typically more stable. Where practical, realignment works must take place concurrently with construction works to the SSSI crossing to minimise disturbance.

viii. Main Platform: Water level control structures

- 3.1.32 There are currently many confluences between the Sizewell drain and other tributary drains in the Sizewell Marshes SSSI, as its drainage network is generally artificially controlled. This includes the use of water level control structures, including sluices and simple piped connections. Monitoring shows them to be effective in contributing to the conservation of biodiversity interests in this SSSI.
- 3.1.33 As part of the realignment works, additional means of permanently manipulating water levels within the Sizewell Marshes SSSI are proposed. This will ensure water levels that would otherwise have changed as a result of the proposed development can be mitigated, where this is necessary to conserve biodiversity interests. Such control structures must include passage for fish, including eels.
- 3.1.34 Temporary measures to provide pollution control must be incorporated into IDB DRN163G0201, which will ultimately be removed to form an open connection with Sizewell drain. It is also proposed that an area of deeper water is created here by excavating the channel bed to a greater depth in a stepped profile. Pipe dams must also be installed as necessary within the site boundary at the confluences with other minor ditches that will adjoin the realigned drain.
- 3.1.35 A water control structure must be installed in the realigned Sizewell drain, approximately 5-10m south of the confluence with Leiston drain. Due to the capacity of Sizewell drain, a tilting weir is likely to be necessary to provide an adaptive water management regime across the eastern areas of Sizewell Marshes, unless evidence shows that a pipe dam is sufficient at the detailed design stage.

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3.1.36 Whilst the realignment works are taking place, short-term temporary blind bunds are likely to be necessary to restrict water flow. Blind bunds are currently present within parts of the SSSI.

ix. Main Platform: Installation of cut-off wall and cut-off wall platform

3.1.37 The cut-off wall platform will be constructed around the perimeter of the location of the cut-off wall and will include a perimeter access corridor. The platform must be constructed to a level suitable to enable a uniform level to construct the cut off wall. There must be a retaining slope from the platform to the newly aligned Sizewell drain.

3.1.38 The activities necessary to construct the cut-off wall will be:

- Installation of piles to a depth of approximately 12m to support soft strata during installation of the cut-off wall.
- Installation of a hydraulic cut-off wall to depths of approximately 50m below ground level. Machines will excavate the material, replacing it with bentonite in the short term. Bentonite must be used to stabilise the trench cutting during excavation.
- Bentonite must be produced on-site at a bentonite farm, which will mix the required solution as well as clean returned bentonite. Bentonite waste must either be removed to an approved landfill site or retained on-site and used in the fill of the borrow pits. Bentonite wastewater must be treated and either discharged via the combined drainage outfall (CDO) or tankered off-site.
- The cut-off wall must be anchored into the low permeability London Clay Formation at depth limiting the hydraulic connection with the wider groundwater regime in the overlying geological strata.

3.1.39 Arisings from the cut-off wall excavations will be stockpiled on the main platform before then being transported via haul road and the SSSI Crossing to the temporary construction area stockpiles.

3.1.40 Groundwater abstracted during dewatering must be treated if necessary before it is either discharged to sea via the CDO in compliance with an environmental permit or stored onsite for reuse in supporting construction activities. To lower groundwater levels within the cut-off wall, a dewatering pumping system must be used in the crag sands below the deepest earthworks excavation.

3.1.41 A secondary cut-off wall must also be installed at the toe of the embankment slope leading to the main platform. This cut-off wall must utilise sheet pile methods to prevent the surrounding peat and crag formations from slumping.

x. Main Platform: Installation of launch chambers for marine tunnelling

3.1.42 As part of the construction of the Sizewell C recirculated water outfall tunnels, tunnel boring machine launch chambers are required. These will be constructed outside of the cut-of wall. Localised dewatering will be undertaken independently of dewatering within the cut-off wall.

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xi. Main Platform: Construction of a crossing over Sizewell Marshes SSSI, including temporary crossing

- 3.1.43 The Sizewell Marshes SSSI crossing must comprise separate embankments at either end with an approximately 30m long single-span bridge connecting them. A ledge must be installed to encourage passage by otters. Appropriate lighting and noise protection measures must be deployed to ensure the bridge is viable for use by bats. Further details are set out in the **Lighting Management Plan** (Doc Ref. 10.17).
- 3.1.44 A sheet pile barrier wall must be driven into the ground either side of the Leiston Drain. The bank and channel of Leiston Drain must be unaffected.
- 3.1.45 The width of the bridge over the Leiston Drain must be up to 40m and the overall width of the crossing at its base must be up to approximately 70m. Wing walls over the Leiston Drain must seek to maximise daylight. The structure must be up to approximately 8m in height (excluding parapets and similar structures) and up to 45m in width at the underside of the bridge. Therefore, it is assumed that the area underneath the centre of the crossing will be in deep shade.
- 3.1.46 The gradient of the slope on the eastern (seaward) side must be approximately a 1:3 gradient. The landward slope will be approximately a 1:1 gradient accordingly. Soft landscaping must be provided on both sides of the embankment, with more substantial planting on the seaward side.
- 3.1.47 The existing ground below the embankments will be improved with a grid of rigid inclusions formed of controlled modulus columns (CMCs) or similar and overlaid with a reinforced granular stone load transfer platform above.
- 3.1.48 Contamination of the groundwater within the SSSI during construction must be prevented by provision of a sheet pile wall surrounding the construction area and permanent works, which must be embedded into the Crag layer below the softer materials near the surface.
- 3.1.49 During construction, the SSSI crossing must include segregated lanes for pedestrians, two-way light goods vehicles and two-way working for off- highway dump trucks.
- 3.1.50 Two “Bailey” style temporary crossings will be installed in advance of the main crossing and within the SSSI crossing working area to provide an early route between the temporary construction area and the main construction area and to facilitate construction of the permanent bridge. They will be constructed on a temporary foundation to the south and to the north the foundation will be shared with the proposed permanent foundation. The two temporary crossings will be physically connected and will appear as a single structure.
- 3.1.51 At the end of the construction phase, the construction haul road must be removed and planted with trees. The remaining access road must continue to be positioned to the western edge of the embankment, away from the coastal edge. The carriageway will have an approximate width of 12m (including footways) and require approximately 1.5m high safety barriers on either side. The bridge deck structure must be reduced from a width of approximately 40m to 15m to increase light levels on Leiston Drain.

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xii. Main Platform: Laying out of construction roads

3.1.52 Haul roads must provide a dedicated route for heavy earthmoving plant from the main platform to the TCA stockpiles. A covered conveyor system for the movement of construction material is expected to be provided along a similar route to the haul roads and connecting with the temporary Marine Bulk Import Facility. A segregated route must be provided for general site traffic.

xiii. Main Platform: Initial coastal defence feature constructed

3.1.53 The area currently benefits from protection by the Bent Hills, a man-made bund structure constructed as part of the landscaping scheme and sea defence for Sizewell B. The Bent Hills extend from south to north along the top of the shore. The Bent Hills merge to the north with an east-west feature known as the Northern Mound, and to the south with Sizewell B sea defence embankments to pass between Sizewell B and the sea.

3.1.54 The Northern Mound is likely to consist of mainly made ground material as a repository for Sizewell B surplus construction materials. Due to seismic requirements, the existing Northern Mound will need to be demolished and excavated down to a suitable formation layer before being built back up. Ground improvement is expected to be necessary to stabilise the ground prior to the engineered reconstruction of the Northern Mound and installation of rock armour to form part of the sea defence. The rock armour must then be overlaid with site-won fill material and seeded to allow vegetation to take hold as early in the construction period as practicable.

3.1.55 A new hard coastal defence feature (HCDF) will be required for SZC. The permanent HCDF will be approximately 50m east of the existing Bent Hills and will replace the entire section of Bent Hills located within the SZC site area. The Northern Mound must be incorporated into the permanent HCDF as a continuous defence feature.

3.1.56 Upper layers of sand and vegetated shingle from the existing Bent Hills frontage must be stockpiled on the main development site to preserve the seedbank of the coastal vegetation and must be incorporated into the final landscaping of the new sea defence to enable reinstatement of the coastal vegetation.

3.1.57 The permanent sea defences must include replacement and extension of the existing 5m high dune area seaward of the HCDF, with a structure known as the Soft Coastal Defence Feature (SCDF). The role of the SCDF will be to minimise coastal erosion and release sediment to the beach face, which will occur during a storm event. It is likely that the SCDF will occasionally be eroded and require repair in order to maintain its volume.

3.1.58 A temporary HCDF must be installed to protect the site during the construction phase. The temporary HCDF must comprise a sheet pile wall with a crest height of +7.3m AOD along the eastern perimeter of the main construction area. It must be constructed prior to the removal of the part of the Bent Hills which contribute to the SZB sea defences, and prior to deep excavation within the main construction area. This height provides for a 1 in 10,000 year storm event at 2030, including a precautionary assumption for wave height. SZC, through its rigorous technical review process will ensure the sheet pile is designed to ensure stability and integrity in such storm events.

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- 3.1.59 The sheet pile wall must tie into the reconstructed Northern Mound at the north, and must extend part way along the SZB frontage, to the seaward side of the retained SZB sea defence at the south. This will provide an overlap, maintaining protection to SZB against wave runup without requiring intrusive work to the SZB sea defences. The end of the overlap area must be refilled with shingle to maintain continuity of protection.
- 3.1.60 The temporary HCDF must be located on the line of what will become the seaward slope of the permanent HCDF, as shown on **Figure 3D.14**.
- 3.1.61 The temporary defence will be breached locally to allow access to the permanent BLF area; however, this must only occur once the permanent defence has been constructed up to a minimum level of 7.3m AOD.

b) Main Platform: Phase 2

i. Main Platform: Excavation of unsuitable material within the cut-off wall and backfilling

- 3.1.62 Earthworks will commence alongside dewatering of the area within the cut-off wall area, as shown on **Figure 3D.3**.
- 3.1.63 Existing made ground and granular materials must be removed and transported to the stockpile areas within the TCA.
- 3.1.64 Peat and clay materials that are unsuitable for re-use on the main platform must be removed and transported to the borrow pit area. An agent must be added, if necessary, to reduce the water content and make the materials easier to deposit and compact.
- 3.1.65 The main platform will be backfilled.
- 3.1.66 Temporary facilities, plant, cranes, machinery and other temporary works will be required.

ii. Main Platform: Marine shafts and tunnelling

- 3.1.67 Work will commence to construct the marine launch chambers and bore the intake and outfall tunnels from adjacent to the main platform.

iii. Main Platform: Decommission and relocation of desalination plant

- 3.1.68 The desalination plant will be decommissioned and relocated to the Temporary Construction Area once it becomes a physical constraint to construction activity on the Main Platform, in the event that the permanent water supply is not operational by this point. Any such relocation will be phased to coincide with a period of relatively low potable water demand. Any such relocation will occur within two years of the desalination plant becoming operational. Intake and outfall pipework must cross Sizewell Marshes SSSI using the SSSI Crossing and above the soffit level of the bridge. Desalination pipework over the SSSI crossing must be protected and without joints for added protection against hazards.

