



LONGMOOR HEAD

NEW VEHICLE BRIDGE OVER RIVER EHEN

DESCRIPTION OF WORKS AND METHOD STATEMENT

Purpose:	Outline Methodology and Requirements for Construction Works
Intended user:	Installation Contractor
Revision	B – Incorporating Comments from Natural England and Environment Agency

Permissioning Requirements
Lake District National Park Authorised Planning Application
Environment Agency Permissioning Permit
Rural Payments Agency High Level Stewardship Agreement

Background Details

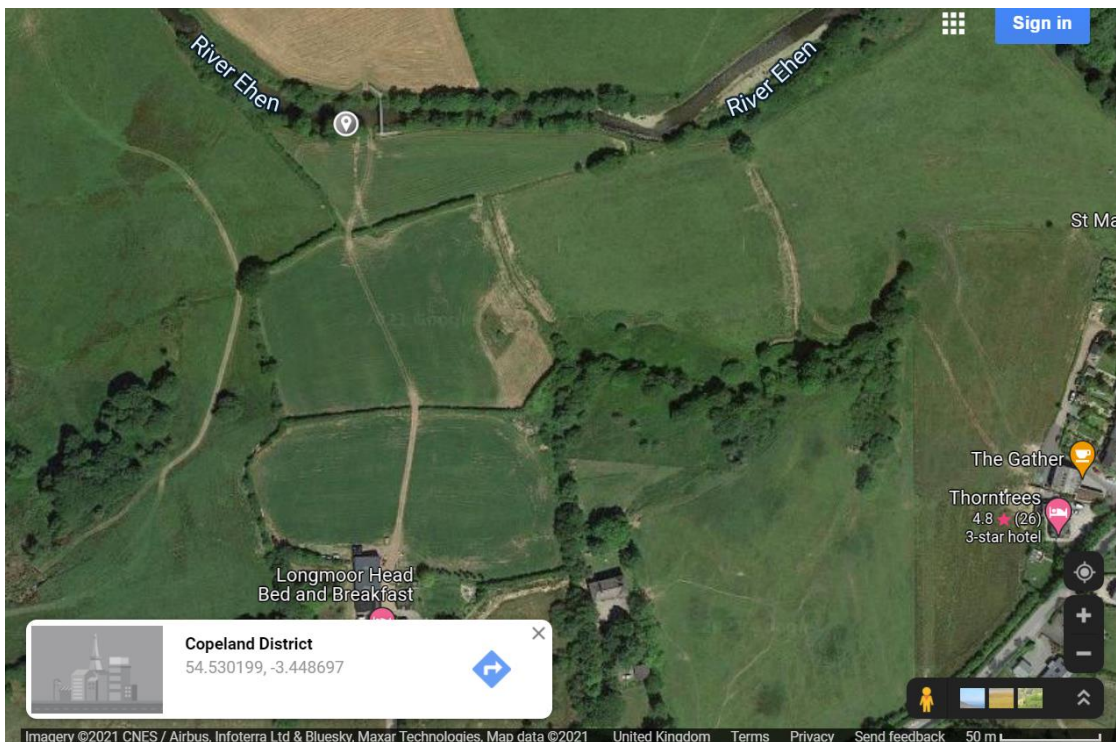
Farming operations at Longmoor Head have historically required that vehicles and livestock have access to a field which is located across the River Ehen to the main holding. This field is currently reached via a ford. In 2012 a survey of the River Ehen at this location noted a considerable number of freshwater pearl mussels present within proximity, downstream of the ford. At the ford location, the River Ehen is designated as a Site of Special Scientific Interest (SSSI) under the Wildlife and Countryside Act 1981 (as amended and inserted by section 75 and Schedule 9 of the Countryside and Rights of Way Act 2000) and a Special Area of Conservation (SAC) under the European Habitats Directive. The freshwater pearl mussel is a primary interest feature for both designations. Freshwater pearl mussels are sensitive to the quantity of fine sediment in the water course and are negatively impacted by rising levels of suspended material. Therefore, it is desirable to eliminate any activity which causes an increase in the suspended sediment in the river. To promote optimal habitat conditions for the freshwater pearl mussels it is desirable that alternatives to the continuing use of the ford for farming operations be investigated. One potential alternative is the provision of a bridge across the River Ehen at or near the location of the ford, where the key access points to the riverbank exist

Principles for the design.

