NATURAL ENGLAND

Department for Environment Food & Rural Affairs

Habitat Management and Monitoring Plan

Site Name:	Bedhampton & Bidbury
Date:	04/03/2026
Version:	2.0

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Version Control

The version control is used for updates to the content. Record the initial version and further version control details in this table each time the management plan is altered throughout the management and monitoring period.

Version	Issue Status	Prepared by / Date	Approved by / Date
1.0	Draft issued to Portsmouth Water for comment	AtkinsRéalis / 13/06/25	Portsmouth Water / 20/06/25
2.0	Comments from Portsmouth Water addressed	AtkinsRéalis / 04/07/25	Portsmouth Water / 04/07/25
3.0	Amendments to account for delay in habitat creation dates	AtkinsRéalis / 13/02/2026	

Document Details

Provide ownership, copyright and licensing information within this table.

Authorship Details

This document and its contents have been prepared for Portsmouth Water Limited to be used in relation to the Havant Thicket Reservoir.

AtkinsRéalis assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

The information which AtkinsRéalis has provided has been prepared by an environmental specialist in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management. AtkinsRéalis confirms that the opinions expressed are our true and professional opinions.

This document does not purport to provide legal advice.

1. Project Background

Summarise the key aspects of your management plan in this section. Table PB-B01 can be extended to suit the specific needs of individual projects.

Site Overview PB-B01	
Project type	Offsite
Development Name and Address	Havant Thicket Reservoir
BNG Project Name and Address	Bedhampton (Meyrick Road, Bedhampton, Havant, Hampshire, England, PO9 1NN) & Bidbury (Bidbury Lane, Bedhampton, Havant, Hampshire, England, PO9 3JE)
Author Organisation	AtkinsRéalis
Landowner	Portsmouth Water
Land Manager	Portsmouth Water
Responsible person/organisation for creating or enhancing the habitat	Portsmouth Water
Period covered by this management plan	Start date: February 2026, End date: February 2061
Planning authority	Havant Borough Council
Planning reference (if applicable)	APP/24/00405
BNG register reference (if applicable)	
Central OS grid reference	SU 70363 06271
Metric revision/title	HTR-ATK-PI-ZZ-RP-Y-0002
Are any Irreplaceable Habitats present onsite	Yes: ☐ No: ☒

Summary of Management Plan

Habitats to be Retained, Created and Enhanced PB-B02

1.33 ha of other neutral grassland to be enhanced, plus an additional 0.04 ha of other neutral grassland to be created (due to the need to repair a leaking asset which has resulted in a pond establishing which will be reverted to other neutral grassland once the leak is fixed). 0.06 ha of individual urban trees to be created. 0.04 ha of non-priority pond to be created.

Watercourse enhancements involve creating a more natural channel (by removing concrete bed and banks) and riparian zone (by reducing management) along a 0.62 km length of the Hermitage Stream at Bedhampton.

The ‘kick starter’ activities, involving the creation, retention, and enhancement of the terrestrial habitats (detailed above) will commence in February 2026. After this point, there will be a five-year establishment period. In 2031, the watercourse enhancements will be completed. At this date, all works are considered to be completed. The 30 years of habitat maintenance and management will commence from this completion date, extending from February 2031 to February 2061.

Timescales for Actions PB-B03

Start date: February 2026, End date: February 2061

Monitoring Requirements PB-B04

The monitoring of the site will be the responsibility of Portsmouth Water, to ensure that the estimated area/length of each habitat and its target condition is going to be achieved.

Ecologists (or accredited MoRPh surveyors) will visit the site in years 1, 2, 3, 4, 5, 10, 15, 20, 25 and 30 post-intervention and compare against the baseline, with Statutory Metric Condition Assessment forms used as the basis to assess the progression of area habitats and watercourse length.

Fixed Point Photography is to be utilised as a standardised way to monitor habitat changes.

Required Consents and Licences PB-B05

No specific consents required for terrestrial habitats

Specific consents for watercourse enhancements will be determined during the detailed design phase. Watercourse consents will likely include a flood risk activity permit and ecological licences.

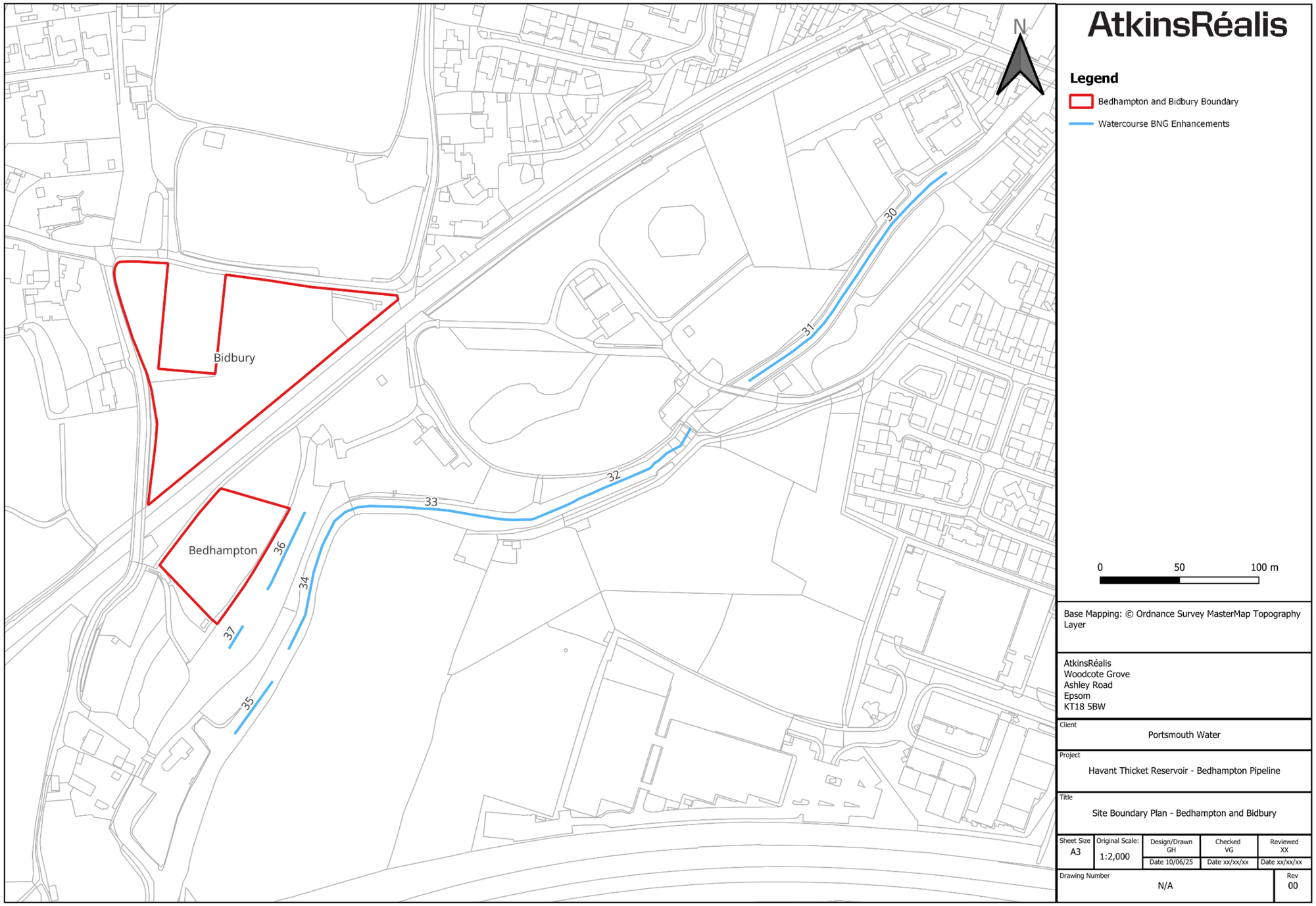
Funding PB-B06

Portsmouth Water will fund all works detailed in the HMMP for the 30-year duration.

Legal Agreement PB-B07

Portsmouth Water have entered a S106 agreement with Havant Borough Council to secure the land at Bedhampton and Bidbury for offsite BNG for a 30-year period (accounting for the five year establishment period and 30 years management and monitoring).

Site Boundary Plan PB-F01



AtkinsRéalis

Legend

- Bedhampton and Bidbury Boundary
- Watercourse BNG Enhancements

0 50 100 m

Base Mapping: © Ordnance Survey MasterMap Topography Layer

AtkinsRéalis
Woodcote Grove
Ashley Road
Epsom
KT18 5BW

Client: Portsmouth Water

Project: Havant Thicket Reservoir - Bedhampton Pipeline

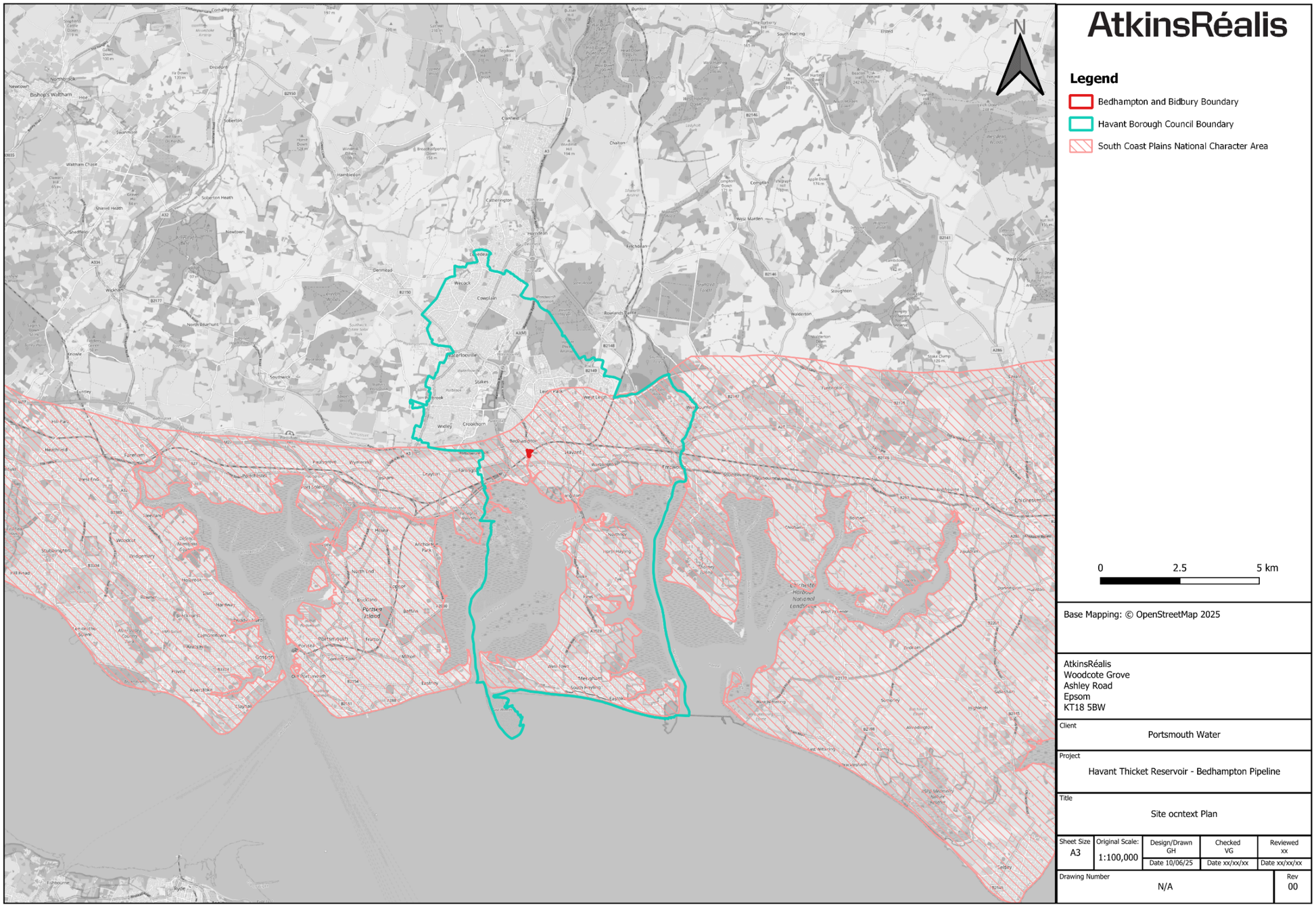
Title: Site Boundary Plan - Bedhampton and Bidbury

Sheet Size	Original Scale:	Design/Drawn	Checked	Reviewed
A3	1:2,000	GH	VG	XX
		Date 10/06/25	Date xx/xx/xx	Date xx/xx/xx

Drawing Number: N/A — Rev: 00

Site Context Plan PB-F02

This plan should show the location of the site, including the LPA, boundary, national character area, and any relevant landscape scale policy or guidance information.



Phasing strategy

Will the proposed work measures be delivered in phases? PB-B08	**Yes: ☐ No: ☒**

Not applicable. The proposed work measures will not be delivered in phases.

This HMMP covers a single, 30-year phase to achieve the required BNG.

Roles and Responsibilities

Provide details of the responsible persons and organisation(s) for delivering this management plan.

