# Environment Agency response to Sizewell C Development Consent Order Stage 4 consultation

Our Reference: AE/2019/124515/01

26 September 2019

We are the Environment Agency. We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for Environment, Food & Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

Published by:
Environment Agency
Horizon House, Deanery Road,
Bristol BS1 5AH
www.gov.uk/environment-agency


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# Foreword

This document represents the Environment Agency's response to the EDF Energy proposed new nuclear power station development – known as Sizewell C. Our comments are made in response to the information contained in the stage 4 pre-Development Consent Order documentation (made under Section 42 of the Planning Act 2008).

Our comments are addressed to Mr. Jim Crawford, as Sizewell C Project Development Director.

In responding our aim is to ensure that any new nuclear power station at Sizewell, and its associated developments, would be constructed, operated and decommissioned to high environmental standards. We look forward to continuing to engage with EDF Energy to achieve this.

# Executive Summary

In reviewing the stage 4 consultation documents we consider that many of the areas you need to take into account have been identified. As previously raised in the stage 3 consultation, the assessments which underpin these areas have not yet been provided and as such we maintain the comments previously raised. Consequently, the impacts and proposed suitability of mitigations cannot be assessed at this time. These material considerations will need to be resolved before you submit an application for a Development Consent Order (DCO).

Our comments to this consultation relate to the elements of the proposals that have changed since the stage 3 Development Consent Order. In summary our main concerns include:

- culvert watercourse crossings are proposed that have the potential to increase flood risk and impact ecology,
- flood compensation proposals may not function as intended,
- the lack of finalised Flood Risk Assessment (including flood risk modelling), and the lack of a full assessment of impacts to wildlife and proposed mitigations.

We, Natural England and the Marine Management Organisation recognise the complex nature of the Sizewell C project. To maximise the benefits, effectiveness and efficiency of our advice, your programme for development of Sizewell C proposals should take account of our requirements, expectations and needs. This will enable us to plan the use of our specialist resources.

In the latest consultation new flood risk and ecological compensation areas are proposed as well as amended proposals relating to associated development sites including:

- Theberton Bypass,
- New Sizewell Link Road,
- Flood Risk Compensation sites, and
- Fen Meadow Compensation sites

We have detailed in Appendix B the relevant permits required from the Environment Agency before the associated development proposals can be constructed. We wish to highlight in particular that many of the proposed watercourse crossings will require flood risk activity permits from the Environment Agency under the Environmental Permitting Regulations 2016.

We do not currently have enough information to know if the proposed watercourse crossings can meet our requirements to prevent flood risk, ecological and geomorphological impacts. If this cannot be demonstrated, it is very unlikely that we will grant permits for proposals. We would expect our advice on the likelihood to gaining such permits to inform the Planning Inspectorate when examining the DCO application.

This response does not represent our final view in relation to any future

Development Consent Order application. It is provided without prejudice to our decisions on any applications made for Environmental Permits. Our final view will take account of information included in the application and relevant guidance available at that time.

For further discussions, please contact Cameron Sked – Nuclear New Build Senior Planning Adviser, on 0208 474 6422.

Yours sincerely

Mr Simon J Hawkins
East Anglia Deputy Director

# Our role on nuclear sites

We have two primary roles with regard to our work on nuclear sites:

- We are the environmental regulator for nuclear sites in England. This means that we make decisions under the environmental permitting regulations about whether relevant environmental permits should be issued to potential and existing operators of nuclear sites and what conditions the permits should contain so as to properly protect people and the environment. We enforce the conditions of the permits to ensure that operators comply with the requirements of their permits and can take action including prosecution if they do not.

- We provide advice to other bodies making decisions about nuclear sites, such as with regard to infrastructure planning, where their decisions are related to our responsibilities, for example flood risks.

More widely we provide advice to Government and other bodies about nuclear sites and the environment. We also talk to and advise potential operators of nuclear sites so that they know and understand our requirements and expectations of them.

Our regulation on nuclear sites includes disposals and discharge of radioactive wastes, the discharge of cooling and process water, the disposal of non-radioactive wastes and the operation of standby generation plant. Together with the Office for Nuclear Regulation, we are responsible for making sure that any new nuclear power stations built in England meet high standards of safety, security, environment protection and waste management.

# Habitat Regulation Assessment

The Environment Agency is required under the Habitats Regulations to undertake a Habitat Regulations Assessment (HRA) to help inform our decisions on any environmental permit applications that have the potential to impact upon European designated sites. The Secretary of State for Business, Energy and Industrial Strategy (BEIS) will undertake the HRA for the DCO.

# Statutory consultee

We are a statutory consultee in the planning process which means that planning authorities have to ask us what we think about proposed developments in relation to our role in protecting people and the environment. We advise the planning authorities on the effects of development on people and the environment. Key aspects of developments that we consider include flood risk, discharges to air and water, the amount of water required to operate and construct them, the amount of waste produced by the development and how it is managed. The developer also has to show how they intend to minimise relevant environmental impacts during construction and ensure that they are acceptable.

We also advise potential operators and developers about what we think about their proposals and this document sets out our advice to EDF Energy[1] about the proposals they have set out for consultation in the documentation supporting the Stage 3 consultation.

## Final decision on the Sizewell C Development Consent Order

The Planning Inspectorate will examine the application for a DCO, if made, and following an extensive determination process, submit a recommendation to the Secretary of State for BEIS who will be responsible for making a final decision on whether or not a DCO is issued. In considering the DCO, the Secretary of State for BEIS will also want to understand our draft decision on the environmental permits EDF Energy need to operate the nuclear power station.

For other planning applications, we will comment to the local planning authority who will be responsible for the final decision for those applications made to it.

## Issue, Comment, Suggested solution approach

To help you, where possible, we have laid out our comments in the following format:
**Issue** – indicating a particular area of concern;
**Comment** – which discusses that issue in greater detail and the potential impact;
**Suggested solution** – which presents a potential solution to the issue in the form of information, or evidence that - if provided - might ensure that no adverse impact will arise, or identifies a potential mitigation measure for you to consider.

[1] NNB Generation Company (SZC) Limited

# Contents

# General comments applicable to main development site and associated development (AD) sites

You intend to replicate approaches used at Hinkley Point C in the proposed development at Sizewell C. If some of these same approaches are not acceptable at Sizewell C due to the different local environment - or accounting for lessons learnt at Hinkley Point C - then alternative approaches will need to be considered.

# Habitat Regulation Assessment

A HRA is required to be provided to assess the potential effect on the integrity of sites designated under the Habitats Regulations.

