

ENVIRONMENTAL TECHNICAL NOTE

Installation of UV Treatment at Halling Water Treatment Works

Method Statement for Protected Species

Ecological Compensation and Enhancement Measures

CRAV Register

	Name/Position	Signature	Date
Originated by	Andy Mackinnon / Environmental Performance Officer	A.Mackinnon	17/08/2023
Checked by	Moyra Thomason / Environmental Performance Officer	M. Thomason	14/09/2023
Reviewed by	Anna Harris / Environmental Performance Manager	A.Harris	04/10/2023

Revision Register

Version	Dated	Changes
00	17/08/2023	Original

1.0 Location

The site is located at Halling Greensand Water Treatment Works (WTW), Vicarage Road, Halling, Rochester, ME2 1BG (OS Grid Reference for the centre of the site is TQ 69658 64447). At its closest point the site is located 50m from the cliff-face above St Andrew's Lake. The WTW site is split into two distinct sections. The primary area of Halling Greensand (Site A) site itself is a fenced compound comprising of semi-improved chalk grassland, hardstanding, brick buildings and is surrounded by broadleaved woodland. The secondary site (Site B) is immediately southeast of Site A adjacent to the gate. This area is comprised of amenity grassland, hardstanding, a metal container, defunct hedgerow and a section of arable farmland where the main UV installation is proposed to be located. The broadleaved woodland which surrounds Site A also runs along Site B's northern boundary. It is important to note that the wooded area behind Site B is very narrow and sparse due to its close proximity to the cliff-edge. The hedgerow leading up to the sites is densely populated with hawthorn

shrubs which run along the fence line boundary up to the WTW. To the north and northeast of the broadleaved woodland is the southern cliff face of a disused quarry which has been left to recolonise by scrub and scattered trees. Beyond this to the north is a large manmade lake used for recreational purposes including fishing and aquatic sports.

The wider landscape is a mix of arable farmland with hedgerow boundaries, large broadleaved woodland areas with scattered residential urban areas along the A228. The River Medway runs north to south approximately 1km east of site and is bordered by floodplain grazing marsh.

2.0 Works and Site Summary

The proposed Scheme is for the installation of a new UV treatment facility kiosk on site at Halling Greensand WTW. The location of the UV kiosk is proposed within the arable farmland habitat in Site B adjacent to the existing Borehole. The UV Installation will be set back away from the northern hedgerow boundary which has dormice potential. Habitat loss will be required to facilitate the construction of the new kiosk including removal of arable habitat and a section of hedgerow with associated hardstanding access track (approximately 35m²). Temporary impacts will also occur to the surrounding grassland on site to facilitate construction traffic to the new kiosk site.



Figure 1: Location of Halling Greensand WTW, Kent. The orange outline is the indicative location of the new UV kiosk and access track, the blue outlines the proposed compound location within the WTW site, and the yellow area outlines the area of scrub/hedge to be removed to facilitate access to the works.

3.0 Planning Requirements

This scheme has been granted planning permission on the 11th November 2021 (Planning Permission Reference - MC/21/3244), subject to the following conditions;

1. The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

Reason: To comply with Section 91 of the Town and Country Planning Act 1990 (as amended).

2. The development hereby permitted shall be carried out in accordance with the following approved plans: Received 12 November 2021:

20825-NOD-04-XX-DR-C-08004 Rev P04 Proposed Site Layout and Elevations

20825-NOD-04-XX-DR-C-08005 Rev P04 Proposed elevations

20825-NOD-04-XX-DR-C-08006 Rev P01 Plinth Details.

Reason: For the avoidance of doubt and in the interests of proper planning.

3. The proposed kiosks and the associated equipment hereby permitted shall be painted in green coloured paint (BS381/C 282) within one month of their erection and thereafter maintained in that colour.

Reason: To ensure that the appearance of the development is satisfactory and without prejudice to the character of the open space, in accordance with Policies BNE1 and BNE30 of the Medway Local Plan 2003.

4. No development shall take place (including any ground works, site or vegetation clearance), until a method statement for the protection of nesting birds, reptiles, dormice, bats, [REDACTED] and hedgehogs during clearance and construction works has been submitted to and approved in writing by the Local Planning Authority. The content of the method statement shall include:

- a) Purpose and objectives for the proposed works
- b) Working method, including timings, necessary to achieve stated objectives
- c) Extent and location of proposed works shown on appropriate scale plans
- d) Persons responsible for implementing works, including times during construction when specialist ecologists need to be present on site to undertake / oversee works.

The works shall be carried out in accordance with the approved details.

Reason: Required before commencement of development to avoid any irreversible detrimental impact on biodiversity of the site and area, in accordance with Policy BNE37 of the Medway Local Plan 2003.

5. Prior to the completion of the development hereby approved, full details of the ecological compensation and enhancement measures, including a long-term management plan, outlined in the Preliminary Ecological Appraisal prepared by South East Water and dated August 2021 will be submitted to and approved in writing by the Local Planning Authority.

This document seeks to satisfy Condition 4 and Condition 5 of the above Planning Conditions.

4.0 Condition 4 – ‘Method Statement for Protected Species’

South East Water procedure for environmental documentation consists of the following steps:

- i. Environmental Constraints Opportunity Report (ECOR) ¹- this document considers aspects of the natural and built environment and determines if specific mitigation measures are required. It is essentially the risk assessment stage.
- ii. Work Briefs (WB) / Request for Services (RFS) – where additional resources are required these documents brief specialists on requirements. For example these are used to appoint ecologists or arborists for relevant surveys.
- iii. Environmental Technical Notes (ETN) – provide the results of surveys and can be produced by the South East Water Environment Team as well as the specialists appointed via WB / RFS.
- iv. Works Information (WI1200)² – this document is produced by the South East Water Environment Team and provides part of the Contract for the works, instructing the contractors on the regulatory controls and site-specific mitigation and remediation measures required during the construction phase. The WI1200, regulatory documents and method statements have to be held on site during the scheme.
- v. Protected Species Licences or Method Statements – where additional controls are identified through the ECOR process and where necessary confirmed by survey these are detailed either within a regulatory permission or inhouse document.
- vi. Site Supervision Report – to confirm supervision by specialist was carried out. These reports can be documents or emails.
- vii. Environmental Inspection Reports (EIR) – during construction Environmental Inspections are carried out by South East Water Environment team and these check that all correct environmental documentation is in place and mitigation measures are being adhered to.

Using the ECOR⁽¹⁾ process outlined above and the recommendations provided by the Employers ecologist on 26th October 2021³ the following species have been deemed not to require a Method Statement and instead precautionary measures necessary to not impact the species have been provided as part of the Works Information (WI1200⁽²⁾) provided to the construction contractor.

¹ 10-1221 69782 40 ECOR Halling UV Installation Rev02

² 10-1221 69782 WI1200 Env Info Halling UV Works

³ Environmental Technical Note, Halling Greensand UV Installation, 10-1221 / 69782, Ecological Site Survey, Atkins Senior Ecologist, November 2021

Birds

The WI1200 produced by South East Water requires the contractor to engage the Employer's ecologist to supervise any vegetation clearance works within the nesting bird season (March to August inclusive) as part of the scheme.

Bats

The potential to impact bats has been ruled out. An ecologist visit on the 26th October 2021⁴ confirmed that there were no potential bat roosts in the dead elm tree to be removed or in the ash trees further up the bank required to be trimmed back. The WI1200 requires minimising disturbance to bats roosts and foraging areas through any light used must be angled down towards the works and not impact the surrounding woodland. The intensity of the lights must be suitable for the works to be undertaken and not illuminate a wider area.

Reptiles

The WI1200 requires all vegetation to be checked prior to clearance during the hibernation period (October to March) to ensure that no reptiles are present and there are no hibernacula in which reptiles may shelter.

Vegetation clearance of the short vegetation within the field and the field margins did not require ecologist supervision but had to be completed in a two-stage strimming methodology as follows;

- Ground cover vegetation to be cut to 150-300mm above ground level. This can be carried out by machinery provided that the first cut is set at this raised level to prevent injury to any animals that may be in the working area.
- After being left an hour, all arisings must be carefully picked / raked up, and removed from the working area and disposed of off-site.
- Final cut to ground level. Arisings to be carefully raked up, removed from working area and disposed of off-site.

Hedgehogs

It is a requirement of the WI1200 that if any animals are found all works will have to stop and the Employer's Project Team must be contacted for advice. All excavations on site must be either covered overnight in its entirety or ramps/barred sides to the excavations to allow animals to escape.

⁴ Site supervision confirmed in email 26/10/2021 from Atkins Senior Ecologist to SEW Project Team

The following species were deemed to require a method statement due to the impact on suitable habitat;

[Redacted]

[Redacted]



Figure 2 - Environmental Constraints Sketch, taken from the W11200⁽²⁾ '10-1221 69782 40 ECOR Halling UV Installation Rev 02'

[Redacted]

⁵ SEW Preliminary Ecological Appraisal Halling UV Installation 10-1221 69782, September 2021

[Redacted]

⁷ Site supervision confirmed in emails 09/11/2021 & 17/11/2021 from Atkins Senior ecologist to SEW Project Team



Dormice

The Precautionary Method Statement for Dormice for the works can be found in Appendix B – Halling DM PMS.⁹

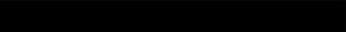
Condition 5 – ‘Ecological Compensation and Enhancement Measures’

This condition is satisfied by the Planting and Aftercare Specification provided in Appendix C.

⁸ Conclusion confirmed in email from Atkins Senior Ecologist to SEW Environment Team 19/11/2021.

