



**Condition 11 Outline
Construction Environmental
Management Plan**

Berewood
Southern Access
Infrastructure Works

Final
October 2025

For Grainger Plc

Berewood, West of Waterloo
Condition 11 Outline Construction Environmental Management Plan
Southern Access Infrastructure Works

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Berewood, West of Waterloo
Condition 11 Outline Construction Environmental Management Plan
Southern Access Infrastructure Works

1.0 Introduction

- 1.1 This Outline Construction Environmental Management Plan (CEMP) has been prepared on behalf of Grainger Plc in support of a Reserved Matters Application pursuant to Outline Planning Permission 10/02862/OUT. Condition 11 and relates to the Southern Access Infrastructure Works. For clarity, Condition 11 is set out below.

Condition 11 states:

“No development within a reserved matters area shall take place until a Construction Environmental Management Plan (CEMP) which should be in accordance with the ecological mitigation measures set out in Environmental Statement and the ecological mitigation plan submitted for that Reserved Matters Application, has been submitted for each particular reserved matters application, and approved by the Local Planning Authority, to include details of:

- i. construction traffic routes in the local area;*
- ii. parking and turning of operative, construction and visitor vehicles;*
- iii. loading and unloading of plant and materials;*
- iv. piling techniques;*
- v. storage of plant and materials;*
- vi. programme of works (including measures for traffic management);*
- vii. all deliveries and building works which should only be carried out between the hours of 0800 and 1800 hours Monday to Friday and 0800 and 1300 hours Saturday and no time on Sundays or recognised public holidays;*
- viii. provision of boundary hoarding and lighting including construction lighting;*
- ix. protection of trees, hedgerows and other natural features to be retained including their management until such time as they are adopted;*
- x. details of proposed means of dust suppression and noise mitigation;*
- xi. measures to protect the listed building as necessary;*
- xii. details of measures to be taken to prevent mud from vehicles leaving the site during construction;*
- xiii. measures to prevent pollution of the watercourse during construction;*
- xiv. the handling and management of construction waste;*
- xv. details of surface water runoff; and*
- xvi. construction lighting.”*

Additional Conditions

- 1.2 A number of sub-clauses specified within the above condition are not applicable to this site and have therefore been screened out of this Outline CEMP. These are:
- Piling techniques – no piling is required as part of these works.
 - Measures to protect listed building as necessary – there are no listed building on this site.
- 1.3 The relevant elements of the above condition are presented within the following management plan. This describes the environmental constraints associated with the locality of the proposed works and provides an identification of the potential environmental effects associated with the works upon the noted sensitive receptors. The document then prescribes the mitigations required, as derived from supporting Technical

Documents and industry good practice and the specific construction environmental management requirements of both Havant Borough Council and Winchester City Council. It is required that this Outline CEMP is read in conjunction with referenced supporting documents.

- 1.4 A number of the elements contained herein will be the responsibility of the appointed contractor. It will become part of the contract documents provided to any potential contractors and it will form an annex to any contracts with sub-contractors.

2.0 Project Description

Site Location

- 2.1. Berewood is located to the west of the town of Waterlooville in Hampshire. The site itself is approximately 200 hectares in size and is bounded to the east by the A3, London Road, and arable fields to the west. Proxima Park forms the northern element of the development beyond the River Wallington, whilst the south is bounded by Purbrook Health Road and its associated properties.
- 2.2. Works at Berewood began in 2011 and since this time, a number of residential phases have been built out and occupied. Berewood primary school was completed in 2014 and a second primary school is currently under construction in the south-west of the development. Works have also been completed on extensive site-wide infrastructure, including sustainable drainage features and naturalisation of the Wallington River channel. The extent of the Berewood site is illustrated in Figure 2.1 below

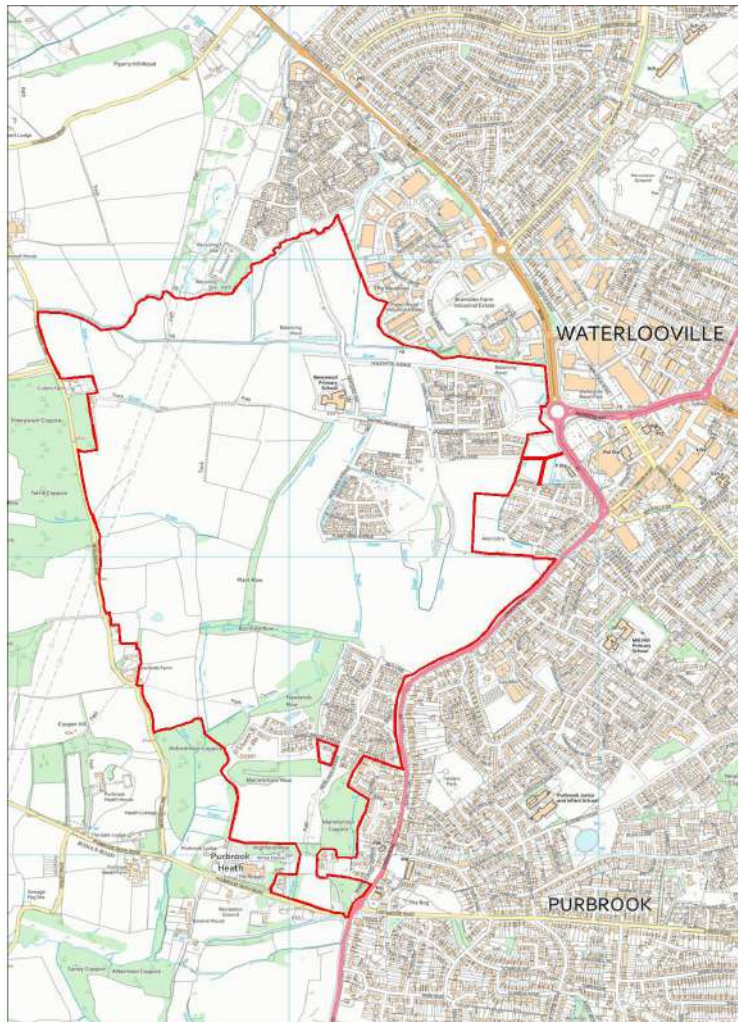
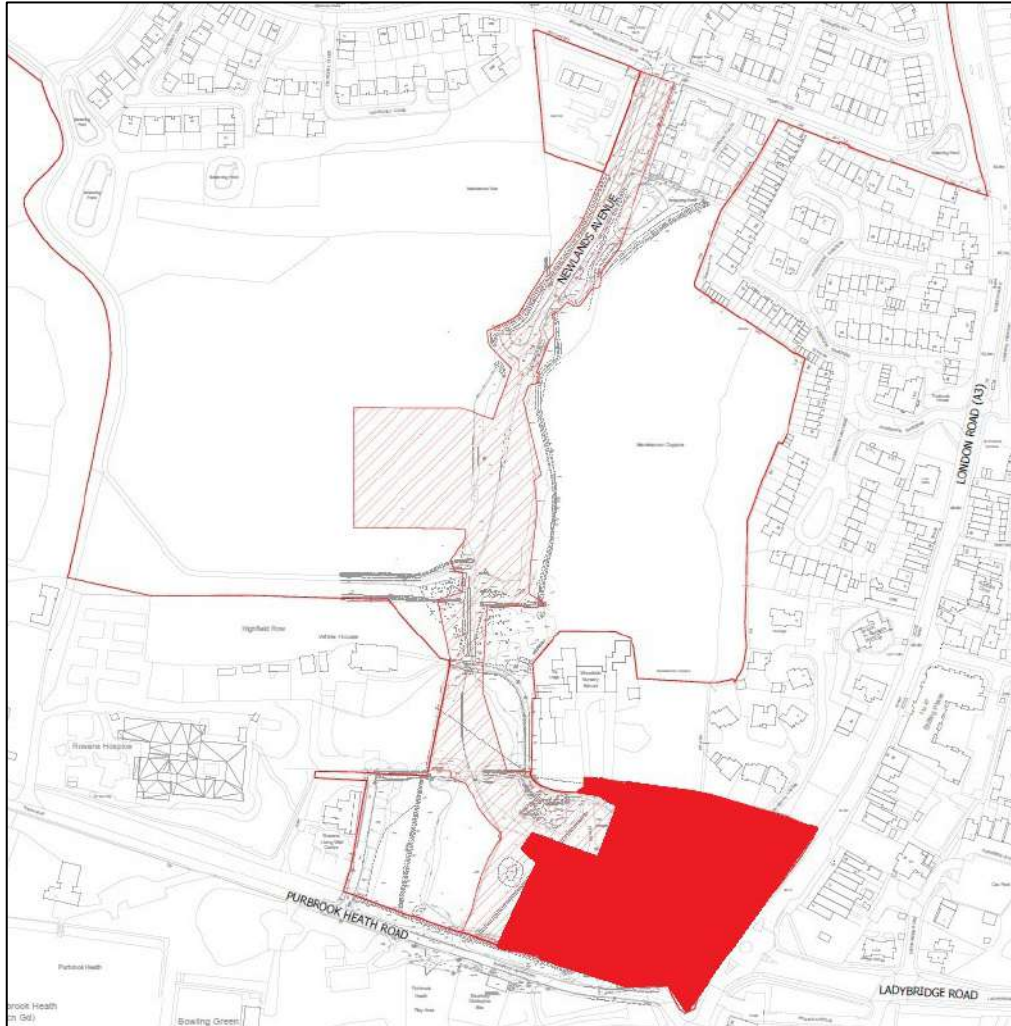


Figure 2.1 Berewood Development Red Line Boundary

- 2.3. The Berewood Masterplan includes for numerous residential phases, two schools, a town park, allotments, a local centre and a Community Nature Reserve. An excerpt of the Berewood Masterplan as it relates to the Southern Access works is provided in Figure 2.2 below.



[Source: Adapted from Mayer Brown Drawing No: GTWVILLE_P4/GA/06 REV G]

Figure 2.2 Location Plan: Southern Access and Phase 4 Infrastructure

- 2.4. The areas of the Southern Access works are depicted in red above and adjoin the Phase 4 works. The full Markides Associates drawings of the General Arrangement of the Southern Access are included in the drawing section of this plan.

2.5. The works include for the following:

- Provision of compound area.
- Set up of protective heras fencing and signage where required
- Excavation of existing carriageway.
- Excavation of ponds.
- Diversion / Installation of utilities.
- Construction of internal road and associated infrastructure
- Provision and maintenance of pollution control measures
- Modifications to the existing ditch to the north of Purbrook Heath Road
- Acoustic Mitigation Measures

2.6. In compliance with Condition 11, the above works must be undertaken in accordance with the requirements of this Outline CEMP. The appointed contractor will therefore be required to produce their own Detailed CEMP, prior to commencement, stipulating how the requirements of the Outline will be implemented on site.

3.0. Programme

- 3.1. It is estimated that works will take approximately 14 months to complete.
- 3.2. The hours of works will conform to the requirements of both Havant and Winchester City Council namely:
- 8:00 am – 18:00 pm Monday to Friday
 - 8:00 am – 13:00 pm on Saturdays
 - At no time on Sundays or recognised public holidays.

4.0. Site Environmental Standards

Code of Conduct

- 4.1. The Contractor appointed for the works must be registered with the Considerate Constructors Scheme (CCS) and will be required to adhere to the following code of conduct.
- The site will appear professional and well managed.
 - Utmost consideration will be given to the potential for impact upon neighbours and the public.
 - The local environment will be protected and enhanced.
 - The highest levels of safety performance will be attained.
 - A supportive and caring working environment will be provided for site operatives.

Industry Good Practice

- 4.2. Contractors will provide their site environmental standards which will be based upon the above code, industry good practice¹ and Winchester's Environmental Management Plan². They will detail the minimum measures that should be achieved for general operations that fall outside the risk assessment/method statement procedure designed to cover the majority of construction activities. These will cover the following issues:
- storage of materials;
 - management of waste;
 - water pollution;
 - noise and vibration;
 - air quality; and
 - ecology
- 4.3. The standards will be used by Contractors as a briefing tool on site.

Guidance for Pollution Prevention

- 4.4. Pollution Prevention Guidance previously produced by the Government have now been rescinded. The mitigation proposed in the following sections is derived from current industry guidance such as the CIRIA Environmental good practice on site guide and from site specific requirements within the supporting Technical Documents.

Permits and Approvals

- 4.5. Where required, the Contractor will obtain and retain all consents, permissions and licenses required and/or liaise with the project ecologist.

¹ Kwan, J. et al (2023) Environmental good practice on site guide (fifth edition). CIRIA, London.

² Winchester City Council (NOT STATED) Environmental Management Plan for construction sites. Minimum requirements guide for developers. WCC, Winchester.

5.0. Site Environmental Constraints

5.1. A review of potentially sensitive receptors as assessed within the supporting documents includes:

- Local ecology
- Site arboriculture
- Local hydrology and hydrogeology
- Site operatives
- Local human receptors

5.2. Where documents are referred to in relation to the identification and control of construction impacts upon these receptors, the Contractor will ensure that these documents have been reviewed and that any subsequent revisions have been obtained.

Ecology

5.3. This Outline CEMP includes summary ecological information derived from the LCES Ecological Appraisals (EclA) for Phase 4^{3,4}.

Habitats

5.4. The main habitats identified on site consist of:

- Other neutral grassland
- Modified grassland
- Other broadleaved woodland
- Hawthorn scrub
- Bramble scrub
- Mixed scrub
- Willow scrub
- Developed land sealed surface

5.5. The EclA concludes that the habitats identified are common and capable of supporting a range of flora and fauna and with local value regarding Importance for Ecological Features (IEF). The developed land sealed surface is noted to hold no ecological value.

³ Jones, L. (2018) updated 2019 Ecological Appraisal and Phase 2 Surveys Junction Improvements Area Purbrook Heath Road, Waterlooville. PO7 5RS. LCES, Wareham.

⁴ S, W (2025) Ecological Impacts Assessment Berewood Southern Access Junction. Waterlooville, Hampshire. LCES, Wareham.

Bats

- 5.6. The EclA notes that there are trees with the potential to provide roosting habitat within the Application Site and therefore this habitat has the potential to be affected by construction related disturbance. The Application has also been identified as being of moderate quality for foraging and commuting bats. This may also be affected by unmitigated construction impacts.

Badgers

- 5.7. The EclA notes that no evidence of badgers was found on site, however an active sett is located north of the site in Marrelsmoor Coppice Site of Interest for Nature Conservations (SINC) and badger activity has been recorded in the wider Berewood site. The Application site is considered to support foraging badgers.

Nesting birds

- 5.8. The EclA concludes that the site contains suitable nesting habitat and that it's possible nesting birds may be harmed during the construction process. Review of the potential for ground nesting birds concluded that this was unlikely due to frequent disturbance.

Great Crested Newts

- 5.9. The EclA has concluded that whilst breeding ponds are present within the wider Berewood boundary, as a result of the distance between these and the Application Site, Great Crested Newts were screened out of the assessment.

Hazel Dormice

- 5.10. The EclA has concluded that due to suitable habitat on site and records of the presence of Hazel Dormice in the wider area, appropriate licencing will be required.

Reptiles

- 5.11. The EclA notes that the mix of swards habitat within and surrounding the site, provides high quality reptile habitat and creates commuting, shelter and hibernation opportunities for reptile species. As a result, there has been an ongoing reptile translocation exercise to Newlands Meadow for several years.

Arboriculture

- 5.12. An Arboricultural Method Statement (AMS) including a Survey and Tree Protection Plan (TPP) has been produced by James Fuller Arboriculture⁵. This notes that nine individual trees and sections of eight groups of trees will be removed to facilitate the construction of the Southern Access. The AMS also notes that one 'U' grade tree will be removed regardless of any works on site.
- 5.13. The AMS states that it will be the Contractor's obligation to adhere to the requirements of the AMS and TPP with regards to tree removal and protection and to ensure the dissemination of information to the work force. It is required that that a pre-commencement site meeting is held prior to any works commencing on site to agree all approved processes with the arboricultural consultant and construction personnel.

⁵ Fuller, J. (2025) Arboricultural Method Statement, Grainger. Southern Access Junction. Berewood, Waterlooville, Hampshire. JFA9528. James Fuller Arboriculture, Lee-on-the-Solent

- 5.14. It is noted that two SINCs are located within approximately 100m of the Application Site. Marrelsmoor Coppice is situated around 60m to the north of the works whilst London Road Fen is located approximately 100m to the south. The location of these SINCs are illustrated in Figure 5.1 below. Contractors will be aware of the proximity of these protected habitats.

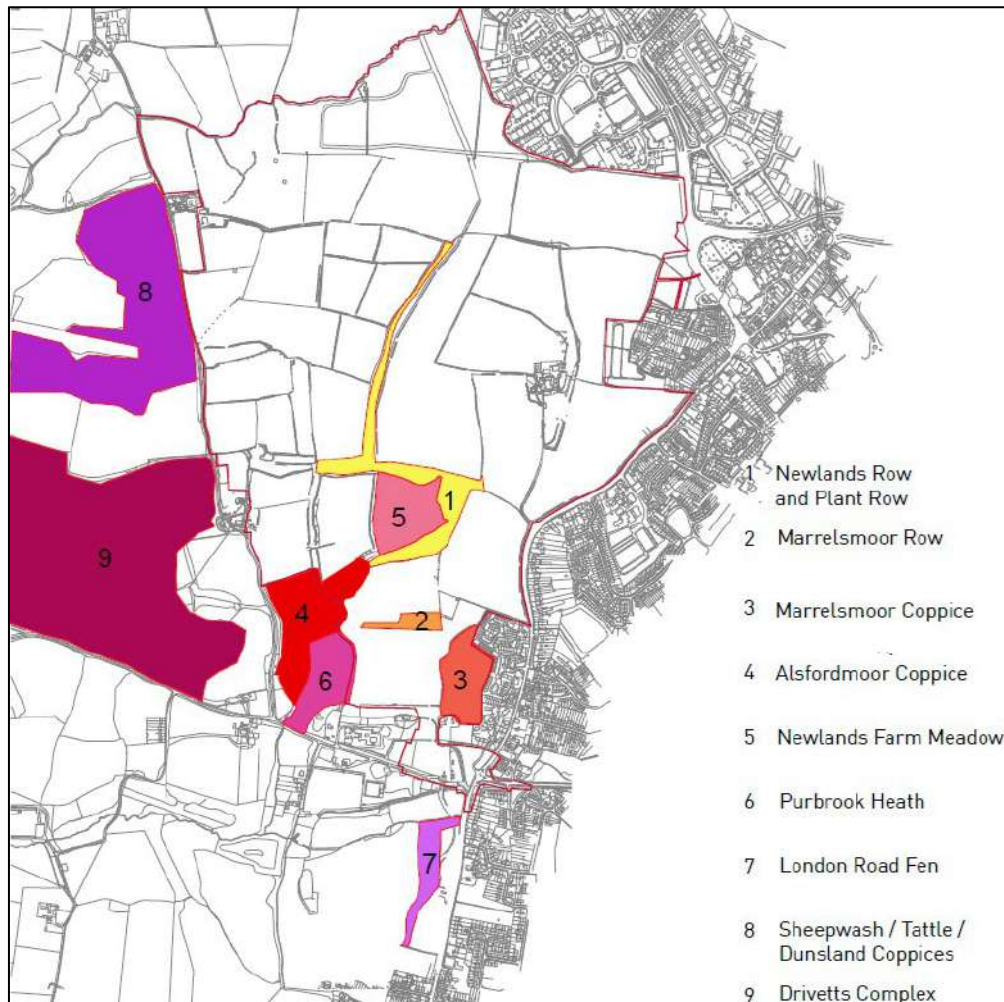


Figure 5.1 Local Sites of Importance for Nature Conservation (SINC)

Soils

- 5.15. Where soils are to be stripped to facilitate works, this will constitute loss of a site resource. Site soils will be retained where possible. Where soils are required to be removed this will be associated with appropriate mitigations.

Hydrology and Hydrogeology

- 5.16. The North Purbrook heath Stream is located immediately adjacent to the southern boundary of the works area and will require careful management. Environment Agency

and the 'MAGIC'⁶ website does not, indicate the presence of field drains within or immediately adjacent to the Application Site.

- 5.17. Some formal surface or foul water systems are expected to be present within the areas of constructed carriageway and these will require protection.

Site Operatives

- 5.18. Site operatives have the potential to be at risk from elevated levels of dust, noise and contaminants if present. Therefore, contractors are required to familiarise themselves with possible working constraints and to pass relevant information on to operatives during toolbox talks. Operatives will be required to be protected from any potential harm by the adherence to on-site health and safety protocols and the use of all necessary Personal Protective Equipment.

Local Human Receptors

- 5.19. A number of receptors are located in the vicinity of the works and these are listed below:
- Residents in Marrelswood Gardens;
 - Rowans Living Well Centre
 - Rowans Hospice
 - Woodside Nursery
 - The White House
 - Transient receptors (walkers)
- 5.20. There is a potential for these receptors to be impacted by construction impacts such as dust and noise from the works. Mitigations will therefore be required.

Cultural Heritage

- 5.21. No Cultural Heritage of significance has been identified on site.

Mitigation

- 5.22. A number of site environmental constraints are identified above. An Environmental Risk Assessment (ERA) has been undertaken, which identifies those aspects of the works which may result in impacts and the likely affected receptors. The ERA then signposts the Contractor to the required mitigations within bespoke Method Statements and Management Plans for use on site. These documents are further discussed in Section 6.
- 5.23. It is noted that this is an Outline CEMP and that Contractors may wish to adapt these Method Statements to suit their own codes of practice and protocols.

