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To	Gabriel Connor-Streich, Greenshank Environmental		
Project	2150779 – Stodmarsh Stream Enhancement Scheme		
Subject	Design Method Statement – Bliby Wood (Long) and Hinxhill_DD1		

1. CLARIFICATIONS/ CORRECTIONS

Following a Notice for Further Information issued by the Environment Agency on the 26th of November 2025 and a subsequent clarification session held on 21st of January 2026, this updated method statement provides clarifications and corrections to support the determination for the permit application submitted on 11/11/2025 by Greenshank Environmental.

Table 1.1 lists all requests received regarding the Method statement, along with a link to the specific section where the comment is addressed and a summary of the response provided.

Table 1.1 Summary of clarifications added to this version of the Method Statement

EA Comment	Section addressing comment	Summary of clarification/ correction
P6 Although detailed as 'securely staked', is the log jam designed to withstand a 1%AEP + CC event? What variables determine whether a ¼ to 1/3 of stake length are driven in? What about the smaller logs, limbs and branches used to fill voids and the small boulders - are they cumulatively a blockage risk at the farmers crossing downstream? Is it correct that there will be 9 stakes per log jam?	**Section 4.2**	The proposed design takes a precautionary approach, accounting for the low gradient and low velocities predicted by 2-D hydraulic modelling, as well as the energy-dissipation opportunities provided by the wider second-stage channel. Initially, structure stability is proposed through the embedding of the log jam structure into the 2-stage channel berm. Then, ballast and scour protection will be provided using stone with a mean b-axis size larger than the critical transport thresholds for the 100-year flow. Finally, oblique stakes will be used to provide additional stability. As an optional additional safety factor, cable anchoring is recommended for use by the appointed principal contractor. Blockage risk is addressed in the FRA through "worst-case scenario" modelling, by assuming complete blockage of all porous log jam structures. Stake depth of burial will vary slightly during installation as part of the field-fitting process. To ensure a more consistent description is provided,

		the recommendation was updated to a minimum of 50% of stake length, with a minimum length of 1.5m.
P7 states 50-100 mm trunk diameter and 2-3.5m length however Table 3.2 indicates 0.01-0.15m diameter and a minimum tree length 2.0 – 3.0m. Please clarify this point.	**Section 4.2;** **Table 4.2**	Discrepancy corrected. Longer and thicker specifications are preferred to ensure embedding into berms and securing of log jam structure.
P7 states that any remaining material will be used by landowner on other parts of the property – can you confirm this would not include the floodplain? P10 Spoil Management does not mention this arrangement and implies the excess material will be used 'to regrade the floodplain benches and channel margins, ensuring smooth transitions between new and existing surfaces.' 2150779 Stodmarsh - Bliby 1 - DESIGN_cbec document indicates there is 5,280m3 of excess material.	**Section 4.3**	Spoil excavated from the site will first be used to infill the existing channel. It is estimated there will be excess spoil for disposal, which will be used initially for any regrading required within the footprint of the scheme, noting that this will only be done to create the cross-sections as shown in the detailed design. Any surplus spoil will be disposed of within the landowner's wider landholding, noting that they own and manage a much larger area of land surrounding the scheme including considerable areas within Flood Zone 1. The landowner has agreed to only dispose of spoil within areas of land that are not in Flood Zone 2 or 3.
How will the monitoring of deposition and condition of porous log jams take place - will channel capacity be maintained? Do you anticipate a reduction in channel capacity over time that could affect the modelled outputs?	**Section 4.2**	Clarification added on frequency of monitoring and responsibility of repairs. Additional clarification added on maintenance of overall channel capacity, even in scenarios where porous log jams may be fully blocked.
Clarification Session – 21st of January 2026		
How will plant/materials be managed if there is a flood alert during the works.	**Section 4.5**	Clarification added: Prior to the physical works beginning, the contractor must subscribe to the flood warnings for the East Stour and monitor the weather forecast for the duration of the construction period. In the event that the river level rises by 600 mm, works on site should cease and plant moved out of the floodplain. A statement has been added re. Storage of plant overnight in case of a nighttime flood event.
Clarify whether flood modelling captured the logjams as	**Section 4.2**	Additional detail added: Porous log jams will be embedded into the benches of the 2-stage channel. Where any