Where mitigation is relied upon under HRA we expect the following points to be considered; and information included to answer these points where mitigation is to be used:

- What the mitigation is and how it would be expected to work over duration of project.
- How it would be implemented and by whom.
- The degree of confidence of its likely success.
- The timescale it would be implemented, maintained and managed.
- How measures would be secured, monitored and enforced, and if it failed how it would be rectified.

We are aware that a Sizewell C HRA Evidence Plan was completed in 2014 however, since then new sites and new case law means that the Evidence Plan needs to be updated. You will need to account for this new case law as part of your ongoing HRA work; updating your Evidence Plan would help.

It could be determined that no adverse effect on the integrity of European sites only if certain measures and conditions are implemented – some of these measures may be secured as requirements on the Development Consent Order or conditions in the permitting process.

# Water Framework Directive (WFD) assessment

A WFD compliance assessment for the main site and associated development sites will be required. The assessment will need to account for the potential worst case, including the cumulative effects of different impacts, in order to understand the WFD implications.

The stage 4 DCO consultation includes new and revised infrastructure that was not included in the previous public consultation (e.g. proposed Theberton bypass, new Sizewell link road and flood risk compensation area). There needs to be a review of the previous WFD ‘water bodies’ identified to ensure that the full range of WFD

waterbodies are included in the assessment, taking account of the new proposals; this relates to potential impacts both during construction and/or operation.

## Enhancement and Environmental Net Gain

Government requires developers to contribute to and enhance the natural and local environment. The 25 Year Environment Plan (published in 2018) confirms Government's move to embed an 'environmental net gain' principle for development. We will work with you to help identify how and where 'environmental net gain' can be delivered as part of your development proposals.

## Modelling

Models are required to assess the various impacts associated with the development. This information underpins the risk assessments and will provide information which will feed in to the design proposals and mitigation measures. This includes the hydrodynamic model (necessary to consider the impact of the thermal and chemical plume), sediment transport model (necessary to consider impact on the sediment regime and coastal processes), the groundwater model (necessary to assess groundwater impacts, risks of contamination) and the fluvial and coastal models (hydraulic, overtopping and breach modelling) necessary to assess flood risk.

Until the Environment Agency has been provided with the modelling which underpins these assessments, we cannot advise, make decisions or have confidence in any statements made about the extent of associated impacts. We recommend continued upfront engagement in the development of these models to ensure that they are adequate for this purpose, and that we may subsequently be in a position to advise the planning inspectorate accordingly.

## Flood Risk

A flood risk assessment is required on all developments which are located in a flood risk area. This should include consideration of the development's flood risk impacts (for the full lifetime of the development including the construction, operational and decommissioning phases) for the whole development, including the main site and associated development sites. The flood risk assessment should account for all sources of flood risk and ensure that all necessary flood risk mitigation and compensation measures are proposed, along with details of how they will be implemented. Climate change allowances and predictions will need to be based on the latest UKCP18 data.

We wish to highlight that DEFRA have recently released a new dataset called UKCP Local (2.2km) to complement the climate change projections for the UK (UKCP18). Commissioned by Defra and BEIS from the Met Office Hadley Centre in partnership with the Environment Agency, this new data will provide greater spatial and temporal resolution for climate projections than previously seen and is based on current observations of weather patterns, giving us new insight into future extreme events. In particular, it will provide rainfall projections that can be used to understand the

impact of climate change on surface water flooding. More detailed information can be found on the UKCP18 website https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/key-results

## Contamination

The risk of ground contamination needs to be assessed and managed. The development on the main site, and associated development sites, will potentially result in increased risk of pollution from contaminated land. This risk needs to be addressed through a detailed risk assessment, together with a piling risk assessment where appropriate.

Groundwater investigation / remediation strategies (including a consideration of the potential risks of draw-down of radiological contamination from adjacent sites) is required to assess the potential impacts to the environment and to inform any mitigation measures that may be required. The main site surveys will need to account for ground conditions under Sizewell B and Sizewell A, where contamination from industrial operations may be present. De-watering activities also have the potential to mobilise contaminants.

Failure to survey and account for all sources of potential contamination will mean the risk to the environment will not be understood and appropriate mitigation opportunities (to protect the environment) may potentially be missed – this should include long-term groundwater monitoring of pollution linkages, maintenance and arrangements for contingency action. Drainage proposals will need to take account of contamination assessment findings and recommendations based on risk; drainage strategies must be planned appropriately.

## Waste Management Strategy

A Waste Management Strategy will need to be provided for the whole development (main site and associated development sites) to assess the radiological and non-radiological waste arising from the proposed developments. A strategy based on sustainable waste management principles is required. This would provide a demonstration that the management of all wastes arising during the construction and operational phases of development are understood and that significant impacts on the environment as a result of waste production are avoided.

Current best practice for sustainable waste and resource management is where waste is viewed as a resource, especially the requirement to incorporate the circular economy (i.e. where resources are kept in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life).

## CL:AIRE protocol

The CL:AIRE (Contaminated Land Applications in the Real Environment) Definition of Waste: Development Industry Code of Practice (CoP) sets out good practice by providing a framework for determining whether or not excavated material arising from site during remediation and/or land development works is waste or not. The CoP sets out the evidence required to satisfy the criteria: suitability of use, certainty of use and quantity of use.

## Code of construction practice

A strategy for managing pollution across the construction period is required; this strategy needs to cover the whole development (main site and associated development sites). Previous Development Consent Order applications have addressed this issue through a Code of Construction Practice (CoCP). This document is then used as the framework to inform the approach to environmental management, such as Construction Environment Management Plans (CEMPs). A large range of matters will need to be addressed, but considering the local sensitive receptors and habitats, must include how the potential for erosion and wind-blown material from stockpiles will be managed, surface water run-off management and pollution prevention measures.

## Foul water strategy

A Foul Water Drainage Strategy for the main site and associated development sites is required. This should include the approach to foul water disposal and the measures taken to avoid adverse environmental impact to the freshwater environment, and in the case of the main development site, the marine environment.

This strategy needs to address the construction and operational phases across the whole development. For the main development site this includes the accommodation campus. If the overall population served by the treatment plant exceeds 10,000 then the plant will need to comply with the Urban Waste Water Directive.

## Surface water drainage strategy

A detailed surface water drainage strategy for the main site and associated development sites is required. This is to ensure that there are no significant pollution risks to the water environment. It should include the potential water quality risk to local surface water receptors associated with run-off during construction and operational phases. Early phases of development need to be considered to ensure all key drainage infrastructure is in place and the approach is suitable to prevent any polluted discharge. Appropriate mitigation and treatment systems must be in place before any discharge.  Examples of matters that will need to be robustly designed to ensure there is no risk to the water environment and the surrounding sensitive, designated habitats/sites include:

- The management of pollution prevention/ risk for the additional road and rail infrastructure;
- Maximising the distance between surface water receptors and mixing and washing areas during construction;
- Options for re-use of wash water;
- Any proposals for train refuelling or servicing and;
- Potential for a pollution remediation strategy following restoration back to land use set out for operation land masterplan.

