



Havant Thicket Reservoir – Main Pipeline works

HTR-WAB-PI-ZZ-RP-W-0012_Dust Management Plan

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For Construction

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Issue and Revision Record

Havant Thicket Reservoir – Main Pipeline Works

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1 Introduction

The objective of the Havant Thicket Reservoir Project is to provide a new resource to supply drinking water in the water-stressed Southeast of England while maximising the community and environmental benefits of a new raw water reservoir. Ward and Burke Construction Limited (WBCL) have been appointed by Portsmouth Water Limited (PW) to design, construct, and commission a new pipeline connecting Bedhampton Pumping Station to Havant Thicket Reservoir, including an emergency discharge structure at the Hermitage Stream, culvert upgrades and an Under Track Crossing.

1.1 Works Background

Portsmouth Water has outlined seven strategic drivers for this project to ensure continued focus on meeting the Project's objectives.

These project drivers are:

- **Quality:** Quality in procurement, design and delivery to deliver an exemplary project to serve Customers in the short, medium and long term,
- **Timeliness:** In service and operating by 2029 to support a major bulk transfer to Southern Water,
- **Innovation:** Develop best practices in the largest new reservoir project in the southeast for decades. Capture learning from companies working in partnership to deliver better value for Customers,
- **Flexibility:** Create a project that offers multiple uses and enables Portsmouth Water to be a strategic water supplier for the South over the medium and long term,
- **Responsibility:** Realise and build upon our health, safety and well-being goals,
- **Connectivity:** Positive connection for all stakeholders – Customers, the local community, regulators, staff, contractors, shareholders, commercial partners, environmental groups and individuals with a passion for the environment, and
- **Environment:** A positive contribution to local and internationally important habitats. Direct support for the Government's objective to reduce the damaging abstraction of water from rivers.

1.2 Scope of Document

This document includes the following items:

- Construction Dust Assessment and Management Plan

The Site Agent at each works area will be responsible for implementing the dust management and mitigation measures detailed within this document.

1.2.1 Planning Condition/s

This document is required to discharge Condition 32 of permission reference HBC APP/24/00405. The requirements of Condition 32 and where within this document the requirements are addressed are set out in Table 1.1 below.

Table 1.1 – Condition 32 of APP/24/00405

Condition 32 – Dust Control Method Statement	
<p>No development (including demolition and site clearance) shall take place until a Dust Control Method Statement has been submitted to and approved in writing by the Local Planning Authority. The Dust Control Method Statement shall include, but not be limited to:</p> <ol style="list-style-type: none"> A summary of the dust-generating activities (e.g., demolition, earthworks, material handling). Mitigation measures to control dust emissions, such as: Dust suppression techniques (e.g., water spraying or damping down). Covering or sheeting of stockpiles and vehicles transporting loose materials. Wheel washing for vehicles leaving the site. Limiting vehicle speeds on unpaved site roads. Procedures for monitoring visible dust emissions during works. Identification of a site representative responsible for dust management and mitigation. <p>The approved Dust Control Method Statement shall be implemented during the construction works.</p> <p>Reason: To minimise the impact of dust emissions on local air quality and the amenity of neighbouring occupiers, in accordance with policies DM10 & CS15 (Havant Borough Local Plan (Core Strategy) 2011), and the National Planning Policy Framework (2024).</p>	
Detail	Addressed
Summary of dust-generating activities	App. A: Section 6.2.1 Table 9
Mitigation measures to control dust emissions	App. A: Section 6.3
Dust suppression techniques (e.g., water spraying or damping down)	App. A: Section 6.3 Table 11 Operations
Covering or sheeting of stockpiles and vehicles transporting loose materials	App. A: Section 6.3 Table 11 Operations
Wheel washing for vehicles leaving the site	App. A: Section 6.3 Table 11 Trackout
Limiting vehicle speeds on unpaved site roads	App. A: Section 6.3 Table 11 Operating vehicle/machinery
Procedures for monitoring visible dust emissions during works	App. A: Section 7.1 Table 12
Identification of a site representative responsible for dust management and mitigation	Section 1.2

1.2.2 Planning Condition Phasing

The relevant phases of the condition (listed in Table 1.1) this document revision seeks to address are specified in Table 1.2 below. Previously discharged phases of the condition, as well as those to be discharged in future submissions, are also listed.

Table 1.2 – Phase Submission Checklist

Phase Ref	Elements Covered	Discharge in this Submission
1	Pipeline Section P0 [FUW] (Bedhampton, associated infra.)	
2a	Pipeline Section P0 [WAB] Shaft W1 works (ex. Shaft)	✓
2b	Pipeline Sections P1/P2 Shafts W2/W3	✓
3	Pipeline Sections P3/P4 Shafts W3/W4/ED	✓
4	Pipeline Sections P5/P6 Shafts ED/W5/W6	✓
5	Pipeline Sections P7/P8 Shafts W6/W7/W8	✓
6	Pipeline Section P9	✓
7	Pipeline Section P10 [FUW] (Reservoir, associated infra.)	✓
8	Purbrook Way Culvert	
9	Dunsbury Way Culvert	
10	Middle Park Way Culvert	
N/A	Shaft W1 (<i>subject of separate Reserved Matters Application APP/24/00204 linked to original outline planning permission APP/20/00991</i>)	✓ (Previously Discharged)

Appendix A: Construction Dust Assessment and Management Plan

Havant Thicket Pipeline

Construction Dust Assessment & Management Plan

Change list

Version	Date	Description of the change	Reviewed	Approved by
V0	29/05/2025	First Draft	EMP	DP
V1	01/08/2025	Second Draft	EMP	DP
V2	22/08/2025	Third Draft	EMP	DP
V3	11/09/2025	Fourth Draft	EMP	DP
V4	26/09/2025	Final Version	EMP	DP

Sweco UK Limited	Reg. No. 2888385
Project Name	Havant Reservoir Pipeline - Consent Manager
Project Number	65209354-100
Client	Ward & Burke Construction Ltd
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Controlled by	Ellis Marshall-Padkin
Approved by	Damian Pawson
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1 Introduction

Sweco UK has been commissioned by Ward & Burke Construction Ltd (W&B) (herein referred to as the 'Client') to develop a detailed construction dust management plan in support of an application for prior consent under Section 61 (S61) of the Control of Pollution Act 1974 (CoPA) relating to the planned construction of Havant Thicket Reservoir and Pipeline, Hampshire.

Havant Thicket Reservoir is an environmentally led project from Portsmouth Water aiming to protect the River Test and River Itchen. These chalk streams are currently used by Southern Water as part of their supply network serving West Sussex and Hampshire. The reservoir will facilitate a shared bulk water supply between Southern Water and Portsmouth Water and aims to provide an alternative and sustainable water supply to reduce the draw required from these rare chalk streams.

The reservoir works comprise two primary elements: the construction of the reservoir, and the construction of a water pipeline adjoining the reservoir to Bedhampton Pumping Station. This report and the details contained herein relate to the construction of the pipeline only, as this will run in relative proximity to potentially dust sensitive land uses. This pipeline construction will be herein referred to as the 'Scheme'.

To that end, a dust risk assessment has been completed in line with the Institute of Air Quality (IAQM) guidance on '*the Assessment of Dust from Demolition and Construction*'¹. This assessment has used various data including information provided by the Client, Department for Environment, Food and Rural Affairs (DEFRA) and Ordnance Survey information. The outcomes of the assessment are used to develop specific dust management plans for each section of the Scheme construction.

1.1 Summary of the Environmental Statement (ES) Air Quality Chapter

In 2024, AtkinsRéalis produced an air quality chapter as part of the ES which accompanied the Havant Thicket Reservoir application which also included an update following a change from a previous 2021 planning application. The chapter included assessments for construction dust for both the Reservoir and

¹ IAQM (2024) *Guidance on the assessment of dust from demolition and construction. Version 2.2*
[Construction-Dust-Guidance-Jan-2024.pdf](#)

pipeline route separately, as well as a construction traffic emissions assessment as part of the Reservoir construction. The traffic produced by the pipeline construction was found to be insignificant and therefore was not required to be assessed.

The ES assessment considered the full length of the pipeline, including the associated work area stages. A summary of the dust emission magnitude, the sensitivity of the surrounding area and *unmitigated* dust risk, as reported in the 2024 ES, is displayed within Table 1 to Table 3, respectively.

Table 1: Construction dust emission magnitude as reported in 2024 ES

Activity	Dust Emission Magnitude	Reasoning
Demolition	N/A	None occurring
Earthworks	Large	Land area approximately 130,000m ²
Construction	Small	Building volume at any single location <25,000m ³
Trackout	Medium	HGV movements <50

Table 2: Sensitivity of surrounding area as reported in 2024 ES

Activity	Sensitivity of surrounding area	Reasoning
Dust Soiling	High	>100 high sensitivity receptors within 20m
Human Health	Medium	PM ₁₀ annual mean concentrations <24 µg/m ³ and >100 high sensitivity receptors within 20m
Ecological	Low	Number of ecological sites within 50m

Table 3: Unmitigated dust risk as reported in 2024 ES

Activity	Summary of dust risk			
	Demolition	Earthworks	Construction	Trackout
Dust soiling	N/A	High Risk	Low Risk	Medium Risk
Human Health	N/A	Medium Risk	Low Risk	Low Risk
Ecological	N/A	Low Risk	Negligible	Low Risk

Based on these dust risks for the different work activities (earthworks, construction or trackout) appropriate mitigation was recommended as per a previous version of the IAQM guidance². These recommended measures were then introduced into the CEMP and assumed to be applied uniformly across the whole order limits for the relevant activities.

The ES concluded that, with the recommended mitigation in place, the works on the pipeline will not result in a significant residual effect on air quality at the identified sensitive receptors within 250 m of the Scheme's redline boundary.

² IAQM (2014). *Guidance on the assessment of dust from demolition and construction. Version 1.1*
<http://iaqm.co.uk/text/guidance/construction-dust-2014.pdf>

1.2 Construction Environmental Management Plan (CEMP)

Ward and Burke (the appointed contractors) have produced a CEMP for the Havant Thicket Reservoir's Main Pipeline Works. The purpose of the CEMP is to manage the environmental effects of the Scheme as identified within the Environmental Statement (ES) and the Register of Environmental Actions and Commitments (REAC) and to demonstrate compliance with relevant environmental legislation.

The CEMP will be a live document and will be maintained and altered in response to changes in environmental risks with approval of the client, throughout the duration of the main pipeline construction and will eventually develop into the Handover Environmental Management Plan (HEMP). As standard, the CEMP will be reviewed quarterly. Before commencement of work, the CEMP will also be subject to local authority approval.

The current version of the CEMP includes mitigation measures pertaining to air quality and dust, principally based on the outcomes of the 2024 ES. This document provides an updated construction dust assessment, which will be used to enhance the measures included in the CEMP by assessing dust risk on a section-by-section basis, such that the mitigation measures can be applied in a more focussed manner.

As such, this assessment facilitates the development of individual, focussed Dust Management Plans (DMPs), which are presented in **Appendices C to N**.

The following sections of this report set out:

- Baseline air quality review to establish existing conditions before construction works commence;
- Study area to define focus of the assessment area for the dust risk assessment and to identify relevant sensitive receptors;
- Outline of Methodology applied to determine dust risk prior to mitigation;
- Impact assessment outcomes on a section-by-section basis, with details of appropriately focussed mitigation;
- Conclusions;
- Individual DMPs as dictated by construction sections.

2 Baseline Air Quality Review

2.1.1 Air Quality Management Areas

Havant Borough Council does not currently have any declared AQMAs.

2.1.2 Local Authority Monitoring

2.1.2.1 Particulate Matter

Havant Borough Council does not measure any concentrations of particulate matter (both PM₁₀ and PM_{2.5}) and only measure concentrations of nitrogen dioxide (NO₂). All monitored concentrations of NO₂ throughout Havant are well below the annual mean air quality standard of 40µg/m³.

The nearest particulate matter monitoring stations to the Scheme are located in Portsmouth City Council's area, approximately 6.5 km away from the study area. The monitored results for both 2018 and 2019 are recorded in Table 4³.

Table 4: Nearest Annual Mean PM₁₀ monitoring results (from Portsmouth City Council)

Site ID	Site Name	Site Type	X	Y	PM ₁₀ Annual Mean Concentration (µg/m ³)	
					2018	2019
C2	London Road	Kerbside	464925	102129	17.72	17.79
C4	Gatcombe Park Primary School (AURN)	Urban Background	465403	103952	14.67	15.08

The measured concentrations are well below the annual mean air quality standard for PM₁₀ (40 µg/m³).

2.1.2.2 DEFRA background air pollutant mapping

Defra provides mapped future year projections of background pollution concentrations for key air pollutants, including PM₁₀ and PM_{2.5}, for each 1 km x 1 km grid square across the UK for all years between 2021 and 2040. The maps include a breakdown of background concentrations by emission source, including road and industrial sources, which have been calibrated against UK monitoring data from 2021.

³ Portsmouth City Council (2020) Air Quality Annual Status Report [2020 Air Quality Annual Status Report \(ASR\)](#)

The range in background concentrations reported for the grid squares encompassing the study area for the Defra data baseline year (2021) current year (2025) are summarised in Table 5.

Table 5: Range in background annual mean PM₁₀ and PM_{2.5} concentrations for 2021 (Defra baseline year) and 2025 (current year) applicable to the assessed study area

Year	Annual Mean Concentration (µg/m ³)	
	PM ₁₀	PM _{2.5}
2021	12.1 - 12.7	7.2 - 8.4
2025	10.8 – 12.3	6.8 - 7.9

The reported background annual mean concentrations are demonstrably below the relevant annual mean standards for PM₁₀ (40 µg/m³) and PM_{2.5} (20 µg/m³), in addition to being below the 2040 PM_{2.5} annual mean concentration target (10 µg/m³). Over time, particulate matter background concentrations are predicted to decline incrementally.