protruding into the floodplain benches		branches protrude above the surface of these benches, they will be cut to remove potential obstructions to flow and reduce the risk of debris trapping.
Provide drawings of the logjams showing their intended height and how they are being secured.	**Section 4.2**	New Planform and cross-sectional view added to Design Package (with dimensions). Additional statement regarding cable anchoring was added to Section 4.2: Porous log jams will be embedded into the benches of the 2-stage channel. Where any branches protrude above the surface of these benches, these will be chopped to remove any potential obstacle to flow and decrease the risk of trapping debris.
Provide some information on how we will do the tie in to the main channel for the newly excavated channel sections.	**Section 4.1**	Connection of the newly created channel will happen the downstream end of the channel first, taking care to grade and stabilise material to reduce erosion risk. The upstream end of the diversion will only be connected once water levels have stabilised. Soils are clayey so we can look to use excavated material from the upstream tie in to immediately create a dam, puddling clay subsoils to reduce erosion risk and direct water down the new channel. Tie-in will be done only during low flow scenario.
Provide clarity around spoil disposal locations	**Section 4.3**	A supplementary map has been provided by Greenshank Environmental, showing the locations of spoil disposal outside of flood zones. A statement has been added noting the location and that this outside of flood zone 2 and 3.
Clarify process for temporary spoil storage	**Section 4.5**	Statement added regarding temporary spoil storage within the floodplain and where most temporary spoil storage will be located.

2. INTRODUCTION

The Stodmarsh Stream Enhancement Scheme is centred around a total of seven reaches of fluvial and drainage ditch environments in the agricultural land surrounding Ashford, Kent, focusing on the development of restoration and habitat enhancement measures for these waterbodies. This project aims to deliver water quality and morphological improvements to watercourses that are significantly impacted by excessive nutrient input associated with agricultural practices, by implementing the measures outlined in the recent DEFRA report for the management of agricultural ditches for Nutrient Neutrality (Connor-Streich, 2024).

The seven reaches included within this project are as follows, with Ordnance Survey (OS) National Grid References (NGR) provided from the upstream to downstream extent:

- Wilmington DD1: TR 02413 46523 – TR 03184 46161
- Wye DD1: TR 04696 45196 – TR 04911 44902
- Hinxhill DD1: TR 04911 44902– TR 04499 45231
- Hinxhill DD2: TR 03883 44856 – TR 04170 44470
- South Hill DD1: TR 08406 41856 – TR 08966 41639
- Bliby Wood (Long): TR 01800 37630 – TR 01754 37104
- Bliby Wood (Short): TR 01996 37749 – TR 02150 37514

Two sites, Hinxhill DD1 and Bliby (Long), are in reaches designated as Main River by the Environment Agency (EA), and as a result, an application for a Flood Risk Activity Permit (FRAP) is required. In support of this application, the following Design Method Statement has been prepared, which outlines the overall construction processes and design background for the restoration measures that will be applied at each of the five project reaches within the Stodmarsh Stream Enhancement Scheme. However, as it is only the Hinxhill DD1 and Bliby Wood (Long) reaches that are designated as Main River, where applicable, sections of this Design Method Statement have been tailored to those reaches specifically.

All measures have been designed with multiple benefits in mind, including habitat enhancement, nutrient absorption, minimisation of imported/exported materials, keeping with current landscape character, maintenance, and flood risk management.

Detailed designs have been prepared for all sites, with the proposed restoration measures for Bliby Wood (Long) accompanying this application - in Appendix A. Designs incorporate the following features:

- Reprofiling of the existing deep, steep-sided agricultural drainage ditch into a two-stage channel.
- Creation of inset floodplain benches on both sides of the low-flow channel to increase channel capacity and habitat complexity.
- Introduction of a more sinuous low-flow channel within the widened corridor to promote natural geomorphic processes.
- At approx. 70m spacing, the installation of porous log jams in the low flow section of the two-stage channel to slow flows, encourage sediment deposition, and improve connection with the inset floodplain areas.
- No change to the height or position of the outer bank tops, maintaining current floodplain levels and preventing increased flood risk to adjacent land.
- Establishment of a 10 m wide vegetated buffer strip along both banks to provide riparian habitat and improve water quality.

The design is based on CBEC's evaluation of hydraulic performance, ensuring that the above aims are met without increasing flood frequency downstream of the site and that there is minimal risk to local infrastructure, services and assets. The aim of creating a more sinuous and diverse channel within the footprint of the existing planform is to produce an improved channel morphology that is more reflective of typical lowland river, whilst limiting land-take and flood risk within the adjacent agricultural land. This sinuous planform and two-stage configuration will help retain nutrients for longer, allowing them to be sequestered within the marginal floodplain shelves of the two-stage channel. This method statement summarises the proposed methods of construction of the design.

