



ATKINS

Member of the SNC-Lavalin Group

Farlington Water Treatment Works

Proposed DAF Treatment Building and Associated Facilities Biodiversity Net Gain Assessment

Portsmouth Water Ltd.

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This document does not purport to provide legal advice.
This document has 23 pages including the cover.

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Executive Summary

The Proposed Scheme is within the Portsmouth Water, Water Treatment Works Site at Farlington. The site is designated as a Site of Importance for Nature Conservation (SINC).

The majority of the development would occur within the existing buildings and hardstanding basin. There will be some permanent loss of grassland habitat for a new access track into the new treatment plant and new treatment chambers; and some temporary loss of grassland habitats for the pipeline to be laid, and for use as construction compounds.

An illustrative application of the Defra Biodiversity Metric 2.0 has been undertaken, based on the current outline design parameters.

Where there will be temporary losses, within the Defra Biodiversity Metric 2.0 this is normally treated as habitat loss followed by habitat creation. The calculation has been undertaken using this approach.

However, it is intended that during detailed design the approach to works on the grassland areas will follow a bespoke approach, in which turfs will be protected and restored to their original locations. While this would have an element of habitat disturbance, the standard application of the Metric would be disproportionate, so a second calculation has also been undertaken, in which the areas subject to temporary works are treated as being retained. Provided the bespoke measures envisaged are undertaken, this is considered to provide a more accurate reflection of the effects of work on the habitats.

A fully detailed enhancement strategy for the Application Site and the wider SINC, is proposed to be created in collaboration with the Portsmouth Water Environment Team and ecologists. This will detail areas where enhancements can be made to the existing habitats on site, that extend beyond the current management strategy of the site.

The Defra Biodiversity Metric 2.0 is currently in BETA format and is due to be updated in November 2020. An update of the BNG for the Scheme should be undertaken during detailed design, including the final design and measures for on and off site mitigation and compensation, either using the version of the calculator tool current at that point, or other version subject to agreement with the Local Planning Authority.

1. Introduction

1.1. Terms of Reference

Atkins Ltd (member of the SNC-Lavalin Group) has been instructed by Portsmouth Water to provide an initial assessment on what measures will be required to achieve Biodiversity Net Gain¹ with regard to an outline planning application for the construction of a new Dissolved Air Flotation (DAF) plant in a new building on the Farlington Water Treatment Works (WTW) site (hereafter referred to as the WTW site and Proposed Scheme).

The application site is located at Farlington WTW, Gillman Road, Farlington, near Portsmouth, Hampshire, as identified by the planning red line boundary shown on Drawing Ref: HTR-ATK-PT-FR-DR-A-0003 provided with the planning application submission and shown in Appendix A hereafter referred to as the Application Site).

This technical note seeks to identify the baseline biodiversity value (in biodiversity units) and discusses the avoidance, mitigation and compensation hierarchy. It provides an illustrative application of the Defra Biodiversity Metric 2.0, based on the current outline design parameters. It does not provide an assessment of ecological impacts associated with the Proposed Scheme and it should be viewed in conjunction with the Ecological Impact Assessment (EclA) which sets out the requirements of planning policy or law relating to nature conservation and protected species and habitats.

The strategy for achieving Biodiversity Net Gain, including its definition in relation to the Proposed Scheme, should be discussed and agreed with local stakeholders and must be based on ecological functionality with regard to local conservation priorities and biodiversity targets.

1.2. Application Site

The Application Site is located at Ordnance Survey National Grid Reference SU 68340 06180 within the Farlington WTW. Farlington WTW is located approximately 4.5 miles north-east of Portsmouth city centre. The WTW is bordered by Portsdown Hill Road (B2177), Portsmouth Golf Course to the north of the B2177 and residential areas to the east, west and south.

The footprint of the Application Site is approximately 17,100 m², with the proposed DAF plant building to be constructed within the footprint of the existing Slow Sand Filter (SSF) basin. Approximately 217 m² of grassland will be permanently lost to provide a short access road from Gilman Road into the proposed building, and for new maintenance access chambers to underground valves and instrumentation. The wider water treatment work site is set within the Land East and West of Gillman Road Site of Importance to Nature Conservation (SINC).

1.3. Proposed Scheme

Portsmouth Water is seeking to locate additional water treatment equipment, comprising a new DAF plant, in a new building on the Farlington WTW site alongside existing water treatment assets. The proposed improvements at Farlington WTW are required to improve the efficient treatment of water supplies and will support the operation of the proposed Havant Thicket Reservoir and pipeline (the 'HTR Scheme'), which lies within Havant Borough and East Hampshire District local authority areas.

It is proposed that the new DAF plant and chemical dosing and storage assets are housed in a new building on the existing Farlington WTW site in order to assimilate with the existing treatment assets. The proposed location for the construction of the building is within an existing concrete basin (the former SSF basin) which is currently used very occasionally as an overflow tank facility.

The Proposed Scheme will result in the temporary removal of calcareous grassland within the Application Site which will be stored and then replaced within the Application Site post construction. The Proposed Scheme will also result in the permanent loss of calcareous grassland (0.0217 ha).

Outline planning consent for the Proposed Scheme would be sought with a 5-year start date for the submission of reserved matters, in order to provide flexibility in terms of the start of construction.