The design should contain the following elements which are to be carried out by a suitably qualified engineer/designer in line with the Construction (Design and Management) Regulations (2015).

- The bridge must be fit for purpose and have no significant effect on the interest features of the European site (SAC).
- Site designations constrain the operations and will require assessment by EA and NE staff and will include Habitats Regulations assessment by EA staff as part of the EA process for a Flood Risk Activity Permit.
- A site visit is advised to be carried out by prospective designers to include an inspection of the existing foot bridge and to inform the decision regarding the need for topographical survey, cores, or trial holes. The final decision regarding the need for these should be determined by the contractor.
- The bridge should be single span so that no supporting structures are constructed in the river channel and should enable the riparian corridor to continue beneath the structure.
- The bridge must be constructed in a way that avoids the potential for undercutting of the supporting structures, does not require structures to protect the bank from erosion, or demand long-term regular maintenance works in the river channel.
- The existing footbridge at the site should be used to inform the new design and indicate the appropriate levels. The planning application reference is 7/2011/4116.

Site Location



Description of Works

The new bridge proposed comprises of 2 No. steel beams supporting a steel deck. This will be a single span structure where the soffit of the bridge has been set at the same level as the footbridge just upstream of the proposed new crossing. The new deck will be supported on new reinforced concrete abutments which are set back from the existing banks to align with the footbridge abutments and maintain the equivalent waterway area below the deck. The abutment depth is the same as the footbridge abutments to ensure there is adequate protection from scour.

Means of access

The works will be accessed via the existing farm track from Longmoor Head through the farmyard from the highway. This gives direct access to the south bank of the river. To access the north bank, it is proposed to during the works to use the existing ford that crosses the river immediately upstream of the bridge, the footbridge will be the preferred method of crossing the river. This will allow the necessary plant and materials to cross the river and allow construction of the north abutment. Only a minimal site set up is proposed to minimise any environmental impacts. A small area on the south bank has been identified which will contain basic welfare facilities and compound. ECOW will identify the requirements for the compound design and verify the location.



This will be a minimum of 20m from the watercourse. Herras fencing will secure the compound and locked during periods of inactivity/silent hours. The ECOW work will complete a prestart survey and brief the team on their findings prior to work commencing. If corrective measures are required these shall be addressed prior to permitting works. No works will commence on site without the Permit to Work being completed and issued.

Prerequisites for Construction

Fresh Water Pearl Mussel Assessment including a license application for the survey.

Using the ford for construction of the bridge will be restricted to the in-river working window to minimise impacts on fish spawning. This window is between June to September.

Planning Application Authorised

Environmental Permit Issued

Contractors Risk Assessment and Method Statement Accepted

Contractor Selection

A contractor will be chosen using the Natural England/RPA procurement procedures. Contractors are required to develop an Activity Schedule and supply additional descriptions of the arrangements and methods of construction to support the understanding of the proposals for carrying out the works. These must include measures to mitigate the risk of any pollutants entering the watercourses. The contractor will have been provided with, and agreed to, a detailed specification alongside the detailed drawings for the actual bridge structure.

The contractor must nominate a contact person for the duration of the contract who will be on site full time.

The Client will appoint a project supervisor to oversee the works, and to represent the client in matters relating to the practical implementation of this contract.

The project supervisor will inspect progress and quality as required, through agreed site visits and daily conversations with the contractor and ecologist.

