

Management System for flood risk activities under environmental permit application for fish pass construction (Conjure Alders Weir) on the River Meden, near Perlethorpe, Nottinghamshire.

Document version	Date	Prepared by
Version 1.0	30/10/2020	Tim Jacklin, Wild Trout Trust. Tel. 07876 525457 email tjacklin@wildtrout.org
Version 2	10/12/2020	As above

Risk Assessment

See Designers Risk Assessment (**Ref_02_CDM-DRA-02587-Conjure Alders-V1-Final**).

Site infrastructure plan

Snake Lane Weir location is NGR SK6602272114. The detailed design (**Ref_01_200827-02587-Conjur Alders-Detailed Design-P02**) provides a scale site plan including the extent of the works and access routes. Utility searches are included in the Ground Investigation Report (**Ref_04_20201 GI Factual (Compiled)_reduced**).

Figure 1 shows the flood risk pertaining to the area. The location is unavoidably in a high – medium flood risk location as the works are to a weir within the river channel. The site compound and materials storage area will be located away from the river in a very low flood risk area, and materials transported to site as required. Mitigation measures for flood risk during the works are described below in *Method of Work*.

The finished works will not change the present crest level of the weir or upstream water levels. Conveyance of water over the weir face will be lower than at present due to increased roughness provided by the fish pass; however, this is anticipated to have minimal impact upon flood risk in this remote rural location.

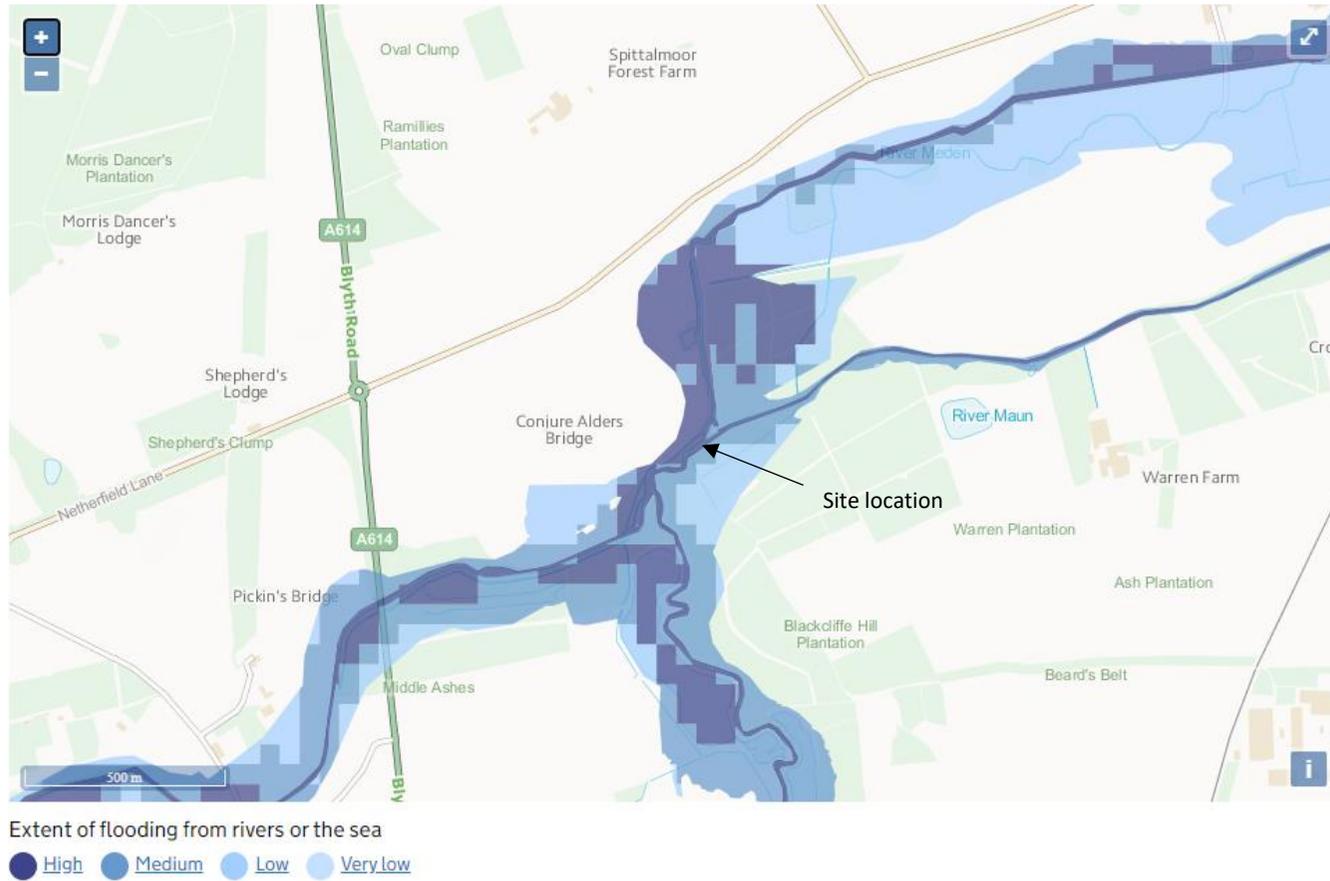
There are no sites with statutory designations for conservation (SAC, SSSI, LNR) near the project site or on any access routes. The nearest SSSI is Thoresby Lake approximately 2.3 km away.

