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Salmon for Tomorrow - Clywedog

Environmental Action Plan

Rev P02

Project name	Salmon For Tomorrow- Clywedog (Cribynau weir)
Project code	CE0603-509
Area	Mid
Date	20/05/2022
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Author	Bethan Follis & Rhodri Thomas

Revision history

Revision date	Summary of changes	Author	Version number
05/04/2022	First draft	Bethan Follis Rhodri Thomas	P01
20/05/2022	Updated following NRW review	Rhodri Thomas	P02

EAP Approvals

Name	Signature	Title	Date	Version

Distribution

Name	Title	Date	Version

Purpose

This Environmental Action Plan (EAP) summarises the actions required to implement the environmental mitigation for the removal of Cribynau weir on the Afon Clywedog. It sets out specific objectives and actions defining the way in which environmental risks should be minimised. It also details roles and responsibilities of those involved in the proposal.

These actions form part of the contract documentation and must be adhered to.

Roles

Each action in the table below has one named person who is responsible for ensuring that the action is implemented. It is ultimately the contractor's responsibility for ensuring the EAP commitments, which may include planning conditions, are delivered.

The Environmental Assessment Team (EAT) are responsible for agreeing any changes to the EAP and for signing off, or agreeing to the signing off of, the actions.

The contractor and Project Manager are responsible for advising EAT on any changes to method statements or the planned construction work as these may result in changes to the EAP or additional consultation with statutory consultees. EAT will assess the significance of these changes and determine the appropriate course of action.

The contractor is also responsible for implementing good environmental practice on site, in line with their own EMS. Typical issues include:

- any working hour restrictions
- dust suppression measures
- traffic management
- site waste management
- materials management
- vehicle maintenance and management
- pollution prevention and control (including storage, refuelling and incident response)
- response procedures e.g. services strike, contaminated land
- hazardous materials handling and storage
- noise management
- securing and delineation of working areas including signage

Environmental Audits

NRW will undertake a combined Health, Safety, Environmental and Quality audit during the working period. Environmental Incident Reporting system

Procedure

1. STOP
Before you report the incident, stop the work
2. CONTAIN
Where safe to do so, carry out any local site pollution prevention or emergency incident measures

3. NOTIFY

Report the incident to the (24 hour) NRW incident hotline 0300 065 3000 stating that it is an NRW caused incident and giving full details of the incident, including location and contact details. Also request, and note, the incident number.

4. REPORT

Report the incident (including the incident number) to: the EMS team (EMS.team@cyfoethnaturiolcymru.gov.uk)

All environmental incidents must be reported at the earliest opportunity to the Employer, and Project Manager. In addition, near misses must be reported via the hotline where there was/is the potential for a significant impact and where lessons can be learned.

Initial reports for such incidents and near misses must be followed by a written report using the contractor's in-house forms. This must include the following information:

- project/location
- date
- contractor
- details of what happened
- cause of incident
- lessons learned

This final and comprehensive investigation report is to be provided by the contractor to the Employer, NRW Project Manager and Safety, Health and Environment Manager within 14 days.

Summary Scope of Works

The site is located on the Afon Clywedog near Llanidloes, Grid Reference SN94432 85506. Works are being considered to enable access for migratory fish to 3.5km of suitable spawning and juvenile salmonid habitat upstream. The works are to consist of weir removal and stabilisation and enhancement of the surrounding riverbed and banks.

The project brief provided by NRW is as per the extract below:

"This project aims to improve fish passage in the Afon Clywedog. Grid Reference SN94432 85506 (Near Llanidloes). The existing weir, which is redundant since removal of the NRW gauging station, is to be removed. This will provide access to 3.5km of river and restore natural river processes."

The weir is at the base of a steep valley with dense vegetation and rocky banks, the riverbed appears to be bedrock. There was previously a gauging station at the site, but since its removal the weir is considered redundant. On either side of a central channel, there are gabion baskets submerged across the channel for 10 to 15m upstream of the weir. Upstream of the weir (4km) is the Clywedog reservoir.

The works are anticipated to comprise:

- Creation of a temporary river access ramp to undertake the works. This will be removed, and the bank reinstated upon completion. The ramp will be formed of river gravels sourced from downstream or imported clean stone.
- Demolition of existing weir, including removal of the reno mattress bed/bank protection upstream of the structure.
- Stabilisation of the surrounding riverbed and banks.

The aim is for these works to progress to construction in 2022/23.