⁶ Multi-Agency Geographic Information for the Countryside <https://magic.defra.gov.uk/MagicMap.html>

6.0. Environmental Management

Environmental Risk Assessment

- 6.1. An environmental risk assessment has been undertaken in the following stages
- Identification of the environmental ‘aspects’ of the proposals i.e. the works stages which have the potential to be associated with environmental harm (see Section 2).
 - Identification of the environmental constraints (see Section 5) of the locality of the works.
 - Identification of mitigations within supporting studies, good practice guidelines and or bespoke management plans.
 - Provision of mitigation measures as Method Statements/Management Plans for Contractor use.
- 6.2. The Environmental Risk Assessment is provided in Appendix A.

Construction Traffic Management and Compound

- 6.3. A Construction Traffic Management Plan has been provided by Markides Associates and is included within Appendix D of this plan. The CTMP includes detail regarding:
- Construction traffic routes in the local area.
 - Parking and turning or operative, construction and visitor vehicles.
 - Programme of works (including measures for traffic management).
 - Restrictions on deliveries.
 - Identification of boundary hoarding.
 - Compound location and access.
- 6.4. The Contractor will be required to adhere to the recommendation of the CTMP.

Action Plans and Method Statements

- 6.5. Where required, an Action Plan or Detailed Method Statements will be prepared by the Site Manager, Environmental Manager and Environmental Specialist to identify and sequence mitigation activities that are needed in order to complete a required site works process.
- 6.6. Action Plans and Method Statements will include a review of the environmental risks and commitments, so that appropriate control measures can be developed and included within the construction process.
- 6.7. Where required, all plans and statements will be submitted to the enforcement agencies (Environment Agency, Natural England, and Local Authority Pollution Control Department), as appropriate.

Incident Response Procedure

- 6.8. A spill incident response plan is provided within Appendix B, Method Statement 2. It will be the contractor’s responsibility to ensure, through induction and toolbox talks, that all

operatives are aware of their own and their colleagues' responsibilities in the event of an incident, and the appropriate chain of events to be followed.

Waste management

- 6.9. Site compounds will include for enough and suitable waste receptacles to allow for easy segregation of waste. Receptacles must be located as close to the area where the specific waste is generated as possible, whilst also being easily accessible for waste carriers to collect or otherwise empty.
- 6.10. All receptacles will be:
- sufficient to suitably contain the designated waste;
 - clearly signed; and
 - sealed where appropriate.
- 6.11. Suitable contracts must be set up with licensed waste carrier(s) to enable timely removal from site once the receptacle is full or otherwise required to be removed.

7.0. Organisation and Responsibilities

- 7.1. In order to enable efficient working practices on site, the Contractor will identify and provide contact details for CEMP team members with the following responsibilities within their own Detailed CEMP. These will be retained and displayed at the site office.

Title	Contact Details	Responsibilities
Client's Senior Project Manager (PM)	Chris Williams 07990379610 CWilliams@grainagerplc.co.uk	The Client's Senior Project Manager will act with responsibility for managing the Project within the agreed environmental constraints and in conjunction with all other necessary management processes.
Client's Construction Project Manager (CPM)	James Rood 07904793379 James.rood@LFPLtd.com	The Client's Construction Project Manager oversee the Contractors and will act as a facilitator on environmental concerns between the PM and the Contractor.
Client's Environmental Manager (EM)	Andrea Hughes 07542029042 andrea@celadonconsulting.co.uk	The Client's Environmental Manager will liaise with the PM, CPM, ES and Contractor and will be responsible for monitoring the performance of the project against the agreed environmental standards.
Client's Environmental Specialists (ES)	Jeff Picksley Holbury Consultancy Services 07788638938 Jeff.picksley@holburycs.co.uk	The Client's Environmental specialists will be available to provide advice as required
Contractors Project Manager (CPM)	TBC	The Contractors Project Manager act with responsibility for managing the Project within the agreed environmental constraints and in conjunction with all other necessary management processes.
Contractor's Site Manager (CSM)	TBC	The Contractors Site Manager will feed back to the Contractors Project Manager and will ensure that all environmental policies addressed in the CEMP are adhered to by operatives and sub-contractors throughout the construction phase.
Contractor's Environmental Manager (CEM)	TBC	The Contractors Environmental Manager will be responsible for overall Environmental issues arising from the project

Contractor's External Relations Officer (CERO)	TBC	The Contractors External Relations Officer will be responsible for providing a point of contact for third parties and will be kept informed of all issues which may be of interest or concern.
Subcontractor(s)	A list of subcontractors will be provided and stored within the Contractors Detailed CEMP.	The Contractor will be required to monitor the environmental and health and safety performance of all subcontractors to ensure compliance with the CEMP.
Environmental Health Officer (EHO)	Winchester City Council 01962 8400222 ext 2172 Havant Borough Council 02392 446019	A representative from the Local Authority's Environmental Health Department contacted at the outset of the project and provided with team contact details should they wish to attend CEMP Team meetings or make enquiries to ensure that the project is addressing issues raised during the project planning stage
Implementation Officer (IO)	Winchester City Council 01962 848375 Havant Borough Council 02392 446571	A representative from the Local Authority's Environmental Health Department contacted at the outset of the project and provided with team contact details should they wish to attend CEMP Team meetings or make enquiries to ensure that the project is addressing issues raised during the project planning stage
Flood and Water Manager (FWM)	Clare Mills Hampshire County Council Clare.mills@hants.gov.uk 01962846727	A representative from the County Council will be contacted at the outset of the project and provided with team contact details should they wish to attend CEMP Team meetings or make enquiries to ensure that the project is addressing issues raised during the project planning stage
Environment Agency Biodiversity Officer (BO)	George Woodward Environment Agency 01962 764938	A representative from the Environment Agency will be contacted at the outset of the project and provided with team contact details should they wish to attend CEMP Team meetings or make enquiries to ensure that the project is addressing issues raised during the project planning stage.

Table 7.1 CEMP Team and Responsibilities

Training, Awareness and Competence

- 7.2. The raising of environmental awareness is viewed as a crucial element in the appreciation and implementation of any CEMP. In order to ensure the environmental control measures are effective, all staff will be provided with appropriate training prior to starting work on site. This will include:
- a site induction;
 - emergency response training;
 - familiarisation with site environmental controls; and
 - specific environmental training for relevant employees e.g. installing erosion and sedimentation controls, daily checks to maintain controls, cleaning up spills.
- 7.3. The site supervisor will ensure that all personnel engaged in activities that may have an impact on the environment are competent to carry out their duties or, where necessary, arrange for suitable training to be undertaken.

Environmental Inspection and Reporting

- 7.4. The Contractor's Environmental Manager will carry out regular inspections of the construction area, to verify that housekeeping or supporting controls are being implemented effectively. These inspections will be used to confirm that:
- agreed protection or mitigation measures are in place, prior to or during the implementation of construction activities;
 - construction works are progressing in accordance with the agreed environmental protections; and
 - all mitigation measures in place are appropriately maintained.
- 7.5. Inspections will be carried out at a frequency of no greater than fortnightly intervals but could be held more regularly depending on the nature of the construction activity. Any necessary actions will be raised and recorded at progress meetings.

Control of non-conformance

- 7.6. Non-conforming processes will initiate a Non-Conformance Report, which will identify the nature of the problem, the proposed corrective action, action taken to prevent recurrence of the problem and verification that the agreed actions have been carried out.

External Review

- 7.7. The Contractors Detailed CEMP and all associated supporting documents and records will be maintained by the Contractor's Environmental Manager for third party review if requested.

Drawings

Markides Associates General Arrangement

Drawing No 24314-MA-XX-XX-DR-C-0101-S4 – P04

Drawing No 24314-MA-XX-XX-DR-C-0102-S4 – P04

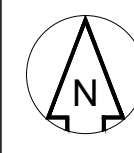
Drawing No 24314-MA-XX-XX-DR-C-0103-S4 – P04

KEY:

- Section 278 Works Boundary
- Proposed Tactile Paving (red colour)
- Proposed Tactile Paving (buff colour)
- Proposed Corduroy Paving (buff colour)
- Proposed Asphalt Carriageway
- Proposed Asphalt Footway
- Proposed Cycle Lane
- Proposed Verge
- Proposed Asphalt Vehicle Crossover
- Proposed Block Paving
- Proposed Road Signs
- Proposed Guardrail
- Proposed Bollard (Timber)
- Proposed SuDS Basin
- Proposed Lighting Column
- Proposed Lighting Column (Lantern change only)

DESIGNER'S NOTE:

- Design based on topographic survey 2500 S10 – Berewood (PS) from Encompass Surveys (dated January 2025) received 03/02/2025.
- Lighting design by Enerveo drawing EVO20031294-LD-001-D dated September 2025.
- Traffic signal design for Toucan crossing by Ringway, refer to drawings x dated x.



DO NOT SCALE OFF THIS DRAWING

CDM - RESIDUAL HAZARDS

1	Existing Utilities
2	Risk of falls from heights
3	Overhead Cables
4	Unexploded Ordnance
5	Existing Culvert

NOTE: The above hazards do not include every hazard or assumption, but identify significant residual construction hazards that are not likely to be obvious to a competent contractor and those that could be difficult to manage effectively. Refer to the designer's risk documentation 24314-MA-XX-XX-DR-C-0101-S4 DRA.

Notes:

- Do not scale off this drawing.
- All dimensions in metres unless otherwise stated.
- Site Location:
 - Nearest postcode - PO7 5EW
 - What3Words - pays.saints.branch
- All dimensions, levels, survey grid co-ordinates and details shown on this drawing are to be checked on site by the contractor. Any discrepancies must be reported to the engineer prior to commencement of the works so that adjustments may be made if necessary.
- No deviation from the details shown on this drawing is permitted without prior permission from the engineer.
- This drawing is to be read in conjunction with all drawings with project reference number 24314.
- Refer to 0500 drawing series for drainage detail information.
- Refer to 0700 drawing series for road carriageway pavement detail information.
- Refer to 1100 drawing series for footway pavement & kerb detail information.
- Refer to 1200 drawing series for road marking and signs detail information.
- All proposed highway alignments are to tie into the existing kerb lines smoothly and tangentially.
- All highway works are to be agreed with Hampshire County Council (HCC) prior to implementation on site. Appropriate S278 agreements must be in place prior to the works commencing (if required).
- All highway works to be in accordance with the MCHW Specification for Highway Works and HCC Standard Detail Drawings.
- The contractor will be responsible for providing all required traffic management layout information, methods of working and operative accreditation to HCC on request.
- The contractor will be responsible for all applications and notifications for road space booking in accordance with the current NRSWA.
- Contractor shall not construct works until traffic management plans/proposals have been agreed with HCC.
- All road signs and markings to comply with the Traffic Signs Regulations and General Directions 2016 (TSRGD 2016).
- Road name plate locations to be confirmed by HCC.
- Visibility splays to be based on guidance from Manual for Streets for a 20mph road.
- HEALTH AND SAFETY: The works shall be carried out by specialist competent and experienced contractors who are members of a recognised national organisation. Operatives shall have received full and appropriate training for the operations they are to undertake. All work shall be carried out in accordance with all pertinent Health and Safety Regulations.
- The contractor is responsible for all site health, safety and security matters. They shall independently carry out their own risk assessments and investigations prior to commencing works. They shall independently carry out their own risk assessments and investigations prior to any construction works commencing.
- All gullies within the extent of works are to be cleaned.
- This drawing is to be read in conjunction with:
 - All relevant engineer's drawings, the specification, surveys, reports, any party wall agreements and documentation.
 - The geo-environmental / soil investigation reports.
 - The ecological tree survey & landscaping drawings.
 - The top and utilities surveys.
- Relevant specifications, including risk assessments.
- All workmanship and materials are to comply with the specification, building regulations, relevant British Standards and manufacturer's recommendations.
- The contractor shall undertake such materials testing as indicated in the specifications and shall include the cost of testing in the tender.
- It is the contractor's responsibility to familiarise themselves with the existing site layout with respect to access, existing construction, health and safety matters, drainage below ground and at surface level, party wall matters, cellars/vaults etc., and to inform the engineer of any variations.
- The contractor is responsible for maintaining the structural stability and integrity of all adjacent existing structures (e.g. buildings, footpaths, roads, etc.) and services to be retained during the works. The contractor must design, provide and install all temporary/permanent propping or bracing required to achieve this, and must provide a detailed method statement (including calculations and drawings if applicable) for these works.
- Prior to any works being undertaken, the contractor must establish the locations of all services that may affect or be affected by the works. Any services to be removed must be identified and safely isolated prior to removal and commencement of works.

Revision History

Rev	Comment	By	Chkd	Appr	Date
P04	ISSUE 4	LB	SS	HJ	28.10.2025
P03	ISSUE 3	LB	SS	HJ	09.10.2025
P02	ISSUE 2	LB	SS	HJ	25.09.2025
P01	FOR APPROVAL	DE	SS	HJ	17.09.2025

Rev	Comment	By	Chkd	Appr	Date
P04	ISSUE 4	LB	SS	HJ	28.10.2025

S4 - FOR APPROVAL

GRAINGER PLC

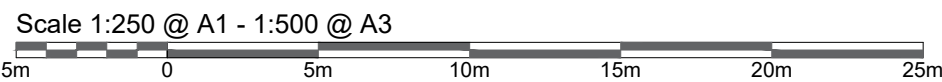


Project
BEREWOOD, WATERLOOVILLE
SOUTHERN ACCESS JUNCTION

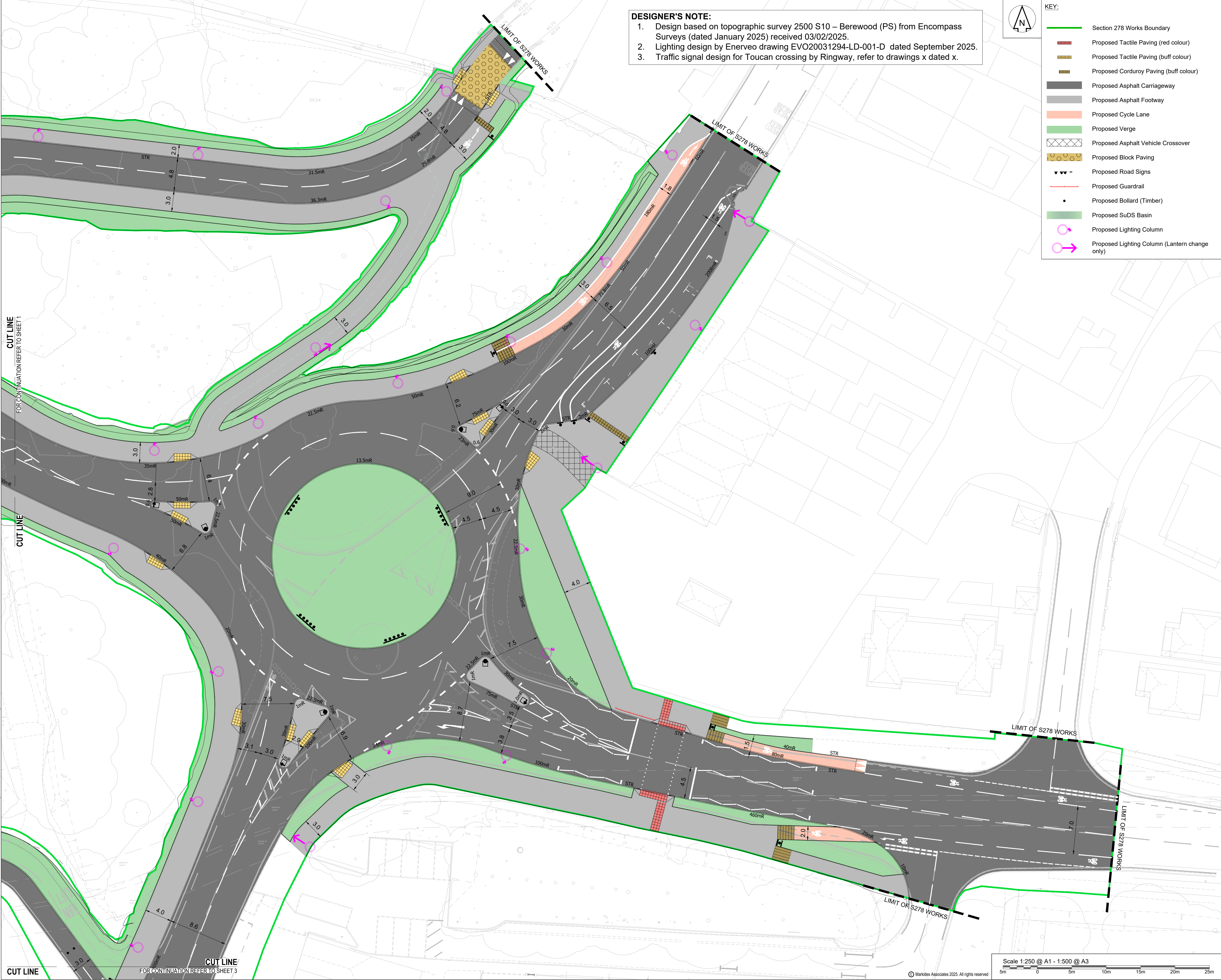
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SECTION 278
GENERAL ARRANGEMENT
SHEET 1

Markides Associates reference: 24314 1:250 @A1

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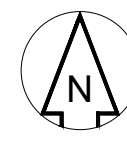


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DESIGNER'S NOTE:

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 - Proposed Corduroy Paving (buff colour)
 - Proposed Asphalt Carriageway
 - Proposed Asphalt Footway
 - Proposed Cycle Lane
 - Proposed Verge
 - Proposed Asphalt Vehicle Crossover
 - Proposed Block Paving
 - Proposed Road Signs
 - Proposed Guardrail
 - Proposed Bollard (Timber)
 - Proposed SuDS Basin
 - Proposed Lighting Column
 - Proposed Lighting Column (Lantern change only)

DO NOT SCALE OFF THIS DRAWING

CDM - RESIDUAL HAZARDS	
1	Existing Utilities
2	Risk of falls from heights
3	Overhead Cables
4	Unexploded Ordnance
5	Existing Culvert

- Notes:**
- Do not scale off this drawing.
 - All dimensions in metres unless otherwise stated.
 - Site Location:
 - Nearest postcode - PO7 5EW
 - What3Words - pays.saints.branch
 - All dimensions, levels, survey grid co-ordinates and details shown on this drawing are to be checked on site by the contractor. Any discrepancies must be reported to the engineer prior to commencement of the works so that adjustments may be made if necessary.
 - No deviation from the details shown on this drawing is permitted without prior permission from the engineer.
 - This drawing is to be read in conjunction with all drawings with project reference number 24314.
 - Refer to 0500 drawing series for drainage detail information.
 - Refer to 0700 drawing series for road carriageway pavement detail information.
 - Refer to 1100 drawing series for footway pavement & kerb detail information.
 - All proposed highway alignments are to tie into the existing kerb lines smoothly and tangentially.
 - All highway works are to be agreed with Hampshire County Council (HCC) prior to implementation on site. Appropriate S278 agreements must be in place prior to the works commencing (if required).
 - All highway works to be in accordance with the MCHW Specification for Highway Works and HCC Standard Detail Drawings.
 - The contractor will be responsible for providing all required traffic management layout information, methods of working and operative accreditation to HCC on request.
 - The contractor will be responsible for all applications and notifications for road space booking in accordance with the current NRSWA.
 - Contractor shall not construct works until traffic management plans/proposals have been agreed with HCC.
 - All road signs and markings to comply with the Traffic Signs Regulations and General Directions 2016 (TSRGD 2016).
 - Road name plate locations to be confirmed by HCC.
 - Visibility splays to be based on guidance from Manual for Streets for a 20mph road.
 - HEALTH AND SAFETY:** The works shall be carried out by specialist competent and experienced contractors who are members of a recognised national organisation. Operatives shall have received full and appropriate training for the operations they are to undertake. All work shall be carried out in accordance with all pertinent Health and Safety Regulations.
 - The contractor is responsible for all site health, safety and security matters. They shall independently carry out their own risk assessments and investigations prior to commencing works. They shall independently carry out their own risk assessments and investigations prior to any construction works commencing.
 - All gullies within the extent of works are to be cleaned.
 - This drawing is to be read in conjunction with:
 - All relevant engineer's drawings, the specification, surveys, reports, any party wall agreements and documentation.
 - The geo-environmental / soil investigation reports.
 - The ecological tree survey & landscaping drawings.
 - The top and utilities surveys.
 - Relevant specifications, including risk assessments.
 - All workmanship and materials are to comply with the specification, building regulations, relevant British Standards and manufacturer's recommendations.
 - The contractor shall undertake such materials testing as indicated in the specifications and shall include the cost of testing in the tender.
 - It is the contractor's responsibility to familiarise themselves with the existing site layout with respect to access, existing construction, health and safety matters, drainage below ground and at surface level, party wall matters, cellars/vaults etc., and to inform the engineer of any variations.
 - The contractor is responsible for maintaining the structural stability and integrity of all adjacent existing structures (e.g. buildings, footpaths, roads, etc.) and services to be retained during the works. The contractor must design, provide and install all temporary/permanent propping or bracing required to achieve this, and must provide a detailed method statement (including calculations and drawings if applicable) for these works.
 - Prior to any works being undertaken, the contractor must establish the locations of all services that may affect or be affected by the works. Any

Revision History

P04	ISSUE 4	LB	SS	HJ	28.10.2025
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Rev	Comment	By	Chkd	Appr	Date
Current Revision					
P04	ISSUE 4	LB	SS	HJ	28.10.2025
Rev	Comment	By	Chkd	Appr	Date