Ecologist or Other Professional Responsible for HMMP PB-B09				
Name or Initials		VG / HJ / NC		
Organisation		AtkinsRéalis		
Responsibility	Start Date:	February 2026	End Date:	February 2061

AtkinsRéalis ecologists have designed the habitat creation proposals and authored the HMMP but they will not be responsible for any of the implementation and/or monitoring.

Statement of Competency

The information which AtkinsRéalis UK Limited has provided has been prepared by an environmental specialist in accordance with the Code of Professional Conduct of the Chartered Institute of Ecology and Environmental Management. AtkinsRéalis confirms that the opinions expressed are our true and professional opinions.

The HMMP has been developed by AtkinsRéalis ecologists who are experienced in habitat creation, enhancement and restoration practices and long-term management and monitoring methodologies. The HMMP has been development in consultation with the Portsmouth Water and has used evidence-based research findings on similar habitat creation and enhancement schemes in the south of England to develop the management and monitoring targets within this HMMP.

AtkinsRéalis have authored the HMMP however they will not be responsible for implementation of the HMMP throughout the 30 year duration.

Landowner or Land Manager PB-B10	
Name or Initials	JD
Organisation	Portsmouth Water

Responsibility	Start Date:	February 2026	End Date:	February 2061

Portsmouth Water have been involved in the development of all habitat creation and enhancement designs and reviewed a draft HMMP which included all management and monitoring activities proposed.

Portsmouth Water will fund and carry out all activities described in the HMMP either themselves or via subcontractors approved to work on Portsmouth Water sites.

Statement of Competency

Portsmouth Water will ensure subcontractors used are competent.

Management Organisation(s) Responsible for Implementing the HMMP PB-B11				
Name or Initials		N/A		
Organisation		N/A		
Responsibility	Start Date:	N/A	End Date:	N/A

N/A

Statement of Competency

NA

LPA or Responsible Body for Reviewing HMMP PB-B12				
Name or Initials		Tristan Norton		
Organisation		Havant Borough Council		
Responsibility	Start Date:	February 2026	End Date:	February 2061

TN (Principal Ecologist, Havant Borough Council) has reviewed the HMMP and will be kept informed by Portsmouth Water on progress in the habitat creation / enhancement works through annual monitoring reports between years 0 to 5 and then monitoring reports every five years up to year 30 when monitoring will cease. An initial meeting was held with the Borough Ecologist on 24 June 2025

Land Use Summary

Overview of Baseline Site Use PB-B13

The Bedhampton and Bidbury sites are part of Portsmouth Water private landholdings. Bidbury is partially grazed by horses, with some areas regularly mown, and other areas cut twice per year (spring and late summer) with arisings left on the ground. At the Bedhampton site current maintenance involves: regular mowing throughout the year, with some locations limited to one cut per year (late summer or autumn), with arisings left on the ground, scrub and tree management/removal, there is limited intervention/management near existing woodland. Watercourse management: there is little management of the watercourse (e.g. general litter clearance). Riparian zones are mown throughout the year associated with the wider site maintenance.

Summary of habitats present – Bedhampton:

- Other neutral grassland (ONG) – moderate condition
- Individual urban trees – good condition
- Watercourse – Hermitage Stream non-priority main river condition:
    - BNG Reach 30: 'poor' condition, 'major' watercourse encroachment, 'major/minor' riparian encroachment.
    - BNG Reach 31: 'poor' condition, 'major' watercourse encroachment, 'major/major' riparian encroachment.
    - BNG Reach 32: 'fairly poor' condition, 'major' watercourse encroachment, 'major/major' riparian encroachment.
    - BNG Reach 33: 'moderate' condition, 'minor' watercourse encroachment, 'major/major' riparian encroachment.
    - BNG Reach 34: 'moderate' condition, 'minor' watercourse encroachment, 'major/no encroachment' riparian encroachment.
    - BNG Reach 35: 'moderate', 'minor' watercourse encroachment, 'major/no encroachment' riparian encroachment.
    - BNG Reach 36: 'fairly poor, 'major' watercourse encroachment, 'major/no encroachment' riparian encroachment.
    - BNG Reach 37: 'fairly poor, 'major' watercourse encroachment, 'major/no encroachment' riparian encroachment.

Summary of habitats present – Bidbury:

- Other neutral grassland – moderate condition - currently part of the site is grazed by horses (all year) and part is cut annually.
- Non-priority pond – good condition (formed as a result of a leaking asset)
- Individual urban trees – Good condition

There are boundary habitats (hedgerows) and an allotment area within Bidbury which have not been included in the Bidbury Gain Site.

Overview of Proposed Site Use PB-B14

Bedhampton proposed habitats

- ONG – enhancement to good condition
- Individual urban trees – moderate condition (created) and good condition (retained).
- Watercourses:
    - BNG Reach 30 and 31 to be enhanced from 'poor' to 'fairly poor' condition through in-channel habitat enhancements.
    - All watercourse BNG reaches riparian zones to be enhanced by undertaking riparian improvements (reducing management) to reduce riparian encroachment, however, overall river condition class is expected to remain the same as the baseline in BNG Reaches 32-37.

Bidbury proposed habitats:

- ONG – enhanced to good condition
- Two non-priority ponds – good condition (created)
- Individual urban trees – moderate condition (created) and moderate condition (retained)

Proposed management regimes and intended land uses:

Both sites will remain within Portsmouth Water private landholdings, some parts of the sites have underground assets and are fenced off. There is public access around the perimeter of Bedhampton gain site via a fenced footpath. The areas for watercourse enhancements are within Portsmouth Water landownership at Bedhampton.

Bidbury has an area of private allotments within it which will continue to be used and is outside of the boundary of the offsite gain site. Bidbury is not accessible to the public.

Site Context Photos PB-F03

Please include two overview photographs of the site in its current form here. Include additional photographs in an appendix if needed. Tick if additional photographs are provided in the Appendices
☐ Reference: Click or tap here to enter text.



Photograph 1: Bedhampton site grassland. Photo taken looking north on 25/02/25



Photograph 2: Bidbury pond. Photo taken looking north (pond formed from leaking asset) on 25/02/25



Photograph 3: Watercourse (Hermitage Stream) at the Bedhampton site. Photo taken looking upstream on 25/02/25. Yellow arrow indicates flow direction.

Baseline and Environmental Information	Check box if included	Document Reference or Reason if not included
Statutory / Non-statutory Designated Sites	☒	
Protected and Notable Species	☒	
Invasive Non-Native Species (INNS)	☐	Bidbury: Japanese knotweed is present at Bidbury, however, it is under long term management (chemical control) and not evident above ground. A seven-metre buffer from the Japanese knotweed area must be adhered to, with no management within this area. Bedhampton: New Zealand Pygmy weed is present, strict control measures will be required during all interventions to prevent spread however its presence does not affect the habitats proposed. Himalayan Balsam is present along the banks of the Hermitage Stream. Portsmouth Water are developing a wider INNS management plan for their sites.
Biological Records Plan - Sites and Species	☒	
Baseline Habitats Survey	☒	Also included within the Havant Thicket Reservoir Pipeline, Biodiversity Net Gain (BNG) Assessment, Portsmouth Water Ltd. 2025.

Public Access	☐	No public access to Bedhampton or Bidbury. A public footpath exists around Bedhampton, however there is no access from the footpath to the site itself. Some access is required onto the Bidbury site by the allotment owners however the allotment area is outside of the Bidbury offsite boundary. This has no impact on the management prescriptions.
Climate	☐	Unlikely, habitats have been designed to allow for climate scenarios in southern England such as drought and/or wetter/warmer winters.
Geology and Topography	☐	None.
Agricultural Land Status	☐	None.
Soils and Substrates	☐	None.
Contaminated Land	☐	None.
Hydrology and Drainage	☒	Bidbury: Newly created ponds will be partially fed by ground water. Bedhampton: any changes to the watercourse at the Bedhampton site will need to ensure that channel capacity is maintained from a flood risk perspective.
Flood Risk Zones	☒	Bedhampton: lies within Flood zones 2 and 3. Any changes to the watercourse at the Bedhampton site will need to ensure that channel capacity is maintained. Bidbury: does not lie within flood zone
Landscape Character and Designations	☐	
Historic Land Use	☐	None.
Historic Environment and Earth Heritage	☐	None.
Other – please specify	☒	Overhead powerlines are present at Bedhampton gain site and standard wayleaves and planting restrictions have been accounted for in the designs. Underground services are present throughout Bedhampton.

Baseline and Environmental Information

2. (Companion Document Extracts) Baseline and Environmental Information

Biological Records

Designated Sites (BI-T01)

Provide a concise summary of the designated features within the designated sites that could be affected by the project. Categorise any potential impacts from the project, whether positive, negative, or negligible, as determined by your professional judgement.

Site Name	Designation	Distance from Project Site	Potential Impact from Project
Solent and Dorset Coast Marine	SPA	7 km south, however a direct hydrological connection	Negative
Chichester and Langstone Harbour	Ramsar Site, SPA	800 m south of Bedhampton and Bidbury offsite	Negative
The Solent Maritime	Special Area of Conservation (SAC)	800 m south of Bedhampton and Bidbury offsite	Negative
Farlington Marshes	Local Nature Reserve (LNR)	1,500 m southwest of Bedhampton and Bidbury offsite	Neutral
Langstone Harbour	Site of Special Scientific Interest (SSSI)	800 m south of Bedhampton and Bidbury offsite	Neutral

Summary of Designated Sites (BI-B01)

Solent and Dorset Coast Marine SPA – Designated for its populations of sandwich tern, common tern, and little tern, regularly supporting more than 1% of the British breeding populations of these species.

Chichester and Langstone Harbour SPA and Ramsar – Designated as the site supports internationally important populations of grey plover, sanderling, dunlin, redshank, brent geese, shelduck and teal. The site also supports nationally important numbers of migratory species.

The Solent Maritime SAC – Designated for the presence of the following Annex I habitats: annual vegetation of drift lines, Atlantic salt meadows, coastal lagoons, spartina swards, estuaries, mudflats and sandflats, perennial vegetation of stony banks, salicornia and other annuals colonising mud and sand, sandbanks, and shifting dunes. The site is also designated for the presence of the Annex II species Desmoulin's whorl snail.

Farlington Marshes LNR – Designated for its lowland meadow, coastal grazing marsh, and saline lagoon habitats. This forms part of the Langstone Harbour SSSI.

Langstone Harbour SSSI – Designated for its extensive mudflats, a large area of mixed saltmarsh, and an area of extensive cord-grass marsh. An intertidal system supporting high densities of intertidal invertebrates and a large population of migrant and overwintering waders and wildfowl.

Constraints and Opportunities for Project (BI-B02)

Potential for watercourse enhancement works (unmitigated) to result in direct impacts on statutory designated sites for nature conservation; Chichester and Langstone Harbour SPA and Solent and Dorset Coast Marine SPA, Chichester and Langstone Harbour Ramsar Site and The Solent Maritime SAC. A Habitats Regulation Assessment Stage 1 Screening will be carried out and it is anticipated that no likely significant effects should be assessed without control measures.

No other statutory or non-statutory sites will impacted by the habitat creation/enhancement proposals due to the distance of the offsite proposals from the designated sites.

Protected and Notable Species (BI-T02)

Provide a concise summary of the notable species records within the zone of influence of the project and any potential impacts from the project.

Species	Dates	Conservation Status	Distance of Closest Record	Potential Impact from Project
European eel	6 August 2021 29 June 2012	**Critically Endangered** species on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species (2010). **Species of Principal Importance** under section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. **UK Biodiversity Action Plan (BAP; 2007) priority fish species.**	830 m	Positive (noting that there is potential for negative impacts during construction, but a fish management plan will be in place to mitigate for this risk).
Opposite leaved pondweed	2016 and 2018	**Vulnerable** species on the Vascular Plant Red Data List for Great Britain, revised February 2021.	0m Assumed to be within Bedhampton BNG Reach 32&33, associated with the Bedhampton Springs discharge point at OS NGR SU 70553 06232, but there is some uncertainty around the exact location of the record.	Negligible (no in-channel works at assumed location of the records).

Summary of Protected and Notable Species **(BI-B03)**

Great crested newts (GCN) are considered likely absent from Bedhampton. No surveys for GCN have been undertaken at the pond in Bidbury as the closest record of GCN is over 3.5 km away from Bedhampton and Bidbury.

A bat roost is present within 200 m of Bedhampton, there are no potential impacts from the creation of the offsite gain sites on this roost.

Both Bidbury and Bedhampton are presumed to support low numbers of widespread reptiles given their location and habitats present.

Constraints and Opportunities for Project (BI-B04)

The potential for impacting individual reptiles as a result of grassland management / pond creation / tree planting is low.

In the long term, the sites will be improved for reptiles, amphibians, invertebrates, bats and other mammals as a result of improved grassland habitats and new ponds / trees creating a more varied habitat mosaic.

