Hampshire Water Transfer and Water Recycling Project

Design Approach Document – 1 of 3 documents

VOLUME NUMBER: 5

PLANNING INSPECTORATE SCHEME NUMBER: WA010002

APPLICATION DOCUMENT REFERENCE: 5.12

APFP REGULATION: 5(2)(q)

May 2026

Version 0

from Southern Water

Contents

Tables

Graphics

Appendices

Executive Summary

1. This Design Approach Document (DAD) has been prepared to accompany the DCO application for the Hampshire Water Transfer and Water Recycling Project (the 'Project'). It sets out the Applicant's approach to embedding good design from inception to submission, in accordance with the National Policy Statement for Water Resources Infrastructure (NPSWRI) [1] and relevant guidance and advice issued by the National Infrastructure Commission and Planning Inspectorate.

2. The DAD provides a structured account of how good design has been considered, refined, and secured, and directs readers to the supporting evidence detailed in the Development Consent Order (DCO) application.

3. The Project comprises a new water recycling plant, associated pipelines, above ground plant including pumping stations and break pressure tanks, and integration with existing infrastructure such as Havant Thicket Reservoir and Eastney Long Sea Outfall. Its purpose is to provide a resilient and sustainable water supply for Hampshire, protecting sensitive chalk streams while maintaining supplies for communities and the local economy. A full description of the Project is provided in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6).

4. The DAD records how consultation and engagement have shaped the design. Four rounds of public consultation between 2021 and 2025, together with targeted consultations in Autumn 2025 and Spring 2026, informed key decisions on technology choice, site selection, pipeline route alignment and design refinements. Evidence of these processes is set out in the Consultation Report (Document reference 5.1, DCO Volume 5) and the Scheme Development Report (Document reference 5.10, DCO Volume 5). Alongside public consultation, engagement with local authorities, statutory bodies, and Portsmouth Water has influenced matters such as building appearance, landscape integration, and mitigation measures. Details are provided in the Statement of Engagement (Document reference 5.9, DCO Volume 5) and Statements of Common Ground (Document reference 5.8, DCO Volume 5).

5. Leadership and assurance have been central to the design process. A multidisciplinary team was established at the outset, supported by the definition of a Project Vision and the appointment of a Design Champion to oversee and guide design quality. This approach has ensured that appropriate design decisions were made and informed by a wide range of perspectives, as reported transparently in the Scheme Development Report (Document reference 5.10, DCO Volume 5).

6. Design principles have provided a framework for securing good design. Preliminary Design Principles were consulted upon in 2024 as part of the Applicant's Summer 2024 Consultation, structured around the National Infrastructure Commission themes of climate, people, places, and value. These informed the Project-wide General Design Principles and Site Specific Design Principles, which are set out in the Design Principles Document (Document reference 5.11, DCO Volume 5) and secured through the draft Development Consent Order (draft DCO) (Document reference 3.1, DCO Volume 3).

7. The DAD explains how the Project has evolved through defined scheme development stages, with refinements made in response to consultation feedback, engagement, environmental assessment, and technical appraisal, the detail of which is included in the Scheme Development Report (Document reference 5.10, DCO Volume 5). The text on good design set out in section 6 demonstrates how aspirations for landscape integration, biodiversity enhancement, climate resilience, and social value will be delivered and secured.

8. Consistent with Section 3.6 of the NPSWRI [1], the Project's design approach has been grounded in a clear understanding of the Project's environmental, landscape and community context. Functionality, resilience and integration with place have informed decisions at each stage of development, ensuring that the emerging design responds positively to its setting and minimises adverse effects.

1 Introduction

1.1.1 This Design Approach Document (DAD) has been prepared on behalf of Southern Water Services Limited (hereafter referred to as 'the Applicant') to accompany the Development Consent Order (DCO) application for the Hampshire Water Transfer and Water Recycling Project (the 'Project').

1.2 Purpose of this document

1.2.1 This DAD sets out the approach to the preparation and evolution of the design case from the Project's inception to that presented in the application having regard to relevant policy, guidance and advice.

1.2.2 The Applicant recognises the role of 'good design' in the development of proposals for water infrastructure projects. This is evidenced through the development of the Project's overarching vision, the site and route selection, the evolution of design principles through the pre-application period, involvement of senior management in design decisions (including the appointment of a Design Champion), dialogue with the Design Council, engagement on matters of design, and consultation with stakeholders and affected communities to inform and refine the design.

1.3 The Project

1.3.1 The Project comprises the construction, operation and maintenance of the following components:

- Water Recycling Plant and associated pumping stations.
- Pipelines between Budds Farm Wastewater Treatment Works and the Water Recycling Plant site.
- Pipelines between the Water Recycling Plant site and Bedhampton Springs, connecting to pipelines being delivered by Portsmouth Water between Bedhampton Springs and Havant Thicket Reservoir.
- Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works.
- Above Ground Plant comprising Intermediate Pumping Stations and Break Pressure Tanks located along the Pipeline between the Water Recycling Plant site and Otterbourne Water Supply Works.

1.3.2 The Project would also comprise the use of the following infrastructure:

- Havant Thicket Reservoir (which has been consented separately by Portsmouth Water and is currently under construction) for the storage of recycled water.
- The existing Eastney Long Sea Outfall, Eastney Pumping Station, and associated Eastney Transfer Tunnel for the release of reject water from the WRP site.

- Pipelines and other related works (which have been consented separately by Portsmouth Water) for the transfer of recycled water and source water between Bedhampton Springs and Havant Thicket Reservoir.

1.3.3 The construction and operation of the Project would be supported by other temporary and permanent works.

1.3.4 The Project will require the demolition, disassembly and/or temporary relocation of a number of small structures.

1.3.5 A detailed description of the Project can be found in ES Chapter 3 Description of the Proposed Development, Volume I (Document reference 6.1, DCO Volume 6). The Application Glossary (Document reference 1.7, DCO Volume 1) sets out the abbreviations and definitions used in the DCO application for the Project.

1.4 Interaction with other documents

1.4.1 The Scheme Development Report (Document reference 5.10, DCO Volume 5) provides further detail on the scheme development process undertaken throughout the lifecycle of the Project including the narrative behind design decisions and a description of options considered by the Applicant.

1.4.2 The Planning Policy Statement (Document reference 5.5, DCO Volume 5) explains how the Project meets the National Policy Statement for Water Resources Infrastructure (NPSWRI) [1] policy (and other relevant policies) relating to 'good design'.

1.4.3 The Design Principles Document (Document reference 5.11, DCO Volume 5) sets out the General (Project-wide) and Site Specific Design Principles which would be secured through the DCO and which detailed design would need to be in accordance with. The development of the design principles has embedded a framework for good design throughout the evolution of the Project.

1.4.4 Schedule 2 of the draft DCO (Document reference 3.1, DCO Volume 3) contains a Requirement that detailed design must demonstrate compliance with the Design Principles Document (Document reference 5.11, DCO Volume 5) including, where appropriate, approval by the relevant local planning authority. This allows for ongoing design review and design decision making, including mechanisms to address elements where design certainty is deferred to post-consent. This approach ensures that the outcomes of the Applicant's analysis, assessments, programme and vision are carried through to delivery, so that procurement and consenting processes align with those commitments.

1.5 Policy and guidance

1.5.1 The NPSWRI [1] sets out criteria for good design at Section 3.6. The following sources provide guidance and advice on good design for major infrastructure projects:

- National Infrastructure Commission (2018) National Infrastructure Assessment [2].

- National Infrastructure Commission Design Group (2020) Design Principles for National Infrastructure [3].
- Water Resources All Company Working Group (2023) Water Resources: Design Principles & User Guidance [4].
- National Infrastructure Commission (2023) Second National Infrastructure Assessment [5].
- National Infrastructure Commission Design Group (2024) Project Level Design Principles [6].
- Planning Inspectorate (2025) Nationally Significant Infrastructure Projects: 2024 Pre-application Prospectus [7].
- Planning Inspectorate (2024) Nationally Significant Infrastructure Projects: Advice on Good Design [8].
- Planning Inspectorate (2025) Nationally Significant Infrastructure Projects: Advice on Preparing Applications for Linear Projects [9].
- Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities (2024) Planning Act 2008: Pre-application stage for Nationally Significant Infrastructure Projects [10].

1.5.2 A summary of this guidance and advice is provided in Appendix A, with Appendix B containing the Applicant's populated version of the Planning Inspectorate (2024) Nationally Significant Infrastructure Projects: Advice on Good Design, Annex A – Good design issues to consider [8].

1.5.3 The criteria for good design as per section 3.6 of the NPSWRI [1] and the guidance and advice from the sources listed at 1.5.1 can be broadly distilled into the following five themes:

1. Scheme development – provide a clear explanation of how the design has evolved and the processes followed from inception to DCO submission.
2. Consultation and engagement – consult and engage with local authorities, communities and other stakeholders on the design process.
3. Leadership and assurance – provide assurance by establishing a project vision, involving senior management in design decisions, appointing a Design Champion, and considering the project roles required to develop the design.
4. Developing design principles – set out design principles at an early stage to guide pre-application design and, having regard to the outputs of environmental assessments, evolve these into controls for detailed design.
5. Securing good design – set out how the project has incorporated good design during the pre-application stage and how this will be secured and delivered through the DCO and subsequent stages of design and delivery.

2 Scheme Development

2.1.1 As noted in paragraph 1.4.1, the Scheme Development Report (Document reference 5.10, DCO Volume 5) reports on how the Project design has evolved, covering the design processes undertaken and the outcomes that have informed the design of the Project from inception to DCO application submission. This DAD summarises and draws on information contained in the Scheme Development Report (Document reference 5.10, DCO Volume 5).

2.1.2 In summary, the Project has progressed through a detailed scheme and design development process which has considered a number of different alternative water resources infrastructure options, as well as different configurations of these options, including different sites and pipeline corridors. The options went through a number of stages of detailed review and appraisal, considering a range of technical, environmental, planning, social and economic criteria, alongside alignment with relevant national planning policy.

2.1.3 The Project is also progressing through the Regulators Alliance for Progressing Infrastructure Development (RAPID) gated process as part of its regulatory requirements, which provides bespoke funding for the development of strategic water resources solutions. The various stages of this regulatory process have required the Applicant to consider and report on a range of water resources options for addressing the water supply challenges in Hampshire, as well as the design development of the Project itself. While the RAPID process is distinct from, and does not form part of, the DCO consenting regime, the structured optioneering and design development undertaken for the Project has informed both the RAPID regulatory process and the Applicant's DCO application.

2.2 Optioneering and Scheme Development Process

2.2.1 The Applicant undertook a structured, multi-stage optioneering process to identify and refine the preferred solution for the Project. This process was aligned with the RAPID gated process and informed by technical assessments, environmental considerations, stakeholder engagement, consultation, and policy considerations.

Stage 1: Development and Assessment of Initial Options

2.2.2 As part of Gate 1 of the RAPID process, the Applicant reviewed a wide range of potential solutions to meet future water supply needs. Although desalination was the preferred strategic solution identified in the Applicant's Water Resources Management Plan 2019 (WRMP19) [11] for the Hampshire area, RAPID required the Applicant to continue developing this option while also reviewing alternative solutions, including water re-use (i.e. water recycling), to ensure that a deliverable and resilient option could be taken forward. This requirement meant that the Applicant needed to test whether desalination continued to represent the preferred option for progression into delivery, or whether an alternative solution could provide a better outcome. Additional options not included in WRMP19 [11] were therefore also considered at this stage.

2.2.3 Nine options were under consideration at Gate 1 and at this stage a high level review of technical, environmental, best value and other considerations was undertaken. Of the initial nine options, six options were considered feasible and were progressed to Stage 2 (Gate 2).

Stage 2: Options Appraisal Process

2.2.4 The options appraisal process considered the six options to identify a preferred option and a backup option in order to inform the RAPID Gate 2 submission. The process needed to be robust so that an appropriate option was selected, having regard to relevant planning policy tests. The process was developed in consultation with stakeholders and was undertaken by qualified individuals. The process comprised the following steps:

- Site and route selection
- Consenting evaluation
- Multi-criteria decision analysis
- Assessment against legal and policy objectives
- Assessment against Water for Life Hampshire (WfLH)[1] strategic objectives
- Interim business evaluation
- Future needs assessment
- Final business evaluation

2.2.5 A combined water transfer and water recycling option, previously referred to as Option B.4, and now known as the Project, was selected as the preferred option. The Applicant's WRMP19 was updated to confirm the change of the preferred option (from desalination) to the Project in the WRMP19 annual review 2020-2021 [12].

2.2.6 The WRP site and initial pipeline routes were additionally identified at Stage 2.

Stage 3: Scheme development between RAPID Gate 2 and the Summer 2022 Consultation

2.2.7 At Stage 3, the Project was developed to identify potential Above Ground Plant (AGP) sites and pipeline corridors. This involved:

- Defining and dividing corridors from the pipelines progressed from Stage 2 and a back-check of any additional potential pipelines post Stage 2.
- Identification of zones for AGP that are required to accompany the pipelines.
- Evaluation of the corridor sections and AGP against criteria developed by the Applicant's multidisciplinary team (see section 4.1).
- Identification of a preferred pipeline corridor.

[1] Water for Life Hampshire is the Applicant's programme to create new sources of water for Hampshire, help protect the environment and safeguard future water supplies.

2.2.8 A preferred pipeline corridor was selected, along with potential zones for the AGP. The outcomes of this process were presented at the Summer 2022 Consultation.

2.2.9 Changes to the output of the WRP at this stage meant that a different minimum parcel size could be used, a review of the Stage 2 site selection work was therefore undertaken. This did not change the outcomes of the Stage 2 site selection work.

Stage 4: Scheme development between the Summer 2022 Consultation and the Summer 2024 Consultation

2.2.10 Having regard to the responses received at the Summer 2022 Consultation, as well as further engagement with relevant bodies, further development of the Project was undertaken to identify draft Order Limits for the Project, and the proposed sites for the AGP and construction compounds (the outcomes of which are presented in the Scheme Development Report (Document reference 5.10, DCO Volume 5)).

2.2.11 At this stage, the Project was primarily informed by desk-based assessments, including the application of avoidance criteria which sought to reduce the number of sensitive features that the Project interfaced with. Environmental, land and engineering surveys and investigations commenced and continued to inform the development of the Project. This stage also involved reviewing earlier site selection work which had identified the WRP site. This did not change the outcomes of the earlier WRP site selection work.