Minimal waste will be generated by the works comprising:

- Less than 1 cubic metres of waste concrete (from the weir structure); this will be removed to a crushing facility locally for recycling.

Any storage of materials on site will be on a temporary basis for the duration of the works in an area away from flood risk. No buildings and other man-made constructions will be affected by the work.

Figure 1 Results from <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>



Method of work

1. Introduction

The aim of this project is to improve fish passage across an existing weir. The weir maintains water levels at a bifurcation of the River Meden/Maun into separate channels and this must be retained to support downstream abstractions. The work involves four stages:

1. Cofferdamming of weir to allow working in dry conditions
2. Forming and pouring a reinforced concrete slope to face of weir
3. Fixing of pre-fabricated baffles and eel tiles to the concrete slope
4. Removal of coffer dam and reinstatement of flow over the weir

Further information for each stage is described in **Ref_03_CDM-Buildability Statement-02587 Conjure Alders-v1-Final**.

The coffer-dam will consist of stop boards placed within existing slots at the upstream end of the weir, and ballast bags and plastic sheeting at the downstream end of the weir (a channel length of approximately 20m). Flow will be diverted around the weir via the existing sluice and bypass channel (Figure 2). The height of the coffer dam will be set to a level which will overtop during elevated flows.

See contingency plans in section 10 below.