Biological Records Plan - Sites and Species (BI-F01)

Baseline Habitats Survey

Ecologist responsible for baseline surveys (BI-T03)	
Name or Initials	VG/HJ
Organisation	AtkinsRéalis
Survey Date	25/02/2025
Statement of Competency	
VG is a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM), a Chartered Environmentalist, and has been a consultant for 18 years. She has undergone extensive training in Biodiversity Net Gain (BNG) assessments including habitat condition monitoring. GH has been a consultant for 6 years, she is a FISC level 4 botanical surveyor and has undergone extensive training in Biodiversity Net Gain (BNG) assessments including habitat condition monitoring. HJ is a Senior Fluvial Geomorphologist, accredited River Condition Assessment (MoRPh) surveyor and Chartered Geomorphologist. She has over 9 years' experience in understanding, enhancing and monitoring watercourses. HJ has extensive experience of undertaking River Condition Assessments on a variety of river types. She has undergone training in Biodiversity Net Gain Assessments and creation of Habitat Management and Monitoring Plans (HMMPs) for BNG.	
Survey conditions and limitations	

The baseline surveys for both terrestrial and aquatic habitats were undertaken in February 2025 which is outside of the optimal time for undertaking botanical surveys (May to September) and MoRPh5 surveys (field component of River Condition Assessment) due to the project programme and access requirements. Timing of these surveys were not considered to pose a significant constraint to the BNG assessment as previous botanical information was available from both sites from Portsmouth Water (Bedhampton Water Treatment Works, Hampshire. Vegetation Survey 2016, John Norton Ecology).

Vegetation within the watercourse and riparian zone reaches was assessed looking at both new growth and vegetation die-back to mitigate for the seasonal constraints. This is considered appropriate given the survey method assesses broad vegetation types as opposed to specific species which could be missed during a winter survey. During the MoRPh surveys the water within the Hermitage Stream was turbid and the bed substrates could not be fully assessed. Observations from previous surveys on the Hermitage Stream were used to provide substrate information to determine the MoRPh River Type within the River Condition Assessment. It is likely that the overall baseline river condition score for these survey reaches is slightly reduced because of substrates being recorded as absent/not visible. There are limited options available to deal with this constraint. The MoRPh survey method requires the surveyor to record 'what they see', therefore, the surveys adhere to the methodology. Given the overall river condition for these survey reaches is similar to previous surveys on these watercourses when turbidity wasn't a constraint, it is not considered to significantly affect this assessment.

Habitat Degradation

Are there any signs or evidence that the baseline habitats have been purposefully degraded since 30th January 2020? (BI-B05)
No evidence that the baseline habitats have been purposefully degraded since 30th January 2020. Discussions with Portsmouth Water and viewing historical aerial imagery suggest that this is the case.
If habitats have been purposefully degraded, provide details of how this has been accounted for (BI-B06)
Not applicable.

Baseline Habitat Descriptions and Condition

Use the following tables to provide details of the relevant baseline habitats information. Provide a concise overview of the justification for the condition chosen for each parcel(s) in the appropriate column.

Habitats (BI-T04)

Parcel Refs	Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Area (ha)
1 (Bedhampton west)	Other neutral grassland – g3c	No	No	Short managed grassland adjacent to Hermitage stream Criterion 1 – pass; criterion 2 – fail; criterion 3 – fail; criterion 4 – pass; criterion 5 – pass; criterion 6 - pass	Moderate	0.36
6 (Bedhampton west)	Individual urban tree	No	No	A group of six urban sycamore trees in the northwest of the Bedhampton west site, all multistem. All trees were the same condition so can be assessed together. Criterion 1- pass; criterion 2 – pass; criterion 3 – pass; criterion 4 – pass; criterion 5 – pass; criterion 6 - pass	Good	0.016
2 (Bidbury)	Other neutral grassland – g3c	No	No	Four small areas of grassland, were assessed separately but condition scores were the same so all assessed together. Criterion 1 – pass; criterion 2 – fail; criterion 3 – fail; criterion 4 – pass; criterion 5 – pass; criterion 6 - pass	Moderate	1.006
3 (Bidbury)	Non-priority ponds	No	No	A pond within Bidbury formed as a result of a leaking asset. Criterion 1 – pass; criterion 2 – pass; criterion 3 – pass; criterion 4 – fail; criterion 5 – fail; criterion 6 – pass; criterion 7 – pass; criterion 8 – pass; criterion 9 – pass.	Good	0.039
5 (Bidbury)	Individual urban trees	No	No	Large individual willow tree in northeast corner of Bidbury. Criterion 1 – pass; criterion 2 – pass; criterion 3 – pass; criterion 4 – pass; criterion 5 – fail; criterion 6 – pass	Good	0.098

Hedgerows (BI-T05)

No hedgerows present. Not applicable.

Feature Refs	Habitat Type and Code	Irreplaceable	Priority	Description and Condition Justification	Condition	Area (ha)

Watercourses (BI-T06)

Feature Refs	Habitat Type and Code	Irreplaceable	Priority	Description and condition justification	Condition	Length km
BNG Reach 30	Other rivers and streams	No	No	Watercourse condition ‘poor’ based on coincident MoRPh survey (Site 15). Watercourse encroachment ‘major’ due to reinforced bed and banks. Riparian encroachment ‘major’ on right bank top due to hard standing and industry, ‘Minor’ on left bank top due to managed recreation area (captured in MoRPh survey).	Poor	0.086
BNG Reach 31	Other rivers and streams	No	No	Watercourse condition ‘poor’ based on coincident MoRPh survey (Site 16). Watercourse encroachment ‘major’ due to reinforced bed and banks. Riparian encroachment ‘major’ on both banks due to managed land cover.	Poor	0.094
BNG Reach 32	Other rivers and streams	No	No	Watercourse condition ’fairly poor’ based on coincident MoRPh survey (Site 14). Watercourse encroachment ‘major’ due to revetment throughout reach and weirs across. Riparian encroachment ‘major’ both banks due to managed land.	Fairly Poor	0.118
BNG Reach 33	Other rivers and streams	No	No	Watercourse condition ‘moderate’ based on coincident MoRPh survey (Site 17). Watercourse encroachment ‘minor’ due to localised reinforcements/structures. Riparian encroachment ‘major’ both banks due to managed land.	Moderate	0.127
BNG Reach 34	Other rivers and streams	No	No	Watercourse condition ‘moderate’ based on coincident MoRPh survey (Site 18). Watercourse encroachment ‘minor’ due to presence of some minor reinforcement and structure (recorded in MoRPh survey). Riparian encroachment ‘major’ on left bank due to managed land cover. ‘No encroachment’ on right bank top due to woodland.	Moderate	0.086
BNG Reach 35	Other rivers and streams	No	No	Watercourse condition ‘moderate’ based on coincident MoRPh survey (Site 18). Watercourse encroachment ‘minor’ due to presence of some minor reinforcement and structure (recorded in MoRPh survey). Riparian encroachment ‘major’ on left bank due to managed land cover. ‘No encroachment’ on right bank top due to woodland.	Moderate	0.039
BNG Reach 36	Other rivers and streams	No	No	Watercourse condition ‘fairly poor’ based on coincident MoRPh survey (Site 19). Watercourse encroachment ‘major’ due to bank reinforcement. Riparian encroachment ‘major’ on right bank due to managed land cover. ‘No encroachment’ on left bank top due to woodland.	Fairly Poor	0.053

BNG Reach 37	Other rivers and streams	No	No	Watercourse condition ‘fairly poor’ based on coincident MoRPh survey (Site 19). Watercourse encroachment ‘major’ due to bank reinforcement. Riparian encroachment ‘major’ on right bank due to managed land cover. ‘No encroachment’ on left bank top due to woodland.	Fairly Poor	0.015

Priority and Irreplaceable Habitats

Summary of Priority and Irreplaceable Habitats (BI-B07)

No priority or irreplaceable habitats are present within the Bedhampton or Bidbury offsite boundary.

Potential Constraints and Opportunities for Project (BI-B08)

No priority or irreplaceable habitats are present within the Bedhampton or Bidbury offsite boundary.

Baseline Habitats Plan (BI-F02)



AtkinsRéalis

Legend

- Bedhampton and Bidbury Offsite Boundary
- Baseline Urban Tree
- Other neutral grassland
- Pond (non-priority)

0 25 50 m

Base Mapping: © OpenStreetMap 2025

AtkinsRéalis
Woodcote Grove
Ashley Road
Epsom
KT18 5BW

Client: Portsmouth Water

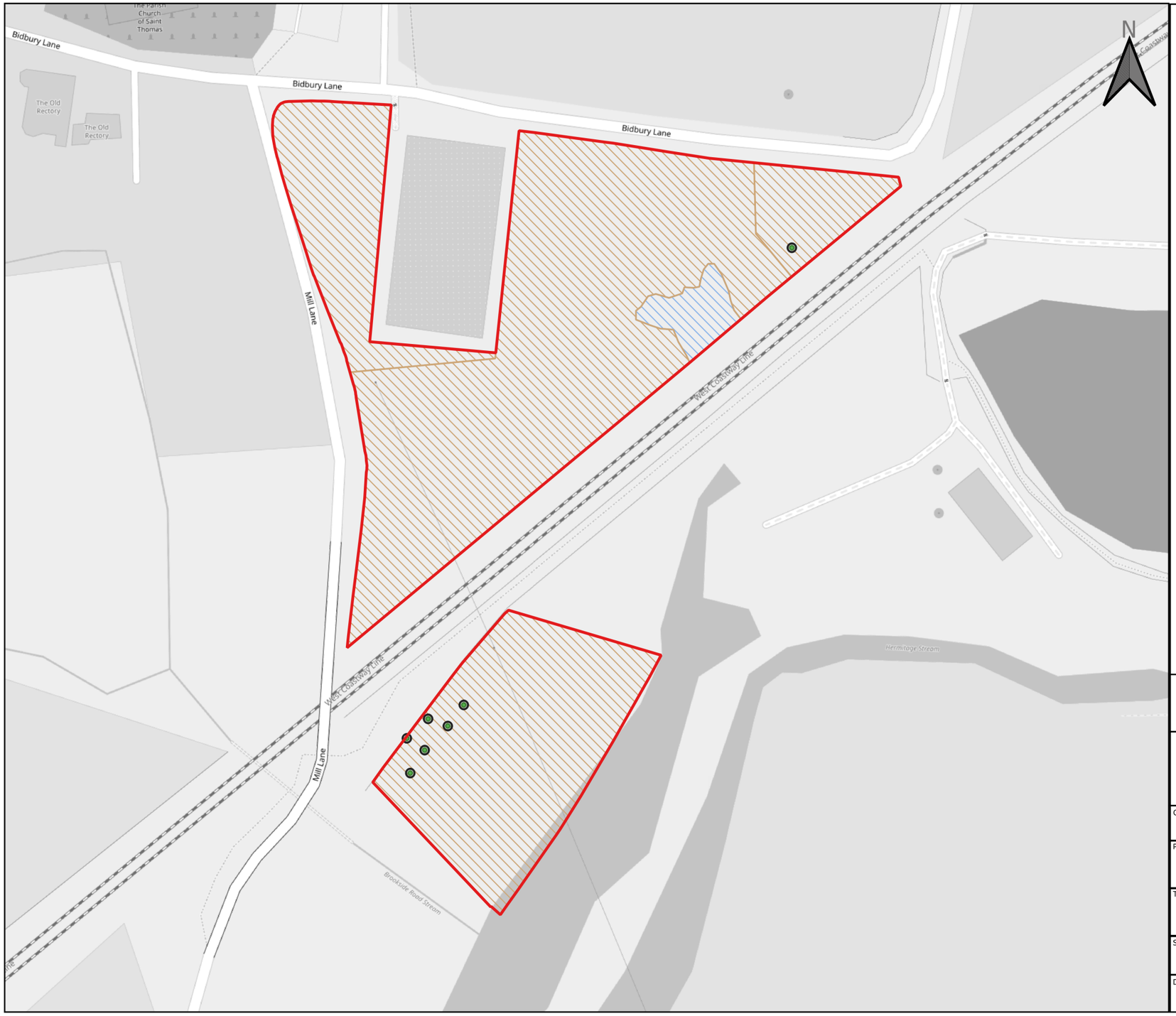
Project: Havant Thicket Reservoir - Bedhampton Pipeline

Title: Bedhampton and Bidbury Offsite Baseline Habitats Plan

Sheet Size	Original Scale:	Design/Drawn	Checked	Reviewed
A3	1:1,000	GH	VG	xx
		Date 11/06/25	Date xx/xx/xx	Date xx/xx/xx

Drawing Number: N/A — Rev: 00

Baseline Distinctiveness and Condition Plan (BI-F03)



AtkinsRéalis

Legend

- Bedhampton and Bidbury Offsite Boundary
- Good Condition Urban Tree (Medium Distinctiveness)
- Good Condition Pond (Medium Distinctiveness)
- Moderate Condition Grassland (Medium Distinctiveness)

0 25 50 m

Base Mapping: © OpenStreetMap 2025

AtkinsRéalis
Woodcote Grove
Ashley Road
Epsom
KT18 5BW

Client: Portsmouth Water

Project: Havant Thicket Reservoir - Bedhampton Pipeline

Title: Bedhampton and Bidbury Offsite Baseline Condition and Distinctiveness Plan

Sheet Size	Original Scale:	Design/Drawn	Checked	Reviewed
A3	1:1,000	GH	VG	xx
		Date 11/06/25	Date xx/xx/xx	Date xx/xx/xx

Drawing Number: N/A

Rev: 00

Baseline Habitats Photos (BI-F04)



Bedhampton – grassland. Yellow arrow indicates location of Hermitage Stream (BNG Reach 31)



Bidbury pond and surrounding grassland



Hermitage Stream – photo showing reinforced concrete banks (BNG Reach 30). Yellow arrow indicates flow direction.