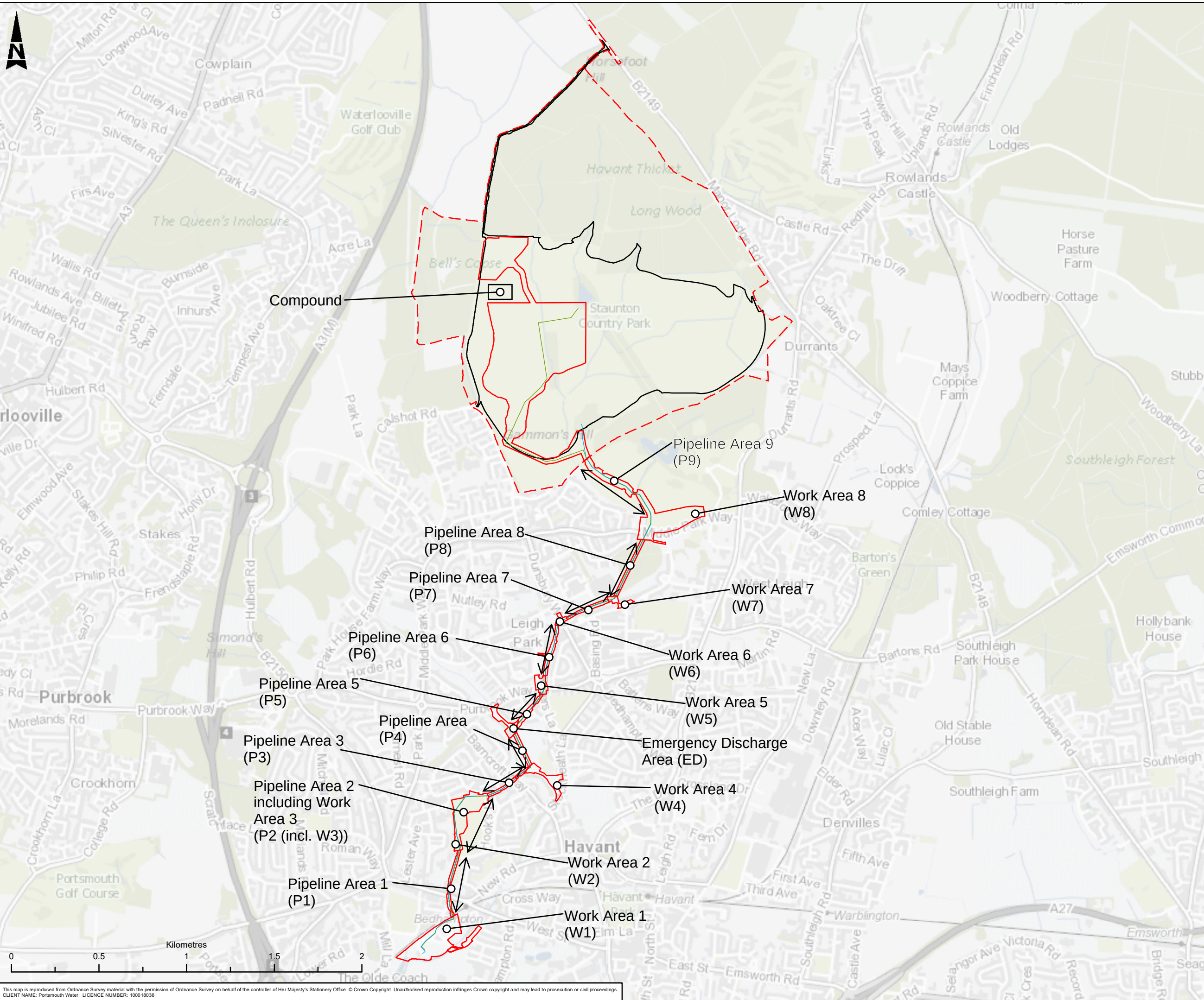
3 Study Area

This report and the assessments contained herein relate specifically to the construction of the Scheme. The pipeline will connect the proposed Havant Thicket Reservoir to Bedhampton Pumping Station, located approximately 4km due south of Havant Thicket.

In line with IAQM guidance, the study area for this assessment encompasses an area extending 250 m from the Scheme's redline boundary in all directions. The study area and location of each construction work stage are depicted on **Figure 1**. For clarity, **Figure 2** depicts the IAQM guidance buffers (including the 250 m extent).

In addition, potential dust trackout impacts have been assessed for the likely construction traffic routes, with the trackout study area encompassing 50 m either side of the routes on the public highway, up to 250 m from the site entrances. The trackout routes are outlined in **Figure 2**.

The construction sections of the pipeline, including the sensitive receptors and associated trackout routes are presented in the section-specific DMPs (**Appendices C-N**).



- Reservoir Red Line Boundary
- Pipeline Red Line Boundary
- Reservoir Footprint
- Pipeline Alignment - Outlet
- Pipeline Alignment - Inlet

C03	MMN	NW	AR	JF	PUBLISHED	03/04/2024
C02	NW	FD	AR	JF	PUBLISHED	26/06/2023
C01	FD	CB	LJB	JF	PUBLISHED	13/08/2020
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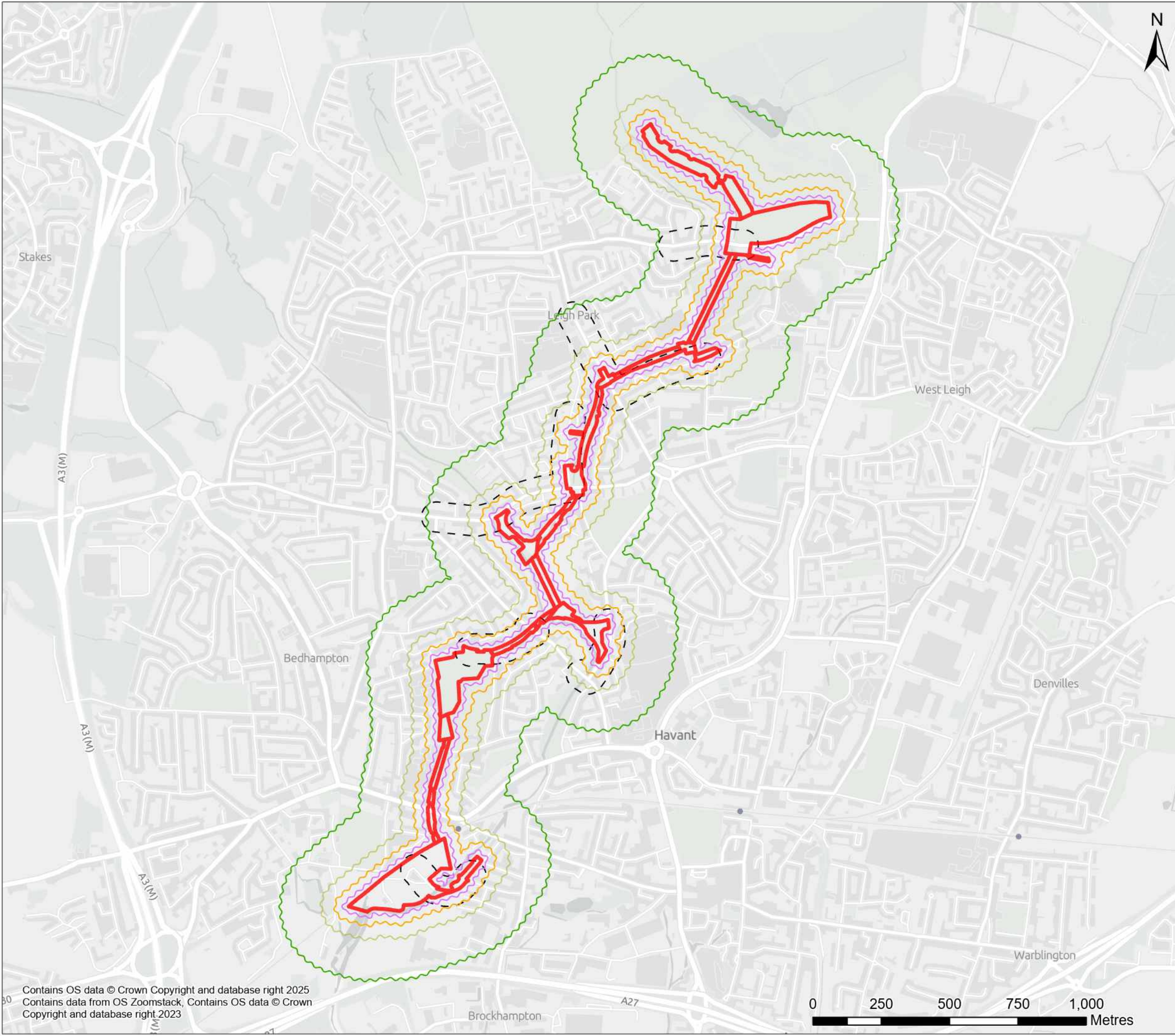


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Project Title
HAVANT THICKET RESERVOIR

Drawing Title
FIGURE 1 SITE LOCATION

Portsmouth Water Drawing Number	Rev
	C03



- Legend**
- Red Line Boundary
 - 20m Buffer of Red Line Boundary
 - 50m Buffer of Red Line Boundary
 - 100m Buffer of Red Line Boundary
 - 250m Buffer of Red Line Boundary
 - Track-out 50m buffer



Rev	05.09.2025	FIRST ISSUE	FP	EMP	DP
Rev	Date	Amendment Details	Dr'n	Chk'	App'

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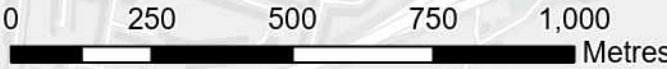
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Drawing Title
Figure 2: Red Line Boundary with study area buffers

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3.1 Sensitive Receptors

3.1.1 Dust Soiling and Human Health Receptors

Human health and dust soiling receptors include residential dwellings and other premises that may have a particular sensitivity to dust deposition or to the health effects of PM₁₀. These include hospitals, schools, car showrooms, museums, residential care homes, playgrounds. In line with the IAQM guidance¹, these receptors will have differing sensitivity (high to low) to dust soiling and human health. For example, residential receptors and schools have a high sensitivity to both dust soiling and human health.

Ordnance Survey Address-base data has been used to identify sensitive receptors to dust soiling and human health. The sensitivity of these receptors has been based upon the classification of the address base data. The locations of these receptors are presented in the appropriate figures within **Appendices C to N** for each construction stage.

3.1.2 Ecological Receptors

There are a number of ecologically sensitive sites within 250 m of the redline boundary⁴. These include:

- Great Copse Local Wildlife Site (LWS)
- High Lawn LWS
- Thicket Lawn LWS
- Ancient woodland sections including Round Wood, and Great Copse.⁵

There are no national or European designated ecological receptors within 250 m of the redline boundary.

Therefore, impacts of dust on nearby ecological receptors have been scoped into this assessment for local ecological sites only. With reference to the IAQM guidance¹, these receptors are assigned 'low' sensitivity to dust impacts.

3.2 Soil Types

There is a variety of different soil types across the Scheme, with the majority determined to be clay based or topsoil⁶. According to the IAQM Guidance¹, clay soils have a high potential for generating airborne dust due to their small particle size range.

⁴ All local wildlife sites (LWS)'s names and locations were taken from the Havant Thicket Reservoir application' ES.

⁵ Natural England (2024) [Ancient Woodland \(England\) | Natural England Open Data Geoportal](#)

⁶ Havant Pipeline Material Management Plan (MMP) Form – October 2024

4 Construction Phase Information

4.1 Pipeline Construction Approach

The Scheme will be constructed using a combination of open cut trench works, and micro-tunnelling techniques (comprising launch shaft, tunnelling, and reception shaft).

Open cut trench works will be applied in two areas: the council playing fields adjacent to Havant RFC (P2 in **Figure 1**), and the land in the southwest of Staunton Country Park (P9 and blue line in **Figure 1**). Therefore, Stages P2 and P9 will have the potential to generate relatively higher dust emissions.

As seen in Table 6 below, the Scheme construction has been split into multiple stages which are either shafts (W1-W8 and ED) or a stretch of pipeline construction (P1-P9).

For stages P1, P3, P4, P5, P6, P7 and P8 which are being constructed using micro-tunnelling techniques, dust emissions along the pipeline stages are expected to be relatively low, with any notable dust emissions likely to relate to the shaft sites instead.

Table 6: Construction Programme and Stage breakdown

Stage	Stage Type	Elements covered	Start Date	End Date
W1	Shaft & site compound	Shaft W1	Dec-25	Dec-25
		Shaft W1 Fitout / Backfill	Oct-26	Nov-26
W2	Shaft & site compound	Shaft W2	Oct-25	Dec-25
		Shaft W2 Fitout / Backfill	Sep-26	Nov-26
P1	Tunnel Pipeline	P1 1500	Apr-26	Jul-26
		P1 1650	Dec-25	Apr-26
		P1 Tunnel Pipework	Jul-26	Aug-26
P2	Open cut pipeline	P2 Opencut (W2 to W3)	Jun-26	Sep-26
W3	Shaft & site compound	Shaft W3	Mar-26	Apr-26
		Shaft W3 Fitout / Backfill	May-27	May-27
W4	Shaft & site compound	Shaft W4	Jan-26	Mar-26
		Shaft W4 Fitout / Backfill	Jul-27	Aug-27
P3	Tunnel Pipeline	P3 1500	Sep-26	Nov-26
		P3 1650	Apr-26	Jul-26
		P3 Tunnel Pipework	Feb-27	Mar-27
P4	Tunnel Pipeline	P4 1500	Dec-26	Feb-27
		P4 1650	Jul-26	Sep-26

		P4 Tunnel Pipework	Apr-27	May-27
ED	Shaft & site compound	Shaft ED	Apr-26	Jun-26
		Shaft ED Fitout / Backfill	Oct-27	Mar-28
W5	Shaft & site compound	Shaft W5	Jul-26	Aug-26
		Shaft W5 Fitout / Backfill	Feb-28	Mar-28
P5	Tunnel Pipeline	P5 1500	Mar-27	Jun-27
		P5 1650	Sep-26	Dec-26
		P5 Tunnel Pipework	Aug-27	Sep-27
P6	Tunnel Pipeline	P6 1500	Jun-27	Aug-27
		P6 1650	Dec-26	Mar-27
		P6 Tunnel Pipework	Oct-27	Nov-27
W6	Shaft & site compound	Shaft W6 (including piling)	Sep-26	Oct-26
		Shaft W6 Fitout / Backfill	Jun-28	Jun-28
W7	Shaft & site compound	Shaft W7	Oct-26	Dec-26
		Shaft W7 Fitout / Backfill	Aug-28	Sep-28
P7	Tunnel Pipeline	P7 1500	Sep-27	Dec-27
		P7 1650	Mar-27	Jun-27
		P7 Tunnel Pipework	Mar-28	May-28
P8	Tunnel Pipeline	P8 1500	Dec-27	Mar-28
		P8 1650	Jun-27	Sep-27
		P8 Tunnel Pipework	Jun-28	Jun-28
W8	Shaft & site compound	Shaft W8	Jan-27	Feb-27
		Shaft W8 Fitout / Backfill	Aug-28	Sep-28
P9	Open cut pipeline	P9 Opencut (W8 to Res)	Jun-26	Jan-28

4.2 Material Quantities

In line with the material management plan, the following volumes of material (soil) to be excavated, re-used and disposed in the construction of the Scheme are displayed in Table 7. In accordance with **Section 5**, this information is required to determine the potential dust emission magnitude from earthworks, in line with IAQM Guidance¹.