The following assessments have already been issued by Arup in relation to the project:

- Arup, Preliminary Ecological Appraisal, March 2021;
- Arup, Geomorphology Assessment, May 2021;
- Arup, Weir Removal Risks and opportunities, August 2021.
- Arup, WFD Assessment, May 2022.

Proposed further surveys:

- Invasive Non-Native species survey
- White Clawed Crayfish
- Otter
- Bats (pending information on temporary works impacts on trees)
- Pre-construction checks for nesting birds, dormouse

Relevant Contact Details

Project Sponsor	Jason Jones
Project Executive	Melissa Mahavar Snow
NRW Project Manager	Elinor Meloy
NRW Environmental Project Manager	N/a
ECW	N/a
Contractor	William Hughes
Consultant Project Manager	Philip Smith
Consultant Ecologist	Martyn Owen
Other Specialists	Rhodri Thomas [Arup - Environment Lead]

Environmental Action Plan

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
Pre-construction						
Human beings						
A1.1	Minimise disruption to local residents	<p>Footpath Vehicle movements should be minimised and separation measures put in place. The informal footpath along the northern riverbank is to be kept open where possible which may impact site access/traffic.</p> <p>Caravan Park The weir is accessed from within Clywedog Riverside Holiday Home (Caravan) Park, which is off the B4518 from Llanidloes. Most of the caravans are downstream of the weir itself but upstream is also owned by the park. The caravan park is most busy in the summer and is closed at certain periods in the winter.</p>	<i>Contractor</i>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		<p>The works should be timed to occur outside of the peak holiday season to minimise disruption.</p> <p>Vehicle movements should also be minimised</p>				
		<p>Consultation required with residents regarding access and proposed works.</p>	<i>NRW</i>			
A1.2	To communicate information about the proposed scheme	<p>Inform the local community, landowners and other key stakeholders on the proposed scheme objectives and program of works; including NRW contact name and number.</p>	<i>NRW</i>			
		<p>Inform adjacent and local landowners / tenants of the nature and duration of construction and provide contact name and number.</p> <p>Contractor to arrange site access through NRW.</p>	<i>Contractor</i>			
A1.3	To ensure no damage to the local road network,	<p>Undertake a pre-construction survey of local roads along the route that will be impacted by</p>	<i>Contractor</i>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
	including access route.	works. Temporary construction access requirements to be reviewed and updated following Contractor advice. Access likely to be via an existing gated track to the north-west of the caravan site.				
Archaeology						
A2.1	Identify all potential risks to archaeological features	Desk review of Historic Wales and Archwilio records show the site to be within the Clywedog Historic Landscape area. CPAT have been consulted and have no concerns with regards to the scheme.	<i>No action</i>			
Surface water bodies						
A3.1	Maintain water quality of surrounding watercourses – Afon Clywedog (GB109054044760) - tributary of the River Severn,	Compliance with relevant Guidance for Pollution Prevention: in particular, GPP 5: Works and maintenance in or near water. Any fuel / plant storage or refuelling to undertaken in accordance with relevant	<i>Contractor</i>	http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement	Guidance to be integrated into Contractor Risk Assessment Method Statement (RAMS).	

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
	<p>Severn (GB109054049310) - conf Afon Dulas to conf R Camlad (downstream).</p>	<p>GPPs. Refer to B5.1 for details. The Contractor will develop and implement a Construction Environmental Management Plan for the works, which will include best practice pollution prevention measures when working in the channel (GPP5 to be followed at a minimum) – e.g. silt mats, reducing excavator movements.</p>		<p>series/guidance-for-pollution-prevention-gpps-full-list/</p>		
		<p>Sediment sampling and testing is also proposed prior to construction to establish if there are elevated levels of pollutants in the sediment stored behind the weir. Additional mitigations will be implemented to manage the release of silt should high levels of nutrients be found.</p> <p>Sediment sampling and testing for likely chemicals is proposed prior to construction. If elevated levels of chemicals on the EQSD list are found, then additional construction mitigations would be implemented to minimise</p>	<p>NRW</p>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		sediment disturbance.				
A3.2	To prevent flooding caused by obstructions in a main river or works to flood defences.	<p>Construction Risk Assessments and Method Statements should implement safe systems of work to include consideration of flood forecasts, inclement weather and local river levels during construction.</p> <p>The Contractor will be required to obtain a temporary FRAP prior to commencing works.</p> <p>Integrate any conditions / requirements of the FRAP applications (temporary and permanent works).</p>	Contractor	<p>NRW Flood Maps:</p> <p>https://maps.cyfoethnaturiolcymru.gov.uk/Html5Viewer/Index.html?configBase=https://maps.cyfoethnaturiolcymru.gov.uk/Geocortex/Essentials/REST/sites/Flood_Risk/viewers/Flood_Risk/virtualdirectory/Resources/Config/Default</p>		
		<p>A flood modelling study is being conducted for the permanent works.</p> <p>Obtain FRAP for the permanent works.</p>	NRW			
Ecology						