The content of the method statement will be communicated to those undertaking the work as part of the safe system of work and pre-job brief.

Responsibilities

Client: Landowner/Natural England/Environment Agency

Principle Designer: A.L. Daines

Principal Contractor: Allocated contractor for installation

Task description and justification

Location of task

Location	Longmoor Head, Kinniside, Cleator, CA23 3AG
Area	Longmoor Bridge, River Ehen
Landowner Contact Details	Name: Richard Taylor Telephone: 01946 861497 Mobile: 07597076145
Engineers Contact Details	A.L. Daines Telephone: 01228 527428
Natural England Contact Details	Area Supervisor Telephone: 03000603900
Environment Agency Contact Details	Environment Agency Telephone: 03708506506
Lake District National Park Contact Details	Planner Telephone: 01539724555
ECOW	To be allocated in agreement with Natural England SSSI Officer.

Reference documentation

Lake District Planning Application:
Outline Method Statement (This Document)
Habitats Regulations Assessment
Environment Agency Permit (Application Number EPR/EB3454L|T)
Design Engineers Package – Drawings
Contractors Method Statement/Risk Assessment
EU Pollution Prevention Guidelines

Hazardous Substances

1. COSHH assessments will be in place for all substances present on site in a file in the site office. Substances will be stored in suitable storage containers.
2. The abutment stem formwork will be designed to ensure it is adequate and that there is no potential for concrete to access the river

Environmental Controls

1. ECOW Officer allocated to the project
2. Any vehicle using the site requires to be washed prior to delivering to site to ensure biosecurity is not compromised. The full Check Clean Dry Biosecurity measures should be employed specifically to river crossing and regular monitoring of adherence by the ECOW
3. Vehicles and plant stop at access to site for ecological inspection before proceeding.
4. Vehicles and plant stop at access to River Ehen for ecological inspection before permission to crossing/entering the Ford. Crossings would have to be kept to the absolute minimum and subject to close ecological supervision and monitoring of any direct and downstream impacts.
5. Vehicles and plant parked in the compound at the end of each working period

6. Confirmation of seal on enclosed dumper/mixer to be checked before crossing of the river.
7. Spill kits to be available in case of emergency and kept in plant cab if working in river
8. Bio oil to be used in all plant.
9. Dust suppression to be used if cutting concrete.
10. All fuel bowsers are to be double banded and kept at the main holding in agreement with the landowner
11. Refuelling plant and small tools to be done in the compound
12. When re-fuelling plant and small tools, plant nappies and drip trays are to be used to catch spillage
13. All works to comply with EA pollution prevention guidelines.
14. All plant to be free from oil leaks. All construction plant to be well maintained and checked for oil leaks at the start of each shift and record on plant check sheets.
15. Silt fencing will be placed along the river's edge on the North and South embankments where soil erosion may occur, these will be secured using steel fencing pins.
16. A supply of straw bales and silt fencing shall be retained on site for use in an emergency.
17. When removing the silt fences or any straw bales used, the water immediately around the fence or bales will be pumped to the grass field a minimum of 20m from the watercourse where sediment can be filtered out

18. Ford Crossing has recently been reinforced with sandstone revetments to minimise fines on access and egress of the Ford