Hydrology and Drainage

Summary of Hydrological Information (EI-B17)

Bidbury

- Superficial Geology (1:50k): River Terrace Deposits (undifferentiated) – Sand Silt and Clay
- Bedrock Geology (1:50k): Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated) – Chalk
- Boreholes: Boreholes undertaken 3/8/1967
  - SU70NW91 - BGS ID: 425473 : BGS Reference: SU70NW91
    - Soil findings – Light grey brown clay to 3ft, brown clay with flint inserts to 7ft, chalk and flint debris to 15ft.
    - Groundwater – 8ft0in (243.84 cm)
  - SU70NW90 - BGS ID: 425472 : BGS Reference: SU70NW90
    - Soil findings – Light brown mottled clay to 5ft, light brown clay with flint shards to 8ft, brown clay with chalk and flint to 10ft.
    - No groundwater found
  - Hydrology: Flow pathway from Bidbury lane at two locations flowing south and flowing out at southern part of Mill Lane. Surface water flooding in southern part of field. There are chalk springs that influence the hydrology of the site as well as surface flow pathways.

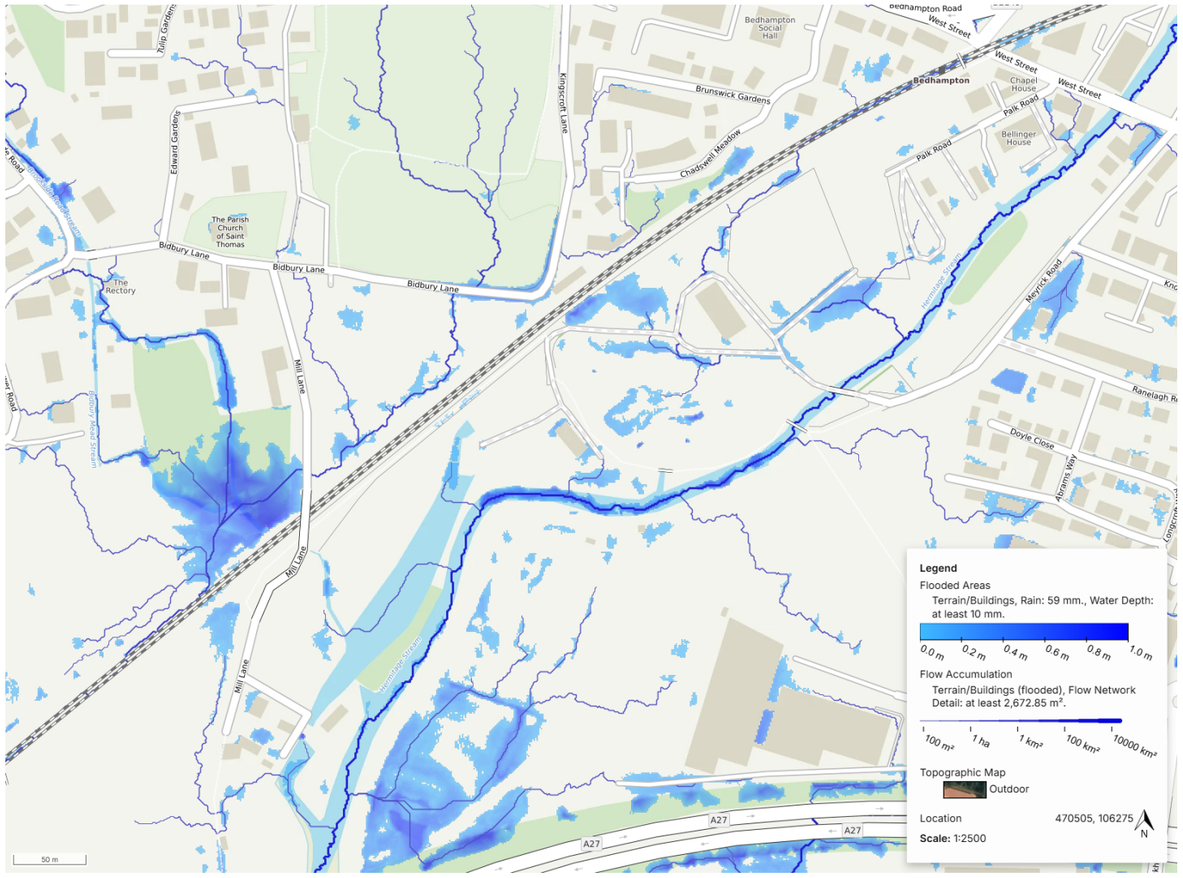
Bedhampton

- Superficial Geology (1:50k): Alluvium - Clay, Silt, Sand and Gravel
- Bedrock Geology (1:50k): Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated) – Chalk
- Boreholes: Boreholes undertaken 4/8/1967
  - SU70NW93 - BGS ID: 425475 : BGS Reference: SU70NW93
    - Soil findings – Light brown chalky clay to 5ft, chalk and flint 15ft.
    - Groundwater – 4ft0in (121.92 cm)
  - SU70NW92 - BGS ID: 425474 : BGS Reference: SU70NW92
    - Soil findings – flint bound firm clay to 3ft, brown mottled clay with inserts of flint to 5ft, brown sandy clay with flint and chalk to 20ft.
    - Groundwater – 6ft0in (182.88 cm)
- Hydrology: Hermitage Stream watercourse is the primary flow pathway. There is a flow pathway from Mill Lane towards the Mill Stream pond. The Mill Stream (BNG Reach 36 and 37) is fed from chalk springs. The Hermitage Stream hydrology is influenced by surface run off and precipitation from the upper catchment and springs in the lower catchment.

Potential Impact on Project (EI-B18)

The proposed ponds at Bidbury are located on flow pathways so will have a supply of water during precipitation events. The hydrology and drainage of the site is not expected to influence the delivery of watercourse enhancements.

Hydrology and Drainage Plan (EI-F06)



Flood Risk Zones

Summary of Flood Risk Information (EI-B19)

The majority of the Bedhampton gain site is in flood zone 1 and is a low risk of flooding, this will not pose a risk to management of terrestrial habitats.

The Hermitage Stream main river is within flood zone 2 and 3.

Bidbury gain site is not with a flood risk zone.

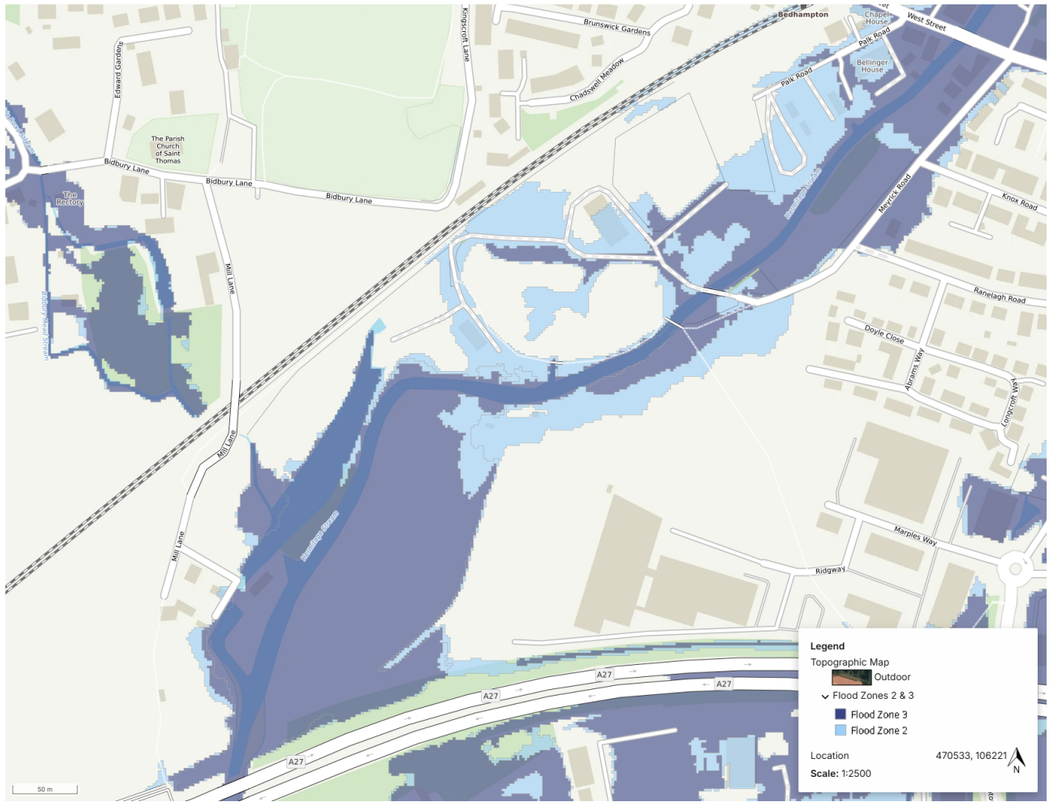
Potential Impact on Project (EI-B20)

Periodic flooding of the grassland at Bedhampton has been considered with regard to the condition targets set for the grassland. It is not anticipated to reduce the potential for the grassland to achieve good condition.

Success of tree planting at Bedhampton could be influenced by periodic flooding; however, species tolerant of inundation have been selected and success of tree planting will be monitored annually during the key establishment period for trees (0-5 years).

The watercourse enhancements are on main river within flood zone 2 and 3. The watercourse enhancements aim to maintain the existing flood capacity and therefore will not contribute to increased flood risk within the area. The watercourse enhancement construction works will require a flood risk activity permit (bespoke permit) due to the Hermitage Stream being a classified as main river and works being proposed in-channel.

Flood Risk Zone Plan (EI-F07)



3. Planned Management Activities

Provide the site-wide aims and objectives. These should consider the Project Background information section outlined above as well as the outcomes of the Metric.

Management Plan Aims and Objectives PM-B01

The aim of the habitat creation and enhancement work is to deliver high quality habitat (and associated offsite BNG units) within the Havant Borough and the Hermitage catchment to ensure a proportion of the offsite units required to achieve 10% net gain for the Havant Thicket reservoir pipeline scheme is delivered in the same borough to where loss of habitat will occur.

The area habitat targets are designed to maximise the potential of Portsmouth Water owned operational sites and have been carefully designed to ensure they are deliverable and can achieve the set targets within a 30 year period.

The watercourse enhancements aim to create a more naturally functioning river system (both in-channel and within the riparian zone).

Principles Informed by Design Stage

The project's BNG target(s) should be set and documented early in the design process. Outline how background and baseline information influenced key design principles for the project from an early stage. This can provide useful context for the proposed retention, creation and enhancement measures.

Design Principles Informed by Baseline Information PM-B02

Watercourse enhancement locations were selected on modified sections with either a 'poor' watercourse baseline condition or managed riparian zone to achieve watercourse gain. The watercourse enhancement reaches lies within the Hermitage Stream water body (where the development is planned). In addition, the enhancements along the Hermitage Stream align with other enhancements proposed (upstream of the Bedhampton) being delivered by Portsmouth Water as part of the Havant Thicket Reservoir Article 4.7/Regulation 19 Water Framework Directive (WFD) compensation and mitigation package. Upstream of the Bedhampton site similar measures are being proposed as part of Regulation 19 (e.g. removal of concrete bed and banks and naturalisation of channel). Thereby these combined enhancements (both as part of BNG gain and WFD compliance) will help support restoring more naturally functioning watercourse within a heavily modified water body.

We have assigned a high strategic significance to the baseline habitats (and post-works habitats).

At the time when this document was prepared, Hampshire's Draft Local Nature Recovery Strategy (LNRS) was not published, however it is noted that the LNRS has since been published on 8th December 2025. As the LNRS was not prepared when this HMMP was being prepared, the strategic significance score has been based on alternative documents as specified by the LPA. Assigning high strategic significance was agreed with Havant Borough Council at the start of the project for all habitats, reflective of the importance of the linear corridor of habitats within this area which is predominately urban.

Habitat and Condition Targets PM-T01

This table presents a summary record of what you have agreed to deliver based on the biodiversity metric. These habitat condition targets form the basis of what the management plan is setting out to achieve. Include the relevant 'Area', 'Hedgerow', and 'Watercourse' types to be implemented and managed throughout the period of 30 years or more.