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iv. Main Platform: Construction of permanent beach landing facility

- 3.1.69 The permanent BLF (Parameter Zone C16) will enable deliveries of very large loads such as Abnormal Indivisible Loads (AILs) to support construction of the power station. An access road must link the permanent BLF to the main platform via the lower levels of the Northern Mound.
- 3.1.70 The permanent BLF will consist of a piled platform, fenders (located at the seaward end), a ramp, a grounding platform on the seabed and mooring dolphins. It will require approximately 32 permanent piles in total. No pile driving must take place between May and August (inclusive). The dimensions of the piles are as follows:
- 28 of these piles will have a diameter of approximately one metre and will be spaced a minimum of approximately 9m apart, excluding fender piles and mooring dolphins.
 - Four fender piles and mooring dolphins will have a diameter of approximately 2.5 metres.
- 3.1.71 The construction methodology (including piling method) must be the same as set out below for the temporary Marine Bulk Import Facility.
- 3.1.72 The grounding platform will be made of concrete, or similar. It is assumed to comprise a concrete mattress (concrete pads connected together, or similar). It will protrude above bed level by less than a metre and shallow foundations are assumed to be embedded into the seabed. The seabed will be graded to a roughly level surface before laying the platform, which will require localised dredging of less than a metre. Dredged material must not be removed from the sea and must be placed in close proximity to the BLF.
- 3.1.73 The sequence of installation will comprise:
- Prepare grounding area (approximately 100m x 30m) by trimming the seabed with an excavator.
 - Place concrete mattress in grounding area using a crane. Approximately 25 small bore piles will be required around the platform to control lateral shift.
- 3.1.74 On occasion, light suction dredging will be required if sand accumulates on the platform when the BLF is in use. Excavated material must not be removed from the sea and must again be placed in close proximity to the platform.
- 3.1.75 The platform may be removed prior to storm events or at the end of each campaign period. It must then be reinstalled ready for use. The platform must be removed at the end of its use period within the construction phase. A grounding pocket must be used for deliveries after the platform is removed, as per the originally submitted assessment.
- 3.1.76 A dredging volume of approximately 9,250m³ is assumed to facilitate access and barge grounding.
- 3.1.77 The Suffolk Coast Path must be redirected up and down the shoreline as necessary to facilitate construction of the permanent BLF, except in rare circumstances where it is considered unsafe to do so. In such instances, use of the temporary inland diversion will be necessary, as shown in the **Rights of Way and Access Strategy** (Doc Ref. 10.26). Access to the beach must follow the same approach.

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- 3.1.78 The BLF will extend up to approximately 100m seaward of the HCDF. Any coatings or treatments applied to the BLF must be suitable for use in the marine environment.
- 3.1.79 Once operational, the BLF will typically receive deliveries by day. Barges will be loaded at a transshipment port and will be assisted typically by two tugs and moor at the end of the permanent BLF at high water. Up to 100 deliveries per annual campaign will take place using barges with a capacity of approximately 3,000 tonnes.
- 3.1.80 Deliveries will typically be transported onto the main platform or to the TCA without delay via the BLF access road, which will cross the beach and must be incorporated into the embankment of the Northern Mound.
- 3.1.81 During long periods of downtime, such as the winter season, the deck panels to the BLF must be temporarily removed and stored on the main development site.
- 3.1.82 The BLF must be retained as a permanent development for occasional use during the operational phase of the power station.

v. Main Platform: Construction of the temporary Marine Bulk Import Facility

- 3.1.83 The temporary Marine Bulk Import Facility (also known as the temporary beach landing facility) (Parameter Zone C20) is predominantly for the delivery of bulk construction materials, such as aggregate. Other types of material may also be imported through the temporary Marine Bulk Import Facility, such as marine tunnel segments for marine works.
- 3.1.84 The temporary Marine Bulk Import Facility will be in operation for up to approximately 8 years and will be located within construction parameter zone C20.
- 3.1.85 The temporary Marine Bulk Import Facility will be up to approximately 505m in length and up to approximately 12m in width for the main jetty. An enlarged unloading area will form a jetty head with dimensions of up to approximately 62m in width. A single berth (for a single vessel) is assumed at its seaward end. The structure must be a visually recessive colour as far as reasonably practicable. An indicative visualisation of the temporary Marine Bulk Import Facility is shown on **Figure 3D.16**.
- 3.1.86 A temporary conveyor must be installed along the length of the temporary Marine Bulk Import Facility deck and must be the primary method of unloading material. The conveyor must follow the deck to the Hard Coastal Defence Feature (HCDF) where it will continue into the secure construction area. Except where necessary for loading, unloading or maintenance, the conveyor must be covered. The conveyor must pass over the Suffolk Coast Path on the deck of the temporary Marine Bulk Import Facility. The conveyor system will continue into the construction site and follow a similar route to the haul roads. The underside of the temporary Marine Bulk Import Facility deck must be at least 3.7m above the ground level of the Suffolk Coast Path.
- 3.1.87 The Suffolk Coast Path must be redirected up and down the shoreline as necessary to facilitate construction of the temporary Marine Bulk Import Facility, except in rare circumstances where it is considered unsafe to do so. In such instances, use of the temporary inland diversion will be necessary, as shown in the **Rights of Way and Access Strategy** (Doc Ref. 10.26). Access

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to the beach must follow the same approach. An indicative visualisation of the temporary Marine Bulk Import Facility on the beach is shown on **Figure 3D.17**.

- 3.1.88 Other main infrastructure on the temporary Marine Bulk Import Facility deck is assumed to include: an access road, for exceptional use by large vehicles; a private access footpath, lighting, hoppers; and railings or similar (to also provide some low-level screening of vehicle movements).
- 3.1.89 Standard navigation lights must be placed on mooring dolphins and on nearby navigation markers and buoys. Task and ambient lighting will be required along the temporary Marine Bulk Import Facility.
- 3.1.90 A self-propelled vessel typically delivering up to approximately 4,500 tonnes of cargo per delivery will be provided, making up to approximately 400 deliveries between April and October (inclusive) and up to approximately 200 additional deliveries for the remainder of the year, for each year of operation.
- 3.1.91 The temporary Marine Bulk Import Facility must extend seaward of the outer longshore sand bar. As such, there will be no requirements for dredging and vessels will be able to berth alongside with sufficient under keel clearance. The length of the vessel will be up to approximately 120m. The vessel is assumed to include an excavator at deck level to unload material.
- 3.1.92 Vessel movements will typically travel to the site from the south, following a corridor between approximately two nautical miles and approximately six nautical miles offshore, except where it is necessary to deviate on safety grounds. All vessels will approach the temporary Marine Bulk Import Facility from the north of the Sizewell Bank, to avoid the area of relatively shallow water on the approach from the south.
- 3.1.93 Approximately 114 piles will be required to construct the temporary Marine Bulk Import Facility, of which approximately 12 will be located above Mean High Water Springs. They will each be up to approximately 1.2m in diameter, with the exception of two berthing dolphins and two mooring dolphins (each approximately 2.5m in diameter). Six raking piles will be required at the seaward end of the unloading platform. Cross braces will be required between some of the piles for stability.
- 3.1.94 Spacing between piles (along its length) must be no less than 10m on the BLF pier and no less than 12m on the unloading platform, with the exception of where the dolphins, raking piles and pier adjoin the unloading platform.
- 3.1.95 The piles will be driven by hammering and the following mitigation measures must be in place:
- Marine mammal observation – a visual inspection for local marine mammals prior to commencement of piling.
 - Use of a noise reduction system on the hammer (e.g. hydrohammer).
 - Slow start procedure.
 - No pile driving between May and August (inclusive).

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- 3.1.96 Two piles will typically be driven every three days (for each of the permanent BLF and the temporary Marine Bulk Import Facility) to an embedment depth of approximately 20m, with hammering typically lasting approximately one hour per pile. Multiple piling is assumed to occur simultaneously.
- 3.1.97 With the exception of the mooring dolphins, which will be installed using a jack-up barge, the temporary Marine Bulk Import Facility must be predominantly constructed without placing construction vehicles into the sea. A crane, cantilever frame and piling equipment (including generators) will be located on the temporary Marine Bulk Import Facility during construction. The temporary Marine Bulk Import Facility must be constructed sequentially from the shore. A crane will not be used as part of normal operations.
- 3.1.98 The duration of the construction period for the temporary Marine Bulk Import Facility will take up to approximately nine months. The installation and commissioning of the conveyor system will take up to approximately a further eight months. The temporary Marine Bulk Import Facility will be constructed at the same time as the permanent BLF.
- 3.1.99 The temporary Marine Bulk Import Facility will predominantly be dismantled without placing construction vehicles into the sea, including use of a crane on the pier. Piles will typically be removed by pulling using a vibrohammer. Piles that cannot be removed using this method will require the use of a jack-up barge and must be cut off below seabed level and removed.
- 3.1.100 The temporary Marine Bulk Import Facility will be removed prior to completion of the relevant part of the permanent HCDF and SCDF. Piles within the HCDF and SCDF footprint must be extracted or cut off below ground level.

c) Main Platform: Phase 3

i. Main Platform: Construction of buildings, plant, facilities and other structures

- 3.1.101 The main platform finished ground level, excluding underground structures, will be approximately 7.3mAOD with localised variations for drainage.
- 3.1.102 The nuclear island buildings will be constructed with reinforced concrete. The concrete must be mixed using onsite batching plants in the temporary construction area.
- 3.1.103 The reactor building incorporates a steel liner which forms the inner shell of the building. Sections of the liner will be pre-fabricated within either the main platform or the temporary construction area and craned into position.
- 3.1.104 Concrete buildings within the conventional island will be constructed using similar methods to the nuclear island buildings.
- 3.1.105 Construction of pylons within the main platform will generally follow the same construction methodology as described below for National Grid pylons.
- 3.1.106 Temporary facilities, plant, cranes, machinery and other temporary works will be required.

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d) Main Platform: Phase 4

i. Main Platform: Installation and testing of mechanical and electrical plant

3.1.107 The majority of mechanical and electrical activity will take place within the power station buildings.

3.1.108 Temporary facilities, plant, cranes, machinery and other temporary works will be required.

ii. Main Platform: Construction of permanent coastal defence features

3.1.109 By Phase 4, the permanent sea defences must be constructed, involving the raising of the construction phase sea defence, to the permanent level of +12.6m AOD. This height provides for a 1 in 10,000 year storm event at 2140, including a precautionary assumption for wave height. Up to two metres of landscaping will be placed on the seaward slope and the crest, which must be constructed to varying depths to create naturalistic undulations a typical gradient of approximately 1 in 3 on the embankment. The total height of the permanent HCDF with landscaping is therefore up to +14.6m AOD. The seaward toe of the sea defence must be buried and seated at a level of approximately +0mOD. A temporary cofferdam must be created to facilitate construction below the adjacent water level.

3.1.110 The permanent design must include rock armour placed on the seaward side of the sea defence.

3.1.111 Fill material will be placed on the landward side and the core of the sea defence, with reinforcements, as necessary. Ground improvement works will be necessary using CMCs or similar where underlying peat is present.

3.1.112 Landscaping will comprise filling the interstices of the rock armour with shingle and sand followed by topsoil and planting, as appropriate. The coast path must form part of the seaward landscaping and will typically be placed at approximately +5mOD.

3.1.113 The southern termination will be constructed without intrusive works to the existing Sizewell B Sea Defences. The wedge between the structurally independent Sizewell B and Sizewell C sea defence systems must be infilled with shingle or other material prior to landscaping.

3.1.114 The application of the landscape proposals, including the establishment of new planting and landform, must be undertaken at the earliest practicable opportunity following completion of the engineering structure.

3.1.115 Construction of the permanent HCDF will be carried out in stages. As the permanent HCDF is constructed, the temporary HCDF will be removed or cut down.

3.1.116 For each section of embankment, excavation will be carried out for the toe of the proposed embankment.

3.1.117 Within the Northern Mound area, the core of the permanent HCDF will be raised to approximately +8mOD level, and the new permanent BLF access road constructed (levels vary +5m to +7.3m).

3.1.118 The surface of the permanent HCDF must be protected against erosion and weathering using a concrete canvas or similar durable barrier.