⁹ Site Supervision Report, email from Atkins Senior Ecologist to SEW Environment Team, 05/11/2021 & Ecological Site Supervision Report for site visit 11th January from Atkins Senior Ecologist to SEW Environment Team

Appendix A





Halling Greensand UV Installation AMP7 Year 2- Trial Hole, Slip Trench and Borehole Works 10-1221/ 69782

CRAV Register

	Name/Position	Signature	Date
Originated by	Hayley Child/ Graduate Environmental Officer	<i>H Child</i>	20/07/21
Checked by	Sam Pottier / Environmental Performance Lead	<i>SPottier</i>	20/07/21
Reviewed by	Sam Pottier / Environmental Performance Lead	<i>SPottier</i>	20/07/21

Revision Register

Version	Dated	Changes
0		For Issue

Introduction

[REDACTED]

[REDACTED]

[REDACTED]

Development Site

Works and Site Summary

[REDACTED]

[REDACTED]

[REDACTED]

Full postal address:

Halling Greensand, Vicarage Road, Halling, Kent, ME2 1BG

Developer:

South East Water (SEW), Rocfort Road, Snodland, Kent, ME6 5AH

Site Details

At the Halling Greensand Site the slip trench (Figure 1) will be located in the middle of the turning circle at Borehole 7 at the Halling Greensand site. This is an area of existing hard standing with an embankment and hedgerow running along the western edge of the hardstanding.

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Survey Information

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[Redacted]

[Redacted]

[Redacted]

Work Schedule and Mitigation

[Redacted]

[Redacted]

[Redacted]

- [Redacted]

- [Redacted]

- [Redacted]

- [Redacted]

- [Redacted]

- [Redacted]

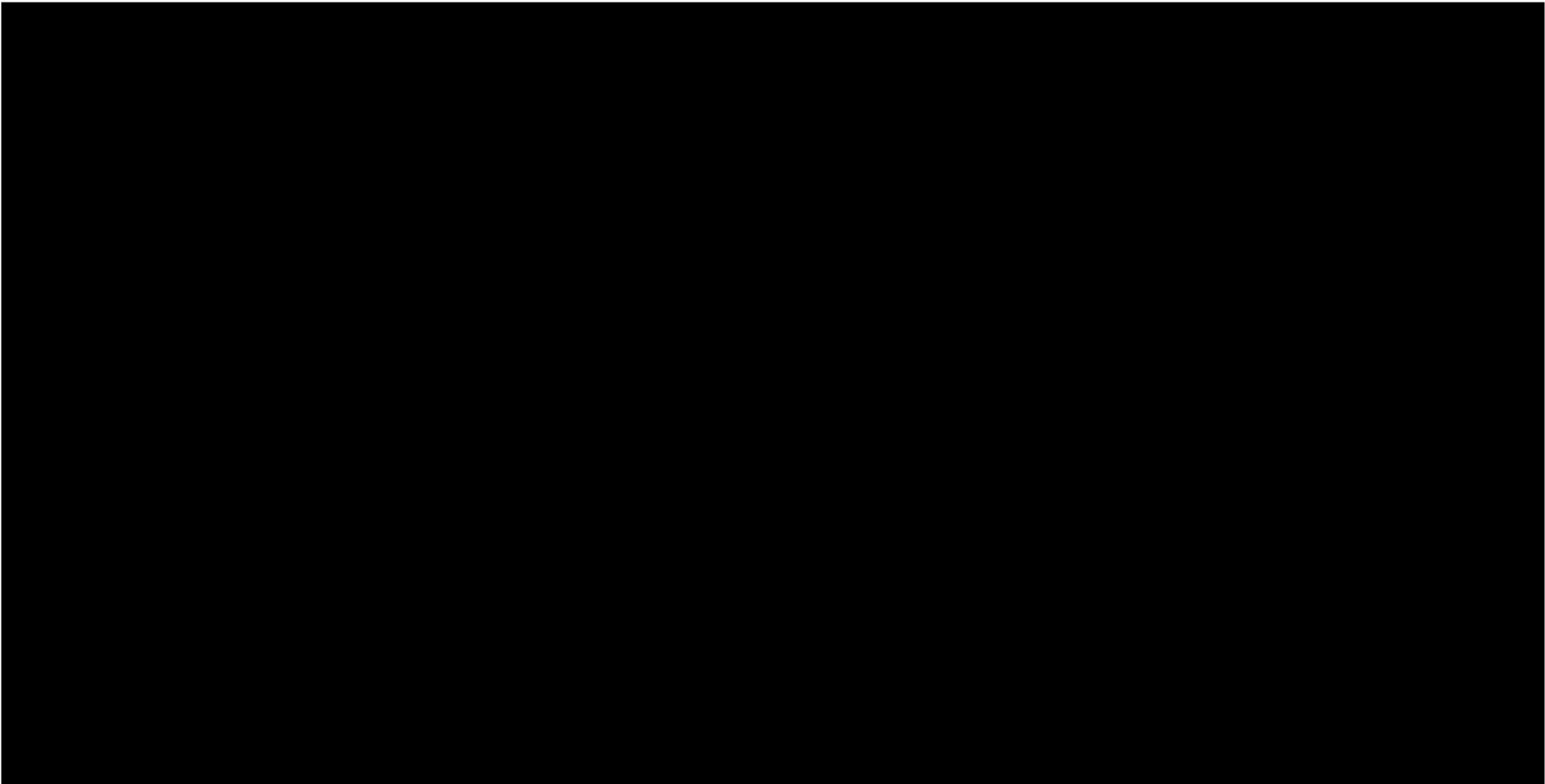
- [Redacted]

- [Redacted]
- [Redacted]

Maintenance and Monitoring

[Redacted]

Figure 1 – [REDACTED]



Appendix B

Dormouse Precautionary Method Statement

ENVIRONMENTAL METHOD STATEMENT – DORMOUSE- Vegetation Clearance for Embankment Removal works ONLY

Halling UV Scheme 10-1221/ 69782

CRAV Register

	Name/Position	Signature	Date
Originated by	Hayley Child/ Graduate Environmental Officer	HCHILD	11/11/2021
Checked by	Moyra Thomason / Environmental Performance Officer	<i>Moyra Thomason</i>	12/11/2021
Reviewed by	Mandy Billett / Environment Performance Manager	<i>Mandy Billett</i>	12/11/2021

Revision Register

Version	Dated	Comments

Introduction

Dormice and their places of rest / shelter are protected. This Method Statement sets out how the proposed Halling UV Installation - Vegetation Clearance for Embankment Works ONLY (area 1 on the scheme plan) may be undertaken with minimal risk of encountering a dormouse and / or causing an offence with respect to dormice.

Refer to the Works Environmental Appendix for other environmental constraints relevant to the site.

Note that there are a multitude of other potential dormouse impacts planned as part of the Halling UV Installation (see plan at the end of this document for details). This Method Statement covers Vegetation Clearance for Embankment Removal works ONLY. The remainder of the works will be covered by separate Method Statements where appropriate, which may be under Licence.

Works and Site Summary

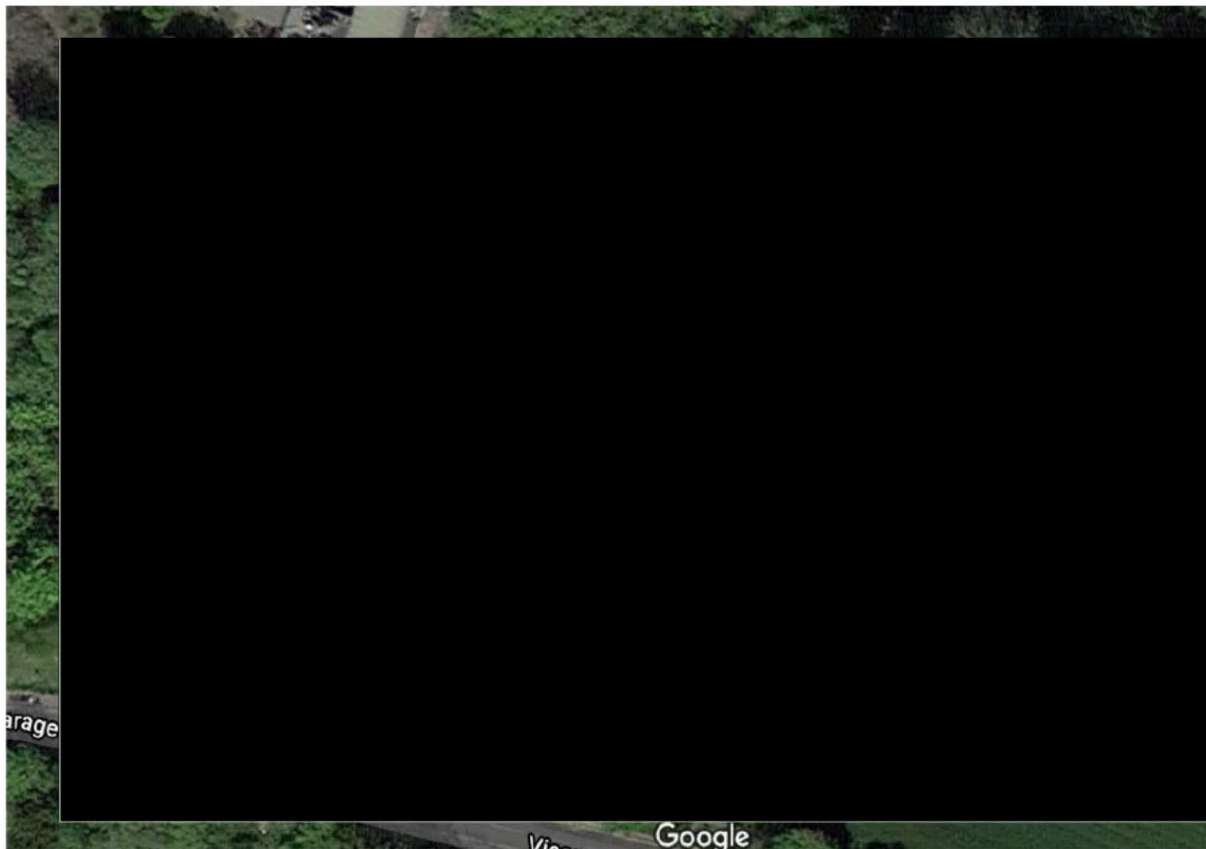
The Scheme is situated at the SEW Halling Greensand site which is opposite Halling Chalk (SEW site hereafter referred to as the site). There is a steep and small vehicle entrance to the site with a trackway leading up to the top of the slope which overlooks St Andrew's Lake. SEW's land ownership extends into the farmers' fields adjacent to the trackway leading up to the site. There is hardstanding available at this site, with short amenity grass. There is an area of woodland surrounding the site (outside of SEW site ownership).