S4 - FOR APPROVAL

GRAINGER PLC



Project
BEREWOOD, WATERLOOVILLE
SOUTHERN ACCESS JUNCTION

Drawing Title
SECTION 278
GENERAL ARRANGEMENT
SHEET 2

Markides Associates reference: 24314 1:250 @A1
24314-MA-XX-XX-DR-C-0102-S4 - P04

Scale 1:250 @ A1 - 1:500 @ A3
5m 0 5m 10m 15m 20m 25m

Appendix A
Environmental Risk Assessment

ENVIRONMENTAL RISK ASSESSMENT				
Southern Access				
	IMPACTS	POTENTIAL FOR IMPACT	SOURCE OF MITIGATIONS IDENTIFIED	MITIGATIONS IN PLACE
	Removal of Site Vegetation and Topsoil Strip			
ASPECTS	Death or disturbance of in-situ sheltering and/or foraging fauna	Potential for on-site fauna to be impacted by working processes.	Ecological Impact Assessment & Summary	Appendix B Method Statement 1 Control of Ecological Impacts
	Loss or damage to site flora of ecological value	On site habitat classified as	N/A	N/A

		being common and widespread.		
		-----	-----	-----
		Retained trees requiring protection	Arboricultural Method Statement	Appendix E Tree Protection Plan
	-----	-----	-----	-----
	Loss or damage to off-site flora / fauna of ecological value	Potential damage to off-site Sites of Importance for Nature Conservations (SINC)	Ecological Impact Assessment & Summary	Appendix B Method Statement 1 Control of Ecological Impacts Method Statement 2

				Control of Dust Method Statement 3 Control of Contaminative Runoff Appendix C Noise and Vibration Management Plan Appendix D Construction Traffic Management Plan
--	--	--	--	--

	Loss or damage to cultural heritage	No Cultural Heritage of significance has been identified on site.	N/A	N/A
	Establishment and use of site compound			
ASPECTS	Lighting Impacts upon nocturnal fauna	Potential for fauna to use site for foraging	Ecological Impact Assessment & Summary	Appendix B Method Statement 1 Control of Ecological Impacts
	Loss or damage to topsoil	Potential for loss if topsoil left in situ or damage if stripped and / or	Construction Code of Practice for the Sustainable Use of	<u>CoP Sustainable Use of Soils</u>

		stored inappropriately	Soils on Construction Sites	
	Creation of fugitive dusts or odours	Potential for impacting onsite and off-site receptors, flora and fauna	CIRIA Good Practice on Site 5 th Edition	Appendix B Method Statement 2 Control of Dust
	Noise impacts upon on-site and off-site receptors, flora and fauna	Potential for impacting onsite and off-site receptors, and fauna	Noise and Vibration Assessment	Appendix C Noise and Vibration Management Plan
	Creation of silty run-off	Potential for impacting on and off-site watercourses	CIRIA Good Practice on Site 5th Edition	Appendix B Method Statement 3

				Control of Contaminative Run-off
	Creation of liquid run-off from storage and working areas	Potential for impacting on and off-site watercourses	CIRIA Good Practice on Site 5th Edition	Appendix B Method Statement 3 Control of Contaminative Run-off
	Carriageway, Drainage and Utility Works			
ASPECTS	Creation of fugitive dusts impacting onsite and off-site receptors, flora and fauna	Potential for impacting onsite and off-site receptors, flora and fauna	CIRIA Good Practice on Site 5 th Edition	Appendix B Method Statement 2 Control of Dust

	Loss or damage to topsoil	Potential for loss if topsoil left in situ or damage if stripped and / or stored inappropriately	Construction Code of Practice for the Sustainable Use of Soils on Construction Sites	<u>CoP Sustainable Use of Soils</u>
	Noise impacts upon on-site and off-site receptors, flora and fauna	Potential for impacting onsite and off-site receptors, and fauna	Noise and Vibration Assessment	Appendix C Noise and Vibration Management Plan
	Creation and migration of polluted run-off	Potential for impacting off aquatic environments	CIRIA Good Practice on Site 5th Edition	Appendix B Method Statement 3 Control of Contaminative Run-off

Appendix B
Method Statements

METHOD STATEMENT 1

ECOLOGICAL MITIGATIONS

The following mitigations are taken from the Lindsay Carrington Ecological Impact Assessment (EclA)¹. The contractor is required to ensure that they have obtained, reviewed and implemented the latest EclA and / or discussed measures with the project ecologist / arboriculturist.

Actions Required

Prior to Commencement

Ensure all contractors and operatives have attended an induction which includes methods to minimise ecological impacts on site.

During Works

For the protection of trees

Apply and maintain Tree Protection Measures as set out within the Arboricultural Method Statement.

For the protection of breeding birds.

The following is taken direct from the Lindsay Carrington EclA:

To avoid the risk of disturbing, injuring or killing nesting birds, all vegetation clearance required as part of the site preparation works should ideally be undertaken outside of the bird nesting season which is considered to run from March to August (inclusive). Where any vegetation clearance must be undertaken within the nesting bird season, the working areas must first be checked by an ecologist for the presence of any nesting birds (including both arboreal and ground nesters) immediately prior to clearance. Should any active nests be encountered, the clearance in those particular areas must be postponed and a suitable protection zone established until either the nestlings have fledged or the nest is abandoned

¹ S, W (2025) Ecological Impacts Assessment Berewood Southern Access Junction. Waterlooville, Hampshire. LCES, Wareham.

For the protection of badgers.

The following is taken direct from the Lindsay Carrington EclA:

- *Prior to works commencing the working area will be delineated with construction hoarding or Heras fencing which should largely prevent and discourage badger from entering the construction site.*
- *A check for any badger activity on site will also be undertaken prior to works commencing.*
- *Where possible, excavations will not be left open overnight. However, if excavations are left open at night, then an earth or wooden ramp will be installed to enable any animals that fall in to escape.*
- *The work areas will be checked daily to ensure that no animals are trapped.*
- *Any piping will be capped over-night to prevent animals becoming trapped.*

For the protection of bats and other nocturnal fauna

For mitigations relating to tree felling of potential bat roosts, please consult the EclA.

During the construction phase, a lighting strategy will be implemented including the use of directional lighting and avoiding the illumination of the treelines and mature trees in accordance with the Bat Conservation Trust & Institute of Lighting Professionals (2023).

Bats and Artificial Lighting at night.

Where construction site lighting is required, lights will be:

- fitted with cowls;
- emit minimal ultra-violet light;
- be of a warm, neutral colour;
- directed away from adjacent trees and hedgerows.

The following is taken direct from the Lindsay Carrington EclA:

Dusk and night-time working with the use of flood lights will be strictly forbidden on site during the bat activity season (April to October inclusive) and this will be specified within the CEMP. If there are exceptional circumstances where night working is absolutely essential then an ecologist will be contacted, and a suitable method of works devised so that there is no light spill onto any adjacent off-site habitats of value to foraging and commuting bats.

For the protection of dormice

The following is taken direct from the Lindsay Carrington EclA:

The following targeted measures will be implemented to safeguard hazel dormouse from harm during the proposed habitat clearance and site preparation.

- *A hazel dormouse licence currently exists for works associated with the southern access junction (licence 2025-70749-EPS-MIT) which allows areas of the scrub habitat to be removed from autumn 2025 and stumps to be removed in May 2026. Part of this site overlaps and therefore will be removed in accordance with this existing licence.*
- *Areas of other broadleaved woodland and scrub will require removal to facilitate the construction of the southern access junction. A licence modification will be made to include all areas of clearance required to facilitate the development.*
- *The current licence allows for 0.1 hectares of scrub planting to be created along the western boundary of Plant Row. Additional planting will be required to compensate for the additional loss of scrub and woodland to facilitate this application.*

For the protection of reptiles

The following is taken direct from the Lindsay Carrington EclA:

The following targeted measures will be implemented to safeguard reptiles from harm during the proposed habitat clearance and site preparation works:

- *The current reptile translocation will continue throughout the summer prior to works commencing on site. This will ensure reptiles will be out of harm prior to site works commencing.*
- *The required clearance of scrub habitat will all be undertaken by hand using handheld trimmers, brush-cutters and/or chainsaws. The vegetation will be cut in two phases. Firstly, there will be an initial cut down to a minimum height of 10 centimetres above ground to encourage reptiles to disperse away from the site. This will then be followed by a second cut of the remaining vegetation down to ground level, which can be undertaken no sooner than one hour after the initial cut. All vegetation clearance will be undertaken in a northwards direction in order to encourage reptiles to move towards the adjacent off-site habitat areas to the north of the site. All arisings will be cleared from*

the area and removed from site to ensure that reptiles do not colonise the cut vegetation.

- *A destructive search will be undertaken on completion of the translocation and removal of scrub under the supervision of an experienced Ecological Clerk of Works. This will only take place during the active reptile season which extends between March and October, when day time temperatures are above 10 degrees Celsius, prior to nighttime lows droppings and reptiles entering hibernation. Any reptiles encountered during the destructive search will be handled and translocated to the receptor site at Newlands Meadow.*

See also:

- Method Statement 2 re control of dust to be observed
- Method Statement 3 re control of contaminative run-off to be observed
- Noise and Vibration Management Plan to be observed

METHOD STATEMENT 2

CONTROL OF DUST AND DIRT

The following mitigations are taken from the CIRIA Environmental good practice on site¹ and IAQM Guidance on the assessment of dust from demolition and construction².

Actions Required

Prior to Commencement

- Plan site layout to prevent:
 - delivery and worker vehicles traversing open ground and;
 - plant from traversing areas used by delivery and worker vehicles.
- Plan soil strip to only remove soils as required.
- Plan locations for stripped soil storage which are away from surface water drainage features and sheltered from winds as far as possible.
- Ensure that methods are available for sweeping and damping the works areas (as applicable) and adjacent access.
- The Site Manager will ensure that suitable, ample and signed construction and domestic waste receptacles are available for use, have covers where applicable and contracts are in place for frequently emptying.
- The Site Manager will ensure that any areas for stored materials capable of creating dusts are suitably contained with adjacent facilities for damping / covering as conditions require.
- Ensure all contractors and operative have attended an induction which includes methods to minimise dusts and dirt on site.
- Ensure any plant accepted on site:
 - have a record of regular maintenance;
 - comply with relevant statutory and manufactures' requirements
 - are fitted with diesel particulate filters; and
 - are preferentially sought to have vertical exhausts to limit surface dust re-suspension.
- All supervisors to be familiar with the provisions CIRIA's 'Environmental good practice guide on site (5th edition); and

¹ Kwan, J. *et al* (2023) Environmental good practice on site guide (fifth edition). CIRIA C811. CIRIA, London.

² Stoaling, M. *et al* (2024) Guidance on the assessment of dust from demolition and construction. IAQM, London.

- All supervisors to be familiar with the provisions of IAQM 'Guidance on the Assessment of Dust from Demolition and Construction'.

During Works

- Ensure all contractors and operatives attend update toolbox talks which include methods to minimise dusts on site.
- Ensure all vehicles leaving the site area have their wheels cleaned by appropriate means with site waters appropriately managed.
- Works and adjacent access to be swept and damped during dry periods.
- Vehicles carrying dusty materials off site to be suitably covered.
- Activities that have the potential to generate dust to be sited, shielded and / or covered in such a way to minimise dust nuisance to sensitive receptors.
- Plant to be maintained in good working order.
- Activities found to be generating dust in conditions where dust being spread may affect sensitive receptors to be stopped, rescheduled or mitigated.
- All materials and spoil to be stored on site to be sheeted or damped down as appropriate in dry weather to reduce dust.
- Stockpiling to be in accordance with CIRIA 'Environmental good practice guide on site (5th edition).
- Stockpiles of materials not suitable for on-site re-use to be removed as soon as is practicable in accordance with applicable waste management legislation.
- Regular inspection of site works undertaken to identify any dusty activities and consider appropriate mitigations.
- No idling vehicles.
- Absolutely no fires on site.
- All cutting, grinding or sawing activities to be associated with suitable dust suppression.

METHOD STATEMENT 3

CONTROL OF CONTAMINATIVE RUN-OFF

Construction activities have the potential to result in contaminative run-off into surface water systems.

The following mitigations are taken from the CIRIA Environmental good practice on site¹

Actions Required

Prior to commencement

- Plan site layout to:
 - prevent delivery and worker vehicles traversing open ground;
 - prevent plant from traversing areas used by delivery and worker vehicles.
 - ensure all surface water, gullies, drains etc on site are identified and protected;
 - ensure no potential sources of liquid pollutants are sited adjacent to gullies, drains etc.
 - ensure the presence on site of wheel wash facilities and methods to contain and appropriately dispose of wash waters.
 - ensure all diesel bunds are sited on impermeable ground with nappy, white spill kit and fire extinguishers adjacent.
 - provide suitable, ample and signed construction and domestic waste receptacles with covers where applicable and that contracts are in place for frequent emptying. Required to control opportunities for site wastes to migrate into surface waters.
 - ensure that any areas where wet conditions may result in mobilisation of stored materials are suitably contained with adjacent facilities for covering as conditions require; and
 - ensure appropriate storage of hazardous materials.
- Plan soil strip to only remove soils as required for the next phase of works. Prematurely stripped soils frequently result in difficulties due to mobilisation of site muds into surface water systems.

¹ Kwan, J. *et al* (2023) Environmental good practice on site guide (fifth edition). CIRIA C811. CIRIA, London.

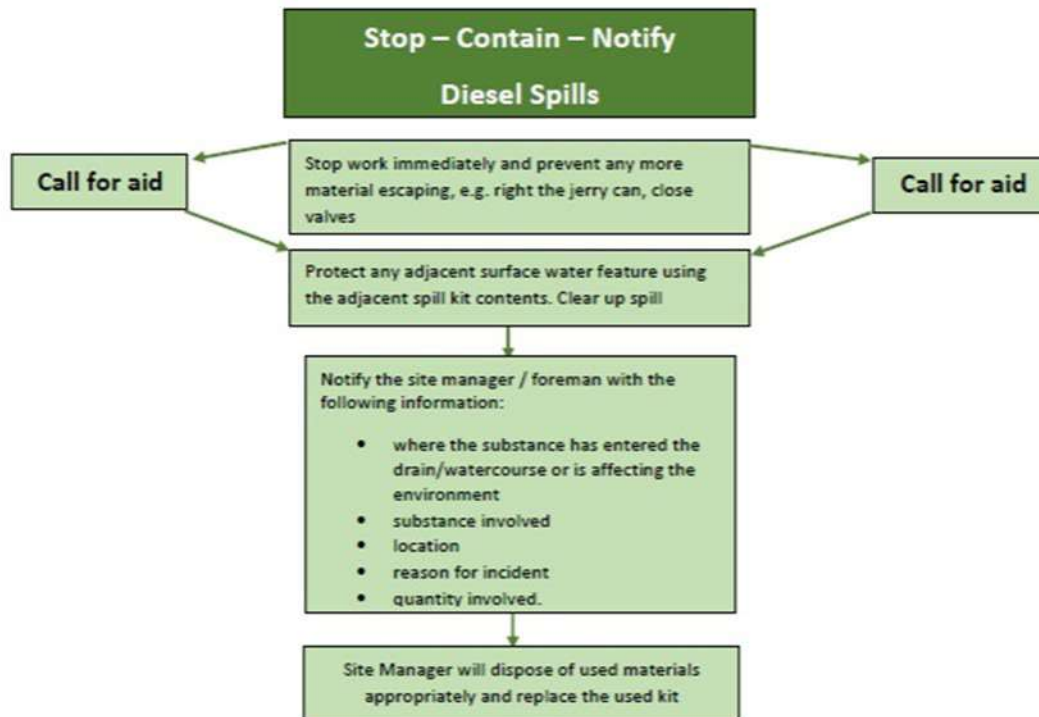
- Plan locations for stripped soil storage which are not sited close to surface water drainage features.
- Ensure that methods are available for sweeping and damping works areas (as applicable) and adjacent access.
- The contractor will develop a detailed Incident Response Plan (see schematic plan below). This will identify all on-site risks, suitable responses and relevant personnel. It will be disseminated to all appropriate staff as part of incident training and will include some or all of the measures identified here.
- Ensure all contractors and operative have attended an induction which includes methods to minimise contaminative run-off on site.
- All supervisors to be familiar with the provisions CIRIA's 'Environmental good practice guide on site (5th edition)

During Works

- Ensure all contractors and operative have attended update toolbox talks which include the Incident Response Measures and methods to minimise contaminative run-off on site.
- Maintain protection of any live surface water drains to ensure that no contaminated surface waters may enter them.
- Where required, systems of temporary drainage must be installed to ensure that no polluted surface runoff enters adjacent drains or ditches. Any surface water collected must be directed via treatment before discharge.
- All vehicles leaving the site, to be subjected to wheel washing where necessary.
- Stockpiling to be in accordance with best practice within CIRIA 'Environmental best practice on site guide (5th edition).
- Stockpiles of materials not suitable for on-site re-use to be removed as soon as is practicable in accordance with applicable waste management legislation.
- Fuels and chemicals to be managed in accordance with CIRIA 'Environmental best practice on site guide (5th edition).
- All tanks and containers to be labelled with nature of contents and total volume secured.
- Where any hazardous liquid use is required, this must be used and stored in strict accordance with COSHH regulations. Any operatives using COSHH liquids must be in receipt of appropriate training.

- Biodegradable hydraulic oil to be used for machinery/plant where possible.
- All deliveries to be supervised and levels of tanks checked before delivery.
- Supervisors to be familiar with the provisions of CIRIA 'Environmental best practice on site guide (5th edition) re control of contaminated run off.

INCIDENT RESPONSE PLAN



Spillage type

Major: Cannot be controlled, pollution has entered, or could enter a drain or watercourse.
Report to the foreman/supervisor immediately

Minor: Can be controlled, pollution has not entered, and cannot enter a drain or watercourse.
Report to the foreman/supervisor immediately

Foreman/supervisor instructions

Major: Contain and report immediately

Minor: Clean up immediately using appropriate materials (granules, pads etc)

In Major instance report to EA (see contact below)

Contact

Environment Agency (EA) Emergency Spill Line: 0800 80 70 60

Worthing Office: 03708506506

Write up report of incident to be retained in site records including:

- date, time, location of spill
- substance(s) involved
- action taken to contain it
- lessons learnt.

Adapted from: Environmental good practice on site guide (fourth edition) CIRIA

Appendix C
Noise and Vibration Management Plan

Noise and Vibration Management Plan

Berewood Phase 4 Infrastructure, Waterlooville, Hampshire

15 September 2025

Notice

Total Acoustics Ltd has prepared this report with generally accepted acoustic consultancy principles, using all reasonable skill, care and diligence. This is as per the terms agreed between Total Acoustics Ltd and our Client. Information referred to herein which may have been provided by third parties should not be assumed to have been checked and verified by Total Acoustics Ltd, unless specifically confirmed to the contrary. Both confidential and commercially sensitive information is contained within this document, and as such it should not be disclosed to third parties. No responsibility is accepted to third parties, and neither the whole nor any part of this report nor reference thereto may be published or disclosed without the written consent of Total Acoustics Ltd. Any third party choosing to rely on this document does so at their own risk.

Document History

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0.0	15/09/25	Final Issue	LE	VE	LE
Issue	Date	Purpose Description	Prepared by	Checked by	Approved by



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Executive Summary

This Noise and Vibration Management Plan (NVMP) has been prepared to support the construction of the Berewood Phase 4 Infrastructure works in Waterlooville, Hampshire. It provides a clear, evidence-based framework for managing, monitoring and minimising noise and vibration during all phases of construction, ensuring compliance with planning Condition 11, the Control of Pollution Act 1974 and recognised best practice guidance (BS 5228-1, BS 5228-2).

The NVMP forms an integral part of the wider Construction Environmental Management Plan (CEMP) for the Berewood Phase 4 Infrastructure works, ensuring coordinated environmental management, clear lines of responsibility and a consistent approach across all disciplines.

Baseline monitoring confirmed that existing noise conditions are shaped primarily by traffic on London Road, with levels varying according to proximity and intervening screening. Daytime ambient noise levels at the nearest homes ranged from 49–70 dB $L_{Aeq,T}$, being lower at more distant or screened locations (e.g. Woodside and Newlands Avenue) and higher at properties fronting to London Road.

Construction noise predictions show:

- At NSR A (Newlands Avenue / Woodside), noise levels remain below the BS 5228-1 Category A threshold (≤ 60 dB $L_{Aeq,10hr}$), with negligible effects in all phases.
- At NSR B (Woodside) and NSR C (Marrels Wood Gardens), worst-case levels of 72–74 dB $L_{Aeq,10hr}$ are predicted during drainage/utilities installation and road construction, giving rise to moderate adverse effects of significance.
- At NSR D (London Road), effects are assessed as minor adverse at worst, reflecting higher baseline traffic noise in this location.

Overall, the assessment confirms that significant effects are limited to specific high-activity phases at the closest receptors (NSR B and NSR C), while effects at other locations remain negligible to minor.

Vibration levels at all receptors are predicted to remain below human perception thresholds and well below building damage criteria. Only brief perceptible vibration may occur during high-energy activities (e.g. vibratory compaction or hydraulic breaking), but these will be localised, temporary and subject to targeted validation checks to verify compliance with predicted levels.

Mitigation and monitoring will be secured through:

- **Best Practicable Means (BPM):** Use of modern low-noise, low-vibration plant, effective acoustic screening and the careful scheduling of activities to minimise impacts.
- **Monitoring and Management:** Continuous Class 1 noise monitoring and validation vibration checks, supported by a tiered Trigger Action Level (TAL) system to provide early warning and ensure prompt corrective action if thresholds are approached or exceeded.
- **Community Engagement:** Proactive communication, including advance notification of significant activities, a dedicated point of contact and a transparent complaints procedure to maintain trust and positive engagement with local residents and businesses.