2.2.12 The outcomes of Stage 4 were presented at the Summer 2024 Consultation.

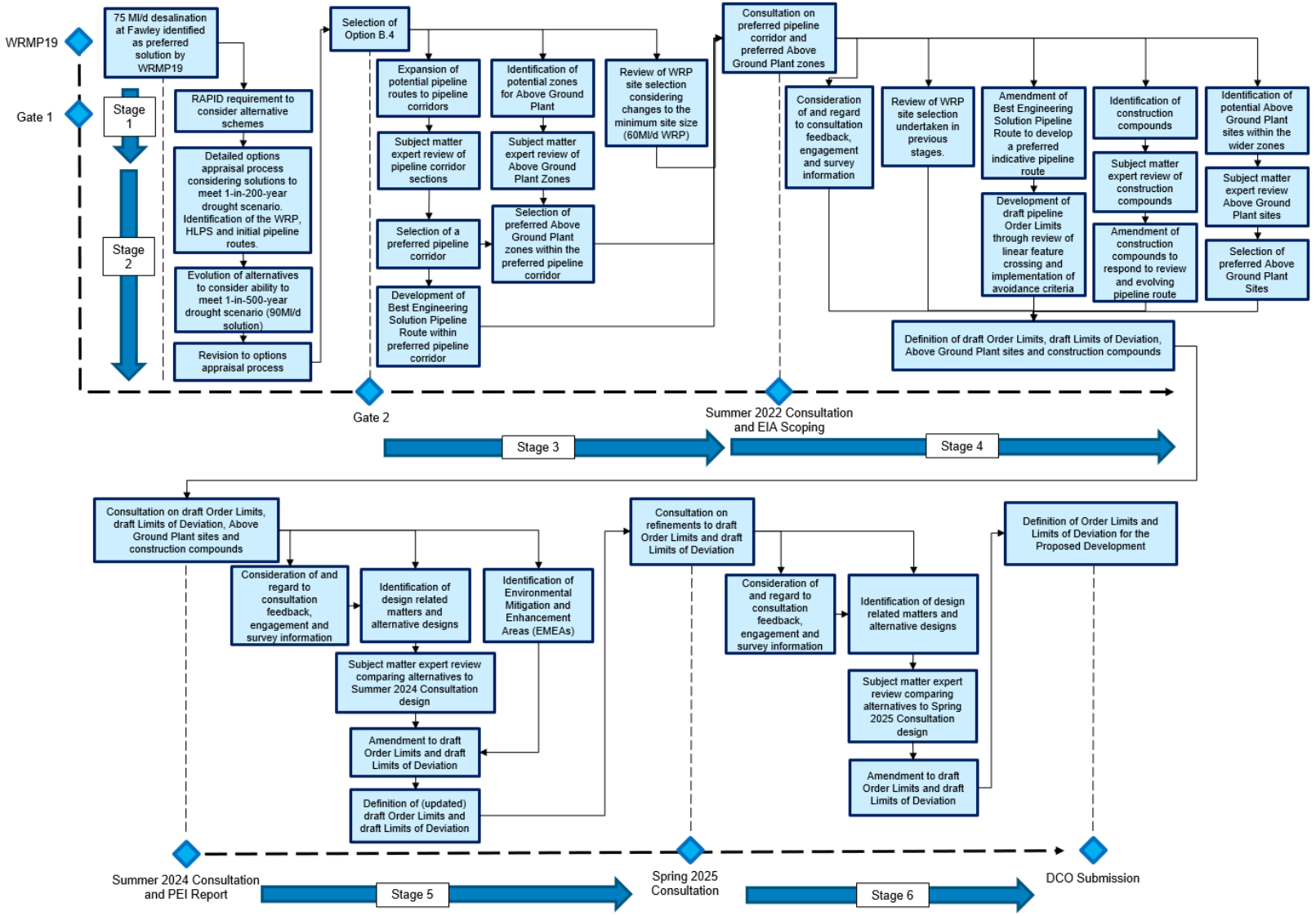
Stage 5: Scheme development between the Summer 2024 Consultation and Spring 2025 Consultation

2.2.13 Following the Summer 2024 Consultation, the Project was refined further having regard to consultation feedback, updated engineering inputs and further environmental assessment. Amendments to the design of the Project were made, whilst ensuring that the refinements supported the Project Vision and Preliminary Design Principles (see sections 4.2 and 5.1). These design refinements were presented at the Spring 2025 Consultation.

Stage 6: Scheme development between the Spring 2025 Consultation and DCO application

2.2.14 Following the Spring 2025 Consultation, which presented the design refinements made at Stage 5, the Project was further refined ahead of the DCO application in response to consultation feedback, updated engineering inputs and further environmental assessment. This stage finalised the Project's design for the application.

2.2.15 Graphic 2-1 provides an overview of the scheme development process up to DCO application submission (Stages 1 to 6).



Graphic 2-1: Summary of the scheme development process up to DCO application (Stages 1-6).

3 Consultation and Engagement

3.1 Public consultation

3.1.1 During the pre-application stage, the Applicant undertook a number of public consultations on the Project. These were namely, the Public Consultation 2021, the Summer 2022 Consultation, the Summer 2024 Consultation and the Spring 2025 Consultation. In addition, targeted consultations have been undertaken which were called the Autumn 2025 Consultation and Spring 2026 Consultations.

3.1.2 Following each consultation, the Applicant had regard to the feedback received as part of the scheme development process. This is evidenced in the Consultation Report (Document reference 5.1, DCO Volume 5), the Statement of Engagement (Document reference 5.9, DCO Volume 5), and the Scheme Development Report (Document reference 5.10, DCO Volume 5).

Public Consultation 2021

3.1.3 The aim of this consultation was to consult on the preferred solution identified within the WRMP19 [11], as well as the alternative solutions that were being considered at the time through the RAPID process. At the time, a desalination plant at Fawley in Southampton was the preferred strategic solution, with water recycling and water transfer also under consideration as potential alternatives.

3.1.4 The local community and stakeholders were therefore provided with an understanding of the options under consideration to deliver the new strategic water resource at an early stage and the opportunity to provide feedback on that basis.

3.1.5 Feedback received from the Public Consultation 2021 was considered as part of the decision not to progress the desalination options. Further information on the Public Consultation 2021 can be found in chapter 5 and Appendix B of the Consultation Report (Document reference 5.1, DCO Volume 5).

Summer 2022 Consultation

3.1.6 The Summer 2022 Consultation provided an introduction to the Project and the process and outcomes of the initial site selection for the WRP and AGP, as well as the selection of a preferred pipeline corridor, including the alternative options that were under consideration. Further information on the Summer 2022 Consultation can be found in chapter 6 and Appendix C of the Consultation Report (Document reference 5.1, DCO Volume 5).

3.1.7 As part of the consultation material, the Applicant prepared the 2022 Scheme Development Summary report (see Appendix C.3, 2022 Scheme Development Summary, of the Consultation Report (Document reference 5.1, DCO Volume 5)) which summarised the scheme development undertaken up to the Summer 2022 Consultation. This included scheme development Stages 1 to 3.

3.1.8 The local community and stakeholders were therefore provided with an understanding of the design requirements of the Project and the process

undertaken at an early stage and were given the opportunity to provide feedback on that basis.

3.1.9 Feedback on the location selected for the WRP site was a key theme identified in the Summer 2022 Consultation feedback. The Applicant undertook a further review of the site selection process and reconsidered potential sites which reconfirmed the location of the WRP site; this review was presented at the Summer 2024 Consultation. Consultation feedback also informed refinements to corridor sections and route options, including preferences for tunnelled routes where these reduced impacts on residential areas, groundwater sources and sensitive environments. The Applicant consulted on the refinements at the Summer 2024 Consultation. Further information can be found in the Consultation Report (Document reference 5.1, DCO Volume 5).

3.1.10 Section 5 of the Scheme Development Report (Document reference 5.10, DCO Volume 5) and section 6.3 of the Consultation Report (Document reference 5.1, DCO Volume 5) detail the consideration of and regard given to the Summer 2022 Consultation feedback at Stage 4.

Summer 2024 Consultation

3.1.11 Views and feedback were sought on all aspects of the Project at the Summer 2024 Consultation, including the proposed pipeline routes, the WRP site, AGP sites, the process undertaken to develop the Project to that point, and the Preliminary Environmental Information Report[2] (PEI Report) which set out the initial impacts of the Project and proposals for mitigation. Further information on the Summer 2024 Consultation can be found in chapter 9 and Appendix F of the Consultation Report (Document reference 5.1, DCO Volume 5).

3.1.12 The 2024 Scheme Development Summary report (see Appendix F.6, 2024 Scheme Development Summary, of the Consultation Report (Document reference 5.1, DCO Volume 5)) was prepared for this consultation, setting out an overview of the 2022 Scheme Development Summary report (Stages 1 to 3) and a summary of the scheme development undertaken between the Summer 2022 Consultation and the Summer 2024 Consultation (Stage 4).

3.1.13 To provide transparency and demonstrate how the previous consultation informed development of the Project, the Summer 2022 Consultation Summary of Feedback Report was also published as part of the Summer 2024 Consultation (see Appendix C.15, Summer 2022 Consultation Summary of Feedback Report, of the Consultation Report (Document reference 5.1, DCO Volume 5)).

3.1.14 A key theme identified from the Summer 2024 Consultation was in relation to concerns from landowners affected by the proposed pipeline routes. Such feedback has helped inform design refinements (for example, changes to the draft Order Limits and draft Limits of Deviation of the pipeline route) which the Applicant consulted on at subsequent consultations. Further information can be found in the Consultation Report (Document reference 5.1, DCO Volume 5).

[2] The PEI Report set out the information that "is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development" ((Regulation 12(2)(b) of the EIA Regulations 2017) as set out in National Infrastructure Planning Advice Note Seven, Section 8.3). The PEI Report was consulted on at the Summer 2024 Consultation.

3.1.15 Section 6 of the Scheme Development Report (Document reference 5.10, DCO Volume 5) and section 9.9 and Appendix F.29, The Applicant's response to feedback, of the Consultation Report (Document reference 5.1, DCO Volume 5) detail the consideration of and regard given to Summer 2024 Consultation feedback at Stage 5.

Spring 2025 Consultation

3.1.16 The Applicant sought views on updated environmental water quality information and design refinements made to the Project following the Summer 2024 Consultation; some of which were made in response to the consultation feedback. Further information on the Spring 2025 Consultation can be found in chapter 10 of the Consultation Report (Document reference 5.1, DCO Volume 5).

3.1.17 At this consultation, scheme development undertaken at Stage 5 was presented in the form of Information Sheets (see Appendix G.1, Information sheets, of the Consultation Report (Document reference 5.1, DCO Volume 5)). The Information sheets covered the Project design refinements, and developments to the mitigation and enhancement proposals.

3.1.18 A key theme identified from the Spring 2025 Consultation was in relation to concerns from landowners where their land was proposed to be used for environmental mitigation and enhancement. The Applicant subsequently reviewed and refined such proposals, ensuring they were necessary and proportionate taking into account the findings of the EIA. Further information can be found in the Consultation Report (Document reference 5.1, DCO Volume 5).

3.1.19 Section 7 of the Scheme Development Report (Document reference 5.10, DCO Volume 5) and section 10.9 of the Consultation Report (Document reference 5.1, DCO Volume 5) detail the consideration of and regard given to the Spring 2025 Consultation feedback at Stage 6.

Autumn 2025 Consultation

3.1.20 Several further Project design refinements were identified at Stage 6 which were minor and localised in nature, and principally aimed at reducing potential impacts on affected landowners.

3.1.21 Therefore, those consulted at the Autumn 2025 Consultation included those with a direct land or property interest associated with the changes, and Hampshire County Council. Consultees were provided with information sheets regarding the design refinements. Further information on the Autumn 2025 Consultation can be found in chapter 11 of the Consultation Report (Document reference 5.1, DCO Volume 5).

3.1.22 Two consultation responses were received with comments provided on design refinements 4 and 7. The concerns related to the pipeline route and depth, specifically its proximity to residential land and the risk of land sterilisation, as well as matters surrounding construction and safe access. As a result of the Autumn 2025 Consultation, one change was made to the draft Order Limits to allow for flexibility for further refinement of the pipeline route. Further information can be found in the Consultation Report (Document reference 5.1, DCO Volume 5).

3.1.23 Section 7 of the Scheme Development Report (Document reference 5.10, DCO Volume 5) and section 11.7 of the Consultation Report (Document reference 5.1, DCO Volume 5) detail the consideration of and regard given to the Autumn 2025 Consultation feedback at Stage 6.

Spring 2026 Consultations

3.1.24 Statutory, targeted consultations were held in Spring 2026 to consult on two further design refinements identified at Stage 6, one at Otterbourne WSW and one at the junction of Kiln Lane and Main Road in Otterbourne. As the two design refinements were minor, a targeted consultation approach was followed, focusing on those directly affected by the changes.

3.1.25 Those consulted at the Spring 2026 Consultations included those with a direct land or property interest associated with the changes, and Hampshire County Council. Consultees were provided with letters regarding the design refinements. Further information on the Spring 2026 Consultations can be found in chapter 12 of the Consultation Report (Document reference 5.1, DCO Volume 5).

3.1.26 A total of four consultation responses were received. Overall, none of the respondents objected to the changes being proposed, with caveats that access to relevant sites and assets be maintained. Appendix G of the Scheme Development Report (Document reference 5.10, DCO Volume 5) and section 12.7 of the Consultation Report (Document reference 5.1, DCO Volume 5) detail the consideration of and regard given to the feedback from the Spring 2026 Consultations.

3.2 Stakeholder engagement

3.2.1 Outside of consultation, an extensive engagement programme with local authorities, Statutory Environmental Bodies and other stakeholders took place during the pre-application stage to support the design development of the Project.

3.2.2 The Statement of Engagement (Document reference 5.9, DCO Volume 5) sets out the nature of the engagement programme (and the differences to consultation) and the stakeholders that the Applicant has engaged with during the pre-application stage. Table 3-1 lists the key stakeholders engaged with for the purposes of informing and shaping the design process as an integrated part of the Project's development.

Table 3-1: List of key stakeholders engaged during the pre-application stage

Local Authority	Statutory Environmental Bodies and Other stakeholders
Eastleigh Borough Council	Portsmouth Water
East Hampshire District Council	Environment Agency
Fareham Borough Council	Marine Management Organisation
Hampshire County Council	Natural England
Havant Borough Council	Historic England

Local Authority	Statutory Environmental Bodies and Other stakeholders
Portsmouth City Council	Ministry of Defence
Winchester City Council	
South Downs National Park Authority	

Project design

3.2.3 The Applicant actively engaged on design related matters at an early stage in the scheme development process, meaning that local authorities and other stakeholders were involved in developing the Project design. This approach aligns with the Planning Inspectorate advice [8] [9], which encourages early and proactive engagement with stakeholders during the pre-application stage to improve project outcomes and reduce risk. In particular, discussions were held in relation to the design of the WRP site and AGP, pipeline route alignment and the location of construction compounds.

3.2.4 Key areas discussed with stakeholders in relation to design include:

- The function and appearance of the WRP and potential views of the site and main buildings from Langstone Harbour.
- Incorporation of features into the WRP site including a green / brown roof and sensitive landscaping proposals.
- Working with Portsmouth City Council to develop the design approach and principles for Break Pressure Tank and Intermediate Pumping Station E on Portsdown Hill to integrate with its surroundings by cutting the building into the hillside, introducing a screening bund and commitments to maximum structure heights, for example.
- Engaging with Fareham Borough Council (the Local Planning Authority for the Welborne Garden Village area) and Buckland Development Ltd (the developer of Welborne Garden Village) regarding the design of Intermediate Pumping Station F, situated adjacent to the committed further development at Welborne Garden Village, which is currently under construction.
- Provision of woodland to the south-east of Intermediate Pumping Station F to mitigate landscape and visual impacts, reflecting feedback from Fareham Borough Council.
- Mitigation measures to reduce the visual impact of Break Pressure Tank K as far as practicable, particularly having regard to views from within the South Downs National Park (SDNP).
- Securing commitments to use appropriate colour palettes for above ground elements to reduce landscape impact while meeting safety requirements.
- Including fencing design within the AGP design principles, reflecting feedback from Fareham Borough Council and Portsmouth City Council, and ensuring that local character is respected and reinforced.
- Securing commitments to ensure that operational car parking for the WRP and AGPs is provided within the facility perimeter fencing only, with no reliance on

the public highway for private operational use, having regard to feedback from the highway authority.

Design principles

3.2.5 Detailed briefings were provided by the Applicant to local authorities on the level of design detail being sought through the DCO and the role of design principles in securing commitments for future detailed design to be controlled by DCO Requirement and how these align with mitigation requirements identified through environmental assessment.

3.2.6 The Applicant actively engaged with local authorities and Portsmouth Water, which contributed towards the development of the design principles for the Project as included in the Design Principles Document (Document reference 5.11, DCO Volume 5). Further information is provided in section 5.4.

4 Leadership and Assurance

4.1 Multidisciplinary team and skillset

4.1.1 At Stage 1 of the Project's development, the Applicant assembled a multidisciplinary team to deliver an effective, intentional, and transparent design process. This team brought together expertise in planning, engineering, urban design, land and property, environmental assessment, and consultation and engagement to shape the emerging project and ensure that design evolution was informed by technical evidence and stakeholder input.

4.1.2 The design team was supported by a suite of Environmental Impact Assessment (EIA) technical specialists, who provided topic-specific assessments and advice to inform design decisions. These specialists covered the following EIA disciplines:

- Agricultural land classification
- Air quality
- Carbon
- Constructability
- Biodiversity and nature conservation
- Flood risk
- Geology and soils
- Historic environment
- Landscape and visual amenity
- Noise and vibration
- Resource and waste management
- Socio-economics
- Traffic and transport
- Water quality and resources

4.1.3 In addition, the design team considered cross-cutting constraints and interfaces, including:

- Interface with other planned developments.
- Interface with Special Categories of Land, open space and other land uses.

4.1.4 The Project's design evolution has therefore been shaped by a collaborative approach. The process has been supported by a clear narrative explaining design choices and the multiple beneficial outcomes the Project seeks to deliver. Further information on the methodology and approach to scheme development is included in the Scheme Development Report (Document reference 5.10, DCO Volume 5).

4.2 Project vision

4.2.1 An overarching vision for the Project (the 'Project Vision') was established by the Applicant at Stage 4 of the Project's development. The Project Vision is as follows:

"We're transforming the way we source, treat and supply water across Hampshire. Creating a new, resilient and sustainable water supply will protect and enhance the county's rare and sensitive chalk streams, while maintaining supplies for our communities and the local economy."