The proposed works are to install a UV system at the Halling Greensand site which will improve the quality of the water coming from this site. The installation may impact dormice or dormouse habitat. Principal construction activities within the works area will be confined to hardstanding and arable fields used for hay production which are not dormouse habitat. Other habitats crossed include some woodland and hedgerow on site which is well established and may support dormice. The works area is situated on some hard standing but is mostly within arable fields adjacent to the site (Ordnance Survey grid reference: TQ 69685 64424). North of the site is the large St Andrew's lake surrounded by well-established woodland. The site has a hedgerow which runs around the entirety of the works area with connectivity from the site to the woodland and to other areas nearby including the arable fields. Key works areas are shown on the attached plan.

The works are as described below:

- Area 1 (Grid reference: TQ 69639 64381): There are plans to increase the trackway at this site to ensure that the 22 tonne articulated lorries can easily access the site. This will be completed at the base of the trackway into Halling Greensand.
- On the right hand side (Photo 1) east of the trackway there is little vegetation clearance required. The works here require cutting back buddleia, a Buckthorn tree and the shrubs at this side. There is low connectivity from this section of the hedgerow to the existing hedgerow which connects to the woodland. This area has low dormice potential. The tarmac will have to be removed from this side and a concrete roadway re-laid. These works will be completed up to the yellow line as seen in the Photo. The valves will be brought up to ground level once the new concrete has been laid.
- On the left hand side (Photo 2) west of the trackway a more substantial vegetation clearance is required. The first part of the works are to remove part of the embankment and the dead elm tree which is at the corner of the trackway. This has been checked for its stability if the tree is to be removed and it has been confirmed to be safe. Although this embankment contains brambles, hazelwood, elder trees and other species. This area has excellent connectivity to the woodland behind which has high dormice potential. This will require more extensive vegetation clearance to ensure that the lorries can get through the trackway.

Work Plan



A preliminary ecological appraisal was undertaken on 22nd January 2021 by Georgie Baulcomb (SEW Environment Performance Officer and Ecologist) and Hayley Child (SEW Environmental Performance Graduate), to assess the ecological constraints and subsequent mitigation that may be required for the proposed UV installation at the Halling Greensand Site and adjacent farmers field situated behind St Andrew's Lake.

History

There is potential for dormice at this site. The works are due to take place adjacent to the woodland which has high dormice potential. The works will remove some of the hedgerow which are considered to have high dormice potential.

If further clearance or impact to the connectivity of the hedgerow is required, dormouse surveys may be required and work would need to take place under a Protected Species Licence if dormice are present.

There are a few online records of Hazel Dormice in the area. There have been records since 2013 through to 2018. These records have been within 100m of the site and therefore are a good indication that the species may be present in the area. Although, it must be noted the data is now out of date for this site. Additional species records appear to be within the lower landscape surrounding St Andrew's Lake, the map of reference of the species used (National Biodiversity Network) makes it difficult to determine the topography of the area and therefore the location is not certain.

There were dormice checks at this site completed in 2016 by Ali Short (working for Jacobs at the time). It was detailed in the Tech Note that no dormice were found but nests were in the woodland adjacent to the site. This woodland has connectivity to the rest of the site including the hedgerows which will require some vegetation clearance.

Dormouse Method Statement

All contractors working on site are to be given a toolbox talk provided by a Natural England dormouse survey licence holder (thereafter referred to as an ecologist), prior to works commencing, with particular reference to the potential presence of dormice.

An ecologist will supervise all hedgerow and scrub vegetation clearance works (including bramble and bracken), undertaking a search for dormice or dormouse nests in the areas where clearance is required, and including a search of an additional 1m buffer zone area around the area required for clearance. The check will include the ground area underneath the cleared vegetation.

The vegetation removal will be undertaken by hand (using hand pruners / secateurs, loppers or similar). This will ensure that the smallest areas of clearance are undertaken and that the clearance is in exactly the correct place and that adjacent areas are not impacted.

A brush cutter / strimmer or similar may be used to clear the nettles, bracken and brambles.

The height reduction work to the Buckthorn tree may require a chainsaw.

The Contractor shall provide suitable tools and suitably trained operatives.

All vegetation which is cleared will be removed from site by the Contractor, or if left on site before disposal, stored in a container to prevent animal ingress.

Once a fingertip search has been completed by the ecologist, vegetation can be removed to 150mm-250mm above ground level.

Another search will be required by the ecologist before the stumps and roots are removed.

This vegetation clearance could be undertaken at any time of year given the anticipated low risk of encountering dormice. The preferred timing would be to remove the above ground vegetation during the winter months (November to March) and remove the stumps and roots in the spring / summer once dormice are active (May – October).

Following completion of the works, all areas will be backfilled and topsoil replaced.

There will be a requirement to replant the vegetation which has been removed within other areas on site as these works are permanent.

If a dormouse or dormouse nest is encountered at any time, works must cease immediately and the Employer's Environmental Performance Officer Anna Harris (anna.harris@southeastwater.co.uk/07807485466) must be contacted immediately for advice. The works may be postponed until Natural England has been consulted and a significant delay to the Scheme is possible.

Dormouse Site Assessment

Site Assessments Details:

Preliminary Walkover 28/03/2021:

Present: Hayley Child (SEW Env Team), Anna Harris (SEW Env Team), Dave Allin (Murphy) and Georgios Faldamis (SEW Project Engineer).

This visit was a preliminary walkover was completed by Anna Harris and Hayley Child, accompanied by Dave Allin and Georgios Faldamis. This was in the early design stage of the project where environmental guidance was provided to assist in the design.

Ecological Site Visit 21/05/2021:

Present: Hayley Child (SEW Env Team) and Georgie Baulcomb (SEW Ecologist).

Ecological Site Visit needed to assess hedgerow and area around the site. Georgie indicated that dormice surveys may need to be done and mitigations will need to be put in place for various streams of work at this site.

Vegetation clearance site survey 08/10/2021:

Present: Hayley Child (SEW Env Team), Moyra Thomason (SEW Env Team), Keith Strain (SEW)

This site visit was to look at the works that are coming up at this site. This includes removing vegetation (dormice risk). At this site visit these areas were surveyed by Moyra and Hayley and concern was raised over Dormice risk. A follow up visit will be required to this site by an ecologist for these works

Vegetation clearance Ecologist survey 26/10/2021

Present: Hayley Child (SEW Env Team), Alison Short (Atkins Ecologist) Keith Strain (SEW)

Ecologist initial notes;

Area 1

Cutting back of the embankment – dead elm tree on the lower bank can be removed. Work modified to minimise the area of bank to be removed so that only the elm tree is to be removed. Works to take place under a Precautionary Method Statement for dormice. If any animals or nests found the works will have to stop and further surveys needed.

Area 2

Section of hedgerow will need to be cleared. The hedgerow is hawthorn and dogwood heavily covered with wild clematis. Dormice are known historically to be in the area. Works are planned fairly immediately. All scrub vegetation works should be under a Precautionary Method statement for dormice. If any nest / animals are found all works will have to stop and further surveys may be needed.

Area 3

Creation of a temporary access track. Works for this are due to October 27th 2021. All works will be within the arable field at present down to grass.

Area 4

Extension of the fencing and concrete base. Any tall ruderal vegetation and scrub removal should be under a PMS for dormice. ECoW will be needed. Checks will need to be made to ensure there are no hibernacula in which reptiles hibernate.

Summary

From the site visit completed on the 26/10/2021 with Alison Short (Atkins Ecologist) sections of vegetation will need to be cleared to allow the lorries to access this site. This includes the removal of the embankment which has been checked. The hedgerow here is mostly hazelwood, brambles and some Elder trees. Dormice are known historically to be in the area. Works are planned to take place on the week commencing 15th November

2021. All scrub vegetation works should be under a Precautionary Method statement for dormice. If any nest / animals are found all works will have to stop and further surveys may be needed. This area is unlikely to impact the dormice habitat on site as it is at the edge of the hedgerow which connects to the woodland. The hedgerow thins out towards where these works are taking place. There should be little removal of hedgerow at this section although there could be some impact to the connectivity although minimal as it is at the end of the hedgerow (not breaking connectivity in the middle). The removal of the hedgerow will be minimal as it is under 8m but will be reinstated through other methods elsewhere on site (for example filling in gaps hedgerow on site).

Ecologist (Alison Short) required the works to be completed under a Precautionary Dormouse Method Statement. This is due to the fact that surveys completed in 2018 indicated that there are dormice in the area. The Ecologist (Alison Short) surveyed the hedgerow and indicated that the vegetation is low risk for dormice and therefore that the works could take place in absence of an updated survey. This is due to the connectivity not being excellent throughout the site and the type of vegetation present. The impact of the works should be minimal to the Dormice habitat.

Legislation

Dormice are protected by the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and the Conservation of Habitats and Species Regulations 2010 (as amended by the Regulations 2012). The combined effect of this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture (take) dormice.
- Deliberately or recklessly disturb dormice in such a way which is likely to –
 - o impair their ability to:
 - survive, to breed or reproduce, or to rear or nurture their young; or,
 - hibernate.
 - o affect significantly the local distribution or abundance of dormice.
- Damage, destroy or obstruct access to a breeding site or resting place.

