

# Manthorpe Flood Bank Removal - Outline Method Statement

Project name: Manthorpe Flood Bank Removal									
Project location: River Witham at Manthorpe									
Client: Wild Trout Trust									
	Initial	Rev1	Rev2	Rev3	Rev4	Rev5	Rev6	Rev7	Rev8
Date	02-10-20	14/07/2021							
By	SB	SB							
Checked	GH	GH							
Approved	GH	GH							

## Summary of key works

1. Excavation of inset floodplain, ponds, and scrapes
2. Removal of embankment
3. Installation of riffles and point bar

## Pre-construction & construction procedure

Construction of site compounds, lay-down areas, delivery of machinery and any other initial preparatory works to be undertaken in-line with specific site work activity. All works on site will be carried out in accordance with the appropriate British Standards and industry Codes of Practice. A qualified and experienced Geomorphologist must attend the site to advise on construction procedure at certain points during the works, particularly during construction of all features and initial setting out.

Biosecurity measures outlined in the following two documents should be followed by all personnel and machinery on site:

<https://secure.fera.defra.gov.uk/nonnativespecies/checkcleandry/documents/check-clean-dry-england.pdf>

<http://www.nonnativespecies.org/checkcleandry/>

## Construction period

The construction period is expected to take 2-3 weeks, ensuring cost effective delivery and minimal environmental disturbance as a result of the work on site. However, it is possible that adverse weather conditions such as periods of high rainfall (and associated river level rise), will lead to temporary cessation of some construction. Liaison should be undertaken by the client and contractor with the Environment Agency to determine an appropriate time of year for the contractor to deliver the works as some wet working may be required to construct the scheme.

## Public Access during the works

During the construction period, public access to the site should be restricted and fenced off.

The contractor will ensure appropriate signage and fencing off of the construction compound area and work area, and it is the responsibility of the contractor to ensure safe access for the workforce and appropriate restriction of access to the public.

Historic sites within the work zone should be fenced off to ensure no damage is caused by machinery access etc (where relevant).

## Species surveys

No protected species surveys have been assigned or undertaken as part of the design works. This work has been completed by others.

### **Timing of vegetation clearance and temporary disturbance to river bed as part of works**

It is unlikely significant ground vegetation will require clearing as part of the works but this should be decided by the contractor. Only those areas specifically identified for site clearance (to be marked out by the client and contractor prior to commencement of construction) shall be cleared of existing tree and vegetation cover. Contractor to use tracking mats for river banks when entering and exiting the channel.

Pollarding and pruning of trees and clearance of ground vegetation may be required during the bird nesting season. These works will only be undertaken immediately after the trees and vegetation have been inspected and deemed free of nesting birds by an ecologist.

Nesting bird season and other ecologically sensitive seasons are summarised below:

- Bird nesting - March to August
- Bat roosting - April to September
- Spring salmonid run (migration) – approx. March to May (depending on local run timing)
- Salmon spawning season – 1<sup>st</sup> October to 15<sup>th</sup> June
- Crayfish rescue should avoid late May and June when females may be carrying newly hatched young

Note: There may be some changes to the outlined method statement as more knowledge of site conditions are gained in the pre-construction and construction phases of the project to be determined by the contractor.

**Activity: Excavation of inset floodplain, ponds, and scrapes**

**Method Statement 1**

Risks: Overturning of plant machinery, crush injuries, collapse of earth banks, falling trees and branches, collision with other plant machines, pollution to watercourse, machine strike to persons, machine strike of services, insect bites and allergic reactions, snake bites, leptospirosis, manual handling, drowning.