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- 3.1.119 The sheet pile wall will be breached to allow access to construct the land- side piles for the permanent BLF.
- 3.1.120 Once the permanent BLF is complete and operational, the remaining rock armour will be imported to complete the permanent HCDF in the Northern Mound area.
- 3.1.121 Indicative details of the permanent HCDF and SCDF are shown on **Figure 3D.18, 3D.28, 3D.31 and 3D.32**. The toe of the HCDF will not be further seaward than shown on these Figures.
- 3.1.122 Following construction of the permanent HCDF, the SCDF profile will be formed using dredged imported shingle material and any suitable site won material. A trailer suction hopper dredger will dredge material from an existing licenced offshore extraction site and then moor offshore. The shingle will then be pumped ashore using a pipeline and moved into the profile using bulldozers.
- 3.1.123 Any future recharge of the beach during the design life of the sea defences will use a similar methodology as the initial creation.
- 3.1.124 The Coast Path and subsidiary paths installed to provide temporary diversion of the Coast Path around the permanent BLF during construction must not be hard structures that could compromise erodibility of the SCDF.
- 3.1.125 Maintenance tracks will be hard structures and will permit recharge of the SCDF following storm events. They must be set below the SCDF recharge level so that they are only exposed following storm events. They will be designed not to adversely impact littoral drift.

e) Main Platform: Phase 5

i. Main Platform: Removal of temporary facilities to allow completion of groundworks, landscaping and the main platform

- 3.1.126 Following completion of the works listed above, temporary facilities on the main platform will be removed and the final surfacing will be undertaken as part of on-site hard landscaping.
- 3.1.127 Temporary facilities, plant, cranes, machinery and other temporary works will be required.

ii. Main Platform: Commissioning works

- 3.1.128 Prior to full operation, commissioning tests will be undertaken to demonstrate that the Sizewell C nuclear power station is capable of performing in accordance with its design specification and safety and environmental requirements. Commissioning will include cold flush testing and hot functional testing.

3.2 Sizewell B relocated facilities and National Grid land

- 3.2.1 The Sizewell B relocated facilities and National Grid land is the area that certain Sizewell B facilities will be moved to in order to release other land for the proposed development, and land required for the National Grid transmission network, as illustrated on **Figure 3D.1**.
- 3.2.2 A full description of works required for Sizewell B relocated facilities is provided within Volume 1, **Appendix 2A** of the **ES** [APP-163 to APP-166], as amended by the text below. It is assumed that the first phase of the Sizewell B relocated facilities works will be carried out in Phase 0

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pursuant to a planning permission granted by East Suffolk Council (ESC) under the Town and Country Planning Act 1990. The second part of the Sizewell B relocated facilities works will be carried out pursuant to the DCO in Phase 1 in parallel with other DCO works due to take place at that time.

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a) Sizewell B Relocated Facilities Works: Phase 0

i. Sizewell B Relocated Facilities Works: Coronation Wood Area

- 3.2.3 Initial construction activity comprises the felling and grubbing of Coronation Wood.
- 3.2.4 Once Coronation Wood has been cleared, construction of the western access road will commence to allow the separation of construction traffic from the main access road to Sizewell B at the earliest opportunity. A run-off drain must be constructed to the west of the road to avoid surface water run-off from the site discharging into the Sizewell Marshes SSSI.
- 3.2.5 Following construction of the western access road to a standard suitable for the construction traffic, the remainder of the Coronation Wood development area will be levelled. Given the relatively constrained working area within Coronation Wood, an area within the northern part of the site (that was previously used for the construction of Sizewell B) has been identified for temporary stockpiling of excess material. The clean material must be spread across the existing field to a height no greater than 1m, leaving a 5m corridor around the perimeter for vehicular access and to act as a silt control area for any run-off. The side slopes will tend to be limited to 1:3 gradient for stability.
- 3.2.6 Once the Coronation Wood development area has been levelled, the facilities will be constructed alongside the external infrastructure (roads and lighting), drainage and landscaping.

ii. Sizewell B Relocated Facilities Works: Outage Store

Option 1

- 3.2.7 Construction of the outage store will first include diversion/ protection of existing services, excavation and construction of reinforced concrete pads for foundation, construction of concrete base at ground level, erection of steel superstructure and the installation of cladding and building services.

Option 2

- 3.2.8 Construction of the outage store will first require the demolition of the existing general store. Following site clearance and the diversion/ protection of existing services, temporary sheet piles to a maximum depth of approximately 20m may need to be installed to allow for the excavation of the basement to commence, the depth of which will breach the groundwater table. Following piling and the excavation of the basement, the depth below the groundwater table will be dewatered.
- 3.2.9 Temporary facilities, plant, cranes, machinery and other temporary works will be required for each option.

iii. Sizewell B Relocated Facilities Works: Outage car park and new access onto Sizewell Gap

Option 1

- 3.2.10 The existing west car park will be repurposed for use during outages as the outage car park. No significant civils works are anticipated.

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Option 2

- 3.2.11 Topsoil will be stripped from all relevant areas of Pillbox Field to prepare the area for construction activities. Where feasible, the topsoil will be re-used on non-paved areas, such as on the embankments of the outage car park and vehicular access road.
- 3.2.12 Following the topsoil strip, earthworks will be undertaken to achieve the desired formation levels. Excavated material will be reused as fill, where appropriate.
- 3.2.13 The existing technical training centre will be refurbished and will temporarily house the Sizewell B visitor centre during this phase of construction.

b) Sizewell B Relocated Facilities Works: Phase 1

i. Sizewell B Relocated Facilities Works: Development of Sizewell B relocated facilities ongoing

- 3.2.14 To allow for the construction of the new visitor centre, it is envisaged that the Sizewell B power station perimeter road immediately to the north of the Coronation Wood development area will be temporarily closed, with traffic diverted along the western access road. This will allow the contractor to set up cranes and laydown within this area.
- 3.2.15 Temporary facilities, plant, cranes, machinery and other temporary works will be required.
- 3.2.16 To provide a suitable working area for construction, a number of modifications must be made to the existing Sizewell B site access arrangements for vehicles and workers. These temporary access arrangements must be constructed before the existing facilities are taken out of use.
- 3.2.17 Construction of a number of facilities within the defined working envelope, including office accommodation for operations and outage staff, an associated mess facility; canteen; general storage; a civils store and workshop; a general store and changing facilities; and a 'front of house' for staff and visitors to the Sizewell B power station.
- 3.2.18 In addition, Sizewell B facilities to be relocated will be demolished on a phased basis.

c) National Grid work: Phase 2

i. National Grid works: Substation

- 3.2.19 An extension to the existing National Grid 400kV substation will be required to accommodate the additional generation output of Sizewell C. The overhead lines that currently terminate at the existing National Grid 400kV substation will be diverted into a new substation building built alongside and interconnected with the existing substation building, so that the electricity generated by both the existing Sizewell B and new Sizewell C power stations can be exported to the National Electricity Transmission System.
- 3.2.20 This National Grid construction site must accommodate construction offices, welfare facilities, car parking, workshops, spoil storage and material/equipment laydown and storage areas. Water, sewerage, electricity, and communication services must be provided either via mains connection or mobile supplies (such as bowsers, septic tanks, and generators).

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3.2.21 Works to the National Grid substation will require the use of temporary water-tight working areas within the substation footprint, formed by scaffolding wrapped in tarpaulin or similar material, to facilitate clean working and weather-proof conditions where this is required, such as the jointing and termination of cables. These temporary water-tight working areas will be large enough to accommodate cranes or other forms of lifting systems.

3.2.22 The National Grid substation will connect into each of the four circuits on the National Grid 400 kilovolts overhead lines. To facilitate these connections, modifications to the existing overhead line will be required which would include a new pylon, removal of an existing pylon and the permanent realignment of a short section of the overhead line to connect to the substation.

ii. National Grid works: Overhead line realignment works

3.2.23 The new pylon will require excavation around the pylon base for foundations and hardstanding areas, for erection of the pylon by crane.

3.2.24 Protective measures may be required at sensitive locations along the new overhead alignment such as roads or footpaths, when installing the new conductors and connecting into existing circuits. These measures may include erection scaffolding, temporary controls around roads or footpaths along the diversion.

3.2.25 Temporary working areas and access tracks will be required to construct the new/replacement pylon within the Sizewell Marshes SSSI, string the conductors and dismantle the existing pylon. Temporary bog matting or similar must be used during the works to prevent settlement of machinery into the soft ground.

3.2.26 Temporary vehicle access will be required to each of the two pylon working areas.

3.2.27 Once the replacement/new pylon is constructed overhead line circuits will be transferred. Removal of the existing piling and associated foundations up to a depth of approximately 1m must take place. Subsoil and topsoil must be reinstated.

3.2.28 Temporary facilities, plant, cranes, machinery and other temporary works will be required.

3.3 Offshore Works Area

a) Offshore Works Area: Phase 1-5

3.3.1 The offshore work area is the area where offshore cooling water infrastructure and other marine works will be located, as illustrated on **Figure 3D.1**.

3.3.2 Construction work for offshore infrastructure will begin in Phase 1 and continue until Phase 5.

i. Offshore Works Area: Desalination intake pipe and associated headworks

3.3.3 A desalination plant typically converts 40% of the seawater it abstracts into fresh water. Therefore, the seawater intake pipe will be sized to abstract up to 10,000m³ of seawater per day to create 4,000m³ of potable water. This requires a small-bore pipeline (between approximately 250-350mm diameter). No more than 6,500m³ per day will be abstracted when the desalination plant is located on the Main Platform and no more than 10,000m³ of seawater per day will be abstracted subsequently.

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- 3.3.4 The pipe will extend approximately 485m seaward from the temporary Hard Coastal Defence Feature (HCDF) and terminate in a minimum 5m depth of water at lowest astronomical tide (LAT) conditions. Below highest astronomical tide, the pipe must be routed through the crag deposits that underlie the typically sandy gravel layer on the surface of the seabed. The exception to this is at the seaward end of the pipe where it must rise to meet the intake headworks. The indicative location of the pipe is shown in **Figure 3D.10** and **Figure 3D.11**. The intake headworks must be located seaward of the outer longshore bar and beyond the main areas of longshore transport.
- 3.3.5 The pipe must be installed under the beach, intertidal zone and seabed using a directional drilling or other trenchless methodology. It must be launched from the landward side of both the temporary HCDF and the haul road, using a drilling rig or similar as described above.
- 3.3.6 The pipe must be at sufficient depth to ensure the ground conditions are suitable for bentonite support. Casing must be used to ensure ground stability, if necessary, for the first short section of borehole as this is expected to penetrate a gravel stratum. If required, a casing of a larger size than the final reaming hole will be installed with a casing hammer or similar into dense sand. This must be removed after pipe installation. Using trenchless technology such as this, the pipe will not be present on, or interact with, the beach, Coast Path or seabed except at the seaward drilling exit site (where a headworks will be located as described below).
- 3.3.7 Bentonite will be used in the drilling process. A bentonite recovery system must be used during drilling to minimise emissions. Due to the requirement to ensure a stable borehole whilst drilling, drilling will require continuous working (24 hours per day).
- 3.3.8 The intake pipe will hydraulically connect directly to a wet well chamber landward of the temporary HCDF and the haul road, which will be sufficiently deep to allow it to naturally fill with seawater under gravity. The exact water level will rise and fall with the tide, but the well will be sufficiently deep to ensure it is constantly wet. The well shaft must be constructed by sheet pile cofferdam or similar to isolate the well from surrounding groundwater prior to dewatering. Once operational, seawater will be pumped out of the well and into the desalination plant. Up to two seawater intake pumps will be located deep within the well and underwater.
- 3.3.9 To prevent ingress of glass eels and other early life-stages of fish and larger invertebrates the seawater intake must consist of a Passive Wedge-Wire Cylinder (PWWC) screen with a mesh size of around 2mm. The screen will be approximately 60cm in diameter and the headworks will be approximately 1.6m in length. The headworks must be positioned orthogonal to tidal currents to reduce the tidal forcing against the screens and minimise approach velocities. The flow velocities within the 250- 350mm diameter pipeline must be between approximately 1.1-1.7m/s.
- 3.3.10 The intake headworks will be located underwater approximately 1m above the seabed. A temporary hazard marker must be located directly above.
- 3.3.11 The intake screen and pipework must be maintained by periodic cleaning using a compressed air cleaning system. Periodic shock chlorination within the headworks will be applied as necessary to prevent biofouling. Chlorine dosing must be flow controlled and angled inwards to prevent chlorine emissions to the environment. Abstracted water must be dechlorinated prior to (landward of) the Sea Water Reverse Osmosis membranes.