¹ Biodiversity net gain in development is defined as "development that leaves biodiversity in a better state than before". Biodiversity Net Gain: Good practice principles for development (2016) CIEEM, CIRIA, IEMA.

The Proposed Scheme design has minimised the permanent and temporary loss of grassland where possible, by utilising compound areas previously used for development on the WTW site and focussing the main construction within the existing hardstanding basin structure.

Portsmouth Water is committed to maximising the ecological benefits of the Proposed Scheme and is including a range of mitigation and compensation measures to be fully designed at the detailed design stage.

2. Methods

2.1. Calculating baseline biodiversity units

To calculate a biodiversity baseline this assessment followed the method set out in Natural England's Biodiversity Metric 2.0 and this method is referred to throughout as the 'Biodiversity Metric 2.0'^{2,3}. The assessment has also followed the principals set out in the Biodiversity Net Gain: Good practice principles for development (2016)¹.

Habitats were digitised in GIS (QGIS software package⁴) using field notes and National Vegetation Classification (NVC) maps provided in botanical reports of the Site^{5,6}. The biodiversity unit value for each habitat was then calculated by multiplying the habitat area (or length) by its distinctiveness score and then by its condition score, both described below. Multipliers were also selected for ecological connectivity and strategic significance. The unit values for each habitat were then totalled to produce the biodiversity baseline.

2.2. Habitat Distinctiveness

Habitats were classified using the JNCC Phase 1 methodology⁷ and translated into the new UK Habitat classifications for use in the Biodiversity Metric 2.0 calculator using the definitions report⁸. A distinctiveness score was then assigned using a value pre-determined by the Biodiversity Metric 2.0 calculator. Habitat distinctiveness is a collective measure of biodiversity and includes parameters such as species-richness, diversity, rarity and the degree to which a habitat supports species rarely found in other habitats.

2.3. Condition Assessments

Habitat condition is assessed following Habitat Condition Assessment criteria guidance outlined in the Technical Supplement² provided in the Biodiversity Metric 2.0. It relies on professional opinion and is based on the data collected during field surveys. This involves checking features against a list of criteria for habitat in 'good', 'moderate' and 'poor' condition. The field surveys were initially carried out in 2016⁵ and updated in June-August 2019⁶. The condition assessments were carried out by John Norton Ecology on behalf of Portsmouth Water in April 2020 and provided to Atkins for this report. They were informed by the Technical Supplement guidance².

2.4. Multipliers

Two core spatial components are used in the calculator. One is the **strategic significance** of a place for biodiversity, its geography. This relates to local planning policy⁹. The second spatial component, ecological **connectivity** is "*the relationship of a habitat in a defined place to its immediate surroundings in respect of biological and ecosystem flows*"².

As per the Natural England guidance³ on the use of the initial version of the Beta format Biodiversity Metric 2.0, connectivity is 'moderate' if the habitat has a high or very high distinctiveness value, for all other habitats a connectivity score of 'low' is used. For use in this calculator, the connectivity has been selected as 'moderate' for the calcareous grassland, and 'low' for all other existing habitats types within the Application Site as they are not within a high or very high distinctiveness category.

² Crosher, I^A, Gold, S^B, Heaver, M^D, Heydon, M^A, Moore, L^D, Panks, S^A, Scott, S^C, Stone, D^A & White, N^A. (2019) The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. Technical Supplement. (Beta Version, July 2019). Natural England.

³ Crosher, I^A, Gold, S^B, Heaver, M^D, Heydon, M^A, Moore, L^D, Panks, S^A, Scott, S^C, Stone, D^A & White, N^A. (2019) The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. User Guide. (Beta Version, July 2019). Natural England.

⁴ QGIS is a free and open-source cross-platform desktop geographic information system application that supports viewing, editing, and analysis of geospatial data

⁵ John Norton Ecology (2017) Farlington WTW Vegetation Survey 2016. On behalf of Portsmouth Water.

⁶ John Norton Ecology (2019) Farlington WTW Monitoring Forms 2019. On behalf of Portsmouth Water.

⁷ Joint Nature Conservation Committee (2010) Handbook for Phase 1 habitat survey - a technique for environmental audit.

⁸ UK Habitat Classification Working Group (2018). *UK Habitat Classification – Habitat Definitions V1.0* at <http://ecountability.co.uk/ukhabworkinggroup-ukhab/>

⁹ Portsmouth City Council (2012) The Portsmouth Plan: Portsmouth's Core Strategy. Hampshire.

Regarding strategic significance, the grassland habitat areas located within the Land East and West of Gillman Road SINC have been given a strategic significance of 'within area formally identified within local strategy' as these designated sites are referenced within the strategic objectives set out in Portsmouth's Core Strategy⁹. The other ecologically valuable habitats have been given a strategic significance of 'location ecologically desirable but not in local strategy' due to their location adjacent to the SINC habitats but their lack of specific targets within the local strategies outlined above.

2.5. Application of the Metric to the Scheme

An illustrative application of the Defra Biodiversity Metric 2.0 has been undertaken, based on the current outline design parameters.

Where there will be temporary losses, within the Defra Biodiversity Metric 2.0 this is normally treated as habitat loss followed by habitat creation. The calculation has been undertaken using this approach.