The information displayed in Table 7 has been provided by Brien Curran (Ward & Burke's contractor). Sweco's land quality team have used this information to provide the following information. For further information on material quantities please see the Materials Management Plan (MMP).

Table 7: Material to be excavated, re-used and disposed in the construction of the Scheme

Construction Stage	Total Excavation Arisings (m³)	Total Re-use (m³)	Total Disposal (m³)
W1	~*	~*	~*
W2	5,436	4,227	1,209
W3	1,315	897	418
W4	5,573	3,235	2,338
W5	3,350	2,197	1,153
W6	1,237	852	385
W7	4,840	3,457	1,383

W8	4,964	4,378	586
ED	5,342	2,385	2,957
P1	3,830	0	3,830
P2	7,812	2,847	4,965
P3	2,734	0	2,734
P4	2,138	0	2,138
P5	2,769	0	2,769
P6	3,428	0	3,428
P7	3,136	0	3,136
P8	4,258	0	4,258
P9	10,560	3,917	6,643

*As no excavation arisings will be re-used at Shaft W1 (with the compound to be constructed on an existing concrete slab), Shaft W1 and its associated compound falls outside the scope of the MMP. Therefore, material quantities for W1 cannot be provided.

4.3 Traffic Movements

As per the Ward and Burke Highways Work Areas Summary document⁷, the maximum peak heavy good vehicle (HGV) movements associated with the construction of the Scheme are displayed in Table 8.

Peak traffic movements from the site compounds have been used within this assessment (see **Section 5**) to provide a conservative approach, despite their relatively short duration.

In accordance with **Section 5**, this information is required to determine the potential dust emission magnitude from trackout, in line with IAQM Guidance¹.

Table 8: HGV Two-Way Movements associated with the construction stages

Route	Compound where highways route joins haul route	Max HGV & Tractor and Trailer Movements	Duration of Peak (days)
RE3	W5/ED	88	1
RE4	W3/W4 ¹	78	4
RE5	W5	34	6
RE6	W8	56	1
RE7	W7/W6	46	1
RE8	W1	20	2

¹RE4 will also provide access to W2 through the use of a haul road through P2 stage area

⁷ Ward and Burke (2024) Highways Work Areas Summary

5 Construction Dust Risk Assessment Methodology

Construction phase activities associated with the Scheme may result in the generation of fugitive dust emissions which, if transported beyond the redline boundary, can have an adverse impact on local air quality.

Dust comprises particles typically in the size range 1-75 micrometres (μm) in aerodynamic diameter and is created through the action of crushing and abrasive forces on materials. The larger dust particles fall out of the atmosphere quickly after initial release and therefore tend to be deposited in proximity to the source of emission. Dust, therefore, is unlikely to cause long-term or widespread changes to local air quality; however, its deposition on property and cars can cause 'soiling' and discolouration. This may result in complaints of annoyance through amenity loss or perceived damage caused, which is usually temporary.

The smaller particles of dust (not exceeding 10 μm in aerodynamic diameter) are known as particulate matter (PM_{10}) and represent only a small proportion of total dust released; this includes a finer fraction, known as $\text{PM}_{2.5}$ (with an aerodynamic diameter not exceeding 2.5 μm). As these particles are at the smaller end of the size range of dust particles, they remain suspended in the atmosphere for a longer period of time than the larger particles and can therefore be transported by wind over a wider area.

PM_{10} and $\text{PM}_{2.5}$ are small enough to be drawn into the lungs during breathing which, in sensitive members of the public, could have a potential impact on health. However, ambient dust emissions from construction activities relevant to human health would be as PM_{10} and predominantly in the coarse fraction ($\text{PM}_{2.5-10}$) rather than in the $\text{PM}_{2.5}$ fraction. As such, the construction phase dust assessment focuses on levels of PM_{10} with respect to human receptors.

The assessment of likely impacts on local air quality due to the generation and dispersion of dust and PM_{10} during construction has been undertaken with reference to the qualitative risk-based appraisal methodology published by the IAQM (2024)¹, the available construction information for the Scheme and professional judgement.

The key potential construction air quality emission sources associated with the Scheme are:

- **Earthworks** – Including processes such as soil-stripping, ground levelling, excavation and landscaping.

- **Construction** – Any activity involved with the provision of a new structure(s) (e.g. building, road etc.), its modification or refurbishment. This includes associated dust emissions from material stockpiling and material transfer within the Site (i.e. wind erosion).
- **Trackout** – The transport of dust and dirt from the Site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when Heavy Duty Vehicles (HDVs) leave the Site with dusty materials, which may then spill onto the road, and / or when HDVs transfer dust and dirt onto the road after travelling on site.

As there is no demolition associated with the Scheme, this has been scoped out of this assessment.

The assessment considers the nature and scale of the activities undertaken for each source and the sensitivity of the local area to an increase in dust and PM₁₀ levels, which enables an appropriate level of risk to be assigned. Risks are described in terms of there being a low, medium or high risk of dust impacts.

Following the assignment of risk, site specific mitigation proportionate to the level of risk is identified for the Scheme, and the significance of residual effects is determined. This has been done on a section basis, as detailed in **Section 6** and applied to the individual DMPs in **Appendices C to N**, to provide a focused assessment of dust risk and associated mitigation along the pipeline extent.

Full details of the construction assessment method are provided in **Appendix A**.

5.1 Assumptions and limitations

The assumptions and limitations of this assessment are outlined as below:

- The construction stages have been based upon approximate redline boundary information for the Scheme as a whole, as per **Figure 1**. This Figure also contains information on the location of each of the stages of construction (as discussed in Section 4.1) and their locations in relation to each other.
- As the proposed construction work stage areas are directly adjacent to each other, there are a number of instances where sensitive receptors will have been counted more than once between work areas. This ensures that all receptors were captured in the assessment, such that it can be considered a robust assessment.
- Impacts from Shaft W3 have been assessed as part of stage P2, an open cut stage, given that dust emissions from the open cut areas are likely to be higher relative to the shaft.
- The Scheme's redline boundary has been used to measure the distance between potential dust-generating activities and sensitive receptor locations. As the pipeline route will not be the full width of the redline boundary, it is possible that the distances to sensitive receptors from the respective activities could be greater than those assessed. In this regard, the assessment will be conservative.
- Due to the staged approach of the construction of the pipeline, no combined impacts have been assessed as part of this assessment.

- OS Addressbase data contains land use classification. This classification grade has been used to assign sensitivity to receptors for both sensitivity to dust soiling and human health impacts. This sensitivity has been assigned using professional judgement with reference to the IAQM guidance (2024)¹.
- This assessment only covers the construction of the Havant Pipeline. Construction of the Havant Thicket Reservoir is beyond the scope of this assessment.
- This assessment also includes the potential dust risk of the compound to the north of the pipeline construction (as seen in Figure 1). The impact directly from the compound has been assessed only with no consideration to potential trackout from the compound. This has been covered within the Havant Thicket Reservoir construction dust assessment instead of within this document.

5.2 Assessment by Section/Stage

As the main activities will be focused on the shaft compounds, the pipeline sections utilising micro-tunnelling methods (i.e. low dust potential) have been grouped with their respective shafts for the basis of this assessment. Therefore, a “stage” refers to discrete construction stage, whereas a “section” refers to two or more construction stages combined. This terminology for “stage” and “section” has been used throughout this report.

These groupings are:

- Stage W1
- Section P1 & W2 (inclusive of Stage P1 and Stage W2)
- Stage W3
- Section W4, P3 & P4 (inclusive of Stage W4, Stage P3 and Stage P4)
- Section W5, P5 & P6 (inclusive of Stage W5, Stage P5 and Stage P6)
- Stage W6
- Section W7, P7 & P8 (inclusive of Stage W7, Stage P7 and Stage P8)
- Stage W8
- Stage ED
- Stage P2 (open cut)
- Stage P9 (open cut)
- North Compound

6 Construction Dust Risk Impact Assessment

6.1 Step 1: Screen the Requirement for a Detailed Assessment

Due to the built-up nature of the area (including residential properties) surrounding the Scheme route, a detailed assessment has been determined to be required, in line with IAQM guidance (2024)¹.

6.2 Step 2: Assess the Risk of Dust Impacts

6.2.1 Step 2A: Define the Potential Dust Emission Magnitude and Step 2B: Define the Sensitivity of the Area

The results of Step 2A and Step 2B are summarised in Table 9 on a section-by-section basis with groupings for each section (as described in **Section 5.2**).

The following information, in addition to that summarised in Table 9, have helped to inform the potential dust emission magnitude and receptor sensitivity:

- OS Addressbase classifications to determine receptor sensitivity (e.g. residential receptors have both human health and dust soiling high sensitivity). Receptor count information is displayed in **Appendix B**.
- Concrete construction materials are to be used for shaft and pipeline construction.
- PM₁₀ annual mean concentrations are well below 24 µg/m³ for the study area as shown in **Section 2**.
- Sensitivity of the area to dust/human health impacts was based upon the number of high sensitivity receptors within a given distance of the redline boundary. Full receptor count information is displayed in **Appendix B**.
- Traffic movement information as provided in **Section 4.3**.
- All work areas are accessed via the public highway with information regarding the length of haul roads within the site boundary provided for trackout information.

Table 9: Potential Dust Emission Magnitude and Area Sensitivity on a section-by-section basis with reference to IAQM methodology

Section/Stage Descriptor	Dust Emission Magnitude				Sensitivity of Area			
	Decision information	Earthworks	Construction	Trackout	Decision information	Dust Soiling	Human Health	Ecological
W1	Clay soil type in addition to topsoil Total site area approximately 49,000m ³ <20 HDV outward movements in any one day Haul route >100m	Large	Medium	Large	10-100 receptors <50m	Medium	Low	N/A
P1 & W2*	Clay soil type in addition to topsoil Total site area approximately 3,500m ³ No specified haul roads within site	Medium	Medium	Small	10-100 receptors <20m	High	Low	N/A
W3	Mainly clay with some sand soil type Total site area approximately 1,700m ³ 20-50 HDV outward movements in any one day No specified haul roads within site	Medium	Medium	Medium	>100 receptors <100m	Medium	Low	N/A
W4, P3 & P4*	Clay soil type in addition to topsoil Total site area approximately 10,500m ³ 20-50 HDV outward movements in any one day Haul road >100m	Medium	Medium	Large	10-100 receptors <20m	High	Low	N/A
W5, P5 & P6*	Clay soil type in addition to topsoil Total site area approximately 6,000m ³ 20-50 HDV outward movements in any one day No specified haul roads within site	Medium	Medium	Small	10-100 receptors <20m	High	Low	N/A
W6	Clay soil type in addition to topsoil Total site area approximately 2,400m ³ <25 HDV outward movements in any one day No specified haul roads within site	Medium	Medium	Small	10-100 receptors <20m	High	Low	N/A
W7, P7 & P8*	Clay soil type in addition to topsoil Total site area approximately 40,000m ³ 20-50 HDV outward movements in any one day Haul road <50m	Large	Medium	Medium	10-100 receptors <20m Ancient woodland <20m	High	Low	Low
W8	Clay soil type in addition to topsoil	Large	Medium	Medium	10-100 receptors <50m	Medium	Low	Low

Section/Stage Descriptor	Dust Emission Magnitude				Sensitivity of Area			
	Decision information	Earthworks	Construction	Trackout	Decision information	Dust Soiling	Human Health	Ecological
	Total site area approximately 41,000m³ 20-50 HDV outward movements in any one day Haul road <50m				LWS <20m Ancient woodland <50m			
ED	Clay soil type in addition to topsoil Total site area approximately 8,000m³ 20-50 HDV outward movements in any one day Haul road >100m	Medium	Medium	Large	10-100 receptors <20m	High	Low	N/A
P2	Mainly clay with some sand soil type Total site area approximately 24,500m³ 20-50 HDV outward movements in any one day Haul road >100m	Large	Medium	Large	>100 receptors <100m	Medium	Low	N/A
P9	Open-cut pipeline construction Clay soil type Total site area approximately 22,000m³ 20-50 HDV outward movements in any one day No specified haul roads within site	Large	Medium	Medium	10-100 receptors <100m LWS <20m Ancient woodland <50m	Low	Low	Low
North Compound	Compound only site with minimum earth being moved Total site area approximately 10,000m² Haul roads and access to site not within scope of assessment	Small	Small	N/A	Receptors >250m Ancient woodland <20m LWS <20m	N/A	N/A	Low

***Note:** Where Stages are grouped as sections, the section with the highest dust emission magnitude and sensitivity of area have been used as a conservative approach.

6.2.2 Step 2C: Define the Risk of Impacts

Taking into consideration the conclusion from Steps 2A and 2B, the risk of dust impacts for each activity are provided in Table 10. The greatest risk of impact associated with the unmitigated construction works are from dust soiling during earthworks and trackout activities.