Prior to the commencement of any physical works, an initial on-site start-up meeting is required to ensure that all parties involved are in agreement with the proposed construction process. It is recommended that CBEC, as the Principal Designer, be represented to supervise all phases of construction, ensuring that the designs are executed appropriately and can be undertaken when necessary.

The appointed Principal Contractor will be responsible for liaising with the service providers regarding the location of local services within the construction area. This communication should cover all aspects of working near, crossing over and under services, ensuring that the Principal Contractor is clear on which activities are permitted.

3 Site Preparation and Silt Management Recommendations

3.1 Site access and preparation

Site access and welfare location is to be arranged by the Principal Contractor**.** Final access routes and site storage locations should be agreed with the landowner prior to mobilisation. The appointed Site Manager should coordinate all deliveries of materials and plant, which are to be planned and agreed with the landowner. Any specific times to avoid vehicular access should be adhered to.

Bliby (Long)

It is recommended that vehicles/machinery access the site off Brockmans Lane via the field gate located at NGR: TR 02189 37728. If possible, traffic should approach the entrance from the south east, making a left turn into the field to deliver materials and goods to prevent disruption to local traffic.

Hinxhill DD1

It is recommended that vehicles/machinery access the site off Oxenturn Road via the field gate located at OS NGR: TR 05110 45103. If possible, traffic should approach the entrance from the north east, providing a straight angle of entrance into the field to deliver materials and goods, preventing sharp turns which could cause disruption to local traffic.

3.2 Location of Existing Services

Searches of utilities are to be provided to the Principal Contractor ahead of commencement of works, to assess the presence of any utilities which could be affected. A desk-based utilities search was undertaken using AtkinsRealis Utilities Services. The search covered all potential identified utility providers and identified a number of those with infrastructure nearby, the Bliby Long restoration site, although none overlapping the construction footprint

The Principal Contractor is to ascertain the exact location, nature, and extent of any services using cable avoidance tools for future works and to carry out all necessary protection works to ensure that service assets are not disturbed. Any isolation or alteration to services must be carried out by competent persons.

A South East Water distribution main crosses above the northern border of the site from west to east. While this does not overlap with the area of the proposed design and is unlikely to affect access or other construction activities, it is the responsibility of the principal contractor to confirm its location and assess its impact.

3.3 Footpath Diversion

Bliby (Long)

A Public Right of Way footpath (0142/AE515/9) enters the arable field to the north of the Bliby short ditch via the field gate off Brockman Lane, located at NGR: TR 02189 37728, following the channel south east along the design extent, then south and south west before crossing Brisley Lane. Consideration of this will therefore be required throughout the construction phase, with a temporary suspension of the footpath for the duration of construction recommended due to the risk to the general public from heavy machinery accessing the site via the field gate.

A restricted byway (0142/AW379/1) runs along the northern boundary of works for Bliby long and Bliby short, where these works are close to said byway, Heras fencing should be erected to ensure the safe exclusion of pedestrians from areas of construction.

Prior to the physical works beginning, the contractor must subscribe to the flood warnings for the East Stour and monitor the weather forecast for the duration of the construction period. In the event that the river level rises by 600 mm, works on site should cease and plant moved out of the floodplain.

3.4 Site preparation

Prior to construction commencing, the site should be prepared by:

- Machinery (e.g. bulldozer, dump bucket, and dump truck) should be delivered on site.
- Welfare provision for four operatives (unless more staff are required). An area within each site compound will be required for the storage of any plant and materials.
- Contractor to subscribe to flood warning for the area and monitor weather forecasts for the duration of the construction period. In the event that the river levels rise and there is a risk of flooding, work on site should cease and the plant should be moved out of the floodplain.

3.5 Silt management

Silt management will prevent suspended sediment load being transported downstream to cause pollution or further sedimentation in sensitive sites. The primary need for silt mitigation for these works will be for the following two phases of work:

1. Regrading of the existing channel bed at the downstream tie-in location; and
2. Infilling of the existing channel.

Silt management in shallow water

Where water depths are less than 250mm in depth, SiltMats should be laid out in the channel at the downstream extent of the reach. The downstream placement should be determined based on bed profile and water depth, these will most likely be areas with shallow water where it will filter through the SiltMats. The mats should cover the entire width of the channel.