Discharges to surface water or groundwater will need to be permitted under the Environmental Permitting Regulations 2016; this applies to both construction and operational discharges. More information can be found: https://www.gov.uk/topic/environmental-management/environmental-permits

You will need to speak to Suffolk County Council (as Lead Local Flood Authority) and local water companies about any local water capacity issues associated with the proposed surface water drainage discharges.

## Biosecurity

The risks of introduction / spread of invasive non-native species will need to be managed with appropriate procedures and mitigation put in place.

# Main Development Site: General Comments

Our comments relate to the elements of the proposals that have changed since the stage 3 Development Consent Order consultation. Notwithstanding this, we maintain the comments we raised in response to your stage 3 Development Consent Order consultation.

The main issues relating to the new proposals are:

- ***Proposed culvert at SSSI crossing*:** The proposed culvert crossing has potential ecological, flood risk and geomorphological impacts. We would recommend a clear span bridge is considered. If a culvert is the only reasonable option then robust justification must be provided. The environmental implications need to be fully understood to identify the impacts and inform mitigation and compensation requirements.
- ***Flood risk*:** The flood risk assessment for all development located in Flood Zones 2 and 3 will need to be reviewed. This includes providing the final flood risk modelling underpinning the assessment findings.
- ***Flood risk compensation areas*:** There is potential that the proposed flood compensation proposals, if required, may not function as intended. Any flood compensation must be hydraulically and hydrologically linked to the fluvial floodplain to ensure it functions as intended.
- ***Compensation for loss of habitat:*** The proposed loss of approximately 5 hectares of Sizewell Marshes SSSI, required for the power station platform and SSSI access crossing footprint. Partial compensation for this loss is to be provided through the habitat creation schemes at Aldhurst Farm, Kenton Hills and the Southern reptile area but further compensation is required. This includes the loss of fen meadow, wet woodland, bat habitat and marsh harrier foraging areas. This compensation needs to be in place before development removes any protected habitat.

# Associated Development (AD) Sites: General Comments

Our comments relate to the elements of the proposals that have changed since the stage 3 Development Consent Order consultation. Notwithstanding this, we maintain the comments we raised in response to your stage 3 Development Consent Order consultation.

The main issues for us are:

- ***Green Rail Route and Other Improvements***
  ***Flood Risk:*** The flood risk assessment for all development located in Flood Zones 2 and 3 will need to be reviewed.

- **Sizewell Link Road and Theberton Bypass**
  ***Protected species:*** Impacts to a range of protected species, habitat fragmentation and direct loss of habitat and changes to hydromorphology as a result of proposed river crossings has not been assessed.

  ***Flood risk:*** Crossings should be clear span and culverts must be avoided. It is unlikely that the Environment Agency would grant a Flood Activity Permit for culvert crossings. The flood risk assessment for all development located in Flood Zones 2 and 3 will need to be reviewed. The impact of river crossings to river flows and flood storage is unknown and needs to be assessed. Any re-alignment works to rivers has the potential to alter river flows and flood risk.

- **Two Village Bypass**
  ***Protected species:*** Impacts to a range of protected species, habitat fragmentation and direct loss of habitat and changes to hydromorphology as a result of proposed river crossings has not been assessed.

  ***Flood risk:*** The proposed crossing design to be taken forward is a clear span bridge and embankment across the main River Alde and functional floodplain. The proposed deign could increase flood risk elsewhere and will impede the functional floodplain. Crossings should be clear span and culverts must be avoided. It is unlikely that the Environment Agency would grant a Flood Activity Permit for culvert crossings. The flood risk assessment for all development located in Flood Zones 2 and 3 will need to be reviewed. The impact of river crossings on river flows and flood storage needs to be assessed and any loss compensated. Any re-alignment works to rivers has the potential to alter river flows and flood risk.

- **Yoxford Roundabout**
  ***Flood risk:*** The flood risk assessment for all development located in Flood Zones 2 and 3 will need to be reviewed.

  ***Protected species:*** Impacts to protected species have not been assessed.

- **Highway Improvements**
  ***Flood risk:*** The flood risk assessment for all development located in Flood Zones 2 and 3 will need to be reviewed.

  ***Protected species:*** Impacts to protected species have not been assessed.

# Appendix A: Response to Preliminary Environmental Information for the Main site and Associated Development sites

Our comments relate to the elements of the proposals that have changed since the stage 3 Development Consent Order consultation. Notwithstanding this, we maintain the comments we raised in response to your stage 3 Development Consent Order consultation.

| **Main Development Site PEI** | |
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| **2.3.25 and Section 5.2 (SSSI Crossing)** | **Issue**<br>A culvert is proposed for the SSSI crossing, thus increasing the risk to protected species and of flooding.<br><br>**Comment**<br>We are opposed to the culverting of any watercourse because of the adverse ecological, flood risk, geomorphological and human safety impacts. Watercourses are important linear features of the landscape and should be maintained as continuous corridors to maximise their benefits to society.<br><br>The proposal has the potential to significantly impact river ecology, protected species, hydromorphology, habitat fragmentation, continuity and hinder Water Framework Directive (WFD) compliance; also potential to increase flood risk.<br><br>**Suggested Solution**<br>A full and robust justification is required setting out why your preferred option for an embankment over a culvert is both necessary and the only reasonable and practicable option.<br><br>The environmental implications of the embankment over a culvert needs to be fully understood to identify the impacts and inform mitigation and compensation requirements. An assessment is needed to show that your preferred SSSI crossing option will not have a detrimental effect on:<br><br>- Flood risk: the crossing dimensions need to allow conveyance of flood flows in all events up to and including the 1% AEP, including allowance for climate change over the lifetime of the development.<br>- Habitat fragmentation and continuity.<br>- Ecology: the embankment and crossing shall be designed with the movement and passage of water vole, fish and otter in mind ensuring the natural character of the river is maintained.<br>- Local groundwater.<br>- Hydromorphology.<br>- WFD compliance. |