4.2.2 To ensure the Project Vision is delivered, broad design aspirations were defined:

- Landscape-led – responding to and enhancing local landscape character and heritage.
- Integrated – with the green and blue infrastructure network to support nature recovery on land and water.
- Beneficial – delivering tangible advantages for both nature and local communities.

4.2.3 These design aspirations are underpinned by a clear understanding of the local context and opportunities for creating social value, including the local and wider economy. It was recognised that these design aspirations must be set against the critical importance to ensure that the Project meets safety, functional, maintenance and access requirements, and complies with all relevant policy and legislative requirements. In line with NPSWRI [1] paragraph 3.6.4, the Examining Authority and Secretary of State will take into account the ultimate purpose of the Project and give appropriate weight to the operational, safety and security standards which the design has to satisfy. Where such requirements, including those set out under the Security and Emergency Measures Direction (Water and Sewerage Undertakers and Water Supply Licensees) (Amendment and Revocation) Direction 2024 (SEMD) [13] and the Network Information Systems Direction [14], have influenced Project design outcomes (for example, fencing or access arrangements), this is reported and justified in the Scheme Development Report (Document reference 5.10, DCO Volume 5).

4.3 Design Champion

4.3.1 Paragraph 3.6.2 of the NPSWRI [1] states that:

"Good design should be embedded within the management structure of projects, for example a project board level design champion could be appointed…"

4.3.2 In accordance with this requirement, a Design Champion was formally appointed on the Project at Stage 4. The role is fulfilled by the Applicant's Major Projects Technical Manager, reflecting the expectation in the NPSWRI [1] that this position is held by a senior individual with the authority to influence strategic decision-making at the Project's board-level.

4.3.3 Although the Project's Design Champion was formally appointed at Stage 4, they have been shaping the Project's design approach from the outset through their involvement in the development of the Water Resources All Company Working Group (ACWG) Design Principles & User Guidance [4] . This has ensured that the

Project has aligned with the industry expectations for good design from an early stage.

4.3.4 The scope and involvement of the Design Champion has been to provide management level oversight and input to the scheme development process, notably into:

- The Project Vision.
- Consultation material in relation to the design process.
- The development of design principles.
- The approach to securing good design at the DCO application stage and clear mechanisms for further future scrutiny and delivery at the detailed design stage post consent.
- Driving the Project team to consider good design opportunities throughout the design process.

4.3.5 This leadership role reflects Planning Inspectorate advice on ensuring design principles drive a structured process and hierarchy of design control.

5 Developing design principles

5.1 Preliminary Design Principles

5.1.1 The Preliminary Design Principles (PDPs) were established at Stage 4 to guide the development of the Project, to ensure that the Project Vision can be realised and that the Project delivers benefits and advantages to people, places, value, and the climate. The PDPs were subject to consultation during the Summer 2024 Consultation and were informed by, and had regard to, the National Infrastructure Commission's[3] (NIC) Design Principles for National Infrastructure [3] and the Water Resources ACWG Design Principles & User Guidance [4].

5.1.2 The PDPs embedded an approach to developing design which was both backward looking (i.e. reflecting established practice) and forward looking, reflecting the Project's design at the time of the Summer 2024 Consultation and informing the preliminary design for DCO submission. They served a specific purpose at that stage, and were not intended to be secured through the DCO to control detailed design; that function is fulfilled by the General and Site Specific Design Principles contained in the Design Principles Document (Document reference 5.11, DCO Volume 5).

5.1.3 The PDPs are set out in Table 5-1 which also identifies the relationship of each principle to the four broad themes of the NIC design principles [3] (climate, people, places and value). Structuring the PDPs around these themes enables the Applicant to demonstrate how regard has been had to the NIC's guidelines, as required in paragraph 14 of the guidance in Planning Act 2008: Pre-application stage for NSIPs [10], and provides a clear framework for evidencing design quality and intent.

Table 5-1: Preliminary Design Principles

Reference	Topic	Preliminary Design Principle	NIC theme(s)
Site Layout and Building Design			
PDP_1	Land use	Minimise land take, whilst ensuring sufficient space and access for efficient construction and operation, through route and site selection and optimising site layouts.	People Places
PDP_2	Sustainable resources and materials	Use resources sustainably across the project through strategies for natural resources and material (including material reuse on site in accordance with the waste hierarchy and use of sustainably sourced materials that meet technical requirements).	Climate Places Value
PDP_3	Siting and route selection	Adoption of avoidance criteria for route and site selection to avoid as far as feasible and technically possible, sensitive receptors and	Places

[3] The National Infrastructure Commission has been replaced by the National Infrastructure and Service Transformation Authority (NISTA)

Reference	Topic	Preliminary Design Principle	NIC theme(s)
		important designations (including residential areas, ancient woodland, national parks etc).	
PDP_4	Minimising noise and vibration impacts	Have regard to the most acceptable soundscape available, site permanent noise/vibration emitting sources away from sensitive receptors and introduce containment measures and screening where necessary.	People Places Value
PDP_5	Minimising carbon and emissions	Minimise carbon use and emissions throughout the project life cycle – including energy efficient and low carbon designs for buildings/new assets where feasible.	Climate Value
PDP_6	Sustainable water strategy	Maximise the sustainable use of water – including use of water-efficient fittings and rainwater harvesting systems to help reduce water consumption where feasible and appropriate.	Climate Places Value
PDP_7	Reinstatement and planning for future use	Development of a reinstatement strategy - including returning land used temporarily to its former use where appropriate and to not be left in a condition that may preclude potential future use, development or enhancement of the public realm.	People Place Value
PDP_8	Minimising light impacts	Minimise impacts from lighting on local amenity, dark landscapes, nature conservation and heritage locations (including impacts to the South Downs National Park Dark Skies Area and Chichester Harbour Area of Outstanding Natural Beauty).	Places
Environment			
PDP_9	Respecting local distinctiveness	Recognise and respect local landscape, heritage and recreational character and values and adopt a landscape-scale approach to design to maximise integration and wider environmental and social benefits beyond the boundary.	People Places Value
PDP_10	Environmental protection	Minimise impact on landscape, ecology, heritage and water environment (including groundwater and surface water) and seek to integrate permanent buildings into their landscape setting, with high quality design (and/or screening such as by natural features), materials and colour palette appropriate to context.	People Places Value
PDP_11	Retention of existing features	Existing landscape features within site boundaries will be retained where possible and beneficial and buffer zones may be	People Places

Reference	Topic	Preliminary Design Principle	NIC theme(s)
		provided. Existing vegetation should be retained and protected where reasonably practicable to retain visual continuity and ecological connectivity.	
PDP_12	Appropriate planting	New tree and shrub planting will use appropriate species in keeping with the landscape whilst sourcing responsibly and considering the impacts of climate change in determining the species.	Climate Places Value
PDP_13	Green infrastructure enhancement	Seek to enhance green infrastructure and nature networks, with landscape planting as shown on the environment/landscape masterplans and in accordance with a reinstatement strategy.	People Places Value
PDP_14	Enhance biodiversity	Contribute to and enhance the natural environment by providing net gains for biodiversity. Landscape design will be compliant with the Biodiversity Net Gain (BNG) strategy and seek to deliver the best outcomes for biodiversity.	Climate People Places Value
PDP_15	Construction methods	Utilisation of trenchless construction methods to avoid direct impacts on all main rivers (and locating compounds outside flood zones where possible).	Places
PDP_16	Environmental enhancement	Positively promote opportunities for project wide environmental enhancement and maximise multifunctionality to deliver Environmental Net Gain	Climate People Places Value
PDP_17	Climate resilience	Design for resilience to future climate change - allowing for future adaptation through the full life of the project	Climate
PDP_18	Sustainable drainage	Use of sustainable drainage strategies to ensure that post-development surface water run-off rates do not exceed existing rates. A hierarchical approach to drainage design will be implemented.	Climate Places Value
Safety, function and accessibility			
PDP_19	Operation and function	Ensuring delivery of the objectives of the project without significant operational constraint or reduction in function.	Value
PDP_20	Connectivity and active travel	Seek to connect to and extend walking, equestrian and cycling networks to increase access to the countryside. Include good quality walking, wheeling and cycle routes etc to enhance active transport provision.	People Value

Reference	Topic	Preliminary Design Principle	NIC theme(s)
PDP_21	Safety	Ensure that safety and security are overarching priorities embedded throughout design.	People Places
Consultation and engagement			
PDP_22	Engagement	Engage openly with local communities affected by the proposals and actively involve key stakeholders in design development.	People Value
PDP_23	Genuine consideration of feedback	Consider feedback carefully and respond meaningfully taking communities on the journey from inception to operation – to maximise benefits for local communities as far as possible.	People Value

5.1.4 The PDPs helped to embed and guide the good design of the Project by:

- Reflecting the criteria for good design as set out in the NPSWRI [1].
- Setting a foundation for the design principles that have been developed and included as part of the application (within the Design Principles Document (Document reference 5.11, DCO Volume 5)). These principles will act as the secured controlling mechanism for the detailed design of buildings, structures, pipelines and landscaping, and must be complied with under the DCO.
- Describing the primary mitigation that informed the assessment of the likely significant environmental effects in the EIA process.
- Designing commitments reflecting the comments and feedback from the pre-application process and ongoing engagement with stakeholders.

5.1.5 The PDPs informed the PEI Report[2] presented at the Summer 2024 Consultation and were appended to PEI Report Chapter 3 Description of the Proposed Development.

5.2 The Design Principles

5.2.1 The General and Site Specific Design Principles (together, the 'Design Principles') are set out in the Design Principles Document (Document reference 5.11, DCO Volume 5). These principles evolved from the PDPs during Stages 5 and 6.

5.2.2 General Design Principles are applicable to the entire Project whilst the Site Specific Design Principles are relevant to Project components (such as the WRP site).

5.2.3 The multidisciplinary team progressed the development of the Design Principles through a collaborative approach, involving iterative review and workshops. Feedback received through engagement with local authorities and Portsmouth Water (see section 5.4) was also taken into consideration as part of this progression.

5.2.4 Paragraph 2.5.17 of the NPSWRI [1] notes the Direct Procurement for Customers[4] (DPC) procurement method has been introduced for large scale water resources projects, which includes a third party competitively tendering for, amongst other things, the design of a project. This means that a number of details regarding the design of the Project will be reserved for subsequent determination. The EIA followed the 'Rochdale Envelope' approach which involves establishing maximum design parameters, enabling the ES to assess the worst case scenario. Where detailed design is not being fixed as part of the DCO, the secured Design Principles are used to codify elements of embedded mitigation that will avoid or reduce significant environmental effects.

5.2.5 The DCO will require (by a Requirement in Schedule 2 of the draft Development Consent Order (draft DCO) (Document reference 3.1, DCO Volume 3)) that the detailed design, must be constructed substantially in accordance with the Design Principles Document (Document reference 5.11, DCO Volume 5).

5.3 Environmental Assessment and associated mitigations

5.3.1 The Design Principles Document (Document reference 5.11, DCO Volume 5) is one of a suite of control documents which will secure the commitments identified through environmental assessments and that will be relied upon to deliver the Project in accordance with the outcomes of the environmental assessment, taking into account the mitigation and control measures identified.

5.3.2 ES Appendix 5.5 Commitments Register, Volume II (Document reference 6.2, DCO Volume 6) identifies the mechanism for securing each mitigation measure including those committed to through the Design Principles Document (Document reference 5.11, DCO Volume 5).

5.3.3 An Indicative Environmental Masterplan (Appendix C) was developed at the pre application stage to identify locations for potential enhancement measures that could deliver the greatest positive impacts for the environment, stakeholders and communities. This process included the identification of 'focus areas' predominantly around the AGP sites for the Project, except for in one area that explored opportunities around the River Itchen. In developing these focus areas, the Applicant sought to identify and consider local opportunities for delivering environmental enhancement and mitigation. The Indicative Environmental Masterplan is not a secured document and not all of the potential initiatives identified are included within the Project. It demonstrates, however, how potential opportunities for mitigation and enhancement were identified during scheme development.

5.4 Consultation and engagement

5.4.1 The PDPs were consulted on as part of the Summer 2024 Consultation. Information on the design process and the role of design principles was provided at page 19 of the Summer 2024 Consultation Brochure (see Appendix E.8,

[4] Direct procurement for customers (DPC) involves a water or wastewater company competitively tendering for services in relation to the delivery of certain major projects, resulting in the selection of a third-party competitively appointed provider (CAP) [17]

Summer 2024 Consultation Report, of the Consultation Report (Document reference 5.1, DCO Volume 5). In addition, the Summer 2024 Consultation Brochure set out key design considerations and opportunities for the WRP and AGPs.

5.4.2 When developing the General and Site Specific Design Principles following the Summer 2024 Consultation, the Applicant had regard to local authority feedback on the PDPs and design considerations.

5.4.3 Further, the Applicant engaged with local authorities and Portsmouth Water on draft versions of the design principles which were shared in April 2025, September 2025 and February 2026 for review and comment. Regard was given to the feedback provided in preparing updates to the design principles as evidenced in the relevant Statements of Common Ground (Document reference 5.8, DCO Volume 5).

5.5 Summary

5.5.1 The form, nature and messaging of the design principles has evolved throughout the pre-application process to reflect their purpose at each stage, the increasing maturity of the Project's development and in response to stakeholder feedback.

5.5.2 The Design Principles (see the Design Principles Document (Document reference 5.11, DCO Volume 5)) have been developed to provide a clear and enforceable framework for controlling the design and delivery of the Project. They secure key design outcomes and ensure that the Project is delivered in accordance with the findings of the environmental assessments, relevant policy, and the Project Vision. While the Design Principles allow for appropriate flexibility, they are intended to provide sufficient certainty at application stage and a robust basis for securing good design throughout Examination and post-consent stages.

6 Delivering 'good design'

6.1 Introduction

6.1.1 The Applicant's approach to design has been shaped by a commitment to deliver infrastructure that is resilient, functional, safe, integrated and which delivers tangible benefits (see section 4.2).

6.1.2 The Project has been guided by the principles of good design as articulated by the NIC, which have informed the strategic direction of the Project, and the detailed decisions made during site selection, route refinement, and stakeholder engagement and the Nationally Significant Infrastructure Projects: Advice on Good Design published by the Planning Inspectorate (which references the NIC principles). In addition, the Water Resources ACWG Design Principles & User Guidance [4], developed to apply NIC principles specifically to water resources infrastructure, has provided a practical framework for translating these principles into Project-specific decisions.

6.1.3 Section 6.2 sets out how the NIC's four themes (climate, people, places, and value) have been embedded through the decision making processes with the application of the PDPs. It demonstrates how the PDPs have been applied through scheme development for key components of the Project that are being consented as part of the DCO. Further, it demonstrates how good design opportunities have been considered in relation to existing landscape, historic character, landform and biodiversity as per NPSWRI [1] paragraph 3.6.3.

6.1.4 Section 6.3 sets out how the General Design Principles and Site Specific Design Principles (as contained in the Design Principles Document (Document reference 5.11, DCO Volume 5)) align with the four NIC themes. It demonstrates how the Project's detailed design will embody good design whilst having regard to the purpose of the infrastructure and its operational, safety and security requirements, in accordance with NPSWRI [1] paragraph 3.6.4.

6.2 Design approach for key Project components

6.2.1 The following sections summarise the scheme development undertaken for key Project components to map the relationship between specific Project decisions and the PDPs (and thereby NIC guidance). This is provided in the form of text and tables which together provide an account of how the Project has responded to national policy (including NPSWRI [1] paragraph 3.6.3), guidance and advice on good design.

6.2.2 A full, detailed account of the Project's scheme development is provided in the Scheme Development Report (Document reference 5.10, DCO Volume 5).

Water Recycling Plant

Defining the search area

6.2.3 To identify potential locations for the WRP site during Stage 2 of the scheme development, a search area extending 1.5km around Budds Farm WTW was established. This boundary was determined by incrementally expanding the search area radius by 500m to locate the nearest feasible sites. Proximity to Budds Farm WTW was a key consideration, as minimising the distance for transferring treated wastewater to the WRP site would reduce carbon emissions from pipeline construction and pumping. It would also limit the extent of land interests affected by the Project.

6.2.4 The search area also excluded areas of coastline susceptible to sea flooding and coastal erosion. These locations were considered unsuitable due to their lack of resilience to future climate change and their incompatibility with several policy tests. This exclusion reflects early consideration of climate, people, places and value in the approach to identifying a suitable WRP site.