To help slow the water in these areas and remove more of the suspended material, a Silt Wattle should be positioned on the downstream end of the SiltMat. It is critical that there is some exposed mat beyond the wattle to take the abrasive impact of any water that may cascade over the Silt Wattle.

Start with a double row of mats and wattles. Should the proposed interventions not be sufficient, more rows should be added although it should be noted that the very fine sediment particles such as clay will be extremely challenging to remove without the use of chemicals. However, no chemical flocculants should be used in the river without the consent of the Environment Agency.

Silt management in deeper water

Where water depths are greater than 250mm, the use of SiltMats will be ineffective. Instead, a bubble curtain should be used to control the mobilisation and transport of fine sediment. The bubble curtain should be 'rolling', i.e. be moved through each site as each element is completed. The bubble tubing should be laid on the channel bed, in an elongated 'D' shape that encompasses each structure that is being constructed, or if the structures are close together, encompasses the works within that site. Bubble curtains are effective in flows up to 1.5 m.s-1 and can be used in conjunction with Silt Wattles, SiltMats and rock rolls to effectively control sediment release.

Figure 3-1 Silt Wattles, Silt Mats and Bubble Barrier to control sediment release (Photo courtesy of Frog Environmental).

3.6 Revegetation

Once construction has been completed, it is recommended that a native seed mix suitable for local conditions and riverbanks is applied. Seeding density will be dependent on the mix applied.

Any disturbed ground within the project site should be smoothed and re-levelled at the end of the construction works to make good any damage caused through the movement of machinery. Areas of bare ground should be seeded, using the appropriate riverbank or meadow mix, to speed up the recovery of the river corridor post-construction.

4 Method statement of design implementation

The scheme comprises the excavation of a new two-stage channel with inset floodplain, incorporating porous log jams and vegetated margins into the new channel designs. The designs maintain the ditch's essential function of providing drainage to the surrounding agricultural land, whilst promoting hydraulic processes which slow the flow of water within the ditches. By increasing the contact time with vegetation, the scheme will promote nutrient cycling and deliver nutrient mitigation benefits. The specific elements to be constructed at this site are summarised in the following subsections.

4.1 Two-stage channel

A new two-stage channel with an inset floodplain will be excavated in parallel to or along the alignment of the existing channel with an incorporated low-flow channel meandering between floodplain benches to replicate naturally functioning alluvial systems. The low-flow channel has been designed with width of approximately 0.3m (base) and 2.1m (top) to carry the dominant discharge, promoting effective sediment transport and maintaining its drainage features. The floodplain benches on either side of this inset will provide additional conveyance during periods of high flow to reduce the energy of the flow and increase fine sediment deposition outside of the low-flow channel. Low-flow channel side slopes are graded at 1.5:1, whilst floodplain bench slopes are graded at 2:1. Benches on either side of the low-flow channel will be vegetated with grasses and native, non-woody species to stabilise the soil and increase nutrient uptake.

Where any new channel is cut, breaching into existing ditches should not take place until all other works have been completed.

Table *4.1* Design channel geometry recommendation

	Width (m) (top)	Width (m) (bottom)	Depth (m)	Bench width (m)	Slope (%)
Low-flow channel	2.10	0.30	0.60	N/a	0.22
2nd stage floodplain	11.02	15.90	1.22	8.92	0.22

A new two-stage channel is to be cut from TR017376 to TR017371 (Bliby Long) and TR 04905 44893 to TR 04496 45233 (Hinxhill DD1) to replace the existing straightened agricultural ditch. This new channel includes inset benches, helping to reconnect the flow with the floodplain. The breach of the new alignment should not take place until all other works, including the installation of porous log jams in the low-flow channel, have been fully completed.

- Excavation of the new channel should begin at chainage 0m, the downstream tie-in with the existing ditch. Here, bed levels will be graded to match the existing invert levels, avoiding any steps which could create local scour.
- The first porous log jam will be installed at chainage 70m and securely staked into both berms to encourage sediment deposition and create hydraulic roughness. Log jams will be installed at 70m intervals upstream, as shown in the design drawings.
- At chainage 550m, the new channel alignment reaches the upstream tie-in point with the existing agricultural ditch. Regrading of the bed will need to be undertaken to ensure a smooth transition between new and existing levels. Bed slope should have a gradient of approximately 0.22%, as shown in the long profile drawings.