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| **Section 5.2 Terrestrial Ecology** | **Issue**<br>Potential that temporary work could affect the SSSI ecology.<br><br>**Comment**<br>Temporary loss of an additional 0.37 hectares (ha) of SSSI compared with the Stage 3 proposals in this location<br><br>**Suggested Solution**<br>Ensure relevant baseline surveys have been undertaken for this area. Thorough checking for protected species and the removal and relocation of any such species prior to the commencement of any work. Ensure sufficient mitigation and compensation measures are in place. |
| **Figure 5.4 National Grid Pylons - Flood Risk** | **Issue**<br>The temporary works have the potential to impact upon flood risk.<br><br>**Comment**<br>The increased land take for a temporary working area to install National Grid Pylons is located in Flood Zone 3. The detail of the works is unknown at this stage.<br><br>**Suggested Solution**<br>If the temporary works are likely to impact upon flood risk a flood risk assessment will be required as part of the DCO application. Although the Sizewell Drain is not designated a main river a Flood Risk Activity Permit may be required for works within Flood Zone 3 which are likely to divert or obstruct flood water, damage river control works or affect drainage. Permission may also be required from the Internal Drainage Board (IDB) should it affect the watercourses under their jurisdiction. |
| **Section 5.4 Sizewell C Pylons - Flood Risk** | **Issue**<br>The pylons and essential infrastructure could be at risk of flooding.<br><br>**Comment**<br>The proposed pylons will be located in tidal Flood Zone 3 according to our flood map for planning which does not consider the presence of defences.<br><br>**Suggested Solution**<br>The flood risk to the pylons should be assessed within the FRA. It is understood that all the pylons will be located on the area of the site that will be raised to ensure they are not at risk of fluvial or tidal flooding. Ensure this is addressed as part of the FRA. |

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| **Figure 5.23 Marsh Harrier Compensation Land - Flood Risk** | **Issue**<br>There is potential for the works required to create the Marsh Harrier compensation to impact on flood risk.<br><br>**Comment**<br>Marsh Harrier compensation land site two is partially located in Flood Zone 3. Site 1 and 3 have been located in Flood Zone 1.<br><br>**Suggested Solution**<br>Whilst we support the creation of Marsh Harrier habitat it must be ensured that flood risk is assessed when considering this site as an option for Marsh Harrier compensation land. |
| **Figure 5.25 Fen Meadow Compensation Land - Flood Risk** | **Issue**<br>There is potential for the works required to create the Fen Meadow compensation area to impact on flood risk depending on the nature of the works<br><br>**Comment**<br>Fen meadow compensation land site 1 is located adjacent to the River Fromus which is designated a main river. It is also located in Flood Zone 3.<br><br>**Suggested Solution**<br>Whilst we support the creation of fen meadow further detail should be given on the nature of the works required in the Flood Zone and adjacent to main river. A FRA will be required and it is likely that a Flood Risk Activity Permit will be needed. Table 5.4 identifies flood risk as an issue and states flood risk on and off site will be assessed but no further detail is provided. |
| **Section 5.11 Fen Meadow Compensation Land** | **Issue**<br>There is the potential that insufficient land has been allocated for fen meadow mitigation.<br><br>**Comment**<br>The areas of land indicated in this consultation show the total size of the parcels of land included in the red line boundary for fen meadow creation instead of showing the quantum within each parcel with suitable conditions to successfully create fen meadow.<br><br>**Suggested Solution**<br>Show how much fen meadow could be created in these 2 sites rather than total area of site. Consider the likelihood of creating fen meadow of comparable quality and diversity as that found in the SSSI. |

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| **Section 5.11 Fen Meadow Compensation Land** | **Issue**<br>It is difficult to create fen meadow of comparable quality and diversity as that found in the SSSI. If the proposed sites fail to create sufficient fen meadow to compensate for the loss in the SSSI, fen meadow will not be compensated for.<br><br>**Comment**<br>It will be necessary to secure additional funding to ensure the fen meadow loss is compensated for in the future if these sites fail.<br><br>**Suggested Solution**<br>Arrange a fen meadow loss contingency fund to create/enhance fen meadow if proposed sites fail to achieve a desirable outcome |
| **Section 5.11 Terrestrial Ecology and WFD** | **Issue**<br>Missed opportunity to secure wider improvements and net biodiversity gains.<br><br>**Comment**<br>Cost saving could be gained by using 1 site for multiple mitigation measures<br>River restoration should also be considered at these sites. A more holistic project at these sites could help with wider net biodiversity gains, WFD improvements and help to support mitigation for other workstreams such as water supply<br><br>**Suggested Solution**<br>Consider if wider improvements and river restoration could be implemented along with fen meadow creation |
| **Figure 5.26 Fen Meadow Compensation Land - Flood Risk** | **Issue**<br>There is potential for the works required to create the Fen Meadow compensation area to impact on flood risk depending on the nature of the works.<br><br>**Comment**<br>Fen meadow compensation land site 2 is located adjacent to the Walpole River which is designated a main river. It is also located in Flood Zone 3 near Halesworth which is a community that has a history of flooding.<br><br>**Suggested Solution**<br>Whilst we support the creation of fen meadow further detail should be given on the nature of the works required in the Flood Zone and adjacent to main river. A FRA will be required and it is likely that a Flood Risk Activity Permit will be needed. Table 5.4 identifies flood risk as an issue and states flood risk on and off site will be assessed but no further detail is provided. Please note this site is located adjacent to the town of Halesworth which has a history of flooding. |

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| **Section 5.12 & Figure 5.1 Flood Risk Compensation** | **Issue**<br>Potential that the flood compensation proposals may not function as intended.<br><br>**Comment**<br>The compensation areas put forward appear to be located on the edge of the flood zones. It should be noted that our flood zones consider fluvial and tidal flood risk. Should these compensation areas be required it must be ensured that there is a fluvial connection between the floodplain and compensation area in low and high frequency events, over a range of return periods, up to the design 1% (1 in 100) annual probability flood with an allowance for climate change.<br><br>**Suggested Solution**<br>Any flood compensation must be hydraulically and hydrologically linked to the fluvial floodplain to ensure it functions as intended.<br><br>Compensation should be provided on a level for level and volume for volume basis. Further guidance on the provision of compensatory flood storage is provided in section A3.3.10 of the CIRIA document C624.<br><br>It is essential that these areas are maintained for compensatory storage purposes in order to mitigate the fluvial flood risk over the full lifetime of the development. It should be considered how this will be addressed.<br><br>Any compensation must be installed in advance of the platform and land raising occurring to ensure flood risk is not increased elsewhere. |
| **5.12.3. Ecology and WFD** | **Issue**<br>Missed opportunity to secure wider improvements and net biodiversity gains.<br><br>**Comment**<br>The document mentions the potential opportunity to also establish valuable wildlife habitats if these flood compensation areas are created. Please consider designing these areas to maximise biodiversity value throughout the year and contribute to net biodiversity gain.<br><br>**Suggested Solution**<br>Create storage areas with gently sloping sides, non-uniform bottom including deeper pools that will support aquatic biodiversity in drier periods and suitable planting around the margins. |