South Bank Revetments



North Bank Revetments

19. Operatives to ensure vans and PPE are clean prior to arrival at site.

20.	All construction materials to be stored away from the river off the floodplain.
21.	During construction, all materials to be placed responsibly within the proposed area, with consideration for any spillages and measures taken to reduce the risk of materials such as sand and cement entering the river.
22.	Materials will only be placed adjacent to the watercourse/working area when in use, at all other times they will be stored in the designated area.
23.	No storage of materials within 30m of trees, materials not to be leant against trees or any plant chained to trees.
24.	Minimise the use of heavy plant in the vicinity of the tree and root system
25.	Using the ford for construction of the bridge will be restricted to the in-river working window (June to September) to minimise impacts on fish spawning
26.	Prior to any in-river access and works a full survey for Fresh Water Pearl Mussels (FWPMs) will be required. If mussels are found in the immediate area of the ford crossing/new bridge they may need to be relocated. The survey and any relocation require a license application to Natural England.
27.	Confirmation by the operator that all enclosed transport boxes/vehicles are sealed and fastened securely will be logged before using the ford crossing.
28.	Trees to be coppiced to keep the root ball to maintain bank protection within the immediate vicinity of the bridge footings and construction area. Tree stumps will remain in place.
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>South Bank Tree Line</p> </div> <div style="text-align: center;">  <p>North Bank Tree Line</p> </div> </div>
29.	Trees to be felled onto field side not into the river
30.	Bridge over the river will supplement the shading that has been removed by felling the trees.
31.	New trees to be planted to compensate for felled trees.
32.	Except for the foundation excavation there should be no other excavation required within the root zone of trees.

33.	If tree roots are exposed these areas should be backfilled with a suitable inert granular and topsoil material mix as soon as possible
34.	Access across the footbridge will be the preferred method of crossing the river.
35.	A log will be maintained for all crossing
36.	Boundary of the compound will be a minimum of 20m from the main watercourse and 30m from the tree line.
37.	Silt mats will be placed from the site compound to the Ford.
38.	Any removal of diseased ash trees should be assessed and approved outside of the planning approval in consultation with Natural England.
39.	Water removed from excavations using a pump will be a minimum of 20m from a water course to allow sufficient filtration. This will be in a bunded area to prevent movement of silt. This area will be confirmed by the ECOW.
40.	Alternate access points to the location are available and will be consulted with the ECOW if required from the East to prevent Silt washdown from the South access way. This will be consider at the time dependant on the weather.
41.	Tree planting and re-establishing vegetation will be important to prevent silt entering the river at the works location.
42.	Gabion basket stone will be sourced locally and be washed/cleaned before being brought to the compound and placed into the baskets.
43.	Excavated Topsoil and sub soil will be stored in separate bunded areas
44.	All Waste will be taken back to Longmoor Head to be disposed of in the correct skip.
45.	No fires to be lit on site.
46.	Baseline will determine water quality prior to works commencing
47.	ECOW will advise on water monitoring procedures and periodicity.

Machinery, Plant and Equipment

It is expected as a minimum the following plant and equipment will be required.

1. Hydraulic 360 Excavator 20 Tonne
2. 5T enclosed dumper truck
3. Enclosed Concrete Mixer
4. Roller
5. Pump to dewater foundation excavation if necessary
6. Stihl saw
7. Small Tools

Conventional

All operatives and supervision will wear minimum PPE, safety footwear, high visibility tops, safety helmet and gloves. Other PPR is to be worn relative to specific requirements i.e., goggles, ear protection etc. All PPE is to be in good condition. PPE condition is to be checked and replaced, as necessary.

Disruption of Works

Daily monitoring of the weather forecast will ensure river levels will not inundate works especially during critical activities.

The location of the site and the flashy nature of the river, there are likely to be periods when the weather is too wet, and the water levels are too high to permit safe construction work. As such, although the work is likely to take between four to six weeks, due to periods of inactivity due to weather it is quite possible that the period from starting on site to completion of works could extend from between ten to twelve weeks. Unfortunately, this is impossible to accurately predict and is dependant entirely on the prevailing weather conditions during the construction period. To take account of this, following each day of work, all vulnerable materials and equipment to be removed from the site of the works to the site compound to be made secure. During inclement weather periods, silt fencing will continue to be inspected to ensure it has not become loose and a risk to the river habitat, and is not causing scour during flood water movement

Contingency plans and emergency procedures

There will be a first aid station on site with a trained first aider with suitable equipment. All operatives will be made aware of who first aiders are and where equipment is located on the site induction.