However, it is intended that during detailed design the approach to works on the grassland areas will follow a bespoke approach, in which turfs will be protected and restored to their original locations. While this would have an element of habitat disturbance, the standard application of the Metric would be disproportionate, so a second calculation has also been undertaken, in which the areas subject to temporary works are treated as being retained. Provided the bespoke measures envisaged are undertaken, this is considered to provide a more accurate reflection of the effects of work on the habitats.

2.6. Limitations

The Natural England Biodiversity Metric 2.0 calculator has been used for the assessment and is dated December 2019. This calculator has currently been released in BETA format and may be subject to changes prior to its full release in November 2020. The connectivity multiplier was inserted by hand, without the use of the connectivity tool add-on. This is not considered a limitation because this version is acceptable for use in planning applications and the calculation will likely be re-run at detailed design.

At this stage, the areas of each baseline existing habitat type have been identified using QGIS¹⁰ and the total assessment area is estimated to be approximately 1.71 ha. Areas should be reviewed and calculated again during the detailed design stage. An update of the BNG metric for the Scheme should be undertaken at that time, either using the version of the calculator tool current at that point, or another version subject to agreement with the Local Planning Authority.

The metric provides a high-risk category that minimises the credits gained for more ecological valuable habitats, which is likely to underestimate the value of habitats that could be created given that the site will be managed as a SINC in the long-term.

A condition assessment following guidance outlined in the technical supplement of the metric was not undertaken as part of and/or alongside Site habitat surveys undertaken in 2019 by John Norton. In the absence of site-based condition assessments following the Biodiversity Metric 2.0 technical supplement, assessment of condition has been applied as a desk study exercise and is based on information provided in John Norton's Condition / Management report 2019⁶ that concludes condition of habitat communities based on National Vegetation Classification (NVC) and his professional opinion on the conditions, informed by the Technical Supplement². It is noted that a precautionary approach has been taken by John Norton to condition assumptions.

Based on this approach an assumption has been made that condition is consistent throughout the habitat types. However, there could be variation in habitat condition and in which case, QGIS polygons used to measure habitats areas do not account for variations of condition class. The Biodiversity Metric 2.0 User guide states:

"Whilst there is no firm minimum or maximum size of recorded parcels, it is recommended that a proportionate approach is taken to avoid the recording of habitat types that cover a total area of less than one square metre (0.0001 ha), or recording extremely large areas that are likely to vary in their condition, as one habitat parcel. If two parts of the same habitat are of markedly different condition, you should split them across two rows and record them as two separate parcels."

¹⁰ QGIS is a free and open-source cross-platform desktop geographic information system application that supports viewing, editing, and analysis of geospatial data

Assumptions regarding possible post-development biodiversity units that could be achieved on site are based on outline landscape proposals which have not been formally adopted by the scheme. Areas have been calculated from the proposal's plans using QGIS and these areas will need to be more accurately calculated during the detailed design stage.

3. Biodiversity Baseline

The locations of each habitat type are shown in Appendix B.

The Application Site is dominated by hardstanding and buildings, with the total area of sealed surface at 0.799 ha (46.7% of the total area).

In terms of other habitats, the dominant habitats are Priority¹¹ lowland calcareous grassland and neutral grassland. There is also some ruderal vegetation at the edges of the proposed compounds.

The biodiversity metric 2.0 calculation tool can convert between Phase 1 habitat identified within the Application Site and the UKHab classifications used in the metric. The conversion table can be found via the ‘Technical Data’ button in the calculation tool.

The habitats identified on Site within the red line boundary comprise the following habitat types outlined in the Technical Supplement² :

Table 3-1 - Existing habitats within the Application Site

Target Note	UKHAB Habitat ⁸	Total Area (ha)	Habitat Distinctiveness		Habitat Condition		Connectivity Multiplier	Strategic position multiplier	Ecological Baseline – Total Habitat Units ¹²
			Band	Score	Band	Score			
1	Urban - Developed land; sealed surface	0.799	Very Low	0	N/A	0	1	1	0
2	Grassland – Lowland calcareous grassland (Priority Habitat ¹¹)	0.321	High	6	Good	3	1.1	1.15	7.29
3	Grassland – Other Neutral	0.305	Medium	4	Moderate	2	1.1	1.15	2.81
4	Grassland – Other Neutral	0.208	Medium	4	Poor	1	1	1.1	0.92
5	Sparsely vegetated land - Ruderal/Ephemeral	0.079	Low	2	Poor	1	1	1.1	0.17
Total Site Area (ha)		1.712	Total Site Baseline (Habitat Units)				11.19		

The total ecological baseline habitat units within the Application Site is **11.19 units**.

No baseline hedgerows or river have been included within this assessment. The hedgerows within the WTW site are outside of the Application Site boundary.

¹¹ <http://jncc.defra.gov.uk/page-5706>

¹² This value has been reached using the ecological connectivity and strategic significance multipliers also which are described in the methods section under ‘Multipliers’

4. Biodiversity Metric Calculations

4.1. Scheme Proposals

The majority of the development for the Proposed Scheme would occur within the existing buildings and hardstanding basin on the Application Site.