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- 3.3.12 Localised dredging, in the form of backhoe dredging of similar, will be necessary in the immediate area surrounding the headworks.
- 3.3.13 Once the headworks are constructed, scour protection will manage the effects of seabed level changes. A small area of concrete mattress must be provided to mitigate scour immediately around the section of intake pipe connecting the drilled tunnel to the headworks.
- 3.3.14 The buried intake pipeline must be grouted (or similar), capped and will remain in-situ, except for any part that is 2m or less below seabed level, this section will be removed. The intake headworks, scour protection and associated tunnel section must be removed before hot functional testing commences. A jack-up barge will be necessary during both construction and decommissioning of the headworks and associated infrastructure.

ii. Offshore works area: Desalination outfall pipe and associated diffusers

- 3.3.15 A desalination plant typically converts 40% of the seawater it abstracts into fresh water as stated previously. Therefore, the brine water outfall pipe will be sized to discharge up to 6,000m³ of water per day. This again requires a small-bore pipe (approximately 250-350mm diameter). No more than 3,900m³ of water per day will be discharged through the outfall pipe when the desalination plant is located on the Main Platform and no more than 6,000m³ of water per day will be discharged through the outfall pipe subsequently.
- 3.3.16 The pipe will extend approximately 385m seaward from the temporary Hard Coastal Defence Feature (HCDF) and terminate in approximately 4.5m depth of water at LAT. The approximate location of the pipe is shown in **Figure 3D.10** and **Figure 3D.11**.
- 3.3.17 The outfall pipe must also be installed under the beach and under the seabed using directional drilling or other trenchless methodology as per the description for the intake pipe, including use of bentonite recovery. Below highest astronomical tide, the pipe must be routed through the crag deposits that underlie the typically sandy gravel layer on the surface of the seabed. The exception to this is at the seaward end of the pipe where it must rise to meet the outfall diffusers.
- 3.3.18 The outfall pipe must be fitted with diffusers, in the form of a series of nozzles at the seaward end to enhance initial mixing and minimise discharge plumes. These must be based on a 'duck bill' design to prevent intrusion of sand, sediment, saltwater and marine growth. Periodic inspection and cleaning of the outfall diffusers must take place to ensure correct operation. A temporary hazard marker must be located directly above. The outfall diffusers must be located seaward of the outer longshore bar and beyond the main areas of longshore transport.
- 3.3.19 Localised dredging, in the form of backhoe dredging or similar, will be necessary in the immediate area surrounding the headwork.
- 3.3.20 Once the headworks are constructed, scour protection will manage the effects of seabed level changes. A small area of concrete mattress must be provided to mitigate scour immediately around the section of outfall pipe connecting the drilled tunnel to the diffusers.
- 3.3.21 Process and maintenance chemicals must not be discharged, with the exception of phosphorus derived from use of a membrane descaling chemical. Aqueous discharges from chemical treatment must be tankered off-site for disposal. This must include maintenance of the 'Clean-In-Place' wastewater from the desalination and prefiltration (ultrafiltration) systems.

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- 3.3.22 The brine water must be balanced and mixed on the construction site as part of the desalination process. It must then be stored in a storage tank adjacent to the desalination plant and pumped through the outfall pipe in a controlled manner on a continuous basis (24-hours per day).
- 3.3.23 Both the intake and outfall pipes will need to cross the previously installed sheetpiles forming the Temporary Hard Coastal Defence Feature. The directional drill will not cross the sheetpile line below the toe of sheetpiles. The crossing will therefore be accomplished by locally deploying shorter sheetpiles to create a space through which the directional drill would advance.
- 3.3.24 Water to be discharged via the outfall pipe will be pumped, except where tidal conditions show that it is not necessary. Up to 10 pumps will be required and they must be located within the desalination plant and enclosed to provide acoustic attenuation.
- 3.3.25 The seawater outfall headworks must be decommissioned and removed once the permanent water supply is fully available. The buried intake pipeline must be grouted (or similar), capped and will remain in-situ, except for any part that is 2m or less below seabed level, this section will be removed.
- 3.3.26 Operation of the temporary desalination plant must cease before cold-flush testing commissioning works commence. The outfall headworks, scour protection and associated tunnel section must be removed before hot functional testing commences.
- 3.3.27 A jack-up barge will be necessary during both construction and decommissioning of the headworks and associated infrastructure.

iii. Offshore works area: Cooling water infrastructure

- 3.3.28 Offshore cooling water infrastructure consists of two subterranean intake tunnels and one outfall tunnel.
- 3.3.29 The cooling water tunnels will extend approximately 3 kilometres (km) offshore and must be bored using tunnel boring machines from land at depths of approximately 30m under the seabed. The tunnel boring machine heads must be left at the end of each tunnel run, approximately 30m under the seabed.
- 3.3.30 The excavated material must be transported back to the tunnel entrance where any bentonite used in the tunnel boring process must be recovered for re-use before the excavated material is transported to the appropriate stockpile. Treatment of spoil must be piped to a slurry treatment plant in the temporary construction area and dehydrated. Tunnelling will be a continuous activity requiring 24-hour working and preliminary estimates suggest this will take around 15 months to complete. Excavated material will be transported to on-site stockpiles during both day and night, although distribution and grading of the material must be restricted to the daytime in order to reduce night-time noise levels. This may comprise approximately 50 articulated dump truck movements per night.
- 3.3.31 Connections between the intake and outfall structures and the bored tunnels will be made via lined vertical shafts bored from the seabed down to the tunnels. The shafts will be bored using a drilling technique and are likely to be undertaken from a jack-up rig.

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- 3.3.32 The intake and outfall headworks must be prefabricated off-site and floated into position. Prior to the installation of the headworks small scale capital dredging will be required to remove superficial sediments to the underlying bedrock. Dredging is anticipated to be by cutter suction dredger with local disposal. A description of dredging activities is provided in the section below.
- 3.3.33 Following dredging, the bedrock will undergo ground preparation, and a gravel bed must be installed below the proposed headwork, which will be lowered into position.
- 3.3.34 Vertical connection shafts will be drilled with the headwork in-situ to connect the headworks to the subterranean cooling water tunnels. Drilling will occur through the centre of the headworks.
- 3.3.35 After the headworks are installed and scour protection placed in-situ (where required), soft-sediment must be back-filled.

iv. Offshore works area: Fish recovery and return system

- 3.3.36 Two Fish Recovery and Return (FRR) systems must be constructed, one for each reactor. The tunnels must be drilled beneath the seabed using a directional drilling technique, with arisings transported landward for disposal. The FRR systems will terminate in a seabed outfall structure approximately 300m offshore.

v. Offshore works area: Combined Drainage Outfall

- 3.3.37 The Combined Drainage Outfall (CDO) must be constructed early in the construction phase and act as the site discharge outfall. Prior to CDO completion, station effluents must be reused where possible or tankered offsite for managed disposal.
- 3.3.38 The CDO must be created using a directional drilling technique under the foreshore and seabed, with arisings transported landward for disposal. Two individual tunnels will connect and terminate in a CDO structure approximately 300m offshore. The tunnels will be connected to a concrete outfall structure that will be of similar dimensions to the FRR headworks.
- 3.3.39 The CDO will discharge material such as the following during the construction period, where it is not treated and used on-site for other construction-related purposes:
- treated final effluent originating from the construction phase sewage treatment plant;
 - treated surface water run-off from the deep excavation within the main platform;
 - treated surface water run-off from the wider construction site, as required;
 - groundwater, treated if required, from dewatering within the main platform cut-off wall;
 - treated plant cold commissioning waters;
 - treated concrete wash water; and
 - treated water originating from tunnel construction.
- 3.3.40 Discharges must be treated with bypass separators to minimise potential hydrocarbon contamination from mobile or fixed plant operations and a silt- buster or similar technology to reduce sediment loading. The CDO must discharge to the sea in compliance with the requirements of an environmental permit.

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vi. Offshore works area: Temporary marine outfall

- 3.3.41 In the period before the CDO is constructed and when necessary, surface water must be pumped from the construction site over the temporary sea defences and into a chamber before discharging water through a gravity pipe towards the shoreline. The pipe size will be less than 50cm in diameter. Total suspended solids content will be 250mg/l or less.
- 3.3.42 The outfall must be designed to be pumped at a maximum permitted rate of 200 litres per second when required. The outfall will typically only be used infrequently when surface water is captured in the construction site which cannot be discharged through infiltration or to the surrounding watercourses (e.g. due to flooding or storm events). Surface water under normal conditions must be collected in balancing ponds, treated via water treatment systems and then either infiltrated to ground or discharged to the surrounding watercourses, in accordance with the **Drainage Strategy** (Doc Ref. 10.14).
- 3.3.43 The temporary outfall must be laid under the Suffolk Coast Path to ensure no obstruction and must then terminate above the Mean High Water Spring tide level. The temporary outfall will be located south of both the permanent beach landing facility and the temporary Marine Bulk Import Facility in the approximate location shown on **Figure 3D.15**.
- 3.3.44 The Suffolk Coast Path must remain open during construction and operation of the temporary outfall as far as it is reasonably practicable and safe to do so.
- 3.3.45 Once the CDO is constructed the temporary outfall must be removed.

vii. Offshore works area: Dredging and disposal

- 3.3.46 To accommodate the safe passage of barges and accompanying tugs to the permanent BLF, a navigational channel will be required in the nearshore zone occupied by the two longshore bars.
- 3.3.47 Dredging will only be needed in periods when the permanent BLF is in use. Due to navigational limitations this coincides with calm sea conditions, meaning the permanent BLF usage, and therefore dredging, will take place approximately between the months of April and October.
- 3.3.48 To provide a navigational channel and grounding pocket, an area approximately 62m wide will need to be dredged and profiled to allow the barge and tug sufficient room to manoeuvre and dock approaching from the south within the shallow subtidal zone (less than 6m water depth). Plough dredging pushes the sediment aside from the required area, which is then redistributed by subsequent tides
- 3.3.49 The frequency of maintenance dredging will depend on the specific tolerance of the barges to the substrate profile and seasonal infilling rates. Maintenance dredging is anticipated at least annually due to infilling during winter periods but may also be required following storm events.
- 3.3.50 Dredging and disposal for other works will comprise:
- CDO headworks: Cutter suction dredger with local disposal at sea via a down tide pipe.

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- Cooling water system intake and outfall tunnel headworks: Cutter suction dredger with local disposal at sea via a down tide pipe. Drilling with arisings released at drill site for the intake heads.
- FRR tunnel headworks: Cutter suction dredger with local disposal at sea via a down tide pipe.

3.3.51 The anticipated total volume of dredging during construction is approximately 110,000m³, covering surface area of approximately 45,000m². All dredging and disposal must take place within the geographical limits of the DCO (Doc Ref3.1(J)).

3.3.52 The duration of dredging works required for the BLF, CDO, cooling water system and FRR tunnels is likely to be approximately 12 weeks each.

3.4 Temporary Construction Area

3.4.1 The TCA refers to the main area of land that will be required largely on a temporary basis to facilitate the construction of the proposed development. This land will primarily be located to the north of the Sizewell Marshes SSSI between the B1122 and the coast, to the north-west of the main platform as shown on **Figure 3D.1**.

a) Temporary Construction Area: Phase 1

i. Temporary Construction Area: Establishment of construction area

3.4.2 Work will begin by securing the site through installation of security fencing and site clearance. Fencing must be combined with ecological protection measures, where necessary. Areas of vegetation clearance and retention are shown on **Figure 3D.8** and **Figure 3D.9**.

