


CDM Designers Risk Assessment		Date: 27/10/20	
Project Code:	02587 – Conjure Alders	Participating Designers:	FISHTEK CONSULTING 

1. Background

The Wild Trout Trust are aiming to improve fish passage at a weir on the River Meden, in Nottinghamshire.



2. Brief description of works


In order to improve fish passage the works to the weir at Conjure Alders involves the following key features:

- Offsite pre-fabrication of standard Low Cost Baffles (LCBs).
- Formation of RC slab to form 20% slope for LCBs and HDPE eel tiles.
- Localised & shallow breakout of existing concrete channel to allow HDPE eel tiles to meet the riverbed.
- Formation of RC concrete slope leading up to existing step.

To accommodate these works, it is recommended that the existing stop log slots are used to close off the flow. The nearby sluice gate can then be opened to allow flow to bypass the weir. A low-level sandbag / dumpy bag wall will be required at the downstream end of the weir to block downstream backwater effects. Finally, it is suggested that a small pump is installed at downstream end, within the sandbag wall, to drain any remaining water and create a dry working environment.

3. Key risk reduction measures

- Use of prefabricated elements to minimise site construction activities.
- All works to be carried out during the summer months, to mitigate risk of high flows
- All baffles are formed from re-cycled plastic with a rounded top (or radius 40mm), mitigating the risks should persons fall against the baffles.

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Project Code:	02587 – Conjure Alders	Participating Designers:	


4. Significant residual risks

- A check for uncharted services within the field (by CAT scan) should be carried out by the Contractor.
- Retaining walls (approximately 1.2m) form the extents of the weirs. These are to be adequately marked and protected to mitigate the fall hazard. Heavy plant to maintain suitable clearance from walls to prevent excessive surcharges.


5. Means by which significant hazards are conveyed

Refer to design drawings & SHE boxes.


Assessed by: Ashley Frampton CEng **Reviewed by:** Mike Lakin CEng MICE MIStructE
Date: 27/10/20

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Item no.	Nature of risk	Level of risk	RAG list reference	Designers measures to mitigate risk	Level of risk	RAG list reference	Residual Hazard
Construction							
C1	Managing River levels	High		<p>Works to be carried out during low flow periods during the summer months, to mitigate risk of high flows.</p> <p>Flows to be diverted via nearby sluice gate and downstream end of weir cofferdammed. Suitable type of downstream cofferdam to be selected to block backwater effects.</p>	Low		Yes
C2	Risk of falls from height	High		High edges of retaining walls around existing weirs structures to be suitable marked and protected against falls.	Medium		Yes
C3	Interface with the public and other site operations	High		<p>Access is provided from public access lanes/paths. Contractor to liaise with relevant landowners, provided suitable fencing (e.g. Herras) & signage to exclude the general public from the works and to define temporary access.</p> <p>Access track is unsuitable for concrete deliveries and so Contractor should allow for double handling of concrete and separate transportation along Meadow Lane.</p>	Low		Yes
C4	Services	High		Check for precise location of recorded service utilities and check for unrecorded service utilities on site prior to commencement of works.	Low		Yes

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C5	Working on uneven / difficult surfaces	High		<p>Adequate method of working to be employed whilst working on existing and new concrete weir faces to prevent slips, trips and falls.</p> <p>Rough surface finishes specified where possible on drawings to mitigate risk.</p> <p>Rounded LCBs and edge chamfers specified to mitigate risk of injury.</p> <p>Temporary works access to be defined by contractor. Likely to include use of dumpers to transport materials.</p>	Low		Yes
C6	Excessive surcharges from plant adjacent to existing retaining walls	High		<p>Suitable distances to be marked and maintained between heavy plant and top of retaining walls to avoid excessive potentially destabilising loads. To be considered in contractors method statement.</p>	Low		Yes
C7	Hand / Arm vibration	Medium		<p>Contractor to use appropriate equipment when breaking out / drilling concrete. Contractor to control trigger time.</p>	Low		Yes
C8	Managing flows and seepage	Medium		<p>All permanent works are within the footprint of the existing RC weir structure therefore there is minimal risk of river & groundwater seepage flows other than via the cofferdam.</p> <p>Over-pumping recommended to divert flows and maintain dry working area.</p>	Low		Yes
C9	Lifting	High		<p>Heavy elements have been avoided where possible. The weight of the largest assembled prefabricated LCB components could be circa 65kg (based upon 35kg for the plastic baffle & 30kg for the RSA) based upon a standard 2.5m plastic baffle.</p> <p>Lift & installation is subject to the temporary works design. To reduce manual lifting weights, the length of</p>	Medium		Yes

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				<p>the LCB components can be reduced & / or the plastic baffles fitted to the RSA on the weir.</p> <p>In situ concrete is required to form the sloping weir on top of the existing channel and in front of step weir. This will require lifting of wet concrete. This is subject to the temporary works design.</p>			
C10	Installation - use of toxic or hazardous chemicals - resin anchor products and or grouts could be harmful to operatives & environment.	Medium		The use of cast in bolts has largely been avoided using due to the impracticability. Through type anchors have taken preference over grouted in bolts to avoid potentially harmful grouts where possible.	Low		No

Operation & Maintenance							
O1	Access for debris clearance	Medium		<p>Access is provided via public foot paths. Area to be segregated from during debris clearance with temporary fencing.</p> <p>Debris to be cleared from each bank using a long-handled rake. If larger debris is present, suitably trained persons should enter the water course and remove the debris according to the operators working practices.</p>	Low		Yes