Site selection

6.2.5 When identifying sites within the search area (at Stage 2), densely populated residential areas and land already developed for sensitive uses (such as private residences, care homes, hospitals, schools, universities, places of worship, burial grounds, holiday parks, and leisure parks) were excluded. Key transport infrastructure and utilities were also avoided to reduce disruption and ensure compatibility with existing land uses.

6.2.6 The identified sites within the search area were then assessed against a suite of environmental, planning and engineering criteria. The site that performed best against the criteria was identified as the preferred site for the WRP. The application of avoidance criteria and structured assessments demonstrate that the siting of the WRP was guided by a clear regard for people, places and value.

Co-location of the High Lift Pumping Station

6.2.7 Stage 2 additionally included a site selection exercise for the pumping station to transfer source water from the Havant Thicket Reservoir to Otterbourne WSW, at the time this was referred to as the High Lift Pumping Station (HLPS). The WRP site was identified as the preferred location for the HLPS, enabling co-location of infrastructure.

Documentation and ongoing review

6.2.8 Further reviews of the WRP site selection were undertaken at Stage 3, Stage 4 and Stage 5 to ensure earlier assumptions remained valid.

6.2.9 Changes to the output of the WRP at Stage 3 meant that a different minimum parcel size could be used. Therefore a review of the Stage 2 site selection work was undertaken. This did not change the outcomes of the Stage 2 site selection work.

6.2.10 At Stage 4, as a result of feedback received at the Summer 2022 Consultation on the selection of the WRP site, the Applicant undertook a review of the site selection process with the aim of ensuring that all reasonable alternative sites for the WRP had been considered and reviewed. The review process identified that the preferred WRP site initially identified at Stage 2 remained the best performing site against the criteria. Further information is contained in section 5.13 of the Scheme Development Report (Document reference 5.10, DCO Volume 5).

6.2.11 The review undertaken at Stage 5 was as a result of new findings from environmental surveys at the WRP site. A check was undertaken to verify whether the new environmental information resulted in the WRP site being viewed as less preferable. The check did not change the environmental reviews from previous stages of the WRP site selection. Further information is contained in section 6.13 of the Scheme Development Report (Document reference 5.10, DCO Volume 5).

6.2.12 These iterative reviews reinforce the Project's commitment to good design and demonstrate an evidence-led approach to infrastructure planning.

Good design

6.2.13 Table 6-1 sets out the design approach for the WRP site and the relationship with NIC themes, PDPs and associated outcomes/benefits.

Table 6-1: Water Recycling Plant site good design

Design Approach	NIC Theme(s)	Preliminary Design Principle(s)	Outcome/Benefit
Stage 2			
Prioritising proximity to Budds Farm WTW	Climate People Places Value	PDP_1 PDP_5	• Reduced emissions • Reduced land take and potential land interests
Exclusion of coastal areas vulnerable to flooding and erosion from search area	Climate People Places Value	PDP_3 PDP_10 PDP_17	• Ensures long-term resilience to climate change and alignment with policy tests
Avoidance of densely populated and sensitive land uses (e.g. homes, schools, hospitals, places of worship)	People Places Value	PDP_3 PDP_9 PDP_22	• Minimises disruption to communities and vulnerable groups • Protects amenity and wellbeing • Increased Project deliverability
Exclusion of burial grounds, holiday parks, hotels, retail and leisure parks	People Places	PDP_3 PDP_9	• Respects cultural sensitivities and recreational land uses, preserving local character and reducing visual, noise, and access impacts
Avoidance of key transport and utility infrastructure (e.g. railways, major roads, water, gas and electricity)	Value Climate	PDP_19	• Reduces risk of construction phase disruption • Protects strategic connectivity • Avoids costly mitigation or diversion measures • Prevents interference with critical national infrastructure • Ensures safety, continuity of service, and regulatory compliance
A structured, multi-stage assessment underpinned the site selection process, applying avoidance criteria across biodiversity, landscape, flood risk, land use, and wider environmental and planning designations. This sequential approach ensures that sites close to designated ecological sites, sensitive landscapes, and other significant environmental constraints were screened out early.	People Places Value	PDP_3	• Proactive consideration of community, land use, environmental and infrastructure sensitivities supports transparent and defensible decision-making. • Staged assessment process ensuring that choices actively minimised impacts on designated ecological sites, sensitive landscapes, and wider biodiversity interests, strengthening long-term operational resilience.
Colocation of HLPS with the WRP site to consolidate infrastructure within a policy compliant location, while avoiding alternative sites that would have resulted in woodland loss.	Climate Value Places	PDP_1 PDP_2 PDP_5 PDP_19	• Minimises construction footprint and operational impacts; builds on existing site suitability to streamline approvals. • Preserves carbon-sequestering habitats and supports climate resilience and wider environmental stewardship.
Stage 5			
Maximum building height of the WRP main process building increased from 13m to 14.5m due to the engineering requirements associated with providing a green/brown roof for habitat enhancement.	People Places Climate Value	PDP_9 PDP_10 PDP_12 PDP_14 PDP_16 PDP_19	• Provides landscape integration and reduces visual effects whilst balancing engineering requirements. • Ecological and climate enhancements provided by habitat enhancement; increasing biodiversity, contributing to carbon sequestration, and wider environmental gains.

Design Approach	NIC Theme(s)	Preliminary Design Principle(s)	Outcome/Benefit
Stage 6			
Inclusion of sustainable drainage systems (SuDS) as set out in the Sustainable Drainage Systems Strategy Appended to ES Appendix 19.1 Flood Risk Assessment, Volume II (Document reference 6.2, DCO Volume 6).	People Places Climate Value	PDP_10 PDP_17 PDP_18 PDP_21	• Ensures the Project does not result in an increase in rates or volumes of surface water runoff, or increase flood risk elsewhere.
Inclusion of a footpath and pedestrian crossing of Harts Farm Way to ensure workers at the WRP site can cross from the south side to the north side of Harts Farm Way.	People Value	PDP_20 PDP_21 PDP_22 PDP_23	• Ensures that workers can safely access the WRP site. • Responds to local authority feedback from Hampshire County Council and Havant Borough Council.
Environmental mitigation and enhancement proposals developed for submission, including: boundary reinforcement planting to screen views; enhancement of ecological corridors and reinforcing/protecting mature trees; green/brown roof for open mosaic habitat mitigation, biodiversity enhancement and reduce visual impacts; and provision of open mosaic habitat mitigation within areas of the site not in active use. See Design Principles WRP_15 to WRP_18 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Climate Value	PDP_9 PDP_10 PDP_11 PDP_12 PDP_13 PDP_14 PDP_16	• Provides landscape integration, enhances ecological corridors, reinforces/protects mature trees and reduces visual effects. • Provides open mosaic habitat mitigation and enhancement; increasing biodiversity, contributing to carbon sequestration, and wider environmental gains.
Design commitments developed for submission, including: The main process building architecture/aesthetics will have regard to local surroundings and amenity, and buildings, finishes and fencing (including materials and colours) will be context-appropriate whilst exploring innovative design. See Design Principles WRP_13 and WRP_14 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Value	PDP_9 PDP_10 PDP_19	• Guides the detailed design to respond to key views, locality and amenity. • Reinforces local character, strengthening place identity and reducing landscape and visual impacts.

Above Ground Plant

Identifying Above Ground Plant zones

6.2.14 At Stage 3, potential zones for AGP (which include Intermediate Pumping Stations (IPSs) and Break Pressure Tanks (BPTs)) along the Pipeline between the WRP site and Otterbourne WSW were informed by hydraulic modelling; further information is provided in the Scheme Development Report (Document reference 5.10, DCO Volume 5). The AGP zones were assessed by subject matter experts and elements listed at sections 4.1.2 and 4.1.3 against agreed criteria, resulting in the identification of preferred AGP zones.

6.2.15 This stage focused on defining broad areas suitable for siting AGP, with the exact locations to be determined once the pipeline route between the WRP site and Otterbourne WSW was refined. This approach and sequencing enabled good design to be embedded early, ensuring that pipeline alignment informed the siting of permanent above ground elements, rather than being constrained by them.

Identifying Above Ground Plant sites

6.2.16 At Stage 4, specific AGP sites were identified within the preferred zones. The process drew on feedback from the Summer 2022 Consultation, engagement with statutory bodies and stakeholders, and findings from environmental surveys and engineering investigations. Engineering priorities guided the initial identification of sites, with preference given to locations close to existing roads, on level ground, outside flood zones 2 and 3, clear of major utilities, and where existing vegetation could provide natural screening.

6.2.17 The sites were then tested against detailed sub-criteria to identify constraints. Where the evaluation identified constraints with the initial sites, where practicable, alternative sites were sought within the AGP zone or nearby, to avoid or reduce impacts. If no suitable alternatives were available, mitigation or design measures were considered to avoid and/or reduce constraints. This process was undertaken with regard to the siting criteria set out at 6.2.14 (as well as the pipeline hydraulics).

6.2.18 Stage 4 concluded with the identification of four AGP sites:

- Break Pressure Tank and Intermediate Pumping Station E (BPT/IPS-E)
- Intermediate Pumping Station F (IPS-F)
- Intermediate Pumping Station G (IPS-G)
- Break Pressure Tank K (BPT-K)

Good design

6.2.19 Tables 6.2-6.5 set out the design approach for the AGP sites listed at 6.2.18 and the relationship with NIC themes, PDPs and associated outcomes and benefits.

Table 6-2: Break Pressure Tank and Intermediate Pumping Station E good design

Design **approach**	NIC Theme(s)	**Preliminary Design Principle(s)**	Outcome**s and b**enefit**s**
Stage 4			
Site located at high topographic point due to hydraulic requirements, benefitting from existing access, proximity to existing built form and southern screening, helping to reduce historic environment and landscape and visual impacts. Alternatives at a lower elevation to the north offered less opportunity to integrate with established vegetation and built form to reduce such impacts.	People Climate Value Places	PDP_1 PDP_3 PDP_5 PDP_9 PDP_10 PDP_11 PDP_19	• Locating at a high point to reduce energy demand and therefore emissions through hydraulic system design • Existing access reduces new infrastructure and disruption during construction. • Existing vegetation provides visual screening. • Integrates with existing built environment. • Reduced landscape, visual and heritage impacts.
Draft Order Limits and the construction compound designed to provide suitable buffers from identified protected species.	Places	PDP_3 PDP_10 PDP_14	• Reduces indirect impacts during construction. • Protects sensitive habitats and species.
Stage 5			
Updated Department for Environment Food and Rural Affairs (Defra) security/emergency requirements led to increased AGP footprint and fencing; draft Limits of Deviation adjusted to avoid conflict with Portsmouth Water pipeline	People Value	PDP_19 PDP_21 PDP_22	• Ensures compliance with updated security/emergency requirements • Ensures delivery of safe infrastructure • Avoids infrastructure conflicts
Ecology surveys identified further protected species; amendments to draft Order Limits and draft Limits of Deviation and alternative pipeline route option included	Places	PDP_10 PDP_11	• Provides for species mitigation and route flexibility to reduce impacts on a mobile protected species.
Stage 6			
Inclusion of SuDS as set out in the Sustainable Drainage Systems Strategy Appended to ES Appendix 19.1 Flood Risk Assessment, Volume II (Document reference 6.2, DCO Volume 6).	People Places Climate Value	PDP_10 PDP_17 PDP_18 PDP_21	• Ensures the Project does not result in an increase in rates or volumes of surface water runoff, or increase flood risk elsewhere
Environmental mitigation and enhancement proposals developed for submission, including: A focus on embedding BPT/IPS-E sensitively into the landscape and delivering landform-based screening/planting; tree, shrub and targeted hedgerow-gap planting to reduce impacts on views; and chalk grassland habitat enhancement for biodiversity and supporting Portsdown Site of Special Scientific Interest (SSSI). See Design Principles BPT/IPS-E_3, BPT/IPS-E_7, BPT/IPS-E_11, BPT/IPS-E_12, BPT/IPS-E_14 and BPT/IPS-E_15 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Climate Value	PDP_9 PDP_10 PDP_12 PDP_13 PDP_14 PDP_16	• Collectively deliver an integrated site with reduced landscape and visual impact and stronger local character. • Maximises multifunctionality: provision of a locally important habitat (chalk grassland), enhances biodiversity, habitat connectivity, supports designated habitats and is a means of carbon sequestration.
Design commitments developed for submission, including: Detailed design will have regard to local surroundings and heritage, and buildings, finishes and fencing (including materials and colours) will be context-appropriate whilst exploring innovative design. See Design Principles BPT/IPS-E_2 and BPT/IPS-E_8 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Value	PDP_9 PDP_10 PDP_19	• Guides the detailed design to respond to key views, locality and historical environment. • Reinforces local character, strengthening place identity and reducing landscape and visual impacts.
Design commitments developed for submission, including: Commitments added for the detailed design stage (post consent) to consider providing green roofs and walls and consider placing interpretive information boards and a bench near BPT/IPS-E (see Design Principles BPT/IPS-E_4 and BPT/IPS-E_9 in the Design Principles Document (Document reference 5.11, DCO Volume 5)).	People Places Climate Value	PDP_9 PDP_10 PDP_13 PDP_14 PDP_16 PDP_20	• Provision of green roofs and walls would maximise landscape integration and multifunctionality, softening the roofline and visual impact in key views and enhance biodiversity. • Provision of interpretive information boards provides opportunity to both connect the local community with the Project and connect the Project with the landscape such as existing walking routes.

Table 6-3: Intermediate Pumping Station F good design

Design approach	NIC Theme(s)	Preliminary Design Principle(s)	Outcomes and benefits
Stage 4			
Site located south-east of AGP zone to avoid Welborne Garden Village land (allotments/recreation) and overhead power line, benefits from existing access	Places People Value	PDP_1 PDP_3 PDP_19	• Avoids conflict with planned community land use and utilities. • Existing access reduces new infrastructure and disruption during construction.
Original site considered to have reduced landscape and visual impacts compared to alternative locations. An adjacent copse of trees already provides existing visual screening within Forest of Bere Area of Special Landscape Quality, helping to screen views from future residents of Welborne Garden Village, and offering further potential for enhancement.	Places People Value	PDP_3 PDP_9 PDP_10 PDP_11 PDP_16 PDP_19	• Reduces landscape and visual impacts through utilising existing screening and design integration. • Maximises multifunctionality: existing screening provides an enhancement opportunity.
Stage 5			
Updated Defra security/emergency requirements led to increased AGP footprint and fencing; draft Order Limits amended to allow PRoW diversion	People Value	PDP_19 PDP_20 PDP_21	• Ensures compliance with updated security/emergency requirements. • Ensures delivery of safe infrastructure. • Maintains connectivity by diverting PRoW during construction and operation.
Stage 6			
Inclusion of SuDS as set out in the Sustainable Drainage Systems Strategy Appended to ES Appendix 19.1 Flood Risk Assessment, Volume II (Document reference 6.2, DCO Volume 6).	People Places Climate Value	PDP_10 PDP_17 PDP_18 PDP_21	• Ensures the Project does not result in an increase in rates or volumes of surface water runoff, or increase flood risk elsewhere.
Environmental mitigation and enhancement proposals developed for submission, including: northern woodland and scrub planting for landscape integration, biodiversity enhancement and protect views from the diverted PRoW; hedgerow enhancement; and woodland creation to the south-east. See Design Principles IPS-F_8 to IPS-F_10 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Climate Value	PDP_9 PDP_10 PDP_12 PDP_13 PDP_14 PDP_16 PDP_22 PDP_23	• Enhanced biodiversity, green infrastructure/habitat connectivity and landscape pattern, contributing to carbon sequestration and wider environmental gains. • Provides landscape integration and reduces visual effects, including for local PRoW users. • Addition of woodland creation to the south-east responds to local authority feedback (Fareham Borough Council).
Design commitments developed for submission, including: Detailed design will have regard to local surroundings and PRoW views, and buildings, finishes and fencing (including materials and colours) will be context-appropriate whilst exploring innovative design. See Design Principle IPS-F_7 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Value	PDP_9 PDP_10 PDP_19	• Guides the detailed design to respond to key views and locality. • Reinforces local character, strengthening place identity and reducing landscape and visual impacts.
Design commitments developed for submission, including: Commitment for the detailed design stage (post consent) to consider embedding the building into the existing hillside. See Design Principle IPS-F_6 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Value	PDP_9 PDP_10	• Embedding IPS-F would maximise landscape integration and reduce impact on views from residential areas within Welborne Garden Village.