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
A4.1	To minimise the risk of spreading Invasive Non-Native Species (INNS)	<p>A PEA identified suitable substrates present in close proximity to the weir that could support INNS.</p> <p>It is recommended that a survey to assess presence/absence of INNS in areas to be impacted within the Site is completed between June and October (optimum period for Himalayan balsam, the species considered most likely to be present) prior to site works.</p>	NRW			
		<p>Pending the INNS survey results, the Contractor shall prepare a Biosecurity Risk Assessment to evaluate potential risks at each site and relevant biosecurity precautions. The transfer of amphibian and fish diseases as well as INNS shall be minimised by undertaking cleaning and disinfection of equipment. All debris, plant</p>	Contractor's Environment Lead	<p>Check Clean Dry protocol: http://www.nonnative-species.org/checkcleandry/index.cfm</p> <p>Chalara (Ash die-back): https://www.forestryresearch.gov.uk/tools-and-resources/pest-</p>		

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		<p>fragments and mud should first be scrubbed off footwear and rinsed with water.</p> <p>Disinfection shall comprise soaking in a bleach solution (1 measure of household bleach to 9 measures of water) for 15 minutes or using Virkon solution (1mg/ml) for 1 minute. Fabrics can be washed on a 40' C cycle (with detergent, ensuring sufficient rinsing). All used disinfectants should be disposed of appropriately.</p> <p>To minimise the risk of spreading Phytophthora at woodland sites, scrub all visible soil and debris from footwear using water, spray with Propeller and leave until it has evaporated. Vehicle access along shall be kept to a minimum and mud should be cleaned from car wheels, wheel arches and footwells of cars. This shall be repeated at each site visited.</p> <p>Biosecurity advice on ash</p>		<p>and-disease-resources/ash-dieback-hymenoscyphus-fraxineus/chalara-a-manual-1-introduction-and-contents/https://www.gov.uk/government/publications/chalara-management-plan</p> <p><i>Amphibian Disease:</i> https://www.arguk.org/info-advice/advice-notes/324-advice-note-4-amphibian-disease-precautions-a-guide-for-uk-fieldworkers-pdf-2</p>		

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		dieback disease. Chalara, can be found via the link in the further information column.				
A4.2	To prevent killing or injury of otters	<p>A PEA identified that Otter will very likely use the river within Site for foraging/commuting purposes and may use the woodland on Site for resting.</p> <p>As works will not commence within 12 months from the date of the PEA it is recommended that a pre-construction ecological survey is conducted to ensure that the status of otter in the vicinity of the Site has not changed.</p>	NRW			
		If any otter breeding / resting areas are found during pre-construction checks, further survey work and mitigation measures may be required, in addition to a European Protected Species (EPS) Licence from NRW.	NRW			
A4.3	To prevent killing or injury of breeding birds	A PEA identified potential bird nesting habitat present within the woodland habitats in the	<i>Contractor's Environment Lead</i>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
	(including destruction of nests or eggs).	<p>Site. Any vegetation clearance/building work should be undertaken outside of the breeding bird season (i.e. outside of March-August), where possible.</p> <p>If clearance/building work is required within breeding bird season, a pre-works check for bird nests (including red kite) by a Suitably Qualified Ecologist (SQE) will be required. This should be undertaken no more than 24hrs before the work commences.</p> <p>If active nests are found, a suitable exclusion zone should be set up and no work should continue in the area until the chicks have fledged and left the vicinity. Any cleared vegetation should be reinstated.</p>				
A4.4	To prevent killing or injury of Bats	A PEA identified mature trees located along the southern bank of the Afon Clywedog within the Site potentially suitable for roosting bats. The Site is likely to be used by	<i>Contractor's Environment Lead</i>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		<p>foraging and commuting bats. If any works are required to mature trees, or significant disturbance within 30m is anticipated, further surveys will be required:</p> <ul style="list-style-type: none"> - tree climbing survey and or emergence/re-entry surveys, at the appropriate time of year (May-Sept). <p>It is recommended that once the methods to be employed to enable weir removal are confirmed the potential requirement for further survey work is assessed on consultation with a Suitably Qualified Ecologist (SQE).</p>				