Baseline Habitat Type	Target Habitat Type	Parcel / Feature Refs	Baseline Condition	Targeted Condition	Years to Targeted Condition	Condition Assessment Targets	Comments
Other neutral grassland	Other neutral grassland	1 (Bedhampton), 2 (Bidbury)	Moderate (both)	Good	10	Grassland on the Bidbury site will be enhanced to good condition by achieving a pass in criteria A, B. C, D, E and F. Grassland on the Bedhampton site is proposed to be enhanced to good condition by achieving a pass in criteria A, B. C, D, E and F.	NA
Individual urban trees	Individual urban trees	5 (Bidbury), 6 (Bedhampton)	Good (both)	Good (both)	NA, retained habitat	All trees meet good condition, so no changes required.	NA
Non-priority pond	Other neutral grassland	Created 1 (Bidbury)	Moderate	Good	10	The small area of grassland creation on site (to replace a lost pond when a leaking asset is fixed) is expected to achieve a good condition score by achieving a pass in criteria A, B. C, D, E and F.	Grassland being created at the site of the baseline pond, as the pond cannot be retained in this location due to the fact it is created by a leaking Portsmouth Water asset.
Other neutral grassland	Non-priority ponds	Created 2 (Bidbury)	Moderate (ONG)	Good (ponds)	3	Ponds are expected to achieve a good condition score by achieving a pass in criteria A, B. C, D, E, F, G, H and I.	Two ponds are proposed to be created. The location of these has been modelled to identify the optimum location for the ponds.
NA	Individual urban trees	Created 3 and created 4	NA	Moderate	27	It is anticipated that the trees will not meet the maturity criterion C or develop ecological niches (criteria E) by 30 years, therefore it is anticipated that the trees will reach a moderate condition score.	NA
Other rivers and streams	Other rivers and streams	BNG Reach 30	'Poor' condition 'Major' watercourse encroachment 'Major/Minor' riparian encroachment.	'Fairly poor' condition 'No' watercourse encroachment 'Major/No' riparian encroachment.	7	Removal of concrete bed and banks and channel works to create a more natural channel. Assumed watercourse condition can be improved to 'Fairly Poor' as a result of these works. There will be no watercourse encroachment post works. Riparian encroachment Major on right bank top due to	The watercourse enhancements are intended to create a more naturally functioning watercourse that is intended to be self-sustaining.

						hard standing and industry. No riparian encroachment on left bank top as assumed management can be reduced/stopped.	
Other rivers and streams	Other rivers and streams	BNG Reach 31	‘Poor’ condition ‘Major’ watercourse encroachment: ‘Major/Major riparian encroachment	**‘**Fairly poor’ condition ‘Minor’ watercourse encroachment ‘Moderate/no’ riparian encroachment	7	Removal of concrete bed and banks and channel works to create a more natural channel. Assumed watercourse condition can be improved to 'Fairly Poor' as a result of these works. There will be Minor watercourse encroachment post works due to presence of small outfalls. No riparian encroachment on right bank top as within Portsmouth Water landownership and will be re-naturalised (trees and scrub planted). Left bank top riparian encroachment reduced to 'Moderate' due to management needed around spring manhole cover.	The watercourse enhancements are intended to create a more naturally functioning watercourse that is intended to be self-sustaining.
Other rivers and streams	Other rivers and streams	BNG Reach 32	‘Fairly poor’ condition ‘Major’ watercourse encroachment ‘Major/Major’ riparian encroachment	‘Fairly poor’ condition ‘Major’ watercourse encroachment ‘Major/No’ riparian encroachment	6	Reduce riparian encroachment	N/A
Other rivers and streams	Other rivers and streams	BNG Reach 33	‘Moderate’ condition ‘Minor’ watercourse encroachment ‘Major/Major’ riparian encroachment.	‘Moderate’ condition ‘Minor’ watercourse encroachment ‘Major/No’ riparian encroachment.	6	Reduce riparian encroachment	N/A
Other rivers and streams	Other rivers and streams	BNG Reach 34	‘Moderate’ condition ‘Minor’ watercourse encroachment ‘Major/No encroachment’ riparian encroachment	‘Moderate’ condition ‘Minor’ watercourse encroachment ‘No/No encroachment’ riparian encroachment	6	Reduce riparian encroachment	N/A
Other rivers and streams	Other rivers and streams	BNG Reach 35	‘Moderate’ condition ‘Minor’ watercourse encroachment ‘Major/No encroachment’ riparian encroachment	‘Moderate’ condition ‘Minor’ watercourse encroachment ‘Major/No encroachment’ riparian encroachment	6	Reduce riparian encroachment	N/A

Other rivers and streams	Other rivers and streams	BNG Reach 36	‘Fairly poor’ condition ‘Major’ watercourse encroachment ‘Major/No encroachment’ riparian encroachment	‘Fairly poor’ condition ‘Major’ watercourse encroachment ‘No/No encroachment’ riparian encroachment	6	Reduce riparian encroachment	N/A
Other rivers and streams	Other rivers and streams	BNG Reach 37	‘Fairly poor’ condition ‘Major’ watercourse encroachment ‘Major/No encroachment’ riparian encroachment.	‘Fairly poor’ condition ‘Major’ watercourse encroachment ‘No/No encroachment’ riparian encroachment	6	Reduce riparian encroachment	N/A

Habitat and Condition Targets Further Comments
Not applicable.

Habitat Retention

Provide a concise description of the habitats that are to be retained in their baseline condition. Habitats being retained may still require ongoing measures to maintain their baseline condition.

Measures to be Implemented to Protect Retained Habitats PM-03

There are a number of mature trees present at Bedhampton and Bidbury. The habitat enhancements proposed (grassland management) will not impact on retained trees. However, the creation of new ponds at Bidbury (and fixing of the leaking asset) could impact on retained trees in the absence of protection.

The root zones and canopies of retained trees will be protected during construction with no allowance of vehicles or storage of materials within these areas.

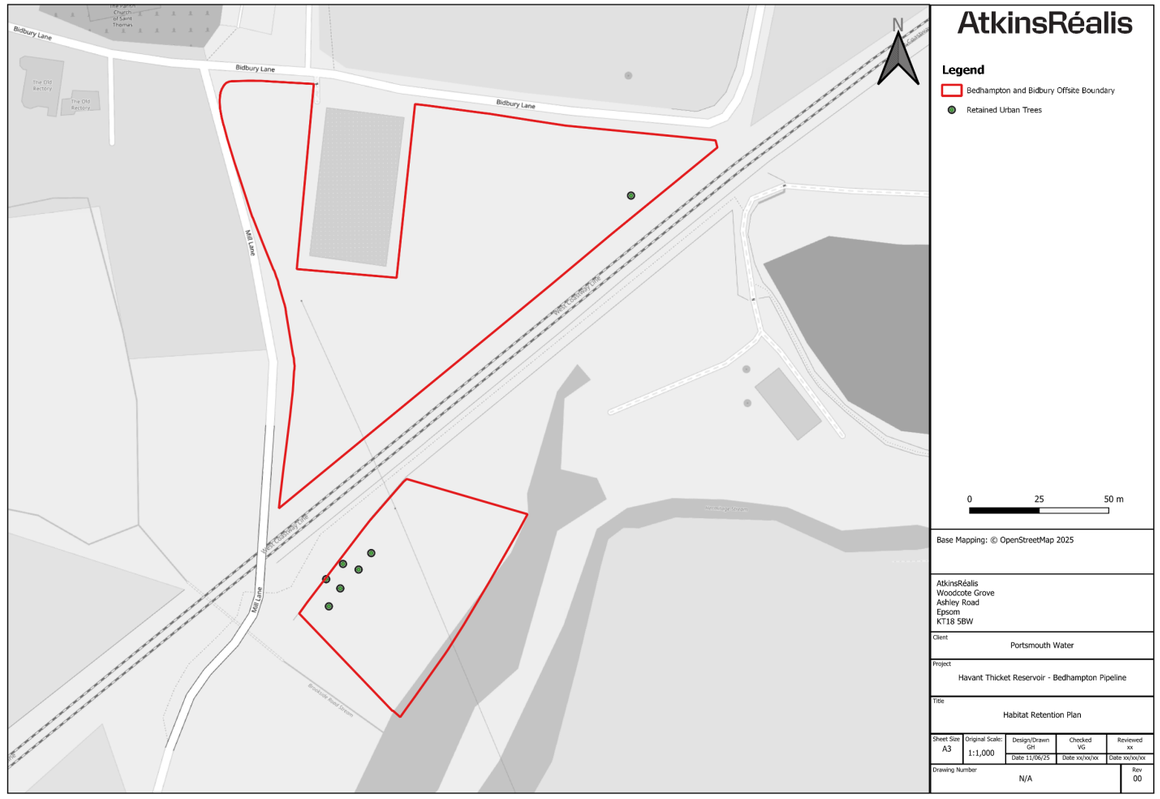
Within the BNG watercourse reaches and calculation of gain there is no watercourse retention. All watercourse habitats will be enhanced.

Specification of Protective Measures to be Used PM-04

Standard tree protection fencing (e.g. Heras fencing with signage) will be used to protect retained trees during pond excavation etc.

Habitat Retention Plan PM-F01

Provide a plan with the locations of habitats to be retained (including whether to be protected and, or, enhanced) and those to be created under this HMMP. Include parcel references if needed. Tick box if any additional plans are provided in the Appendices ☐ . Reference: Click or tap here to enter text.



Habitat Creation, Enhancement and Management Plan EM-F01



AtkinsRéalis

Legend

- Bedhampton and Bidbury Boundary
- Baseline Urban Tree (Retained)
- Proposed Urban Tree
- Horse grazing area
- Japanese Knotweed Presence - 7 m buffer area shown
- Other neutral grassland
- Pond (non-priority)

0 25 50 m

Base Mapping: © OpenStreetMap 2025

AtkinsRéalis
Woodcote Grove
Ashley Road
Epsom
KT18 5BW

Client: Portsmouth Water				
Project: Havant Thicket Reservoir - Bedhampton Pipeline				
Title: Habitat Creation and Enhancement Plan				
Sheet Size: A3	Original Scale: 1:1,000	Design/Drawn: GH, Date 27/06/25	Checked: VG, Date 03/07/25	Reviewed: NC, Date 04/07/25
Drawing Number: N/A				Rev: 00

Creation, Enhancement and Management Summary (GH-T01)

Provide details of the approach to delivering each of the targeted condition criteria and habitat. Conditions from Statutory Biodiversity Metric habitat condition assessment sheets – Sheet 6. Grassland Med High and V. High.

Target Habitat				Grassland		
Condition Assessment Criteria		**Targeted**	**Relevant Parcels**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. **Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Yes	1, 2	N/A	Annual mowing with arisings removed and scarification every 5 years to open up the sward and create bare ground. Species diversity is already good (close to 9 species per m^2) so no proposals for seeding or green hay.	Annual mowing (late August to late September) with arisings removed to an on-site composting area at Bedhampton and Bidbury (where grazing isn't possible due to operation assets). Varied sward height created through rotational mowing designed in consultation with Portsmouth Water's ecologist. Scarify every 5 years after annual mow to open up the sward and allow less dominant species to establish and create bare ground. Grazing with horses will be used for grassland management at Bidbury with an additional cut in the winter (November) to ensure a thatch layer doesn't accumulate which would limit species establishment.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Yes	1, 2	N/A	Annual mowing plan to be agreed with Portsmouth Water ecologist to ensure a varied sward is created across both sites. Grazing by horses in Bidbury will help create a varied sward.	As above.
C	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes	1, 2	N/A	Regular mowing and scarification every 5 years will open the sward and create gaps and bare ground. Grazing by horses in Bidbury will help create bare ground.	As above
D	Cover of bracken *Pteridium aquilinum* less than 20% and cover of scrub (including bramble) less than 5%.	Yes	1, 2	N/A	No bracken currently present on Bedhampton or Bidbury.	Annual mowing will ensure bracken levels remain below 20% cover and that scrub cover is less than 5%. Scrub levels will be regularly reviewed and monitored.

E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging activities) accounts for less than 5% of total area. If any invasive non-native species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Yes	1, 2	N/A	Invasive non-native species will be removed or managed by spot treatment with herbicides.	Regular review of the site to determine presence of invasive non-native species and species indicative of suboptimal conditions and/or physical damage.
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type. **Note – this criterion is essential for achieving Good condition for non-acid grassland types only.**	Yes	1, 2	N/A	Annual mowing with arisings removed and scarification every 5 years to promote conditions favourable for a diverse sward.	As per enhancement.

Additional Management Prescriptions (GH-B01)
Parcel 2 at Bidbury will continue to be grazed by horses as this is an existing agreement with a local horse owner. The stock density is 1 to 2 horses and they graze typically between April to October– this is not felt to impact on potential for reaching criteria listed above. However, this will be monitored and stocking reduced if it is felt that it is impacting on achieving the criteria listed above.

Grassland (Medium, High, and Very High Distinctiveness)

Creation, Enhancement and Management Detailed Methods (GH-T02)

Provide detailed prescriptions for the creation and management of the habitat.

Action	Relevant Parcels	Timing	Prescriptions
Scarification	1,2	Every five years in Spring (April to May)	A motorised scarifier or hand tools can be used to remove thatch across the grasslands. Remove arisings to designated compost areas.
Removal of weeds	1, 2	As required during main plant growing season.	Undesirable weed species will be removed or managed by spot treatment with herbicides. No herbicides to be used within 8m of the watercourse in Bedhampton.
Cut and collect	1, 2	Annually	Annual mowing (late August to late September) with arisings removed to an on-site composting area for Bedhampton and the operational area of Bidbury where horses cant graze.
Grazing and a winter cut	2	Grazing between April and October annually Annual cut of the grassland in November	Grazing by 1 to 2 horses on the central part of the Bidbury site. Cut and collect of grazed grassland area in November to prevent thatch build up. Remove arisings to onsite compost area.