Table 6-4: Intermediate Pumping Station G good design

Design approach	NIC Theme(s)	Preliminary Design Principle(s)	Outcomes and benefits
Stage 4			
Initial preferred site utilised existing vegetation for screening however the evaluation identified risk of displacing two existing businesses. AGP zones and sites were identified in the wider area. The IPS-G site is located 1km away from SDNP, benefits from proximity to existing industrial/farm buildings and access. It was selected above three alternatives situated between 20m and 650m away from the SDNP.	People Places Value	PDP_3 PDP_9 PDP_10 PDP_19	• Avoids socio-economic disruption (displacement of two existing businesses) • Integrates with existing built environment • Reduces landscape and visual impacts including to a National Park • Existing access reduces new infrastructure and disruption during construction.
Stage 5			
Updated Defra security/emergency requirements led to increased AGP footprint and fencing; draft Order Limits amended.	People Value	PDP_19 PDP_21	• Ensures compliance with updated security/emergency requirements • Ensures delivery of safe infrastructure
Alternative access point identified for use during construction as a result of feedback from the Summer 2024 Consultation and further investigations undertaken by the Applicant.	People Places Value	PDP_19 PDP_21 PDP_23	• Reduces traffic and transport impacts and disruption during construction • Provides a more suitable construction access
Stage 6			
Inclusion of SuDS as set out in the Sustainable Drainage Systems Strategy Appended to ES Appendix 19.1 Flood Risk Assessment, Volume II (Document reference 6.2, DCO Volume 6).	People Places Climate Value	PDP_10 PDP_17 PDP_18 PDP_21	• Ensures the Project does not result in an increase in rates or volumes of surface water runoff, or increase flood risk elsewhere
Environmental mitigation and enhancement proposals developed for submission, including: woodland and scrub planting for visual screening; tree and scrub planting for landscape integration and enhancement; woodland and scrub planting for habitat connectivity/biodiversity; and hedgerow and woodland enhancement/creation for connectivity/biodiversity and increase landscape pattern. See Design Principles IPS-G_6 to IPS-G_8 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Climate Value	PDP_9 PDP_10 PDP_12 PDP_13 PDP_14 PDP_16	• Enhanced biodiversity, green infrastructure/habitat connectivity and landscape pattern, contributing to carbon sequestration and wider environmental gains. • Provides landscape integration/enhancement and reduces visual effects.
Design commitments developed for submission, including: Detailed design will have regard to local surroundings and buildings, finishes and fencing (including materials and colours) will be context-appropriate whilst exploring innovative design. See Design Principle IPS-G_5 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Value	PDP_9 PDP_10 PDP_19	• Guides the detailed design to respond to locality. • Reinforces local character, strengthening place identity and reducing landscape and visual impacts.

Table 6-5: Break Pressure Tank K good design

Design approach	NIC Theme (s)	Preliminary Design Principle(s)	Outcomes and benefits
Stage 4			
Site identified which reduces visual prominence within the parkland landscape and benefits from existing screening	Places People	PDP_3 PDP_9 PDP_10 PDP_19	• Reduces landscape and visual impacts • Existing vegetation provides screening
Stage 5			
Updated Defra security/emergency requirements led to increased AGP footprint and fencing; draft Order Limits amended.	People Value	PDP_19 PDP_21	• Ensures compliance with updated security/emergency requirements • Ensures delivery of safe infrastructure
Alternative access point along Winchester Road identified for use during construction as a result of feedback from the community and Hampshire County Council at the Summer 2024 Consultation and further investigations undertaken by the Applicant. Alternative access route option from Winters Hill included within the design as a result of engagement with landowners.	People Places Value	PDP_19 PDP_21 PDP_22 PDP_23	• Reduces traffic and transport impacts and disruption during construction • Provides a more suitable construction access • Flexibility included in the design to reduce traffic and transport impacts and disruption during operation
Stage 6			
Further investigations undertaken by the Applicant confirmed the alternative access route option from Winters Hill (which utilises existing gaps in vegetation) could be utilised during operation. The draft Order Limits were amended to remove the initial proposed operational access.	People Places Value	PDP_10 PDP_19 PDP_21 PDP_22 PDP_23	• Existing access reduces new infrastructure and disruption • Provides a more suitable operation access • Utilises existing gaps in vegetation
Inclusion of SuDS as set out in the Sustainable Drainage Systems Strategy Appended to ES Appendix 19.1 Flood Risk Assessment, Volume II (Document reference 6.2, DCO Volume 6).	People Places Climate Value	PDP_10 PDP_17 PDP_18 PDP_21	• Ensures the Project does not result in an increase in rates or volumes of surface water runoff, or increase flood risk elsewhere
Environmental mitigation and enhancement proposals developed for submission, including: woodland reinstatement/widening to screen SDNP and residential views, enhance habitat connectivity and integrate with the existing historic landscape; grassland enhancement with scattered trees to screen views and enhance biodiversity; and woodland enhancement to increase biodiversity, green infrastructure connectivity and landscape pattern. See Design Principles BPT-K_8 to BPT-K_11 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Climate Value	PDP_9 PDP_10 PDP_12 PDP_13 PDP_14 PDP_16	• Enhanced habitats and biodiversity, green infrastructure/habitat connectivity and landscape pattern, contributing to carbon sequestration and wider environmental gains. • Integration with the landscape and historic environment and reduces visual effects, including to SDNP and residences.
Design commitments developed for submission, including: Embedding BPT-K sensitively into the existing hillside to reduce impacts on residential views, and detailed design will have regard to local surroundings and buildings, finishes and fencing (including materials and colours) will be context-appropriate whilst exploring innovative design. See Design Principles BPT-K_6 and BPT-K_7 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Value	PDP_9 PDP_10 PDP_19	• Collectively deliver an integrated site with reduced landscape and visual impact and stronger local character.
Design commitments developed for submission, including: Commitment for the detailed design stage (post consent) to consider incorporating a green roof and consider adopting appropriate measures on the northern facades having regard to sensitive views from the SDNP to the north. See Design Principles BPT-K_6 and BPT-K_7 in the Design Principles Document (Document reference 5.11, DCO Volume 5).	People Places Climate Value	PDP_9 PDP_10 PDP_12 PDP_13 PDP_14 PDP_16	• Provision of a green roof and measures on the northern facades would maximise landscape integration and multifunctionality, reducing visual impact in key views, enhancing biodiversity and is a means of carbon sequestration.

All pipelines

6.2.20 The detail of the evolution of all pipelines (Pipelines between Budds Farm WTW and the WRP site, Pipelines between the WRP site and Bedhampton Springs and the Pipeline between the WRP site and Otterbourne WSW) is contained in the Scheme Development Report (Document reference 5.10, DCO Volume 5). The pipelines have been developed through a comprehensive scheme development process. As such, Table 6-6 highlights key examples of good design from Stage 2, when the initial pipeline routes were identified, to Stage 6.

Table 6-6: Pipelines good design

Location / Scheme development description	Design approach	NIC theme(s)	Preliminary Design Principle(s)	Outcome / benefit
Stage 2				
Initial Havant Thicket Reservoir and WRP site to Otterbourne WSW Pipeline	Selection of pipeline options that reduced intersections with the South Downs National Park. Selection of pipeline options that avoided areas of ancient woodland. Retaining options that provide flexibility for design development at later stages to avoid or reduce impacts on the environment, including watercourses and areas of ancient woodland.	Places Value	PDP_3 PDP_9 PDP_10 PDP_11 PDP_19	• Reduced impact on the SDNP and ancient woodland. • Balanced approach to environmental and engineering considerations.
Initial WRP site to Havant Thicket Reservoir Pipelines	Retaining flexibility for the transfer between the WRP site and Havant Thicket Reservoir to develop construction techniques at later stages to avoid or reduce impacts on the local community, ancient woodland and heritage assets.	People Places Value	PDP_3 PDP_9 PDP_10 PDP_11 PDP_19	• Reduced impact on local communities, ancient woodland and historic environment. • Balanced approach to environmental and engineering considerations.
Stage 3				
Identifying pipeline corridors	Expanding initial pipeline routes into wider corridors to allow micro-siting around localised constraints.	Places	PDP_3 PDP_10 PDP_11	• Provides flexibility to refine the final alignment while maintaining environmental protection
Alternative corridors	Through the review of pipeline corridor sections, alternative corridor sections were identified to avoid or reduce intersections with environmental receptors, if there were alternative options in the area.	Places	PDP_3 PDP_10 PDP_11 PDP_19	• Reduced impact on the environment. • Balanced approach to environmental and engineering considerations.
Preferred pipeline corridor selection	A preferred pipeline corridor was selected to be outside of the South Downs National Park if possible. Part of corridor Z was located within the national park, however optionality was retained to provide an option to avoid the national park subject to further investigations and design of the River Itchen crossing.	Places Value	PDP_3 PDP_15 PDP_19	• Reduced impact on the SDNP. • Balanced approach to environmental and engineering considerations.
Preferred pipeline corridor selection	Selection of the preferred pipeline corridor sought to reduce topographic changes, and therefore the amount of permanent above ground plant that would be required to transfer water along the pipeline.	People Places Climate Value	PDP_1 PDP_5 PDP_10 PDP_19	• Reduced permanent impacts. Balances engineering efficiency with environmental protection and planning sensitivity.
Preferred pipeline corridor selection	Selection of tunnelled construction in sections O and P to avoid constructability challenges and above ground construction activity, particularly in areas that would be in close proximity to residential properties in a densely populated urban area.	People Places Value	PDP_3 PDP_15 PDP_19	• Reduced impacts to densely populated area. • Maintains engineering efficiency and deliverability.
Preferred pipeline corridor selection	The southern section of corridor R was not progressed as locating a pipeline in this area could result in landscape and heritage impacts, associated with Scheduled Monuments on the ridge of Portsdown Hill.	Places Value	PDP_9 PDP_10	• Reduced impacts to the existing landscape and sensitive heritage assets
Stage 4				
Sections A and B	Progressing the Pipelines between the WRP site and Bedhampton Springs to then connect into Portsmouth Water's approved pipelines to Havant Thicket Reservoir.	Value Places People	PDP_2 PDP_5 PDP_19	• Minimises construction impacts and demonstrates efficient partnership working
Sections A and B	Retaining and developing the tunnelled back up option between the WRP site and Havant Thicket Reservoir until Portsmouth Water's pipelines were approved	Places	PDP_3 PDP_10 PDP_19	• Maintains project resilience while avoiding premature commitment to higher-impact construction

Location / Scheme development description	Design approach	NIC theme(s)	Preliminary Design Principle(s)	Outcome / benefit
Sections A and B	Trenchless construction under A27 and Mill Lane, then above-ground construction within Source Protection Zone (SPZ) at Bedhampton Springs	Places	PDP_10 PDP_11	• Reduces vegetation loss, avoids surface impacts, protects groundwater abstraction
Sections A and B	Designing draft Order Limits to provide flexibility within the Bedhampton Springs site to ensure the pipeline could be located alongside the existing infrastructure that forms part of the operational site.	Places	PDP_1 PDP_19	• Ensures deliverability and allows refinement during detailed design
Section C	Trenchless construction to avoid open-cut works across Hermitage Stream and Harts Farm Way	Places	PDP_10 PDP_15	• Avoids direct impacts on the stream, protects water quality, reduces traffic disruption
Section C	Widening the potential pipeline area due to evolving WRP design	Value	PDP_1 PDP_3 PDP_19	• Ensures the pipeline can connect efficiently to final WRP layout and accommodates design evolution
Section D	Tunnelling instead of open-cut to avoid major disruption to roads and residential areas between WRP and Portsdown Hill	People Places	PDP_3 PDP_4 PDP_21	• Minimises traffic, noise, and amenity impacts, protects communities
Section D	Locating the reception shaft at a higher elevation, close to the AGP	Climate	PDP_2 PDP_5	• Reduces pumping requirements and improves system efficiency
Section E	Cropping the pipeline section to maintain a buffer from the Palmerston Forts at the ridge of Portsdown Hill	Places	PDP_3 PDP_9 PDP_12	• Protects nationally important heritage assets and avoids direct setting impacts.
Section F	Avoiding routing through Welborne Garden Village development due to construction programme overlap, proximity to new homes, and limited mitigation potential	People Places	PDP_3 PDP_4	• Reduces impacts on new residential areas, avoids conflict with major allocated development,
Section F	Using trenchless construction to cross River Wallington and avoid floodplain habitat	Places Climate	PDP_10 PDP_15 PDP_17	• Protects water quality, reduces flood risk, reduces habitat loss
Section G	Selection of Eastern Alternative Route 2 as the preferred option to avoid dog walking and wedding businesses and reduce disruption to Wickham Festival land.	People Value	PDP_3 PDP_4	• Minimises socio-economic impacts and avoids affecting local businesses and events
Sections F and G	Selecting routes with fewer intersections with Roman roads to reduce archaeological risk	Places	PDP_3 PDP_11	• Minimises potential impacts on heritage assets.
Section H	Using trenchless construction to avoid road closures on Winchester Road A334	People	PDP_4 PDP_22	• Maintains connectivity between Wickham and Waltham Chase
Section H	Using trenchless construction to avoid woodland and vegetation around St Anne's Lane	Places Climate	PDP_10 PDP_11	• Protects woodland habitats and reduces vegetation loss
Section J	Identifying an alternative route because the initial route passed within 15m of a residential property at Sandy Lane, risking access restriction and encroachment	People Places	PDP_3 PDP_4 PDP_10	• Minimises noise, vibration, and visual effects
Section J	Widening draft Order Limits around Curdridge and Little Bull Lanes to allow micro-siting around dense tree lines and protected species	Places	PDP_3 PDP_10	• Allows refinement during detailed design to avoid habitat loss
Section J	Using trenchless construction to cross the River Hamble and Botley Road and positioning associated construction compounds outside flood zones and floodplain habitat as far as practicable.	People Places Value	PDP_9 PDP_10 PDP_15 PDP_21	• Delivers a safe resilient construction process which reduces impacts to the River Hamble and its habitats and the Botley Road and its users
Section K	Avoiding crossing the Esso Southampton to London Pipeline Project at Winters Hill Road where they are deeper than standard	Places Value	PDP_3 PDP_19 PDP_21	• Ensures compliance with Esso safety buffers and reduces risk of infrastructure conflict

Location / Scheme development description	Design approach	NIC theme(s)	Preliminary Design Principle(s)	Outcome / benefit
Section K	Using trenchless crossing under Winters Hill and tree lines; reducing working width to 20m at northern boundary	Places	PDP_10 PDP_11	• Protects mature trees and parkland character
Section L	Using trenchless construction to cross Bow Lake, which is hydrologically linked to the River Itchen Special Area of Conservation (SAC)/SSSI	Places Climate	PDP_10 PDP_15	• Protects designated habitats and reduces flood risk
Section L	Designing trenchless crossing under Winchester Road (B3354) to avoid harm to a potentially nationally significant medieval fishpond complex	Places	PDP_9 PDP_10 PDP_11	• Reduces risk to heritage features associated with Marwell Park
Section L	Applying a 15 m buffer from ancient woodland north of Crowdhill when defining draft Order Limits	Places	PDP_10 PDP_11	• Protects irreplaceable habitats in line with Natural England guidance
Section M	Selecting the southern route because it avoids the high-risk SPZ1 aquifer that supports the River Itchen SAC/SSSI, while avoiding the South Downs National Park, and increasing separation from residential properties	Places People	PDP_3 PDP_4 PDP_10	• Reduces consenting risk, protects landscape, and minimises amenity impacts
Section M	Using trenchless construction beneath the River Itchen to avoid direct impacts on the SAC/SSSI	Climate Places	PDP_10	• Protects water quality, geomorphology, sensitive species (e.g. otter) and designated sites.
Section M	Widening draft Order Limits and reducing working width to 20 m due to tree lines flanking Kiln Lane	Places	PDP_10 PDP_11	• Allows micro-siting to avoid tree loss and maintain landscape character
Stage 5				
Design Refinement 1 – Budds Farm WTW	Pumping station at Budds Farm WTW located close to the WRP site and wastewater connection point.	People Places Climate Value	PDP_1 PDP_3 PDP_5	• Minimises land take and construction impacts through careful siting. • Reduces carbon emissions through shorter connection route. • Enhances compatibility with surrounding infrastructure and landscape.
Design Refinement 7 – Pigeon House Farm	As a result of engagement with the Ministry of Defence, Historic England and local authorities, the draft Order Limits and draft Limits of Deviation for Pipeline were reduced to avoid a World War II aircraft crash site and incorporate a sufficient buffer.	Places	PDP_9 PDP_22	• Respects local distinctiveness through avoidance of heritage asset.
Design Refinement 8 – Construction Compound E-6b	Adjusting construction compound layout to avoid and protect trees and scrub whilst achieving construction requirements.	Places Climate	PDP_10 PDP_19	• Minimises biodiversity impacts. • Preserves carbon sequestering habitats. • Ensures Project deliverability.
Design Refinement 11 – West of Crockerhill Farm	Altering the draft Order Limits to avoid a protected species identified through further ecological surveys.	Places	PDP_10 PDP_14	• Protects sensitive species and habitats through responsive design.
Design Refinement 12 – Hoad's Hill and Castle Farm Lane	As a result of engineering design development, reducing the draft Order Limits adjacent to a construction compound to remove land previously required for flexibility purposes.	People Places	PDP_1	• Minimises land take and construction impacts through careful siting.
Design Refinement 13 – Wickham Park Golf Club and River Meon	Amending the draft Order Limits in response to engagement with the golf club, including adding a second trenchless crossing option for the River Meon to maintain flexibility to reduce impacts on the operation of the golf club and its users.	People Places	PDP_1 PDP_2 PDP_10 PDP_22	• Reduces impacts on the operation of Wickham Park Golf Club and recreational users. • Maintaining protection of the River Meon while providing flexibility to safeguard the golf club.
Design Refinement 17 – Sandy Lane and Woodmans Farm	To have regard to Summer 2024 Consultation feedback, amending the draft Order Limits to align with field boundaries as far as reasonably practicable to reduce impacts on existing	People Places Value	PDP_3 PDP_23	• Reduces disruption to existing businesses • Protects amenity and wellbeing