Based on outline designs, there would be permanent loss of 0.0167 ha of lowland calcareous grassland for the new permanent access track into the service/delivery yard adjacent to the new DAF treatment building, and 0.005ha of lowland calcareous grassland would also be permanently lost for the construction of maintenance chambers.

The proposed incoming pipeline connecting into the DAF plant building laid to the north of the building, and the small area of ground adjacent to the new proposed access track, would see the temporary removal of 0.299 ha of lowland calcareous grassland during construction. However, this calcareous grassland would be carefully removed, stored and managed and replaced upon the completion of construction work, as part of a grassland translocation and restoration. A methodology for the grassland restoration will be produced as a separate document at detailed design.

All remaining areas of neutral grassland (0.513 ha), as well as some sparse ruderal habitat (0.079 ha), inside the Application Site boundary will be temporarily lost for the use of compounds and material storage.

An indicative design plan, in Appendix C, indicates the habitat areas to be lost, both permanently and temporarily.

The implications of the project in terms of change in biodiversity units is calculated twice below.

Where there will be temporary losses, within the Defra Biodiversity Metric 2.0 this is normally treated as habitat loss followed by habitat creation. The calculation has been undertaken firstly using this approach.

However, it is intended that during detailed design the approach to works on the grassland areas will follow a bespoke approach, in which turfs will be protected and restored to their original locations. While this would have an element of habitat disturbance, the standard application of the Metric would be disproportionate, so a second calculation has also been undertaken, in which the areas subject to temporary works are treated as being retained. Provided the bespoke measures envisaged are undertaken, this is considered to provide a more accurate reflection of the effects of work on the habitats.

Where temporary impacts to lowland calcareous SINC grassland will occur, within the incoming pipeline corridor and new access track locations it is recommended that a bespoke compensation approach is applied. In summary this will include using specialist machinery to cut out grassland turfs and associated soil and store the grassland turfs on flat panels, ensuring sections of grass are not compacted on top of each other. The turf will be stored flat, in areas of hard standing and / or in areas of poor-quality habitats, monitored and managed (by suitably qualified landscape management contractors / ecologist) to maintain its condition. Additional soil removed from grassland areas will be wind rowed in areas of hard standing and / or in areas of poor quality habitats. The construction of the pipeline is likely to be one month in total. The grassland turfs and soil will then be restored in full over the pipeline corridor. No fertilisers or seeding will take place after construction. Plants will be left to colonise naturally from the surrounding area. A full detailed methodology will be designed at a later stage in consultation with the Portsmouth Water Environment and Biodiversity Specialist team and will follow the principles from previous work on grassland translocations¹³. This methodology follows the mitigation hierarchy, avoiding permanent loss, ensuring very short temporary loss, maintaining the habitat condition as far as possible.

¹³ Atkins (2015) South Bristol Link, Highridge Common Mitigation Plan; Box, J and Stanhope, K (2010) Translocating wildlife habitats: a guide for civil engineers. civil engineering 163, Pages 123–130 Paper 09-00061.

4.2. Impact on Biodiversity Units

The Biodiversity Net Gain, Good Practice Principles for Development (CIRIA 2019¹⁴) guidance states that temporary loss is to be treated as habitat lost and created. The ‘time to target’ multiplier accounts for time lags between construction and when the planted habitats become established.

However, as explained above, the approach planned for pipeline installation in the lowland calcareous grassland involved bespoke turf removal and restoration, so this time lag would not occur.

4.2.1. Calculation 1 – treating Lowland Calcareous Grassland work as habitat loss and creation

Following the above principles, treating all temporary works as loss and then creation of all other grassland and ruderal habitats, the Scheme would be predicted to result in a loss of 7.4 units, or 66% of the baseline biodiversity units. This is set out in the following table

Table 4-1 - Post Development Biodiversity Units treating all pipeline works as habitat loss followed by creation

Target Note	UKHAB Habitat ⁸	Retained (ha)	Permanent Loss (ha)	Temporary loss and then recreation (ha)	Ecological Baseline – Total Habitat Units ¹²	Post Development – Total Habitat Units delivered ¹⁵
1	Urban - Developed land; sealed surface	0.80	0	0	0	0
2	Grassland – Lowland calcareous grassland (Priority Habitat ¹¹)	0	0.0217	0.299	7.29	0.77
3	Grassland – Neutral (Moderate condition)	0	0	0.305	2.81	1.97
4	Grassland – Neutral (Poor condition)	0	0	0.208	0.92	0.88
5	Sparsely vegetated land - Ruderal/Ephemeral	0	0	0.079	0.17	0.16
On-site post-intervention Habitat Units					11.19	3.78 units
Total change					-7.40 units = -66.18%	

4.2.2. Calculation 2 – treating Lowland Calcareous Grassland work as retention due to bespoke methodology

The guidance for temporary habitat loss set out in the CIRIA C776a (2019)¹⁶ states: “Areas cleared of habitats to be used temporarily for construction are often restored after works. Temporary losses of habitat and the timescale over which the losses occur should be quantified and included in the project’s BNG design. This is especially important when the construction phase lasts for several years, and when factors such as soil compaction and contamination may result in a longer time period for the habitat to re-establish.”