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| **Figure 5.27 and 5.28 Flood Risk Compensation** | **Issue**<br>Potential that the flood compensation proposals may not function as intended.<br><br>**Comment**<br>Site 1 is located in the Minsmere Catchment to the south of the Minsmere River. TM4574366115. Site 2 is located in the Sizewell Drain catchment TM4631863399<br><br>Compensatory storage should be provided as close as possible to the area at which the flood storage is lost in order to function as intended. The impact of the proposed development is shown predominantly in the Minsmere catchment where small increases in flood risk are possible. Generally a decrease in flood risk is shown in the Sizewell Drain catchment. Site 2 is located in the Sizewell Drain area. As a result we have concerns that the storage area will not function as intended.<br><br>**Suggested Solution**<br>Should compensatory storage be required it must be ensured that Site 2 is able to compensate for the storage that is lost. Further guidance on the provision of compensatory flood storage is provided in section A3.3.10 of the CIRIA document C624. |
| **Table 5.1 Terrestrial Ecology** | **Issue**<br>Potential reduced carrying capacity for relocated species could lead to insufficient quantum of suitable habitat for relocated species<br><br>**Comment**<br>The 0.49ha of additional landtake within Aldhurst Farm habitat compensation area will impact the carrying capacity for relocated species such as water voles at this site<br><br>**Suggested Solution**<br>Please assess the impact of these proposals. Potentially there is a need to identify a contingency site/s that can be used for species relocation once carrying capacity has been met at Aldhurst Farm |

**Green Rail Route PEI**

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| **General comment Flood Risk** | **Issue**<br>Some of the rail improvement works highlighted are in areas of high fluvial flood risk (Flood Zone 3). Exact locations are not clear. |

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| | **Comment**<br>The possible impact is unclear as the exact locations and nature of the work has not been provided.<br><br>**Suggested Solution**<br>We are pleased to see that an FRA will be provided where work will be located within the flood zone. The FRA would need to assess the flood risk to the site and any impacts the works might have on flood risk. Flood modelling may be needed to demonstrate this. Further information is required for us to advise further. Flood Risk Activity Permits may also be required if they are likely to impact upon the main rivers unless the need for permits is dis-applied. |

**Other Rail Improvements PEI**

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| **Table 6.1**<br>**Flood Risk** | **Issue**<br>Rail improvement work have the potential to adversely affect flood risk and main rivers.<br><br>**Comment**<br>The site boundary has been extended to include river crossings of Thorpeness Hundred and its tributary near Westhouse Farm, which are designated as main river.<br><br>**Suggested Solution**<br>Provide further detail on the works proposed on or near main rivers or in the floodplain and assess the impact upon flood risk. Flood modelling may be required to do this. It is understood these watercourses are already culverted under the railway line. We are opposed to the culverting of any watercourse because of the adverse ecological, flood risk, geomorphological and human safety impacts. River crossings should be clear span bridges and culverts must be avoided and removed where there is an opportunity to do so. A Flood Risk Activity Permit may be required for these works. It is unlikely that the Environment Agency would grant a Flood Activity Permit for culvert crossings. |
| **Table 6.1**<br>**Terrestrial Ecology** | **Issue**<br>Potential to further restrict wildlife movement and impact protected species/habitats. WFD deterioration.<br><br>**Comment**<br>Under the updated environmental statement column it states a possibility of works to the Hundred River culvert are required<br><br>**Suggested Solution**<br>If work is needed to this structure we would ask thorough consideration is given to the design. Replacing this culvert with a |

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| | bridge would help mitigate the wider environmental impacts from the improvement works and would help with net biodiversity gain. |

**Sizewell Link Road PEI**
**Theberton Bypass PEI**

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| **Figure 6.2**<br>**Flood Risk** | **Issue**<br>Potential to have a detrimental impact on flood risk.<br><br>**Comment**<br>The Sizewell Link Road crosses a number of watercourses, which are main river and ordinary watercourses and their floodplain. Detailed Environment Agency flood modelling is not available for this area.<br><br>We are opposed to the culverting of any watercourse because of the adverse ecological, flood risk, geomorphological and human safety impacts. Watercourses are important linear features of the landscape and should be maintained as continuous corridors to maximise their benefits to society.<br><br>**Suggested Solution**<br>Crossings should be clear span and culverts must be avoided to ensure flood risk is not increased. Crossing must be designed to be as large as possible and as a minimum provide capacity for at least the design 1% (1 in 100) AEP with allowances for climate change. Modelling will be required to demonstrate this and to ensure the road does not create a barrier in the floodplain. A Flood Risk Activity Permit will be required for the crossing of the Middleton and Theberton watercourses which are designated main river. From the information available it is unlikely the Environment Agency would grant a Flood Risk Activity Permit for a culvert crossing. |
| **Figure 2.16**<br>**Flood Risk** | **Issue**<br>Potential for attenuation/infiltration basins to increase flood risk.<br><br>**Comment**<br>We note a number of basins labelled as attenuation and infiltration basins are located along the length of the Sizewell Link Road.<br>The design and exact location of these features is unknown in relation to the fluvial flood zones. Raised bunds around the perimeter of the basins could remove floodplain storage and increase flood risk elsewhere. |

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| | **Suggested Solution**<br>Any ground raising in the fluvial floodplain that would remove flood plain storage must be compensated or mitigated for. Surface water attenuation basins must not be located within fluvial flood zones as they may already be filled with fluvial water in a flood event and would therefore be unable to attenuate surface water. It must be proven that the basins are able to infiltrate at a suitable rate. Infiltration testing will be required. |
| **Section 6.3 Flood Risk, Ecology and WFD** | **Issue**<br>Lack of information provided regarding the designs to be used to cross the 7 watercourses that exist along the proposed Sizewell link road, 2 of which are main rivers.<br><br>**Comment**<br>If culverts are proposed we would have serious concerns regarding the impacts to flood risk, terrestrial & aquatic ecology including protected species and WFD compliance.<br><br>**Suggested Solution**<br>Give due regard to the various policy and legislative requirements when selecting the crossing designs to be used on this road. Please confirm the design for these crossing and provide suitable justification for any such design. |
| **Section 6.3.14 Flood Risk, Ecology and WFD** | **Issue**<br>Potential for the removal of the SLR, including watercourse crossings, could cause issues to flood risk, terrestrial & aquatic ecology including protected species and WFD compliance.<br><br>**Comment**<br>Although it is not yet established whether the SLR will be permanent or temporary, cost savings could be made in retaining suitably designed infrastructure.<br><br>**Suggested Solution**<br>If the watercourse crossings are designed to not cause impacts to flood risk, terrestrial & aquatic ecology including protected species and WFD compliance it would not be necessary to remove it. |
| **Section 6.4 Flood Risk, Ecology and WFD** | **Issue**<br>Lack of information provided regarding the proposed designs to be used to cross the watercourses that exist along the proposed Theberton bypass<br><br>**Comment**<br>If culverts are proposed to be used we would have serious concerns regarding the impacts to flood risk, terrestrial & aquatic ecology including protected species and WFD compliance |