Site will be secured with Heras Fencing

A supply of straw bales and silt fencing shall be retained on site for use in an emergency for arisings above the proposed silt fencing.

Procedure

1 Briefing and Preparation Work		
Step	Description	Key points
1.1	Transportation of Materials to compound from Longmoor Head holding	
1.2	Set up site compound	
1.3	Pre-Job safety brief before starting works	
1.4	All works to be carried out in accordance with the Construction Health and Safety Plan, Environmental Control Plan and all other regulatory management systems.	

2 Abutments		
Step	Description	Key points
2.1	Excavation of new abutment foundations: The excavation will be to the existing beck level. The abutment locations are away from the edge of the river to allow the excavation to take place without affecting the banks of the river. Any water ingress will be pumped to a soakaway located away from the river to allow any fines to be naturally filtered. Continual monitoring of the river will be conducted to ensure the work is not having a detrimental effect on the existing water course. If the work appears to affect the water quality, then the work will be stopped, and method changed to negate the risk to the existing channel.	In an emergency straw bales and a silt fence will be available to install downstream of the excavation All surplus waste excavated materials to be taken away a minimum of 20m of the work site into a bunded area and disposed of if not required. ECOW confirm water quality arrangements and trigger points for action and soak away location prior to any works starting.
2.2	Form abutment by assembling rebar and fixing reinforcement shuttering before pouring concrete for new abutments. The ECOW should be present on site at all times with a clear monitoring plan against the specific control measures for containment of concrete.	Shutters will be designed to prevent the loss of concrete during pouring. Shutters shall be stripped after sufficient curing period has elapsed with the shutters manually removed, cleaned down and removed from site For North abutment concrete will be transported across the river in a closed enclosed mixer or dumper and poured into the formwork with care.
2.3	Sufficient curing time will be allowed before fixing of new steel beams to the abutments	Curing time will be assessed during construction works

3 Steel Work		
Step	Description	Key points
3.1	Before delivery to site the successful contractor will assemble the bridge and uprights to ensure that all measurements and fittings are correct	This will eliminate the need for works over the watercourse other than the use of hand tools to secure the uprights and handrails to the bridge beams.
3.2	Place new steel beams on abutments and fix bracing. The beams will be lifted into place and fixed to concrete. A working platform will be hung off the beams to allow the bracing steel to be fixed safely.	All steelwork to be clean of any sediment before lifting so no sediment falls into the river
	Place and fix new steel deck to steel beams and parapet. The new deck steel to be placed starting from the south abutment working north with each bolted to the steel beams. When the deck is complete the steel kerb and parapet will be bolted to the edge of the deck	
3.3	Construct gabion retaining walls on approaches to bridge. The gabion walls have been used to retail the fill to the ramps required to access the bridge.	The Gabions are there to retain the ramp if these were not used the material would have spilled round the front of the abutments into the river. Environmentally, the ramps are in the field so there is no impact, the baskets are filled with 100mm and above stone so inert material. The fill between gabions will be suitable well compacted material. The gabions will have the benefit of protecting the ramps when the river floods the fields.
3.4	Complete approach ramps to bridge. The void between the gabions to be backfilled with a suitable fill material. The remaining embankment will then be completed, and slopes faced with topsoil.	Surface of ramps granite hardcore no limestone to be used.
3.5	Face abutments and gabion wing walls with stone to match footbridge.	No limestone to be used only granite

3 Steel Work		
Step	Description	Key points
3.6	At the completion of the projects all tracks and paths will be inspected, and any damage will be repaired.	
3.7	All site cabins, stores, materials, tools, plant, and waste will be removed from the compound.	

Task completions record and report

I certify that the task referred to in this Method Statement (tick as appropriate):

- Has been completed in its entirety without deviation.
- Has been completed with approved amendments as stated below.
- Has had a post job review conducted.
- Was aborted for the reasons given below.
- Was not conducted for the reasons given below.

Supporting information:

Signed	Date:
--------	-------