Photo 1: Right Hand Side (West of entrance)

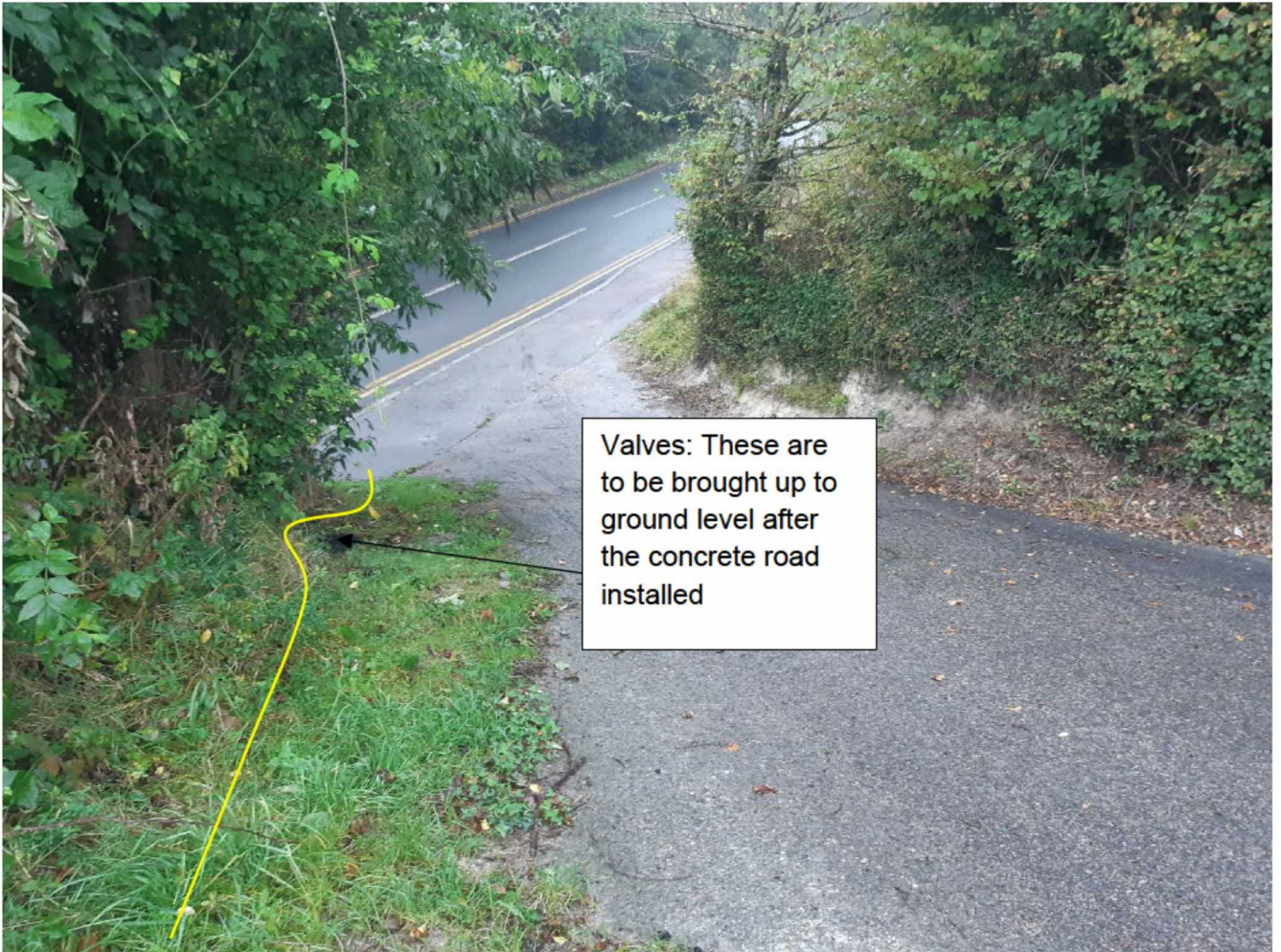
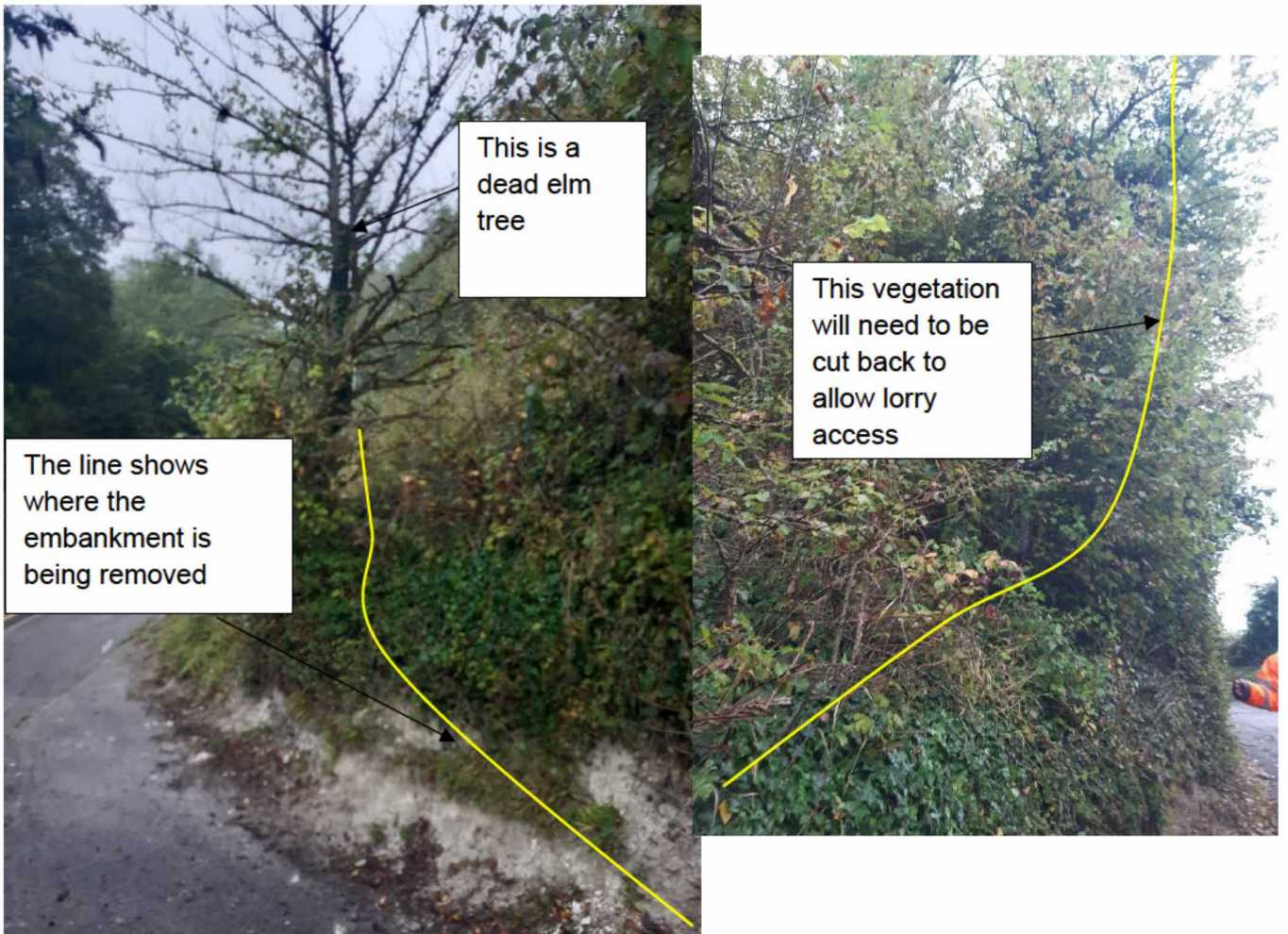


Photo 2: Left Hand Side (East of entrance)



ENVIRONMENTAL METHOD STATEMENT – DORMOUSE- Vegetation Clearance for Turning Circle Works ONLY

Halling UV Scheme 10-1221/ 69782

CRAV Register

	Name/Position	Signature	Date
Originated by	Hayley Child/ Graduate Environmental Officer	HCHILD	04/11/2021
Checked by	Mandy Billett / Environmental Performance Manager		
Reviewed by	Mandy Billett / Environment Performance Manager		

Revision Register

Version	Dated	Comments

Introduction

Dormice and their places of rest / shelter are protected. This Method Statement sets out how the proposed Halling UV Installation may be undertaken with minimal risk of encountering a dormouse and / or causing an offence with respect to dormice.

Refer to the Works Environmental Appendix for other environmental constraints relevant to the site.

Works and Site Summary

The Scheme is situated at the SEW Halling Greensand site which is opposite Halling Chalk (SEW site). There is a steep and small vehicle entrance to the site leading up to the top of the slope which overlooks St Andrew's Lake. SEW's land ownership extends into the farmers' fields adjacent to the trackway leading up to the site. There is hardstanding available at this site, with short amenity grass. There is an area of woodland surrounding the site (outside of SEW site ownership).

The proposed works are to install a UV system at the Halling Greensand site which will improve the quality of the water coming from this site. The installation may impact dormice or dormouse habitat. Principal construction activities will be confined to hardstanding and arable fields used for hay production which are not dormouse habitat. Other habitats crossed include some woodland and hedgerow on site which is well established and may support dormice. The site is situated on some hard standing but is mostly within arable fields adjacent to the site (Ordnance Survey grid reference: TQ 69685 64424). Behind the site is the large St Andrew's lake surrounded by well-established woodland. The site has a hedgerow which runs around the entirety of the site with excellent connectivity from the site to the woodland and to other areas nearby including the arable fields. Key works areas are shown on the attached plan.

The works are as described below:

- (Grid reference: TQ 69655 64381): There are plans to increase the turning circle at this site to ensure that the 22 tonne articulated lorries can easily access the site. This will be completed at the top of the steep hill into Halling Greensand. This will require vegetation clearance between the farms field gate and the entrance gate to the site. The hedgerow to be removed has not been checked for Dormice. There are further works at the entranceway including the removal and re-tarmacking of the short slope. This is to ensure that the 22 tonne articulated lorries can easily access the site.

A preliminary ecological appraisal was undertaken on 22nd January 2021 by Georgie Baulcomb (SEW Environment Performance Officer and Ecologist) and Hayley Child (SEW Environmental Performance Graduate), to assess the ecological constraints and subsequent mitigation that may be required for the proposed UV installation at the Halling Greensand Site and adjacent farmers field situated behind St Andrew's Lake.

History

There is potential for dormice at this site. The works are potentially due to take place within close proximity to a hedgerow which may have some dormice potential.

If utilising the land adjacent to our entrance track within the agricultural fields, the works will be close to the hedgerow.

If further clearance or impact to the connectivity of the hedgerow is required, dormouse surveys may be required and work would need to take place under a Protected Species Licence if dormice are present.