Table 10: Risk of Unmitigated Dust Impacts

Section/ Stage Descriptor	Risk of Dust Impacts for Dust Soiling			Risk of Dust Impacts for Human Health			Risk of Dust Impacts for Ecological		
	Earthworks	Construction	Trackout	Earthworks	Construction	Trackout	Earthworks	Construction	Trackout
W1	Medium	Medium	Medium	Low	Low	Low	N/A	N/A	N/A
W2 & P1	Low	Low	Low	Low	Low	Negligible	N/A	N/A	N/A
W3	Medium	Medium	Medium	Low	Low	Low	N/A	N/A	N/A
W4, P3 & P4	Medium	Medium	Medium	Low	Low	Low	N/A	N/A	N/A
W5, P5 & P6	Medium	Medium	Low	Low	Low	Negligible	N/A	N/A	N/A
W6	Medium	Medium	Low	Low	Low	Negligible	N/A	N/A	N/A
W7, P7 & P8	High	Medium	Medium	Low	Low	Low	Low	Low	Low
W8	Medium	Medium	Medium	Low	Low	Low	Low	Low	Low
ED	Medium	Medium	High	Low	Low	Low	N/A	N/A	N/A
P2	Medium	Medium	Medium	Low	Low	Negligible	N/A	N/A	N/A
P9	Low	Low	Low	Low	Low	Low	Low	Low	Low
North Compound	N/A	N/A	N/A	N/A	N/A	N/A	Low	Low	N/A

Note: Where stages are grouped as sections, the section with the highest dust emission magnitude and sensitivity of area have been used as conservative approach.

6.3 Step 3: Site-specific Mitigation

Determining site-specific mitigation measures corresponds to Step 3 of the IAQM assessment methodology (see **Appendix A**).

A number of mitigation measures should be adopted to avoid and/or minimise the production and/or dispersal of dust to lessen the potential for nuisance and prevent adverse human health impact. Ideally, dust should be controlled at the source.

According to the IAQM guidance¹, the dust risk for each of the activities determined in Step 2C is used to define the appropriate site-specific mitigation measures to be adopted.

For this assessment, which supersedes the assessment completed in the 2024 ES, mitigation has been appropriately grouped by Scheme construction section based upon the risk of unmitigated dust impacts.

Appropriate mitigation measures, taking into consideration the risk of dust impacts determined in Step 2C, are provided in Table 11 and are provided in the relevant section-by-section (as described in **Section 5.2**) DMPs presented in **Appendices C to N**, as summarised below:

- Appendix C: DMP for Stage W1
- Appendix D: DMP for Section W2 & P1
- Appendix E: DMP for Section W3
- Appendix F: DMP for Section W4, P3 & P4
- Appendix G: DMP for Section W5, P5 & P6
- Appendix H: DMP for Stage W6
- Appendix I: DMP for Section W7, P7 & P8
- Appendix J: DMP for Stage W8
- Appendix K: DMP for Stage ED
- Appendix L: DMP for Stage P2
- Appendix M: DMP for Stage P9
- Appendix N: DMP for North Compound

The above DMPs should be agreed with the local authority prior to works commencing and implemented through the site-specific Construction Environmental Management Plan (CEMP). Contractors should carry the 'Considerate Contractors' registration.

In all cases, the assigned mitigation measures are based on the 'highly recommended' and 'desirable' measures as per those stipulated by IAQM guidance.

Table 11: Likely Site Operations and Appropriate Methods of Controlling Dust

Dust Control Measures	Control measures applicable to stage or section											
	W1	W2 & P1*	W3	W4, P3 & P4*	W5, P5 & P6*	W6	W7, P7 & P8*	W8	ED	P2	P9	North Compound
Communication												
Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Display the head or regional office contact information	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real time PM ₁₀ continuous monitoring and/or visual inspections	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Site Management												
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Make the complaints log available to the local authority when asked.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the logbook.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Hold regular liaison meetings with other high risk construction sites within 250 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.							Y		Y			
Monitoring												
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Dust Control Measures	Control measures applicable to stage or section											
	W1	W2 & P1*	W3	W4, P3 & P4*	W5, P5 & P6*	W6	W7, P7 & P8*	W8	ED	P2	P9	North Compound
include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary												
Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Agree dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring locations with the Local Authority, where applicable. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a stage/section commences. Note: Further information on this is presented within Section 7		Y	Y	Y			Y		Y	Y		
Preparing and maintaining the site												
Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Avoid site runoff of water or mud.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Keep site fencing, barriers and scaffolding clean using wet methods.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Cover, seed or fence stockpiles to prevent wind whipping.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Operating vehicle/machinery and sustainable travel												

Dust Control Measures	Control measures applicable to stage or section											
	W1	W2 & P1*	W3	W4, P3 & P4*	W5, P5 & P6*	W6	W7, P7 & P8*	W8	ED	P2	P9	North Compound
Ensure all vehicles switch off engines when stationary - no idling vehicles	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.							Y		Y			
Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing	Y		Y	Y	Y	Y	Y	Y	Y	Y		
Operations												
Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Use enclosed chutes and conveyors and covered skips	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Waste Management												
Avoid bonfires and burning of waste materials	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Earthworks												

Dust Control Measures	Control measures applicable to stage or section											
	W1	W2 & P1*	W3	W4, P3 & P4*	W5, P5 & P6*	W6	W7, P7 & P8*	W8	ED	P2	P9	North Compound
Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.	Y		Y	Y	Y	Y	Y	Y	Y	Y		
Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable	Y		Y	Y	Y	Y	Y	Y	Y	Y		
Only remove the cover in small areas during work and not all at once	Y		Y	Y	Y	Y	Y	Y	Y	Y		

Construction

Avoid scabbling (roughening of concrete surfaces) if possible	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.	Y		Y	Y	Y	Y	Y	Y	Y	Y		
For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.	Y		Y	Y	Y	Y	Y	Y	Y	Y		

Trackout

Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Avoid dry sweeping of large areas	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.	Y		Y	Y			Y	Y	Y	Y		
Record all inspections of haul routes and any subsequent action in a site logbook	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.	Y		Y	Y			Y	Y	Y	Y		

Dust Control Measures	Control measures applicable to stage or section											
	W1	W2 & P1*	W3	W4, P3 & P4*	W5, P5 & P6*	W6	W7, P7 & P8*	W8	ED	P2	P9	North Compound
Implement a wheel washing system where reasonably practicable (with rumble grids to dislodge accumulated dust and mud prior to leaving the site).	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits	Y		Y	Y			Y	Y	Y	Y		
Access gates to be located at least 10 m from receptors where possible.	Y		Y	Y			Y	Y	Y	Y		
Note: Mitigation recommended for all stages and sections based on <i>highly recommended</i> and <i>desirable</i> mitigation in line with IAQM guidance (2024) *Where stages are grouped as sections, the section with the highest dust emission magnitude and sensitivity of area have been used as a conservative approach.												

6.3.1 Bespoke Mitigation Measures

In addition to the assigned mitigation measures specified by IAQM, the following bespoke measures are stipulated due to the specific nature and location of the Scheme's stages and sections:

- For **stage P2 (Appendix L)**: Where possible, undertake potentially dusty activities outside of school hours and/or in school holidays due to the proximity of St Thomas More's Roman Catholic Primary School. As per Table 6, this stage is scheduled to take place when summer school holiday will occur, with the later part of school summer term and early autumn term. In addition, a regular and clear communication strategy between contractor and school is required, such that schedule of activities can be discussed accordingly.
- For **stage W1 (Appendix C)**: Use a wheel washing system on HDVs before reaching the highway network, in addition to the edge of the work area, to minimise the potential for dust trackout.
- For **section W2 & P1 (Appendix D)**: Where possible, undertake potentially dusty activities outside of school hours and/or in school holidays due to the proximity of Bidbury Infant School and Bidbury Junior School. As per Table 6, this section is scheduled to take place when several school holidays are occurring including Christmas, summer and easter holidays as well as half terms. In addition, a regular and clear communication strategy between contractor and school is required, such that schedule of activities can be discussed accordingly.
- For **Stage W4 (Appendix F)**: Where possible, undertake potentially dusty activities outside of school hours and/or in school holidays due to the proximity of Trosnant Infant and Junior Schools, and Tops Day Nurseries: Havant Nursery. As per Table 6, this stage is scheduled to take place when summer holidays and the winter term's half term are occurring. In addition, a regular and clear communication strategy between contractor and school is required, such that schedule of activities can be discussed accordingly.

6.4 Step 4: Determine Significant Effect

The impacts associated with the construction phase of the Scheme have been qualitatively assessed with reference to the IAQM guidance¹.

The IAQM guidance states that *"...in the case of demolition / construction it is assumed that mitigation (secured by planning conditions, legal requirements or required by regulations) will ensure that a potential significant adverse effect will not occur, so the residual effect will normally be 'not significant'"*.

Therefore, with the associated DMPs applied as necessary, the impacts during the construction phase will be **not significant** for all stages and sections.

7 Dust Monitoring

As part of the IAQM guidance¹, one of the monitoring mitigation measures is:

“Agree dust deposition, dust flux, or real-time PM₁₀ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a stage or section commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.”

Environmental monitoring during construction projects can be beneficial and can be used to:

- Demonstrate the efficacy of mitigation measures.
- Reduce costs by effective targeting of mitigation measures.
- Demonstrate compliance with regulatory or other standards.
- Demonstrate a commitment to reduce environmental impacts.
- Reduce complaints from site staff and the public.
- Reduce potential for conflict with regulators.
- Speed up dispute resolution.

Sites for which monitoring is particularly likely to be beneficial include large or long-term sites in sensitive areas (e.g. residential; schools), contaminated sites, and sites in sensitive air quality areas, such as AQMAs.

Monitoring regimes can range from real-time, continuous monitoring to the visual assessment of dust generation, depending on the risks identified for the respective construction activities.

7.1 Specific Dust Monitoring per section

As evident within Table 10, the sections of the Scheme’s construction present varying levels of dust impact risk. As such, the proposed dust monitoring regimes should adopt a similarly staged approach. The recommended initial dust monitoring on a section-by-section basis is outlined in Table 12, principally based on the risk categories assigned in Table 10, nature of the works, and proximity of sensitive receptors.

These are subject to agreement with the local authority prior to works commencing.

Table 12: Recommended dust monitoring approach per stage or section

Section/ Stage	Baseline: Recommended dust deposition method	Construction: Recommended dust monitoring method	Justification / Comments
W1	N/A	Routine visual inspections.	Visual inspection recommended as initial strategy during works, with option to deploy dust deposition flux monitoring if needed (e.g. if complaints received).
W2 & P1	Real-time, continuous monitoring for the minimum of three months (PM _{2.5} , PM ₁₀ , TSP).	Real-time, continuous monitoring (PM _{2.5} , PM ₁₀ , TSP), focussed on Bidbury Infant & Junior Schools and residential properties adjacent to site boundary. Routine visual inspections alongside this.	<p>Real-time monitoring recommended for both baseline and construction, principally to provide reference levels (baseline) and to capture potential cumulative dust impacts during P2 works (open-cut) – with a focus on the highly sensitive school and residential properties adjacent to the boundary. Visual inspections are recommended at all other times.</p> <p>Although activities are assigned low risk of dust soiling impact, the presence of Bidbury Infant & Junior Schools adjacent to W2 dictates this monitoring recommendation focussed on human health. There is also potential for cumulative impacts if the activities associated with P1, W2, and P2 overlap.</p> <p>Appropriate trigger levels will be derived for the construction stage, which if met will require works to stop on site until the monitored levels drop below the trigger level and/or additional mitigation is applied to reduce construction dust emissions. The trigger levels will be derived based on the baseline monitoring and to protect human health.</p>
W3	Passive dust deposition monitoring survey (e.g. sticky pads or frisbee gauges)	Passive dust deposition monitoring survey (e.g. sticky pads or frisbee gauges). Routine visual inspections alongside this.	<p>Dust deposition flux monitoring recommended for both baseline and construction, principally to provide reference dust deposition (baseline) and to capture any dust soiling impacts. There is also potential for cumulative impacts if the activities associated with P2 and W3 overlap.</p> <p>Appropriate trigger levels will be derived for the construction stage, which if met will require works to stop on site until the monitored levels drop below the trigger level and/or additional mitigation is applied to reduce construction dust emissions.</p>

Section/ Stage	Baseline: Recommended dust deposition method	Construction: Recommended dust monitoring method	Justification / Comments
			The trigger levels will be derived based on the baseline monitoring and to protect human health.
W4, P3 & P4	Real-time, continuous monitoring for the minimum of three months (PM _{2.5} , PM ₁₀ , TSP).	Real-time, continuous monitoring (PM _{2.5} , PM ₁₀ , TSP), focussed on Trosnant Infant & Junior School and residential properties adjacent to site boundary. Routine visual inspections alongside this.	<p>Real-time monitoring recommended for both baseline and construction, principally to provide reference levels (baseline) and to monitor any changes to levels at the highly sensitive school and residential properties adjacent to the boundary. Visual inspections are recommended at all other times.</p> <p>Although activities are assigned low risk for dust soiling impact, the presence of Trosnant Infant & Junior School adjacent to W4 dictates this monitoring recommendation focussed on health.</p> <p>Appropriate trigger levels will be derived for the construction stage, which if met will require works to stop on site until the monitored levels drop below the trigger level and/or additional mitigation is applied to reduce construction dust emissions. The trigger levels will be derived based on the baseline monitoring and to protect human health.</p>
W5, P6 & P7	N/A	Routine visual inspections.	Visual inspection recommended as initial strategy during works, with option to deploy dust deposition flux monitoring if needed (e.g. if complaints received).
W6	N/A	Routine visual inspections.	Visual inspection recommended as initial strategy during works, with option to deploy dust deposition flux monitoring if needed (e.g. if complaints received).
W7, P7 & P8	Passive dust deposition monitoring survey using passive monitors (e.g. sticky pads or frisbee gauges) for a minimum three months.	Passive dust deposition monitoring to be carried out during earthworks activities. Routine visual inspections at all other times.	Dust deposition flux monitoring recommended for both baseline and construction, principally to provide reference dust deposition (baseline) and to capture any dust soiling impacts during earthworks (high risk pre-mitigation). Visual inspections are recommended at all other times.
W8	N/A	Routine visual inspections.	Visual inspection recommended as initial strategy during works, with option to deploy dust deposition flux monitoring if needed (e.g. if complaints received).