The timescale for the temporary loss of lowland calcareous grassland within the application site is estimated to be one month. It is not anticipated that the condition of the carefully cut and stored grassland turfs and soil would deteriorate (with appropriate management) in this period of time. Therefore, the temporary loss of lowland calcareous grassland is treated in this assessment as habitat ‘retained’, assuming the condition can be maintained.

¹⁴ CIRIA (2019). The Biodiversity Net Gain, Good Practice Principles for Development. <https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>

¹⁵ This value has been reached using the ecological connectivity and strategic significance multipliers also which are described in the methods section under ‘Multipliers’

¹⁶ CIRIA (2019). The Biodiversity Net Gain, Good practice Principles for Development. Section 10.4, page 82. <https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>

This will retain **6.81 Habitat Units** of value within the Application Site, reducing the biodiversity loss from **-7.40 Habitat Units (-66%)** to **-1.37 Habitat Units (-12.26%)**.

This approach, however, is not considered appropriate for use with areas of grassland proposed for compounds and parking. The grassland will be overlaid with grasscrete or plastic matting to provide a suitable surface for vehicles. These grassland and ruderal areas (totalling 0.591 ha), will still be required to be classed as temporary loss and then re-created on site, through natural recolonization of bare earth, following the principle above. Reseeding may be required to create the same species diversity.

Table 4-2 - Post Development Biodiversity Units where lowland calcareous grassland is retained

Target Note	UKHAB Habitat ⁸	Retained (ha)	Permanent Loss (ha)	Temporary loss and then recreation (ha)	Ecological Baseline – Total Habitat Units ¹²	Post Development – Total Habitat Units delivered through creation, and retained ¹⁷
1	Urban - Developed land; sealed surface	0.799	0	0	0	0
2	Grassland – Lowland calcareous grassland (Priority Habitat ¹¹)	0.299	0.0217	0	7.29	6.81
3	Grassland – Neutral (Moderate condition)	0	0	0.305	2.81	1.97
4	Grassland – Neutral (Poor condition)	0	0	0.208	0.92	0.88
5	Sparsely vegetated land - Ruderal/Ephemeral	0	0	0.079	0.17	0.16
On-site post-intervention Habitat Units					11.19 units	9.82 units
Total net unit and % change					-1.37units = -12.26%	

¹⁷ This value has been reached using the ecological connectivity and strategic significance multipliers also which are described in the methods section under 'Multipliers'

5. Recommendations / Next Steps

5.1. Defining Biodiversity Net Gain Target and Approach

The definition of Biodiversity Net Gain, with regard to the development, must be agreed and targets should be discussed and agreed with local stakeholders including the LPA.

Agreement should include confirmation of the approach to temporary works in the lowland calcareous grassland and agreement of the treatment of these works within the application of the Metric. This is recommended to involve a bespoke approach provided a robust approach to protecting and restoring turfs is used that minimises disruption to the grassland during pipeline installation.

If a quantitative measure is not applied to the net gain (% habitat units), then clear demonstration is required on what the qualitative net gain is and this must go above and beyond the current management of the SINC and compensation for lost habitat within the Application Site.

5.2. Design Workshop and Future Assessment

The enhancement proposals should follow the avoidance, mitigation and compensation hierarchy as set out in the accompanying Ecological Impact Assessment. The loss of, and disruption to, lowland calcareous grassland priority habitat loss should be minimised where possible and a detailed design workshop should be held to help incorporate this, and other constraints, on the development layout and provide solutions for these constraints using the design where possible.

Based on the current outline design, the illustrative application of the Metric indicates a net loss on site of 1.37 units if the bespoke approach to the pipeline is undertaken (and therefore the areas subject to bespoke measures are treated as retained habitat in the Metric calculations), and is agreed to be best characterised as retention rather than loss and creation of habitat. If the bespoke approach to the pipeline is not taken, the predicted loss would be 7.4 units.

It is recommended an update assessment is undertaken after the design is finalised, and the Biodiversity Metric 2.0 calculator is updated in late 2020, incorporating the agreed mitigation and compensation strategy for the WTW site and SINC.

5.3. Compensation Strategy

Consultation has been sought with the county ecologist¹⁸ over the below compensation strategy.

A collaborative approach is proposed between Atkins, the Portsmouth Water ecologists and Environmental Team, and the LPA, in order to create an appropriate compensation strategy, to compensate for losses and deliver a net gain. To deliver genuine benefits, the approach should be inspired by the Lawton principles, by focussing on actions such as improving the quality of the SINC, increasing the size of the SINC and increasing connectivity across the SINC.

The strategy will detail areas where enhancements can be made to the existing habitats within the wider SINC, that go beyond the current management strategy of the SINC.

The 'additionality' principle within the CIRIA C776a (2019) guidance¹⁹ will need to be applied to the proposed management strategy of the SINC and WTW site. This is defined²⁰ as "*the need for a compensation measure to provide a new contribution to conservation additional to any existing values, i.e. the conservation outcomes it delivers would not have occurred without it*".