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
A4.5	To prevent killing or injury of badgers	<p>A PEA identified that the woodland on Site could provide suitable habitat for foraging and commuting, if badgers are present in the wider area. Works should be restricted to daylight hours and any artificial lighting be directed away from the woodland. Trenches should be covered overnight or a means of escape for mammals provided.</p> <p>As works will not commence within 12 months from the date of the PEA it is recommended that an update survey is completed to ensure that the status of badgers in the vicinity of the Site has not changed.</p>	<i>Contractor's Environment Lead</i>			
A4.6	To avoid effects on other protected species.	<p>If any protected species are encountered during the works, all work in the vicinity should stop immediately and a Suitably Qualified Ecologist contacted for advice on how to proceed.</p> <p>Fish</p>	<i>Contractor's Environment Lead</i>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		<p>The river is likely to support a range of fish species, potentially including Section 7 (of the Environment (Wales) Act 2016) species (e.g. brown trout <i>Salmo trutta fario</i>).</p> <p>The Contractor shall be required to develop method statements, a Pollution Incident Response Plan and Silt and Water Quality Management Plan for NRW approval in advance of any in-river works. Tracking within the watercourse must be kept to an absolute minimum.</p> <p>At least 3 weeks prior to any in-river de-watering activity the contractor must inform the NRW PM of the date in which the activity is to be undertaken in order for the NRW PM to arrange NRW Fisheries Staff to be on site.</p> <p>Undertake Fish Rescue during any in-river de-watering activities. Contractor to provide at least 3 weeks' notice prior to</p>				

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		<p>when de-watering is necessary.</p> <p>Amphibians</p> <p>The presence of Great Crested Newts (GCN) has been confirmed in the vicinity of the Site (at the pond within Red Kite Touring Park). However, it is considered unlikely that GCN would be present in work areas, due to habitat suitability around the identified ponds, the intervening habitats and distance to the weir.</p> <p>Works should proceed with care and measures will need to be employed to ensure that no GCN are harmed. These works should be detailed in a Precautionary Working Method Statement. This should also carefully consider access routes and any storage areas required.</p> <p>Hazel Dormouse</p> <p>The woodland within the Site is considered suitable habitat for hazel dormice.</p>				

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		<p>The temporary works should avoid the need for vegetation clearance (particularly within the woodland) as far as practicable.</p> <p>Visual inspections by a Suitably Qualified Ecologist, immediately prior to clearance of vegetation, should be undertaken to confirm the absence of dormouse from the area of works. Assuming no nests are present, the clearance would be able to proceed without further surveys, mitigation and or licencing in regard to dormouse.</p>				
		<p>White Clawed Crayfish</p> <p>The PEA identified suitable habitat for white-clawed crayfish.</p> <p>Consultation with NRW to assess distribution of this species in the vicinity of the Site. If this consultation indicates possible presence</p>	<p><i>NRW</i></p>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		further survey through the collection of eDNA samples upstream and downstream of the weir, in addition to manual searching will be required to determine presence/likely absence.				
A4.7	To avoid effects on locally protected sites	<p>There are no internationally, nationally or locally designated sites within the search area to which impacts from the proposed works could occur.</p> <p>The Site is located within an area of ancient woodland; the works should be planned to avoid impacts to trees and trees on Site protected in line with BS 5837:2012 . All works should still follow strict pollution prevention best practice to protect this habitat, and species it may support.</p>	<i>Contractor</i>			
A4.8	Protection of vegetation to be retained	<p>Vegetation clearance is likely to be required.</p> <p>Where vegetation clearance is required, vegetation should be reinstated on at least a like-for-</p>	<i>Contractor</i>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		like basis, preferably 3:1 or higher.				
Land use						
A5.1	To minimise deterioration to land quality.	A pre-construction photographic record should be made of all working areas and the site compound to ensure that they are reinstated to pre-construction conditions as a minimum.	<i>Contractor</i>	<i>Design Drawings</i>		
Nuisance						
A6.1	To minimise disturbance to local residents and businesses	Liaise with residents and businesses in close proximity to works. Clywedog Riverside Holiday Home Park and Red Kite Touring Park are adjacent to works.	<i>Contractor</i>			
During construction						
Human beings						
B1.1	Ensure safety of pedestrians using the public footpath (PRoW) running	The public footpath is to be kept open. It is not anticipated that access to the site from the south is required by this should	<i>Contractor</i>			