Grassland (Medium, High, and Very High Distinctiveness) Species Lists (GH-T03)

Not applicable. Grassland creation creation of 0.04 ha (where leaking asset is being fixed and pond area will be returned to other neutral grassland) is through natural regeneration.

Provide a detailed species list for the habitat to be created

Common Name	Scientific Name	Abundance / %	Comments

Other Supporting Information

Supporting Information (GH-B02)

Please use this space to provide any additional information where relevant.

Not applicable.

What Does Success Look Like? (GH-F01)





Pond

Creation, Enhancement and Management Summary (PO-T01)

Provide details of the approach to delivering each of the targeted condition criteria and habitat. Conditions from Statutory Biodiversity Metric habitat condition assessment sheets – Sheet 18. Pond

Target Habitat:						
Condition Assessment Criteria		**Targeted**	**Relevant Parcels**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Yes	Created 2	Dig each pond (two ponds in total at Bidbury) to 0.75 m deep with a shallow (0.30m) ledge all around the pond and use arising to create a 'bank' on the south side of the pond. The pond will be ephemeral, no liner proposed. No seed mix – aquatic plant species to establish through natural colonisation – consideration to be given for sourcing plant material from the existing pond on site which will be lost (dependent on timings of works).	NA	Between 10-20% of pond margins to be cut back every 5 years in autumn to ensure the pond retains open water habitat. Ponds not anticipated to be fenced, horses graze field so monitoring required to ensure turbidity is acceptable.
B	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	Yes	Created 2	Semi-natural habitat exists around pond at all sides. No action required.	NA	Semi-natural habitat exists around pond on all sides, no action required.
C	Less than 10% of the water surface is covered with duckweed *Lemna* spp. or filamentous algae.	Yes	Created 2	NA	NA	Pond management every five years in autumn. Excessive amounts of duckweed or algae to be removed.
D	The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.	Yes	Created 2	The ponds will not connected to other waterbodies.	NA	NA
E	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.	Yes	Created 2	The ponds will not be connected to artificial dams, pumps, or pipework.	NA	NA
F	There is an absence of listed non-native plant and animal species.	Yes	Created 2	NA	NA	Removal of INNS if present. Method dependent on species present. Monitoring in years 1,2,3,4,5, 10,15,20,25 and 30 will provide surveillance for INNS.

G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Yes	Created 2	The pond will not be artificially stocked with fish	NA	NA
H	In non-woodland ponds: emergent, submerged or floating plants (excluding duckweed)[3] cover at least 50% of the pond area which is less than 3 m deep. (only applicable to non-woodland ponds)	Yes	Created 2	No specific planting of the pond will be undertaken.	NA	The pond will be allowed to naturally colonise with plants. The existing pond on site has emergent, submerged, and floating plants. Management of the pond margin every 5 years (see criteria A) will ensure conditions persist for emergent, submerged or floating plants to persist.
I	The pond surface of non-woodland ponds is no more than 50% shaded by adjacent trees and scrub. (only applicable to non-woodland ponds)	Yes	Created 2	The proposed location of the ponds is surrounded by grassland on all sides, no shading from adjacent trees and shrubs anticipated.	NA	Management of the pond margin every 5 years (see criteria A) will ensure shading is kept to no more than 50% of the pond surface.

Additional Management Prescriptions (PO-B01)

Please use this space to detail any additional management measures to be conducted along with the above measures. These may for example include (but are not limited to) measures specifically relating to the presence of protected species or may be additional measures that are in support of local nature recovery targets and, or, planning policy.

N/A

Pond

Creation, Enhancement and Management Detailed Methods (PO-T02)

Provide detailed prescriptions for the creation and management of the habitat.

Action	Relevant Parcels	Timing	Prescriptions
Create pond	Created 2	Anytime. However, September to November is preferrable to utilise heavier period of rainfall to fill the ponds.	Dig ponds to 0.75 m with ledges to support aquatic plants and animals and use arising to create a ‘bank’ on the south side of the pond. No seed mix – aquatic plant species to establish through natural colonisation Allow ponds to fill naturally from rain water.
Clear scrub	Created 2	Autumn (every five years)	Scrub clearance surrounding pond (10-20% removed from 1 m margin of pond). Grassland management regime should reduce scrub encroachment around ponds.
Check for INNS and removal if present	Created 2	As required (timing dependent on species)	Method of removal will depend on species of INNS

Pond Species Lists (PO-T03)

Provide a detailed species list for the habitat to be created – Natural colonisation of pond plants is the preferred method.Pond to be renaturalised from the surrounding environment

Common Name	Scientific Name	Abundance / %	Comments

Other Supporting Information

Supporting Information (PO-B02)

Please use this space to provide any additional information where relevant.

NA

What Does Success Look Like? (PO-F01)





Individual Trees

Creation, Enhancement and Management Summary (UT-T01)

Provide details of the approach to delivering each of the targeted condition criteria and habitat. Conditions from Statutory Biodiversity Metric habitat condition assessment sheets – Sheet 9. Individual Trees

Target Habitat:					
Condition Assessment Criteria		**Targeted**	**Relevant Features**	**Creation Approach**	**Enhancement Approach**
A	The tree is a native species (or more than 70% within the block are native species).	Yes	All trees	Trees planted will be of native species.	NA
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes	All trees	Individual trees automatically pass this criterion	NA
C	The tree is mature (or more than 50% within the block are mature).	No	All trees	It is not anticipated that the trees planted will achieve mature status initially, therefore this criterion has not been targeted.	NA
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Yes	All trees	The Bedhampton and Bidbury sites are not accessible to the public therefore no impacts on tree health by human activities are anticipated.	NA
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No	All trees	Due to the young age of the trees to be planted, it is not anticipated that natural ecological niches will be present within the 30 year period.	NA

F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes	All trees	All trees are created on top of grassland.	NA

Additional Management Prescriptions (UT-B01)

NA

Individual Trees

Creation, Enhancement and Management Detailed Methods (UT-T02)

Provide detailed prescriptions for the creation and management of the habitat.

Action	Relevant Features	Timing	Prescriptions
Tree planting	All trees	November to end of February	Planting methodology will be dependent on size. No stocking larger than a standard.
Watering	All trees	Year 1, 2 and 3	Ensure moisture levels are maintained to an appropriate level for optimum growth, this may involve watering through the drier months but will depend upon conditions.
Fertiliser application	All trees	Annually (spring)	Application of a slow release fertiliser in spring around the base of all trees to ensure soil fertility is maintained.
Replacement of Failed Trees	All trees	Annually in winter	The removal of any vandalised, unhealthy, or dead specimens and replacement with trees of the same size to those adjacent where practicable, during the same planting season.
Anchors, Stakes, and Ties	All trees	Annually in winter	Inspection, adjustment, and maintenance of anchors, stakes, and ties. Remove tree protection (stakes, tubes, guards, ties etc) by when agreed that sufficient growth has been achieved (with Portsmouth Water ecologist) and dispose off-site
Weed control	All trees	As required	Suggest a weed mulch mat as low maintenance but to be discussed with Portsmouth Water to see which methods they prefer

Individual Trees Species Lists (UT-T03)

Provide a detailed species list for the habitat to be created

Common Name	Scientific Name	Abundance / %	Comments
Alder	*Alnus glutinosa*	4 individual trees	To be used in Bedhampton
Hawthorn	*Crataegus monogyna*	10 individual trees	To be used in Bidbury

Other Supporting Information

Supporting Information (UT-B02)

Please use this space to provide any additional information where relevant.

Alder has been selected for Bedhampton as field is in the flood zone and so appropriate species to use.

Hawthorn has been selected for Bidbury as it is an excellent tree species for pollinators and birds.

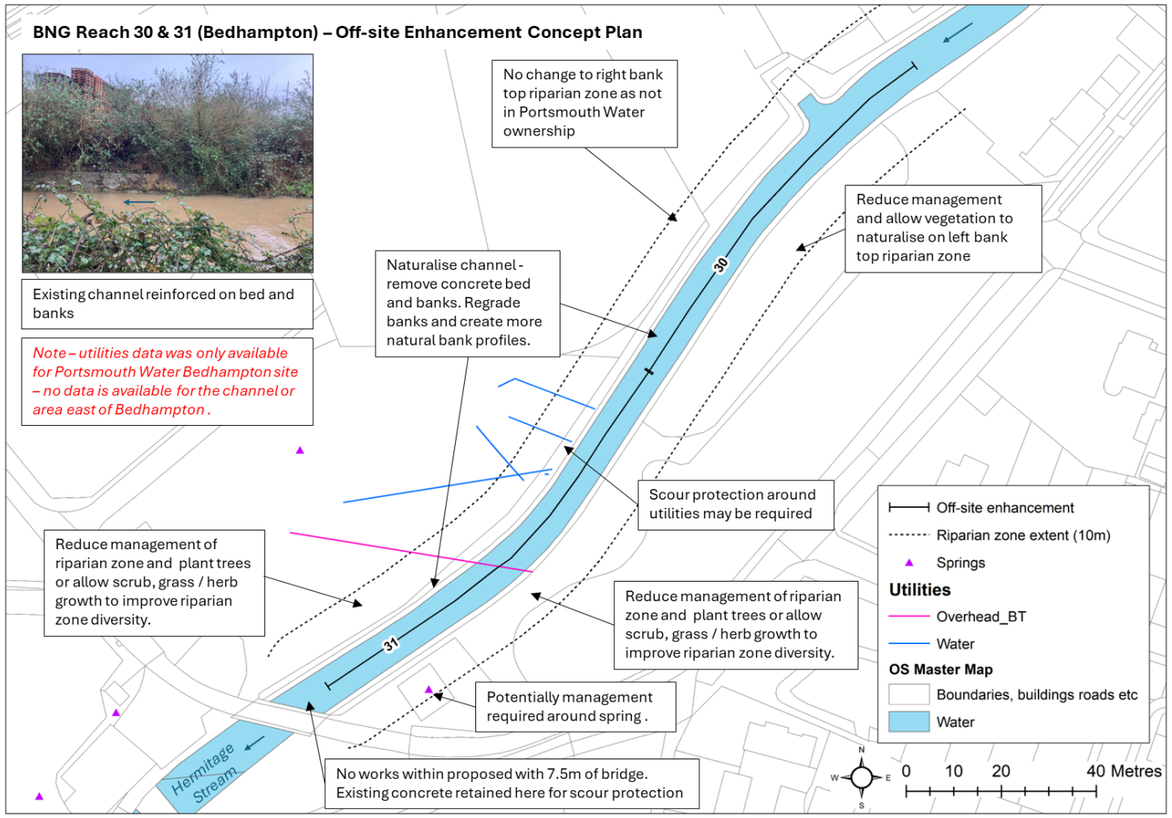
What Does Success Look Like? (UT-F01)

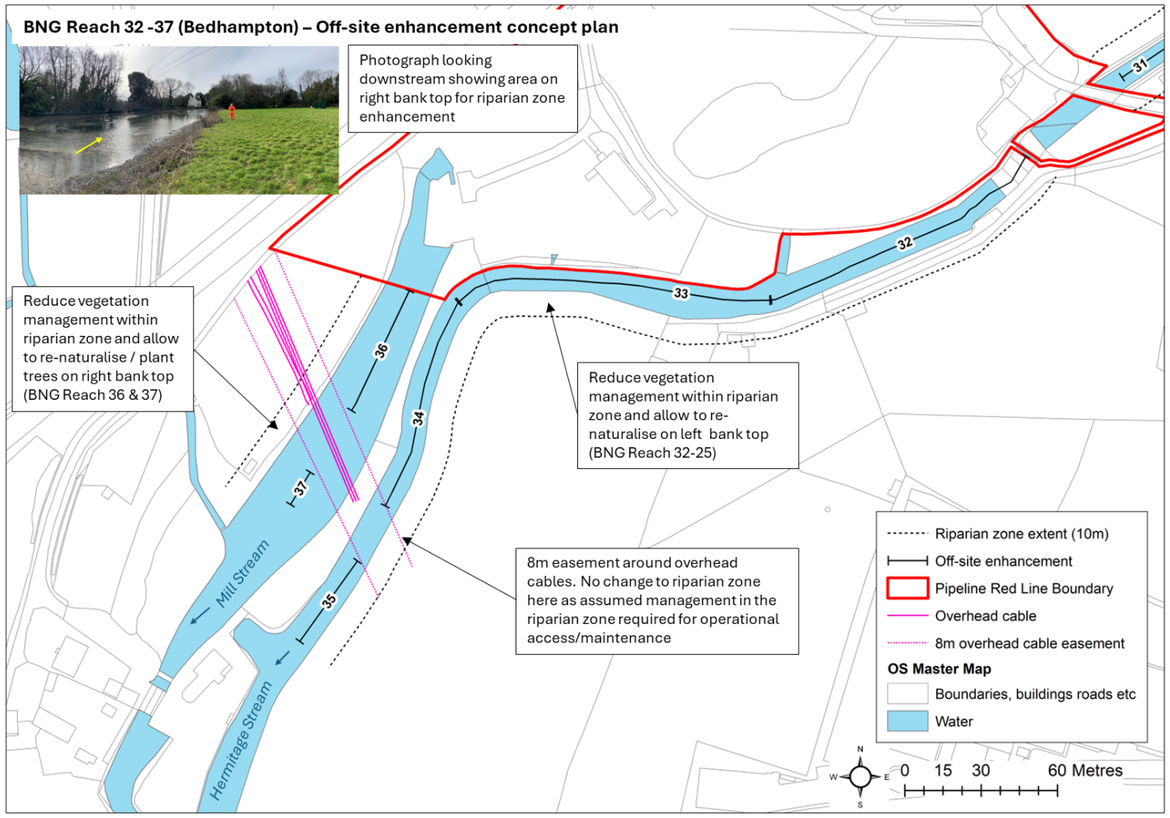


Watercourses

Habitat Creation, Enhancement and Management Plan EM-F01

Off-site watercourse enhancement - concept plans





Creation, Enhancement and Management Summary

Provide details of the approach to delivering each of the targeted Watercourse characteristics and/or RCA indices.

