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Network Rail Project No:	
AMCO Contract No:	**IS01083C**
WPP Revision:	00
Revision Date:	12/06/2019

Works within the RIver

Work Package Plan

IS01083C –
UB 303/128 River Fernaig. Works within the River.

Start Date: 01/09/19

Finish Date: 01/12/19

Work Package Plan Number:
WPP002: *IS01083C Rev00*

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(Job Title)
Civils
.....
(CRE Discipline (*as stated in the CPP*)

Accepted on behalf of Network Rail / Client:

....Date
(Print Name)

.....
(Signature)

.....
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VERSION CONTROL

REVISION NUMBER	SUMMARY OF CHANGES
Draft	
01	
02	

Supporting guidance

L2OHS0044_F02.pdf

CONTENTS

TO UPDATE THIS TABLE RIGHT CLICK AND CLICK ON TABLE". THEN CLICK ON "UPDATE ENTIRE TABLE"

1 Introduction

1.1 Brief outline of work methodology

1.1.1 UB 303/128 is a rail bridge crossing the River Fernaig, is a single span masonry arch bridge crossing a tidal inlet approximately 1.3km downstream of Achmore, situated between Plockton and Stromeferry in the Highlands. Immediately downstream of the structure is a stone, rock and cobble beach, which at high tide is totally submerged, with the tide levels reaching the downstream face and embankment. The structure consists of a masonry segmental arch with masonry abutments topped by concrete coping and tubular steel railings. Wingwalls extend both upstream and downstream from the structure, which is located within an embankment between Loch Carron and the land to the east of the structure. The structure has a span of approximately 9.5m, a height of approximately 3.8m and a length of 6m.

AMCOGiffens brief is to achieve the required scour score by protecting the two number existing abutments and one number central pier reducing reduce EX2502 scour risk score to 10.0. This will achieved by creating dry working areas and placing specialist concrete scour matting inverts in addition to Rock Armour protection where necessary as per design. Furthermore, masonry repairs above and below water level will be carried out as per Network Rail standard as per detailed schedule of repairs.

1.1.2 The following tasks support this Work Package Plan:

Reference & Prepared by:	Task Briefing Sheet Title	Activity Start Date
WPP002 Scour Works – Gordon Paterson	Creation of Dry Working Area	01/10/19
WPP002 Scour Works – Gordon Paterson	Scour Works	01/10/19
WPP002 Scour Works – Gordon Paterson	Masonry Repairs	01/10/19

General

- All operatives will receive the site safety induction and sign the site safety induction log
- All personnel on the site will receive a task briefing to cover the methodology and health, safety and environmental risks associated with the activities.
- A daily white board briefing will be carried out each day which all site personnel will attend. Any new hazards will be identified at this point.
- A point of work risk assessment and daily briefing will be carried out each day which all operatives will sign to show they have understood the methodology and hazards. Any new hazards will be identified at this point.
- All suppliers to be notified of Traffic Management plan prior to commencement of works.
- A dilapidation photo survey shall be carried out before any works commence.
- All refuelling shall occur in a dedicated area at least 10m away from the watercourse
- All heavy plant operating in or within 10m of the watercourse will run using hydraulic Bio oil.
- All static plant shall be sat over a drip tray which can contain 110% of the fuel tank capacity. This plant shall be positioned at least 10m away from the watercourse
- All waste shall be managed in accordance with the Site Waste Management Plan.
- Clean, check and dry process to be in place and briefed to all personnel and all plant to cleaned down before coming to site."
- Nesting bird survey to be carried out prior to works commencing.
- All works shall comply with the requirements of the ecology report, Marine Scotland Licence and Fishery Consents.
- No lone working is permitted at any time in or around the water course.
- Works are in a tidal area and therefore works will be planned accordingly. Any works out with the cofferdam are only permitted 6 hours either side of low tide. At all times, it is expected to be high tide and therefore no works are permitted. All plant and equipment along with additional materials must be removed to a position of safety and works suspended.