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	just south of the site	be considered if so.				
B1.2	To minimise disruption to the local road network.	Vehicle movements should be minimised, and separation measures put in place. Contractor to confirm traffic management plan.	Contractor			
Surface water bodies						
B2.1	Maintain water quality of surrounding watercourses – Afon Clywedog (GB109054044760) – tributary of the River Severn, Severn (GB109054049310) - conf Afon Dulas to conf R Camlad (downstream).	The Contractor shall implement their approved Pollution Incident Response Plan and Silt and Water Quality Management Plan. Tracking within the watercourse must be kept to an absolute minimum. Method Statements are to include good practice measures, such as adherence to CIRIA and Guidance for Pollution Prevention. Contractor would implement best practice pollution prevention measures when working in the channel – e.g. silt mats, reducing excavator movements.	Contractor	CIRIA C741 'Environmental Good Practice On Site'; Fourth Edition (2015). http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/ PPG 1		

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		<p>All broken out concrete and gabion baskets (including fill material) to be removed from site and disposed of appropriately.</p> <p>Ensure that equipment and any fuel storage facilities are protected by secure fences and locked where possible to prevent accidental spillages as a result of vandalism;</p> <p>Drip trays to be used underneath standing equipment;</p> <p>Any drip tray with a mixture of water and contaminant will be emptied into a 25l plastic container using a funnel. The container will be disposed of at the end of construction or when full;</p> <p>Emergency spill kits and trained personnel will be available;</p> <p>All vehicles, including fuel bowsers, will carry emergency spill kits;</p>		<p><i>Understanding your Environmental Responsibilities – Good Environmental Practices.</i></p> <p><i>GPP 5 Works and Maintenance In or Near Water.</i></p> <p><i>PPG 6 Working at Construction and Demolition Sites.</i></p> <p><i>PPG 7 Safe Storage – The Safe Operation of refuelling Facilities.</i></p> <p><i>GPP 8 Safe Storage and Disposal of Oils.</i></p> <p><i>GPP 13 Vehicle Washing and Cleaning.</i></p> <p><i>GPP 20</i></p>		

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
		All mechanical plant to use minimal safe fuel quantities for in-watercourse works.		<p><i>Dewatering Underground Ducts and Chambers.</i></p> <p><i>GPP 21 Pollution Incident Response Planning.</i></p> <p><i>GPP 22 Dealing with Spills.</i></p> <p>http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/</p>		

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
Ecology						
B3.1	To minimise the risk of spreading invasive species	<p>Contractor to produce a Biosecurity Risk Assessment prior to construction – Action TBC following INNS Survey.</p> <p>Biosecurity measures will be employed as required to ensure that no invasive species are imported to the site.</p> <p>Biosecurity measures to be integrated into Contractor RAMS and adhered to on site.</p>	<i>Contractor</i>			
B3.2	To avoid killing or injury of otters	<p>If any otter breeding / resting areas are found during pre-construction checks, further survey work and mitigation measures may be required, in addition to a European Protected Species (EPS) Licence from NRW.</p> <p>Works should be restricted to daylight hours and any artificial lighting that may be required should be directed away from the woodland and watercourse. Trenches should be covered</p>	<i>Contractor's Environment Lead</i>			

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		overnight or a means of escape for mammals provided.				
B3.3	To prevent killing or injury of breeding birds (including destruction of nests or eggs).	<p>Vegetation clearance within the breeding bird season (March-August inclusive) should be avoided to prevent damage or destruction of occupied nests or harm to breeding birds.</p> <p>If this cannot be achieved, works within the core bird nesting season will require an inspection for breeding birds and their occupied nests by a suitably experienced ecologist no more than 24 hours prior to any works commencing.</p> <p>If nesting birds are found during the pre-construction checks, a buffer around the nest will be implemented of at least 5 metres as agreed with the ecologist and further work within the immediate and surrounding area will be delayed until young have fledged and left the nest, and the nest is no longer in use.</p>	<i>Contractor's Environment Lead</i>			