It is important to note that at this premise the security fencing is adjacent to an area of woodland which may have potential habitat for the species. This will be determined by an ecologist on site during a walkover assessment of the area including that just outside the fencing. The area where the works are to take place have good dormice habitat and connectivity.

There are a few online records of Hazel Dormice in the area. The records are very infrequent although there have been records since 2013 through to 2018. These records have been within 100m of the site and therefore are a good indication that the species may be present in the area. Although, it must be noted the data is now out of date for this site. Alternatively the species records appear to be within the lower landscape surrounding St Andrew's Lake, the map of reference of the species used (NBN) makes it difficult to determine the topography of the area and therefore the location is not certain.

There were dormice checks at this site completed in 2016 by Ali Short (working for Jacobs at the time). It was detailed in the Tech Note that no dormice were found but nests were in the woodland adjacent to the site. This woodland has excellent connectivity to the rest of the site including the hedgerows which will require some vegetation clearance.

Dormouse Method Statement

All contractors working on site are to be given a toolbox talk provided by a Natural England dormouse survey licence holder (thereafter referred to as an ecologist), prior to works commencing, with particular reference to the potential presence of dormice.

An ecologist will supervise all hedgerow and scrub vegetation clearance works (including bramble and bracken), undertaking a search for dormice or dormouse nests in the areas where clearance is required, and including a search of an additional 1m buffer zone area around the area required for clearance. The check will include the ground area underneath the cleared vegetation.

The vegetation removal will be undertaken by hand (using hand pruners / secateurs, loppers or similar). This will ensure that the smallest areas of clearance are undertaken and that the clearance is in exactly the correct place and that adjacent areas are not impacted.

A brush cutter / strimmer or similar may be used to clear the nettles, bracken and brambles.

The Contractor shall provide suitable tools and operatives.

All vegetation which is cleared will be removed from site by the Contractor, or left on site in a location agreed with the landowner in advance and outside of the works footprint.

Once a fingertip search has been completed by the ecologist, vegetation can be removed to 150mm-250mm above ground level.

Another search will be required by the ecologist before the stumps and roots are removed.

This vegetation clearance could be undertaken at any time of year given the anticipated low risk of encountering dormice. The preferred timing would be to remove the above ground vegetation during the winter months (November to March) and remove the stumps and roots in the spring / summer once dormice are active (May – October).

Following completion of the works, all areas will be backfilled and topsoil replaced.

There will be a requirement to replant the vegetation which has been removed and recreate a continuous field boundary.

If a dormouse or dormouse nest is encountered at any time, works must cease immediately and the *Employer's* Environmental Performance Officer Anna Harris (anna.harris@southeastwater.co.uk/07807485466) must be contacted immediately for advice. The works may be postponed until Natural England has been consulted and a significant delay to the Scheme is possible.

Dormouse Site Assessment

Site Assessments Details:

Preliminary Walkover 28/03/2021:

Present: Hayley Child (SEW Env Team), Anna Harris (SEW Env Team), Dave Allin (Murphy) and Georgios Faldamis (SEW Project Engineer).

This visit was a preliminary walkover was completed by Anna Harris and Hayley Child, accompanied by Dave Allin and Georgios Faldamis. This was in the early design stage of the project where environmental guidance was provided to assist in the design.

Ecological Site Visit 21/05/2021:

Present: Hayley Child (SEW Env Team) and Georgie Baulcomb (SEW Ecologist).

Ecological Site Visit needed to assess hedgerow and area around the site. [REDACTED]

[REDACTED]

Trial Hole Works Site Visit 16/07/2021:

Present: Hayley Child (SEW Env Team), David Allin (SEW), Ceri Richards (SEW), Murphy Gang

[REDACTED]

Vegetation clearance site survey 08/10/2021:

Present: Hayley Child (SEW Env Team), Moyra Thomason (SEW Env Team), Keith Strain (SEW)

[REDACTED]

Summary

From the site visit completed on the 08/10/2021 with Ali Short (Atkins Ecologist) the section of hedgerow will need to be cleared. The hedgerow is hawthorn and dogwood heavily covered with wild clematis. Dormice are known historically to be in the area. Works are planned fairly immediately. All scrub vegetation works should be under a Precautionary Method statement for dormice. If any nest / animals are found all works will have to stop and further surveys may be needed. This area is unlikely to impact the dormice habitat on site as it is at the edge of the hedgerow which connects to the woodland. It is a thin hedgerow therefore the impact should be minimal. The removal of the hedgerow will be minimal as it is under 8m and can be reinstated.

Ali stated that the works will need to be completed under a Precautionary Dormouse Method Statement. This is due to the fact that there were surveys completed at this site in 2016 confirming dormouse nests at this site. Although there were no recordings in 2016 of dormice, there is potential for the species to still be present at this site. There have been records from 2018 indicating that there are dormice in the area. Ali surveyed the

hedgerow and indicated that the vegetation is low risk for dormice and therefore that the works could take place in absence of an updated survey. This is due to the connectivity not being excellent throughout the site and the type of vegetation present. The impact of the works should be minimal to the Dormice habitat.

Legislation

Dormice are protected by the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and the Conservation of Habitats and Species Regulations 2010 (as amended by the Regulations 2012). The combined effect of this legislation makes it an offence to:

- Intentionally or deliberately kill, injure or capture (take) dormice.
- Deliberately or recklessly disturb dormice in such a way which is likely to –
 - o impair their ability to:
 - survive, to breed or reproduce, or to rear or nurture their young; or,
 - hibernate.
 - o affect significantly the local distribution or abundance of dormice.
- Damage, destroy or obstruct access to a breeding site or resting place.

ENVIRONMENTAL METHOD STATEMENT – DORMOUSE- All Remaining Vegetation Clearance works

Halling UV Scheme 10-1221/ 69782

CRAV Register

	Name/Position	Signature	Date
Originated by	Hayley Child/ Graduate Environmental Officer	HCHILD	14/12/2021
Checked by	Mandy Billett / Environment Performance Manager	<i>Mandy Billett</i>	24/12/2021
Reviewed by	Mandy Billett / Environment Performance Manager	<i>Mandy Billett</i>	24/12/2021

Revision Register

Version	Dated	Comments
01	28/01/2022	Updates to scope and changes to the MS

Introduction

Dormice and their places of rest / shelter are protected. This Method Statement sets out how the proposed Halling UV Installation – All Remaining Vegetation Clearance

Refer to the Works Environmental Appendix for other environmental constraints relevant to the site.

All vegetation clearance at this site must be supervised by an Ecologist.

Works and Site Summary

The Scheme is situated at the SEW Halling Greensand site, located on Vicarage Road, Halling, Kent ME1 2BG (OS Grid Reference for site entrance TQ 69641 64377) (hereafter referred to as The Site) which is opposite SEW Halling Chalk site.

At Halling Greensand, there is a steep entrance suitable for small vehicles only with a trackway leading up to the top of the slope which overlooks St Andrew’s Lake. SEW’s land ownership extends into the farmers’ fields east of the trackway. There is hardstanding available at this site, with short amenity grass. There is an area of woodland surrounding the site to the west of the trackway which is not in SEW ownership.

The proposed upgrade works, which these clearance works are part of, are to install a UV system at the Halling Greensand site which will improve the quality of the water coming from this site. A preliminary ecological appraisal was undertaken on 22nd January 2021 by Georgie Baulcomb (SEW Environment Performance Officer and Ecologist) and Hayley Child (SEW Environmental Performance Graduate), to assess the ecological constraints and subsequent mitigation that may be required for the proposed UV installation at the Halling Greensand Site and adjacent farmers field situated behind St Andrew's Lake. The installation may impact dormice or dormouse habitat. Various ecological walkovers subsequently took place from March to October 2021, undertaken by Alison Short (Senior Ecologist Atkins), accompanied on occasion by a SEW Environment Performance Officer and/or Graduate Performance Officer. There is no current dormouse survey data for the Site, although historically, dormouse have been recorded within the adjacent habitats (see Dormouse Site Assessment).

Principal construction activities within the works area will be confined to hardstanding and arable fields, used for hay production, which are not dormouse habitat. Enabling works to allow access to the arable field had the potential to impact other habitats, this included some woodland and hedgerow on site which is well established and may support dormice. The main construction works will extend the existing hardstanding where Borehole 7 is located eastwards into the arable fields. (Ordnance Survey grid reference: TQ 69685 64424).

North of the existing and area of hardstanding to be constructed, located within a deep quarry, is the large St Andrew's Lake surrounded by well-established woodland. The site has a hedgerow which runs around the perimeter of the arable field with connectivity from the site to the woodland located on the west of the trackway. Key works areas are shown on Figure 1 Works Plan, the enabling works have already been completed but there is further vegetation clearance required at the site:

All Remaining Clearance Works:

Area 5: Around the palisade fencing (Grid reference: TQ 69670 64422)

This area is mostly compromised of brambles and buddleia, there are small shrubs of hawthorn within this area too. The connectivity here is moderate as it connects the hedgerow on the northern boundary, which has excellent connectivity to the woodland, to the hedgerow which forms the boundary of the trackway. The maximum area to be cleared is 1.5m by 4m to allow access to the existing concrete plinth and removal of waste (old gate and 'fly tipped' children's play equipment). This clearance will be permanent as the new infrastructure will be sited here. There will be no impact to connectivity as the clearance area is remote from, not connected to, the northern boundary hedge.

Area 6: Hedgerow (potential) (Grid reference: TQ 69668 64447)

The works here allow for the hedgerow to be cut back for overhanging/impacting the works area only. It is **not authorised** for the hedgerow to be removed or the connectivity broken by removing part of the hedgerow.