Section/ Stage	Baseline: Recommended dust deposition method	Construction: Recommended dust monitoring method	Justification / Comments
ED	Passive dust deposition monitoring (e.g. sticky pads or frisbee gauges) for a minimum three months.	Passive dust deposition monitoring, focussed on trackout activities. Routine visual inspections at all other times.	Dust deposition flux monitoring recommended for both baseline and construction, principally to provide reference dust deposition (baseline) and to capture any dust soiling impacts during trackout (high risk pre-mitigation). Visual inspections are recommended at all other times.
P2	Passive dust deposition monitoring survey (e.g. sticky pads or frisbee gauges) and real-time, continuous monitoring for the minimum of three months (PM _{2.5} , PM ₁₀ , TSP)	Passive dust deposition monitoring survey (e.g. sticky pads or frisbee gauges) and real-time, continuous monitoring (PM _{2.5} , PM ₁₀ , TSP). Routine visual inspections alongside this.	<p>Given proximity to St. Thomas More's School, combined with pre-mitigation high risk for earthworks (open-cut) and trackout, both dust deposition (soiling) and real-time monitoring (human health) recommended for baseline and construction works. Visual inspections recommended alongside this.</p> <p>Appropriate trigger levels will be derived for the construction stage, which if met will require works to stop on site until the monitored levels drop below the trigger level and/or additional mitigation is applied to reduce construction dust emissions. The trigger levels will be derived based on the baseline monitoring and to protect human health.</p>
P9	N/A	Routine visual inspections	This is a low-risk areas, therefore routine visual inspections during works are recommended.
North Compound	N/A	Routine visual inspections	

The dust monitoring outlined in Table 12 provides an initial recommendation based on the unmitigated risk level, current construction programme, and sensitivity of the surrounding area. Should the programme and/or nature of works change, the approach to monitoring may need to be revised.

Given the proximity of high sensitivity receptors throughout a number of the construction stages/sections, there is the potential for location specific monitoring to be required in the event of complaints being received in relation to construction works.

8 Conclusions

A detailed qualitative dust risk assessment has been completed for the assessment of the Havant Pipeline corridor. This assessment has been completed in line with the IAQM guidance on *'the Assessment of Dust from Demolition and Construction'* (2024).

A review of existing air quality conditions has demonstrated that existing air quality is good, with measured pollutant concentrations below the respective national air quality standards.

The assessment of the potential dust emissions associated with the construction of the Scheme has been completed on a section-by-section basis, such that individual dust management plans (DMPs) have been assigned, as presented in **Appendices C to N**. Each DMP assigns the appropriate level of mitigation commensurate to the assessed dust impact risk in the absence of mitigation.

Where appropriate, bespoke mitigation measures have been assigned to discrete stages of the Scheme where particularly sensitive land uses (e.g. schools) are located adjacent to potentially dusty construction activities.

The recommended mitigation measures for the Scheme have been outlined in **Section 6.3** as well as within the relevant DMPs for each section as shown in **Appendices C to N**. Varying levels of dust deposition monitoring for both baseline and during the works has been outlined in **Section 7.1** for the different stages and included within the relevant DMPs.

With the recommended mitigation measures in place and applied in an appropriate manner as per the DMPs, the overall impact of dust during the construction of the Scheme will not be significant.

Appendix A – IAQM Construction Dust Assessment Methodology

It is inevitable that with any development, demolition and construction activities would cause some disturbance to those nearby. Dust arising from most construction activities tends to be of a coarse nature, which through dispersion by the wind, can lead to soiling of property including windows, cars, external paintwork and laundry.

The ability of dust particles to remain suspended in the air depends on its shape, size and density. Coarse particles ($>30\mu\text{m}$) tend to be deposited within 100m of source. Finer particles, between $10\text{--}30\mu\text{m}$, are generally deposited within 200 to 500m of source, while very fine particles ($<10\mu\text{m}$), which remain suspended for longer, can travel up to 1km from source. The greatest proportion of construction dust is made up of coarse particles, thus the majority of dust emissions are deposited within 100m of source.

However, as well as giving rise to annoyance due to soiling of surfaces from dust emissions, there is evidence of major construction activities causing increases in long term PM_{10} concentrations and in the number of days exceeding the short term PM_{10} objective of $50\mu\text{g}/\text{m}^3$. The potential for impacts to occur during the construction of a Proposed Development must therefore be considered, to ensure appropriate mitigation measures are applied to reduce potential impacts at adjacent receptors. However, it should be noted that disruption due to demolition and construction is a localised phenomenon and is temporary in nature.

During the construction of the Proposed Development, Lorries would require access to the site to deliver and remove materials; earthmoving plant and other mobile machinery will work on site and generators and cranes will also be in operation. These machines produce exhaust emissions; of particular concern are emissions of NO_2 and PM_{10} .

The assessment of construction impacts has followed the methodology set out within guidance produced by Institute of Air Quality Management (IAQM) on assessing impacts from construction activities and is set out below.

Prediction Method and Approach

In order to assess the potential impacts, the activities on construction sites are divided into four categories. These are:

- Demolition (removal of existing structures).
- Earthworks (soil-stripping, ground-levelling, excavation and landscaping).
- Construction (activities involved in the provision of a new structure).
- Trackout (the transport of dust and dirt from the construction site onto the public road network where it may be deposited and then re-suspended by vehicles using the network).

For each activity, the risk of dust annoyance, health and ecological impact is determined using three risk categories: low, medium and high risk. The risk category may be different for each of the four activities. The risk magnitude

identified for each of the construction activities is then compared to the number of sensitive receptors in the near vicinity of the Proposed Development in order to determine the risks posed by the construction activities to these receptors.

Step 1: Screen the Need for an Assessment

The first step is to screen the requirement for a more detailed assessment. An assessment is required where there is:

- A 'human receptor' within:
 - 250m of the boundary of the site or
 - 50m of the route(s) used by construction vehicles on the public highway, up to 250m from the site entrance(s); and/or
- An 'ecological receptor' within:
 - 50m of the boundary of the site; or
 - 50m of the route(s) used by the construction vehicles on the public highway, up to 250m from the site entrance(s)

Step 2A: Define the Potential Dust Emission Magnitude

This is based on the scale of the anticipated works and the proximity of nearby receptors. The risk is classified as small, medium or large for each of the four categories.

Demolition: The potential dust emission classes for demolition are:

- Large: Total building volume $>75,000\text{m}^3$, potentially dusty construction material (e.g. Concrete), on site crushing and screening, demolition activities $>12\text{m}$ above ground level.
- Medium: total building volume $12,000\text{m}^3 - 75,000\text{m}^3$, potentially dusty construction material, demolition activities 6-12m above ground level.
- Small: total building volume $<12,000\text{m}^3$, construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities $<6\text{m}$ above ground, demolition during wetter months.

Earthworks: This involves excavating material, haulage, tipping and stockpiling. The potential dust emission classes for earthworks are:

- Large: Total site area $>110,000\text{m}^2$, potentially dusty soil type (e.g. clay, which would be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of bunds $>6\text{m}$ in height.
- Medium: Total site area $18,000\text{m}^2 - 110,000\text{m}^2$, moderately dusty soil (e.g. silt), five - ten heavy earth moving vehicles active at any one time, formation of bunds 3m - 6m in height.
- Small: Total site area $<18,000\text{m}^2$, soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of bunds $<3\text{m}$ in height.

Construction: The important issues when determining the potential dust emission magnitude include the size of the building(s)/infrastructure, method of construction, construction materials, and duration of build. The categories are:

- Large: Total building volume $>75,000\text{m}^3$, on site concrete batching, sandblasting.

- Medium: Total building volume 12,000m³ - 75,000m³, potentially dusty construction material (e.g. concrete), on site concrete batching.
- Small: Total building volume <12,000m³, construction material with low potential for dust release (e.g. metal cladding or timber).

Track out: The risk of impacts occurring during track out is predominantly dependent on the number of vehicles accessing the Site on a daily basis.

However, vehicle size and speed, the duration of activities and local geology are also factors which are used to determine the emission class of the Site as a result of the track out. The categories are:

- Large: >50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay content), unpaved road length > 100m.
- Medium: 20-50 HDV (>3.5t) outward movements in any one day, moderately dusty surface material (e.g. high clay content, unpaved road length 50-100m.
- Small: <20 HDV (>3.5t) outward movements in any one day, surface material with low potential for dust release, unpaved road length <50m.

Step 2B: Defining the Sensitivity of the Area

The sensitivity of the area is defined for dust soiling, human health (PM₁₀) and ecological receptors. The sensitivity of the area considers the following factors:

- The specific sensitivities of receptors in the area.
- The proximity and number of receptors.
- In the case of PM₁₀, the local background concentration.
- Site specific factors, such as whether there are natural shelters, such as trees, to reduce the risk of wind-blown dust.

Table A.1 is used to define the sensitivity of different types of receptors to dust soiling, health effects and ecological effects.

Table A.1: Examples of factors defining sensitivity of an area

Sensitivity of Area	Dust Soiling	Human Receptors	Ecological Receptors
High	<p>Users can reasonably expect enjoyment of a high level of amenity; or</p> <p>The appearance, aesthetics or value of their property would be diminished by soiling.</p> <p>The people or property would reasonably be expected to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.</p> <p>Indicative examples include dwellings,</p>	<p>Locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</p> <p>Indicative examples include residential properties. Hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.</p>	<p>Locations with an international or national designation and the designated features may be affected by dust soiling.</p> <p>Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List For Great Britain.</p> <p>Indicative examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site</p>

	museums and other culturally important collections, medium- and long-term car parks and car showrooms.		designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.
Medium	<p>Users would expect to enjoy a reasonable level of amenity but would not reasonably expect to enjoy the same level of amenity as in their home.</p> <p>The appearance, aesthetics or value of their property could be diminished by soiling.</p> <p>The people or property would not reasonably be expected to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.</p> <p>Indicative examples include parks and places of work.</p>	<p>Locations where the people exposed are workers, and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</p> <p>Indicative examples include office and shop workers, but will generally not include workers occupationally exposed to PM₁₀, as protection is covered by Health and Safety at Work legislation</p>	<p>Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown.</p> <p>Locations with a national designation where the features may be affected by dust deposition.</p> <p>Indicative example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.</p>
Low	<p>The enjoyment of amenity would not reasonably be expected.</p> <p>Property would not reasonably be expected to be diminished in appearance, aesthetics or value by soiling.</p> <p>There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.</p> <p>Indicative examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks and roads</p>	<p>Locations where human exposure is transient.</p> <p>Indicative examples include public footpaths, playing fields, parks and shopping streets.</p>	<p>Locations with a local designation where the features may be affected by dust deposition.</p> <p>Indicative example is a local Nature Reserve with dust sensitive features.</p>

Based on the sensitivities assigned to the different receptors surrounding the site and numbers of receptors within certain distances of the site, a sensitivity classification can be defined for each. Tables A.2 to A.4 indicate the criteria

used to determine the sensitivity of the area to dust soiling, human health and ecological impacts.

Table A.2: Sensitivity of the area to dust soiling on people and property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<250
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table A.3: Sensitivity of the area to human health impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentrations	Number of Receptors	Distance from the Source (m)			
			<20	<50	<100	<250
High	>32µg/m³	>100	High	High	High	Medium
		10-100	High	High	Medium	Low
		1-10	High	Medium	Low	Low
	28-32µg/m³	>100	High	High	Low	Low
		10-100	High	Medium	Low	Low
		1-10	High	Medium	Low	Low
	24-28µg/m³	>100	High	Medium	Low	Low
		10-100	High	Medium	Low	Low
		1-10	Medium	Low	Low	Low
	<24µg/m³	>100	Medium	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Medium	>32µg/m³	>100	High	Medium	Low	Low
		10-100	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low
	28-32µg/m³	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
	24-28µg/m³	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low

	<24µg/m³	>100	Low	Low	Low	Low
		10-100	Low	Low	Low	Low
		1-10	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low

Table A.4: Sensitivity of the area to ecological impacts

Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Step 2C: Define the Risk of Impacts

The dust emission magnitude determined in step 2A should be combine with the sensitivity of the area determined in step 2B to determine the risk of impacts with no mitigation applied. Tables A.5 to A.6 indicate the method used to assign the level of risk for each construction activity.

The identified risk of impact is then used to identify appropriate mitigation measures for inclusion with a Dust Management Plan (DMP) which is usually incorporated within the Site's Construction Environmental Management Plan (CEMP).

Table A.5: Risk of dust impacts from demolition

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Negligible

Table A.6: Risk of dust impacts from earthworks/construction/trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Step 3: Identify the need for Site Specific Mitigation

Based on the risk of effects determined in Step 2C for each activity, appropriate site-specific mitigation measures have been identified. Appropriate mitigation measures are set out in the IAQM Guidance.

Step 4: Define impacts and their significance

Finally, the significance of the potential residual dust impacts, i.e. after mitigation, was determined. According to the IAQM Guidance the residual impacts assumes that all mitigation measures (recommended in Step 3) to avoid or reduce impacts are adhered to, and therefore the residual impacts should be considered to be 'not significant'.

Appendix B – Receptor Counts

This appendix provides the sensitive receptor count summaries for each stage of the pipeline construction. These receptor counts are separated by each sensitivity distance band (20m, 50m, 100m and 250m) in line with IAQM Guidance (2024). The receptor counts are provided to facilitate the assessment of 'sensitivity of the area to dust soiling and human health impacts' separately.

Within Tables B1 to B16, it should be noted that receptor counts are cumulative counts (e.g. the number of receptors within 50m also includes the number of receptors within 20m).

A number of stages also have ecological receptors associated with them. This information is as follows:

- Ancient woodland and LWS (Great Copse) is within 20m from W7
- W8 is within a Local Wildlife Site and is within 20m of ancient woodland (Great Copse).
- Ancient woodland and LWS (Great Copse) within 20m from P8 (P8 goes beneath this area of ancient woodland and LWS)
- P9 is within a Local Wildlife Site and is within 50m from ancient woodland (Round Wood).
- The North Compound is within 20m of ancient woodland (Bells Copse)

As stated within the assessment, the north compound has no receptors sensitive to dust soiling or human health within 250m of it.