Location / Scheme development description	Design approach	NIC theme(s)	Preliminary Design Principle(s)	Outcome / benefit
	equine businesses and agricultural land, whilst maintaining avoidance of residential and commercial properties.			
Design Refinement 18 – The River Hamble and Ford Farm	Following further ecological surveys and Summer 2024 Consultation feedback, the design was amended to avoid veteran trees, reduce vegetation loss and reduce interface with an existing business.	Places Climate Value	PDP_3 PDP_10 PDP_11 PDP_23	• Reduces disruption to existing businesses • Protects high value trees
Design Refinement 22 – Construction Compound L-1	Following further ecological surveys and Summer 2024 Consultation feedback, the construction compound layout and draft Order Limits were amended to reduce impacts on an existing equine business and avoid a veteran tree.	People Places Value	PDP_3 PDP_10 PDP_11 PDP_23	• Reduces disruption to existing businesses • Protects high value trees
Stage 6				
Design Refinement 1 continued – Budds Farm WTW	Amending the draft Order Limits to reduce overlap with a Solent Wader and Brent Goose strategy site and existing vegetation.	Places Climate	PDP_1 PDP_3 PDP_10	• Reduces land take. • Protects sensitive birds. Maintains landscape character and ecological integrity.
Design Refinement 22 continued – Construction Compound L-1	To have regard to Spring 2025 Consultation feedback, the shape of the construction compound and draft Order Limits were further amended to reduce impacts on an existing agricultural business / land use.	People Value	PDP_23	• Reduces disruption to existing businesses.
Design Refinement 26 – Wickham Meadows Site of Importance for Nature Conservation (SINC)	Following Spring 2025 Consultation feedback from Winchester City Council (WCC), the draft Order Limits were amended to avoid the SINC.	Places	PDP_3 PDP_10 PDP_23	• Provides protection to a SINC and associated biodiversity.
Design Refinement 27 – Barley Mow / Pricketts Hill	Following landowner engagement, the draft Order Limits were widened to provide additional flexibility for the pipeline to be sited at the detailed design stage to reduce landowner impacts.	People	PDP_22	• Provides flexibility to reduce landowner impacts.
Environmental mitigation and enhancement proposals developed for submission, including for example: habitat creation to mitigate vegetation loss; enhancement and/or reinstatement of grassland / trees / woodland; landscape enhancement and/or reinstatement; and provision of protected species mitigation. See the Design Principles Document (Document reference 5.11, DCO Volume 5) for further information.		People Places Climate Value	PDP_9 PDP_10 PDP_12 PDP_13 PDP_14 PDP_16	• Reduces and mitigates environmental impacts. • Enhanced biodiversity, green infrastructure/habitat connectivity and landscape pattern, contributing to carbon sequestration and wider environmental gains.

6.3 Alignment of the Design Principles with NIC guidance

6.3.1 Table 6-7 sets out how the Design Principles within the Design Principles Document (Document reference 5.11, DCO Volume 5) align with NIC guidance. It also demonstrates the Applicant's commitment to ensure that the Project's detailed design will embody good design (with regard to existing landscape and historic character and integration of biodiversity) whilst considering the Project's overall purpose and operational, safety and security requirements in accordance with NPSWRI [1] paragraph 3.6.4.

Table 6-7: Alignment of the Design Principles with NIC guidance

Design Principle	Title	NIC theme(s)	Relationship
General Design Principles			
GDP_1	Building integration	People Places Value	Guides the detailed design to integrate with the landscape and deliver high quality design, balancing operational needs with the local context and amenity.
GDP_2	Areas of significant archaeological remains	Places	Protects heritage assets and reduces harm to cultural value.
GDP_3	Historic parkland	Places	Reduces disturbance to historic landscapes, preserving distinctiveness and amenity.
GDP_4	Sustainable resources and materials	Climate Value	Embeds circular economy, reduces waste and carbon emissions, optimises lifecycle loss.
GDP_5	Sustainable water strategy	Climate	Guides the detailed design to consider reducing water consumption at the WRP site and AGPs
GDP_6	Minimising light impacts	Places People Climate	Protects dark skies, amenity, biodiversity, and heritage from lighting impacts. Reduces energy consumption.
GDP_7	Car parking	Places People	Reduces visual intrusion, protecting amenity and residential views.
GDP_8	Permeable surfaces	Climate Value	Manages surface water runoff and pollution risk, supports resilience and environmental protection.
GDP_9	Landscape-scale approach	Places People Value	Extends design beyond site boundaries, maximising landscape integration.
GDP_10	Environmental protection	People Places Climate	Minimises impacts on landscape, ecology, heritage, and water environment.
GDP_11	Retention of existing landscape features, wildlife corridors and vegetation	Places Climate	Maintains ecological connectivity and visual continuity.
GDP_12	Respecting local distinctiveness and biodiversity	Places People	Respects local landscape, heritage, recreation, and biodiversity, reinforcing identity and community values.

Design Principle	Title	NIC theme(s)	Relationship
GDP_13	Landscape reinstatement planting	Climate Places	Restores vegetation and habitats post-construction.
GDP_14	Climate resilience	People Climate Value	Designs assets for future climate conditions, securing the longevity of the infrastructure.
GDP_15	Embodied carbon emissions	Climate Value	Reduces lifecycle carbon through design, providing environmental and social value.
GDP_16	Statutory and non-statutory designated ecological sites	Climate Places	Protects statutory and non-statutory ecological sites.
GDP_17	Badger mitigation	Places	Protects species under licence, maintaining ecological integrity.
GDP_18	Operation and function	Value	Ensures reliable delivery of the Project.
GDP_19	Safety, security and emergency	People Value	Embeds safety, security and emergency preparedness within the design.
GDP_20	Ground gas protection measures	People Places Climate Value	Ensures safe design, protecting environment, people and the infrastructure itself.
Water Recycling Plant site			
WRP_1	Hazardous waste minimisation	People Places Climate Value	Reduces hazardous waste generation, protecting environment, people and lowering costs.
WRP_2	Hermitage Stream	Places Climate Value	Guides the detailed design to minimise disturbance and enhance habitats.
WRP_3	Reducing noise and vibration impacts	People Places	Protects communities and amenity from operational disturbance from noise and vibration.
WRP_4	Ground gas protection measures	People Places	Ensures the WRP site is safe for users and workers while contributing to a compliant site that safeguards future operations.
WRP_5	Inclusivity and accessibility	People	Supports inclusive and safe movement for all users.
WRP_6	Access positioning	Places People	Maintains a safe access and reduces vegetation loss.
WRP_7	Maximum width of the permanent vehicle access	Places People	Meets safety and functional needs without compromising landscape quality.
WRP_8	Maximum combined width of the shared use surface and safety margin	Places People	Maintains a well-proportioned shared-use path that meets user and safety needs without compromising landscape quality.

Design Principle	Title	NIC theme(s)	Relationship
WRP_9 WRP_10 WRP_11 WRP_12	*Various – building heights and extents*	Places People Value	Controls scale/massing to reduce landscape and visual impact and control land take, balancing operational needs with amenity.
WRP_13	Landscape integration	People Places Value	Guides the detailed design to respond to key views and amenity.
WRP_14	Buildings, finishes, and fencing	People Places Value	Reinforces local character with appropriate design of buildings, finishes, fencing, materials and colours, strengthening place identity and reducing landscape and visual impacts.
WRP_15 WRP_16	*Various* – Environmental mitigation: Boundary planting reinforcement	People Places Climate Value	Reinforces and enhances screening and ecological corridors, addressing visual impacts and ecological connectivity.
WRP_17	Environmental mitigation: Green/brown roof	People Places Climate Value	Provides habitat and visual mitigation, biodiversity enhancement and climate benefits. Secures that the extent of the green/brown roof will cover as large an area as reasonably practicable to deliver the most benefits.
WRP_18	Environmental mitigation: Provision of open mosaic habitat	Climate Places Value	Guides the detailed design to create habitat on unused land, delivering biodiversity and environmental gain, adding value beyond core function.
WRP_19	Environmental mitigation: Shared use surface safety margins	Places People	Guides the detailed design to consider enhancing the character of the route and the experience of those using it, strengthening the quality and functionality of the place while supporting use comfort and safety.
Break Pressure Tank/Intermediate Pumping Station E			
BPT/IPS-E_1	BPT/IPS-E Design Principles Plan	People Places	Ensures that various parameters for the built form of BPT/IPS-E are secured including the location of the BPT/IPS-E footprint, construction compounds and environmental mitigation and enhancement.
BPT/IPS-E_2	Landscape integration	Places Value	Ensures the scale, density and layout of the design is sensitive to the surrounding landscape and heritage.
BPT/IPS-E_3	Screening landform to the north and east	People Places	Creation of a screening landform to reduce landscape, visual and amenity impact.
BPT/IPS-E_4	Interpretive information boards	People Places Value	Adds educational/recreational value, connecting infrastructure to local identity, adding value beyond core function.

Design Principle	Title	NIC theme(s)	Relationship
BPT/IPS-E_5	Reducing noise and vibration impacts	People Places	Protects communities and amenity from operational disturbance from noise and vibration.
BPT/IPS-E_6	Maximum footprint of BPT/IPS-E	People Places	Controls site scale to reduce landscape/visual impact and control land take while ensuring efficient operational layout.
BPT/IPS-E_7	Maximum building / structure height	People Places Value	Controls building/structure height and embeds structures into hillside to minimise visual intrusion, balancing operational needs with landscape sensitivity.
BPT/IPS-E_8	Building, finishes and fencing	People Places Value	Reinforces local character with appropriate design of buildings, finishes, fencing, materials and colours, strengthening place identity and reducing landscape and visual impacts.
BPT/IPS-E_9	Green roofs/walls	People Climate Places Value	Guides the detailed design to enhance biodiversity and reduce visual impact, delivering ecological and amenity benefits.
BPT/IPS-E_10	Swift boxes	People Climate Value	Supports species conservation, demonstrating ecological responsibility.
BPT/IPS-E_11	Environmental mitigation: Trees and shrubs west of BPT/IPS-E	People Places Climate Value	Screens views, enhances ecological connectivity and local landscape character.
BPT/IPS-E_12	Environmental mitigation: Landform planting	Places Climate	Integrates new landform (BPT/IPS-E_2) with native planting, blending with historic landscape and preserving views.
BPT/IPS-E_13	Environmental mitigation: Chalk grassland habitat	Climate Places Value	Habitat creation supporting Portsdown SSSI, embedding resilience and ecological value.
BPT/IPS-E_14	Environmental mitigation: Hedgerow gaps	Places Climate	Screens views from Fort Widley, strengthens habitat connectivity, and reinforces landscape character.
Intermediate Pumping Station F			
IPS-F_1	IPS-F Design Principles Plan	People Places	Ensures that various parameters for the built form of IPS-F are secured including the location of the IPS-F footprint, construction compounds and environmental mitigation and enhancement.
IPS-F_2	Welborne Garden Village	People Places Value	Separates infrastructure from planned residential development, delivers planting, and seeks collaboration on environmental enhancement with the development.

Design Principle	Title	NIC theme(s)	Relationship
IPS-F_3	PRoW diversion and enhancements	People Places Value	Ensures appropriate, accessible PRoW diversion, amenity planting, and habitat connectivity, balancing community benefit with operational delivery.
IPS-F_4	Reducing noise and vibration impacts	People Places	Protects communities and amenity from operational disturbance from noise and vibration.
IPS-F_5	Maximum footprint of IPS-F	People Places	Controls site scale to reduce landscape/visual impact and control land take while ensuring efficient operational layout
IPS-F_6	Maximum building height	People Places Value	Controls building height and guides the design to be embedded into the hillside to minimise visual intrusion, balancing operational needs with landscape sensitivity
IPS-F_7	Buildings, finishes and fencing	People Places Value	Reinforces local character with appropriate design of buildings, finishes, fencing, materials and colours, strengthening place identity and reducing landscape and visual impacts.
IPS-F_8 IPS-F_9 IPS-F_10	Environmental mitigation: Woodland and scrub Environmental mitigation: Hedgerow enhancement Environmental mitigation: Southeastern Woodland	People Places Climate Value	Provides woodland, scrub and hedgerow habitat, enhancing biodiversity and landscape integration.
Intermediate Pumping Station G			
IPS-G_1	IPS-G Design Principles Plan	People Places	Ensures that various parameters for the built form of IPS-G are secured including the location of the IPS-G footprint, construction compounds and environmental mitigation and enhancement.
IPS-G_2	Reducing noise and vibration impacts	People Places	Protects communities and amenity from operational disturbance from noise and vibration.
IPS-G_3	Maximum footprint of IPS-G	Value Places	Controls site scale to reduce landscape/visual impact and control land take while ensuring efficient operational layout
IPS-G_4	Maximum building height	People Places	Controls building height and maintains operational function.
IPS-G_5	Buildings, finishes and fencing	People Places Value	Reinforces local character with appropriate design of buildings, finishes, fencing, materials and colours, strengthening place

Design Principle	Title	NIC theme(s)	Relationship
			identity and reducing landscape and visual impacts.
IPS-G_6 IPS-G_7 IPS-G_8	Environmental mitigation: Northern and eastern visual screening Environmental mitigation: Western woodland and scrub Environmental mitigation: Hedgerow	People Places Climate Value	Provides landscape integration planting (woodland, scrub and hedgerow) to reduce visual impacts and enhance biodiversity corridors, supporting ecological resilience.
Break Pressure Tank K			
BPT-K_1	BPT-K Design Principles Plan	People Places	Ensures that various parameters for the built form of BPT-K are secured including the location of the BPT-K footprint, construction compounds and environmental mitigation and enhancement.
BPT-K_2	Reducing noise and vibration impacts	People Places	Protects communities and amenity from operational disturbance from noise and vibration.
BPT-K_3	Habitat mitigation	Places Climate	Ensures the detailed design reduces loss of mature trees.
BPT-K_4	Landowner access	People	Ensures the detailed design provides landowner access.
BPT-K_5	Maximum footprint of BPT-K	People Places	Controls site scale to reduce landscape/visual impact and control land take while ensuring efficient operational layout
BPT-K_6	Maximum building height	People Places Value	Controls building/structure height and embeds structures into hillside to minimise visual intrusion, balancing operational needs with landscape sensitivity.
BPT-K_7	Buildings, finishes, and fencing	People Places Value	Reinforces local character with appropriate design of buildings, finishes, fencing, materials and colours, strengthening place identity and reducing landscape and visual impacts.
BPT-K_8	Environmental mitigation: Northern woodland screening	People Places Climate Value	Restores and enhances woodland habitat to provide screening from the SDNP and residencies, landscape integration and enhance habitat connectivity.
BPT-K_9	Environmental mitigation: Parkland	People Places Climate Value	Enhances existing grassland, reflecting the historic landscape character and parkland habitat, enhancing biodiversity.
BPT-K_10	Environmental mitigation: Habitat enhancement	Climate Places	Protects and enhances woodland/treelines, increasing biodiversity and ecological