Summary of Watercourse Enhancement Proposals (WC-B01)

Watercourse enhancements are proposed on BNG Reaches 30 – 37 on the Hermitage Stream at the Portsmouth Water owned Bedhampton site (see Watercourse EM-F01). The proposals aim to create a more naturally functioning watercourse by removing artificial reinforcements and reducing management within the riparian zone.

Concept plans have been produced for the watercourse enhancements (see Watercourse EM-F01) and the enhancement, management and monitoring described in this HMMP reflects this level of detail available to date.

Enhancements comprise:

- 0.18 km of in-channel habitat enhancements, removing the concrete bed and banks to create a more naturally formed channel and encourage natural processes (BNG Reach 31 and 32).
- 0.62 km of riparian enhancements to improve vegetation diversity involving reducing existing cutting/management regimes and allowing natural vegetation growth and or/ planting mixed diversity vegetation (e.g. tall herbs, shrubs, trees) (BNG Reaches 31-37).

Will the length of the watercourse be altered as part of the enhancement? (WC-B02) Yes: ☐ No: ☒

N/A

Will enhancements target improvements to watercourse encroachment? (WC-B03) Yes: ☒ No:☐

- 0.086 km length of watercourse (BNG Reach 30) will have existing concrete bed and banks removed as part of the enhancement works thereby reducing watercourse encroachment to 'No encroachment'.
- 0.094 km length of watercourse (BNG Reach 31) will have most of existing concrete bed and banks removed as part of enhancement works (minor reinforcement may be required around outfalls) thereby reducing watercourse encroachment to 'Minor encroachment'.

Will enhancements target improvements to riparian encroachment? (WC-B04) Yes: ☒ No:☐

- 0.62 km length of riparian enhancements to improve riparian vegetation diversity involving reducing existing cutting/management regimes and allowing natural vegetation growth and or/ planting mixed diversity vegetation (e.g. tall herbs, shrubs, trees) within the riparian zone.

Will enhancements target improving distinctiveness of the watercourse (WC-B05) Yes: ☐ No: ☒

N/A

Will enhancements target improving condition of the watercourse (WC-B06) Yes: ☒ No:☐

- 0.18 km length (over BNG 30 and 31) of in-channel habitat enhancements, removing concrete bed and banks to create a more naturally formed channel and encourage natural processes. RCA indices provided in Tables WC-T01. In the scenarios below we have assumed that the naturalisation and removal of the concrete bed and banks and creation of new bare surfaces may lead to the colonisation of INNS, so we have accounted for this in our calculation of post-intervention condition scores and change in condition.
- Note where riparian enhancements are proposed it is assumed there will be no change in river condition class, only a change to the riparian encroachment classification (BNG Reaches 32-37).

Watercourse Condition Enhancements (WC-T01)

Watercourse ID:	BNG Reach 30 (MoRPh Site 15)
Watercourse Baseline Condition:	Poor
Is the Watercourse Baseline Overdeep?	Yes: ☐ No: ☒
Watercourse Proposed Condition:	Fairly Poor
Will the Proposed Watercourse be Overdeep?	Yes: ☐ No: ☒

Condition Assessment Criteria RCA Index ID*	RCA Index Name	RCA Index Values Baseline Score	Proposed Score
Bank Top			
B1 (+)	Bank top vegetation structure	2	2
B2 (+)	Bank top tree feature richness	2	2
B3 (+)	Bank top water-related features	0	0
B4 (-)	Bank top NNIPS cover	0	-1
B5 (-)	Bank top managed ground cover	-4	-2
Bank face			
C1 (+)	Bank face riparian vegetation structure	1	1
C2 (+)	Bank face tree feature richness	0	0
C3 (+)	Bank face natural bank profile extent	0	1
C4 (+)	Bank face natural bank profile richness	0	1
C5 (+)	Bank face natural bank material	0	1
C6 (-)	Bank face bare sediment extent	0	0
C7 (-)	Bank face artificial bank profile extent	-4	-1
C8 (-)	Bank face reinforcement extent	-4	-1
C9 (-)	Bank face reinforcement material	-4	-1
C10 (-)	Bank face NNIPS cover	0	-1
Channel Margin			
D1 (+)	Channel margin aquatic vegetation	0	0
D2 (+)	Channel margin aquatic morphotype	0	0
D3 (+)	Channel margin physical feature extent	0	0
D4 (+)	Channel margin physical feature	0	0
D5 (-)	Channel Margin artificial features	0	0
Channel Bed			
E1 (+)	Channel aquatic Morphotype richness	0	0
E2 (+)	Channel bed tree features richness	0	0

E3 (+)	Channel bed hydraulic features richness	0	0
E4 (+)	Channel bed nature features richness	0	0
E5 (+)	Channel bed natural features richness	0	0
E6 (-)	Channel bed material richness	0	0
E7 (-)	Channel bed siltation	0	0
E8 (-)	Channel bed reinforcement extent	-4	0
E9 (-)	Channel bed reinforcement severity	-4	0
E10 (-)	Channel bed artificial features severity	0	0
E11 (-)	Channel bed NNIPS extent	0	-1
E12 (-)	Channel bed filamentous algae extent	0	0

*where (+) are positive scoring indices and (-) are negative scoring

Watercourse Condition Enhancements (WC-T01)			
Watercourse ID:	BNG Reach 31 (MoRPh Site 16)		
Watercourse Baseline Condition:	Poor		
Is the Watercourse Baseline Overdeep?	Yes: ☐ No: ☒		
Watercourse Proposed Condition:	Fairly Poor		
Will the Proposed Watercourse be Overdeep?	Yes: ☐ No: ☒		
Condition Assessment Criteria		**RCA Index Values**	
RCA Index ID*	**RCA Index Name**	**Baseline Score**	**Proposed Score**
Bank Top			
B1 (+)	Bank top vegetation structure	2	2
B2 (+)	Bank top tree feature richness	2	2
B3 (+)	Bank top water-related features	0	0
B4 (-)	Bank top NNIPS cover	0	-1
B5 (-)	Bank top managed ground cover	-2	0
Bank face			
C1 (+)	Bank face riparian vegetation structure	0	0
C2 (+)	Bank face tree feature richness	0	0
C3 (+)	Bank face natural bank profile extent	1	1
C4 (+)	Bank face natural bank profile richness	1	1
C5 (+)	Bank face natural bank material	0	1
C6 (-)	Bank face bare sediment extent	0	0
C7 (-)	Bank face artificial bank profile extent	-4	-1
C8 (-)	Bank face reinforcement extent	-4	-1
C9 (-)	Bank face reinforcement material	-4	-1
C10 (-)	Bank face NNIPS cover	0	-1
Channel Margin			
D1 (+)	Channel margin aquatic vegetation	0	0
D2 (+)	Channel margin aquatic morphotype	0	0
D3 (+)	Channel margin physical feature extent	0	0
D4 (+)	Channel margin physical feature	0	0
D5 (-)	Channel Margin artificial features	-1	-1
Channel Bed			
E1 (+)	Channel aquatic Morphotype richness	0	0
E2 (+)	Channel bed tree features richness	0	0
E3 (+)	Channel bed hydraulic features richness	1	1
E4 (+)	Channel bed nature features richness	0	0

Watercourses

Enhancement and Management Summary (WC-T02)

Provide details of the approach to delivering each of the targeted enhancements. Provide the relevant RCA indices and/or other enhancement opportunities targeted (i.e. riparian encroachment) along with an overview of the enhancement and/or management approach that will be implemented to achieve the targeted enhancements. Please do not present detailed prescriptions in this table as these should be provided in WC-T03. Rather, provide a descriptive overview of the approach.

Management Prescriptions – **Please provide below an overview of the enhancement and management approaches to achieve the above score**				
Watercourse ID	**Enhancement Method/RCA Indices Targeted**	**Creation Approach**	**Enhancement Approach**	**Management Approach**
30 and 31	Bank top managed ground cover (B5)	N/A	Reduce current high frequency mowing and management to annual management.	Allow tall herbs, shrubs and trees to grow. Annual mowing (late August to late September) with arisings removed to an on-site composting area at Bedhampton.
30 and 31	Bank face artificial bank profile extent (C7)	N/A	Remove concrete bank face reinforcements and reprofile	Assumed that there will be little management required post works as the river system would be self-sustaining. Ad-hoc maintenance may be required, any need for which will be identified through yearly checks.
30 and 31	Bank face reinforcement extent (C8)	N/A	Remove concrete bank face reinforcements	Assumed that there will be little management required post works as the river system would be self-sustaining. Ad-hoc maintenance may be required, any need for which will be identified through yearly checks.
30 and 31	Bank face reinforcement material (C9)	N/A	Remove concrete bank face materials and leave bare / replace with green bank reinforcement techniques.	Assumed that there will be little management required post works as the river system would be self-sustaining. Ad-hoc maintenance may be required, any need for which will be identified through yearly checks.
30 and 31	Channel bed reinforcement extent (E8)	N/A	Remove concrete bed reinforcement	Assumed that there will be little management required post works as the river system would be self-sustaining. Ad-hoc maintenance may be required, any need for which will be identified through yearly checks.
30 and 31	Channel bed reinforcement severity (E9)	N/A	Remove concrete bed reinforcement	Assumed that there will be little management required post works as the river system would be self-sustaining. Ad-hoc maintenance may be required, any need for which will be identified through yearly checks.
30 and 31	Bank top NNIPS cover (B4)	N/A	N/A	Regular monitoring and treatment of INNS (e.g. spraying, pulling etc.)
30 and 31	Bank face NNIPS cover (C10)	N/A	N/A	Regular monitoring and treatment of Invasive and Non Native Species (e.g. spraying, pulling etc.)

30 and 31	Channel bed NNIPS extent (E11)	N/A	N/A	Regular monitoring and treatment of Invasive and Non Native Species (e.g. spraying, pulling etc.)
30 - 37	Riparian encroachment	N/A	Reduce current high frequency mowing and management to annually. Reduce grazing.	Allow tall herbs, shrubs and trees to grow. Annual mowing (late August to late September) with arisings removed to an on-site composting area at Bedhampton. Reduce grazing and intensive management in the riparian zone.

Enhancement and Management Detailed Methods (WC-T03)

Provide detailed prescriptions for the enhancement and management targets for the watercourse.