**Proposed working method overview:**

- Machinery to access site as agreed by the landowner and client. Track mats should be used as appropriate dependent on landowner requests and ground conditions at time of construction. Fence removal and replacement may be required to facilitate the works alongside tree removal / pollarding and vegetation clearance.
- Temporary watercourse crossings may be required dependent on track routes and plant, this is to be agreed with the landowner, contractor and the client.
- Silt control measures to be in place downstream during works and inspected daily (replace / repair as necessary).
- Banks to be monitored during the works. No personnel to be in the channel during works.
- Environment Agency wet working approval will need to be obtained prior to works (despite most works being undertaken in the dry), this will include setting up of suitable fine sediment mitigation downstream.
- The inset floodplain, ponds, and scrapes should be surveyed in on site prior to excavation beginning using coordinates provided with the design drawings, this should also be undertaken with supervision from AquaUoS.
- Excavate the inset floodplain first followed by, ponds, and scrapes following levels provided within the design drawings and under supervision of the geomorphologist. Minimise tree disturbance wherever possible.
- The inset floodplain level has been based on supplied data from the Environment Agency with regards to the recorded winter groundwater level and assumed summer variance (see risk register). Excavation is recommended during the summer months so that groundwater levels can be monitored during works and levels adjusted if necessary.
- Leave a 5m buffer at the up and downstream connection points to the main channel to minimise the risk of works being flooded out during excavation. These will be removed once the features are installed.
- Stockpile material temporarily outside of the floodplain or transport directly to the designated spreading site.
- Remove any tracks into watercourse and across the working area and make good any damage. Utilise bog mats along track routes if ground becomes wet.
- Seed exposed floodplain and top of bank areas with agreed seed mix at 5mg/m<sup>2</sup> spreading rate.

**General Method of Work:**

- Client and Principal Contractor to reconfirm area of works and mark up extent of site works.
- Check line of works for any trees to be removed, branches to be cut back, vegetation clearance etc. to ensure safe passage for machinery.
- Erect temporary fencing to restrict public access to the site and to fence off historic sites.
- Mark location of and install temporary protection measures to utilities, e.g. excavator mats to buried services at crossing points, goal posts for overhead cables (where necessary e.g. along access routes).
- Silt traps to be installed downstream of excavation locations when features are being created, floodplain excavated etc and when machinery accesses the bank top or channel to prevent silt-run off from exposed banksides and from disturbed fine sediment when working in the channel.
- Install appropriate fine sediment control measure downstream of works area e.g. straw bales, fine sediment control mats, silt curtains.

**Control Measures or Modifications**

- No smoking in works area.
- No works to be undertaken during the hours of darkness.
- Ensure staff are aware of risk of drowning associated with working in or near water and the health and safety requirements (as detailed in the site risk assessment by the contractor).
- If any tree felling/vegetation clearance is required, site manager to contact ordnance contractor.
- All re-fuelling will take place at least 20m away from the watercourse, next to the fuel bowser.

- Be vigilant for members of public / pets / stock / wild animals entering works area.
- Be aware of the risk of Leptospirosis in and around the watercourse.
- Ensure bucket is lowered to the ground when machine is not in use.
- When visitors are on site, stop work & lower bucket to ground if they enter the works safety area.
- If working with a Banksman ensure that they are in a position where you can see them.
- Beware of machine blind spots when slewing and turning, especially with regard to tree branches.
- Be aware of any taped off areas/sites that will be of conservation, archaeological or other special interest. Do not enter these areas with any machinery.
- As a minimum use heather bale dams / silt curtains at strategic intervals in the watercourse to filter coarse sediments. Pollution booms and silt reduction measures booms to be erected at the downstream end of the works.
- All operators to be competent and certificated on the machines they operate.
- All incidents relating to safety or pollution of any kind are to be reported as soon as it is safe to do so.
- All staff and visitors to undertake induction and wear the appropriate PPE for the site conditions they encounter.