3.4.3 Utilities must be diverted and archaeological mitigation works will take place as necessary.

3.4.4 An acoustic fence must be used where it is necessary to attenuate noise levels, which will be up to approximately 5m in height, with localised variations in height as necessary. The approximate locations of acoustic fences are shown on **Figure 3D.15**.

3.4.5 Site clearance will include topsoil strip and associated stockpiling, diversion of utilities and vegetation removal. Early planting must take place where practicable.

3.4.6 The southern earth bund must be delivered.

3.4.7 Construction of the batching plant will begin, and initial modular site offices and welfare facilities must be installed.

3.4.8 Early access routes must be established, to facilitate movement of plant, materials and workforce.

3.4.9 Temporary facilities, plant, cranes, machinery and other temporary works will be required.

ii. Temporary construction area: Creation of water resource storage area and associated infrastructure

3.4.10 A lined temporary water resource storage area must be constructed north of Parameter Zone C7 alongside a water management zone. The storage area will have a capacity of up to

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25,000m³ of non-potable water for use in the construction process and will provide the ability to store water over the winter period typically for use during the summer months. Water must be stored above groundwater level to ensure it is hydrologically separate and does not cause adverse effects to groundwater levels on-or off-site.

- 3.4.11 The water resource storage area will be part below existing ground level and part above existing ground level, with raised embankments as necessary up to approximately 3m in height.

iii. Temporary construction area: Wet woodland habitat and flood mitigation area

- 3.4.12 The area extending along the edge of The Grove must be designed in part to create wet woodland habitat. The area must include a linear reedbed, which is likely to make the area more attractive to water birds. This, as well as the vegetated margins of the flood mitigation area described below, will provide foraging opportunities for marsh harriers during the construction of Sizewell C.
- 3.4.13 Additional flood mitigation land must be provided to the north of the habitat. Design considerations must include: siting, to benefit from screening provided by established vegetation; the shape and profile of earthworks, to reference local conditions and avoid an over engineered appearance; and, the establishment of planting, for wildlife and aid integration into the landscape.
- 3.4.14 Screening planting must be provided along the eastern side of Sandy Pytle Plantation and at the northern edge of Dove House Hill. As well as vegetation screening, the banks of the flood mitigation area must have a naturalistic design. Planting will include a mosaic of rough grassland, wildflower mixes, hedgerows and scrub areas.
- 3.4.15 These proposals will provide approximately 100,000 cubic metres additional flood mitigation volume and require excavation up approximately -2mOD.
- 3.4.16 Construction activity will predominantly consist of earthmoving activities using excavators and earthmoving vehicles. Construction activity is assumed to also include a materials handling area west of the flood mitigation area during the construction period of this feature only (approximately 6 months).
- 3.4.17 Once the construction of Sizewell C is complete and compensatory marsh harrier foraging habitats are no longer required, the open water and wet reedbed habitats must be transitioned to wet woodland habitats, either through natural successional processes or through planting. In the long term this will compensate for the loss of wet woodland from the Sizewell Marshes SSSI. The flood mitigation area must also be hydraulically linked to the proposed permanent wetland habitat corridor immediately to the south to create a single integrated wetland feature, as indicatively shown on **Figure 3D.19**.

iv. Temporary construction area: Laying out of construction roads and parking

- 3.4.18 The main haul routes must be developed to facilitate the movement of vehicles carrying excavation and construction materials to and from the main platform, as shown on **Figure 3D.15** and **Figure 3D.20**. These haul routes will be approximately 30m wide with earth bunds either side for use by heavy duty earthmoving equipment. Segregated site roads must be provided for other traffic, including HGVs and, where practicable, must be aligned with the

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subsequent permanent access road. A covered conveyor system for the movement of construction material is assumed to be provided along a similar route to the haul roads and connecting with the temporary Marine Bulk Import Facility.

- 3.4.19 Construction roads must be constructed in accordance with the current relevant standards and guidance as required for heavy vehicle usage and estimated traffic volumes. These roads must be surfaced with tarmac or compacted granular material as appropriate.
- 3.4.20 An initial temporary drainage system must be installed for predominately managing surface water run-off. This must be replaced by a site construction drainage system which will manage site-wide surface water run-off associated with the various platforms, groundwater from dewatering, and treated sewage effluent and any other permitted construction waste streams. Further details are set out in the drainage section of this document.
- 3.4.21 Initial parking will be provided for up to 300 cars and up to 75 HGV parking spaces during the early years within the temporary construction area, accessed off Lover's Lane.

v. Temporary construction area: Excavation of borrow pits begins

- 3.4.22 Topsoil and subsoil will be stripped from the borrow pits and must be preserved for their future reinstatement.
- 3.4.23 Excavation of material will take place, ensuring an unsaturated zone of at least 2m is maintained above the groundwater level. The maximum depth of excavation is likely to be to:
- approximately 5m AoD in parameter zones C6 and C7; and
 - approximately 9m AoD in parameter zone C5.
- 3.4.24 Engineered drainage will manage surface water run-off and contaminants, such as suspended solids, and protect groundwater.
- 3.4.25 Works will continue on the borrow pits in Phase 2.

vi. Temporary construction area: Realignment of Lover's Lane and relocation of B1122 junction

- 3.4.26 To provide the necessary space between the proposed level crossing, as seen in **Chapter 2, Volume 9** of the **ES** [APP-541], and the junction between the B1122 (Abbey Road) and Lover's Lane, this junction must be permanently relocated approximately 100m to the south of its existing position to facilitate development of the rail extension route (Green Rail Route), as shown on **Figure 3D.15**. This relocation requires Lover's Lane to be permanently realigned for a length of approximately 200m and will improve visibility at the B1122 junction for all road users. A crossing point must be provided over Lover's Lane from the northern field of Aldhurst Farm into the arable field to the north. A new route will then pass through an existing field, parallel to the field boundary, towards Kenton Hills. It will then join the existing Bridleway 19 route. The new permanent route and crossing point must be made available for pedestrians in the construction phase once the entrance to the main development site from the B1122 is in place and the number of HGVs using the early years' access is reduced, approximately two years post commencement of construction works.

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3.4.27 The realignment of Lover's Lane and relocation of the B1122 junction proposed development must be built off-line, with the exception of tie-ins. A new right turn lane must also be provided to the Leiston Household Waste Recycling Centre. The roads must be designed and constructed in accordance with Design Manual for Roads and Bridges technical standards.

3.4.28 The construction sequence will broadly follow the steps as below:

- Preparatory works: site set up and clearance including trees and hedgerows; erection of temporary fencing on land required for construction.
- Construction works: earthworks, road construction and surfacing, utility and drainage installation, construction of kerbs and footways, road signs and marking, road lighting and landscaping.

3.4.29 Areas of vegetation clearance and retention are shown on **Figure 3D.8** and **Figure 3D.9**.

3.4.30 An earth bund and vegetated retaining structure must be provided.

3.4.31 A new mammal culvert must be provided in close proximity to the existing culvert at Lover's Lane north of Leiston Recycling Centre. It must be designed with features to encourage use by mammals including otters and water voles to improve connectivity between the Sizewell Marshes SSSI and Aldhurst Farm. Otter fencing must also be installed to guide animals to the culvert.

b) Temporary construction area: Phase 2

i. Temporary construction area: Site entrance hub developed and operational

3.4.32 The main development site must be arranged as a secure construction site with controls on the people and materials entering and leaving the site.

3.4.33 The site entrance hub must be located east of the new roundabout off the B1122, west of Upper Abbey Farm and south of the Accommodation Campus. This area must be the location of several temporary site facilities including:

- main site offices and induction facilities;
- site welfare and canteen;
- bus and car parking areas;
- freight areas; and
- people and vehicle security facilities.

3.4.34 The on-site car park will have space for up to 1,000 cars, rising from up to 300 spaces in Phase 1, plus parking spaces for buses. Electric vehicle charging points must be provided.

ii. Temporary construction area: Vehicular accesses onto the B1122 and Lover's Lane

3.4.35 The TCA will be accessed principally via a new roundabout to be located on the existing B1122, approximately at the site of the existing junction with Eastbridge Road. All workers and most construction materials travelling by road must access the temporary construction area via this roundabout.

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3.4.36 During the construction phase, the roundabout will have five arms, clockwise from the north as follows:

- B1122 North;
- Eastbridge Road;
- TCA accesses for buses, cars and cyclists, with an adjacent footway for pedestrians;
- TCA accesses for HGVs; and,
- B1122 South.

3.4.37 The roundabout must include an over-runnable strip in the centre to allow ALLs to drive across the centre of the roundabout and into the HGV entrance. The roundabout will be largely constructed offline, avoiding the need for long-term temporary road closures or the diversion of the B1122 in this location. The second arm into the temporary construction area must be removed at the end of the construction phase.

3.4.38 A secondary vehicular access road must be provided to connect the temporary construction area to LEEIE via Lover's Lane. This will be by means of a new priority junction on the northern side of Lover's Lane, a short distance west of Kenton Hills car park. This is required to facilitate the early delivery of materials into the main development site from LEEIE by HGV, generally before the roundabout is complete and after a SSSI crossing has been established. This access must also serve as an emergency access point in the event of an obstruction at the main development site entrance. Some permanent realignment to the existing highway will be required to ensure safe operation of the junction.

iii. Temporary construction area: Realignment of Eastbridge Road

3.4.39 As part of the realignment of Eastbridge Road, a new shared footway and cycleway must be created alongside it to provide an off-road connection to Eastbridge. There must also be a Pegasus crossing on the northern B1122 arm, and another one on the Eastbridge Road arm a short distance north of the roundabout, to enable pedestrians, cyclists and equestrians to safely travel between the two sections of the diverted Bridleway 19. Further details are set out in the **Rights of Way and Access Strategy** (Doc Ref. 10.26).

iv. Temporary construction area: Excavation and backfilling of borrow pits

3.4.40 Once the borrow pit has been excavated, it must be prepared for backfilling with material from the main platform excavation.

3.4.41 Materials such as alluvium, peat and clay, used for the borrow pit backfilling, are very soft materials. Whilst the alluvium must be pre-drained as much as possible during excavation from the main platform, the material will remain wet and soft, and this will constrain the methods of placement. Material must therefore be placed within the borrow pit and then treated, if necessary, by lime or suitable other agent, during placement.

3.4.42 Once the borrow pit has been backfilled and after settlement it has the capacity to act as a stockpile. In order to limit surcharge accelerating the rate at which leachate is released to the groundwater and ensure ground stability, the stockpile height must be limited to 5m above existing ground level.

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v. Temporary construction area: Stockpiling of excavated materials continues

3.4.43 The construction of Sizewell C requires deep excavations on the main platform as set out above. This generates significant quantities of excavated spoil, as well as a need to import backfill material, all of which will require stockpiling at various periods during construction. The main locations of the stockpiles are shown on **Figure 3D.15**.

vi. Temporary construction area: Temporary railway track and associated infrastructure

3.4.44 The rail extension route (Green Rail Route) will enter the main development site at the approximate location of the existing B1122 / Lover's Lane junction. The route will cross the B1122 by means of a level crossing and will continue east into the main development site approximately 2.7 kilometres to its terminus. The extension will be constructed in Phase 2 and is shown on **Figure 3D.15**.

3.4.45 Rail development within the main development site will comprise the terminus of the rail extension route and three railway tracks, including a terminal facility for offloading goods, railway sidings and a passing loop for locomotives.

3.4.46 The route will be constructed in three principal stages:

- Preparatory works: erection of temporary worksite fencing and controls.
- Earthworks: construction of the earthworks to support the track-form.
- Track and signal installation and upgrade: installation and upgrade of the track and signalling infrastructure which will link the main development site to the existing Saxmundham to Leiston branch line and western section of the rail extension route.