Overall, this NVMP demonstrates that the Phase 4 Infrastructure construction programme can be delivered responsibly, balancing the operational needs of the development with the protection of local amenity. With the proposed measures in place, noise and vibration will be kept as low as reasonably practicable. Significant effects are confined to defined high-activity phases occurring in proximity to noise-sensitive receptors (e.g. drainage and utility installation or road construction). These phases will be subject to active management and mitigation in accordance with the procedures detailed in this Plan.

1. Introduction

- 1.1 This Noise and Vibration Management Plan (NVMP) has been prepared by Total Acoustics Ltd, on behalf of Grainger Plc, to support the construction of the Berewood Phase 4 Infrastructure works in Waterlooville, Hampshire.
- 1.2 The NVMP sets out a clear framework for managing, monitoring and mitigating noise and vibration throughout the construction programme. It has been prepared to support the planning process and to ensure compliance with relevant planning conditions, statutory requirements and industry best practice, including BS 5228-1:2009+A1:2014¹, BS 5228-2:2009+A1:2014².
- 1.3 The Berewood development, approved under outline planning consent APP/10/00828, forms part of the West of Waterlooville Major Development Area (MDA). The wider scheme provides for up to 2,550 dwellings, employment land, a local centre with retail and community facilities, two primary schools, green infrastructure, sustainable drainage systems (SuDS) and supporting utilities. Phase 4 infrastructure works deliver critical enabling infrastructure - including a new vehicular link, drainage and utility connections - to support the delivery of later residential and community phases.
- 1.4 The Phase 4 Infrastructure works provide enabling infrastructure required to support the wider Berewood development. They include sustainable drainage features, utility corridors, a substation and temporary construction facilities, together with a new vehicular link to Purbrook Heath Road. The layout and extent of these works are illustrated on the site location plan provided in **Figure 1**.
- 1.5 This NVMP has been prepared in direct response to the requirements of Condition 11 of the outline planning permission, which requires the submission and approval of a Construction Environmental Management Plan (CEMP) for each phase prior to commencement of works. Condition 11 specifically highlights the need for robust measures to manage and mitigate construction-related noise and vibration impacts. Key elements relevant to this NVMP include:
- Strategies for minimising adverse noise and vibration impacts from construction activities, including the adoption of Best Practicable Means (BPM).
 - Measures to manage construction traffic and associated noise, particularly during sensitive periods.
 - Defined arrangements for loading, unloading and plant operation to minimise impacts on sensitive receptors.

¹ British Standards Institution (BSI) (2014); BS5228-1:2009+A1:2014 'Code of practice for noise and vibration control on construction and open sites – Part 1: Noise', BSI.

² BSI (2009); BS5228-2:2009+A1:2014 'Code of practice for noise and vibration control on construction and open site – Part 2: Vibration', BSI.

- Procedures to protect existing residential and community amenity during the construction phase.

- 1.6 This NVMP provides the framework and procedures to implement these requirements, ensuring that all construction activities are carefully planned, monitored and controlled in line with industry standards and guidance.
- 1.7 This NVMP forms an integral part of the overarching CEMP for the Berewood Phase 4 Infrastructure. The procedures and controls described herein will be implemented in coordination with the wider environmental management framework set out in the CEMP, including clearly defined organisational roles and responsibilities identified in Section 7 (Table 7.1) of the CEMP.
- 1.8 This report necessarily refers to a number of technical acoustic terms. For ease of reference, a glossary is provided in **Appendix A.1**.

2. Site and Development Context

Site Description

- 2.1 The Phase 4 Infrastructure works are located at the southern edge of the Berewood development, extending southwards across currently undeveloped land towards Purbrook Heath Road.
- 2.2 A site location plan is provided in Figure 1, showing the alignment of the Phase 4 Infrastructure works in relation to the surrounding transport network and nearby noise-sensitive receptors (NSRs).
- 2.3 At present, the site is undeveloped grassland bounded by woodland, sloping from north to south. The immediate context is defined as follows:
- **North** - The settlement of Berewood.
 - **East** - Woodland and the settlement of Purbrook, including residential properties along London Road (the former A3).
 - **South** - Purbrook Heath Road.
 - **West** - Open countryside with scattered rural dwellings.

Noise Climate

- 2.4 The existing noise climate is shaped predominantly by traffic on the local road network, with London Road being the most significant source. Noise levels vary according to receptor proximity to local roads and the degree of intervening screening. Properties located closest to the carriageway are exposed to the highest and most continuous levels of traffic-related noise. At more distant or screened locations (e.g. Woodside and Newlands Avenue), noise levels are appreciably lower and characterised by a combination of natural sounds, distant traffic and intermittent local traffic and typical residential activity.

Noise Sensitive Receptors

- 2.5 The receptors most sensitive to noise and vibration are residential dwellings, as summarised in **Table 2.1** and shown on Figure 1. Where groups of dwellings are located close together, the property nearest to the scheme has been selected as representative of that cluster. In practice, if noise is controlled to acceptable levels at the closest receptor, it will also be adequately controlled at more distant properties.

Table 2.1: Noise Sensitive Receptors

NSR	Type of Receptor	Name / Address	Approx. Distance (m)	Sensitivity
NSR A ¹	Residential	10-14 Newlands Avenue (PO7 5FH) and 1-12 Sassoon Place (PO7 5FX)	145 - 175 m	High
NSR B ²	Residential	The Lodge at Woodside House, Purbrook Heath Road, PO7 5RT	≥45 m	High
NSR C	Residential	1-9 Marrelswood Gardens, Purbrook, PO7 5RS	40 - 85 m	High
NSR D	Residential	4-16 London Road (PO7 5LJ) and 114-136 London Road (PO7 EW)	≥40 m	High

Notes: ¹ NSR A is representative of dwellings at 1-18 Churchill Drive (PO7 5GG) and 1-27 Cowdray Close (PO7 5GF). ² NSR B is also representative of Rowans Living Well Centre (PO7 5RU).

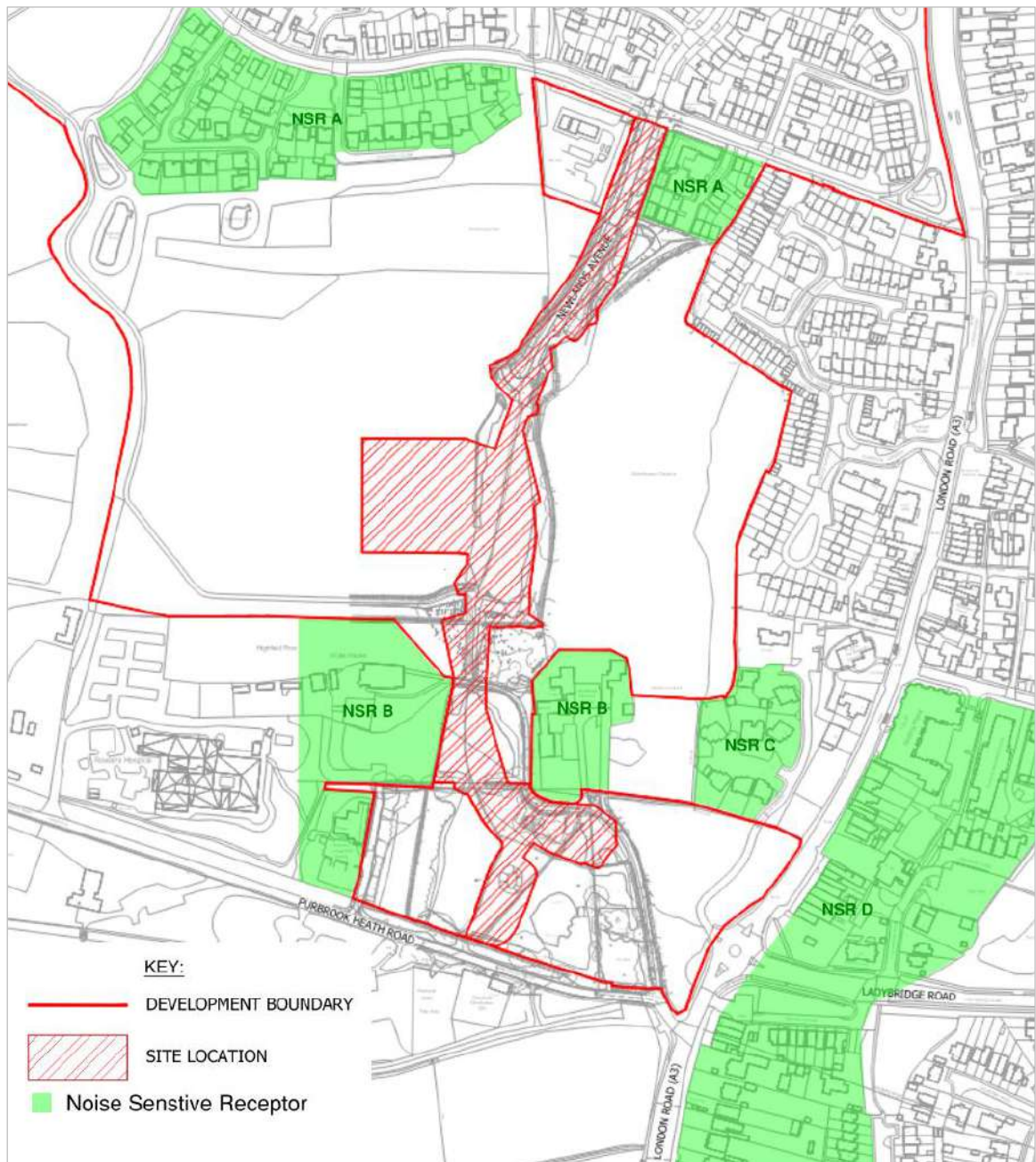
Proposed Development

2.6 The Phase 4 Infrastructure works provide essential enabling infrastructure required to unlock later phases of the Berewood development. The works comprise:

- Construction of a new vehicular link between Berewood and Purbrook Heath Road (the wider highway network).
- Installation of sustainable drainage infrastructure, including three detention basins (PH4I/01, PH4I/02 and PH4I/03) with inlet/outlet structures, control chambers and access connections for future phases.
- Construction of utility corridors for water, electricity, communications and foul and surface water drainage.
- Installation of a substation and associated infrastructure.
- Establishment of a temporary site compound, with storage areas and designated access route.

The extent of the works and their relationship to surrounding receptors are illustrated in Figure 1.

Figure 1: Location Plan of the Site and Receptor Positions



3. Project Overview

Scope of Works

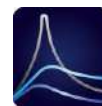
- 3.1 Construction of the Phase 4 Infrastructure will be undertaken in four principal phases, reflecting the planned sequence of works:
- **Phase 1: Site Establishment and Earthworks** — compound establishment, vegetation clearance, topsoil stripping, bulk earthworks and formation of detention basins.
 - **Phase 2: Drainage and Utilities Installation** — trenching and installation of drainage infrastructure, utility corridors and manhole structures.
 - **Phase 3: Road Construction and Junction Works** — road formation, sub-base placement, kerbing, asphalt surfacing and junction tie-in works.
 - **Phase 4: Completion, Landscaping and Substation Installation** — installation of the substation and control chambers, landscaping, fencing and final surfacing including footways and access roads.
- 3.2 These design parameters have been adopted for the noise and vibration assessment and management planning. They provide a conservative basis for modelling, drawing on typical or upper-range plant types and construction methods. This approach ensures the assessment remains robust and reliable, even if final construction specifications are refined during detailed design.

Programme and Phasing

- 3.3 The construction programme is anticipated to span approximately 14 months (2025–2026). The four phases set out in Section 3.1 form the basis for the noise and vibration assessment, ensuring that predicted levels reflect the nature of construction activities across the full duration of the works.

Typical Plant and Noise Source Data

- 3.4 Each construction stage will employ a variety of noise-generating plant and equipment. **Table 3.1** lists the expected plant for each phase, together with their typical sound pressure levels at 10 m and indicative durations of operation over a 10-hour working day. The predicted noise levels are based on reference data from BS 5228-1:2009+A1:2014, which provides conservative sound pressure levels at 10 m for a wide range of construction plant and activities. Mid-range values from the published data have been selected to represent realistic site conditions, while ensuring the assessment remains precautionary and robust.

**Table 3.1: Construction Plant, Source Noise Levels and Operating Durations**

Phase / Plant	Sound Pressure Level at 10 m, dB(A)	Data Source (BS 5228-1)	Number of Units	% On-time
Phase 1 – Site Establishment & Earthworks				
Tracked excavator (30 t)	75	Table C.2 Ref. 16	2	90
Dozer (20 t)	75	Table C.2 Ref. 1	1	50
Articulated dump truck (25 t)	81	Table C.5 Ref. 16	2	60
HGV (4-axle wagon)	80	Table C.2 Ref. 34	2	35
Wheeled loader (209 kW)	79	Table C.2 Ref. 26	1	35
Roller (18 t, rolling fill)	79	Table C.2 Ref. 37	1	50
Phase 2 – Drainage & Utilities Installation				
Excavator with hydraulic breaker	88	Table C.5 Ref. 1	1	90
Trenching machine / pipe layer	82	Table C.5 Ref. 35	2	80
Dumper truck (29 t tipping)	79	Table C.2 Ref. 30	2	80
Concrete mixer (truck mounted)	80	Table C.4 Ref. 20	2	40
Concrete pump	78	Table C.3 Ref. 25	1	40
Mobile crane (35 t)	70	Table C.4 Ref. 43	1	50
Phase 3 – Road Construction & Junction Works				
Grader	86	Table C.6 Ref. 31	1	90
Vibratory roller (12 t)	80	Table C.5 Ref. 21	1	70
Planer (milling machine)	82	Table C.5 Ref. 7	1	60
Asphalt paver (+ tipper lorry)	77	Table C.5 Ref. 31	1	50
Dump truck (29 t tipping)	79	Table C.2 Ref. 30	1	50
Hand-held circular saw (petrol)	79	Table C.4 Ref. 72	2	25
Phase 4 – Completion, Landscaping & Substation Installation				
Mobile crane (35 t)	70	Table C.4 Ref. 43	1	50
Telescopic handler (10 t)	71	Table C.2 Ref. 35	1	50
Portable compressor (air tools)	78	Table D.7 Ref. 10	2	50
Vibratory roller (4.5 t)	75	Table C.5 Ref. 25	1	70
Tracked excavator (22 t)	78	Table C.2 Ref. 3	1	80
Dumper (9 t)	76	Table C.4 Ref. 4	1	80
Hand-held compactor (wacker plate)	80	Table C.2 Ref. 41	1	50

4. Assessment Approach

Construction Noise

- 4.1 The potential for significant noise effects at existing NSRs has been assessed using the 'ABC Method' set out in BS 5228-1. This method defines threshold noise levels for daytime, evening and night-time periods based on existing measured ambient noise conditions at each NSR. Predicted 'site noise levels' from construction activities are compared with the relevant threshold; where the threshold is exceeded, a significant effect is deemed likely.
- 4.2 Calculations have been undertaken for a 10-hour working day, applying the representative plant spreads identified in Table 3.1 for each construction phase. For assessment purposes, it has been assumed that all items of plant could operate concurrently, representing a realistic worst-case scenario. In practice, activity phasing and intermittent duty cycles will reduce the likelihood of simultaneous operation. The dataset therefore provides a precautionary but credible basis for modelling potential noise effects at the nearest NSRs.
- 4.3 Predicted noise levels incorporate the implementation of best practicable means (BPM), including the use of modern, quieter plant, local acoustic screening and careful activity scheduling. This ensures that the results reflect a realistic mitigated scenario that will be applied during construction, while retaining a conservative basis for identifying potential significant effects.
- 4.4 Two calculation scenarios have been assessed:
- **Worst Case** — All plant operating simultaneously at the nearest point of the scheme alignment to the closest NSR. This represents a precautionary scenario that will only occur for a limited period in practice, but used to establish the upper bound of potential impacts.
 - **Average Case** — All plant operating at representative working areas distributed along the alignment, approximating the centre of activity within each construction phase. This provides a more typical condition, while still incorporating the conservative assumptions set out in Sections 3 and 4.
- 4.5 The magnitude of construction noise impact has been evaluated in line with the ABC thresholds described in BS 5228-1, based on the extent to which the predicted 'site noise level' exceeds the applicable threshold at each NSR. **Table 4.1** presents the magnitude of change thresholds and descriptors used to assess construction noise.

Table 4.1: Criteria Used for Classifying the Effects of Construction Noise

Effect	Level of Construction Noise Above Threshold Value, dB(A)	Definition
Negligible (not Significant)	≤ 2.9	The effect is not of concern.
Minor Adverse (not Significant)	3.0 to 4.9	The effect is not desirable but of limited concern.
Moderate Adverse (Significant)	5.0 to 9.9	The effect gives rise to some concern but is likely to be tolerable depending on scale and duration.
Major Adverse (Significant)	≥ 10.0	The effect gives rise to serious concern and it should be considered unacceptable (significant)

Construction Vibration

- 4.6 Two aspects of construction vibration require consideration:
- The potential for vibration to disturb people, affecting human comfort and annoyance levels.
 - The potential for vibration to cause cosmetic or structural damage to buildings.
- 4.7 There are currently no British Standards that provide a comprehensive methodology for predicting vibration levels from all types of construction activities. The primary reference, BS 5228-2:2009+A1:2014, provides prediction methods only for percussive or vibratory activities, such as rolling and piling.
- 4.8 As set out in BS 5228-2, and consistent with industry experience, the threshold of perception for humans in residential environments typically lies in the range of 0.14 mm/s to 0.3 mm/s PPV (peak particle velocity) at frequencies between 8 Hz and 80 Hz. Complaints are more likely when vibration approaches 1 mm/s, although tolerance generally improves where residents are given prior notice and clear explanation of the works.
- 4.9 With the exception of piling activities, it is not possible to undertake a fully quantitative assessment of construction vibration. Instead, the likely significance of vibration impacts has been determined using professional judgement informed by historical field measurements by Total Acoustics Ltd and the guidance in BS 5228-2.
- 4.10 The indicative distances at which common activities may give rise to “just perceptible” vibration are summarised in **Table 4.2**.

Table 4.2: Distances Where Construction Vibration May Be Just Perceptible

Construction Activity	Distance Where Vibration May Be Just Perceptible (metres)
Heavy vehicles (e.g. loaded trucks)	5 – 10 m
Excavation / site clearing (bulldozer, loader)	10 – 15 m
Hydraulic breaker (pecker)	15 – 20 m
Earth moving / general compaction (roller)	20 – 30 m
Rotary bored piling	20 – 30 m
Vibratory compaction (site-specific)	~25 m
<p>Notes / Interpretation:</p> <p>Most construction activities generate perceptible vibration only within close proximity to the source (typically 5–30 m). Beyond these distances, vibration levels attenuate rapidly and fall below the human perception threshold (~0.13 mm/s PPV).</p> <p>Distances are indicative averages and may vary depending on: (i) Source energy per blow or cycle and plant size, (ii) Duration and frequency of the activity, (iii) Ground conditions and underlying geology, (iv) Proximity, foundation type and construction of the receptor building</p> <p>Even where vibration is perceptible, levels remain well below thresholds associated with cosmetic damage (typically >12.5 mm/s PPV, per BS 7385-2).</p>	

- 4.11 A common misconception is that if vibration can be felt, it will inevitably damage property. In practice, vibration levels typically need to be at least an order of magnitude higher than those perceptible to humans before posing any risk of cosmetic damage to buildings.
- 4.12 A limit of 12.5 mm/s PPV is widely adopted, consistent with BS 5228-2 guidance, as a reasonable threshold for the onset of cosmetic (non-structural) damage to buildings. While these structural limits are noted, this assessment focuses primarily on the potential for human disturbance, as this is typically the more critical issue for construction management and planning compliance.
- 4.13 Based on the guidance provided in BS 5228-2 and BS 7385-2³, **Table 4.3** sets out the threshold criteria and descriptors used to assess the potential effects of construction-related vibration on human receptors.
- 4.14 Construction vibration levels that meet or exceed the moderate adverse effect threshold are typically regarded as giving rise to significant negative impacts, although the degree of significance will also depend on factors such as the timing, duration and frequency of the vibration, as well as the number and sensitivity of receptors affected.

³ BSI (1993); BS 7385-2:1993 'Evaluation and measurement for vibration in buildings. Part 2: Guide to damage levels from groundborne vibration', London: BSI; 1993.

Table 4.3: Criteria for Assessing the Effects of Construction Vibration

Effect	Level of Vibration, mm/s ¹	Definition
None	≤ 0.13	No effect.
Negligible (not Significant)	0.14 to 0.9	The effect is not of concern.
Minor Adverse (not Significant)	1.0 to 2.9	The effect is undesirable but of limited concern.
Moderate Adverse (Significant)	3.0 to 4.9	The effect gives rise to some concern but is likely to be tolerable depending on the scale, duration and frequency of occurrence.
Major Adverse (Significant)	≥ 5.0	The effect gives rise to significant concern and should be considered unacceptable where repeated exposure is experienced.

Notes: ¹ The ranges reflect the wide variation in human tolerance to vibration within residential environments. ² PPV values apply in any orthogonal direction.

5. Baseline Noise Survey

- 5.1 A baseline environmental noise survey was undertaken between 7 and 12 August 2025 to establish and quantify the existing daytime noise climate at the nearest NSRs most likely to be affected by construction activity.
- 5.2 A comprehensive baseline environmental noise survey was undertaken between 31 July and 4 August 2025 to establish existing acoustic conditions at the receptors most likely to be affected by the scheme. The results provide a robust reference against which noise impacts changes can be assessed.