- Excavated material from the creation of the new channel will be used to infill the old channel. Any remaining material will be used by the landowner on other parts of their property.
- Can note that we will complete all the work on forming the new channel cross-sections 'in the dry' and will remove all spoil apart from that which will be removed when we join the channels.

Connection of the newly created channel will happen the downstream end of the channel first, taking care to grade and stabilise material to reduce erosion risk. The upstream end of the diversion will only be connected once water levels have stabilised. Soils are clayey so we can look to use excavated material from the upstream tie in to immediately create a dam, puddling clay subsoils to reduce erosion risk and direct water down the new channel. Tie-in will be done only during low flow scenario.

4.2 Porous log jams

The installation of wood structures at discrete locations (at suitable locations at 70-100m intervals), and only within the low-flow channel component of the design, aims to locally increase hydraulic roughness, improve connectivity with the floodplain and improve biodiversity through habitat creation. Porous log jams will be composed of loosely-configured, porous structures installed within the inset low-flow channel of a two-stage channel, designed to allow water to flow through while providing hydraulic and ecological benefits, following the below specification:

- Given the reduced dimensions of the proposed low-flow channels, key pieces will be composed of small to medium diameter logs (0.05-0.10m diameter and 2-3.5m length), forming the structural "backbone" of each feature.
- These will be arranged in a somewhat random configuration (hence "kerplunk")
- Smaller logs, limbs, and branches will be used to partially fills voids between larger key pieces, creates porosity while maintaining structural integrity
- Structures will be anchored with stakes driven through the log mass at angles to wedge and pin materials together. Additional stability of logs will be achieved with metal cabling, further anchoring log structures.
- A minimum 50% of the stake length will be driven into the streambed to secure logs in place. Stakes will have a minimum length of 1.5m.
- Small boulders to be placed around and over any exposed log sections to decrease buoyancy risk and prevent potential scour of benches in the vicinity of wood structures
- Porous log jams will be installed within the low-flow channel of a two-stage channel system, allowing free movement of water through the larger, second-stage channel during high-flow events, therefore maintaining conveyance while creating hydraulic complexity at low-flows, mimicking naturally-fallen wood accumulations.
- Porous log jams will be embedded into the benches of the 2-stage channel. Where any branches protrude above the surface of these benches, these will be chopped to remove any potential obstacle to flow and decrease the risk of trapping debris.
- Porous log jams do not present an opportunity to significantly reduce channel capacity as they occupy only a small fraction of the total cross-sectional area. Also, in the proposed design, the 2nd stage channel, which is not affected by the porous log structures, has a cross-sectional area larger than the existing channels.

- To ensure the structures continue to provide their desired function and to prevent mobilisation with the potential to cause downstream blockages, it is recommended that these structures be revisited after each significant flood event that overtops the low flow channel, with a minimum annual frequency, for the first 5 years after construction. Where repairs are required the promoter of the scheme shall be deemed responsible for securing or, if necessary removing these structures where they are considered to be causing a downstream blockage risk.

Wood of the following minimum dimensions should be sourced for these restoration works:

Table 4.2 Recommend minimum wood dimensions for Bliby site

Dimension	Minimum size
Trunk diameter	0.05 - 0.10 m diameter
Minimum Tree length	2.0 - 3.5 m trunk length (excluding root plate, where available)

The following table outlines the appropriateness of common UK tree species, which may be sourced either onsite or imported.

Table 4.3 Comparison of the desirability of various tree species for stream structures

Species	Durability
Maple (*Acer* spp.)	Fair (will survive 5 to 10 yrs)
Sitka spruce (*Picea sitchensis*)	Excellent
Douglas-fir (*Pseudotsuga* spp.)	Excellent (will survive 25 to 60 yrs)
Western red cedar (*Thuja plicata*)	Most desirable (will survive 50 to 100 yrs)
Aspen (*P. tremuloides*)	5 yrs
Norway spruce (*Picea abies*)	~30 yrs
Conifers (*P. sitchensis* | *T. heterophylla* | *P. menziesii* | *T. plicata*)	Half-life of ~20 yrs
Cedars | black cherry | chestnut | black walnut	Resistant or very resistant to heartwood decay
Western larch | longleaf old growth pine | old growth slashpine | young growth redwood | tamarack | old growth eastern white pine	Moderately resistant to heartwood decay
Oak	Excellent (~30-40 yrs)
Alder (*Alnus* spp.)	Moderate
Ash (*Fraxinus* spp.)	Excellent (~20-30 yrs)
Willow (*Salix* spp)	Moderate (if regenerating, poor if not)
Scots Pine (*Pinus sylvestris)*	Excellent (~20-30 yrs)
Larch (*Larix* spp.)	Moderate (hardest wearing soft wood) ~15-20 yrs