3.4.47 A New Track Construction train will be deployed from the rail extension route and will lay sleepers, move rails into final position and clip the rail to sleepers. Following use of the New Track Construction train, Auto-ballast trains will be deployed to lay top-ballast.

3.4.48 Once the ballast has been dropped, a tamper train must run over the section of newly ballasted rail to lift the rails and stabilise/compact the ballast. The process of dropping ballast must continue until the track is at its designated vertical alignment.

3.4.49 Upon completion of the ballasting phase a Stabiliser train must run over the newly laid track to provide a final compaction of the ballast before the rail extension route becomes operational.

3.4.50 Where material delivered at night needs to be stockpiled, this will typically also occur at night and transferred to the main stockpile. This may comprise 50 articulated truck movements per night.

vii. Temporary construction area: Temporary facilities

3.4.51 Land is required to accommodate the range of activities needed to build the power station and the contractors who will perform them. To maximise logistical efficiency, the contractors' compound areas must be located as close to the main platform as practicable, as shown on **Figure 3D.15**.

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3.4.52 The contractors' compound areas must be prepared as level platforms. Surface water drainage must be via the construction drainage systems installed (see drainage strategy section later in this document for details).

3.4.53 Part of the temporary construction area must be designated for common user facilities, as shown on **Figure 3D.15**:

- Approximately six concrete batching plants;
- access and storage areas;
- logistical facilities, including waste handling areas;
- water treatment plants and water pumping stations;
- fabrication areas;
- pre-cast concrete production areas; and
- railway sidings and associated infrastructure, including storage area for aggregates and other materials.

3.4.54 Temporary facilities, plant, cranes, machinery and other temporary works will be required.

viii. Temporary construction area: Accommodation campus and associated infrastructure constructed and operational

3.4.55 SZC Co. must construct an Accommodation Campus on the TCA to reduce the commuting distance for a core part of the workforce.

3.4.56 The proposed on-site Accommodation Campus must provide accommodation for up to 2,400 workers and facilities, as shown on **Figure 3D.15**. The Accommodation Campus must comprise:

- 3-storey and 4-storey residential buildings placed in a broadly east– west orientation and providing up to 2,400 bed spaces;
- non-residential welfare, administration and amenity facilities, including: a 2-storey recreation building with a restaurant, kitchen, two bars, gym, multi-functional room, prayer / quiet room, plant and services; and a two storey reception building, incorporating administration /management space and a medical facility;
- Up to 300 surface car parking spaces and a covered accommodation campus multi-storey car park, providing up to 1,300 car parking spaces;
- provision of 60 disabled car parking spaces, up to 120 motorbike spaces, 120 pedal cycle spaces, plus a drop-off and pick-up area;
- plant associated with the operation of the accommodation campus;
- access roads and footpaths;
- security office;
- access to the temporary construction area; and

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- drainage and landscaping features, including recreational areas.

3.4.57 Design principles for the Accommodation Campus are set out in **the Sizewell C Main Development Site Design and Access Statement** (Doc. Ref. 10.18).

3.4.58 Heat and power will be provided to the Accommodation Campus in one of two ways:

- Electricity via a direct connection to the construction electricity supply cable (as described below) and heating via air source heat pumps, located on the roof of all Accommodation Campus buildings. Air source heat pumps will be approximately 2m tall and 2m wide. A pump is likely to be needed for approximately every 20 rooms on the campus, with each pump providing 0.5kW of electricity.
- A combined heat and power (CHP) plant. The CHP plant building will have a thermal output of approximately 1,900kW and electrical output of approximately 1,700kW. The building will be approximately 10m in height and require a CHP stack, which will be approximately 4m above the building roof height.

ix. Temporary construction area: Kenton Hills car park upgrade

3.4.59 The existing car park serving Kenton Hills must be improved to provide up to 15 additional parking spaces and selective vegetation must be removed to make it less enclosed. The car park surfacing and the access road to it must be improved, and signage must be enhanced by replacing existing wayfinding and information boards adjacent to the car park and providing a sign on Lover's Lane promoting the parking and walking facilities.

x. Temporary construction area: Desalination Plant Relocation

3.4.60 The desalination plant will be relocated to the Temporary Construction Area in Phase 2, in the event that the water supply is not operational by this time. The plant will be upgraded through modular additions to be capable of producing 4,000m³ of potable water per day.

3.4.61 The original pipework into the Main Platform will be re-routed and extended to the Temporary Construction Area across the SSSI Crossing (above the soffit level of the bridge along the proposed service corridor). No change to the marine intake and outfall infrastructure will be necessary as a result of the relocation. The desalination plant must be powered by the electricity main once it is relocated to the Temporary Construction Area.

c) Temporary construction area: Phase 3 and 4

3.4.62 During phases 3 and 4, the TCA will be generally fully established and in use, with full operation including use of the batching plants, compounds, storage areas, prefabrication areas, rail infrastructure and access roads for moving materials.

d) Temporary construction area: Phase 5

i. Temporary construction area: Restoration of the temporary construction area

3.4.63 Following completion of the construction phase, temporary construction facilities must be removed and existing arable land in the temporary construction area will be predominantly restored as Suffolk Sandlings habitat, comprising acid grassland and heathland. Removal of construction facilities will typically be the reverse operations of Phases 1 and 2. Remaining earth and topsoil must be removed from the stockpiles and profiled across the TCA. Once

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established, this landscape-scale habitat creation approach will replace existing intensively managed arable farmland with habitats of greater biodiversity value and will generally increase habitat connectivity. Further details are set out in the **Outline Landscape and Ecology Management Plan (oLEMP)** (Doc. Ref. (Doc Ref. 10.22)

- 3.4.64 Works will include restoring and making safe temporary work sites, including removal of temporary hardstanding areas, temporary structures and buildings (including the Accommodation Campus), temporary rail infrastructure, temporary water resource storage area and other temporary work.
- 3.4.65 Temporary facilities, plant, cranes, machinery and other temporary works will be required.
- 3.4.66 With the exception of early planting undertaken in Phase 1, planting within the TCA footprint will be undertaken in Phase 5. Early planting must take place where practicable.

ii. Temporary construction area: Construction of permanent buildings and structures

- 3.4.67 Permanent buildings and structures, as set out in **Updated Description of Permanent Development [REP7-032]**, will typically be constructed as prefabricated steel-framed buildings, including basements and piling in some instances.

3.5 Land East of Eastlands Industrial Estate

- 3.5.1 Land to the east of Eastlands Industrial Estate (LEEIE), which includes the area to the north of Sizewell Halt and King George's Avenue, must be used to support construction on the main platform and TCA. This land is generally bounded to the north by Valley Road, to the east by Lover's Lane, to the south by Grimsey's Lane, and to the west by Eastlands Industrial Estate, as illustrated on **Figure 3D.1**.
- 3.5.2 An indicative layout of LEEIE is shown on **Figure 3D.20**.

a) Land East of Eastlands Industrial Estate: Phase 1

i. LEEIE: Establishment of Construction Area

- 3.5.3 Work will begin by securing the site through installation of security fencing and site clearance. Fencing must be combined with ecological protection measures, where necessary. Temporary drainage must be installed. Utilities must be diverted and archaeological mitigation works completed, as necessary.
- 3.5.4 Acoustic fences or landscaped bunds must be used where it is necessary to attenuate noise levels, which will be up to approximately 5m in height, as shown on **Figure 3D.15**.
- 3.5.5 Site clearance will include topsoil strip and associated stockpiling, diversion of utilities and vegetation removal. Areas of vegetation clearance and retention are shown on **Figure 3D.8** and **Figure 3D.9**.

ii. LEEIE: Vehicular accesses onto Valley Road, Lover's Lane and King George's Avenue

- 3.5.6 New vehicular accesses will be provided onto Valley Road, Lover's Lane and King George's Avenue. This includes both temporary accesses into LEEIE and a permanent replacement farm

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access to land north of Valley Road. The junctions ~~have must been~~ designed ~~and been through~~ the technical approval process with Suffolk County Council Highways and Highways Agreement signed and will be constructed in accordance with the Design Manual for Roads and Bridges technical standards.

~~3.5.7~~—The vehicular accesses will be used by park and ride buses, cars using the park and ride and HGVs transferring construction materials between LEEIE and the temporary construction areas. ~~Workers accommodated in the caravans will also use t~~The access onto Valley Road will be used by statutory undertakers for maintenance purposes to drive to and from the caravan pitches. is for emergency use only and will be crossed by an acoustic fence with acoustic gate access. The gate will remain closed when not in use.

~~3.5.8~~3.5.7 HGVs will travel along Lover's Lane to access the secondary entrance to the temporary construction area. Prior to completion of the SSSI crossing, HGVs will access the main platform along Sizewell Gap via the existing Sizewell A and B access road.

~~3.5.9~~3.5.8 Park and ride buses will travel along Lover's Lane and the B1122 to the site access roundabout, once operational.

~~iii. LEEIE: Creation and use of caravan park begins~~

~~3.5.10~~ Serviced pitches for 400 caravans must be created to provide accommodation to the construction workforce, starting prior to completion of the Accommodation Campus on the TCA. One car parking space per pitch will be available. Caravans must not exceed 7m in length and 2.55m in width (including external elements).

~~3.5.11~~ This facility must continue to be offered throughout the construction phase, providing an option to workers not wishing to use the Accommodation Campus or private rental sector.

~~3.5.12~~ An average of one and a half workers per caravan is assumed, meaning a total of approximately 600 construction workers staying at this facility.

~~3.5.13~~ A private footpath for construction workers must be provided from the caravan park through the LEEIE during the construction phase, joining Valley Road opposite the existing footpath. This will allow construction workers from within the caravan park to walk to Leiston town centre safely.

~~iii. LEEIE: Integrated Reinforcement Yard~~

~~3.5.9~~ The Integrated Reinforcement Yard will comprise internal working areas and external storage space for the processing and fabrication of steel reinforcement bars and associated works. The internal areas will comprise a Steel Cut and Bend facility building, workshop buildings within an Assembly Area, plus supporting buildings and associated infrastructure.

~~3.5.10~~ Indoor activities within the Steel Cut and Bend facility will take place up to 24 hours per day, seven days a week. Outdoor activities will cease between 23:00 and 07:00 daily, excluding shunting movements through the southern door of the Steel Cut and Bend facility. Heavy Goods Vehicle (HGV) deliveries will be permitted between 07:00 and 23:00 only.

~~3.5.11~~ The Steel Cut and Bend facility will be up to 340 m in length and up to 65 m in width. All heights will comply with parameters shown for Zones C13a to C13c of the Construction Parameter

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Plan. The eastern end of the Steel Cut and Bend facility will be located no less than 110 m from the boundary of the nearest residential receptor and the western end will be no less than 250 m from the boundary of the nearest residential receptor.

~~3.5.14~~ 3.5.12 The Steel Cut and Bend facility will be steel-framed with external building fabric materials that provide a sound reduction performance of at least 40 dB Rw for the walls and the roof. No rooflights will be provided within the Steel Cut and Bend facility. Internal acoustic partitioning will be installed within the building, comprising ceiling-hung insulated vinyl (or similar) strip curtains.

3.5.13 Gantry cranes within the Steel Cut and Bend facility will lift metal by magnetic means -and by the use of lifting slings and other lifting tackle as required- only. Metal will not be dropped from height. The magnet will be placed in contact with the metal prior to energising, and de-energising will occur only when the metal is at rest on its receiving surface. ~~Other lifting operations using gantry cranes will be undertaken within the Steel Cut and Bend facility with the use of lifting slings and tackle. All lifting operations will be undertaken and controlled such that no material is dropped from height.~~

3.5.14 Deliveries to the Steel Cut and Bend facility will be via roller shutter doors located at its eastern and western ends. The roller shutter doors will provide a sound reduction performance of at least 15 dB Rw when closed and 0 dB Rw when open. The roller shutter doors at the eastern and western ends of the Steel Cut and Bend facility will remain open between 07:00 and 23:00 only. During daytime peak activities, there will be up to approximately six HGV deliveries per hour to the western end of the Steel Cut and Bend facility, and up to approximately four HGV deliveries per hour to the eastern end.