Monitoring Locations

- 5.3 Long-term unattended monitoring was conducted at three key locations, representative of nearby receptors, as described in **Table 5.1** and illustrated in **Figure 2**. Supplementary short-term noise measurements were also undertaken to determine the spatial variation in noise levels across the study area.

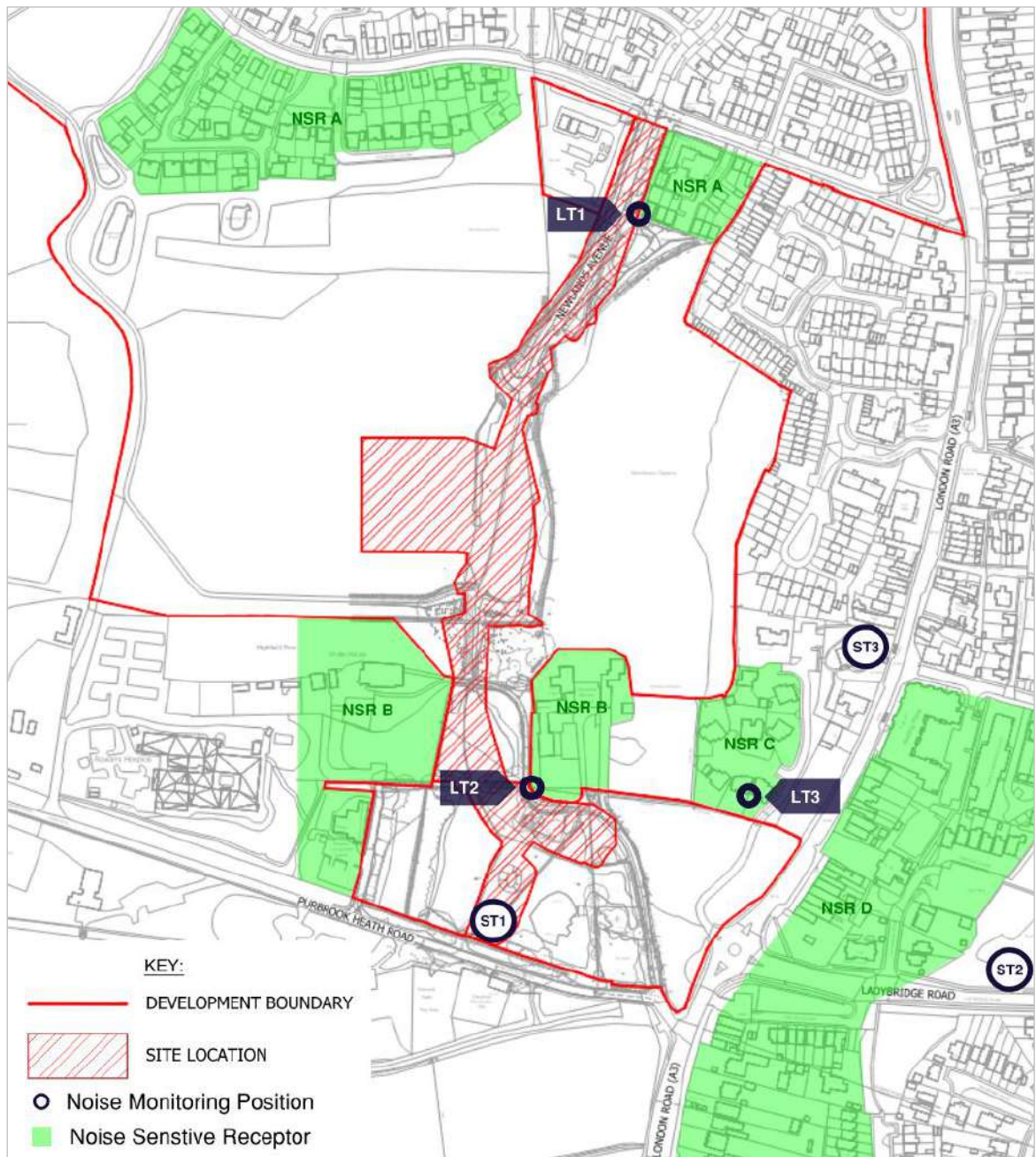
Table 5.1: Noise Monitoring Locations

Monitoring Location	Description	Observations
LT1 Newlands Avenue	Free-field measurement at 14 Newlands Avenue. Microphone height 2.0 m AGL.	Noise climate characterised by natural sounds (birdsong), occasional local traffic and distant road traffic.
LT2 The Lodge, Woodside	Free-field measurement at the south-western boundary of Woodside. Microphone height 2.45 m AGL.	
LT3 Marrells Wood Gardens	Free-field measurement at the shared boundary between 2 and 3 Marrells Wood Gardens. Microphone height 2.2 m AGL.	Noise climate dominated by road traffic from London Road and natural sounds.

Survey Methodology

- 5.4 All measurements were taken using calibrated, Class 1 precision sound level meters with one-third-octave band frequency analysis to accurately characterise the prevailing noise environment. Weather conditions were monitored remotely and remained favourable throughout, being fine and dry, with light winds (<5 m/s) from the west-south-west to east-south-east prevailing.
- 5.5 Each meter was calibrated before and after deployment with a UKAS-traceable calibrator, confirming stability within ± 0.2 dB. Full instrumentation details and calibration certificates are available on request.

Figure 2: Noise Monitoring Locations



Noise Results

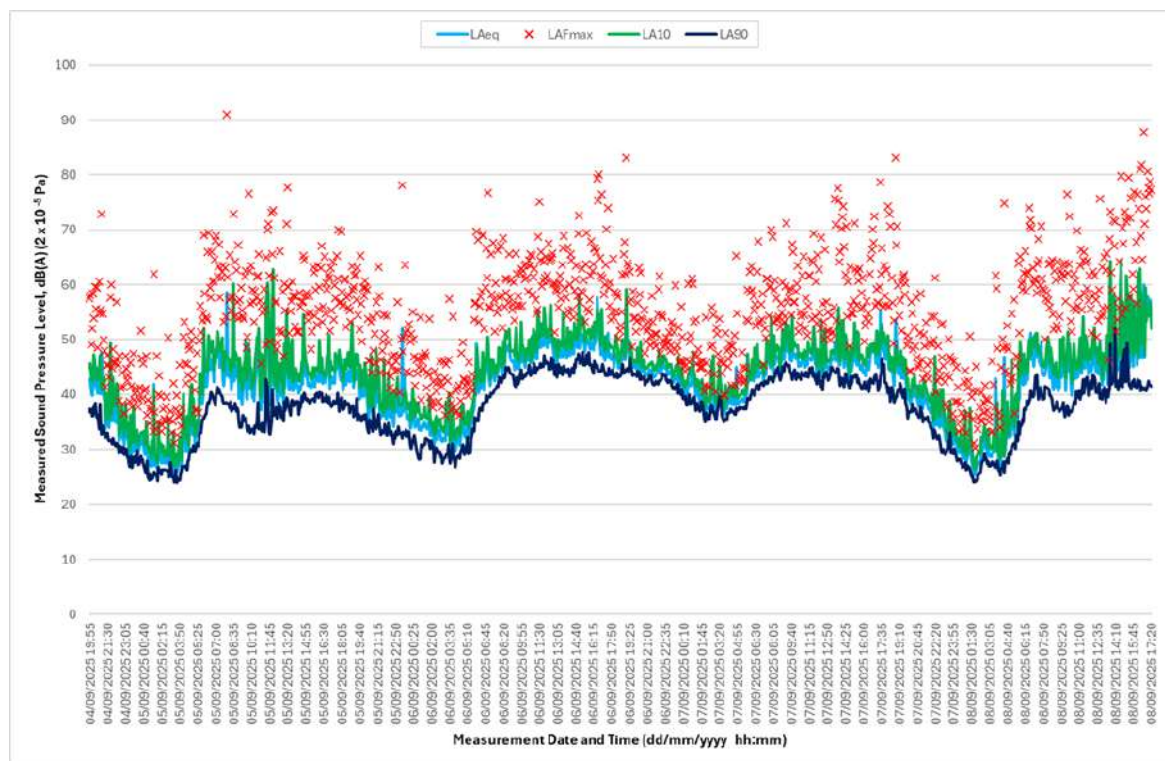
- 5.6 A summary of the measured daytime (08:00 to 18:00), noise levels is provided in **Table 5.2**, with full results are displayed graphically in time-history format in **Figures 3** to **Figure 5**.

Table 5.2: Summary of Daytime Noise Monitoring Results (08:00-18:00)

Location	L _{Aeq,T} (ambient)	L _{A90,ave} (background)	L _{AFmax,90%} (typical peaks)
LT1 - Newlands Avenue	47 – 50 (49)	37 – 45 (41)	67 – 72 (70)
LT2 - Woodside	47 – 55 (51)	42 – 50 (45)	68 – 71 (70)
LT3 - Marrels Wood Gardens	52 – 57 (55)	48 – 53 (50)	69 – 77 (71)
ST1 - Purbrook Heath Road	58	44	73
ST2 - Ladybridge Road	64	53	77
ST3 – London Road	70	57	87

Notes: ¹ Evening and night-time noise levels were also recorded during the survey but are not reported in this NVMP, as construction works will be restricted to 08:00–18:00 in accordance with agreed working hours. The additional data is retained on file and available upon request.

5.7 The noise survey confirms that existing conditions vary across the study area in relation to distance from London Road. At LT1 (Newlands Avenue) and LT2 (Woodside), measured levels were relatively low, reflecting a quieter environment influenced primarily by natural sounds with only occasional vehicle activity. At LT3 (Marrels Wood Gardens), moderate levels were recorded, consistent with its closer proximity to London Road where road traffic dominates the acoustic environment. These baseline levels provide a clear and representative foundation for the assessment and have been used to establish the ABC Method threshold values defined in BS 5228-1, which underpin the evaluation of construction noise impacts in this NVMP.

Figure 3: Noise Level Time History at LT1 (Newlands Avenue)


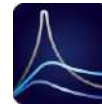


Figure 4: Noise Level Time History at LT2 (Woodside)

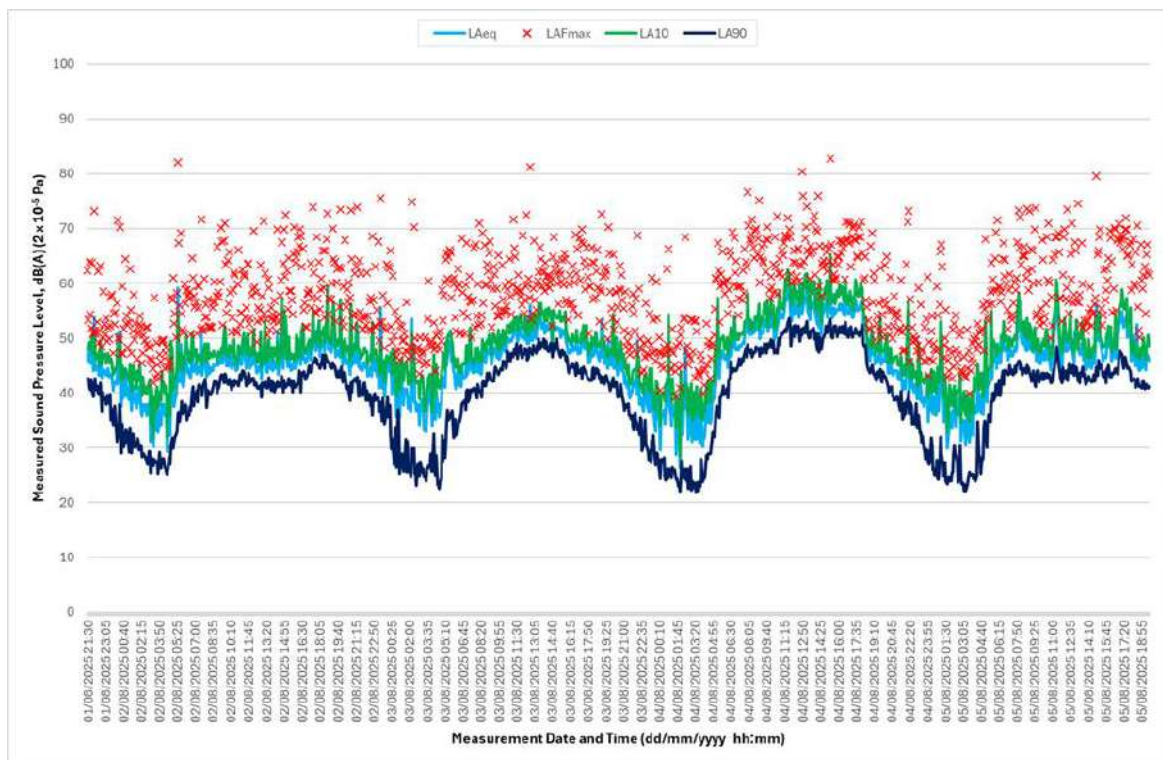
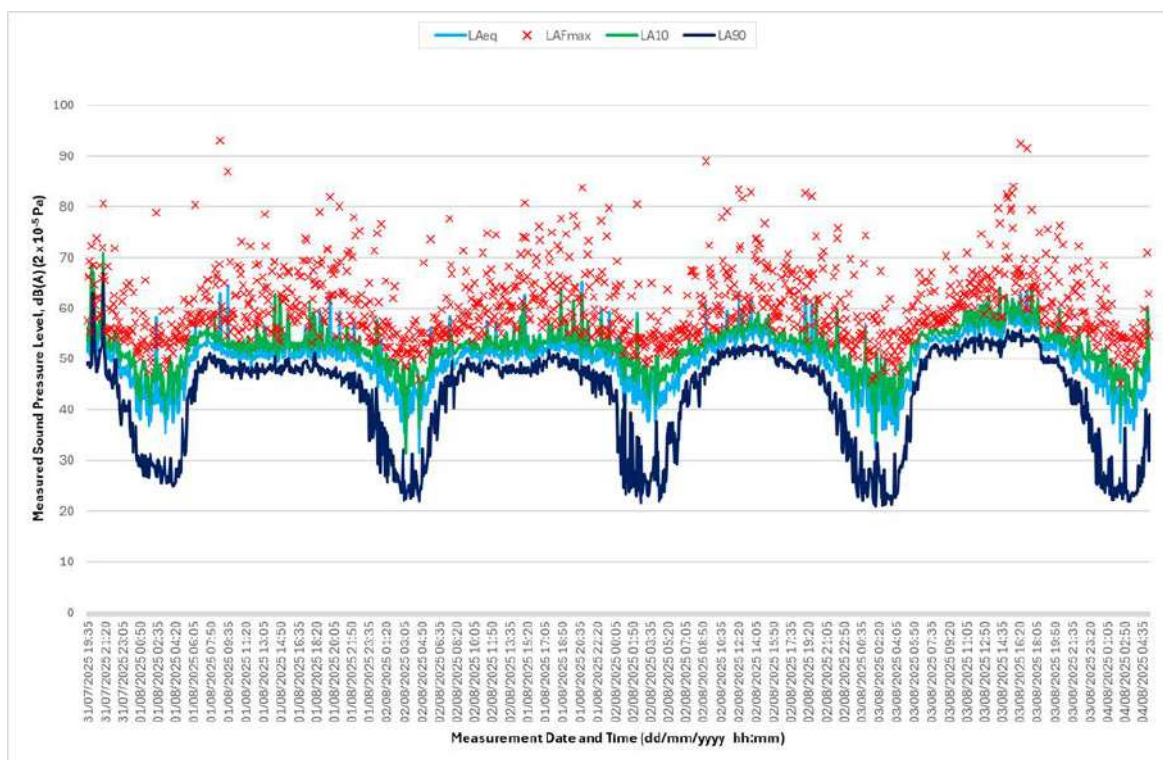


Figure 5: Noise Level Time History at LT3 (Marrels Wood Gardens)



6. Mitigation

Purpose

- 6.1 This section sets out the measures that Grainger Plc and its appointed contractors will implement to manage, control and minimise noise and vibration during the construction of the Phase 4 Infrastructure works.

Commitment to Best Practicable Means (BPM)

- 6.2 The Project is committed to applying Best Practicable Means (BPM), as defined under Section 72 of the Control of Pollution Act 1974, to minimise disturbance to neighbouring receptors:

- **Practicable** means measures that are reasonably capable of being implemented, taking into account local conditions, technical feasibility and financial implications.
- **Means to be employed** relate to the choice of construction methodology, equipment selection, plant operation and maintenance and the scheduling of site activities.

- 6.3 Demonstrating the use of BPM provides a statutory defence under the Control of Pollution Act 1974 in the event of any noise or vibration complaints or enforcement action. Accordingly, the mitigation measures in this NVMP will be implemented, documented and regularly reviewed throughout the construction programme.

- 6.4 The following hierarchy will guide BPM implementation:

1) Control at Source (Engineering Controls)

- Selecting quieter, low-vibration plant and equipment.
- Maintaining all equipment in line with manufacturer specifications.
- Using integral acoustic enclosures, silencers, or damping treatments where available.
- Operating equipment in low-noise or reduced-power modes wherever practicable.

2) Screening and Barriers (Path Controls)

- Installing solid site hoarding or portable acoustic screens between plant and sensitive receptors.
- Using welfare cabins, containers, or material stacks to provide additional shielding.
- Maximising distance between active plant and receptors by optimising site layout.

3) **Operational and Temporal Controls**

- Restricting noisy works to agreed core hours.
- Sequencing high-noise activities to avoid simultaneous operation of multiple plant items.
- Providing respite periods during prolonged high-noise activities where reasonably practicable.

Mitigation Measures

6.5 The following measures will be applied throughout the works and adapted as required through regular site reviews:

Core Working Hours

- Noisy works will be restricted to 08:00 – 18:00 hours Monday to Friday and 08:00 to 13:00 hours on Saturday, with no working on Sundays or Bank Holidays.

Equipment and Operations

- Use of modern, well-maintained plant fitted with effective silencers and acoustic enclosures.
- Selection of low-noise and low-vibration construction techniques where feasible.
- Minimising the use and duration of high-noise plant; operating in quieter modes where possible.
- Shutting down or throttling down intermittent-use plant when not in operation.
- Locating mobile and semi-static plant as far from sensitive receptors as practicable, or adjacent to hoardings for screening.

Site Layout and Material Handling

- Handling materials carefully to minimise impact noise.
- Reducing off-site spoil movements where possible.
- Designing the site layout to minimise reversing; where unavoidable, using directional, broadband, or self-adjusting alarms, or visual warning systems instead of tonal alarms.

Management and Training

- All site personnel briefed on BPM requirements as part of their induction.
- Regular toolbox talks and site noise/vibration management reviews.

Monitoring and Controls

- Implementing a noise and vibration monitoring regime with defined action thresholds (see Section 8 and 9).

- Reviewing exceedances promptly and adjusting methods or equipment to bring levels under control.
- Compliance and reporting under this NVMP will be integrated with the CEMP's wider monitoring and review processes to maintain alignment, accountability and consistency across environmental disciplines.

Traffic and Deliveries

- All construction traffic will be managed in accordance with the approved Construction Traffic Management Plan (CTMP), as set out in Appendix D of the CEMP. Measures include defined routing, clear signage and driver briefings to ensure full compliance.
- Deliveries will be scheduled during daytime hours through a pre-booking, system avoiding peak congestion period and school drop-off / pick-up periods wherever possible.
- Engine idling will be prohibited on or near the site and wheel washing facilities will be used before vehicles exit the site to minimise mud and dust on public roads, with a road sweeper deployed if conditions or complaints warrant additional cleaning.
- A banksman will supervise large vehicle manoeuvres within the compound to maintain safe operations and reduce disruption.
- Clear communication with stakeholders and signage will support route compliance and minimise local impacts.
- Ongoing stakeholder communication and clear on-site signage will support compliance with routing requirements and minimise impacts on the local community.

Stakeholder Liaison

- Proactive communication with adjacent residents and businesses ahead of high-noise activities.
- Providing advance notice of the nature, timing and duration of works.
- Maintaining a dedicated Community Relations contact to respond promptly to complaints or enquiries.

Continuous Review

- 6.6 Noise and vibration control measures will be monitored daily and reviewed regularly by the site management team. Findings will be used to confirm compliance, update mitigation strategies where necessary and identify opportunities for further improvement.

7. Construction Noise and Vibration Predictions

Construction Noise

- 7.1 Predicted façade noise levels (dB $L_{Aeq,10hr}$) have been calculated for each principal stage of construction at the nearest NSRs, incorporating the planned BPM mitigation measures. The results, summarised in **Table 7.1**, provide a realistic but conservative estimate of the highest potential exposure, while reflecting the BPM controls that will be in place on site.
- 7.2 Predicted façade levels have been assessed using the ABC Method set out in BS 5228-1, which defines significance thresholds according to existing ambient noise levels at receptors. For this site, measured daytime levels place NSRs A–C in Category A, where a threshold of 65 dB $L_{Aeq,10hr}$ applies⁴, and NSR D in Category B, where a threshold of 70 dB $L_{Aeq,10hr}$ applies⁵. Applying these benchmarks ensures the assessment reflects both site-specific ambient conditions (~50–65 dB $L_{Aeq,T}$) and recognised best practice for construction noise evaluation.
- 7.3 Effects have been classified in line with the magnitude of change criteria in Table 4.1 and cross-checked against the Noise Trigger Action Levels in Table 8.1. This approach ensures that any exceedances will be managed proactively during the works through real-time monitoring and responsive noise control measures.

⁴ Typically applicable in quieter residential areas. Noise above this level may give rise to disturbance during construction.