Species that are decay-resistant are preferred, such as Douglas-fir (Pseudotsuga spp.) and Ash (Fraxinus spp.), whereas rapidly decaying species, such as Black poplar (Populus nirga), should be

avoided. However, as noted in the table, use of freshly cut or grubbed willow trees may be desirable for quick revegetation in structures that are partially buried.

After each structure's installation, they should be inspected to ensure logs are stable, stakes are secure, and the structure's porosity remains sufficient to avoid entirely blocking the channel.

Over time, these structures will trap sediment and be colonised by vegetation, adjusting to the new hydraulic regime. Therefore, there should be regular inspections following the first bankfull event and any subsequent storms/high flows to ensure the structures remain secure. If there is movement or deterioration of the structure, additional ballast or stakes can be added, and any such adaptive management will help secure their long-term stability and preserve their function within the channels.

4.3 Spoil management

Creating the new two-stage channels will produce a large amount of spoil. To keep the scheme cost-effective and sustainable, materials should be used onsite to avoid both the financial and carbon costs of transporting material offsite. The main reuse of material will be to fill the existing channels. Any surplus material can also be used to regrade the floodplain benches and channel margins, ensuring smooth transitions between new and existing surfaces. Where surplus material needs to be transported offsite, the landowner has agreed to use exclusively areas of land that are not in Flood Zone 2 or 3. A supplementary map has been provided by Greenshank Environmental (Figure 4.1) that shows the locations of both temporary and permanent spoil disposal. Both temporary and permanent disposal will utilise Flood Zone 1 areas under the landowner's control.