However, if appropriate compensation cannot be achieved within the wider WTW site and SINC, and if management cannot go beyond current levels to achieve the biodiversity units required for net gain, collaboration will be sought with the Local Planning Authority (LPA) to determine biodiversity opportunity sites within the local area where compensation habitat enhancement and / or creation can be carried out. For example, desk study analysis has confirmed that there are a

¹⁸ Frances King-Smith, Senior Ecologist. Phone call discussion on the 18th June 2020, followed by a confirmation email on the 29th June 2020.

¹⁹ CIRIA (2019). The Biodiversity Net Gain, Good Practice Principles for Development. Section 11.4.1, page 88. <https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>

²⁰ Natural England (2016) Review of the High Speed 2 no net loss in biodiversity metric, Natural England, York, UK.

number of other SINCs in the local area, which have similar calcareous and neutral grassland habitats to those within the Application Site to be lost. The Biodiversity Opportunity Network map²¹ can be utilised to identify potential suitable sites to target for enhancement as part of the strategy.

- Suggested on-site habitat enhancement measures are likely to include criteria that prioritises the following: Where chalk grassland is to be permanently lost to the Scheme, topsoil stripping and translocation of topsoil from these areas will be carried out and the soils translocated to new areas within the WTW of lower botanical diversity.
- stripping of poor quality habitat and topsoil and reseeded to create good quality chalk grassland.

Suggested off-site habitat enhancement measures are likely to include criteria that prioritises the following:

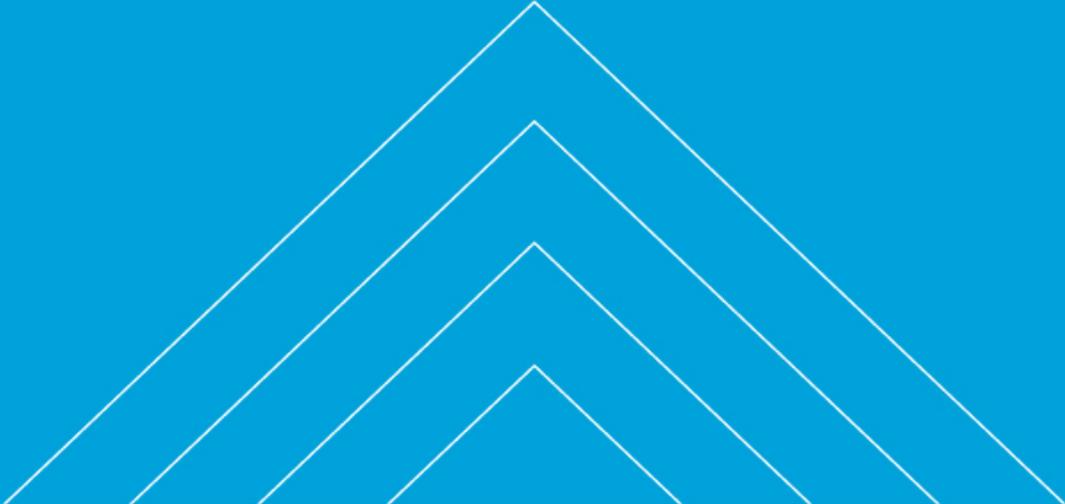
- Proximity to the project site. In particular, effort should be made to offset habitat losses within the same Local Planning Authority (i.e. Portsmouth City Council) or National Character Area (i.e. South Hampshire Lowlands).
- Net gains in habitats of high biodiversity value should be in the same type of habitat in accordance with CIRIA C776a (2019)²² and trading standards of the Biodiversity Metric 2.0.
- Contribution to local policies and targets for biodiversity. For example, opportunities to contribute to targets set out in the Hampshire Biodiversity Opportunity Areas may be prioritised. In the context of the site's location, it would be of relevance to explore opportunities within the following Portsdown Hill Biodiversity Opportunity Area²³ – e.g. restoration of lowland calcareous grassland;
- Enhancement intervention may be targeted more than creation, especially where the intervention would restore Priority Habitat, e.g. the restoration of semi-improved neutral grassland to lowland meadow.
- Value for money and deliverability.

²¹ <https://www.hants.gov.uk/landplanningandenvironment/environment/biodiversity/informationcentre/information/boamaps> [accessed 01/07/2020]

²² CIRIA (2019). The Biodiversity Net Gain, Good Practice Principles for Development. Section 11.4.1, page 88.
<https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>