Area 7: Base of the hill for potential pipe laying (Grid reference: TQ 69676 64375)

At the moment the intention is to find existing chambers and open those up to reconnect pipes from Halling Chalk to Halling Greensand. If this cannot be done the works will require an open cut trench in Area 7 (shown on Figure 1 Works Plan below). This will run within the field from a chamber located at the entrance to the arable field, parallel to Vicarage Road (west to east direction for approximately 110m), turn south through the hedge (approximate width 2.5m) and down the bank of the fields' southern boundary to the footpath/road (approximate length 8.0m). The pipe will cross beneath the road and connect to Halling Chalk. This work will impact the southern margin of the field which has a well-established hedgerow boundary with short grass/cultivated field behind. The hedgerow that forms the boundary of the field and road is comprised of many various species including: Hawthorn,

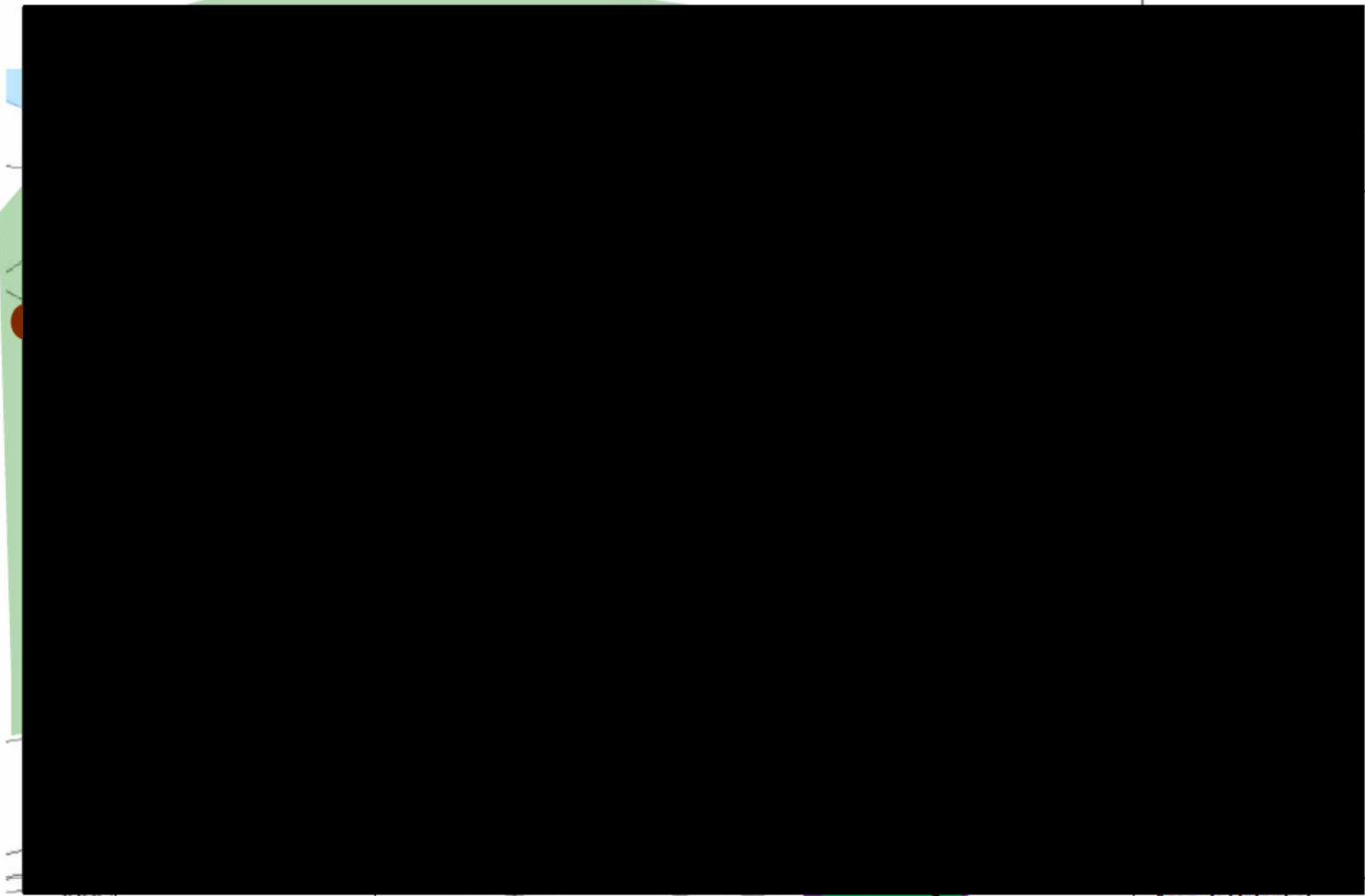
Buddleia, Brambles, Elder and Ash and this will be severed by the works. The temporary loss of connection should not be significant for dormice as this hedge is not optimal habitat for dormice but the hedgerow will provide a place of rest, food and shelter for other animals and therefore will need to be replaced.

All other clearance on site

Providing there are no impacts to the surrounding hedgerows, trees, shrubs or any other materials (such as the 'fly tipped' children's play equipment, any log piles or hibernacula, etc.), any works within the arable field will not impact potential dormouse habitat, and as such are not subject to this Dormouse Method Statement. Note that a hibernacula is a place where dormice may be hibernating, such as log piles, tree stumps, within bramble etc.

Figure 1: Work Plan

Light Green: Areas of completed clearance



Area 7: Potential Clearance for connecting chambers to Halling Chalk site.

Dormouse Method Statement

All Contractors working on the Site are to be given a toolbox talk provided by a Natural England dormouse survey licence holder (thereafter referred to as an Ecologist), prior to works commencing, with particular reference to the potential presence of dormice.

The maximum vegetation clearance permitted is:

- Area 5 2.0m by 5.0m with no impact on connectivity to the hedgerow to the south of the palisade fence;
- Area 6 minimal trimming of overhanging branches which will hinder the work activities if left in situ.
- Area 7 ground vegetation clearance within the field margin from the duct chamber (approximate OS Grid Reference TQ 69656 64381) and the point at which the bank will be traversed (approximately 110m in the field parallel to Vicarage Road). Clearance of the vegetation on the bank will be limited to a working width of approximately 2.5m and length of approximately 8.0m. The length of hedgerow to be removed should be minimised. There is potential for this Area to have connectivity affected as the pipe will need to be laid through the hedgerow.
- These measurements and extent of clearance must be confirmed with the Environmental Performance Officer by Project Engineer/Contractor before work starts.

An Ecologist will supervise all hedgerow and scrub vegetation clearance works (including bramble and bracken), undertaking a search for dormice or dormouse nests in the areas where clearance is required, and including a search of an additional 1m buffer zone area around the area required for clearance. The check will include the ground area underneath the cleared vegetation.

The vegetation removal will be undertaken by hand (using hand pruners / secateurs, loppers or similar). This will ensure that the smallest areas of clearance are undertaken and that the clearance is in exactly the correct place and that adjacent areas are not impacted.

A brush cutter / strimmer or similar may be used to clear the nettles, bracken and brambles.

The Contractor shall provide suitable tools and suitably trained operatives.

All vegetation which is cleared will be removed from site by the Contractor, or if left on site before disposal, stored in a container to prevent animal ingress.

Once a fingertip search has been completed by the Ecologist, vegetation can be removed to 150mm-300mm above ground level.

Another search will be required by the Ecologist before the stumps and roots are removed.

This vegetation clearance could be undertaken at any time of year given the anticipated low risk of encountering dormice. The preferred timing would be to remove the above ground vegetation during the winter months (November to March) and remove the stumps and roots in the spring / summer once dormice are active (May – October). This would minimise further the risk of encountering a dormouse or dormouse nest.

Following completion of the works, all areas will be backfilled and topsoil replaced.

A record must be maintained by the Contractor of all areas of vegetation removed, measured to the nearest m². This must be passed to the Client's Project Team monthly as a minimum.

There will be a requirement to replant the vegetation which has been removed within other areas on site as these works are permanent. This must at least equal the area and quality of vegetation removed, and connected to the area of vegetation removal by hedgerow, trees and scrub. The replacement planting areas must be agreed prior to removal taking place.

The Contractor is required to visit the site during the growing season following planting, to check the success rate of the planting, and undertake remedial action if the planting has failed (such as, but not limited to, replanting, additional rabbit or deer guards, mulching or watering).

If a dormouse or dormouse nest is encountered at any time, works must cease immediately and the Employer's Environmental Performance Officer Moyra Thomason (moyra.thomason@southeastwater.co.uk/ 07814 408766) must be contacted immediately for advice. The works may be postponed until Natural England has been consulted and a significant delay to the Scheme is possible.

Dormouse Site Assessment

Site Visits:

Preliminary Walkover 28/03/2021:

Present: Hayley Child (SEW Env Team), Anna Harris (SEW Env Team), Dave Allin (Murphy) and Georgios Faldamis (SEW Project Engineer).

This visit was a preliminary walkover was completed by Anna Harris and Hayley Child, accompanied by Dave Allin and Georgios Faldamis. This was in the early design stage of the project where environmental guidance was provided to assist in the design.

Ecological Site Visit 21/05/2021:

Present: Hayley Child (SEW Env Team) and Georgie Baulcomb (SEW Env Team and Ecologist).

Ecological Site Visit needed to assess hedgerow and area around the site. Georgie indicated that dormice surveys may need to be done and mitigations will need to be put in place for various streams of work at this site.

Vegetation Clearance Site Survey 08/10/2021:

Present: Alison Short (Senior Atkins Ecologist), Hayley Child (SEW Env Team), Moyra Thomason (SEW Env Team), Keith Strain (SEW)

This site visit was to look at the works that are coming up at this site. This includes removing vegetation (dormice risk). At this site visit these areas were surveyed by Moyra and Hayley and concern was raised over Dormice risk. A follow up visit will be required to this site by an Ecologist for these works

Ground-Based Walkover Survey 26/10/2021

Present: Alison Short (Senior Ecologist, Atkins) Hayley Child (SEW Env Team).

The objective of the survey was to assess the site for any potential ecological constraints during the construction phase of the proposed works. The habitats within and directly adjacent to the proposed works were recorded and opportunities for protected and notable species were noted. Photographs were taken as a record of the site.

Summary

Dormice are known historically to be in the area. There are three online records of Hazel Dormice within 0.5km of the area on the National Biodiversity Network Database (NBN). These record sightings in 2013, 2016 and 2018. The records from 2013 were within 0.5km of the working area (Latitude: 51.354292 Longitude: 0.432863); in 2016 there were further records at the same location and finally in 2018. All of these later records have been documented within 150m of the Halling Greensand site and are confined to the woodland adjacent to the site.