Table B.1: Pipeline Receptor Counts for Stage P1

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	33	46	118	373	33	46	117	489
Medium	1	3	7	25	1	2	9	33
Low	3	3	3	14	3	4	8	24
Total	37	52	128	412	37	15	82	412

Table B.2: Pipeline Receptor Counts for Stage P2

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	7	53	179	864	7	53	179	864
Medium	0	0	0	11	0	0	0	9
Low	0	1	2	10	0	1	2	12
Total	7	54	181	885	7	54	181	885

Table B.3: Pipeline Receptor Counts for Stage P3

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	38	84	190	662	38	84	190	662
Medium	0	0	0	11	0	0	0	10
Low	2	2	2	9	2	2	2	10
Total	40	86	192	682	40	86	192	682

Table B.4: Pipeline Receptor Counts for Stage P4

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	0	0	58	592	0	0	58	592
Medium	0	0	0	12	0	0	0	11
Low	0	0	0	10	0	0	0	11
Total	0	0	58	614	0	0	58	614

Table B.5: Pipeline Receptor Counts for Stage P5

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	35	68	151	605	35	68	151	605
Medium	0	0	1	10	0	0	1	8
Low	0	3	3	9	0	3	3	11
Total	35	71	155	624	35	71	155	624

Table B.6: Pipeline Receptor Counts for Stage P6

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	23	71	198	845	23	71	198	843
Medium	1	1	3	36	1	1	3	35
Low	1	1	5	26	1	1	5	29
Total	25	73	206	907	25	73	206	907

Table B.7: Pipeline Receptor Counts for Stage P7

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	12	51	144	760	12	50	143	757
Medium	0	4	15	66	0	4	15	65
Low	1	1	5	25	1	2	6	29
Total	13	56	164	851	13	56	164	851

Table B.8: Pipeline Receptor Counts for Stage P8

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	0	16	73	567	0	16	73	566
Medium	0	1	4	25	0	0	3	24
Low	1	1	1	10	1	2	2	12
Total	1	18	78	602	1	18	78	602

Table B.9: Pipeline Receptor Counts for Stage P9

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	0	0	37	316	0	0	37	316
Medium	0	0	0	1	0	0	0	0
Low	0	0	0	2	0	0	0	3
Total	0	0	37	319	0	0	37	319

Table B.10: Pipeline Receptor Counts for Stage W1

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	0	29	152	506	0	28	151	502
Medium	3	4	9	41	3	4	8	38
Low	3	5	6	19	3	6	8	26
Total	6	38	167	566	6	38	167	566

Table B.11: Pipeline Receptor Counts for Stage W2

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	0	9	30	393	0	9	30	393
Medium	1	0	1	6	1	0	1	5
Low	2	0	2	4	2	0	2	5
Total	3	9	33	403	3	9	33	403

Table B.12: Pipeline Receptor Counts for Stage W3

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	5	29	114	564	5	29	114	564
Medium	0	0	0	8	0	0	0	7
Low	0	0	1	7	0	0	1	8
Total	5	29	115	579	5	29	115	579

Table B.13: Pipeline Receptor Counts for Stage W4

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	4	27	123	667	4	27	123	667
Medium	0	2	2	14	0	2	2	12
Low	0	0	2	10	0	0	2	12
Total	4	29	127	691	4	29	127	691

Table B.14: Pipeline Receptor Counts for Stage W5

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	10	49	138	611	10	49	138	611
Medium	0	0	0	4	0	0	0	3
Low	3	3	3	13	3	3	3	14
Total	13	52	141	628	13	52	141	628

Table B.15: Pipeline Receptor Counts for Stage W6

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	26	57	102	609	26	56	101	606
Medium	0	3	5	40	0	3	5	39
Low	0	0	4	23	0	1	5	27
Total	26	60	111	672	26	60	111	672

Table B.16: Pipeline Receptor Counts for Stage W7

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	17	69	127	561	17	69	127	559
Medium	0	1	3	66	0	1	3	63
Low	0	1	1	16	0	1	1	21
Total	17	71	131	643	17	71	131	643

Table B.17: Pipeline Receptor Counts for Stage W8

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	0	12	63	302	0	12	63	302
Medium	1	0	1	2	1	0	0	0
Low	2	1	1	7	2	1	2	9
Total	3	13	65	311	3	13	65	311

Table B.18: Pipeline Receptor Counts for Stage ED

Sensitivity	Sensitivity to Dust Soiling				Sensitivity for Human Health			
	<20m	<50m	<100m	<250m	<20m	<50m	<100m	<250m
High	16	41	154	653	16	41	154	653
Medium	0	0	1	10	0	0	1	9
Low	0	2	2	12	0	2	2	13
Total	16	43	157	675	16	43	157	675

Appendix C – Dust Management Plan for Stage W1

The recommended mitigation measures as per the construction dust assessment following IAQM guidance for stage W1 is presented below and separated by likely site operations. Mitigation recommended for this stage is based on highly recommended and desirable mitigation in line with IAQM guidance (2024). For reference, all recommended IAQM mitigation measures are the same as W4 and W8 apart from bespoke mitigation for stage W1.

Communication

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager
- Display the head or regional office contact information
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real time PM₁₀ continuous monitoring and/or visual inspections

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.

Monitoring

- Given the identified levels of dust risk, routine visual dust inspections are appropriate for this stage. These should be undertaken as follows:
 - Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary
 - Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
 - Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period
- Avoid site runoff of water or mud.

- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate
- Use enclosed chutes and conveyors and covered skips
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials

Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable
- Only remove the cover in small areas during work and not all at once

Construction

- Avoid scabbling (roughening of concrete surfaces) if possible
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

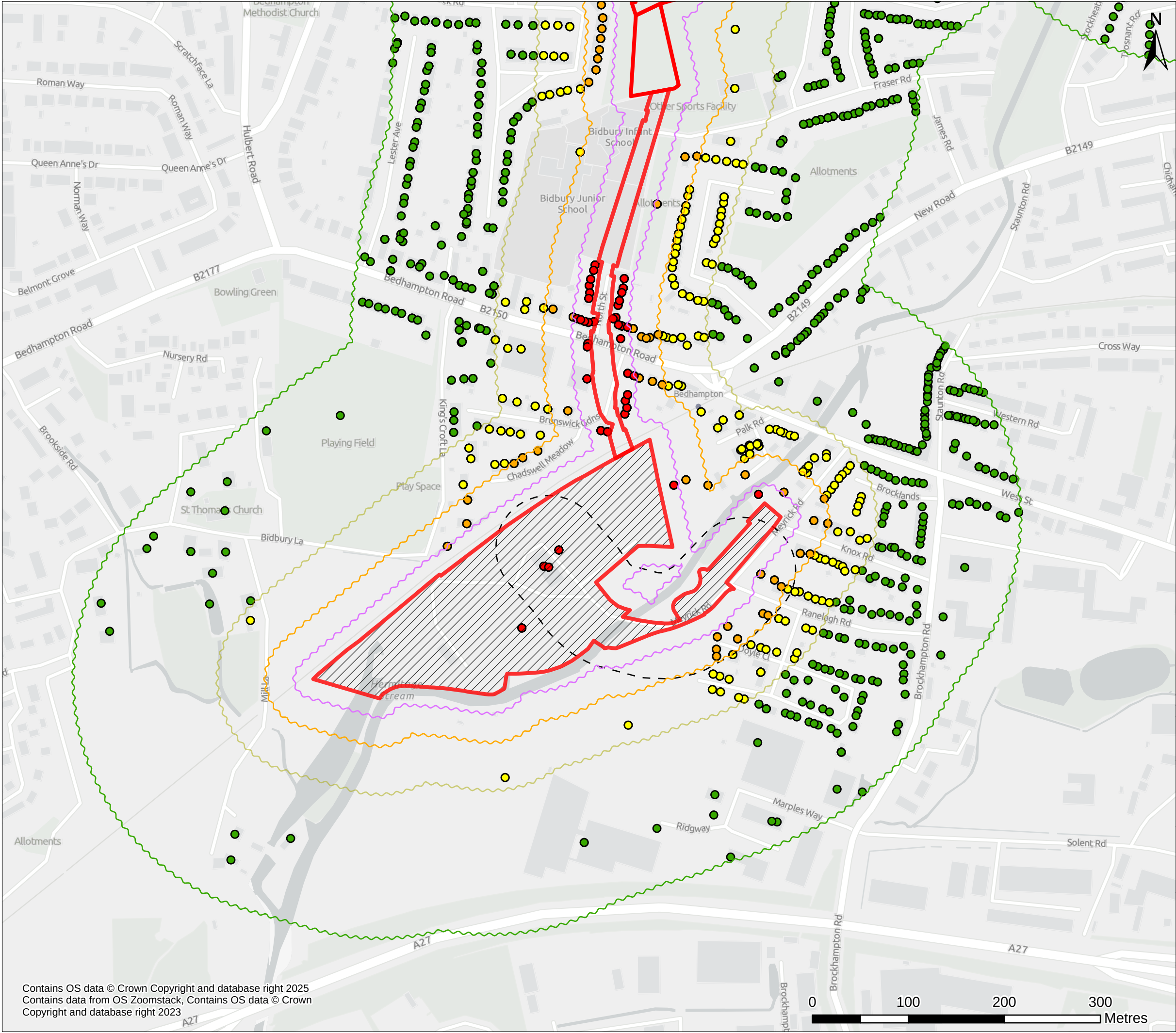
Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use
- Avoid dry sweeping of large areas
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport

- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowzers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10 m from receptors where possible.

Specific Mitigation required for W1 as recommended by assessment for Trackout

- Using wheel washing system before reaching highway network as current haul roads use existing hard surface. This will minimise trackout.



Legend

- Red-Line Boundary (RLB) of work areas
- W1 - current work area
- Addressbase Data within 20m of RLB
- Addressbase Data within 50m of RLB
- Addressbase Data within 100m of RLB
- Addressbase Data within 250m of RLB
- 20m Buffer of Red Line Boundary
- 50m Buffer of Red Line Boundary
- 100m Buffer of Red Line Boundary
- 250m Buffer of Red Line Boundary
- Track-out 50m buffer
- Ancient Woodland
- Local Wildlife Sites (LWS)

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Client Ward & Burke Construction Ltd							
Project Title Havant Reservoir Pipeline - Consent Manager							
Drawing Title Figure C1: Work Area 1 Construction Dust Sensitive Receptors							
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Appendix D – Dust Management Plan for Section W2 & P1

The recommended mitigation measures as per the construction dust assessment following IAQM guidance for section W2 & P1 is presented below and separated by likely site operations. Mitigation recommended for this section is based on highly recommended and desirable mitigation in line with IAQM guidance (2024).

Communication

- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager
- Display the head or regional office contact information
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real time PM₁₀ continuous monitoring and/or visual inspections

Specific Mitigation required for W2 as recommended by assessment for communication

- A regular and clear communication strategy between contractor and Bidbury Infant School and Bidbury Junior School is required, such that schedule of activities can be discussed accordingly.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.

Monitoring

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
- As per Table 12 of the main Construction Dust Assessment & Management Plan report (September 2025), undertake a baseline real-time monitoring survey (PM_{2.5}, PM₁₀, TSP) for a minimum of three months and an operational monitoring survey during scheduled programme of works.
- Monitoring should be focussed on the adjacent Bidbury Infant & Junior Schools.
- Appropriate trigger levels will be derived for the construction stage, which if met will require works to stop on site until the monitored levels drop below the trigger level and/or additional mitigation is applied to reduce construction dust emissions. The trigger levels will be derived based on the baseline monitoring and to protect human health.

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).

Operations

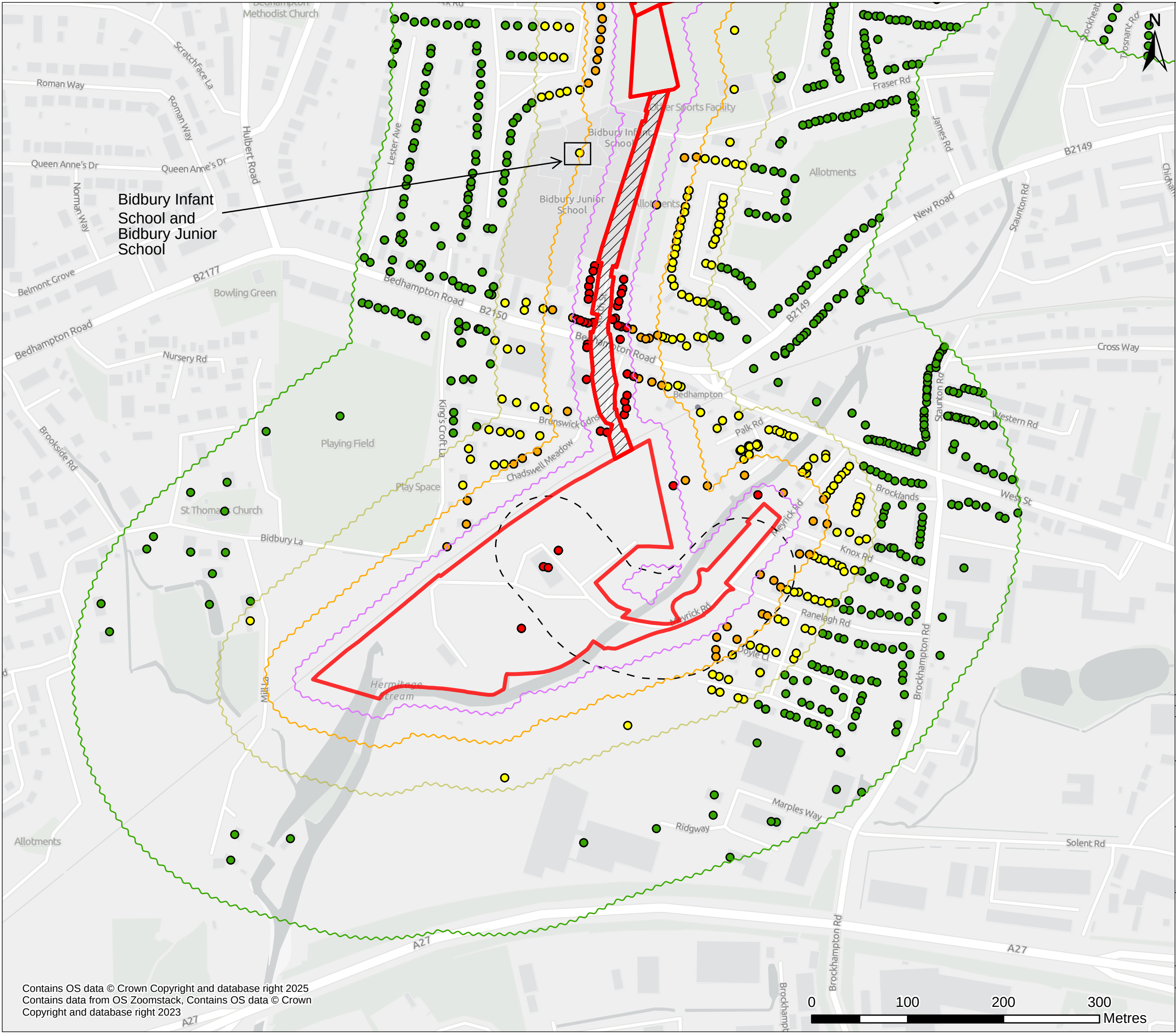
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate
- Use enclosed chutes and conveyors and covered skips
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials