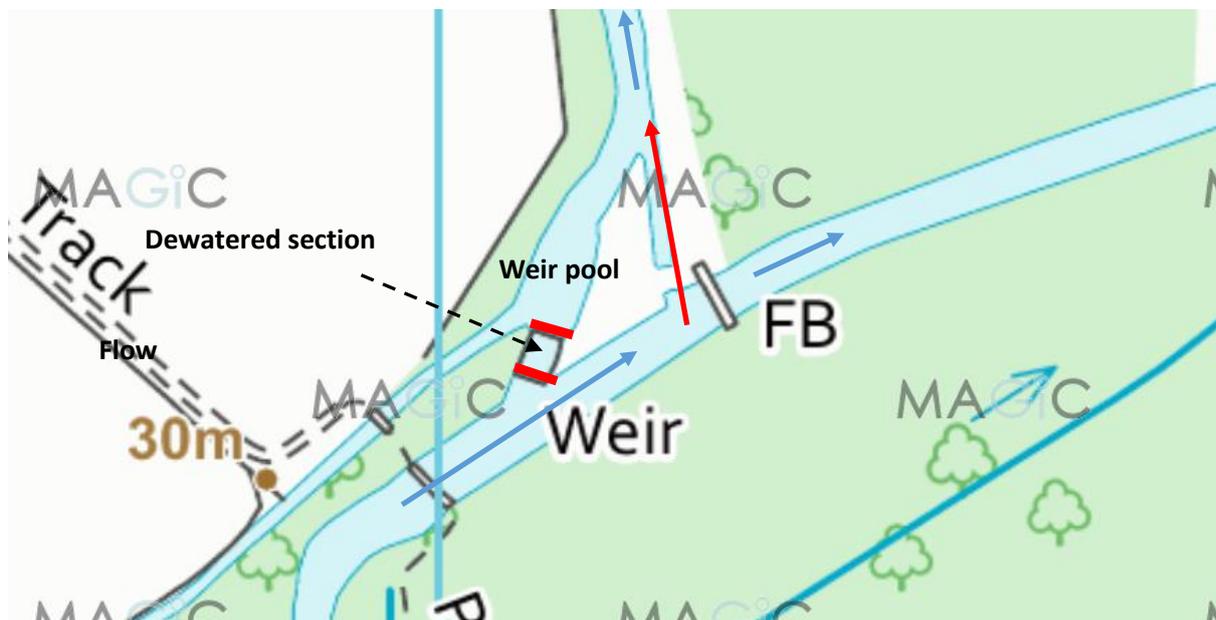


Figure 2 Position of coffer dam (red blocks) and flow diversion (red arrow) via sluice and side channel.

2. CDM roles and responsibilities

The work described in this MS is not notifiable to HSE under 2015 CDM regulations as it is not expected to:

- last longer than 30 working days **and** have more than 20 workers working at the same time at any point on the project or
- exceed 500 person days

therefore an F10 document will not be submitted. Covering of the roles of Client, Designer and Principal Contractor (and summary of responsibilities) is given below. Whether a project is notifiable or not, does not affect type, severity and likelihood of risks: therefore practical risk assessments (and mitigation measures) will be produced for the different tasks within this project to ensure a safe working environment. Furthermore all parties and persons with a CDM role will be made aware of their responsibilities.

2.1. Client

Environment Agency c/o Dr Ryan Taylor

Main responsibilities (summary):

- Make suitable arrangements for managing the project, including making sure:
- other dutyholders are appointed as appropriate
- sufficient time and resources are allocated

Make sure:

- relevant information is prepared and provided to other dutyholders
- the principal designer and principal contractor carry out their duties
- welfare facilities are provided

2.2. Principal Designer

Fishtek Ltd, Unit 1a Webbers Way, Dartington, Totnes, TQ9 6JY

Tel: +44 (0) 1803 866680

Email: info@fishtek-consulting.co.uk

Main responsibilities:

- When preparing or modifying designs, eliminate, reduce or control foreseeable risks that may arise during construction
- Provide information to other members of the project team to help them fulfil their duties.

2.3. Principal Contractor

Wild Trout Trust

c/o Tim Jacklin, Conservation Officer, PO Box 120 Waterlooville PO8 0WZ

07876 525457 tjacklin@wildtrout.org

Main responsibilities:

- Plan, manage, monitor and coordinate health and safety in the construction phase of the project. This includes:
- liaising with the client and principal designer

- preparing the construction phase plan
- organising cooperation between contractors and coordinating their work

Make sure:

- suitable site inductions are provided
- reasonable steps are taken to prevent unauthorised access
- workers are consulted and engaged in securing their health and safety
- welfare facilities are provided

2.4. Contractor

Main responsibilities:

Workers must:

- be consulted about matters which affect their health, safety and welfare
- take care of their own health and safety, and of others who might be affected by their actions
- report anything they see which is likely to endanger either their own or others' health and safety
- cooperate with their employer, fellow workers, contractors and other dutyholders

3. Site safety and security

3.1. Fencing and signage

The site compound will be fenced with Heras fencing. A public footpath (incorporating the Robin Hood Way) runs close to the site (see Ref_01). The footpath will remain open during the works with appropriate fencing and signage, and a banksman during operations close to the path.

'Construction site' signs will be installed at all work access points, including a map of the project and information on site safety rules.

3.2. Site induction

All workers and visitors on site will receive a site induction. This induction will include information on:

- Project objectives and design;
- Site hazards and risks, control measures and the project Works Method Statement;
- Site designations, protected species e.g. water voles, bats, salmonids;
- Compulsory bio-security risks and control measures;
- Pollution control and the response to incidents;
- Emergency procedures.

A daily register will be held to account for everyone being on site.

4. Environmental legislation and pollution control

The principal contractor (Wild Trout Trust) shall undertake all works in a manner which ensures compliance with all relevant environmental legislation.