Additional species records appear to be within the lower landscape surrounding St Andrew's Lake, the map of reference of the species used (NBN) makes it difficult to determine the topography of the area and therefore the location is not certain.

There were dormice surveys at this site completed in 2016 by Alison Short (working for Jacobs at the time). It was detailed in the Tech Note (Environmental Tech Note/ 30th September 2016/ Alison Short (Jacob's Ecologist)) that no dormice were found but nests were in the woodland adjacent to the site. These surveys included dormouse boxes placed within the adjacent woodland and nearby hedgerow. This woodland has connectivity to the rest of the site including the hedgerows which will require some vegetation clearance. As evidence of dormouse presence within 150m of the site is available there is a good possibility that the species may be present in the area. Although, it must be noted the data is now out of date for this site, for planning applications the Natural England advice is that survey data should be from current or previous active season but surveys up to three years old are acceptable if the habitats have not changed significantly.

From the site visit completed on the 08/10/2021, Alison Short (Senior Ecologist Atkins) confirmed all woody and scrub vegetation clearance will need to be supervised due to the possible presence of dormice or dormouse nests. The Ecologist undertook a walkover survey of the hedgerow and indicated that whilst the vegetation in Areas 5-7 has higher potential to support dormice than other areas of the site, the works are minor in terms of extent and type of vegetation to be removed. This is due to the connectivity not being consistently excellent throughout the Site, and the type of vegetation present. The impact of the works should be minimal to the potential dormouse habitat. Dormouse habitat connectivity will not be impacted as the only severing of any hedge is the temporary impact to Area 7 (if required); however, as this hedge is sub-optimal for dormice, it is not expected to impact how dormice move through the area.

Therefore the works in Areas 5 – 7 could take place in accordance with a Precautionary Method Statement and an updated dormouse survey would not be required if there is no break in connectivity of the moderate/high potential hedgerow. There are areas of foraging and nesting habitat throughout the Site. The hedgerow on Site is a mixture of Hawthorn, Buddleia, Brambles, Elder and Ash.

In conclusion the following controls apply:

All woody and scrub vegetation works must be under a Precautionary Method Statement for dormice. If any nest / animals are found all works will have to stop and further surveys and possibly a Licence from Natural England may be needed.

Any woody and scrub vegetation which is removed must be reinstated. The works are permanent, therefore planting in the same area from which it was removed is not possible. Replacement planting must be of at least equal area and quality of vegetation removed, and connected to the area of vegetation removal by hedgerow, trees and scrub.

The replacement planting areas must be agreed prior to removal taking place.

Previous Vegetation Clearance Works Undertaken at the Site

There has been a number of vegetation clearance works already completed at this site. These have been completed under separate Method Statements including Ecological Supervision. The works which have been completed are:

Area 1 (Grid reference: TQ 69639 64381): The trackway has been increased at this site to ensure that the 22 tonne articulated lorries can easily access the site. This required the removal of part of the embankment at the base of the trackway. This was authorised and the structural integrity of the embankment was maintained. There was some trimming back of branches on both sides of the track, this was authorised as it was minimal clearance.

On the right hand side east of the trackway there was vegetation clearance required. This has been completed including cutting back Buddleia, a Buckthorn tree and the shrubs at this side. There is low connectivity from this section of the hedgerow to the existing hedgerow which connects to the woodland. This area has low dormice potential.

On the left hand side west of the trackway a more substantial vegetation clearance was required. This was the removal of the embankment partially to remove the dead tree at the corner of the trackway and increase the size of the entrance. The require vegetation clearance works were reduced to these as further removal of the embankment concerned the team about its structural integrity.

Area 2 (Grid reference: TQ 69652 64381): These works were to increase the turning circle at the top of the trackway. The hedgerow was compromised of Hawthorn and Brambles mostly and was not particularly dense. This required an area of under 8m of hedgerow (at the end of the hedgerow) to be removed. This was supervised by Alison Short (Senior Ecologist, Atkins) and no evidence of dormouse

were found during the vegetation clearance. This removed the hedgerow up to the farmers gate which leads up to Halling Greensand site.

Area 3 (Grid reference: TQ 69658 64421): These works were minimal. There was a small area of clearance required in the corner adjacent to the excavation made on site. This area was mostly Brambles and some Hawthorn although the connectivity was lower here as the hedgerow was not as thick. This was supervised by Alison Short and no evidence of dormice were found in this area.

Area 4 (Grid reference: TQ 69664 64403): The works here were minimal and required very little vegetation clearance. These were to create the entrance track to the site and allow the lorry up to the location where the UV kiosk is to be placed. The vegetation clearance was only within the field and the top layer of soil was removed.

Replacement Requirements

Vegetation replacement requirements listed below, where possible replacement should be like for like in plant species used and size of planting area. Brambles should not be used and the use of Buddleia (considered an invasive non-native species (INNS) by some local authorities) should be checked with SEW Environment Team before planting. All plant stock should be from a traceable biosecure source of local provenance where possible, evidence of provenance to be provided to SEW Environment Team prior to planting.

Area 1 east of entrance where embankment was removed – vegetation removal was minimal with one dead Elm being trimmed to allow the removal of less than 0.5m width of chalk. This area is part of the Roadside Nature Reserve which is cited for chalk grassland habitat. Vegetation replacement in this area should seek to enhance this habitat.

Area 1 west of entrance shrub and tree trimming – Buddleia and Buckthorn were not removed in this area therefore replacement is not required.

Area 2 removal of hedgerow to provide turning circle – to be replaced with locally sourced disease free cultivars of Hawthorn, Buddleia, Elder and Ash to replicate the original hedge.

Area 3 removal of Brambles and Hawthorn – to be replaced with local species suitable for providing screening of the palisade fence from the road.

Area 4 removal of grassland - this area will be regenerated when the farmer recommences agricultural activities.

Area 5 removal of scrub and Buddleia around north east corner of existing hardstanding – this removal will be permanent but compensation planting will be required around the new palisade fence to screen the infrastructure from the road.

Area 6 clearance limited to minor trimming – no replacement required.

Area 7 removal of boundary hedgerow - to be replaced with locally sourced disease free cultivars of Hawthorn, Buddleia, Elder and Ash to replicate the original hedge.

Legislation

Dormice are protected by the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and the Conservation of Habitats and Species Regulations 2010 (as amended by the Regulations 2012). The combined effect of this legislation makes it an offence to:

Intentionally or deliberately kill, injure or capture (take) dormice.

Deliberately or recklessly disturb dormice in such a way which is likely to –

- impair their ability to:
 - survive, to breed or reproduce, or to rear or nurture their young; or,
 - hibernate.
- affect significantly the local distribution or abundance of dormice.

Damage, destroy or obstruct access to a breeding site or resting place.

Appendix C

Planting and Aftercare Specification

Halling Greensand WTW

Planting and Aftercare Specification

PROJECT NUMBER: 10-1221 / 69782

Planting and Aftercare Specification

Landscape Scheme Implementation

This Planting and Aftercare Specification has been prepared to provide specification and aftercare for the planting on site. The planning permission conditions issued by the Medway Council for the development, primarily condition 5, are also covered within this document. (Planning Permission Reference: (MC/21/3244))

The works carried out at the Halling Greensand site required sections of existing hedgerow to be removed to allow access for construction traffic and infrastructure deliveries. The existing hedgerow consisted of a post and wire fence line with bramble and wild clematis growing through it and the occasional immature tree consisting of ash and elm. The reinstatement planting has been chosen to provide biodiversity and pollinator opportunities, and includes blackthorn, hazel, rowan, beech and hawthorn.

1.0 Plants

General Information/ Requirements

1.0.1 Plant Supply

The Contractor shall supply and deliver all plants required for the Works as outlined in the Schedule; 1.1 – Planting.

All Planting Works shall be carried out in accordance with BS 4428.

All plant material supplied for the Works shall conform to the specification for nursery stock as set out in BS 3936: Parts 1 to 10 as relevant and be of UK provenance; proof of this shall be issued to the Employer. All material must comply with the National Plant Specification.

No substitutions shall be accepted without the prior agreement of the Employer.

Material not complying with the specification on delivery shall be returned to the supplier at the Contractor's expense.

All plants shall be labelled in accordance with BS 3936. All trees or shrubs or group of plants of a single species is to have a suppliers label for delivery to site showing:

- Full botanical name
- Total number
- Suppliers name
- Plant specification in accordance with scheduled National Plant Specification categories.
- Form and dimensions

Choice of suitable tree planting stock, preparation, planting and aftercare shall be in accordance with BS 8545:2014 Trees: from nursery to independence in the landscape - Recommendations.

1.0.2 Handling of Nursery Stock

Plants must be lifted, packed and handled in accordance with BS 3936, and then Horticultural Trades Association publication, the National Plant Specification, Handling and Establishing Landscape Plants.

All container grown plants shall be watered at least 2 hours prior to planting so that all of the compost is at field capacity at the time of planting.

Following the receipt of the plants and prior to planting, the Contractor shall comply with the treatment of nursery stock specified below:

- (i) Bare-root plants: Prior to despatch or on arrival at Site plants may be stored up to 3 days in bundles with a covering of freely draining moisture-retentive material such as wet sacking or straw which is moistened periodically. For a storage period of more than three days, bundles shall be opened, and the plants spread out and heeled into trenches in topsoil, minimum depth 300 mm, with the roots fully in contact with the soil.
- (ii) Bare-root plants transported in plastic bags: Plants in bags shall be stored no more than one layer deep and be protected from direct sunlight at all times. Where delay of more than one day occurs, the bags shall be stored upright, not stacked, in a cool shady position or shed, or placed in a cold store. If cold store facilities are not available, plants shall be removed from bags and heeled into soil with all roots covered.
- (iii) Container grown plants: Containers shall be maintained upright, watered as required, sheltered and protected from frost, and shall not be packaged or stored more than one layer deep. Degradable pots that may disintegrate in transit shall be enclosed in polythene film (250 gauge) and firmly secured.

Protection from frost. When necessary, additional measures shall be undertaken to protect plants from frost.