⁵ Typically applicable where existing ambient noise levels are moderate to high.

Table 7.1: Summary of Predicted Construction Noise Levels and Effects

Receptor	Assessment Parameter	Site Establishment & Earthworks	Drainage & Utilities Installation	Road Construction	Completion Works
NSR A	Worst Case Predicted Noise Level	57	60	60	55
	Effect Classification	Negligible	Negligible	Negligible	Negligible
	Average Predicted Noise Level	53	56	56	51
	Effect Classification	Negligible	Negligible	Negligible	Negligible
NSR B	Worst Case Predicted Noise Level	69	72	72	67
	Effect Classification	Minor	Moderate	Moderate	Negligible
	Average Predicted Noise Level	66	69	69	64
	Effect Classification	Negligible	Minor	Minor	Negligible
NSR C	Worst Case Predicted Noise Level	71	74	74	69
	Effect Classification	Moderate	Moderate	Moderate	Minor
	Average Predicted Noise Level	63	66	66	60
	Effect Classification	Negligible	Negligible	Negligible	Negligible
NSR D	Worst Case Predicted Noise Level	71	74	74	69
	Effect Classification	Negligible	Minor	Minor	Negligible
	Average Predicted Noise Level	67	69	69	64
	Effect Classification	Negligible	Negligible	Negligible	Negligible

7.4 Noise levels during construction have been assessed at the four nearest residential receptors (NSRs A–D), taking account of BPM controls. The results are summarised in Table 7.1 and discussed below for each receptor:

- **NSR A (Newlands Avenue):** Predicted worst-case noise levels remain below the BS 5228-1 Category A threshold of 65 dB $L_{Aeq,10hr}$ for all phases (≤ 60 dB). Effects are classified as negligible throughout, reflecting the distance from the site.
- **NSR B (The Lodge, Woodside):** Predicted worst-case levels reach 72 dB $L_{Aeq,10hr}$ during drainage/utilities installation and road construction, resulting in moderate adverse effects of significance. Average-case levels are lower (69 dB $L_{Aeq,10hr}$), corresponding to minor effects. These outcomes reflect the close proximity of NSR B to key construction activities.
- **NSR C (Marrels Wood Gardens):** Predicted worst-case levels reach 74 dB $L_{Aeq,10hr}$ during construction of the Marrels Wood Garden road link during the early phases, giving rise to moderate adverse effects. Levels reduce to 69 dB during completion works, producing a minor effect. Noise levels fall within 60–66 dB, classed as negligible, for construction of the more distant wider scheme.
- **NSR D (London Road):** Predicted worst-case levels also reach 74 dB $L_{Aeq,10hr}$ during drainage/utilities installation and road construction. These are assessed as minor adverse effects given the higher existing ambient levels along London Road. Average-case levels (64–69 dB $L_{Aeq,10hr}$) are all negligible.

7.5 Significant effects (classified as moderate adverse) are limited to NSRs B and C during drainage and road construction phases, reflecting their closer proximity to the works. At other times, and at more distant receptors, effects are expected to be negligible to minor and therefore not significant. Implementation of the BPM measures set out in Section 6, together with continuous monitoring and management controls, will ensure that noise levels are kept as low as reasonably practicable and that any exceedances are addressed promptly.

7.6 These predictions will be verified in real-time using the permanent noise monitoring system (see Section 9). If noise levels approach or exceed the action levels, the site team will review operations and adjust BPM controls to ensure noise emissions remain as low as reasonably practicable.

Construction Vibration

7.7 The nearest residential receptors are located well beyond 60 m from the main areas of construction activity, with the majority of the unit footprints, service yards and the internal access road positioned at distances greater than 90 m. At these ranges, vibration levels from typical activities such as earthworks, excavation and HGV movements are predicted to be well below the “just perceptible” threshold (~ 0.13 mm/s PPV). As a result, vibration will not generally be noticeable to nearby residents.



- 7.8 Occasional movements of heavy vehicles may temporarily bring equipment to within 20–30 m of receptors. At these distances, vibration may be briefly perceptible indoors, typically as a faint, low-frequency sensation. However, such events will be limited and levels will remain well below those associated with cosmetic building damage (>12.5 mm/s PPV) and below the 1.0 mm/s PPV first action threshold. In line with the site’s community liaison commitments, nearby residents will be kept informed of any planned activities that could temporarily increase vibration levels.
- 7.9 High-energy activities, such as hydraulic breaking, vibratory compaction, or planning/milling (if required), are also predicted to remain non-significant at these distances. This is consistent with historical field data, which indicates that such works are typically only just perceptible within approximately 20–30 m of the source, with vibration attenuating to imperceptible levels beyond these distances.
- 7.10 Based on the magnitude-of-change criteria in Table 4.3, construction vibration impacts at the nearest receptors are expected to remain at “None” or “Negligible” levels throughout the programme, with no risk of cosmetic building damage and a very low probability of human disturbance.
- 7.11 Early-phase validation monitoring will be undertaken during groundworks to confirm actual PPV levels and to ensure that operational practices remain compliant with the trigger action levels set out in Table 8.2. This proactive monitoring approach will also enable real-time operational adjustments if levels approach the first action threshold (1.0 mm/s PPV), ensuring vibration remains as low as reasonably practicable.

8. Noise and Vibration Action Thresholds

- 8.1 To minimise disturbance to occupants at the nearest NSRs, the site will operate a tiered trigger action system for both noise and vibration. These thresholds ensure that BPM is applied consistently and that exceedances are managed promptly, transparently and in an auditable way.
- 8.2 All exceedances and actions taken will be logged in the site register and summarised in the monthly monitoring report for internal review and, if requested, submitted to the Local Planning Authority (LPA).

Table 8.1: Noise Trigger Action Levels

Action Level	Threshold Level	Actioned Required
First Action	Relative: $L_{Aeq,10hr} >$ Predicted Average for that receptor/phase OR $L_{Aeq,1hr}$ (Predicted Average + 3 dB), subject to a persistence filter ≥ 15 minutes (three 5-min blocks).	Early warning trigger. The Site Manager will review live monitoring data, plant locations and current BPM controls to confirm that mitigation measures are working effectively. Adjustments will be made as needed to prevent escalation.
Second Action	Relative: $L_{Aeq,10hr} >$ Predicted Worst Case for that receptor/phase OR $L_{Aeq,1hr}$ (Predicted Worst Case + 3 dB), subject to a persistence filter ≥ 15 minutes (three 5-min blocks).	Intervention trigger. The Site Manager will investigate the cause of the exceedance and implement additional controls, such as improving acoustic screening, reposition plant, sequencing or rescheduling high-noise activities, or using quieter equipment or methods. Actions and findings will be logged in the site register and briefed to the team.
Third Action	Absolute: $L_{Aeq,10hr} \geq 75$ dB OR any $L_{Aeq,1hr} \geq 75$ dB OR repeated $L_{AFmax} \geq 85$ dB (≥ 5 occurrences in any 15-minute period).	Critical response trigger. The noisy activity will be paused unless: <ul style="list-style-type: none"> - A dispensation has been granted. - The exceedance is caused by third-party activity. - The work is engineering or safety critical. Work will only recommence after an incident report has been submitted detailing corrective measures, or where it is demonstrated that no reasonably practicable alternatives exist.
Notes: Thresholds are based on façade levels at the nearest NSRs. Triggers apply to daytime core hours (08:00–18:00) only. To avoid unnecessary responses to brief, one-off events (for example, a single lorry unloading), while ensuring that sustained noisy activities are properly captured, a ‘persistence filter’ will be applied. A trigger will only be confirmed where levels remain above the relevant threshold for at least 15 consecutive minutes (three 5-minute monitoring blocks). All exceedances and actions will be logged and summarised in monthly monitoring reports.		

**Table 8.2: Vibration Trigger Action Levels**

Action Level	Threshold Level (PPV in mm/s)	Actioned Required
First Action	1.0 mm/s	Early warning trigger. The Site Manager will review current work methods, plant operation and locations and BPM controls to ensure they are operating effectively. Findings and any adjustments to prevent escalation will be logged.
Second Action	3.0 mm/s	Intervention trigger. Triggered by three or more peaks ≥ 3 mm/s within any 1-hour period. The Site Manager will investigate the cause, verify BPM compliance and implement additional mitigation measures where practicable (e.g., reduced energy input, adjusted working methods, or alternative equipment). Findings and actions will be logged and briefed to the team.
Third Action	5.0 mm/s	Critical response trigger. Triggered by three or more peaks ≥ 5 mm/s within any 1-hour period. Vibration-intensive activities will be paused unless dispensation is granted, the exceedance is caused by third-party activity, or the work is safety/engineering-critical. Work may only resume following a full incident review and confirmation that no reasonably practicable alternative methods are available, or that corrective measures have been implemented.
Notes: PPV values are single-event peaks measured at the nearest NSR in any orthogonal direction. Triggers apply to daytime core hours (07:00–19:00) unless otherwise agreed.		

9. Monitoring Protocol

Noise Monitoring

- 9.1 To support the management of site activities and to fulfil Planning Condition 11, a permanent Class 1 Svantek SV 307A noise monitoring station will be installed at the site boundary with The Lodge, Woodside House. The system will operate continuously and stream data to the SvanNET online platform, providing high-resolution, real-time surveillance of noise emissions associated with plant and operational activities.
- 9.2 This system enables the site team to respond promptly to potential exceedances, investigate complaints efficiently and review historical data, including audio recordings, to assess activities from earlier in the day or previous days. The system will form a key part of the site's proactive approach to noise management and compliance.
- 9.3 Summary reports will be prepared and issued to the project team on a fortnightly basis and shared with the Loval Planning Authority if requested, ensuring transparent and auditable compliance with agreed noise limits.

Vibration Monitoring

- 9.4 At the commencement of the main groundwork activities, a validation monitoring exercise will be undertaken by a competent person registered with the Institute of Acoustics (IOA). Measurements will be carried out at the closest NSRs and at intermediate locations to verify predicted vibration levels from key plant items and activities.
- 9.5 The results will confirm whether vibration levels remain within acceptable ranges and are unlikely to cause disturbance. Where elevated levels are identified, findings will be used to adjust working methods or equipment to maintain effective control. A summary of vibration monitoring results, including any required actions, will be documented and made available for internal review and, if requested, for submission to the LPA.

10. Community Liaison and Complaint Management

Community Liaison

- 10.1 A proactive but proportionate community liaison process will be maintained throughout the construction programme to keep neighbours and stakeholders informed. A Community Relations Manager will act as the primary point of contact, with contact details displayed at the site entrance and shared in correspondence with stakeholders.
- 10.2 Residents and businesses will be notified in advance of significant activities, such as high-noise operations, traffic management changes, or adjustments to working hours. Notifications will be issued through letters, email updates, or on-site signage as appropriate.
- 10.3 Regular informal updates (e.g., brief email bulletins or posted notices) will be provided during key phases of the works to keep neighbours informed of progress without imposing unnecessary administration.

Complaint Management

- 10.4 A dedicated Community Relations Manager will act as the single point of contact for noise and vibration complaints. Contact details will be displayed at site entrances and included in all stakeholder communications.
- 10.5 All complaints will be logged in a complaints register, recording the date, time, complainant information, nature of the issue and any monitoring data or site activities relevant to the period of concern.
- 10.6 Complaints will be acknowledged within 24 hours and investigated promptly using monitoring data and site information. Where necessary, corrective actions will be implemented to prevent recurrence and the outcome communicated back to the complainant.
- 10.7 A summary of complaints and actions taken will be included in the project's monthly monitoring report and provided to the LPA upon request to demonstrate proactive management and compliance.

11. Conclusion

- 11.1 The assessment confirms that the Phase 4 Infrastructure works can be delivered without causing unacceptable noise or vibration effects at nearby residential receptors, provided that the controls in this NVMP are fully implemented.
- 11.2 Key findings are as follows:
- **Construction Noise** – Predicted noise levels remain negligible at NSR A (Newlands Avenue / Woodside) throughout all phases, with levels below the BS 5228-1 Category A threshold (≤ 60 dB $L_{Aeq,10hr}$). At NSR B (The Lodge, Woodside House) and NSR C (Marrels Wood Gardens), worst-case levels of 72–74 dB $L_{Aeq,10hr}$ are forecast during drainage and road construction phases, resulting in short-term moderate adverse effects of significance. These reflect the close proximity of these receptors to the works. Effects at NSR D (London Road) are classed as minor adverse, with average-case levels negligible at all locations.
 - **Construction Vibration** – Predicted vibration levels at receptor distances (≥ 40 m) remain below perceptibility thresholds (~ 0.13 mm/s PPV) and well within limits for cosmetic building damage (> 12.5 mm/s PPV). Brief perceptible vibration may occur during heavy vehicle movements or high-energy activities (e.g. vibratory compaction, hydraulic breaking) within 20–30 m, but effects will remain negligible in significance.
 - **Mitigation and Monitoring** – The implementation of BPM, combined with continuous noise monitoring, periodic vibration checks and the tiered Trigger Action Level (TAL) system, will ensure exceedances are identified early and managed promptly. This framework provides assurance that noise and vibration will be kept as low as reasonably practicable and that corrective actions will be taken if thresholds are approached or exceeded.
 - **Community Liaison** – Proactive communication and a transparent complaints procedure will help maintain positive engagement with local residents, ensuring concerns are addressed swiftly and openly.
- 11.3 On this basis, the NVMP provides a sound, evidence-based framework that enables the construction of the Phase 4 Infrastructure works to progress in a manner that balances operational efficiency, regulatory compliance and the protection of local amenity.

A.1 Glossary of Acoustic Terminology

The following table contains a list and explanation of the acoustic terms relevant to this report.

Term	Description
Acoustic Character Correction	An adjustment (typically +2 to +9 dB) applied to the specific sound level under BS 4142:2014+A1:2019 to account for perceptible features such as tonality, impulsivity, intermittency, or other acoustic characteristics that make a sound more noticeable or potentially more disturbing.
Ambient Sound Level ($L_{Aeq,T}$)	The totally encompassing sound in a given situation at a given time, usually composed of sound from all sources near and far, including the specific source being assessed.
Assessment Period	The time period over which the noise assessment is undertaken, for example, a 1-hour daytime period or a 15-minute night-time period in accordance with BS 4142.
A-weighting (dB(A))	A frequency weighting applied to sound measurements to approximate the human ear's sensitivity across different frequencies, particularly the reduced sensitivity to very low and very high frequencies. It provides a single-number value that correlates more closely with perceived loudness. Most environmental and building acoustics noise levels are expressed in dB(A).
Background Sound Level (Representative $L_{A90,T}$)	The A-weighted sound pressure level exceeded for 90% of the measurement period, representing the typical underlying or minimum ambient sound level when transient or atypical events are excluded. The <i>representative</i> $L_{A90,T}$ used in assessments is determined through statistical analysis of the full dataset to ensure it reflects typical, stable conditions at the site.
Best Practicable Means (BPM)	Defined under Section 72 of the Control of Pollution Act 1974 as the reasonably practicable measures available to minimise noise and vibration, taking account of local conditions, current technical knowledge and cost implications.
BS 5228-1:2009+A1:2014	British Standard providing methods for predicting and assessing noise from construction and open sites, including recommended threshold levels for significance.
BS 5228-2:2009+A1:2014	British Standard providing methods for predicting and assessing vibration from construction and open sites, including human response criteria.
BS 7385-2:1993	British Standard providing guidance on vibration levels at which cosmetic building damage might occur.
Cumulative Noise Level	The combined noise level from multiple sources, calculated as the logarithmic sum of their individual sound pressure or sound power levels.
Decibel (dB)	A logarithmic unit used to quantify sound pressure levels and other acoustic quantities. Because it is logarithmic, each 10 dB change represents a tenfold change in sound energy and is typically perceived as roughly a doubling (for an increase) or halving (for a decrease) of loudness.
Façade Noise Level	The sound level measured or predicted 1 m from the façade of a building. A +3 dB reflection correction is applied relative to the free-field level to account for the façade's reflective effect.
Free-field Level	A sound level measured or predicted away from any reflecting surfaces (other than the ground), usually at least 3.5 m from any structure.

Term	Description
Frequency (Hz)	The number of cycles per second of a sound wave, which determines its pitch. Sound spectra are often analysed in octave or one-third octave frequency bands.
dB(A): A-weighted decibels	The ear is not as effective in hearing low frequency sounds as it is hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the 'A' filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter. The sound pressure level in dB(A) gives a close indication of the subjective loudness of the noise.
Façade Noise Level	A noise level measured or predicted at the façade of a building, typically at a distance of 1m, containing a contribution made up of reflections from the façade itself (+3 dB).
Frequency, Hz	In sound, the number of cycles per second of a pressure fluctuation and frequency in sound is proportional to its pitch. Different frequencies are divided into octave and one third octave bands.
Frequency Weightings	Filters applied to sound measurements to represent human hearing or meet specific assessment requirements. The A-weighting dB(A) reflects the ear's reduced sensitivity to very low and very high frequencies; used in most environmental and building noise assessments. The C-weighting dB(C) retains more low-frequency content; used for peak, impulsive, or low-frequency noise assessments, while the Z-weighting dB(Z) provides an unweighted, flat response across all frequencies; used where true, unadjusted levels are required.
L_{Aeq,T} (dB)	The A-weighted equivalent continuous sound level over a specified time period T. It represents the notional steady sound level that contains the same total acoustic energy as the actual fluctuating sound during that period. L _{Aeq,T} is widely used for environmental noise assessment, building acoustics and compliance monitoring.
L_{A10,T} (dB)	The A-weighted sound pressure level exceeded for 10% of the measurement period T. It is commonly used to describe road traffic noise and is sometimes referred to as the "average of the higher noise levels". The CRTN method for traffic noise prediction uses the L _{A10,18hr} metric.
L_{A90T} (dB)	The A-weighted sound pressure level exceeded for 90% of the measurement period T. Often referred to as the "background sound level", it is used in BS 4142 assessments to represent the underlying, typically steady noise environment when intermittent or intrusive sources are absent.
L_{max} (L_{AFmax})	The maximum instantaneous A-weighted sound pressure level recorded during the measurement period. Unless otherwise specified, it is measured with the 'fast' (F) time weighting. L _{AFmax} is commonly referenced in planning and compliance assessments because short-duration, high-level noise can cause disturbance or annoyance — for example, sleep disturbance at night — even though it may have little influence on the overall L _{Aeq} value but will still affect the noise environment.
Noise	Unwanted sound that may cause disturbance, annoyance, or health effects.
Noise Level Indices	Statistical or average measures used to describe fluctuating time-varying sound, such as L _{Aeq,T} , L _{A10T} , L _{A90,T} and L _{AFmax} .
Noise-Sensitive Receptor (NSR)	Any building or area occupied by people where noise and/or vibration could cause disturbance, such as residential dwellings, schools, hospitals, or offices.



Term	Description
Peak Particle Velocity (PPV)	A measure of ground vibration velocity, expressed in millimetres per second (mm/s). It is used to assess both human perception of vibration and the potential for cosmetic building damage.
Sound Power Level (L_w)	A measure of the total acoustic energy emitted by a source, independent of distance or environment. It is expressed in decibels (dB) referenced to a sound power of 1 picowatt (10^{-12} Watts).
Sound Pressure Level (L_p)	The level of sound pressure at a specific location, expressed in decibels (dB) relative to a reference value of $20 \mu\text{Pa}$ (2×10^{-5} Pa), which approximates the threshold of human hearing.
Sound Reduction Index (SRI), dB	A measure of how effectively a building element (e.g., wall, floor, door or window) resists airborne sound transmission. It is calculated from the difference in sound levels between source room and receiving rooms, adjusted for absorption in the receiving room and the area of the radiating element. Higher SRI values indicate better airborne sound insulation. Results are typically presented in one-third octave or one-octave frequency bands, with a single-number rating (e.g., R_w) often derived for comparison against design criteria or regulatory requirements.
Specific Sound Level ($L_{Aeq,T}$)	The sound level produced solely by the specific source under assessment, excluding other ambient sounds.
Time Weightings	The speed of response of the sound level meter, typically 'Fast' (F) or 'Slow' (S), used depending on measurement requirements.
Trigger Action Levels (TALs)	Noise or vibration levels which, when reached or exceeded, require defined management actions to review, adjust, or pause construction activities to minimise impact on receptors.