Design Principle	Title	NIC theme(s)	Relationship
		Value	connectivity while reinforcing historic landscape character.
BPT-K_11	Environmental mitigation: Grassland	Places Climate Value	Guides the detailed design to create habitat on unused land to reduce visual impact and enhance biodiversity.
Budds Farm Wastewater Treatment Works			
BFWTW_1	Maximum footprint of BFWTW pumping station	People Places	Controls site scale to reduce landscape/visual impact and control land take while ensuring efficient operational layout
BFWTW_2	Maximum building height	People Places	Controls building height and maintains operational function.
BFWTW_3	Bird and Solent Wader and Brent Goose Strategy (SWBGS) mitigation	Climate Places	Protects birds (particularly Solent Waders and Brent Geese), avoids barriers between feeding/roosting grounds. Maintains landscape character and ecological integrity of designated sites.
BFWTW_4	SWBGS mitigation	Places Climate	Prevents disturbance to sensitive bird species and reduced light pollution.
BFWTW_5	Habitat mitigation	Climate Places Value	Seeks to retain Habitats of Principal Importance and sets out the approach to create new habitats where loss occurs, reducing biodiversity impacts.
Pipelines			
PL_1	Pipeline reinstatement	Places Climate Value	Prevents preferential subsurface flows, protects groundwater and reduces long-term environmental risk and remediation costs.
PL_2	Minimum pipeline depths	Places Value	Ensures safe installation of pipelines, reducing future maintenance and environmental risk.
PL_3	Groundwater pipeline mitigation	Places	Controls scale to balance operational efficiency with land use optimisation
PL_4	Groundwater resources	People Climate Value	Protects sensitive groundwater, reducing contamination risk and ensuring long-term resilience of water resources.
PL_5 PL_6	*Various:* Maximum diameter of pipelines	Places	Controls scale to balance operational efficiency with land use optimisation
PL_7	Maximum height above ground of Pipelines between the WRP site and Bedhampton Springs	People Places	Controls height to limit visual impact whilst maintaining operational function.
PL_8	PRoW	People Places Value	Ensures continued access during construction and enhances PRoW

Design Principle	Title	NIC theme(s)	Relationship
			permanently, supporting accessibility and community wellbeing.
PL_9	Over land pipe section	People Places Value	Reduces visual intrusion and protects heritage views by utilising existing screening and sympathetic materials and colours.
PL_10 PL_11	*Various:* Maximum pipeline diameter	Places	Controls scale to balance operational efficiency with land use optimisation
Environmental Mitigation and Enhancement Areas			
EMEA_1	EMEA Plans	People Places	Controls the location and extent of EMEAs
EMEA-WRP	Additional environmental enhancement	People Places Climate Value	Opportunity to further reinforce and enhance screening and ecological corridors, addressing visual impacts and ecological connectivity.
EMEA-E-1	Environmental mitigation	People Places	Safeguards protected species, maintaining ecological integrity.
EMEA-E-2a	Environmental mitigation	People Places	Delivers hedgerow with trees, reinforcing screening and ecological connectivity.
EMEA-E-2b	Additional environmental enhancement	Places Climate Value	Opportunity to create chalk grassland to support Portsdown SSSI, promoting ecological connectivity, resilience and biodiversity.
EMEA-E-3	Additional enhancement	Places Climate Value	Opportunity to restore and enhance grassland, supporting a SINC, embedding resilience and ecological value.
EMEA-F-1 EMEA-F-2	*Various:* Environmental mitigation	Places Climate	Provides veteran and mature tree protection, protected species mitigation, reinstates and enhances trees and woodland, restoring carbon-absorbing habitats.
EMEA-G-1 EMEA-G-2	*Various:* Environmental mitigation	Climate Places	Creation and/or reinstatement/enhancement of woodland/hedgerows, reinforcing ecological networks and carbon-absorbing habitats whilst considering historic landscape character.
EMEA-J-1 EMEA-J-2	*Various:* Environmental mitigation	Climate Places	Replacing lost woodland with newly established woodland habitat, restoring carbon-absorbing habitats.
EMEA-J-3 EMEA-J-4 EMEA-J-5	*Various:* Environmental mitigation	Climate Places	Replacing lost woodland with new woodland or other appropriate planting, restoring carbon-absorbing habitats, and providing protected species mitigation to support ecological continuity.
EMEA-K-1a	Environmental mitigation	Climate Places	Provides protected species mitigation and appropriate planting.

Design Principle	Title	NIC theme(s)	Relationship
EMEA-K-1b EMEA-K-2 EMEA-K-3	*Various:* Additional environmental enhancement	Climate Places Value	Opportunities to provide landscape and habitat reinstatement and enhancement, enhance connectivity between national parks and improve PRoW amenity.
EMEA-K-3 EMEA-K-4 EMEA-K-5	*Various:* Additional environmental enhancement	Climate Places People Value	Opportunities to provide grassland habitat for BNG.
EMEA-L-1 EMEA-L-2 EMEA-L-3	*Various: Environmental mitigation*	Climate Places	Mitigates woodland loss through woodland creation and links woodland complexes.
EMEA-L-4	Additional environmental enhancement	Climate Places Value	Opportunity to create and enhance grassland.
EMEA-L-5	Environmental mitigation	Climate Places	Reinstatement and enhancement of a SINC.
EMEA-L-6a	Environmental mitigation	Places	Provides protected species mitigation.
EMEA-L-6b	Additional environmental enhancement	Climate Places People Value	Opportunity to enhance grassland for BNG.
EMEA-L-7	Additional environmental enhancement	Climate Places People Value	Opportunity to create wet woodland.
EMEA-M-1 EMEA-M-2	*Various:* Additional environmental enhancement	Climate Places Value	Opportunities to improve habitat for southern damselfly through Otterbourne Stream enhancements, enhance floodplain grazing marsh, and enhance woodland condition.
Invasive Non-Native Species Treatment at Otterbourne Water Supply Works			
OWSW_1	Landscape integration	Climate Places	Ensures the scale, density and layout of the design is sensitive to the SDNP.
OWSW_2	Reducing noise and vibration impacts	People	Protects communities and amenity from operational disturbance from noise and vibration.
OWSW_3	Maximum extent	People Places	Controls site scale to reduce landscape/visual impact and control land take while ensuring efficient operational layout
OWSW_4	Maximum building / structure height	People Places	Controls building height and guides the design to be embedded into the hillside to minimise visual intrusion, balancing operational needs with landscape sensitivity
OWSW_5	Buildings and finishes	People Places	Reinforces local character with appropriate design of buildings, finishes, fencing,

Design Principle	Title	NIC theme(s)	Relationship
			materials and colours, strengthening place identity and reducing landscape and visual impacts.

7 Conclusion

7.1.1 The Project has been developed through a disciplined design process that demonstrates how good design has been embedded from an early stage. The Applicant has had regard to national policy, guidance and advice, including the NPSWRI [1], and has aligned its design approach with advice from the Planning Inspectorate and the NIC. This has ensured that design quality is not treated as an afterthought but as a central consideration throughout scheme development.

7.1.2 Consultation has been a defining feature of the Project's evolution. Beginning with the Public Consultation 2021, communities and stakeholders were presented with alternative options, including desalination, water recycling, and transfer. The consultation feedback was considered as part of the decision not to progress desalination, which was cemented by the Stage 2 options appraisal process, as well as strong regulatory feedback from Natural England and the Environment Agency, which identified significant environmental constraints. Subsequent consultations in 2022, 2024, and 2025 provided opportunities to refine the design of the WRP, pipeline routes, and AGP. Each round of consultation introduced new information, invited feedback, and resulted in tangible refinements, such as adjustments to reduce visual impacts, improve environmental outcomes, and respond to local concerns. The Autumn 2025 and Spring 2026 targeted consultations further illustrate the Applicant's commitment to the local community, applying a proportionate approach to focus engagement to those directly affected by minor, localised changes.

7.1.3 Stakeholder engagement has complemented public consultation and ensured that local authorities, statutory bodies and Portsmouth Water were actively involved in shaping design outcomes. This engagement has helped to secure commitments on sensitive design matters, such as the appearance of the WRP site and associated landscaping proposals, measures to integrate BPT/IPS-E into the surrounding landscape and measures to reduce the visual impacts of BPT-K as far as practicable. Local authorities were also instrumental in shaping the design principles, for example, committing the detailed design to use appropriate colour palettes for buildings (including finishes) and fencing, whilst meeting safety requirements; specific colour palettes would be informed by a colour assessment undertaken at the detailed design stage post consent. The colour palettes themselves have not yet been agreed and will be subject to local authority approval at the detailed design stage as per the provisions within the draft DCO (Document reference 3.1, DCO Volume 3). These refinements demonstrate how dialogue with stakeholders has directly influenced design quality and ensured that environmental assessment requirements are embedded into the design framework.

7.1.4 Leadership and assurance have been provided through the establishment of a multidisciplinary team and the appointment of a Design Champion. Collectively, the breadth of the combined expertise spans across engineering, planning, environmental assessment, and specialist disciplines, ensuring that appropriate design decisions were made and informed by a wide range of perspectives. The Project Vision articulates a clear ambition to deliver a resilient and sustainable water supply that protects Hampshire's chalk streams and supports communities and the local economy. This vision was underpinned by design aspirations that

were landscape-led, integrated and beneficial, providing a benchmark against which design outcomes could be tested. The Design Champion ensured that these aspirations were consistently applied, driving the team to pursue opportunities for good design throughout scheme development.

7.1.5 The development of PDPs provided an early framework for embedding good design. Structured around the NIC's themes of climate, people, places, and value, these principles addressed issues such as minimising land take, reducing carbon emissions, enhancing biodiversity, and integrating buildings into their landscape context. While transitional in nature, the PDPs evolved into binding Project-wide General Design Principles and Site Specific Design Principles as set out in the Design Principles Document (Document reference 5.11, DCO Volume 5) and secured through the draft DCO (Document reference 3.1, DCO Volume 3). This evolution demonstrates a clear trajectory from ambition to enforceable commitments, ensuring that design quality will be maintained and scrutinised during detailed design and delivery.

7.1.6 Scheme development has been documented transparently, with the Scheme Development Report (Document reference 5.10, DCO Volume 5) evidencing the options considered, the criteria applied, and the refinements made in response to consultation, engagement and environmental and technical assessment. The adoption of trenchless construction methods, the siting of compounds outside flood zones where practicable, and the preparation of reinstatement strategies to return land to former use illustrate how practical measures have been embedded to avoid and reduce impacts. Environmental enhancements, biodiversity net gain, and climate resilience measures have been incorporated into the design, ensuring that the Project delivers multifunctional outcomes that extend beyond its immediate operational purpose.

7.1.7 In summary, the findings of this DAD confirm that the Project has been shaped by consultation, informed by stakeholder engagement, guided by strong leadership, and underpinned by clear design principles. The Applicant has refined the design to reduce impacts, such as avoiding sensitive ecological designations, minimising interaction with protected habitats and species areas, reducing effects on high-grade agricultural land, and addressing flood-risk constraints; secured commitments to integrate the infrastructure sensitively into landscapes and communities; and aligned its approach with national guidance and advice on good design. The supporting evidence contained in the Consultation Report (Document reference 5.1, DCO Volume 5), Scheme Development Report (Document reference 5.10, DCO Volume 5), Design Principles Document (Document reference 5.11, DCO Volume 5), Planning Policy Statement (Document reference 5.5, DCO Volume 5), and Statement of Engagement (Document reference 5.9, DCO Volume 5) provide further assurance.

7.1.8 The Project therefore exemplifies the principles of good design in nationally significant infrastructure. It will provide a resilient and sustainable water supply for Hampshire, protecting sensitive chalk streams, supporting communities and the local economy, and delivering environmental and social value. Mechanisms are in place to secure and deliver design quality throughout the lifecycle of the Project, ensuring that the Examining Authority and Secretary of State can be confident that

the Applicant has met the expectations of the Planning Act 2008 and the NPSWRI [1].

References

[1] Department for Environment Food & Rural Affairs, “National Policy Statement for Water Resources Infrastructure,” July 2025. [Online]. Available: https://assets.publishing.service.gov.uk/media/6874ca77c831dea2b152cfe9/E03400114_National_Policy_Statement_for_Water_Resources_Web_Accessible.pdf.

[2] National Infrastructure Commission, “National Infrastructure Assessment,” 2018.

[3] National Infrastructure Commission Design Group, “Design Principles for National Infrastructure,” 2020.

[4] Water Resources All Company Working Group, “Water Resources: Design Principles & User Guidance,” 2023. [Online]. Available: https://www.wrse.org.uk/media/cumkcxyg/acwg-design-principles-methodology-document.pdf.

[5] National Infrastructure Commission, “Second National Infrastructure Assessment,” 2023.

[6] National Infrastructure Commission Design Group , “Project Level Design Principles,” 2024.

[7] Planning Inspectorate, “Nationally Significant Infrastructure Projects: 2024 Pre-application Prospectus,” 2025. [Online]. Available: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-2024-pre-application-prospectus#full-publication-update-history.

[8] Planning Inspectorate, “Nationally Significant Infrastructure Projects: Advice on Good Design,” 2024. [Online]. Available: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-good-design.

[9] Planning Inspectorate, “Nationally Significant Infrastructure Projects: Advice on Preparing Applications for Linear Projects,” April 2025. [Online]. Available: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-preparing-applications-for-linear-projects#evolution-of-design-including-alternatives.

[10] Ministry of Housing, Communities and Local Government and Department for Levelling Up, Housing and Communities, “Planning Act 2008: Pre-application stage for Nationally Significant Infrastructure Projects,” 2024. [Online]. Available: https://www.gov.uk/guidance/planning-act-2008-pre-application-stage-for-nationally-significant-infrastructure-projects#key-considerations-in-preparing-an-application. [Accessed 30 October 2025].

[11] Southern Water Services Limited, “Water Resources Management Plan 2019,” 2019.

[12] Southern Water Services Limited, “WRMP 2019 Annual Review 2020-2021,” 2021.

[13] Department for Environment, Food & Rural Affairs, “Water company security and emergency measures: 2024 ministerial direction,” 2024. [Online]. Available: https://www.gov.uk/government/publications/water-company-security-and-emergency-measures-2024-ministerial-direction.

[14] UK Government, “Network and Information Systems Regulations 2018,” 2018.

[15] Department for Levelling Up, Housing & Communities, “National Planning Policy Framework,” December 2023. [Online]. Available: https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf.

[16] Gov.UK, *National Planning Policy Framework,* Gov.UK, 2012.

[17] Ofwat, “Direct Procurement for Customers (DPC),” [Online]. Available: https://www.ofwat.gov.uk/regulated-companies/major-projects/direct-procurement-for-customers-dpc/.

Appendix A Relevant Guidance

NIC design principles for national infrastructure

A.1.1 The Design principles for national infrastructure document was prepared by the National Infrastructure Commission to guide the projects which will upgrade and renew the UK's infrastructure system. The design principles should be applied to all economic infrastructure: digital communications, energy, transport, flood management, water and waste.

A.1.2 The first National Infrastructure Assessment recommended that a board-level 'design champion' be appointed for every infrastructure project. Their role will be to make sure good design is prioritised from the early stages of a project, provide a continual emphasis on that design vision throughout and hold board members and project management to account for delivering those design objectives.

A.1.3 The first National Infrastructure Assessment also recommended that design review panels should be set up for every nationally significant infrastructure project. Design review panels exist on some projects currently and there are some good examples. Like design champions, review panels need to be involved early enough for their advice to shape project design. They will advocate for improvements to design that will improve the outcomes of the project, taking advantage of opportunities to achieve better value. The four overarching themes identified by the NIC are (with emphasis in bold):

1. **Climate**: Infrastructure design must help set the trajectory for the UK to achieve net zero greenhouse gas emissions by 2050 or sooner. This means **opportunities must be sought during design and construction to enable the decarbonisation of society and mitigate and offset residual emissions**. Our infrastructure has to support an environmentally sustainable society. It should enable the people and businesses using it to reduce their wider climate impacts too. The search for these opportunities should not be restricted to the area within the site boundary. And good design incorporates flexibility, allowing the project to adapt over time and build our resilience against climate change.
2. **People**: *Infrastructure should be designed for people, not for architects or engineers. It should be human scale, easy to navigate and instinctive to use, helping to improve the quality of life of everyone who comes into contact with it. This means reliable and inclusive services. It means accessible, enjoyable and safe spaces with clean air that improve health and wellbeing.* ***The range of views of communities affected by the infrastructure must be taken into account and reflected in the design****. While it won't always be possible to please everyone, engagement should be diverse, open and sincere, addressing inevitable tensions in good faith and finding the right balance. And it should not just be designed for people today. Good design will plan for future changes in demographics and population.*
3. **Places**: *Well-designed infrastructure supports the natural and built environment. It gives places a strong sense of identity, and through that forms*

part of our national cultural heritage. It makes a positive contribution to local landscapes within and beyond the project boundary. ***Projects should be inspiring in form and detail, respecting and enhancing local culture and character without being bound by the past****. Good design supports local ecology, which is essential to protect and enhance biodiversity.* ***Projects should make active interventions to enrich our ecosystems****. They should seek to deliver a net biodiversity gain, contributing to the restoration of wildlife on a large scale while* ***protecting irreplaceable natural assets and habitats****.*

4. **Value**: *A good design process adds value by defining clearly issues from the outset and providing overall direction for everyone working on a project. It explores every option for increasing value alongside the creative process. This approach means the brief is interrogated rigorously so that opportunities to secure economic, environmental and social benefits are identified, pursued and articulated for local and national audiences. Good design also finds opportunities to add value beyond the main purpose of the infrastructure.* ***It looks beyond the site boundary to consider the wider benefits the project can bring****. It seeks to solve multiple problems well with a single solution. It provides more for less with savings on cost, the environment, materials and space*.