The location for temporary storage shall be sheltered from winds and well drained.

All containers shall remain completely filled with compost. If up to 10% compost has been lost from containers at any stage, then further suitable moistened compost shall be added to completely cover the root systems and fill the containers. Any containers which have lost more than 10% compost shall be replaced. All containerised plants shall be thoroughly soaked prior to planting and all containers removed.

Any plants damaged by frost, desiccation, or in any other way prior to planting, shall be removed from site and replaced with new plants.

All labels shall be retained on the plant for 12 months unless they prove restrictive to growth.

All arising's from the planting including wrappings, paddings, fastenings and bags shall be collected immediately by the Contractor and removed off site.

1.0.3 Condition of Plant Stock

The plant stock must be materially undamaged, sturdy, healthy and vigorous. It must be of good shape and without elongated shoots. Grown in a suitable environment and hardened off, free from pests, diseases, discolouration, weeds and physiological disorders. The root system and condition must be balanced with branch system. All material must comply with the National Plant Specification. The Species must be true to name. Origin/Provenance must be United Kingdom grown.

1.0.4 Notice Periods

Give at least ten working days' notice to the Employer prior to:

- Setting out
- Delivery of plants/ trees
- Planting
- Watering
- Visiting site during the maintenance period

1.1 Planting Operations

1.1.1 Timing

Planting of bare-rooted trees, shrubs and hedge whips, shall take place during favourable weather and soil conditions, between late October and late March. Container-grown plants may be planted at any time during favourable weather and soil conditions. No planting or preparatory operations shall take place when the ground is frost bound, covered by snow, excessively wet or waterlogged or in excessively dry or windy conditions.

1.1.2 Excavations

Shall be by hand or machine. Soil augers shall not be used. Topsoil and subsoil are to be kept separate. On slopes leave a level planting area of a minimum diameter of 300mm around each planting station.

1.1.3 Plants

Container grown plant: Cut and spread any circular or matted roots.

Plant position: Set plants truly vertical at the correct level, i.e. the root collar being generally level with finished topsoil level.

Roots:

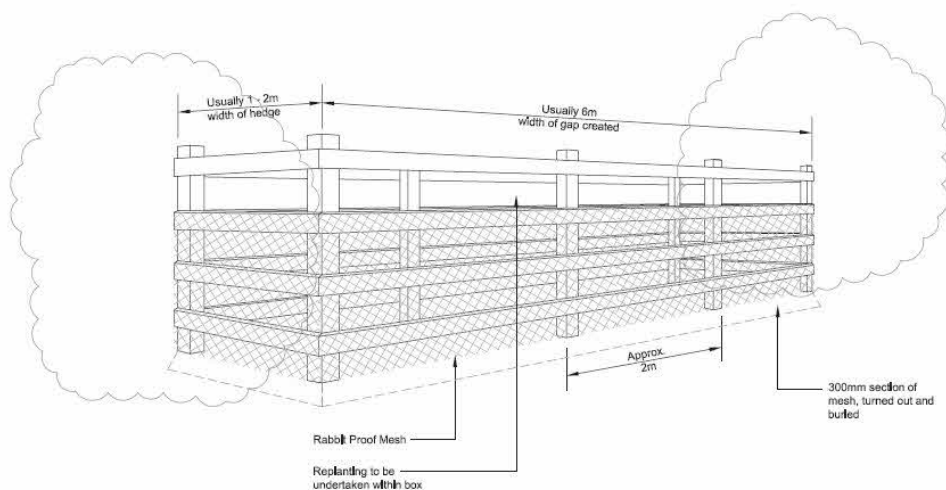
- Cleanly prune off any damaged roots
- Carefully spread out into planting pit and work topsoil between them before being finally firmed into place.

1.1.4 Stones

All stones or debris exceeding 40mm encountered during planting are to be removed off site to an appropriate waste facility.

1.1.5 Hedge Boxes

Pits shall be 150mm wider than the root ball in any dimension. If planting into established turf, cut turf 300mm square and 200mm deep. Invert turf and place in the base of the planting pit before planting and back filling. Pits shall be dug with vertical sides and horizontal base and shall maintain the specified minimum depth throughout. The base of the pit shall be broken up to a further 100mm depth. When backfilled, planting pits shall be finished to existing contours. Carefully prune any badly damaged roots before planting. Plant trees upright in the centre of the pit with roots spread evenly



HEDGE BOX

outwards and downwards without restriction. All wrappings and insulation shall be removed from root balls immediately before backfilling. Backfill the pit with the excavated material and the backfill shall be lightly firmed.

1.1.6 Notch planting:

Transplants shall be notch planted upright into a T-shaped opening of sufficient size for the roots of bare-root plants to be fully spread out. If planting into established turf, plant through upturned turf, which has been dug from the planting location.

Plant at correct level with the root collar being the same level as the topsoil level.

1.1.7 Watering Restrictions

General: If water supply is or is likely to be restricted by emergency legislation, do not carry out planting until instructed. If planting has been carried out, the Contractor is to provide grey water from an approved source via bowser.

1.1.8 Setting Out

Generally, set out planting as shown on the drawings and specified in the planting schedule. The location of the planting plots are shown indicatively. The Contractor shall allow for the adjustment of plot areas.

- No trees or shrubs shall be planted within 3m of the security fence.
- Larger tree species to be planted on mounded areas where there is a greater depth of topsoil. Lower storey scrub species to be planted at the edges of plantations to form a graduated planting.
- Planting density: 2m centres
- Layout: Random groups no more than seven of the same species

2.0 Landscape Aftercare

General

2.0.1 Timing

The Aftercare Period shall be 1 year from the date of completion of the works. As certified by the Employer. (Completed February 2023)

During the Aftercare period the following operations shall be undertaken. The Contractor should note that not all operations will necessarily take place each month.

Restrictions: Normal working hours during the week. No weekend working.

2.0.2 Maintenance Objectives

Aims:

- (i) Maintain and improve the landscape visual amenity and biodiversity of the newly planted hedge.
- (ii) Manage the hedge whips within the newly planted areas to ensure establishment.

Results: Adequate establishment in accordance with the planting schedules and contract.

2.0.3 Notice

The Contractor to provide a planned work schedule indicating when site visits are proposed. These visits will include where required:

- Watering
- Maintenance, including plant replacement where appropriate

2.0.4 Litter

Extraneous rubbish not arising from the contract work shall be collected and removed from site at each visit.

2.0.5 Cleanliness

Soil and arising's: Remove from hard surfaces.

General: Leave the works in a clean and tidy condition at completion and after any maintenance operations.

2.1 Trees / Shrubs / Hedges

2.1.1 Establishment of New Planting

Duration: 1 year

Weed control: Throughout the aftercare period.

- Area: Within the hedgebox maintain, where possible a weed free ring around the base of the planting.
- Method: Control may be by hand weeding or hoeing.
- Treatment of weeds by herbicide application is not permitted.
- Noxious weeds: Removal by hand of the whole of the plant including the roots, to ensure that all areas within the hedge box are maintained clear of noxious weeds throughout the period of the Contract.

2.1.2 Tree Stakes and Ties

Inspection / Maintenance times: As scheduled and immediately after strong winds.

Stakes: Replace loose, broken or decayed stakes to original specification.

Ties: Adjust refix or replace loose or defective ties, allowing for growth and to prevent chafing. Where chafing has occurred, reposition or replace ties to prevent further chafing.

Removal of stakes and ties: When instructed.

2.1.3 Refirming of Trees / Shrubs

Timing:

- In each April refirm all plants that are loose in the ground of not in a vertical position.
- After strong winds, frost heave and other disturbances.
- When ground conditions are neither too dry nor too waterlogged.

Refirming: Tread around the base until firmly bedded.

2.1.4 Tree Guards

Loose or defective guards shall be checked at least every two months by the Contractor and adjusted, refixed or replaced to original specification and to prevent chafing.

Tree shelters/tubes shall be removed at the end of the aftercare period.

2.2 Watering

The Contractor shall ensure that there is no delay in the execution of watering by obtaining licences and permissions from the Employer.

Quantity: Wet to full depth of topsoil.

Frequency: As necessary for the continued thriving of the plant.

Application: Do not damage or loosen the root zone. Any damage caused as a result of watering shall be rectified. Following watering planting pit surfaces shall be left even and all plants firm and root systems not exposed.

2.2.1 Establishment watering

The Contractor shall water all planting undertaken under the Contract, at the frequency necessary to ensure establishment and survival, until all planting works are completed.

2.2.2 Additional watering

During abnormally dry weather additional watering shall be instructed by the overseeing organisation.

2.2.3 Water Restrictions

If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

Schedule

1.1 Planting

Plant Schedule

Plot A – 125 No plants to be planted at 2m centres – (Planting completed on 22nd February 2023)

Species	Height (cm)	Specification	Qty	Rate	Price
Prunus spinose	60-80	B; 1+2; Transplant; 3 breaks	25		
Corylus avellana	90-120	B; 2x; Feathered; 3 breaks min	25		
Sorbus aucuparia	90-120	B; B; 2x; Feathered; 3 breaks min	25		
Fagus sylvatica	90-120	B; 1+2; Transplant; 3 breaks	25		
Crataegus monogyna	90-120	B; 1+2; Transplant; 3 breaks	25		

1.2 Planting Operations

Item No	Description	Unit	Qty	Rate	Price
a	Set out plants at 2m centres allowing for adjustment on site as instructed by the Employer.	Item	-		
b	Notch plant all transplants including all specified operations applicable to the type of plant, fix guard and stake.	No			
c	Pit plant all feather trees including all specified operations applicable to the type of plant. Include for compost to each pit at a rate of 10 litres/ tree. Fix stakes and ties to all feather trees and a deer guard over each plant.	No			

Section 2.0 Aftercare Year 1

Item No	Description	Unit	Qty	Rate	Price
a	Watering and establishment maintenance as per specification of all plantation trees (transplants and feathered trees). Including maintaining 1m weed free ring around each tree throughout the maintenance and aftercare period.	No	125		
b	Replacement of failed planting allow for 10% replacement of total cost of supply and plant of standards and feathered trees.	Item	-		