Appendix D
Construction Traffic Management Plan



MARKIDES ASSOCIATES

Construction Traffic Management Plan

**Berewood Southern Access
Junction S278**

9 October 2025

Prepared for Grainger Plc

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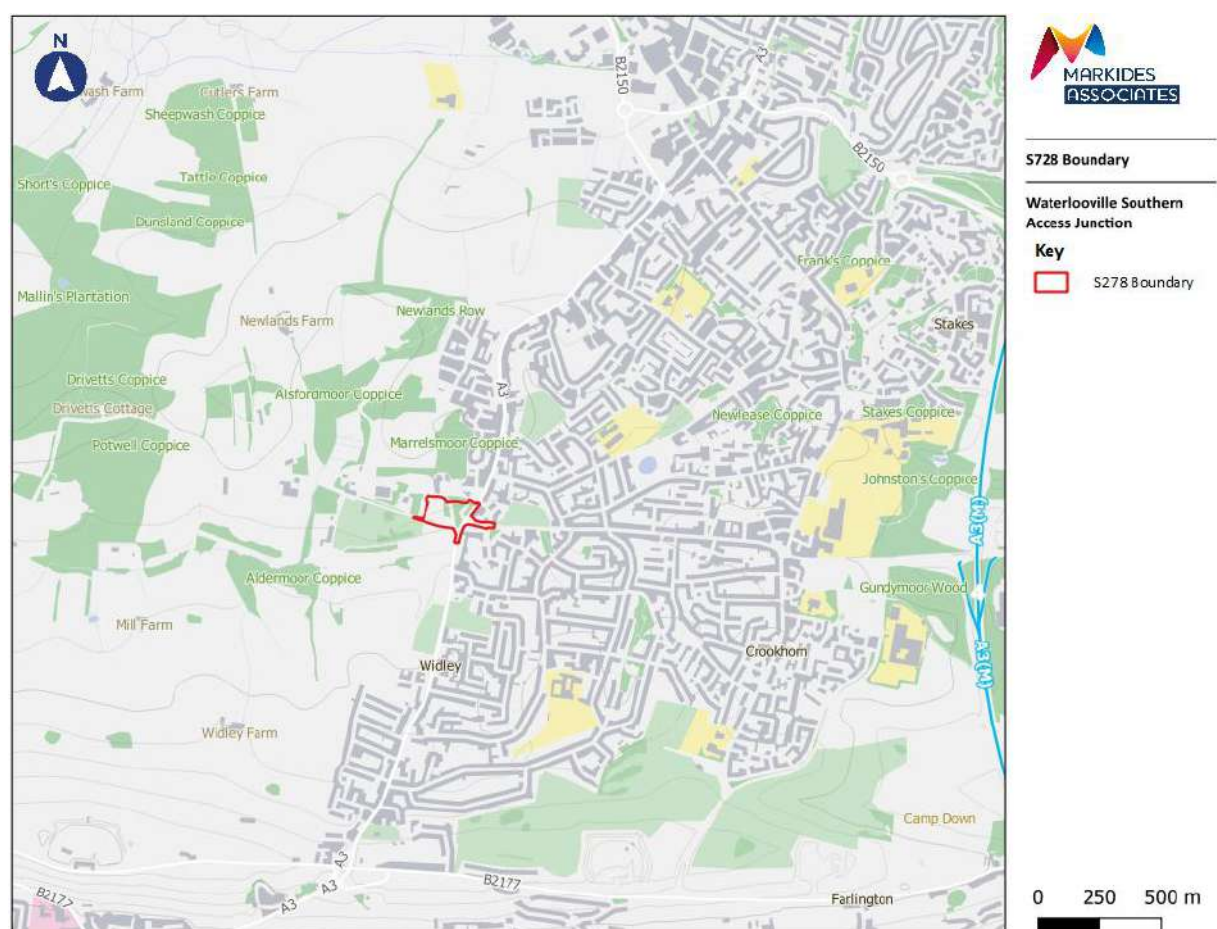
Appendix A – Phase 4a Construction Compound

1. Introduction

1.1 Overview

- 1.1.1 Markides Associates (MA) has prepared this Construction Traffic Management Plan (CTMP) on behalf of Grainger PLC for the S278 highway works of the London Road / Ladybridge Road junction improvements, which comprises the southern access junction in relation to the Berewood development proposals in Waterloooville, Hampshire ('the site'). The site is in the local authority of Havant Borough Council (HBC) and the highway authority is Hampshire County Council (HCC).
- 1.1.2 The outline development proposals include approximately 2,550 residential properties of mixed tenure, local centre, land allocated for 2 primary schools and nursery as well as commercial and employment land uses.
- 1.1.3 The location and boundary of the S278 highway works (hereafter referred to as 'the site') in context with the wider area and highway network is shown in **Figure 1.1**.

Figure 1.1 Site Location Plan



1.2 Report Purpose

Planning Condition

- 1.2.1 This CTMP forms an appendix to the Construction Environmental Management Plan (CEMP) prepared by Celadon Consulting Ltd. Both documents have been prepared to discharge Planning Condition 11.
- 1.2.2 Condition 11 states:

No development within a reserved matters area shall take place until a Construction Environmental Management Plan (CEMP) which should be in accordance with the ecological mitigation measures set out in Environmental Statement and the ecological mitigation plan submitted for that Reserved Matters Application, has been submitted for each particular reserved matters application, and approved by the Local Planning Authority, to include details of:

- i. construction traffic routes in the local area*
- ii. parking and turning of operative, construction and visitor vehicles*
- iii. loading and unloading of plant and materials*
- iv. piling techniques*
- v. storage of plant and materials*
- vi. programme of works (including measures for traffic management)*
- vii. all deliveries and building works which should only be carried out between the hours of 0800 and 1800 hours Monday to Friday and 0800 and 1300 hours Saturday and no time on Sundays or recognised public holidays*
- viii. provision of boundary hoarding and lighting including construction lighting*
- ix. protection of trees, hedgerows and other natural features to be retained including their management until such time as they are adopted.*
- x. details of proposed means of dust suppression and noise mitigation*
- xi. Measures to protect the listed building as necessary*
- xii. details of measure to be taken to prevent mud from vehicles leaving the site during construction*
- xiii. measures to prevent pollution of the watercourse during construction*
- xiv. the handling and management of construction waste*
- xv. details of surface water runoff.*
- xvi. Construction lighting.*

CTMP Content

- 1.2.3 The CTMP's purpose is to minimise risk to the local highway network and motorised and non-motorised highway users during the construction period as well as reduce the risk of adverse impacts upon sensitive environmental resources, and to minimise disturbance to local residents and other sensitive receptors.
- 1.2.4 This CTMP has been developed in accordance with the Mayer Brown CTMP prepared for Phase 4 infrastructure and substation works of the Berewood development, to ensure consistency of construction management across the wider scheme.

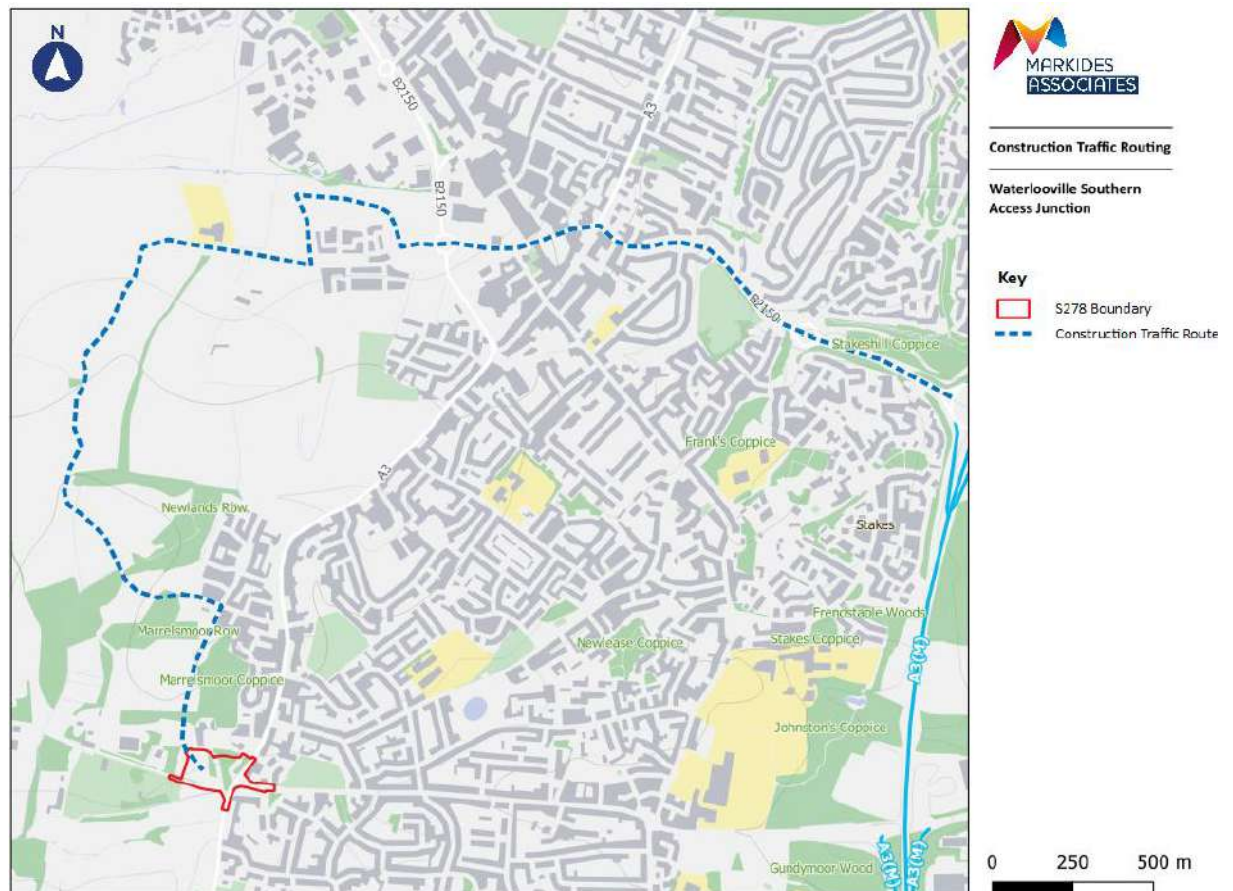
-
- 1.2.5 This document sets out the requirements of the appointed contractor, which will form an annex to any contracts with sub-contractors. If the contractor seeks to vary the provisions of the CTMP, or any 'emergency deviations' are required, this will be undertaken in consultation with HCC.
- 1.2.6 The main contractor is:
- Contractors Name: TBC
Address: TBC
Tel: TBC
Email: TBC
- 1.2.7 The CTMP is a working document and may need to be updated as the construction of the development progresses. This CTMP should be read in conjunction with the accompanying Construction Environmental Management Plan (CEMP).

2. Access Arrangement and Construction Method

2.1 Access to the Site

- 2.1.1 All construction traffic associated with the highway works will access the site via the already established and approved routing for the wider Berewood development, as far as practicable. This established route comprises:
- A3(M)
 - B2150 Hulbert Road
 - B2150 Maurepas Way.
 - Houghton Avenue
 - Winston Lane
 - Marrelsmoor Avenue
 - Newlands Avenue (newly constructed)
- 2.1.2 General construction traffic will be prohibited from utilising Grainger Street and London Road to the south of Milk Lane, to avoid disruption to the residents and local businesses along this route and minimise the impact to other road users along London Road as far as practicable.
- 2.1.3 **Figure 2.1** indicates the construction traffic routing through the Berewood development to the site.

Figure 2.1 Construction Traffic Routing



- 2.1.4 Using this routing, construction of the new highway works will be undertaken in the following three phases:

Phase 1

- 2.1.5 Newlands Avenue and all offline works without distribution to the operation of the existing London Road / Ladybridge Road roundabout, i.e. the western part of the new highways scheme, can be constructed first. This involves altering the arrangement of Marrels Wood Gardens and Purbrook Heath Road.
- 2.1.6 Access to Marrels Wood Gardens will be re-established via Newlands Avenue and Purbrook Heath Road before connection to London Road is temporarily blocked off to enable works to the roundabout to commence, to ensure access for residents will be maintained throughout the works given that there is no alternative access to Marrels Wood Gardens.

Phase 2

- 2.1.7 At the point in time when works directly affecting the existing roundabout are required, traffic will then be directed in single file onto the new section of the scheme which has been constructed offline, enabling the works to commence on the eastern side of the scheme.

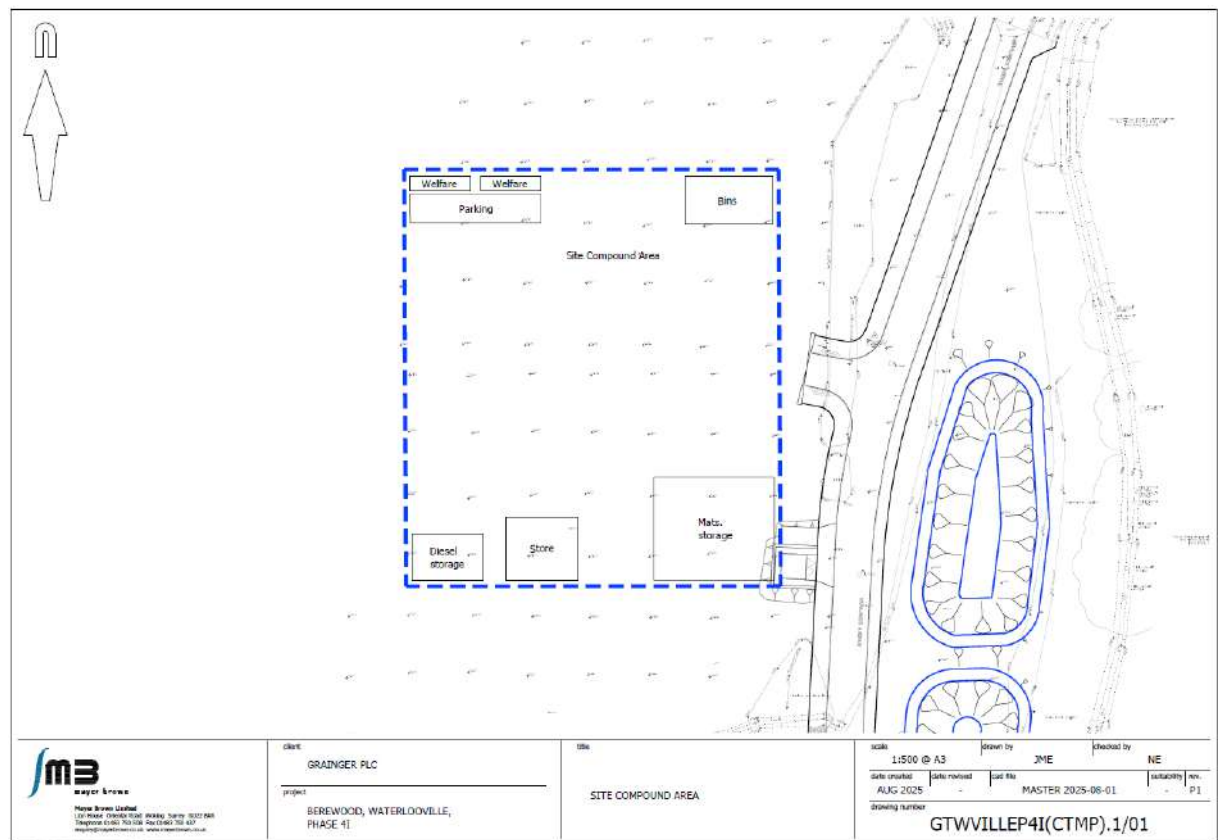
Phase 3

- 2.1.8 All arms of the junction will be tied together and the central island will be constructed with short-term lane closures during overnight and weekend working.
- 2.1.9 At each stage the following will be implemented to maintain through-traffic and reduce disruption:
- Maintain at least one running lane per approach.
 - Minimise conflicting movements with clear markings and barriers
 - Use temporary signals where capacity is heavily reduced

2.2 Construction Compound

- 2.2.1 A compound will be provided throughout the construction period, located to the northwest of the proposed area of works within the Phase 4 site, comprising:
- A materials store;
 - Area for the safe and contained storage of fuel and refuelling plant;
 - Areas are provided for the safe loading and unloading and storage of plant and materials;
 - Appropriate areas for the parking and turning of operative, construction and visitor vehicles;
 - Suitable provision of:
 - An oasis (self-contained Portakabin)
 - Portaloo
 - Container
 - Heras fencing around works and compound
- 2.2.2 The layout of the Phase 4 compound which will be utilised for the construction works associated with the southern access junction, is illustrated in Mayer Brown drawing GTWVILPE4I(CTMP).1/01, an extract of which is shown in **Figure 2.2**. The full drawing, including swept path analysis of a large tipper truck manoeuvring in and out of the compound is included in **Appendix A**.

Figure 2.2 Phase 4 Compound Layout



Source: Mayer Brown

- 2.2.3 A wheel wash facility will be operative for the duration of the works in the compound area and all vehicles leaving the site will be subjected to wheel washing where necessary.
- 2.2.4 Wheel washers will be located as close to the site exit as possible, to minimise the spread of debris on the highway. The contractor will maintain access to a road sweeper throughout the works so that if mud occurs on the highway, the contractor will ensure that this is removed as soon as practically possible.
- 2.2.5 The location of the wheel wash facilities will be finalised once a contractor has been appointed.
- 2.2.6 Pedestrian security gates will be present at the entrance to the compound area.
- 2.2.7 The on-site parking, turning facilities and site compound area, including staff welfare facilities, will be established and appropriately signed at the commencement of the works to ensure good practice from the outset

2.3 Construction Vehicle Trips

- 2.3.1 A full detailed trip generation assessment cannot be undertaken at this time; however, an estimate has been undertaken of some of the core movements, which are given below:

- spoil export: c.10 trips/day
- aggregates/sub-base: c.8 trips/day
- asphalt deliveries: c.4 trips/day
- plant/staff/sundries/TTM/utilities: c. 10 trips/day

- 2.3.2 A Gantt chart detailing phasing by site by task will be created and submitted at the first opportunity following the appointment of a contractor, setting out detailed trip generation during this stage of construction. Estimates based on other similar scale highways schemes suggest a total of some 60-70 vehicles per day at construction peak.

2.4 Duration

- 2.4.1 Due to the nature of the proposed works, it is expected that the build out period would be approximately 14 months.
- 2.4.2 A detailed work programme will be completed by the Contractor's Project Manager in order to facilitate the regular monitoring of on-site activities in relation the requirements of the CTMP.

2.5 Operating Hours

- 2.5.1 All of the construction works, including the use of plant and machinery on site, will take place between the hours of 08:00 to 18:00 on Monday to Friday and 08:00 to 13:00 on a Saturday. No works will take place outside of these hours, nor at any time on Sundays or bank holidays.
- 2.5.2 Delivery scheduling will target trips to occur outside of both the standard morning and evening peak hours (08:00-09:00 and 17:00-18:00) and outside of the Saturday morning peak hour (12:00-13:00). No deliveries will be allowed during the school drop off and pick-up peaks (08:30-09:00 and 15:00-16:00) to account for the site's close proximity to Berewood Primary School.

3. Construction Impact

3.1 Preamble

- 3.1.1 This section of the report considers the potential impact of development during the construction phase.

3.2 Neighbours and Sensitive Receptors

- 3.2.1 Particular attention will be given to the neighbouring residents, local businesses, and bus users during the entire construction process. The Developer proposes to manage this key interface and ensure that the contractors keep residents informed on a regular basis as the works progress.
- 3.2.2 The Principal Contractor will be the initial point of contact on site. They will display site contact numbers on the site hoardings to provide the local residents with a method of dialogue.
- 3.2.3 All staff on site should understand the chain-of-command when a complaint is made, and any complaint received in relation to noise and vibration will be investigated by the appropriate worksite personnel. It should be stressed that night working other than deliveries is not being proposed and impacts relating to noise, and vibration overnight should therefore be minimal.
- 3.2.4 Records of any complaints received in relation to the construction works and/or construction traffic relating to the site works should be recorded and retained. If significant, details of the complaint will be forwarded to the Local Authority, including:
- Name of complainant
 - Address of affected property
 - Contact phone number
 - Date and time of complaint
 - Method of notification (i.e., complaint line, email, letter)
 - Type of complaint (i.e., noise or vibration)
 - Details of complaint
 - Any previous or related complaints
- 3.2.5 All complaints will be investigated and, where appropriate, noise and/or vibration measurements taken. Mitigation methods should be implemented, or work practices modified to reduce noise and vibration levels where it is reasonably practicable to do so. The results of the investigation, including details of any mitigation methods implemented, work practices that have been modified and how complainants have been kept informed should be recorded.
- 3.2.6 To minimise the disruption other road users all site traffic will be limited to outside of peak hours and just-in-time delivery methods will be utilised to minimise the amount of time site

traffic waits in the area and where possible the development is committed to working with other local schemes to generate coordinated deliveries.

3.3 Pedestrians and Cyclists

- 3.3.1 The vehicular routing plan minimises travel through residential or built-up areas, to avoid pedestrian and cyclist activity as far as possible.
- 3.3.2 It will be ensured that safe pedestrian routes across or around the highway works will be established throughout the construction phase to enable pedestrians to continue their journeys as conveniently and accessible as possible, through use of barriers to separate vehicles and pedestrians and signage of diversions, and use of temporary lighting, as appropriate.
- 3.3.3 This also applies to the treatment Public Rights of Way (PRoW) routes 218/33/1 or 108/19/1 that traverse the Phase 4 site and along the northern boundary of the S278 site works. Access to the PRoWs will be retained wherever possible and should works affect the route, a temporary diversion will be put in place to ensure pedestrian safety and minimise impact.

3.4 Noise and Vibration

- 3.4.1 A Noise and Vibration Management Plan has been prepared for the site works and is included as Appendix C of the CEMP.
- 3.4.2 In summary, industry standard best practice measures will be put in place to minimise noise emissions, including (but not limited to) to following relating to construction vehicles:
 - Works generating significant noise and vibration will be limited to the core working hours as defined above;
 - Contractors must use “best practicable means” (BPM) to minimise the nuisance from noise and vibration, with especial consideration for nighttime deliveries;
 - Use of most environmentally acceptable and quietly operating plant and equipment appropriate to the works with emission levels limited to relevant EC Directive/UK Statutory Instrument levels and levels quoted in BS5228;
 - Site staff should be aware that they are working adjacent to a residential area and avoid all unnecessary noise due to misuse of tools and equipment, unnecessary shouting, and radios;
 - All plant and machinery should be regularly maintained to control noise emissions, with particular emphasis on lubrication of bearings and the integrity of silencers;
 - Where possible, avoidance of two noisy operations occurring simultaneously in close proximity;
 - Deliveries will be programmed to arrive during daytime hours only. Care will be taken when unloading vehicles to minimise noise. Delivery vehicles would be routed so as to minimise disturbance to local residents. Delivery vehicles will be prohibited from waiting on the highway or within the site with their engines running;
 - Engines are turned off when not in use;

- Where processes could potentially give rise to significant levels of vibration, on-site vibration levels should be monitored regularly by a suitably qualified person appointed specifically for the purpose, particularly if changes in machinery or project designs are introduced;
- Limits on vibration can be set in conjunction with the Local Planning Authority requirements, with compliance monitoring programmed where considered necessary;
- Where reasonably practicable, low vibration working methods should be employed, with any plant and/or methods of work found to be causing significant levels of vibration at sensitive premises replaced by other less intrusive plant and/or methods of working; and
- Stationary plant (e.g., generators, pumps, compressors) should be located away from sensitive receptors, or isolated using vibration resilient mounting if this is not possible.