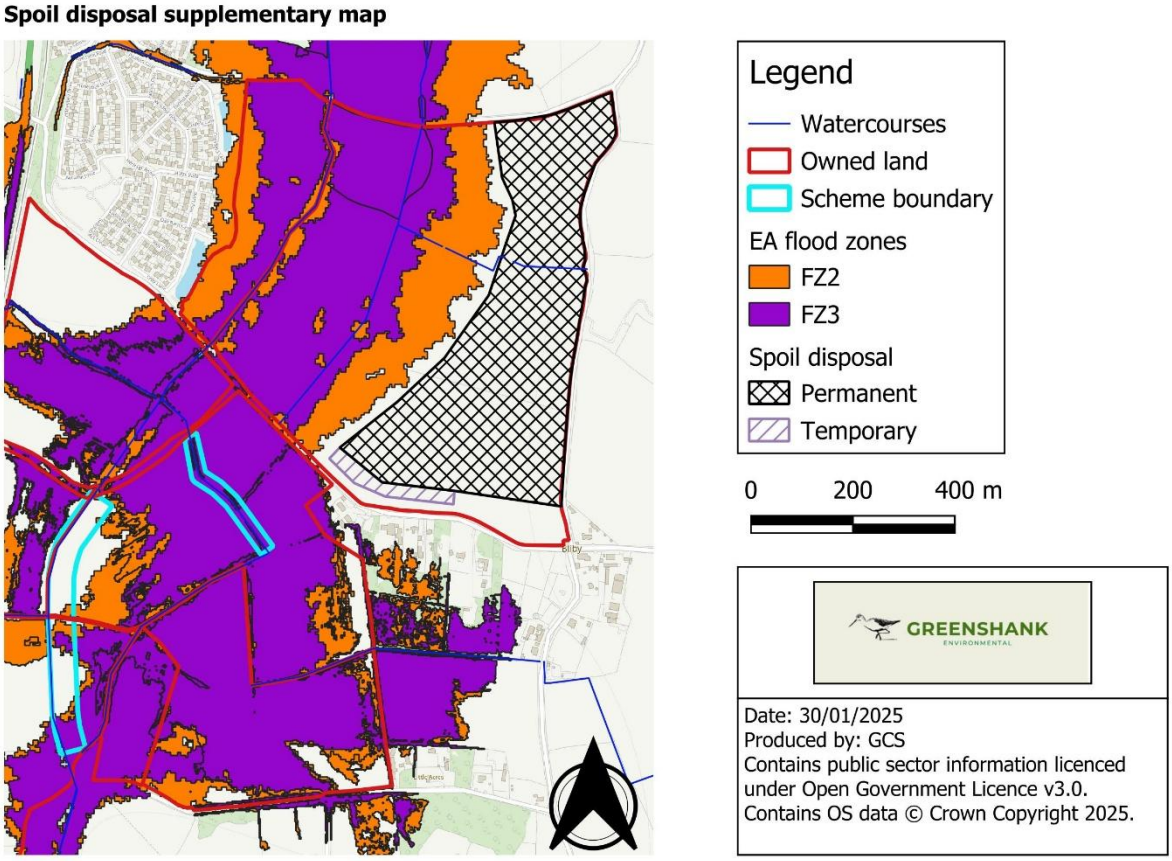

Figure 4-1 Bliby Wood Spoil Disposal

Prior to commencement of the construction of the embankment, it is important to note the suitability of the soil which has been excavated from the floodplain. Coarser and more granular soils should,

where possible, be separated and placed at the base of infills to create solid foundations with clayey material used for shallower infills and shaping due to its lower permeability reducing seepage and stabilising the new surfaces. Topsoil will be used on the exposed surfaces and planted with native vegetation, relaying any potential salvaged turf.

As a minimum, the new surfaces should be track rolled with a either an excavator or a bulldozer. This will compact the soils, helping to seal the embankment against water intrusion. The tracked equipment creates a 'grouser' surface texture (i.e., a rough surface) which helps repel water and retard erosion. The degree of compaction is limited to the ground pressure and static weight of the equipment, so ideally, the heaviest tracked equipment present on the site should be used for this activity.

If there are concerns around the compatibility of the spoil which is being used to create the inset floodplain, then a vibratory roller should be used. These rollers are better suited to compact a wide range of soil types and ensure there is penetration between lifts, improving bonding between the upper and underlying lift. Rollers are not suitable for use on spoil which has a high concentration of silt or moisture.

The construction of the inset floodplain should follow these steps:

- *Site clearance*: Remove any vegetation or structures within the channel footprint.
- *Top soil removal*: All organic soil layers should be stripped from the footprint (typically 10 – 50 cm in depth). Turves should be retained for returfing following new channel completion.
- *Channel filling*: Controlled introduction of spoil which is spread and compacted in lifts (lifts of 200 mm are recommended here). It is good practice to overfill each lift so that it is wider than the finished profile, to ensure full compaction at the edges of the cross-section. Subsequently, this may require trimming of the excess materials. Any granular fill should be used first, at the base of the embankment, to provide a stable foundation.
- *Topsoiling*: Once all the granular fill has been used, top soil should be used. This will ensure greater stability of the surface, but also a better medium for sowing, generating and supporting riparian species following completion.
- *Returfing*: Following completion, turves excavated from should be laid over the new surface following completion of the earthworks phase. This will provide greater resilience to erosion as the vegetation re-establishes onsite.

4.4 Floodplain connectivity

Whilst there are no dedicated wetland or scrape features included in the designs, the two-stage channel design will include a 10m vegetated riparian margin to increase hydraulic roughness and improve habitat quality. The inset benches running in parallel to the low-flow channel allows water to spill onto the floodplain more frequently compared with the current regime. During high flow the water levels on the benches will rise, slowing the flow velocity, depositing sediment within the floodplain and storing water in this reach for longer.

It is expected that these benches will temporarily hold water, creating short term wetland conditions to hopefully increase the range of habitats and biodiversity available across the sites, supporting greater numbers of marginal plant, invertebrate and bird species.

From a hydraulic perspective, this greater connectivity will help to dissipate flood peaks, moving energy away from the low-flow channel and into the wider storage area.

4.5 Storage of excavated material within floodplain

Prior to the physical works beginning, the contractor must subscribe to the flood warnings for the East Stour and monitor the weather forecast for the duration of the construction period. In the event that the river level rises by 600 mm, works on site should cease and plant moved out of the floodplain.