Specific Mitigation required for W2 & P1 as recommended by assessment

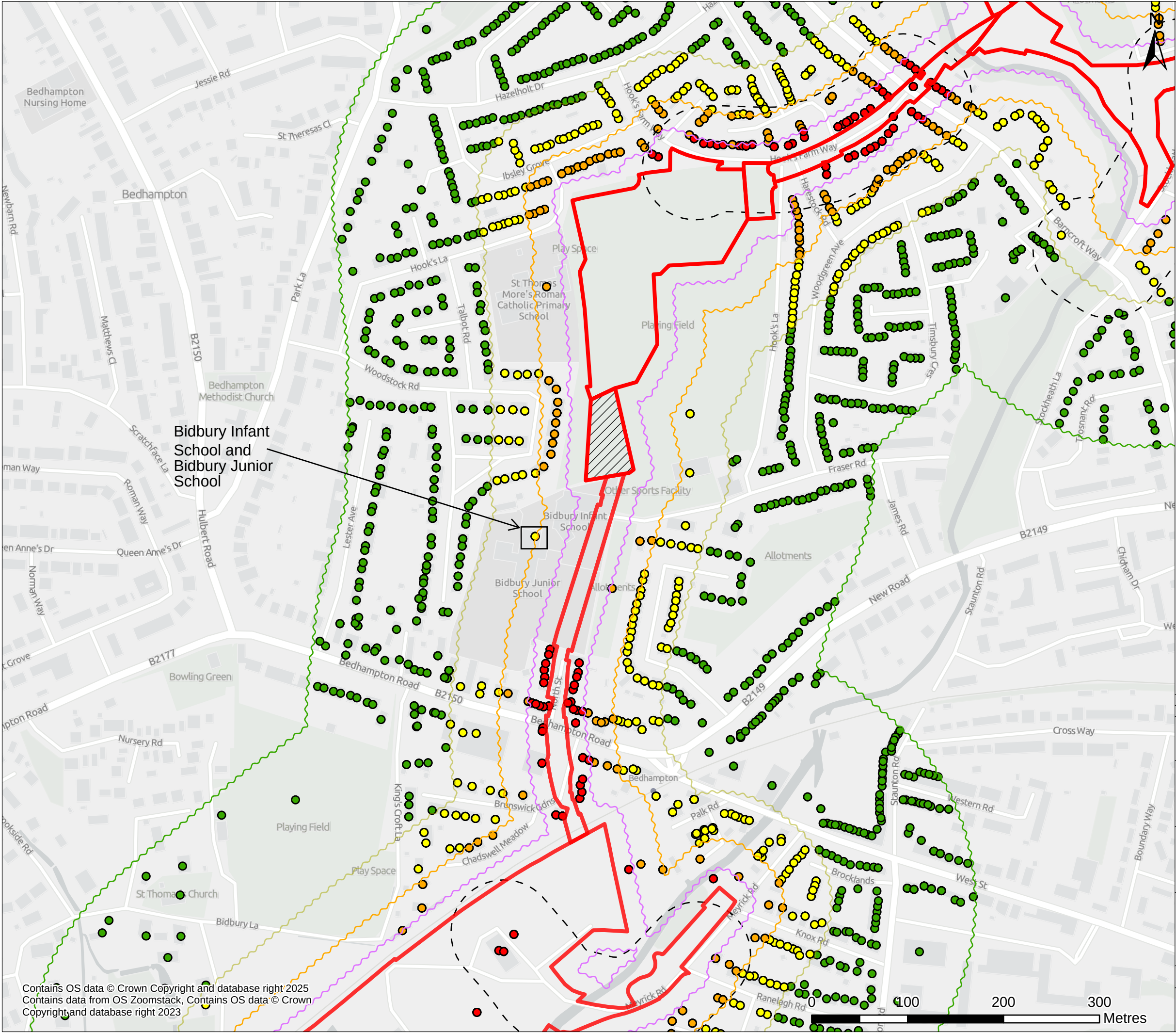
- Where possible, undertake potentially dusty activities outside of school hours and/or in school holidays due to the proximity of Bidbury Infant School and Bidbury Junior School.



Legend

- Red-Line Boundary (RLB) of work areas
- P1 - current work area
- Addressbase Data within 20m of RLB
- Addressbase Data within 50m of RLB
- Addressbase Data within 100m of RLB
- Addressbase Data within 250m of RLB
- 20m Buffer of Red Line Boundary
- 50m Buffer of Red Line Boundary
- 100m Buffer of Red Line Boundary
- 250m Buffer of Red Line Boundary
- Track-out 50m buffer
- Ancient Woodland
- Local Wildlife Sites (LWS)

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Legend

- Red-Line Boundary (RLB) of work areas
- W2 - current work area
- Addressbase Data within 20m of RLB
- Addressbase Data within 50m of RLB
- Addressbase Data within 100m of RLB
- Addressbase Data within 250m of RLB
- 20m Buffer of Red Line Boundary
- 50m Buffer of Red Line Boundary
- 100m Buffer of Red Line Boundary
- 250m Buffer of Red Line Boundary
- Track-out 50m buffer
- Ancient Woodland
- Local Wildlife Sites (LWS)

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Project Title
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Drawing Title
Figure D2: Work Area 2 Construction Dust Sensitive Receptors

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Appendix E - Dust Management Plan for Stage W3

The recommended mitigation measures as per the construction dust assessment following IAQM guidance for stage W3 is presented below and separated by likely site operations. Mitigation recommended for this stage is based on highly recommended and desirable mitigation in line with IAQM guidance (2024). For reference, all recommended IAQM mitigation measures are the same as section W7, P7 & P8 and stage ED, despite having slightly different risks.

Communication

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager
- Display the head or regional office contact information
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real time PM₁₀ continuous monitoring and/or visual inspections

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.

Monitoring

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
- As per Table 12 of the main Construction Dust Assessment & Management Plan report (September 2025), undertake a baseline passive dust deposition (e.g. frisbee gauges) and real-time monitoring survey (PM_{2.5}, PM₁₀, TSP) for a minimum of three months and an operational monitoring survey using the same methods during the scheduled programme of works.
- Appropriate trigger levels will be derived for the construction stage, which if met will require works to stop on site until the monitored levels drop below the trigger level and/or additional mitigation is applied to reduce construction dust emissions. The trigger levels will be derived based on the baseline monitoring and to protect human health.

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate
- Use enclosed chutes and conveyors and covered skips
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials

Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable
- Only remove the cover in small areas during work and not all at once

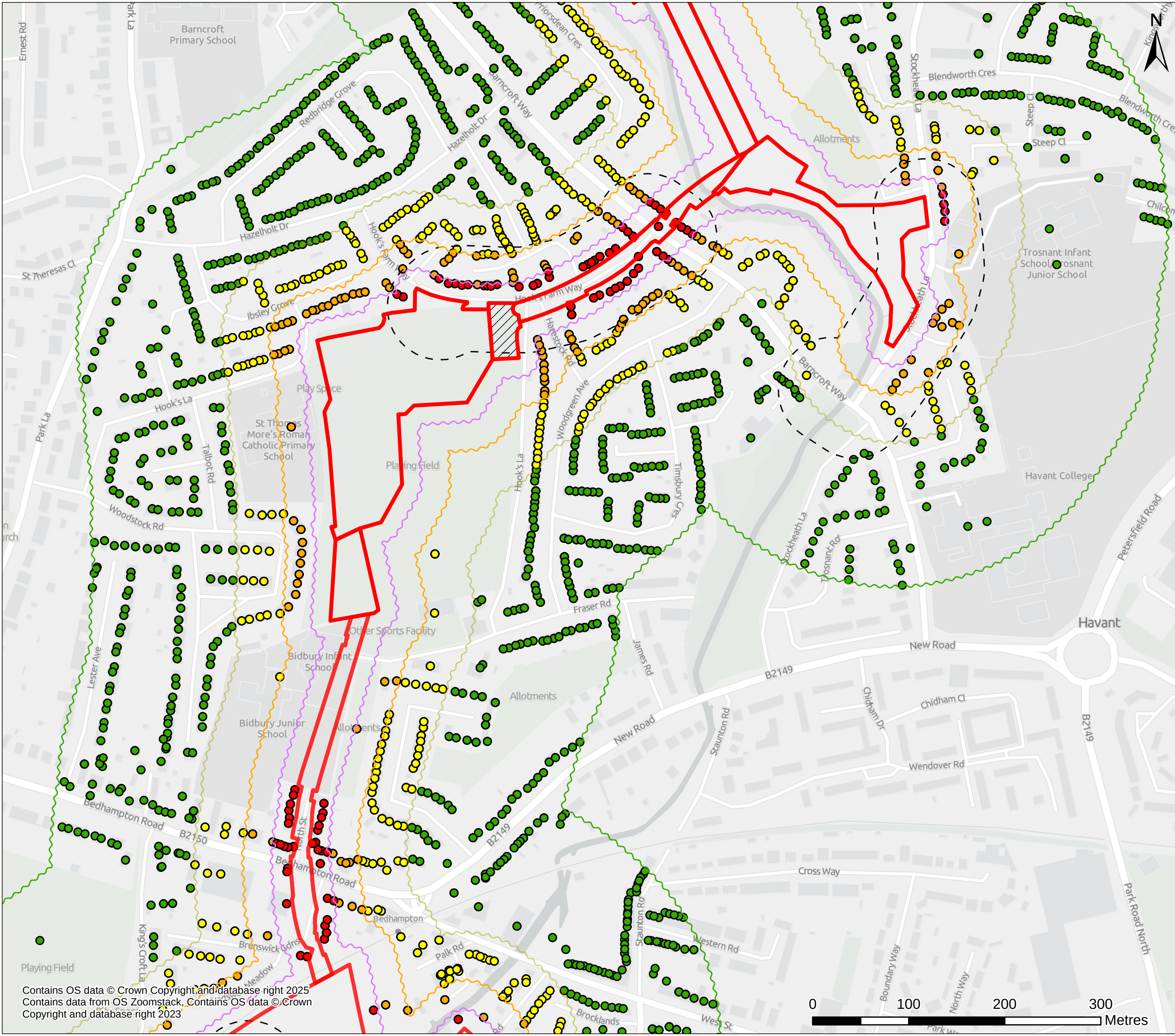
Construction

- Avoid scabbling (roughening of concrete surfaces) if possible
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.

- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use
- Avoid dry sweeping of large areas
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10 m from receptors where possible.



Legend

- Red-Line Boundary (RLB) of work areas
- W3 - current work area
- Addressbase Data within 20m of RLB
- Addressbase Data within 50m of RLB
- Addressbase Data within 100m of RLB
- Addressbase Data within 250m of RLB
- 20m Buffer of Red Line Boundary
- 50m Buffer of Red Line Boundary
- 100m Buffer of Red Line Boundary
- 250m Buffer of Red Line Boundary
- Track-out 50m buffer
- Ancient Woodland
- Local Wildlife Sites (LWS)

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Figure E1: Work Area 3 Construction Dust Sensitive Receptors

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Appendix F – Dust Management Plan for Section W4, P3 & P4

The recommended mitigation measures as per the construction dust assessment following IAQM guidance for section W4, P3 & P4 is presented below and separated by likely site operations. Mitigation recommended for this section is based on highly recommended and desirable mitigation in line with IAQM guidance (2024). For reference, all recommended IAQM mitigation measures are the same as W1 and W8 apart from bespoke mitigation for stage W4.

Communication

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager
- Display the head or regional office contact information
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real time PM₁₀ continuous monitoring and/or visual inspections

Specific Mitigation required for W4 as recommended by assessment for communication

- A regular and clear communication strategy between contractor and Troscant Infant and Junior Schools and Tops Day Nurseries: Havant Nursery is required, such that schedule of activities can be discussed accordingly.

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.

Monitoring

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
- Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions
- As per Table 12 of the main Construction Dust Assessment & Management Plan report (September 2025), undertake a baseline real-time monitoring survey (PM_{2.5}, PM₁₀, TSP) for a minimum of three months and an operational monitoring survey during scheduled programme of works.
- Monitoring should be focussed on the adjacent Troscant Infant & Junior School.
- Appropriate trigger levels will be derived for the construction stage, which if met will require works to stop on site until the monitored levels drop below the trigger level and/or

additional mitigation is applied to reduce construction dust emissions. The trigger levels will be derived based on the baseline monitoring and to protect human health.