4.1. Protected species

Fish spawning

- Risk to fish is considered to be very low because the works will take place in the dry with flow diverted around the weir. It is not anticipated that a fish rescue will be required as only the face of the weir will be dewatered. Hand nets and buckets will be made available during the flow diversion should water be lost from the weir pool (downstream of the weir) but it is anticipated water levels will be maintained in the weirpool.

Breeding birds

- Access to the site is along existing tracks, but some tree works may be necessary for access in the immediate vicinity of the weir which could pose a risk to nesting birds and/or summer bat roosts. All trees to be inspected by an ecologist prior to removal.

Water voles, otters and other protected species

Risk to water voles, otters, other protected species and their habitat is considered to be very low because of the small footprint of the works and nature of the existing banks (concrete reinforced vertical banks). There will be no changes in water level following works to the weir.

4.2. Bio-security

Wild Trout Trust is committed to a high level of biosecurity in order to prevent the transfer of undesirable plants, disease or animal species between sites. Particular attention is paid to the prevention of invasive plant species such as Himalayan balsam and Japanese knotweed, the transfer of Signal crayfish and the associated crayfish plague, and the transmission of Killer and Demon shrimp.

Biosecurity measures include:

- Inclusion of biosecurity in site inductions and method statements
- Training of site operatives to ensure they understand the importance of biosecurity , can identify species which pose a biosecurity risk, and are fully aware of the potential vectors for invasive species
- Mechanical cleaning and disinfection of personnel, kit, tools and machinery

The excavator and other plant and equipment brought in by sub-contractors will be inspected for cleanliness prior to being allowed on site. PPE and clothing will be dipped or sprayed with 'Virkon' before being brought to site to eliminate transfer of any unwanted alien diseases or species.

4.3. Refuelling, oil and use of plant

All refuelling is to be carried out in the site compound away from the river to avoid spillages leaching through the ground and into the river. If a spillage does occur, refer to PPG-5 (Pollution Prevention Guidelines part 5), which can be found in the spill kit readily available on site. PPG5 guidelines shall be included in the site file for reference in an emergency spill incident. Biodegradable oil will be used in all plant and machinery. Plant will be continuously monitored for any leaks or spillages.

Any incident shall be reported promptly to the Environment Agency - Tel 0800 80 70 60.

5. Welfare

Toilet, washing and rest facilities will be provided on site.

6. Services search

Utility searches have been completed and are detailed in the Ground Investigation (*Ref_04_20201 GI Factual (Compiled)_reduced*). All workers on site will be informed about any services that are present on site (overhead cables as well as services in the ground) and these will be clearly marked. A scan for uncharted services will be completed prior to the works.

7. Health and safety

7.1. H&S file and policy

A Health and safety file is kept on site as an active document and updated accordingly with risk assessments, site safety sheets, induction sheets and current method statement any changes to design shall be entered according to current CDM rules.

Any accident that occurs will be recorded in the accident book held at the registered office in Waterlooville and, if regulations demand reported to the HSE.

7.2. PPE

Appropriate Personal Protective Equipment (PPE) is to be worn whenever required by risk assessments. The minimum requirement is expected to include steel toe-capped boots, wellies or waders, Hi-Visibility jackets and hard hats when working in an area where plant is operating. Heavy-duty rigger's gloves or waterproof gloves will also be supplied and will be the required PPE for most tasks. Ear defenders will be required if noise levels are judged to exceed 85dB. When working in water, a risk assessment shall be used to evaluate the correct PPE. It will be ensured that the right type of PPE (and right size) is available to everyone working or visiting the site.

In case of emergency dial 999

Nearest A&E Hospital: Bassetlaw Hospital, Kilton Hill, Blyth Road , Worksop, Nottinghamshire, S81 0BD tel. 01909 500990

8. Machinery

All machinery for these works are owned by the contractor or leased from specialist plant hire companies and are routinely serviced and inspected (according to regulations). Only staff trained to use designated plant shall operate machinery. Sub-contractors will only be allowed to use (their own) machinery and equipment under the same conditions and they should provide their own Risk Assessment (which will become part of the active H&S file).

9. Works Method

9.1. General approach

All work will be carried out in a manner which does not harm the site's habitats or wildlife in general. Works shall be carried out from the right bank of the river channel.

9.2. Timeline

The actual works will be delivered between June 2021 and March 2022 will take approximately 3 - 4 weeks to complete.