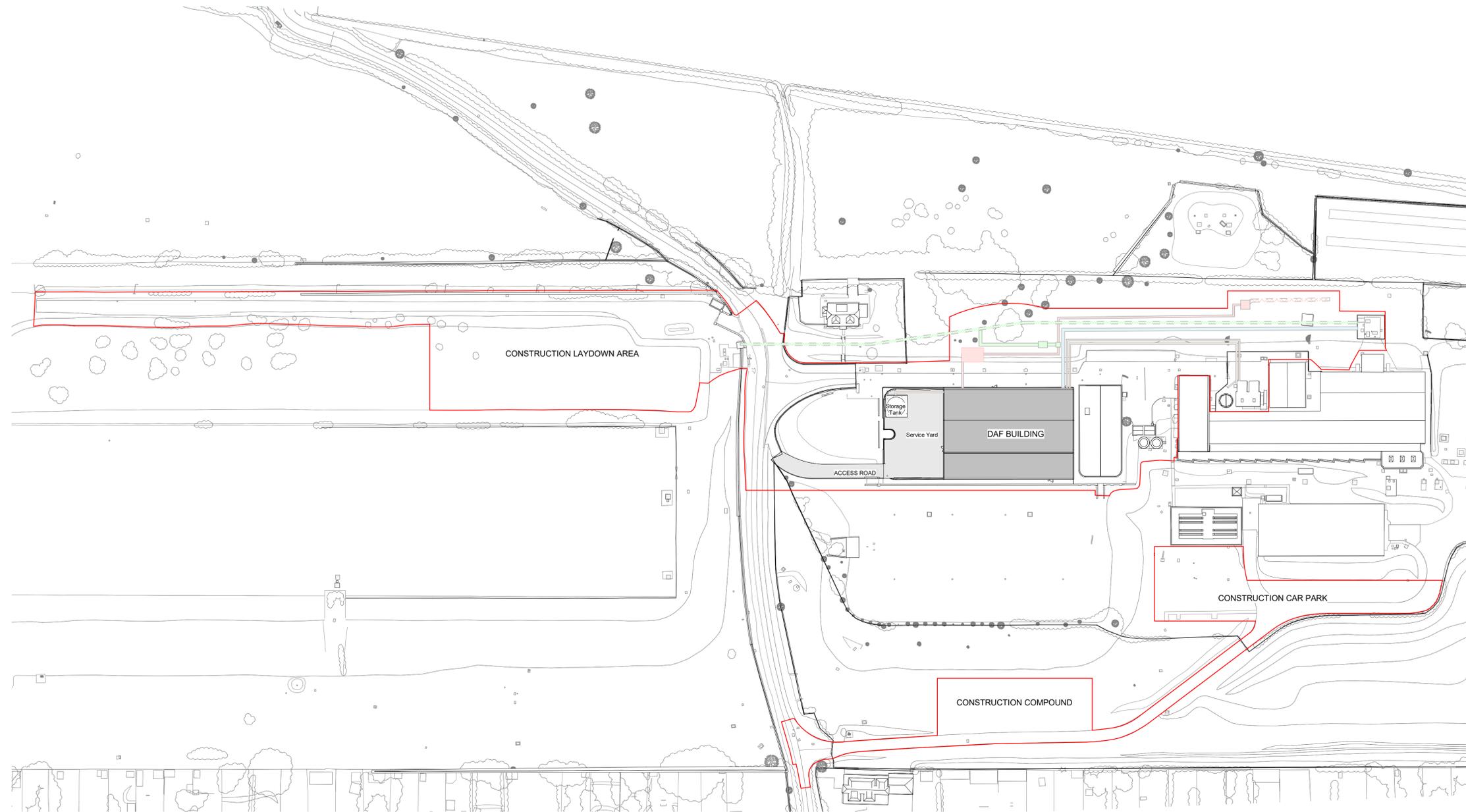
²³ <https://documents.hants.gov.uk/biodiversity/11PortsdownHillBOAmap.pdf>

Appendices



Appendix A. Proposed Scheme

DO NOT SCALE



BELOWGROUND SITE PIPEWORK

- New below ground pipework connection chambers
 - Existing raw reservoir water pipeline
 - New raw reservoir water pipeline
 - New spring water main pipeline to site
 - Existing spring water main pipeline to site
 - New DAF treated water
 - New below ground sludge pipework
- Refer to drawing 0007 for more detail

General Note:

Scale @ A3: 1:1500

Planning application boundary

1 : 750
Proposed Site Plan

P1	TL	LC	JF	ML	ISSUED FOR CLIENT APPROVAL	10.07.20
Rev. Status	Drn. By	Ckd. By	Rev. By	Auth. By	Description	Date

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Drawing Suitability:	PLANNING	Status:	S2
Contractors Drawing Number:	HTR - ATK - PT - FR - DR - A - 0003		
Project:	Originator	Volume	Location

Telephone: Havant (023) 9249 9888
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Portsmouth Water

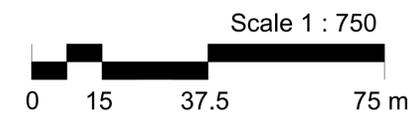
Registered Office: PO Box 8 West Street
Havant Hampshire PO9 1LG
REGISTERED IN ENGLAND No. 2536455