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period
- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate
- Use enclosed chutes and conveyors and covered skips
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials

Construction

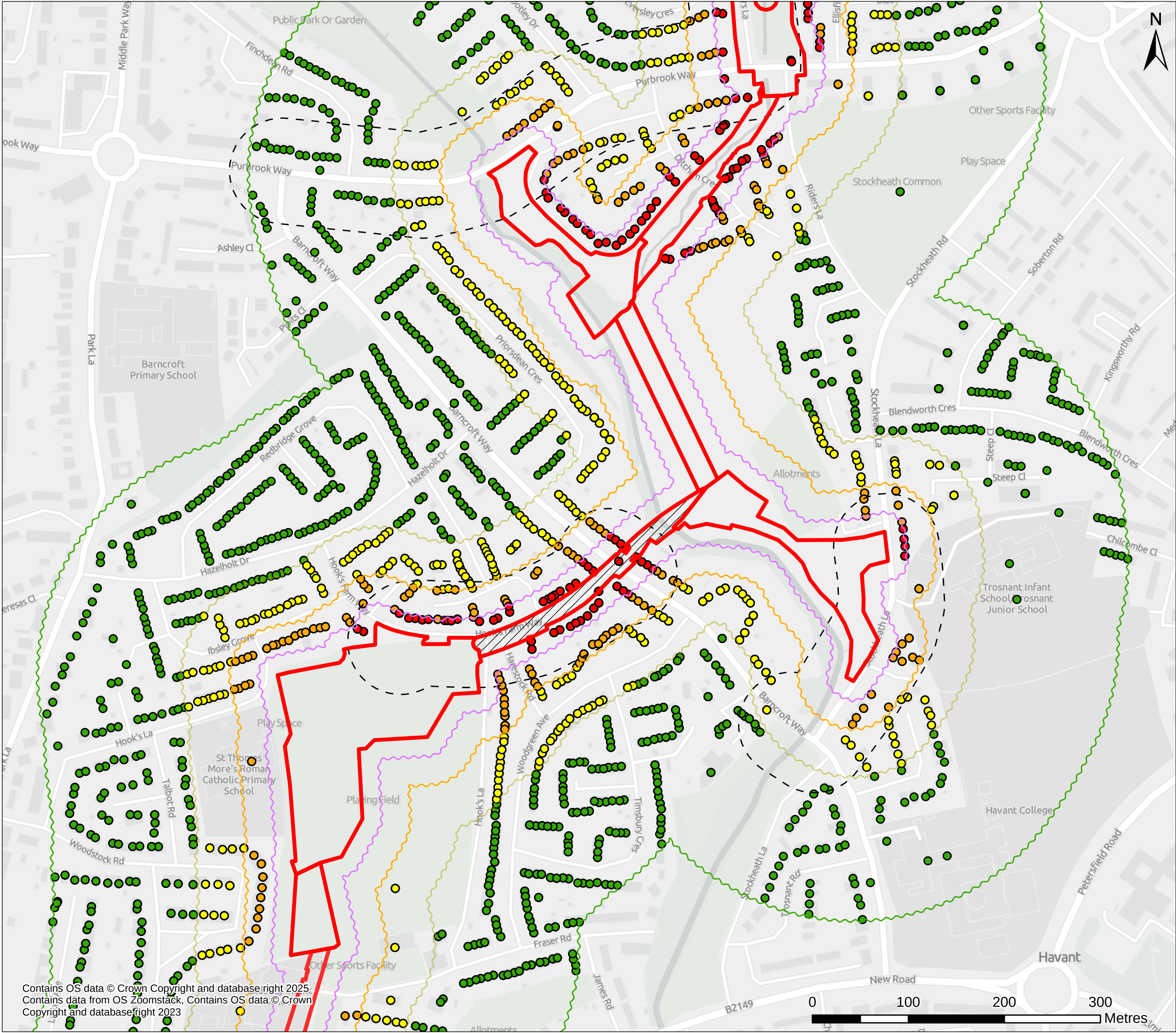
- Avoid scabbling (roughening of concrete surfaces) if possible
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place

Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use
- Avoid dry sweeping of large areas
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport
- Record all inspections of haul routes and any subsequent action in a site logbook
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

Specific Mitigation required for W4 only as recommended by assessment

- Where possible, undertake potentially dusty activities outside of school hours and/or in school holidays due to the proximity of Trosnant Infant and Junior Schools, and Tops Day Nurseries: Havant Nursery.



Legend

- Red-Line Boundary (RLB) of work areas
- P3 - current work area
- Addressbase Data within 20m of RLB
- Addressbase Data within 50m of RLB
- Addressbase Data within 100m of RLB
- Addressbase Data within 250m of RLB
- 20m Buffer of Red Line Boundary
- 50m Buffer of Red Line Boundary
- 100m Buffer of Red Line Boundary
- 250m Buffer of Red Line Boundary
- Track-out 50m buffer
- Ancient Woodland
- Local Wildlife Sites (LWS)

Rev	08.09.2025	FIRST ISSUE	FP	EMP	DP
Rev	Date	Amendment Details	Dr'n	Chk'	App'

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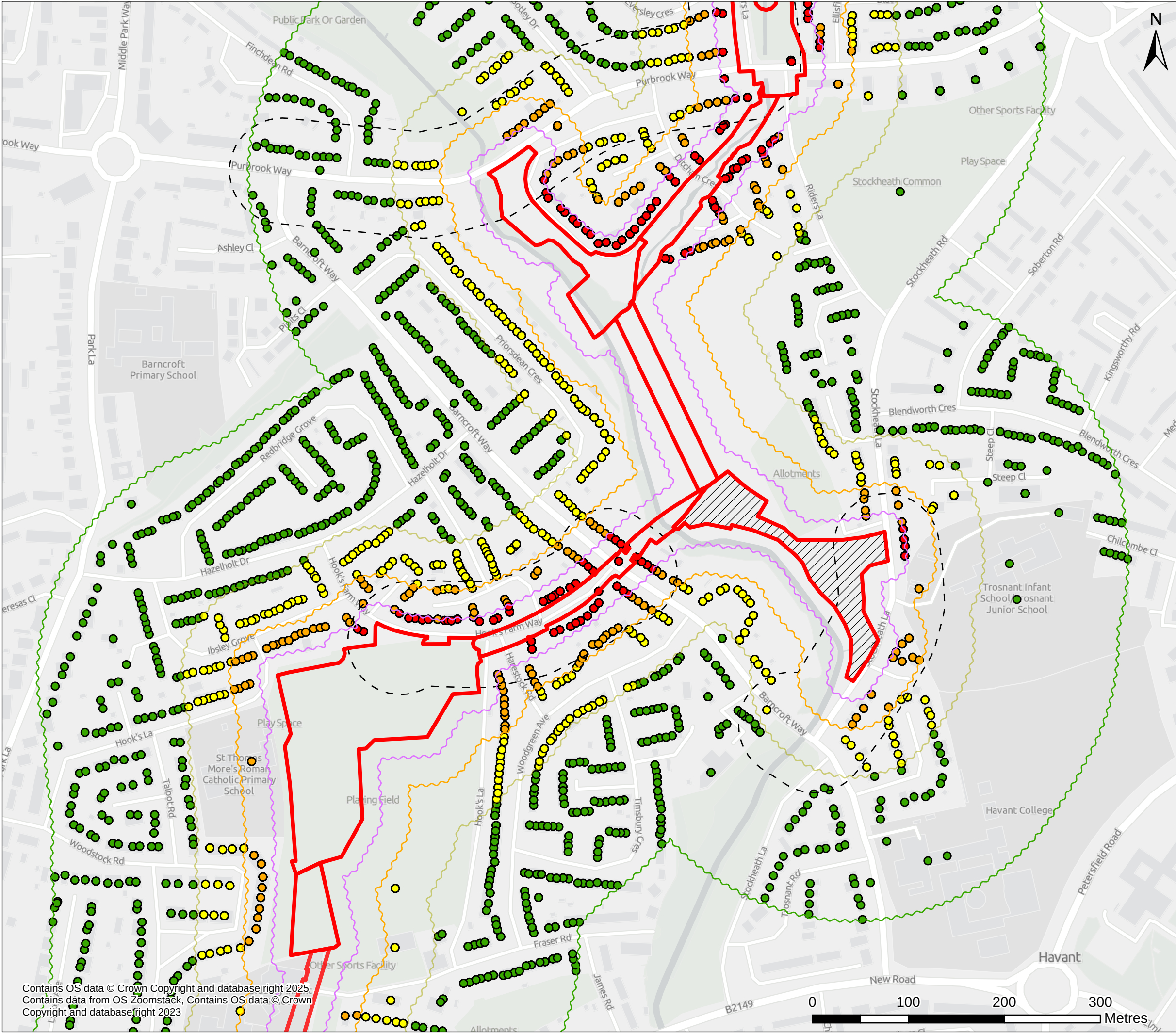
Client
Ward & Burke Construction Ltd

Project Title
Havant Reservoir Pipeline - Consent Manager

Drawing Title
Figure F1: Pipeline Area 3 Construction Dust Sensitive Receptors

Sheet Size	Scale	Sweco Ref	Revision
A3	1:3,820	65209354-100	0.1

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Legend

- Red-Line Boundary (RLB) of work areas
- W4 - current work area
- Addressbase Data within 20m of RLB
- Addressbase Data within 50m of RLB
- Addressbase Data within 100m of RLB
- Addressbase Data within 250m of RLB
- 20m Buffer of Red Line Boundary
- 50m Buffer of Red Line Boundary
- 100m Buffer of Red Line Boundary
- 250m Buffer of Red Line Boundary
- Track-out 50m buffer
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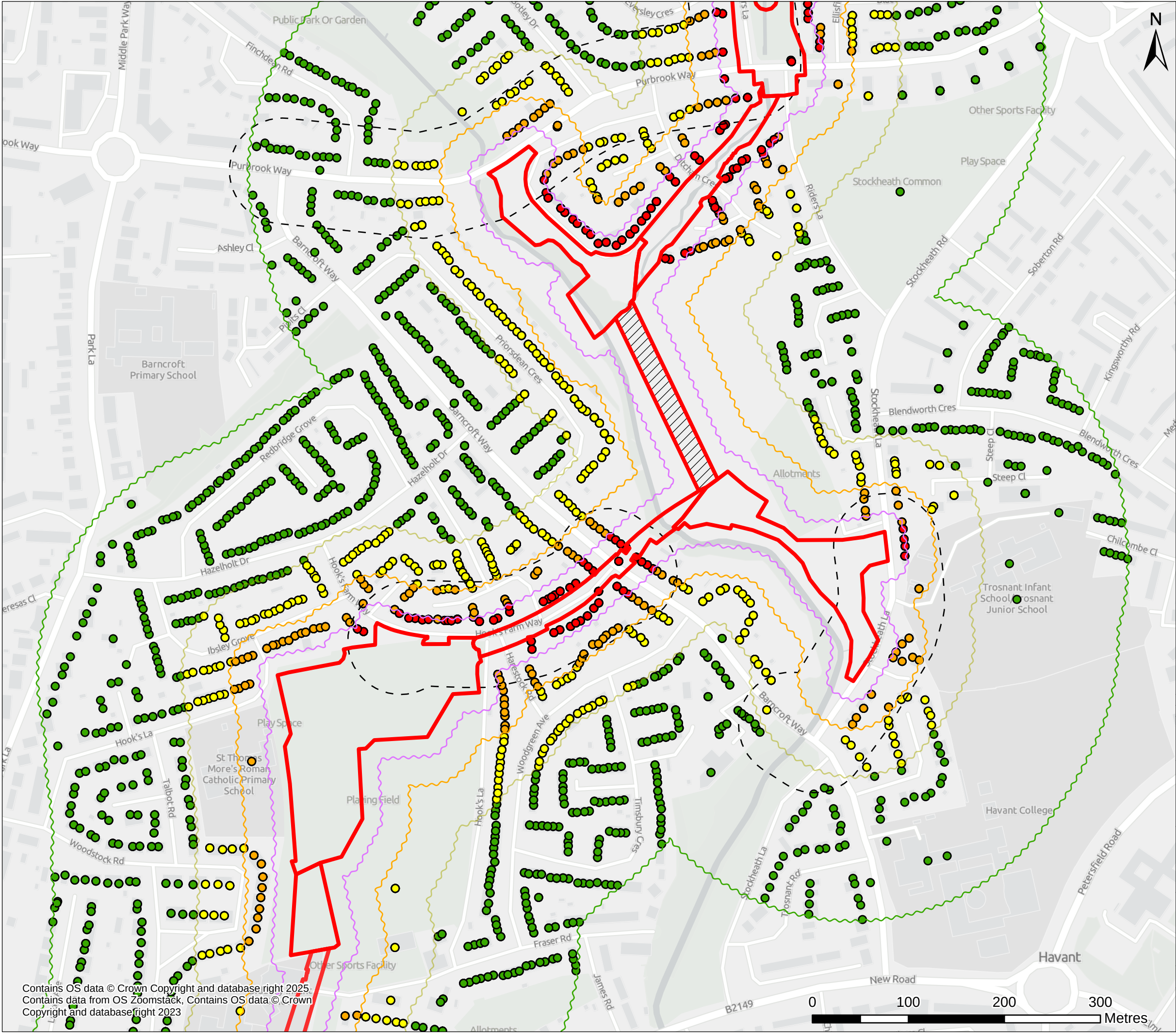
Client
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Project Title
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Drawing Title
Figure F2: Work Area 4 Construction Dust Sensitive Receptors

Sheet Size	Scale	Sweco Ref	Revision
A3	1:3,820	65209354-100	0.1

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Legend

- Red-Line Boundary (RLB) of work areas
- P4 - current work area
- Addressbase Data within 20m of RLB
- Addressbase Data within 50m of RLB
- Addressbase Data within 100m of RLB
- Addressbase Data within 250m of RLB
- 20m Buffer of Red Line Boundary
- 50m Buffer of Red Line Boundary
- 100m Buffer of Red Line Boundary
- 250m Buffer of Red Line Boundary
- Track-out 50m buffer
- Ancient Woodland
- Local Wildlife Sites (LWS)

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Project Title
Havant Reservoir Pipeline - Consent Manager

Drawing Title
Figure F3: Pipeline Area 4 Construction Dust Sensitive Receptors

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Appendix G – Dust Management Plan for Section W5, P5 and P6

The recommended mitigation measures as per the construction dust assessment following IAQM guidance for section W5, P5 and P6 is presented below and separated by likely site operations. Mitigation recommended for this section is based on highly recommended and desirable mitigation in line with IAQM guidance (2024). For reference, all recommended IAQM mitigation measures are the same as W6.

Communication

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager
- Display the head or regional office contact information
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real time PM₁₀ continuous monitoring and/or visual inspections

Site Management

- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.

Monitoring

- Given the identified levels of dust risk, routine visual dust inspections are appropriate for this section. These should be undertaken as follows:
 - Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary
 - Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.
 - Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions

Preparing and maintaining the site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site
- Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period

- Avoid site runoff of water or mud.
- Keep site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below
- Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).

Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate
- Use enclosed chutes and conveyors and covered skips
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

- Avoid bonfires and burning of waste materials

Construction

- Avoid scabbling (roughening of concrete surfaces) if possible
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place

Trackout

- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use
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