Week No.	Activity	Duration
1	Site preparation: establish site compound and fencing; signage; welfare unit; initial materials deliveries.	1 day
	Ecological inspection and creation of machine access alongside river channel: check trees for bird nesting/bat roosts; remove selected trees.	1 – 2 days
	Install coffer dam and establish flow diversion through existing sluice/channel around the weir.	1 day
2	Undertake installation of reinforced concrete slope	4 - 5 days
3	Fix baffles and eel tiles to concrete slope	4 – 5 days
4	Remove coffer dam and reinstate flow to weir face	1 days
	Remove all waste and unused materials from site. Remove site compound, fencing, signage and make good the site and access routes to the satisfaction of the landowner.	1 – 2 days

10. Contingency Plans

10.1. Flooding/extreme weather

During the works, the principal contractor will review the weather forecast at the end of each working day. If significant rainfall is predicted which threatens to increase river levels, the coffer dam will be removed overnight. The concrete pouring/curing aspect of the works will not be undertaken unless there is a suitable period of dry weather predicted.

The principal contractor will register with the EA flood warning system and ensure the coffer dam is removed in advance of any significant rises in water level.

10.2. Spillages

All refuelling is to be carried out in the site compound away from the river to avoid spillages leaching through the ground and into the river. If a spillage does occur, refer to PPG-5 (Pollution Prevention Guidelines part 5), which can be found in the spill kit readily available on site. PPG5 guidelines shall be included in the site file for reference in an emergency spill incident. Biodegradable oil will be used in all plant and machinery. Plant will be continuously monitored for any leaks or spillages.

Any incident shall be reported promptly to the Environment Agency - Tel 0800 80 70 60.

10.3. Materials stored on site

No materials will be stored on site beyond the period of construction, which is anticipated to be 12 weeks maximum. All materials will be stored in the site compound which is outside the flood risk area.

10.4. Water quality monitoring plan

An hourly check will be made and logged for signs of pollution caused by the construction works. During the pouring of concrete and its setting period, the river downstream of the weir will be visually monitored constantly for signs of leakage/pollution and impacted aquatic life (dead

invertebrates, distressed fish) and immediate action taken to rectify any problems. Any incident shall be reported promptly to the Environment Agency - Tel 0800 80 70 60.

11. Waste Management

The value of works falls under the threshold which would require a Site Waste Management Plan. However, consistent with good site husbandry we shall demonstrate that:

- Waste is minimised, and all waste is taken off site
- No off-cuts will be left on site after the works.
- All waste produced will be re-used or recycled.

12. Additional Conditions

The following conditions will be adhered to with respect to this project:

- The operator shall sign up to receive flood alerts from the Environment Agency. Upon receipt of alert the works shall cease and temporary works removed within 2 hours to allow the river to flow at full capacity.
- If materials or equipment are washed downstream, the operator shall use best endeavours to recover lost materials and equipment once any flood water has receded.
- All debris and spoil arising from the activities shall be cleared and removed from the site within 48 hours of completion of the works.
- If clearance work is undertaken during the nesting season, a breeding bird survey shall be carried out by a suitably qualified and /or experienced person, if birds' nests are found works must not commence until mitigation measures are in place' (cf. guidance notes which will accompany the permit).
- The ecologist should be suitably qualified to advise on each specie and should hold the relevant bat licence with Natural England.
- Inform, by email, the local Asset Performance team (contact for AP North is Nathan Sutton, nathan.sutton@environment-agency.gov.uk) or Operational Field team (contact is Nik Jarvis, nik.jarvis@environment-agency.gov.uk) when the adjacent sluice is to be closed and reopened after works are complete.
- A watching brief will be put in place. A watching brief doesn't need to be monitoring the water full-time, but it is worth briefing site workers to be constantly visual for any signs of potential ecological impacts arising from the works. As a minimum, I would suggest checking the working area every hour for signs of pollution and during all operations regarded as high risk of potential harm to the environment. If there is any signs of dead/or distressed fish, works should cease immediately and the incident hotline should be called (0800 80 70 60).
- The activities shall be undertaken outside of the relevant fish breeding season. Works will abide by both the Midlands closed season for Brown Trout (8th October – 17th March) and Coarse Fish (15th March - 15th June) in accordance with the Regional Byelaws: Severn Trent (Midlands).