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| | **Suggested Solution**<br>Give due regard to the various policy and legislative requirements when selecting the crossing designs to be used on this road. Please confirm the design for these crossing and provide suitable justification for any such design. |

**Two Village Bypass PEI**

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| **Section 2.8 & Figure 2.23. Section 6.5** | **Issue**<br>Proposed crossing design to be taken forward is a clear span bridge and embankment across the main River Alde and functional floodplain.<br><br>**Comment**<br>Proposed design could increase flood risk elsewhere and will impede the functional floodplain.<br><br>**Solution**<br>Consideration must be given to alternative designs that are likely to have less impact on flood risk and the environment.<br><br>The crossing is also located downstream of our Farnham gauging station which must not be impacted as it is required to fulfil our flood warning duties.<br><br>If the bypass is considered 'essential infrastructure' that has to be located in the functional floodplain and has passed the Sequential and Exception Test, it should be designed and constructed to:<br>•remain operational and safe for users in times of flood;<br>•result in no net loss of floodplain storage;<br>•not impede water flows and not increase flood risk elsewhere.<br>In line with the notes to Table 3 of the PPG. |
| **Section 6.5.1 Flood Risk** | **Issue**<br>Extension to the site boundary to include land for flood compensation and drainage. The compensation area proposed is downstream of the crossing and within Flood Zones 2 and 3.<br><br>**Comment**<br>The bridge design will create a barrier to flood flows and remove floodplain storage. Compensatory storage and flood risk mitigation is required. The compensation area proposed may not function as intended and replace the lost flood storage as it is located downstream of the crossing.<br><br>**Solution**<br>All compensatory storage must relate hydraulically and hydrologically to the site. It will not usually be acceptable for a |

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| | developer to propose compensation several kilometres away or separated from the site by a significant structure such as a weir or restrictive bridge. The storage must provide level for level and volume for volume storage. The new area proposed is partially located within the fluvial Flood Zone so may already be flooded and unable to compensate fully. We cannot say if the compensation areas suggested are suitable as we do not know the volumes displaced and compensatory storage required. |
| **Table 6.4 Flood Risk** | **Issue**<br>The Two Village Bypass river crossing could have an impact on flood risk which has not been highlighted in this table.<br><br>**Comment**<br>This table does not highlight or assess fluvial flood risk as an issue for consideration.<br><br>**Solution**<br>The FRA must consider the Two Village Bypass Crossing. Temporary works should also be considered. A Flood Risk Activity Permit will be required to ensure there is not detrimental impact on flood risk and the environment. |
| **Table 6.4 Terrestrial ecology** | **Issue**<br>The impacts to flood risk, terrestrial & aquatic ecology including protected species, priority habitats and WFD compliance will be significantly increased by the proposed embankments and small span bridge<br><br>**Comment**<br>In the stage 3 consultation document it stated that the crossing would be elevated over the valley of the River Alde. Now embankments are proposed across the valley of the river and a small span bridge is proposed to cross the river itself<br><br>**Suggested Solution**<br>On this basis, the proposed change is considered likely to alter the conclusions presented in the Stage 3 PEI and this needs to be reassessed. The design of this crossing needs to ensure a safe pathway exists for wildlife to use the river corridor and flood meadow during periods of elevated flow. The design must also not prevent inundation of the floodplain downstream. |
| **Figure 2.23 Flood Risk** | **Issue**<br>The purpose of the accommodation track shown in Figure 2.23 is unknown and could have an impact on flood risk where it crosses the main river and floodplain. |

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| | **Comment**<br>This figure shows an accommodation track which appears to run across the floodplain at the base of the crossings embankment, under the new bridge and over the main river upstream of the bridge.<br><br>**Suggested Solution**<br>Further detail should be provided on the accommodation track. It is not clear if this is an existing track or a new construction. Is the track permanent or temporary? A new track will need to be included in the FRA and it is likely it will require a Flood Risk Activity Permit. |

**Yoxford Roundabout PEI**

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| **Figure 6.13**<br>**Flood Risk** | **Issue**<br>The works associated with the Yoxford Roundabout have the potential to impact upon flood risk and the main river.<br><br>**Comment**<br>Site boundary has been extended and abuts main river and Flood Zone.<br><br>**Suggested Solution**<br>A Flood Risk Activity Permit may be required for works within 8m of a fluvial main river. It should be confirmed that the work will not impact the main river or floodplain. |

**Highway Improvements PEI**

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| **Figure 6.14**<br>**A140/AB1078 west of Coddenham**<br>**Flood Risk** | **Issue**<br>The updated red line boundary now includes an area of Flood Zone 3 associated with a tributary of the main River Gipping.<br><br>**Comment**<br>There is an unknown impact upon flood risk<br><br>**Suggested Solution**<br>The work within the extended boundary is likely to be limited to road signage which should not impact on flood risk as stated in section 6.10.2. It should be ensured flood risk is assessed if necessary. A flood risk activity permit may also be required depending on the nature of the works. |
| **Figure 2.37 & Section 2.13.28**<br>**Wickham** | **Issue**<br>Highway improvements on the road are located within fluvial Flood Zone 2 & 3. This may require a FRA. |

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| **Market diversion route** | **Comment**<br>There is an unknown impact at this stage as the exact nature of the work in the Flood Zone is unclear. Road widening is suggested.<br><br>**Suggested Solution**<br>Works within the Flood Zone should be avoided. Further information is required so we can understand the nature of the works and their impact upon flood risk and the main river. Permits and an FRA may be required as the road crosses the main river. |

# Appendix B: Permits and consents

A number of permits and consents are required for the proposals outlined in this consultation. Some of which include:

**Flood risk activities: environmental permits**
The Environmental Permitting (England and Wales) Regulations 2016 require a permit to be obtained for any activities which will take place:

- on or within 8 metres of a fluvial main river (16 metres if tidal)
- on or within 8 metres of a fluvial flood defence structure or culvert (16 metres if tidal)
- on or within 16 metres of a sea defence
- in a floodplain more than 8 metres from the river bank, culvert or flood defence structure (16 metres if it's a tidal main river).

These works are regulated under environmental permits (formerly flood defence consents). Numerous parts of your proposals will require a flood risk permit. This includes your preferred option for a causeway with a culvert over the Leiston Drain (main river) as part of your SSSI crossing, your proposed works to re-align the Sizewell Ditch and connect this to the Leiston Drain (main river) at a different location and the various highways crossings over main rivers as part of the Sizewell Link Road and Two Village Bypass. Early engagement and discussions is recommended for any, and all, works that will require a permit. From the information currently available we consider it would be unlikely that we could grant a permit for culvert crossings.