Project Ref. No:	Sheet:	Scale:	Sheet Size:
HTR	1 of 1	As indicated	A1

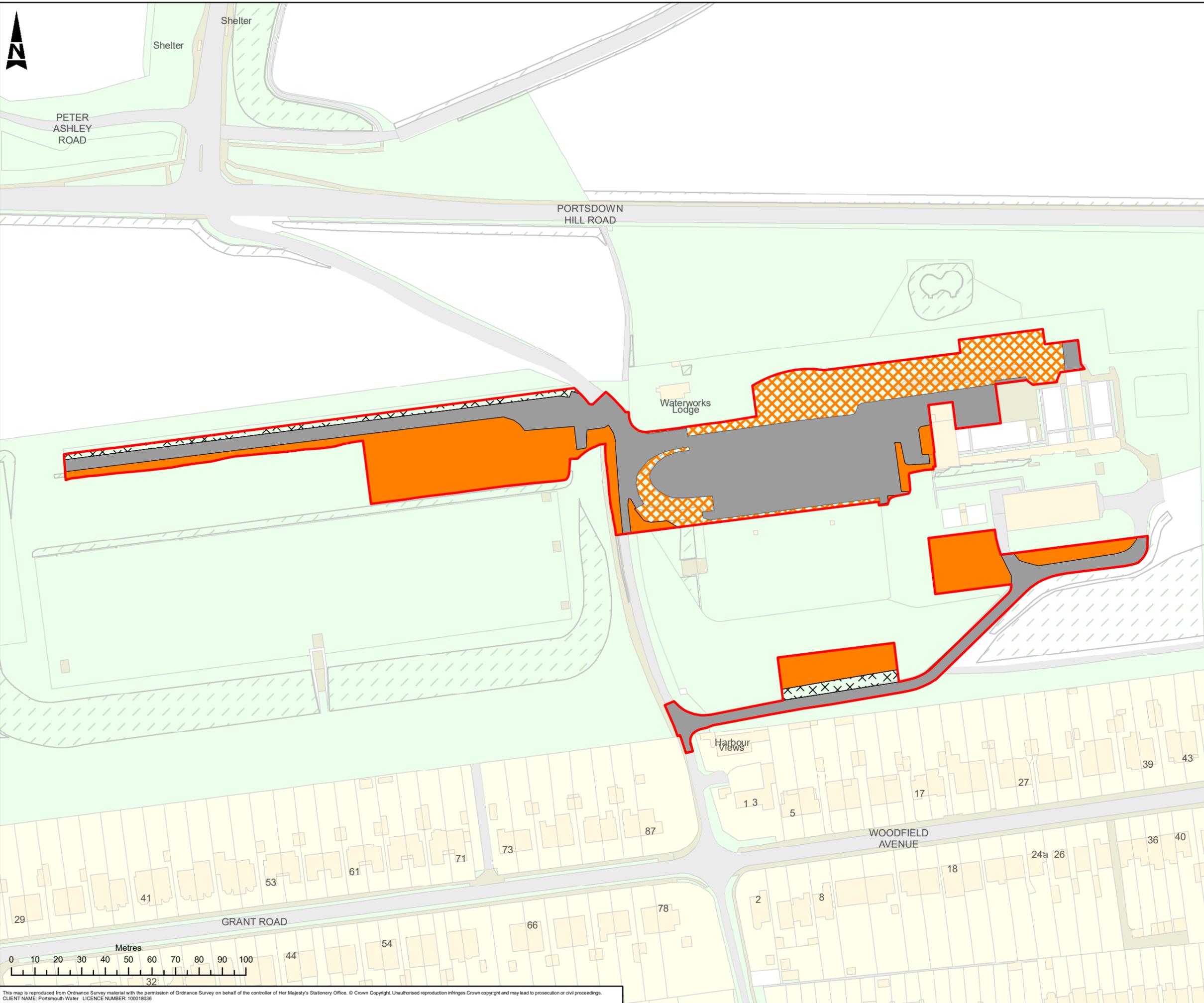
Project Title:
FARLINGTON WATER TREATMENT WORKS

Drawing Title:
Farlington WTW
Proposed Dissolved Air Flotation (DAF) Treatment Facilities
Proposed Site Plan

Portsmouth Water Drawing Number:	Rev:	P1
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Appendix B. Phase 1 Habitats



- Legend**
- Application Site Boundary
 - B2.1: Neutral Grassland (UK Hab Classification: Grassland - Other neutral grassland)
 - B3.1: Unimproved Calcareous Grassland (UK Hab Classification: Grassland - Lowland calcareous grassland (Priority Habitat))
 - J1.3: Ephemeral/Short Perennial (UK Hab Classification: Sparsely vegetated land - Ruderal/Ephemeral)
 - Hardstanding (UK Hab Classification: Urban - Developed land, sealed surface)

Rev.	Drn By	Chd By	Rev By	Auth By	Description	Date
C01	FD	LG	MB	ML	PUBLISHED	11/06/2020

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Project Ref. No.	Sheet	Scale	Sheet Size
5169117	1 of 1	1:1,500	A3

Project Title
HAVANT THICKET RESERVOIR

Drawing Title
**FIGURE B-1
PHASE 1 HABITAT PLAN**

Portsmouth Water Drawing Number	Rev
	C01

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Appendix C. Permanent and Temporary Loss Areas



- Legend**
- Application Site Boundary
 - Permanent Loss
 - Retained through Turf Storage and Reinstatement
 - Temporary Loss
 - Hardstanding (Retained)

Rev.	Dim By	Chd By	Rev By	Auth By	Description	Date
C01	FD	LG	MB	ML	PUBLISHED	16/06/2020

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Drawing Suitability	Status
PUBLISHED	A1

Contractors Drawing Number:
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Project Ref. No	Sheet	Scale	Sheet Size
5169117	1 of 1	1:1,500	A3

Project Title
HAVANT THICKET RESERVOIR

Drawing Title
**FIGURE C1
PROPOSED CHANGES TO HABITAT
WITHIN THE APPLICATION SITE
- PERMANENT AND TEMPORARY LOSS**

Portsmouth Water Drawing Number	Rev
	C01

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