Activity: Excavation of bund	Method Statement 2
<p>Risks: Overturning of plant machinery, crush injuries, collapse of earth banks, falling trees and branches, collision with other plant machines, pollution to watercourse, machine strike to persons, machine strike of services, insect bites and allergic reactions, snake bites, leptospirosis, manual handling, drowning.</p>	
<p><b>Proposed working method overview:</b></p> <ul style="list-style-type: none"> <li>• Machinery to access site as agreed by the landowner and client. Track mats should be used as appropriate dependent on landowner requests and ground conditions at time of construction. Fence removal and replacement may be required to facilitate the works alongside tree removal / pollarding and vegetation clearance.</li> <li>• Temporary watercourse crossings may be required dependent on track routes and plant, this is to be agreed with the landowner, contractor and the client.</li> <li>• Silt control measures to be in place downstream during works and inspected daily (replace / repair as necessary).</li> <li>• Banks to be monitored during the works. No personnel to be in the channel during works.</li> <li>• Environment Agency wet working approval will need to be obtained prior to works (despite most works being undertaken in the dry), this will include setting up of suitable fine sediment mitigation downstream.</li> <li>• The bund lengths to be excavated should be surveyed in on site prior to excavation beginning using coordinates provided with the design drawings, this should also be undertaken with supervision from AquaUoS.</li> <li>• Excavate the bund length following levels provided within the design drawings and under supervision of the geomorphologist. Minimise tree disturbance wherever possible.</li> <li>• Stockpile material temporarily outside of the floodplain or transport directly to the designated spreading site.</li> <li>• Remove any tracks into watercourse and across the working area and make good any damage. Utilise bog mats along track routes if ground becomes wet.</li> <li>• Seed exposed floodplain and top of bank areas with agreed seed mix at 5mg/m<sup>2</sup> spreading rate.</li> </ul> <p><b>General Method of Work:</b></p> <ul style="list-style-type: none"> <li>• Client and Principal Contractor to reconfirm area of works and mark up extent of site works.</li> <li>• Check line of works for any trees to be removed, branches to be cut back, vegetation clearance etc. to ensure safe passage for machinery.</li> <li>• Erect temporary fencing to restrict public access to the site and to fence off historic sites.</li> <li>• Mark location of and install temporary protection measures to utilities, e.g. excavator mats to buried services at crossing points, goal posts for overhead cables (where necessary e.g. along access routes).</li> <li>• Silt traps to be installed downstream of excavation locations when features are being created, floodplain excavated etc and when machinery accesses the bank top or channel to prevent silt-run off from exposed banksides and from disturbed fine sediment when working in the channel.</li> <li>• Install appropriate fine sediment control measure downstream of works area e.g. straw bales, fine sediment control mats, silt curtains.</li> </ul>	
<p><b>Control Measures or Modifications</b></p> <ul style="list-style-type: none"> <li>• No smoking in works area.</li> <li>• No works to be undertaken during the hours of darkness.</li> <li>• Ensure staff are aware of risk of drowning associated with working in or near water and the health and safety requirements (as detailed in the site risk assessment by the contractor).</li> <li>• If any tree felling/vegetation clearance is required, site manager to contact ordnance contractor.</li> <li>• All re-fuelling will take place at least 20m away from the watercourse, next to the fuel bowser.</li> <li>• Be vigilant for members of public / pets / stock / wild animals entering works area.</li> <li>• Be aware of the risk of Leptospirosis in and around the watercourse.</li> <li>• Ensure bucket is lowered to the ground when machine is not in use.</li> <li>• When visitors are on site, stop work &amp; lower bucket to ground if they enter the works safety area.</li> </ul>	

- If working with a Banksman ensure that they are in a position where you can see them.
- Beware of machine blind spots when slewing and turning, especially with regard to tree branches.
- Be aware of any taped off areas/sites that will be of conservation, archaeological or other special interest. Do not enter these areas with any machinery.
- As a minimum use heather bale dams / silt curtains at strategic intervals in the watercourse to filter coarse sediments. Pollution booms and silt reduction measures booms to be erected at the downstream end of the works.
- All operators to be competent and certificated on the machines they operate.
- All incidents relating to safety or pollution of any kind are to be reported as soon as it is safe to do so.
- All staff and visitors to undertake induction and wear the appropriate PPE for the site conditions they encounter.

**Activity: Installation of riffles and point bar**

**Method Statement 3**

Risks: Overturning of plant machinery, crush injuries, collapse of earth banks, falling trees and branches, collision with other plant machines, pollution to watercourse, machine strike to persons, machine strike of services, insect bites and allergic reactions, snake bites, leptospirosis, manual handling, drowning.