**Abstraction Licence**
In order that we can manage water resources in a fair and comprehensive way, and to satisfy the requirements of the Water Framework Directive (WFD), the government made some changes to the way we regulate abstractions and impoundments which pose a potential impact to the water environment.

As a result of this, from 1 January 2018, some previously exempt water abstractions (if over 20m³/day except for temporary/emergency exemptions) were brought into regulation under the Water Resources Act 1991, as amended by the Water Act 2003. These water abstractions now require an abstraction licence. Early engagement is recommended for any, works that will require a licence, where advice and guidance is needed. Further information can be found at https://www.gov.uk/guidance/apply-for-a-new-abstraction-licence-for-a-currently-exempt-abstraction

# Appendix C: Requirements

By taking a risk based approach it is possible to suggest planning Requirements in a number of areas. Our final views will be based on all relevant information included in your final Development Consent Order application and the latest guidance available at that time. The Environment Agency should be re-consulted before Requirements are confirmed. Please be aware that the Environment Agency will have additional Requirements as proposals are developed further.

We have included requirements on contaminated land and surface water quality. We acknowledge that further site-specific surveys are to be prepared across your development proposals – this further work will influence our position and other requirements.

The following Requirements are standard wording that we use for all developers. We recommend these to local planning authorities or the Planning Inspectorate where necessary, depending on the type of planning application.

## General requirements applicable to all sites

**Requirement:**
(1) If in undertaking the construction of any part of the authorised project, contamination not previously identified is found to be present at the site of that part of the authorised project, then no further development shall be carried out on that site until details as to how this contamination not previously identified is to be dealt with have, after consultation with the Environment Agency, been submitted to and approved by the relevant planning authority and put into effect.

(2) Notwithstanding paragraph (1), a defined area or areas may be identified and agreed with the relevant planning authority where development can continue without approval of the details submitted in accordance with paragraph (1).

**Reason:**
To protect and prevent the pollution of the water environment (particularly groundwater associated with the underlying Secondary and Principal Aquifers, from potential pollutants associated with current and previous land uses) in line with National Planning Policy Framework (NPPF; paragraphs 170 and 178), EU Water Framework Directive, Anglian River Basin Management Plan and Environment Agency Groundwater Protection Position Statements (2017) A4 – A6, J1 – J7 and N7.

National Planning Policy Framework (NPPF) paragraph 170 states that policies and decisions should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution. Government policy also states that planning policies and decisions should

ensure appropriate remediating and mitigation of despoiled, degraded, derelict, contaminated and unstable land, where appropriate (NPPF Paragraph 170 (f)).

Paragraph 178 of the NPPF also states that decisions should ensure that a site is suitable for its proposed use taking account of ground conditions and any risks arising from contamination.

# Associated Development site requirements

As outlined in our previous response the desk-based information included in the Stage 3 Preliminary Environmental Information has identified previous land uses and potential contamination sources, pathways and receptors associated with historic uses. The risk to receptors - including the water environment - from identified contamination sources needs to be appropriately addressed as part of any works or development; this will be proportionate to the risk at each of the associated development sites. We have set out a number of requirements to ensure the development proposals are acceptable to the water environment and supported ecology.

**Contaminated Land (Part 1)**

Some of the potential contamination sources that could present a risk to the water environment are located within the red line boundaries for the following associated development sites.

- **Green Rail Route**
- **Sizewell Link Road**
- **Theberton Bypass**
- **Two Village Bypass**
- **Northern Park and Ride**
- **Southern Park and Ride**
- **Yoxford Roundabout**
- **Highway Improvements**

Contaminated land requirements relevant to these Associated Development sites:

**Requirement:**
No development shall commence until a remediation strategy to deal with the risks associated with contamination of the site in respect of the development hereby permitted, has in consultation with the Environment Agency, been submitted to and approved in writing by, the local planning authority. This strategy will include the following components:

1. A preliminary risk assessment which has identified:
    - all previous uses
    - potential contaminants associated with those uses

- a conceptual model of the site indicating sources, pathways and receptors
- potentially unacceptable risks arising from contamination at the site

2. A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off-site.
3. The results of the site investigation and the detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken.
4. A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

Any changes to these components require, in consultation with the Environment Agency, the written consent of the local planning authority. The scheme shall be implemented as approved.

**Reason:**
To protect and prevent the pollution of the water environment (particularly groundwater associated with the underlying Secondary and Principal Aquifers, from potential pollutants associated with current and previous land uses) in line with National Planning Policy Framework (NPPF; paragraphs 170 and 178), EU Water Framework Directive, Anglian River Basin Management Plan and Environment Agency Groundwater Protection Position Statements (2017) A4 – A6, J1 – J7 and N7.

National Planning Policy Framework (NPPF) paragraph 170 states that policies and decisions should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution. Government policy also states that planning policies and decisions should ensure appropriate remediating and mitigation of despoiled, degraded, derelict, contaminated and unstable land, where appropriate (NPPF Paragraph 170 (f))

Paragraph 178 of the NPPF also states that decisions should ensure that a site is suitable for its proposed use taking account of ground conditions and any risks arising from contamination.

**Requirement:**
Prior to any part of the permitted development being brought into use, a verification report demonstrating the completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall, in consultation with the Environment Agency, be submitted to and approved in writing by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

**Reason:**

To protect and prevent the pollution of the water environment (particularly groundwater associated with the underlying Secondary and Principal Aquifers, from potential pollutants associated with current and previous land uses) in line with National Planning Policy Framework (NPPF; paragraphs 170 and 178), EU Water Framework Directive, Anglian River Basin Management Plan and Environment Agency Groundwater Protection Position Statements (2017) A4 – A6, J1 – J7 and N7.

National Planning Policy Framework (NPPF) paragraph 170 states that policies and decisions should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution. Government policy also states that planning policies and decisions should ensure appropriate remediating and mitigation of despoiled, degraded, derelict, contaminated and unstable land, where appropriate (NPPF Paragraph 170 (f)).

**Requirement:**
No development should take place until a long-term monitoring and maintenance plan in respect of contamination including a timetable of monitoring and submission of reports to the Local Planning Authority, shall be submitted to and approved in writing by the Local Planning Authority. Reports as specified in the approved plan, including details of any necessary contingency action arising from the monitoring, shall, in consultation with the Environment Agency, be submitted to and approved in writing by the Local Planning Authority. Any necessary contingency measures shall be carried out in accordance with the details in the approved reports. On completion of the monitoring specified in the plan a final report demonstrating that all long-term remediation works have been carried out and confirming that remedial targets have been achieved shall be submitted to and approved in writing by the Local Planning Authority.