3.5.15 Steel reinforcement bars will be moved from the Steel Cut and Bend facility using roller shutter doors on the northern and southern sides of the building. Access via the northern roller shutter door will only be permitted for electric shunter vehicles. There will be up to five electric shunter vehicle movements per hour, excluding the period 23:00 to 07:00 when the northern door will remain closed. Between 07:00 and 23:00, the northern door will be open for up to 50% of the time, with a maximum opening duration of six minutes per shunter movement. The southern access door will be open up to all of the time.

3.5.16 Apertures will be minimised on the northern and eastern elevations of the Steel Cut and Bend facility. The colour of the Steel Cut and Bend facility will be sympathetic to the local context and will have regard to colour guidance published by the Suffolk and Essex Coast and Heaths National Landscape.

3.5.17 An acoustic barrier will be provided along part of the northern boundary of the Integrated Reinforcement Yard, comprising a bund and fence arrangement as shown on the Construction Parameter Plan. The barrier will be impermeable, sealed at the base, and will have a superficial mass of at least 20 kg/m².

3.5.18 Vibratory rollers will not be started up or shut down within 120 m of the boundary of a residential receptor and will be operated using appropriately low vibration settings.

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3.5.19 The Assembly Area will be developed to accommodate multiple internal workshop facilities for different trades. All rebar assembly activities within LEEIE will be carried out indoors within the workshops, with only storage and circulation space provided externally for the materials created. No noise-generating activities will take place in the Assembly Area between 19:00 and 07:00.

3.5.20 All heights will comply with the relevant parameters shown on Table 4.4 of this statement and the Construction Parameter Plan.

3.5.21 The workshops will be steel-framed with external building fabric materials that provide a sound reduction performance of at least 25 dB Rw for the walls and at least 23 dB Rw for the roofs, allowing for rooflights covering up to 15% of the roof area. Roller shutter doors will provide a sound reduction performance of at least 15 dB Rw when closed and 0 dB Rw when open and will remain open up to all of the time between 07:00 and 19:00 only. The workshops will be located at least 44080 m from the highway boundary on the western edge of Lover's Lane.

3.5.22 The workshops will be supported by separate buildings for storage, organising and/or sorting purposes or similar.

3.5.153.5.23 A parking area will be provided within the Integrated Reinforcement Yard to accommodate trailers associated with site operations. The parking area will be used primarily for the static parking of trailers.

iv. LEEIE: Development of rail and associated infrastructure

3.5.163.5.24 The rail extension into the LEEIE will comprise a single railway track with sidings and a passing loop for the locomotive. There must be no night-time deliveries through Leiston into the LEEIE by rail, as freight trains will be held on the Saxmundham to Leiston branch line overnight. The construction method will replicate that used for the rail extension in the temporary construction area and for the rail extension route.

b) LEEIE: Freight management facility and pPark & ride constructed and operational

3.5.173.5.25 Works for the creation of the park and ride ~~and freight management facilities~~ within the LEEIE will comprise:

- clearance of vegetation, removal of topsoil and levelling the site;
- laying of materials for parking areas and internal circulation routes;
- construction and fit out of temporary buildings, and installation of utilities; and
- construction of the final surface layer before road markings and signage are completed.

3.5.183.5.26 The park and ride facility will contain up to 600 car parking spaces, up to 20 bus parking spaces and an associated terminal area. Electric vehicle charging points must be provided. Workers will be shuttled by minibus to the main platform. The park and ride facility must only be in use during the early years whilst the associated development sites and on-site parking are under construction.

~~3.5.19 The freight management facility will contain up to 80 HGV parking spaces and must also only be used during Phase 1 as a HGV holding area, principally to regulate the flow of HGVs using the existing Sizewell A and B access road until the SSSI crossing is operational.~~

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v. LEEIE: Storage and stockpiling of materials begins

~~3.5.203.5.27~~ Bulk material delivered by rail, including aggregates for the concrete batching plant and imported material for use on the main platform, must be stockpiled in a central location within the LEEIE.

~~3.5.243.5.28~~ Non-bulk and containerised materials delivered by HGV that are not required for use immediately, must also be stockpiled in a central location within the LEEIE.

~~3.5.223.5.29~~ Topsoil from site clearance works must be stored in the north-east corner of LEEIE and sufficiently set-back from residential properties on Valley Road to prevent unacceptable impacts on the amenity of nearby residents.

vi. LEEIE: Logistics compound developed and operational

~~3.5.233.5.30~~ A logistics compound will be created to accommodate temporary buildings, facilities, plant, machinery and materials required to support construction.

c) Land East of Eastlands Industrial Estate: Phase 5

i. LEEIE: Restoration of the LEEIE

~~3.5.243.5.31~~ Following completion of the construction phase, temporary construction facilities must be removed and the LEEIE must be restored as indicated in the Outline Landscape and Ecology Management Plan (Doc. Ref. 10.22). Removal of the construction facilities will typically comprise Phase 1 activities in reverse. Works must include restoring and making safe temporary work sites, including removal of temporary hardstanding areas, temporary structures and buildings, temporary rail infrastructure and other temporary works.

3.6 Fen Meadows Compensation Areas

3.6.1 Fen meadow habitat must be provided on the fen meadow compensation areas to compensate for the permanent loss of 0.46 hectares (ha) of fen meadow habitat from within Sizewell Marshes SSSI, associated with the construction of the proposed development and the diversion of Sizewell drain.

3.6.2 The fen meadow compensation areas comprise three areas of land, one to the south of Benhall, one to the north of Pakenham and one to the east of Halesworth as shown on **Figure 3D.21**, **Figure 3D.22** and **Figure 3D.23**.

a) Fen Meadow Compensation areas: Phase 1

3.6.3 Works associated with the fen meadow compensation areas commence at (or prior to) the outset of construction on the development site and may include:

- installation of water control structures, to maintain / manipulate water levels;
- removal of any existing field drains, to reverse historic patterns of drainage;
- limited and superficial excavation to reduce local ground levels, create low bunds and /or create minor surface watercourses to help distribute surface water;
- translocations of turfs from the fen meadow areas Sizewell Marshes SSSI, where subject to landtake; and

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- limited planting of other locally sourced native species and use of appropriately sourced 'green hay' to accelerate colonisation by key fen meadow species.

3.6.4 The proposed works must maintain the existing alignment of the public right of way (E-491/003/0) that crosses the fen meadow compensation site at Benhall and are not expected to affect the use of this route.

3.7 Marsh Harrier habitat improvement area (Westleton)

3.7.1 The conclusion of the main **Shadow Habitats Regulation Assessment Report** [APP-145 to 149] including the **Shadow Habitats Regulation Assessment Volume 4 – Compensatory Measures Report** [APP-152] is that the permanent habitat improvement area of 47.8ha that has been established, but is being further improved, at the northern edge of the EDF Energy Estate (UK grid reference: TM 46318 65222) will provide sufficient foraging to be regarded as appropriate compensation for the predicted 'loss of foraging' over the Sizewell Marshes SSSI, arising as a result of a barrier effect created by the temporary construction area.

3.7.2 However, if it is determined by the Secretary of State that additional marsh harrier habitats are required, then the marsh harrier habitat improvement area (Westleton) will be temporarily used to provide this, as shown on **Figure 3D.24**. If this area is determined to be required, the works to be undertaken to improve the area for foraging marsh harriers will comprise:

- Cessation of arable cultivation, under a land 'set-aside' approach, with 'abandoned arable' being part of the habitat mosaic.
- A one-off sowing of a coarse grassland mixes over part of the area to produce rough grassland.
- Annual sowing of broad game strips to attract flocks of small birds and increase small mammal numbers.
- Potential planting of additional hedgerows and areas of scrub

3.7.3 The plough depths for any coarse grassland or game strip sowing must be no deeper than a standard ploughed cultivation for existing arable use and any machinery used would be typical farm machinery. Any existing field drainage and irrigation infrastructure must be retained in situ. There must be no use of fertilisers unless required locally for sown 'game strips'. In addition, the group of trees protected under the Tree Preservation Order (TPO) in the south-western corner of the site must be retained and tree protection fencing provided, if required to undertake the works.

3.7.4 At the end of the construction period for the power station, the land, if used, must be returned to arable use, as the marsh harriers would then have no impediment to foraging.

3.7.5 The proposed works must maintain the existing alignment of the public right of way (E-550/029/0) that crosses this site and are not expected to affect the use of this route.

b) Marsh Harrier habitat improvement area: Phase 5

3.7.6 At the end of the construction phase, the area must be returned to agricultural use.

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3.8 Leiston off-site sports facilities land

3.8.1 The Leiston off-site sports facilities land is an area to the south of Alde Valley Academy and east of Leiston leisure centre, as shown on **Figure 3D.25**. The facilities must be used during the construction stage as a shared outdoor sports facility for Alde Valley Academy, the local community and Sizewell C construction workers. Acoustic mitigation, such as specialist fencing, must be erected as required during the construction phase. The sports facilities must also be retained as a permanent development. The design, including lighting, will generally accord with the layout contained in **Proposed Site Plan Leiston Leisure Centre** [REP2- 011] (Doc. Ref. 2.5(B), containing drawing PDB17-033-06-02-P1).

3.8.2 Works associated with the Leiston off-site sports facilities include:

- Topsoil removal where necessary.
- Installation of a full size 3G pitch with a 10-foot perimeter rebound fence and 400-millimetre (mm) pile, rubber crumb surface suitable for football, non-contact rugby and hockey. The pitch must include regulation drainage run-off and must be flood lit.
- Relocation of existing unlit grass pitches with movable goals.
- Installation of two multi-use games area courts suitable for basketball, netball, tennis and football, each with permeable surfacing, a 10-foot perimeter rebound fence and floodlighting.

3.8.3 Once operational, the facilities will generally be in use by Alde Valley Academy during term-time weekdays and open to use by the construction workforce and local community from 16:00–22:00 on weekdays and during the weekend.

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4 Construction Parameter Heights by Sub-Area

4.1.1 This section of the Construction Method Statement defines the maximum heights of temporary buildings, structures, plant and earthworks across the main development site, as shown on **Figure 3D.15**.

4.2 Main Platform

4.2.1 **Table 4.1** sets out the maximum heights for construction activities on the main platform. The table should be read in conjunction with **Figure 3D.15**. Existing ground levels are shown on **Figure 3D.26**.

Table 4.1: Maximum heights for construction activities – main platform.

Construction Zone	Explanation of Parameter	Construction Zone (Max. Height)
Zone C1: Construction of the main platform.	Working envelope for main platform construction requirements. Structures to include: temporary buildings, tower cranes, mobile cranes and other specialised lifting equipment.	160 metres (m) above ordnance datum (AoD).
Zone C1: Construction of the main platform exceptional circumstances.	Working envelope for exceptional structures that are required for the lifting and installation of reactor domes and other time limited activities that require specialised cranes of lifting equipment that go above the height parameters set out in Construction Zone C1. Typically, these would include large mobile cranes for installation of the dome associated with the two reactor units.	250m AoD.
Zone C16: Construction of the permanent beach landing facility	Working envelope for permanent beach landing facility construction requirements.	25m AoD.
Zone C16: Construction of the permanent beach landing facility exceptional circumstances	Working envelope for permanent beach landing facility construction requirements. Structures to include temporary cranes and other specialised equipment.	60m AoD.
Zone C20: Construction of the temporary Marine Bulk Import Facility	Working envelope for temporary Marine Bulk Import Facility construction requirements.	25m AoD.
Zone C20: Construction of the temporary Marine Bulk Import Facility	Working envelope for temporary Marine Bulk Import Facility construction requirements. Structures to include temporary cranes and other specialised equipment.	60m AoD.