**Proposed working method overview:**

- Machinery to access site as agreed by the landowner and client. Track mats should be used as appropriate dependent on landowner requests and ground conditions at time of construction. Fence removal and replacement may be required to facilitate the works alongside tree removal / pollarding and vegetation clearance.
- Temporary watercourse crossings may be required dependent on track routes and plant, this is to be agreed with the landowner, contractor and the client.
- Silt control measures to be in place downstream during works and inspected daily (replace / repair as necessary).
- Undertake fish rescue if necessary – consult with ecologist.
- Banks to be monitored during the works. No personnel to be in the channel during works.
- Environment Agency wet working approval will need to be obtained prior to works (despite most works being undertaken in the dry), this will include setting up of suitable fine sediment mitigation downstream.
- Either temporarily bund and overpump at each riffle location to allow for dry working or install riffles in the wet.
- Install each gravel riffle working from downstream to upstream. Ensure the gravel specification is well mixed prior to placement and ensure adequate compaction provided to the placed gravel material. Construct features under the guidance of the geomorphologist, hand rake where required to stated heights in design drawings with final heights to be confirmed by geomorphologist.
- Install point bar once riffles are installed, again ensuring adequate compaction of placed material.
- Remove any tracks into watercourse and across the working area and make good any damage. Utilise bog mats along track routes if ground becomes wet.
- Seed exposed floodplain and top of bank areas with agreed seed mix at 5mg/m<sup>2</sup> spreading rate.

**General Method of Work:**

- Client and Principal Contractor to reconfirm area of works and mark up extent of site works.
- Check line of works for any trees to be removed, branches to be cut back, vegetation clearance etc. to ensure safe passage for machinery.
- Erect temporary fencing to restrict public access to the site and to fence off historic sites.
- Mark location of and install temporary protection measures to utilities, e.g. excavator mats to buried services at crossing points, goal posts for overhead cables (where necessary e.g. along access routes).
- Silt traps to be installed downstream of excavation locations when features are being created, floodplain excavated etc and when machinery accesses the bank top or channel to prevent silt-run off from exposed banksides and from disturbed fine sediment when working in the channel.
- Install appropriate fine sediment control measure downstream of works area e.g. straw bales, fine sediment control mats, silt curtains.

**Control Measures or Modifications**

- No smoking in works area.
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- Ensure staff are aware of risk of drowning associated with working in or near water and the health and safety requirements (as detailed in the site risk assessment by the contractor).
- If any tree felling/vegetation clearance is required, site manager to contact ordnance contractor.
- All re-fuelling will take place at least 20m away from the watercourse, next to the fuel bowser.
- Be vigilant for members of public / pets / stock / wild animals entering works area.
- Be aware of the risk of Leptospirosis in and around the watercourse.

- Ensure bucket is lowered to the ground when machine is not in use.
- When visitors are on site, stop work & lower bucket to ground if they enter the works safety area.
- If working with a Banksman ensure that they are in a position where you can see them.
- Beware of machine blind spots when slewing and turning, especially with regard to tree branches.
- Be aware of any taped off areas/sites that will be of conservation, archaeological or other special interest. Do not enter these areas with any machinery.
- As a minimum use heather bale dams / silt curtains at strategic intervals in the watercourse to filter coarse sediments. Pollution booms and silt reduction measures booms to be erected at the downstream end of the works.
- All operators to be competent and certificated on the machines they operate.
- All incidents relating to safety or pollution of any kind are to be reported as soon as it is safe to do so.
- All staff and visitors to undertake induction and wear the appropriate PPE for the site conditions they encounter.



## General mitigation of construction impacts on habitats / species

A site Operational Management plan shall be developed by the contractor with reference to the following elements:

Element	Suggested action	Required
Water quality	Control of silt run-off and potential for machinery pollution source	YES
River crossing	Control of disturbance, contamination, silt release, noise, vibration, debris, flooding	YES
Site waste recycling plan	Re-use on site where possible	YES
Noise and dust	Timing of works; selection of plant	YES
Protected species Protection Plans	Follow species protection plans if applicable	TBD
Invasive plant species, pests & diseases	Fence giant hogweed, remove other invasives during site preparation where necessary	TBD