During the excavation of the two-stage channel within the right floodplain, the excavated material will be stored in a 'live' stockpile within the floodplain. Live stockpiles will be removed on the day of deposition to a temporary spoil disposal location, as shown in the spoil disposal supplementary map. The contractor is also likely to move most spoil directly to the temporary disposal location, minimising the size of any live stockpiles within the floodplain. It is recommended that silt wattles be staked to the ground surrounding any stockpiles to mitigate potential sediment runoff during heavy rainfall.

Prior to the physical works beginning, the contractor must subscribe to the flood warnings for the East Stour and monitor the weather forecast for the duration of the construction period. In the event that the river level rises by 600 mm, works on site should cease and plant and materials moved out of the floodplain. At night, all plant and materials will be moved to the temporary spoil storage location, in case a flood event overnight when workers won't present to respond to flood alerts.

5 Ecological Considerations

5.1 General

A site walkover by the Environmental Clark of Works (ECoW) will be undertaken prior to works commencing to check the up-to-date risks on the site, with the 'live' method statement and risk assessment adjusted accordingly.

Nesting birds

The following actions should be implemented:

- Locations for access routes, storage of materials and site compound location should be discussed and agreed with the ecologist to ensure that sensitive ecological receptors are not impacted during the pre-construction and construction phases.
- All works must ensure that appropriate pollution prevention measures are utilised to comply with the principles of the now withdrawn Pollution Prevention Guidance (PPG5).
- Due to the ecological receptors noted and/or their potential presence, it may be necessary for an Ecological Watching Brief/Ecological Clerk of Works (ECoW) to be present during certain construction activities. However, the definitive sensitivities can be determined once the surveys have been completed and the final design, timings and construction method have been confirmed.
- A toolbox talk should be delivered in relation to the ecological receptors noted on site. The toolbox talk should include legal protection, description of the species, habitat type that the species utilise, best practice working methods and the ecologist's contact details.

Himalayan Balsam mitigation

- As Himalayan Balsam is an annual (i.e. it completes its life cycle, from germination to the production of seeds, within one growing season, and then dies), any works onsite need to occur immediately prior to the plant seeds, which in the case of Himalayan Balsam is in August/October.

- Any Himalayan Balsam on site should be cut back in June/July to enable construction. All arisings should be carted off site and disposed of as contaminated waste.
- Following the strimming of the plants, a geotextile should be installed at the site across all access ways and the works area to avoid machinery, materials or equipment coming into contact with any exposed seeds that are persistent in the soil. On top of the geotextile, bog mats or trackway should be installed to further protect the geotextile.
- All staff entering the site prior to the installation of the geotextile should wear disposable boot covers to further prevent the spread of Himalayan Balsam seeds.

5.2 Pollution Prevention Measures

The following pollution prevention measures should also be adhered to during and post-construction in order to reduce the risk of any pollution incidents occurring and adversely impacting upon the watercourse:

- Relevant Pollution Prevention Guidelines (PPG) produced by the Environment Agency should be followed.
- Any chemical, fuel and oil stores should be located on an impervious base within a secured bund with a storage capacity 110% of the stored volume.
- Biodegradable oils and fuels should be used where possible.
- Drip trays should be placed underneath any standing machinery to prevent pollution by oil/fuel leaks. Where practicable, refuelling of vehicles and machinery should be carried out on an impermeable surface in one designated area well away from any watercourse or drainage (at least 10 m).
- Emergency spill kits should be available on site and staff trained in their use.
- Operators should check their vehicles on a daily basis before starting work to confirm the absence of leakages. Any leakages should be reported immediately.
- All items of plant should be checked prior to use before each shift for signs of wear/damage.
- Daily checks should be carried out and records kept on a weekly basis and any items that have been repaired/replaced/rejected noted and recorded.
- Any items of plant machinery found to be defective should be removed from site immediately or positioned in a place of safety until such time that it can be removed.

Appropriate sediment control measures should be employed

6 TIMING AND SEQUENCE

Construction should be scheduled for when ecological sensitivity to disturbance is relatively low and there is a reduced risk of wet conditions impacting the works programme. As the works are cutting a new channel, work can commence during winter if required, with connection and backfilling of the existing channel when weather and flow conditions are appropriate. The tie in to the existing channel will not be done when channels are in spate, noting that the catchment is flashy due to dominant soils and land use.

7 References

Connor-Streich, G. 2024. Enhanced Drainage Ditch Management: A framework approach for nutrient neutrality. *Natural England Commissioned Report* NECR590. Natural England.

APPENDIX A

DETAILED DESIGN DRAWINGS