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B3.4	To avoid effects on other protected species.	<p>Should signs of any protected species be identified, all works will stop, NRW consulted and a Protected Species Licence application submitted to enable works to progress.</p> <p>Toolbox Talks will be provided by a suitably experienced ecologist to all site personnel to inform them of ecological features at the Site.</p> <p>If any task lighting is required outside daylight hours (typically 30 minutes after sunrise and up to 30 mins before sunset), directional lighting (towards the ground) with minimal upward spill will be implemented, to avoid light spill into adjacent habitats to avoid disturbance to commuting and foraging protected species.</p> <p>Undertake Fish Rescue during any in-river de-watering activities. Contractor to provide at least 3 weeks' notice prior to when de-watering is necessary.</p>	<i>Contractor's Environment Lead</i>			

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B3.5	To prevent damage to trees	Measures to protect trees to be retained within and immediately adjacent to the Site and access route in line with the British Standard BS5837:2012.	<i>Contractor</i>			
B3.6	To avoid effects to Section 7 Species and Amphibians	Clearance of vegetation suitable for smaller species (long grass, hedges and scrub) will be avoided or kept to a minimum during the active season (March to October). If required during this time, clearance will be subject to a Toolbox Talk and Precautionary Methods of Working (2-stage clearance method) written and overseen by a suitably experienced ecologist.	<i>Contractor's Environment Lead</i>			
Land use						
B4.1	To minimise deterioration to land quality.	Maintain the quality of the subsoil and topsoil within all working areas by following the mitigation measures outlined in B2.1.	<i>Contractor</i>	<i>British Standard 3882:2007: Specification for topsoil and requirements for use</i>		

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Nuisance						
B5.1	To minimise noise disturbance to local residents.	<p>Working hours will be restricted as per the Works Information.</p> <p>Local residents will be consulted in advance by NRW on any requirements for out-of-hours work;</p> <p>Deliveries will only be made during working hours;</p> <p>Plant used during construction will be suitably sized for the works to limit noise and vibration;</p> <p>Plant will be of a good modern standard and maintained to ensure unnecessary vibration or noise from exhaust systems or loose panels is eliminated;</p> <p>Any stationary plant (e.g. generators and compressors) will be positioned as far as practically possible away from residential properties and screened to reduce noise emissions;</p>	Contractor	<p><i>British Standard guidelines BS5228:2009 – Code of practice for noise and vibration control on construction and open sites</i></p>		

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		<p>All plant will be shut down when not in use to eliminate any unnecessary noise;</p> <p>Where possible, quieter electrically powered plant will be used as opposed to diesel or petrol-driven equipment;</p> <p>Avoid unnecessary revving of engines and switch off equipment when not required;</p> <p>Use rubber linings in, for example, chutes and dumpers to reduce impact noise;</p> <p>Minimise drop height of materials; and</p> <p>Start-up plant and vehicles sequentially rather than all together.</p>				
B5.2	To minimise the effect on air quality to the local residents	<p>Working areas will be kept neat and tidy;</p> <ul style="list-style-type: none"> • Ensure stockpiled material (temporary works) does not cause air pollution; • Road going vehicles will be restricted to running on hard 	<i>Contractor</i>			

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		<p>surfaces where feasible;</p> <ul style="list-style-type: none"> • Wheel cleaning facilities will be available (hose pipe, brush) and if required a jet wash will be employed; • Vehicles travelling off site will be observed to minimise mud/debris on the road; • Control measures will be in place for disposal of rubbish; • Machinery/vehicles to be well maintained, regularly serviced and comply with MOT emissions standards; • Deliveries to site will be controlled to avoid queuing; and • Engines will be switched off when not in use. 				
Post-construction						
Human beings						
C1.1	To keep public informed of work	Notify local residents / businesses once work is	<i>Contractor</i>			

Ref no	Objective	Action	Responsibility	Reference to further information	Progress and Further Action	Sign off and date
	progress.	complete.				
C1.2	To ensure no damage to the local road and pedestrian path network, including access route.	Carry out post-construction survey and compare to pre-construction condition survey undertaken. Undertake any repairs as necessary.	<i>Contractor</i>			
Land use						
C2.1	To reinstate site compound all other working areas.	Access routes and working areas to be subject to post-construction inspection (against pre-construction survey details) to ensure that reinstatement has been carried out to an acceptable level. Any trees or plants sourced for re-instatement must be British grown.	<i>Contractor</i>			