Dust and Emissions

- 3.5.1 Method Statement 2: Control of Dust and Dirt (Appendix B of the associated CEMP) addresses the measures to control dust and emissions during the construction works. The industry standard, best practice dust and emissions management control measures are summarised in **Table 3.1**.

Table 3.1 Dust emissions mitigation measures

Aspect	Measure to be Implemented
Communication	Notification of the intended construction will be issued during a 2-week statutory consultation period prior to commencement. Communication will provide details of where the construction is located; how long it will take and hours of working and contact details for the site manager.
	The name and contact details of person(s) accountable for dust issues will be displayed on the site boundary.
Site Management	All complaints will be recorded, the cause identified, and appropriate measures taken to alleviate the issue in a timely manner, with a record maintained.
	The complaints log will be made available to the local authority when asked.
	Any exceptional incidents that cause dust and/or air emissions, either on- or off- site will be recorded along with the action taken to resolve the situation in the logbook,
Monitoring	Regular site inspections will be carried out to monitor compliance with this Construction Management Plan, with inspection results recorded and the inspection log made available to the local authority when asked.
	The frequency of site inspections will be increased by the person accountable for dust issues on the site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
	Following site inspections, if any activities are identified as causing or likely to cause visible emissions across the site boundary, or if abnormal emissions are observed within the site, the Site Manager will immediately modify, reduce, or suspend those activities until either effective remedial action can be taken or the weather conditions improve.
	Exceptional incidents that cause dust and air quality pollutant emissions, either on or off the site, will be recorded and any action taken to resolve the situation will be recorded in the logbook.
Preparation and Maintenance of the Site	The site layout will be arranged so that machinery and dust causing activities are located away from receptors, as far as possible.
	Hoarding will be erected and maintained, as required.
	Site runoff of water or mud will be avoided.
	Materials that have a potential to produce dust will be removed from site as soon as possible unless being re-used on site. Any chutes or skips will be enclosed.
Operations	Engines will be switched off when not in use.
	Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery-powered equipment where practicable.
	Only cutting, grinding, or sawing equipment will be used that is fitted with or used with suitable dust suppression techniques such as water sprays or local extraction.
	An adequate water supply will be maintained on site for effective dust suppression using non-potable water where possible and appropriate.
	Drop heights will be minimised and water sprays used wherever appropriate.
	Equipment will be readily available on site to clean any dry spillages as soon as reasonably practicable using wet cleaning methods.
	Only small areas of cover will be removed when required during work and not all at once.
	Bulk cement and other fine powder materials will be delivered in enclosed tankers.
	Vehicles will be covered wherever possible to prevent escape of material during transport.
	Visual inspections will include haul routes and any actions required will be recorded in the logbook.

4. Mitigation and Monitoring

4.1 Consultation and Communications

- 4.1.1 There will be regular and proactive liaison with HCC and other third parties as appropriate on environmental issues throughout the project implementation.
- 4.1.2 The contact number(s) for the site manager and/or relevant person will be provided on signage at the hoarding line, as well as distributed to neighbouring residents and businesses in a newsletter or other notification not later than 14-days prior to commencement.
- 4.1.3 There will be a designated liaison officer from the Principal Contractor whose duty would be to deal with queries from the public and any complaints. This nominated individual will be named at the site entrance, with a contact number, and will be identified to HCC and community groups, no later than 14 days prior to the start of site activities. Details will be updated promptly whenever a change of responsibility occurs.
- 4.1.4 Any complaints received will be logged and reported to HCC as soon as practicable.
- 4.1.5 Contractors will be selected with preference for those who are proactive regarding the Considerate Contractors scheme, and it is proposed that the site is likewise registered at the first opportunity to that scheme.

4.2 Public Safety, Emergencies and Accidents

- 4.2.1 A clear and secure demarcation between operational activities and other areas will be maintained to ensure public safety. Particular attention will be paid to any crossing points on surrounding roads, demolition and construction routes, access gates arrangements.
- 4.2.2 A 'clean site' policy will be maintained. Hoardings and safety barriers will be used around the site and working areas to prevent public trespass and to provide information regarding the project and its progress.
- 4.2.3 The contractor will be required to maintain high safety standards on-site, and to be fully compliant with current health and safety legislation. An Emergency Incident Plan would be in place to deal with potential spillages and/or pollution incidents. Any pollution incidents would be reported immediately to the regulatory bodies.
- 4.2.4 The nearest A & E hospital is located at:

Southwick Hill Road
Cosham
Portsmouth
Hampshire
PO6 3LY

4.3 General Management

4.3.1 To ensure smooth running of the construction activities with minimal impact, the following general measures will be in place:

- All parties to sign In & Out (name / time) at main compound entrance within Phase 4 site off Newlands Avenue;
- A daily record of visitors will be kept on site;
- Delivery scheduling will target trips to occur outside of both the standard morning and evening peak hours (08:00-09:00 and 17:00-18:00) and outside of the Saturday morning peak hour (12:00-13:00);
- No deliveries will be allowed during the school drop off and pick-up peaks (08:30-09:00 and 15:00-16:00) to account for the site's close proximity to Berewood Primary School;
- Trade Contractors are to submit material delivery requests to the Site Manager a minimum of 24 hours in advance;
- The Principal Contractor, once appointed, is to liaise with all sub-contractors to inform them of the agreed vehicle routes to and from the site;
- The Contractor is to notify all suppliers that no waiting or queuing is permitted on local roads;
- No vehicles will be left unattended. No stacking of vehicles or parking within on-street parking bays / on street is permitted. Vehicles not adhering to the above can and will be turned away by the Contractor;
- All vehicles will load / unload materials on-site. The Contractor is to maintain safe control of traffic and deliveries on the public highway;
- A banksman will be provided to manage loading activity (if necessary). The banksman will additionally be tasked with ensuring that pedestrian/ cyclists' access can be safely provided whilst works are taking place;
- The Principal Contractor is to provide evidence of recycling by means of a waste data receipt/ form, which will be forwarded on to the Site Manager; and,
- Implementing an effective procedure to deal with complaints from third parties to ensure issues are dealt with efficiently and quickly, via an advised and dedicated telephone number.

5. Summary of Impacts and Associated Mitigation

5.1.1 The purpose of the CTMP is to minimise risk to the local highway network and motorised and non-motorised highway users during the construction period as well as reduce the risk of adverse impacts upon sensitive environmental resources, and to minimise disturbance to local residents and other sensitive receptors.

5.1.2 This CTMP demonstrates:

- A site compound will be provided during the construction period;
- Measures will be put in place to ensure public safety, amenity and site security;
- Construction will take place over an eight week period and works will only be carried out between the hours of 08:00 to 18:00 on Monday to Friday and 08:00 to 13:00 on a Saturday;
- Measures will be put in place to control any noise and vibration resulting from the construction works;
- Measures that will be put in place to mitigate the impact of air and dust during construction;
- Measures will be undertaken to mitigate the impact of storm water and control sediment during construction of the development;
- Waste will be controlled, and materials re-used during construction of the development;
- A routing plan for construction vehicles is provided and the procedure for the management of such vehicles is set out;
- Details of amenity facilities, on-site signage, public safety and site security are provided; and
- Liaison with the local community is taking place.

APPENDICES

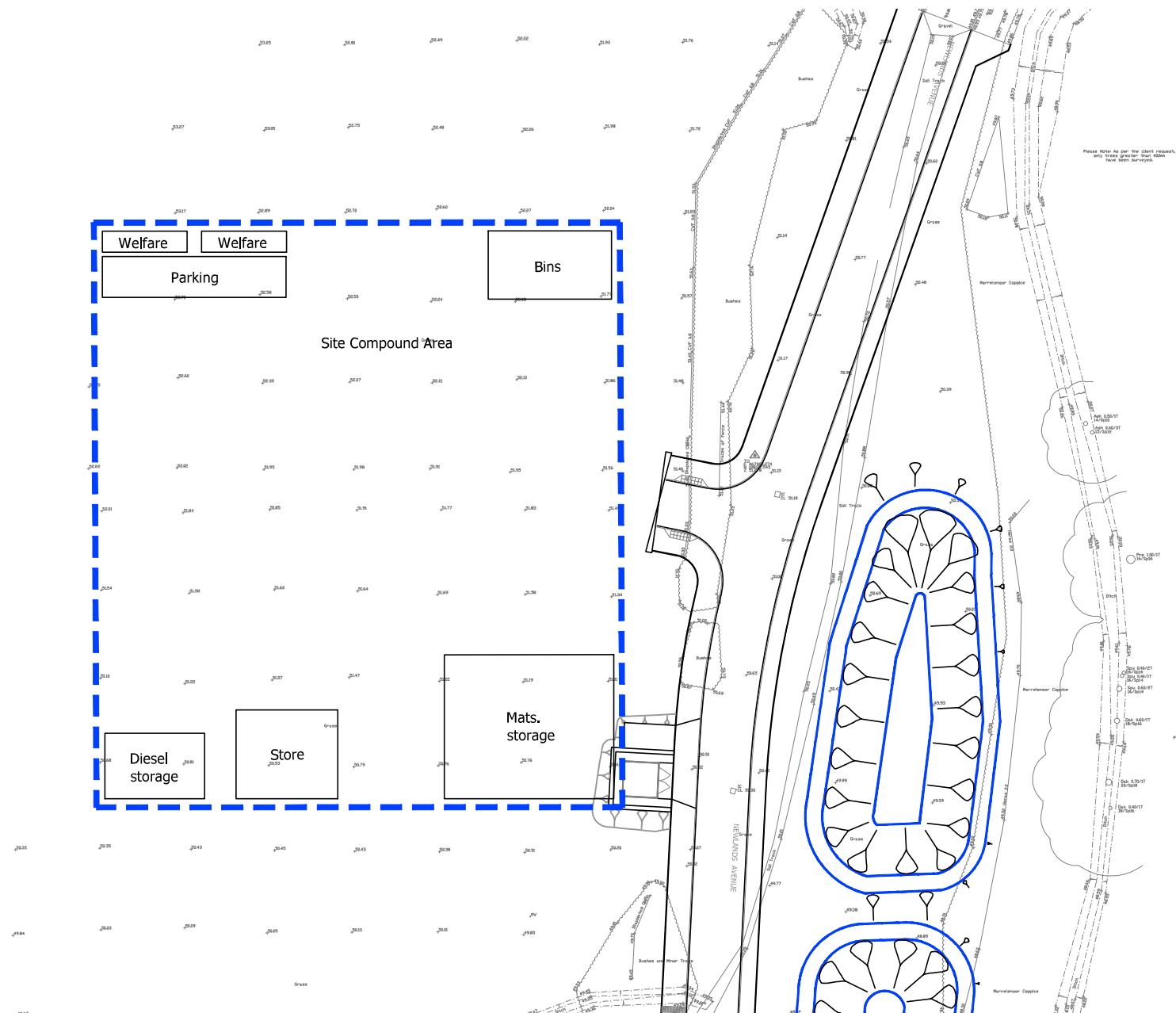
Appendix A – Phase 4a Construction Compound

APPENDIX A – PHASE 4 CONSTRUCTION COMPOUND

A1.1 Mayer Brown Drawings:

GTWVILPE4I(CTMP).1/01

GTWVILPE4I(CTMP).1/TK01



Mayer Brown Limited
Lion House, Oriental Road, Woking, Surrey GU22 8AR
Telephone 01483 750 508 Fax 01483 750 437
enquiry@mayerbrown.co.uk www.mayerbrown.co.uk

client

GRAINGER PLC

project

BEREWOOD, WATERLOOVILLE,
PHASE 4I

title

SITE COMPOUND AREA

scale

1:500 @ A3

drawn by

JME

checked by

NE

date created

AUG 2025

date revised

-

cad file

MASTER 2025-08-01

suitability

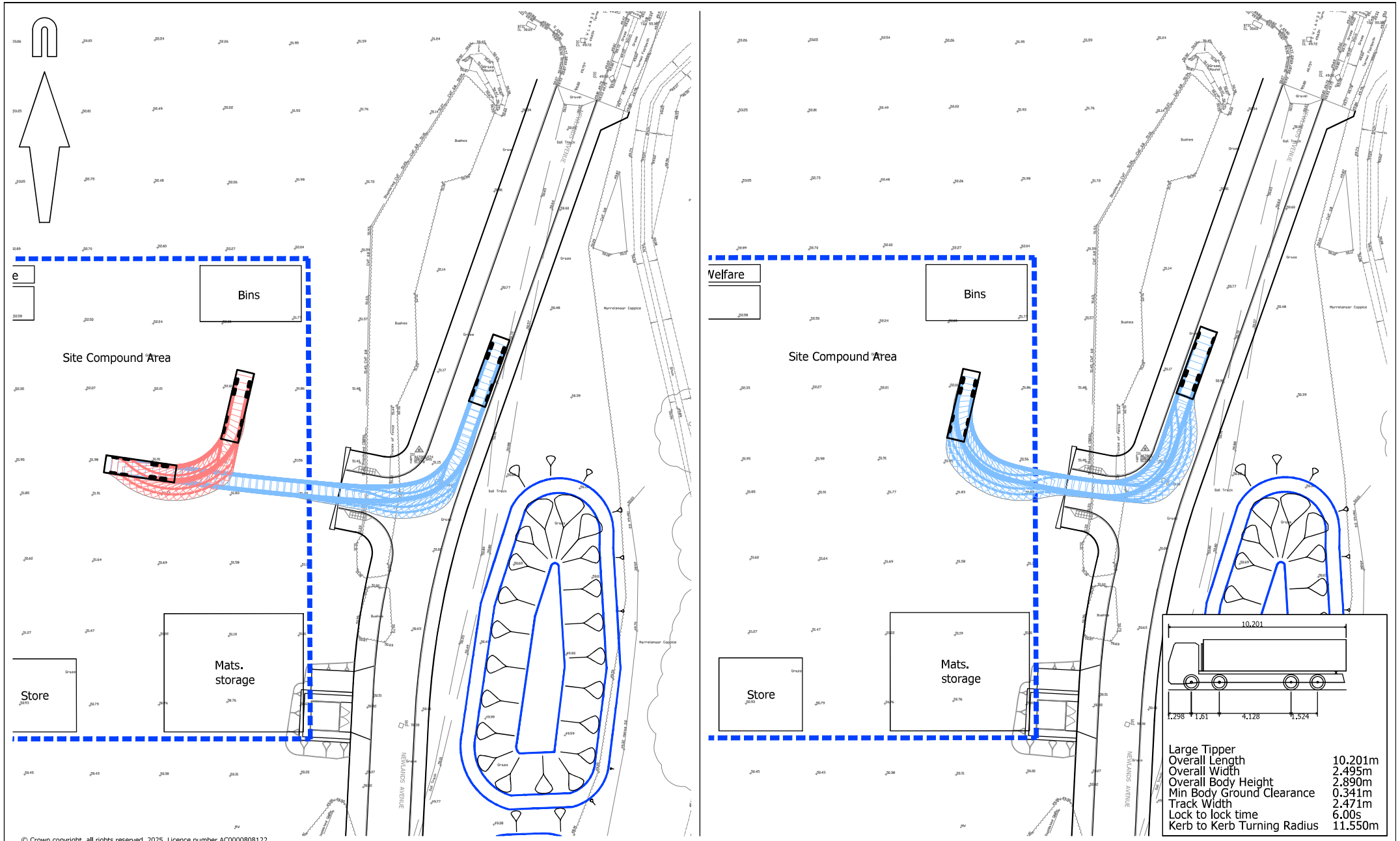
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rev.

P1

drawing number

GTWVILLEP4I(CTMP).1/01



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client

GRAINGER PLC

project

BEREWOOD, WATERLOOVILLE,
PHASE 4I

title

SWEPT PATH ANALYSIS
LARGE TIPPER ENTERING/EXITING COMPOUND

scale

1:500 @ A3

drawn by

JME

checked by

NE

date created

AUG 2025

date revised

-

cad file

MASTER 2025-08-01

suitability rev.

- P1

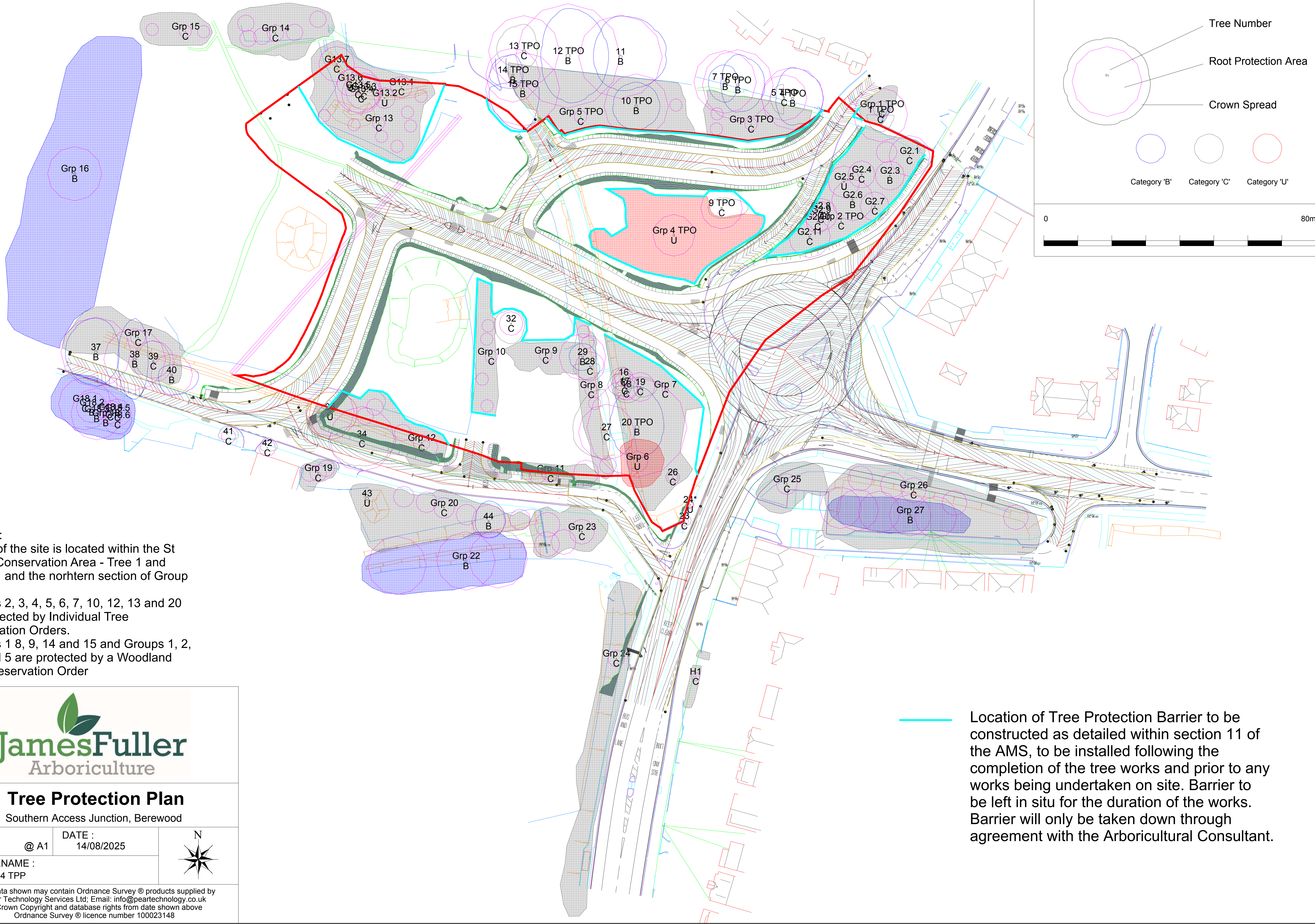
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GTWVILLEP4I(CTMP).1/TK01



Markides Associates
81 Southwark Bridge Road, London, SE1 0NQ
020 7442 2225
<https://markidesassociates.co.uk>

Appendix E
Tree Protection Plan



NOTES:

1. Part of the site is located within the St John's Conservation Area - Tree 1 and Group 1 and the northern section of Group 2.
2. Trees 2, 3, 4, 5, 6, 7, 10, 12, 13 and 20 are protected by Individual Tree Preservation Orders.
3. Trees 1, 8, 9, 14 and 15 and Groups 1, 2, 3, 4 and 5 are protected by a Woodland Tree Preservation Order



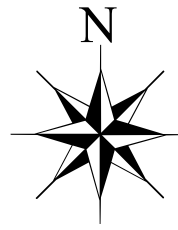
Tree Protection Plan

Southern Access Junction, Berewood

SCALE : 1 : 500 @ A1

DATE : 14/08/2025

MAP FILENAME : JFA9528.04 TPP



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Location of Tree Protection Barrier to be constructed as detailed within section 11 of the AMS, to be installed following the completion of the tree works and prior to any works being undertaken on site. Barrier to be left in situ for the duration of the works. Barrier will only be taken down through agreement with the Arboricultural Consultant.