**Reason:**
To protect and prevent the pollution of the water environment (particularly groundwater associated with the underlying Secondary and Principal Aquifers, from potential pollutants associated with current and previous land uses) in line with National Planning Policy Framework (NPPF; paragraphs 170 and 178), EU Water Framework Directive, Anglian River Basin Management Plan and Environment Agency Groundwater Protection Position Statements (2017) A4 – A6, J1 – J7 and N7.

National Planning Policy Framework (NPPF) paragraph 170 states that policies and decisions should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution. Government policy also states that planning policies and decisions should ensure appropriate remediating and mitigation of despoiled, degraded, derelict, contaminated and unstable land, where appropriate (NPPF Paragraph 170 (f))

**Requirement:**

No drainage systems for the infiltration of surface water drainage into the ground is permitted other than with the express written consent of the Local Planning Authority, after consultation with the Environment Agency, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to controlled waters. The development shall be carried out in accordance with the approved details.

**Reason:**
Infiltration through contaminated land has the potential to impact on groundwater quality.

**Requirement:**
Piling or any other foundation designs using penetrative methods shall not be permitted other than with the express written consent of the local planning authority, after consultation with the Environment Agency, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to groundwater. The development shall be carried out in accordance with the approved details.

**Reason:**
Piling or any other foundation designs using penetrative methods can result in risks to potable supplies from, for example, pollution / turbidity, risk of mobilising contamination, drilling through different aquifers and creating preferential pathways. Thus it should be demonstrated that any proposed piling will not result in contamination of groundwater.

The National Planning Policy Framework paragraph 170 states that the planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution.

**Contaminated Land (Part 2)**

One of the proposed associated development sites has only been subject to historical agricultural use, which is considered a low contamination risk to controlled waters.

- **Freight Management Facility**

Contaminated land requirements relevant to this Associated Development site:

**Requirement:**
No drainage systems for the infiltration of surface water drainage into the ground is permitted other than with the express written consent of the Local Planning Authority, after consultation with the Environment Agency, which may be given for those parts of the site where it has been demonstrated that there is no resultant unacceptable risk to controlled waters. The development shall be carried out in accordance with the approved details.

**Reason:**
Infiltration through contaminated land has the potential to impact on groundwater quality. Paragraphs 5.15.2 and 5.15.3 of the Overarching National Policy Statement for Energy (EN1) confirms that proposed new discharges and proposed changes to discharges need to be assessed for any impacts to water quality.

The National Planning Policy Framework paragraph 170 states that the planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution.

**Surface Water Quality**

Surface water drainage Requirement (protection of water quality) relevant to the following Associated Development sites:

- **Green Rail Route**
- **Sizewell Link Road**
- **Theberton Bypass**
- **Two Village Bypass**
- **Northern Park and Ride**
- **Southern Park and Ride**
- **Freight Management Facility**
- **Yoxford Roundabout**
- **Highway Improvements**

**Requirement:**
The development hereby permitted shall not be commenced until such time as a scheme to dispose of surface water has been submitted to, and approved in writing by the local planning authority, after consultation with the Environment Agency. The scheme shall be implemented as approved.

**Reason:**
Discharges from new developments has the potential to impact on surface water quality. It should therefore be demonstrated that development will not result in detrimental impacts to water quality. Paragraphs 5.15.2 and 5.15.3 of the Overarching National Policy Statement for Energy (EN1) confirms that proposed new discharges and proposed changes to discharges need to be assessed for any impacts to water quality.

The National Planning Policy Framework paragraph 170 states that the planning system should contribute to and enhance the natural and local environment by preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of water pollution.

# Appendix D: Guidance linked to requirements

The following advice and guidance will need to be considered alongside the requirements included in Appendix C.

**Sustainable Drainage Systems (SuDS) advice**

1. Infiltration sustainable drainage systems (SuDS) such as soakaways, unsealed porous pavement systems or infiltration basins shall only be used where it can be demonstrated that they will not pose a risk to the water environment.

2. Infiltration SuDS have the potential to provide mobilise pollutants and must not be constructed in contaminated ground. They would only be acceptable if a site investigation showed the presence of no significant contamination.

3. Only clean water from roofs can be directly discharged to any soakaway or watercourse. Systems for the discharge of surface water from associated hard-standing, roads and impermeable vehicle parking areas shall incorporate appropriate pollution prevention measures and a suitable number of SuDS treatment train components appropriate to the environmental sensitivity of the receiving waters.

4. The maximum acceptable depth for infiltration SuDS is 2.0 m below ground level, with a minimum of 1.2 m clearance between the base of infiltration SuDS and peak seasonal groundwater levels.

5. Deep bore and other deep soakaway systems are not appropriate in areas where groundwater constitutes a significant resource (that is where aquifer yield may support or already supports abstraction).

6. SuDS should be constructed in line with good practice and guidance documents which include the SuDS Manual (CIRIA C753, 2015), Guidance on the Construction of SuDS C768 and the Susdrain website.

For further information on our requirements with regard to SuDS see our Groundwater protection position statements (2018), in particular Position Statements G1 and G9 – G13 available at: https://www.gov.uk/government/publications/groundwater-protection-position-statements

**Reference and best practice guidance**

We recommend that developers should:

1) Refer to our 'Groundwater Protection' website;

2) Refer to our CL:AIRE Water and Land Library (WALL) which includes the risk management framework provided in CLR11, 'Model Procedures for the Management of Land Contamination', when dealing with land affected by contamination, and also includes the Guiding Principles for Land Contamination for the type of information

that we require in order to assess risks to controlled waters from the site. The Local Authority can advise on risk to other receptors, for example human health;

3) Refer to our Land Contamination Technical Guidance;

4) Refer to 'Position Statement on the Definition of Waste: Development Industry Code of Practice';

5) Refer to British Standards BS 5930:1999 A2:2010 *Code of practice for site investigations* and BS10175:2011 A1: 2013 *Investigation of potentially contaminated sites – code of practice*

6) Refer to our 'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination' National Groundwater & Contaminated Land Centre Project NC/99/73. The selected method, including environmental mitigation measures, should be presented in a 'Foundation Works Risk Assessment Report', guidance on producing this can be found in Table 3 of 'Piling Into Contaminated Sites';

7) Refer to our 'Good Practice for Decommissioning Boreholes and Wells'.

8) Refer to our 'Dewatering building sites and other excavations: environmental permits' guidance when temporary dewatering is proposed

# Appendix E: Documents reviewed

Our comments and position in response to the Stage 4 DCO consultation is based on our review of the following supporting documents:

- Consultation Summary Document – Sizewell C Stage 4 Pre-application Consultation Document

- Sizewell C Stage 4 Pre-application Consultation, Summer 2019 - Consultation Document

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