Watercourse ID:	Action	Timing	Prescriptions
30 and 31	Development of detailed plans and consenting requirements for naturalisation of the channel via concrete bed and banks removal, actions include: • Assessments to support development of detailed design plans • Detailed design plans • Pre-construction information (design risk assessments, construction information) • Health and safety file note (to include information needed to allow future construction work, including maintenance, alterations and refurbishment to be carried out safely • Stakeholder engagement (e.g. Environment Agency, utility owners) • Consenting – Flood Risk Activity Permit, planning permission/lawful development certificate, environmental permits & licences (e.g. protected species – informed by earlier assessments)	TBC – Portsmouth Water procuring contractor for detailed design phase.	Assessments to support development of detailed design plans: • Terrestrial & aquatic ecology assessments (e.g. hydromorphology, fish, invertebrates, bats, etc. and Habitats Regulations Assessment Screening assessment) • Arboriculture surveys • Topographic survey • Utility survey – to identify location and depth of utilities • Flood risk assessment and modelling - to demonstrate that there are no adverse impacts on levels/flood extents and flood risk receptors associated with the scheme design relative to the baseline. Appropriate mitigation measures should be included should the risk of flooding increase. Allowances for climate change should be included. The flood risk assessment will also be required to support more detailed scour assessment. • Scour / erosion analysis – under different flow scenarios to understand how naturalised bank / bed will respond post reinforcement removal and to determine treatment at interface between retained concrete and naturalised sections • Slope stability assessment – to support design of regraded bank slopes and if green reinforcement materials are needed where concrete is removed • Ground investigation and testing to confirm the shallow ground conditions and possible linkage between shallow soils and surface water receptors. The investigation should include detailed logging of the riverbank engineering geology (combined with in-situ and laboratory geotechnical testing to derive soil parameters. This information should be used to support refinement of the slope stability analysis and development of a Materials Management Plan. • Unexploded Ordnance - Detailed Unexploded Ordnance desk study is commissioned to assess, and potentially zone, the hazard level on the site (e.g. through Zetica).
30 and 31	Construction & construction management to be determined following detailed design phase.	TBC – construction works to be undertaken outside of ecologically sensitive seasons, and during low flow conditions.	Construction management to consider, but is not limited to, the following: • Site access and security • Services • INNS management

			• Working in / on or near water – pollution prevention: A sediment management plan will be developed and implemented by the contractor during the detailed design and construction phase to avoid detrimental effects on aquatic habitats and species associated with fine sediment release from the construction area. Various measures such as working during dry periods, creating a sediment trap/barrier to be implemented during construction. Works will need to be undertaken in line with the requirements set out within relevant PPGs and GPPs (GPP1 General Guide to Prevention of pollution; GPP5 Works and maintenance in or near water; GPP21 pollution incident response planning; PPG6 working at construction and demolition sites; GPP3 use and design of oil separators in surface water drainage systems; and GPP5 Maintenance of structures over water). • In channel working, dewatering and/or over-pumping. Should over-pumping be required prior to the installation of the flume appropriately screened pumping equipment will be deployed to reduce the risk of fish entrainment/impingement and a plan developed to remove fish from any sections of channel requiring dewatering under Environment Agency FR2 consents. • Noise exposure to nearby properties / public during construction • Waste disposal and management (e.g. removal and disposal of concrete)
30 - 37	Monitoring and management	See table MS-T01	The enhancements are designed to be self-sustaining requiring little maintenance. Where bank slopes are steep and where concrete bed and bank is removed there is risk of erosion. Through the monitoring specified in in MS-T01 this will be tracked and adaptive management implemented if required (e.g. green reinforcement techniques).
30 - 37	Riparian management - Reduce mowing and management of riparian zones to annual management. Where	Annual mowing (late August to late September) with arisings removed to an on-site composting area at Bedhampton.	

Habitat Creation and Management – Risk Register and Remedial Measures PM-T02

Risk Identification Date	Habitat Type	Risk Factor	Trigger for Action	Remedial Measure
9-06-2025	Other Rivers & Streams	INNS colonising naturalised channel	INNS are present across the bank face, bank top and channel zones post enhancement.	Frequent monitoring of INNS and treatment / management. Treatment/management will depend on species of INNS present.
9-06-2025	Other Rivers & Streams	Creation of naturalised channel bed and bank not possible due to unknowns (e.g. utility constraints) identified during detailed design phase	Constraints identified	Explore design alterations and potential other reinforcement techniques e.g. green reinforcement techniques to be used instead of concrete. If naturalised channel cannot be achieved, As a last resort, then investigate purchase options (e.g. habitat bank or statutory credits) to secure watercourse units gains as required
9-06-2025	Other Rivers & Streams	Natural processes lead to channel change (e.g. erosion of naturalised bed and banks)	Significant change (e.g. erosion of bed/banks creating concern for nearby infrastructure/property)	The measures are aimed to be self-sustaining. Rivers will naturally erode and adjust as a response to the scheme and should be monitored and managed adaptively if this presents a risk.
11-06-2025	Urban trees	Newly planted trees failing to establish.	Below 95% success rate at Year 5	Identify possible causes for failure with landscape contractor and implement reactive management e.g. change tree species (i.e. replant failures with another tree species) and/or change aftercare. Re-firming of trees after strong winds, frost heave, or other disturbances.
11-06-2025	Other neutral grassland	INNS colonising grasslands	INNS identified during monitoring surveys.	Treatment depends on species present and will be developed in consultation with an invasive species specialist.
11-06-2025	Other neutral grassland	Grassland not achieving good condition	Any of criteria (A or F) not being met by Year 5	Remedial measure will depend on criteria failed. HMMP to be reviewed and reactive management implemented. Stocking density of horses may need to be reduced or restricted to certain times of the year for example.

11-06-2025	Non priority pond	INNS colonising	INNS present within pond	Frequent monitoring of INNS and treatment / management. Treatment/management will depend on species of INNS present.
11-06-2025	Non priority pond	Failure to retain water.	No open water habitat present during the months of October through to March.	Anticipated ponds will be ephemeral however if either pond doesn't hold water in the winter months then remedial action will be required. This could be lining the pond or digging deeper sections.
11-06-2025	Non priority pond	No development of pond margins due to poaching from horses	Over 60% of the pond margin is poached to a level that bankside vegetation is failing to establish.	Fence all (or a proportion of) the pond/s to eliminate or reduce poaching.

4. Monitoring Schedule

To deliver BNG, a robust strategy is critical to monitor successes and challenges. Routine monitoring informs progress and facilitates the required management plan updates at set intervals.

Monitoring Strategy

Provide details of the monitoring strategy to encourage successful implementation of the management plan (MS-B01)

Terrestrial habitats

Proposed habitats will require monitoring and oversight by qualified ecologists to ensure that the estimated area of each habitat and its target condition is going to be achieved. Terrestrial habitats will be monitored annually between years 1 and 5 following construction, and then every five years until year 30.

Ecologists will be employed by Portsmouth Water to carry out this monitoring in Year 1, 2, 3 5, 10, 20, 30 and compare against the baseline, with botanical surveys being undertaken in summer months. For grassland the methodology will comprise a structured walk of the grassland with ten stops evenly spaced and notes made at each stop using the BNG Habitat Condition Assessment forms from the Statutory Metric as a basis. For ponds and trees the BNG Habitat Condition Assessment forms from the Statutory Metric will be used and notes made at each pond/tree against the criteria listed.

Throughout the monitoring timeline, 'Fixed Point Photography' is to be utilised to allow repeat photographs to be taken of habitat features from the exact same viewpoint, as a standardised way to monitor changes to the environment. Photographs should be taken in summer (at the same time as botanical surveys) in each of the monitoring years.

Watercourses

The monitoring programme for watercourses has been designed to align with the Before-After-Control-Impact (BACI) approach as recommended in the MoRPh Technical Reference Manual[1]. This approach has been adopted to provide the necessary evidence to measure the success of the proposed works. "Before" is the baseline for the condition at a location pre-enhancement. "Control" refers to a location either fully or partially unaffected by the proposed works (e.g. a reference or more natural site). In this situation, the control site will likely be upstream and/or downstream on a more natural section of the Hermitage Stream. The approach makes it possible to account for any natural variations and/or pre-existing conditions and will thus provide an indication of the "true" benefits of the proposed works in context of wider environmental variability e.g. as a result of drought and floods etc. In the context of this monitoring programme, the BACI approach includes the timing of the proposed works (i.e. monitoring before and after the proposed works) and impacts/benefits of the proposed works (i.e. control sites and site where works will be completed).

River Condition Assessments (RCAs) comprising of MoRPh5 field survey and desk-based river type assessment will be conducted on each watercourse BNG Reach where watercourse enhancements are undertaken plus one on the control site. RCAs will be undertaken by an accredited RCA surveyor during the optimum survey periods recommend in the MoRPh Technical Reference Manual[1] May-September with the ideal months for survey May, June and October when all vegetation is visible but not so well developed that it makes access or observation of some physical features difficult. RCA will be undertaken before the enhancements and then annually for the first five (5) years after the works are completed, then once every five (5) years until year 30.

Fixed point photography locations, at a minimum of three locations per BNG enhancement reach, will be set up and photos will photos will be taken annually for the first five (5) years and then once every 5 years to monitor changes.

Invasive and Non Native Species (INNS) reconnaissance walkovers on the river banks will be undertaken once a year for the first seven (7) years to record the presence of invasives and develop a management/treatment plan accordingly. Surveys will then be undertaken every 3 years until the end of the 30 year period. If invasive species have been reduced/controlled during this period then monitoring frequency can reduce to once every three (3) years, however, if not, annual monitoring and maintenance will be required. Monitoring and management should be regularly reviewed and adaptively updated, for example, if a hotspot areas of INNS is identified monitoring and management frequency should increase in this area. Portsmouth Water are developing a wider INNS management plan for their sites.

Monitoring Methods and Intervals MS-T01

Habitat Type	Monitoring Methods	Monitoring Interval and Timing
Other neutral grassland	To be undertaken at Bedhampton and Bidbury. • Fixed point photography will be undertaken whereby the same areas are photographed in the summer during botanical surveys to determine changes in grassland structure. • Structured walk approach, whereby stops are made at 10 points evenly spaced and notes made at each stop using the BNG Habitat Condition Assessment forms. This will include quadrat sampling to identify number of species per m^2.	Annually from years 1-5, then every five years till year 30. Surveys to be completed between May and August
Other rivers and streams	To be undertaken at Bedhampton. River Condition Assessment – comprising field based MoRPh5 surveys and associated desk-based river type assessment. A MoRPh5 surveys should be undertaken along the Hermitage Stream where in-channel enhancements are completed (e.g. for each BNG reach). Fixed point photography, at a minimum of three locations per BNG enhancement reach, will be set up and photos will photos will be taken annually for the first five (5) years and then once every 5 years to monitor changes.	Annually from years 1-5, then every five years till year 30. MoRPh5 surveys to be completed in optimum survey months (e.g. May, June and October) as recommended in the MoRPh technical reference manual[1] by an accredited RCA survey. Fixed point photos to be taken during MoRPh5 surveys annually for the first five (5) years and then once every 5 years to monitor changes.
Non priority ponds	To be undertaken at Bidbury. • Fixed point photography will be undertaken of the ponds to determine changes in structure and monitor development of pond habitat in summer during monitoring surveys described below. • For each pond the BNG Habitat Condition Assessment forms from the Statutory Metric will be used and notes made at each pond against the criteria listed.	Annually from years 1-5, then every five years till year 30. Surveys to be completed between May and August
Urban trees	To be undertaken at Bidbury and Bedhampton. • Fixed point photography will be undertaken of the trees to determine changes in structure and monitor growth in summer during monitoring surveys described below.	Annually from years 1-5, then every five years till year 30. Surveys to be completed between May and August

[1] The MoRPh Survey – Technical Reference Manual – 2025 version. Available: River Condition Assessment for Baseline Appraisals & Forecasting – Modular River Survey (accessed June 2025)

	• For each tree the BNG Habitat Condition Assessment forms from the Statutory Metric will be used and notes made at each tree against the criteria listed.	

Monitoring Reports

Following completion of habitat creation and initial enhancement works, prepare for your monitoring report for the Local Planning Authority or Responsible Body. You should monitor each habitat type comprising the BNG project. Provide sufficient detail for the reviewing authority to assess the progress. The 'Monitoring Report Template' can help you do this. The requirements and regularity with which the monitoring reports are required are at the discretion of the LPA or Responsible Body. Prepare the monitoring requirements below.

Monitoring Report Schedule MS-T02

Provide details of the person or organisation that will be responsible for submitting the monitoring reports. Also state the responsible organisation for receiving and reviewing the reports.

Organisation Responsible for Submitting the Monitoring Reports	Organisation Receiving and Responsible for Reviewing Reports
Portsmouth Water	Havant Borough Council

Provide details of when the monitoring surveys and reports will be undertaken and submitted. You can extend the table and adjust according to your required schedule.

Project Year	Month Report to be Submitted	Month Management Plan to be reviewed	Comments
Y1 (taken to mean one year after the completion date, estimated 2032)	December	December	Report on monitoring surveys for grassland, ponds, trees and watercourse enhancements
Y2	As above	As above	As above
Y3	As above	As above	As above
Y4	As above	As above	As above
Y5,	As above	As above	As above
Y10	As above	As above	As above
Y15	As above	As above	As above
Y20, 25 & 30	December	N/A	Final report on success of habitat creation and enhancement

Adaptive Management

Summary of Adaptive Management Approaches (MS-B02)
Adaptive management is a systematic approach to natural resource management that involves monitoring and evaluating the effectiveness of management actions then adjusting as necessary to improve outcomes over time. It is an iterative process in which management actions are followed by targeted monitoring outcomes. These, in turn, inform the ongoing management. Monitoring results inform necessary management changes to promote achieving BNG targets stated in the Statutory Biodiversity Metric and HMMP. The monitoring can pick up any unexpected, external influences. Some examples are dealing with a new plant disease, an invasive species that is thriving due to climate change, or changes to site access due to site flooding. Observations and notes from day-to-day management are important for delivering adaptive management. Consider how this information will be captured and fed into changes in management prescriptions, then through to subsequent monitoring reports. Regular robust monitoring, and reporting to the responsible authority, should identify issues early on. Then you can make conscious decisions to implement effective actions. If the BNG objectives are affected by external factors, it is important to agree decisions on changes to the management prescriptions and targets with the responsible authority. Following the review, record any changes in this management plan and schedule. Portsmouth Water will implement a reactive management approach at Bidbury and Bedhampton. This will be informed by monitoring results and discussed with Portsmouth Water ecologists whenever a change in management is required.