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Construction Zone	Explanation of Parameter	Construction Zone (Max. Height)
Zone C21: Marine tunnelling and shafts	Working envelope for marine tunnelling and shafts. Structures to include temporary cranes and other specialised equipment.	40m AoD.
Zone C21: Marine tunnelling and shafts exceptional circumstances	Working envelope for marine tunnelling and shafts. Structures to include taller cranes and other specialised equipment.	70m AoD.
Hard and soft coastal defence feature	Working envelope for construction requirements.	15m AOD
Hard and soft coastal defence feature – exceptional circumstances	Working envelope for construction requirements. Structures to include temporary cranes and other specialised equipment.	35m AOD

4.3 Sizewell B Relocated Facilities and National Grid land

4.3.1 **Table 4.2** sets out the maximum heights for construction activities on the Sizewell B relocated facilities and National Grid land. The table should be read in conjunction with **Figure 3D.15**. Existing ground levels are shown on **Figure 3D.26**.

Table 4.2: Maximum heights for construction activities – Sizewell B relocated facilities and National Grid land.

Construction Zone	Explanation of Parameter	Construction Zone (Max. Height)
Zone C17: Construction activities on Sizewell B relocated facilities	Working envelope for Sizewell B relocated facilities. Structures to include: temporary buildings, tower cranes and mobile cranes.	50m AoD.
Zone C19: Construction activities for National Grid	Working envelope for National Grid land. Structures to include temporary buildings, tower cranes and mobile cranes.	120m AoD.

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4.4 Temporary Construction Area

4.4.1 **Table 4.3** sets out the maximum heights for construction activities on the Temporary Construction Area. The table should be read in conjunction with **Figure 3D.15**. Existing ground levels are shown on **Figure 3D.26**.

Table 4.3: Maximum heights for construction activities – Temporary Construction Area.

Construction Zone	Explanation of Parameter	Construction Zone (Max. Height)
Zones C2a and C2b: Construction of common user facilities.	Working envelopes for exceptional structures that are required for the lifting and installation of reactor domes and other time limited activities that require specialised cranes of lifting equipment that go above the height parameters set out in Construction Zone C2. Typically these will include mobile and tower cranes.	Zone C2a: 70m AoD, Zone C2b: 70m AoD.
Zones C2a and C2b: Construction of common user facilities – exceptional circumstances.	Working envelope for workshops, storage buildings, offices and facilities to support the contractors compound area, reinforcement and formwork prefabrication yards	Zone C2a: 160m AoD. Zone C2b: 140m AoD,
Zone C3: Construction of contractor compounds and other yards.	Working envelope for exceptional structures such as mobile cranes and tower cranes.	35m AoD,
Zone C3: Construction of contractor compounds and other yards – exceptional circumstances.	Working envelope for landscaped bund bordering the south of the temporary construction area.	120m AoD,
Zone C4: Construction of southern earth bund.	Working envelope for landscaped bund bordering the south of the temporary construction area.	18m AoD,
Zone C5: Construction of main stockpile.	Working envelope for main stockpile area. Parts of the zone used as a borrow pit will not subsequently exceed a stockpile height of 5m above existing ground level.	50m AoD,
Zone C5a: Construction of stockpile, contractor compounds and other yards.	Working envelope for stockpile area, workshops, storage buildings, offices and facilities to support the contractors	35m AoD,

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Construction Zone	Explanation of Parameter	Construction Zone (Max. Height)
	compound area, reinforcement and formwork prefabrication yards	
Zone C6: Construction of eastern borrow pit and stockpile.	Working envelope for eastern borrow pit and stockpile area. Parts of the zone used as a borrow pit will not subsequently exceed a stockpile height of 5m above existing ground level.20	20m AoD,
Zone C7: Construction of western borrow pit and stockpile.	Working envelope for western borrow pit and stockpile area. Parts of the zone used as a borrow pit will not subsequently exceed a stockpile height of 5m above existing ground level.	20m AoD,
Zone C8: Construction of northern stockpile area.	Working envelope for northern stockpile area.	20m AoD,
Zone C9: Construction of site entrance hub.	Working envelope for parking facilities, temporary buildings, security facilities and freight management.	35m AoD,
Zone C9: Construction of site entrance hub – exceptional circumstance.	Working envelope for exceptional structures such as mobile cranes.	65m AoD,
Zone C10: Construction of rail extension route stockpile area.	Working envelope for rail extension route (part) and stockpile area.	30m AoD,
Zone C11: Construction of Lover's Lane stockpile area.	Working envelope for stockpile area.	30m AoD,
Zone CA1: Construction of accommodation campus residential buildings.	Working envelope for the accommodation campus residential buildings and associated works.	36m AoD,
Zone CA1: Construction of accommodation campus residential buildings – exceptional circumstances.	Working envelope for exceptional structures such as mobile cranes.	70m AoD,
Zone CA2: Construction of accommodation campus multi-storey car park.	Working envelope for the accommodation campus multi-storey car park and associated works.	25m AoD,
Zone CA2: Construction of accommodation campus multi-storey car park – exceptional circumstances.	Working envelope for exceptional structures such as mobile cranes.	70m AoD,

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Construction Zone	Explanation of Parameter	Construction Zone (Max. Height)
Zone CA3: Construction of accommodation campus non-residential buildings.	Working envelope for the accommodation campus non-residential buildings and associated works.	35m AoD,
Zone CA3: Construction of accommodation campus non-residential buildings.	Working envelope for exceptional structures such as mobile cranes.	65m AoD,

4.5 Land East of Eastlands Industrial Estate

4.5.1 **Table 4.4** sets out the maximum heights for construction activities on Land East of Eastlands Industrial Estate. The table should be read in conjunction with **Figure 3D.15**. Existing ground levels are shown on **Figure 3D.26**.

Table 4.4: Maximum heights for construction activities – Land East of Eastlands Industrial Estate.

Construction Zone	Explanation of Parameter	Construction Zone (Max. Height)
Zone C12: Construction of LEEIE stockpile area.	Working envelope for a stockpile area.	21m AoD.
Zone C13: Construction of caravan site.	Working envelope for worker caravan site and associated infrastructure.	35m AoD.
Zones C13a, C13b and C13c: Integrated Reinforcement Yard.	Working envelope for Integrated Reinforcement Yard	35m AOD
Zone C13a: Integrated Reinforcement Yard exceptional circumstances.	Working envelope for exceptional structures such as mobile cranes.	50m AOD
Zone C13b: Integrated Reinforcement Yard exceptional circumstances.	Working envelope for exceptional structures such as mobile cranes and tower cranes.	75m AoD
Zones C14a, C14b and C14c: Contractor areas to the north of railhead.	Working envelope for temporary buildings, temporary facilities, laydown/stockpile areas, vehicular parking/maintenance, freight management facility and a stockpile area.	35m AoD.
Zone C14b: Contractor areas to the north of railhead exceptional circumstances.	Working envelope for exceptional structures such as mobile cranes and tower cranes.	75m-65m AoD.

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Construction Zone	Explanation of Parameter	Construction Zone (Max. Height)
Zone C15: Construction related areas and rail infrastructure.	Working envelope for a park and ride facility, vehicular parking/maintenance, logistics compound and rail infrastructure.	30m AoD.

4.6 Site Wide Construction Activity

- 4.6.1 The construction parameter plan, on **Figure 3D.15**, defines the maximum height of temporary buildings, structures, plant and earthworks across the main development site. The plan also identifies exceptional maximum parameter heights by zone for time-limited activities, such as the installation of a large crane for specific tasks.
- 4.6.2 Short-term construction activities may take place across the main development site as a whole for the specific purposes of realising the construction methodology. Such activity will typically comprise minor works using mobile plant up to approximately five metres above ground level.

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5 Site-Wide Construction Activities

5.1 Parking

5.1.1 Temporary parking will be provided within the main development site as set out in **Table 5.1**.

Table 5.1: Temporary parking facilities on the main development site.

Temporary facility	Parameter Zone Location	Number spaces (maximum)	Predominant Vehicle Type	Operation period (Construction Phases)
Site entrance hub – surface parking	C9	300*	Cars and vans	Phase 1
LEEIE Freight Management Facility-Integrated Reinforcement Yard – surface parking	C13	800 60	HGVs	Phases 1-5
LEEIE Park & Ride facility surface parking	C15	600* 20	Cars and vans Coaches	Phase 1
LEEIE Caravan Park – surface parking	C13	400*	Cars and vans	Phases 1-5
Site entrance hub – surface parking	C9	1,000 75	Cars and vans HGVs	Phases 2-5
Accommodation Campus - multi-storey car park	CA2	1,300	Cars and vans	Phases 2-5
Accommodation Campus – surface parking	CA3	300 120	Cars and vans Motorcycle	Phases 2-5
Accommodation Campus – surface cycle parking	CA1 and CA3	120	Pedal cycle	Phases 2-5
Accommodation Campus – blue badge surface parking	CA1	60	Cars and vans	Phases 2-5

5.2 * Not more than 650 spaces may be available for use before either Work No. 9 (Northern Park & Ride) or Work No. 10 (Southern Park & Ride) is operational.

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5.35.2 Waste

5.3.15.2.1 Construction waste must be managed in accordance with the **Code of Construction Practice** (Doc Ref. 10.2).

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5.45.3 Lighting

5.4.15.3.1 Details on the approach to lighting during construction can be found in the **Lighting Management Plan** (Doc Ref. 10.17).

5.55.4 Drainage

5.5.15.4.1 Details on the construction drainage strategy can be found in the **Drainage Strategy** (Doc Ref. 10.14).

5.65.5 Rights of Way

5.6.15.5.1 Details on the rights of way strategy can be found in the **Rights of Way and Access Strategy** (Doc Ref. 10.26).

5.75.6 Electricity

5.7.15.6.1 The construction electricity supply requires a cable route from National Grid's Leiston substation to the proposed location of the construction electricity supply primary substation, as shown on Figure 3D.3. This provides an incoming electrical supply that will power the main development site during construction. The construction electricity supply will be a high voltage 132kV power cable and will be installed and operational before the temporary desalination plant is relocated to the Temporary Construction Area.

5.7.25.6.2 The route of the construction electricity supply will be south from the proposed substation, along Lover's Lane and east onto Sandy Lane before passing direct to National Grid's Leiston substation.

5.7.35.6.3 The width of the working area required for excavation of trenches and installation of cable ducts east of Lover's Lane will be approximately 25m. This will allow for a 4m wide excavation, 6m wide vehicle access road, 10m wide spoil mound plus 2m safety clearance on each side to accommodate temporary fencing. In highways and other constrained areas this working area must be reduced by removing all excavated spoil off-site for disposal.

5.7.45.6.4 Following installation of the ducts, the trench must be backfilled and then the cables are pulled. Cables are typically delivered on drums in 500m lengths. An open excavation will therefore be required every 500m along the route to allow for cable joints to be installed. These works are likely to take up to nine months to complete.

5.85.7 Water

5.8.15.7.1 Potable water must be used sparingly in the following ways:

- Potable water recycling in construction processes where practicable (including: tunnelling (30% reduction in potable water demand for CDO and main tunnels); cut-off wall installation (60% reduction in potable water demand); concrete batching (20% reduction in potable water demand)).
- Water reduction fixtures and fittings within site buildings.
- Rainwater harvesting in the Accommodation Campus.
- Provision of on-site water storage.

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- Use of non-potable water sources where practicable, including treatment and reuse of on-site foul water.
- Use of non-potable water where practicable, including dust suppression, vehicle washing, wheel washing, water requirements for imported materials and irrigation.