Overview of the Water Resources: Design Principles & User Guidance

A.1.4 The Water Resources: Design Principles & User Guidance (User Guidance) provides guidance on how principles of a good design process should be applied throughout the project lifecycle to satisfy these design principles.

A.1.5 The User Guidance raises the following key points to consider when preparing the design principles:

- The design principles require each project to develop project specific design visions and principles. The User Guidance sets out a three-step approach to creating a vision.
- The design principles in the User Guidance can be used to cover most generic areas of design and can therefore be used as a base to inform more specific design principles.

A.1.6 The User Guidance recommends the project team review and refine the design principles relevant to the design stage of the project.

Nationally Significant Infrastructure Projects: 2024 Pre-application Prospectus

A.1.7 The Planning Inspectorate developed a new pre application service for NSIPs and set this out in the May 2024 Pre application Prospectus (which has since been updated most recently in April 2025).

A.1.8 The Prospectus makes various references to the role and consideration of good design during the pre application stage, including an expectation that activities at the pre application stage include *"developing the design of the project to reflect the good design criteria in the relevant National Policy Statement(s)"*.

A.1.9 The most notable element of the Prospectus in relation to design is in relation to Design Approach Documents. The production of a Design Approach Document is not a mandatory requirement for a DCO submission and DCO applicants have taken various different approaches to providing the narrative on design evolution and good design.

A.1.10 The Prospectus advises that "*the development by the applicant of a Design Approach Document (DAD) will assist the Examining Authority and Interested Parties to understand the preparation and evolution of the design case from project inception, providing important context for the design of the project presented in the final form of the application. We expect that the production of a DAD will assist Examining Authorities in considering the satisfaction of design-related policy requirements established in relevant National Policy Statement(s). Applicants can expect that the development of DAD may result in fewer written and oral questions to them, and other Interested Parties, concerning the design case, allowing resources to be focused on other important areas of the examination*".

A.1.11 It then explains that the applicant's role would be *"to prepare a DAD to accompany its application which sets out how the application satisfies design criteria in e.g. any relevant National Policy Statement(s) and best practice guidance. The DAD is a separate product to the Design Principles Statement (or equivalent), which is also typically provided by applicants in support of Nationally Significant Infrastructure Project applications" and that "relevant consultees (including policy owners) should be asked by the applicant to input on the scope of the DAD during pre-application, with updates on its development provided to those consultees and the Inspectorate at appropriate intervals*".

NSIPs: Advice on Good Design

A.1.12 In October 2024, the Planning Inspectorate published 'NSIPs: Advice on Good Design' [8]. This advises that:

"Achieving good design requires a holistic approach to deliver high quality, sustainable infrastructure that responds to place and takes account of often complex environments. Good design is not primarily about how infrastructure looks, although these considerations (the aesthetics) are important.

Achieving high quality, good design outcomes requires an effective, intentional, transparent, deliverable process to be planned, followed and secured. Success in good design comes from a combination of securing both good process and good outcomes."

A.1.13 Given the scale and impact of NSIP developments, achieving well-designed project outcomes addressing sustainability and climate change is essential.

A.1.14 The advice sets out what components a good design process should comprise:

- An effective, intentional, transparent, and deliverable process.
- A collaborative, multi-disciplinary approach including positive community and land rights engagement.

- A succinct and ambitious vision for the project, underpinned by a clear analysis of the context for the place, its environment and the opportunities for creating social value, including for the local and wider economy.
- A clear statement of design principles that will drive the project and deliver wider value and benefits beyond the core purpose of the scheme.
- A narrative that explains how the approach to design has evolved, the reasons for the choices that have been, or will be, made, an explanation of the multiple beneficial outcomes the project will achieve and how they will be secured.
- Design leadership supported by an engaged design champion to ensure design governance is secured and the design principles drive a structured design process and hierarchy of design control.

A.1.15 The guidance states that achieving good design outcomes involves:

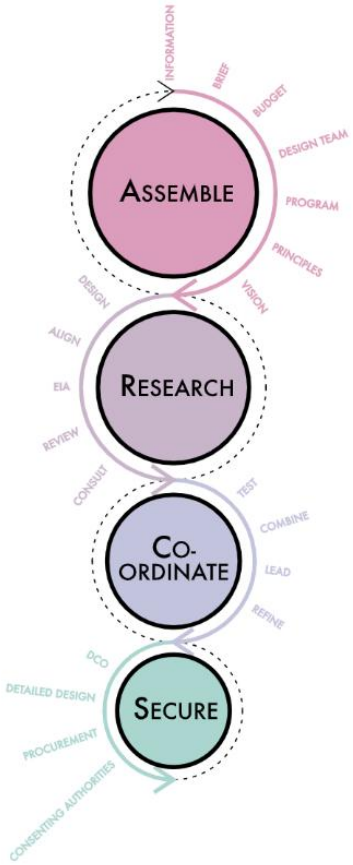
- Securing a clearly understood, integrated design concept, consistent design language, and project-wide sustainability.
- Consistent design language where all components can be followed through in post-consent decisions.
- Clarity on achieving project-wide sustainability that goes beyond mitigating adverse effects to achieve economic, environmental and social net-gain
- Design principles that respond positively to the four elements – climate, people, place and value - established by the NIC.
- Realistic assessments of the project's durability and effectiveness during its operational phase, to underpin and secure a successful maintenance and monitoring regime.
- Sufficient flexibility for technical innovation balanced by sufficient detail and controls for post-consent approvals that will ensure good design outcomes are achieved.
- Particular attention on place-making to ensure the development's positive effects on the character of a place and delivery of public benefits.
- Well thought out mechanisms to enable design outcomes to be scrutinised, assessed and developed during the post-consent design process. For example, parameter plans, design codes, management plans, independent design review and intentional community engagement which are secured in requirements or certified documents.

A.1.16 The guidance reflects the Prospectus, noting that a Design Approach Document (DAD) can assist the Examining Authority (ExA) and Interested Parties in understanding the preparation and evolution of the design case from project inception to DCO submission. DADs are "*appropriate for any NSIP as a way of communicating the design case and supporting efficient examination".*

A.1.17 The guidance recognises the complexities of delivering large scale infrastructure and that schemes are typically determined at an 'outline' stage of design, noting that: "*The details of the NSIP considered during examination are often not the final as built infrastructure because further design input is required for the reasons set out above. The Examining Authority (ExA) therefore needs to be satisfied that there*

is evidence that applicants have engaged in and are committed to a process that can deliver good design outcomes, which are specific and proportionate to the type of infrastructure proposed. These need to be secured by the Development Consent Order (DCO) through requirements, conditions, management plans or other certified documents".

A.1.18 The guidance also provides the following flow diagram showing the design process through four stages (with explanatory text):



A.1.19 Annex A of the guidance sets out a list of 'good design issues' that applicants should consider before submitting an NSIP application. This can function as a compliance tick box, with a populated copy provided at Appendix B.

Appendix B The Applicant's populated version of the Planning Inspectorate (2024) Nationally Significant Infrastructure Projects: Advice on Good Design, Annex A – Good design issues to consider [8]

Issue	Consideration	HWTWRP compliance
Design Approach Document (DAD)	Is a DAD provided?	Yes, a DAD is provided (Document reference 5.12, DCO Volume 5) (this document).
	Does the DAD address the brief, the design process, the design principles, and beneficial outcomes?	This DAD explains the design process in a transparent, structured way, and demonstrates the beneficial outcomes achieved through the Project's development. It also sets out the evolution of the design principles and explains how these are secured. The Design Principles can be found in the Design Principles Document (Document reference 5.11, DCO Volume 5).
	If a DAD is not provided, where are the design process and design principles set out?	As above, a DAD is provided (Document reference 5.12, DCO Volume 5) (this document). The Scheme Development Report (Document reference 5.10, DCO Volume 5) further evidences the design process in detail. The Design Principles can be found in the Design Principles Document (Document reference 5.11, DCO Volume 5).
Analysis, Research	How has the development site been analysed to inform a good design approach?	This DAD explains that the Project has been developed and analysed through a structured, staged process, assessing environmental, planning and engineering constraints to identify suitable sites and pipeline routes.

Issue	Consideration	HWTWRP compliance
		This analysis informed the design by allowing options to be compared, refined and adapted so that the Project design at submission responds to location-specific constraints and minimises impacts. Section 6.2 of this DAD provides a comprehensive overview of the process undertaken.
	What are the main conclusions from this analysis that inform the design at this stage and as it develops?	The conclusions from the analysis are set out throughout the DAD. The analysis undertaken has informed the General and Site Specific Design Principles set out in the Design Principles Document (Document reference 5.11, DCO Volume 5). As explained in section 6.3 of this DAD, the Design Principles demonstrate the Applicant's commitment to ensure that the Project's detailed design will embody good design.
Response	What are the main significant adverse effects of the proposed development and how are they addressed to enable good design?	The ES (DCO Volume 6) sets out the effects of the Project. The Design Principles are used to codify elements of embedded mitigation that will avoid or reduce significant environmental effects. Further explanation is provided in section 6 of the DAD.
Vision	What is the vision for the completed development and its surroundings? Where is it set out?	The Project Vision is set out in section 4.2 of the DAD.
	Set out the narrative, how the vision will achieve sustainability, create a new place and hold the design together.	The DAD explains that one of the reasons the PDPs were established was to ensure that the Project Vision can be realised. The PDPs were developed into the Design Principles.
Skills	What professional disciplines and skill sets are being and	See section 4.1 of the DAD.

Issue	Consideration	HWTWRP compliance
	will be working on the design of the project?	
	Is there a design champion designated for this project, and if so, who is it and what are their skills?	See section 4.3 of the DAD.
Developing the design	Describe the approach to good design and explain how the design has (and will continue) to evolve.	See section 6 of this DAD.
	How is any required flexibility being addressed?	The need for and approach to flexibility is set out in the ES. Please see section 5.2.4 of the DAD.
	What design choices have (and will be) made?	See section 6 of this DAD.
	What are the emerging design principles and how have the principles directly informed decision making?	See sections 5.1, 5.2 and 6 of this DAD.
	Is there a hierarchical approach to elements of the proposal (for example in designing major and less important bridges in a highways scheme)?	As set out in the DAD, a hierarchical approach has been followed, with strategic decisions taken first (such as the choice of solution, site selection and pipeline corridors), followed by refinement at progressively more detailed levels. As appropriate, both General (Project-wide) and Site Specific (component specific) Design Principles have been established. These have been informed by environmental assessment to ensure that environmental effects will be avoided or reduced as required.
	Have digital techniques, including algorithms and AI been used in design development? If so, explain the tools and data used.	Geographical Information Systems (GIS) have been utilised.
	Is there a coherent narrative of how the approach to design has evolved?	Yes, this DAD presents a narrative showing how the design has evolved through defined stages. The Scheme Development Report

Issue	Consideration	HWTWRP compliance
		(Document reference 5.10, DCO Volume 5) further evidences the design process in detail.
	Where are design outcomes set out?	Design outcomes are set out throughout DAD.
	Will additional value beyond the site boundary be incorporated?	As set out in the Benefits and Legacy Statement as part of the Case for the Project (Document reference 5.6, DCO Volume 5), the design approach delivers wider gains.
Independent design review	Has the design development been the subject of an independent design review?	As the Project has proceeded through the RAPID gated process, independent design reviews have been undertaken. The Applicant has also engaged with the NIC Design Council during the pre-application stage, including to inform and strengthen the approach to developing the Project's Design Principles.
	If so, what were the main comments and how has the design responded to them?	Engagement generated a positive response.
	Is it the intention to include design reviews post-consent? If so, how are these secured?	This is not proposed. However, the external appearance of the above-ground plant will be subject to secondary consenting by the relevant local planning authority as per the provisions within the draft DCO (Document reference 3.1, DCO Volume 3), which provides an appropriate mechanism for oversight and assurance during post-consent design development.
Delivery	How will the final design be delivered? Will there be a design management plan, a design guide or a design code? If not, why are they not required?	The final design will be delivered in accordance with the Design Principles Document (Document reference 5.11, DCO Volume 5), Water Industry Technical Standards and to meet Regulatory Requirements and

Issue	Consideration	HWTWRP compliance
		Network Information Systems Direction [14].
	Is there a design consultation plan to engage the community following consent of the DCO?	This is not proposed however the terms of the detailed design Requirements will be agreed through the DCO Examination, providing an appropriate mechanism for managing any necessary engagement at the detailed design stage.
	Is there an agreed process for post-consent decisions with local planning authorities and others, where required?	Yes – the process will be agreed through DCO Examination, but it is anticipated that local authorities will have secondary consenting powers on the detailed design of above ground installations where required as per the provisions within the draft DCO (Document reference 3.1, DCO Volume 3).
Place	How is placemaking being addressed?	Through the Design Principles.
	How will this be a distinctive place and how will the community benefit from it?	See section 6.3 of the DAD, the Benefits and Legacy Statement as part of the Case for the Project (Document reference 5.6, DCO Volume 5) and the Planning Policy Statement (Document reference 5.5, DCO Volume 5).
	Describe what the quality of place outcome will be, how this relates to the vision and how it will be secured?	The Project Vision has guided the evolution of the Design Principles which the detailed design will be delivered in accordance with as secured by the draft DCO (Document reference 3.1, DCO Volume 3). Also see section 6.3 of the DAD which sets out how the Design Principles align with the four NIC themes, including places.
People	What consultation has taken place with statutory and local authorities, communities and	See section 3 of this DAD.

Issue	Consideration	HWTWRP compliance
	people with an interest in the land?	
	How will their views be incorporated in the design evolution and where will this be set out?	See section 3 of this DAD.
Integrated design approach	Explain how an integrated, holistic approach to the project's design will be achieved.	This is presented in this DAD.
	Where is it shown in the documentation? Is there a masterplan?	Throughout this DAD, including the integrated Project Vision (see section 4.2). An indicative example of how the above ground elements of the Project will be presented is provided in the Indicative Environmental Masterplan (see Appendix C).
	How will this be secured?	See section 5.2 and 5.3 of the DAD.
National Policy Statements (NPSs)	How have the requirements for good design in the relevant NPS (or NPSs) been met?	This is explored in the DAD and presented in the Planning Policy Statement (Document reference 5.5, DCO Volume 5).
Design Principles	Set out the good design principles being applied to the project.	See section 6.3 of the DAD.
	Are the design principles structured or grouped logically?	The Design Principles (see the Design Principles Document (Document reference 5.11, DCO Volume 5) are structured and grouped logically. They include both General (Project-wide) and Site Specific (component specific) Design Principles, with the latter also falling into categories such as masterplanning, building, environmental and landscaping principles.
	How will they be developed prior to consent?	See section 5 of this DAD.
	How will they be illustrated and secured?	The detailed design will be delivered in accordance with the Design Principles Document (Document

Issue	Consideration	HWTWRP compliance
		reference 5.11, DCO Volume 5) as secured by the draft DCO (Document reference 3.1, DCO Volume 3). An indicative example of how the above ground elements of the Project will be presented is provided in the Indicative Environmental Masterplan (see Appendix C).
National Infrastructure Commission (NIC) 'principles'	Is there a response to the NIC's four principles of good design?	See section 6 of this DAD.
	If not, what design principles have been adopted?	N/A
	What process has been used to develop and embed project level design principles?	This is presented in this DAD.

Appendix C Indicative Environmental Masterplan (see parts 2 of 3 and 3 of 3 of the DAD)


WATER
for LIFE®
from
Southern
Water®