- Site supervisors should familiarise themselves with an approved Tide Times information service. These times will dictate working hours and limitations.
- Fish rescue to be carried out after consultation with the local fisheries, whether this is carried out before the dry working area is installed or after will be determined by the local fisheries at the time of the works.

TB001 – Creation of Dry Working Area.

- Marine Licence to be issued prior to AMCOGiffen entering watercourse.
- Permit to work within the watercourse to be issued prior to working in or near watercourse.
- All permit requirements to be adhered to for duration of the below activity.
- Prior to works commencing the Site Supervisor shall register with the SEPA floodline (0845 988 1188 / http://www.floodlinescotland.org.uk/)
- A water monitoring kit shall be obtained from the AMCO Environmental Department and a sample shall be taken and recorded (photographed) by the Site Supervisor.
- Due to the tidal nature of the river, works are only permitted from 6hours before low tide to 6 hours after low tide.
- During this activity the Site Supervisor shall monitor and record the water quality for silts taking samples upstream and downstream of the work site (the upstream sample providing the baseline). If pollution is being caused then work will stop and the control measures reassessed.
- Wearing chest high waders and life jackets AMCOGiffen Operatives will enter river and install 1no safety line downstream of works secured by pegs into surrounding embankment and 1no life buoys on both downstream and upstream embankments.
- Waders/Boots shall be dry and clean before entering the work site to prevent the spread of invasive species
- AMCOGiffen Operatives will then install 2no chicaned silt curtains spanning from embankment towards adjacent embankment stopping short to allow for fish passage.
- AMCOGiffen Operatives will then install 1no oil boom across the surface of the existing river securing into existing embankment with timber pegs.
- Once downstream silt control measures are in place, as per approved site lift plan, banked by trained and competent banksman, Piling Excavator fitted with bio-degradable fuel will enter the watercourse and install sheet pile cofferdam walls.
- Cofferdam should be constructed to allow gaps for the natural flow of water during high tide in between the construction of the cofferdam.
- Prior to the installation of the final sections of the cofferdam sheet piling, a 600mm (diameter to be confirmed subject to Temporary Works Design) pipe will be in place to be lifted, welded to the sheet piles and a hole cut through. This is to allow for the flow of water and fish/animals out with our works and during high tide. The pipe should be positioned above the existing bed level to allow for the works directly underneath to be achieved.
- If required, during the course of the works, a second pipe can be installed and the first pipe blocked off at either end and removed in the middle to complete the works.
- Fish rescue can now be completed by the local Fish/River Authority.
- Once install of the dry working area is complete and the fish rescue carried out, operatives will connect up 6" bagging for over pump system as per proposed dry working area sketch.
- As per approved site lift plan, 14T Excavator will install 2no 6" pump units as per site layout plan ensuring all static is at least 10m from watercourse with sealed bund capable of obtaining 110% of fuel/oils capacity.
- 6" Pump system not to be in use till after dry working area is created and will be working on internal side of dam.
- Pump system will include a settlement tank allowing for water/sediment to settle before being discharged.
- Once the area has been drained, a further fish rescue may be required to remove any outstanding fish.
- Upon completion of the main works, the above methods will be removed in opposite sequence with extra care taken to ensure no sediment is disturbed.
- Silt sampling with the clean water bottles should be carried out twice daily intervals throughout the low tide lifetime of the work and any issues highlighted to AMCO Site Management
- PH Testing will be carried out before, during and after all proposed concrete works including masonry repairs and any issues highlighted to AMCO Site Management and works suspended.

TB002 – Scour Works

- Upon the completion of the creation of the Dry Working Area and access road, the main works will be in a position to commence.
- Site Engineer will carry out and full CAT and Genny survey of all proposed excavation areas.
- Check service drawings provided by utility companies, issue permit to dig and proceed to locate any detected services by hand excavation. No mechanical excavation permitted within 1.2m of a known service.
- All works will be carried out under approved ALO plan.
- ALO plan will be in the form of physical red and white water filled barriers defining worksite limits to ensure failsafe working.
- In addition to the above all excavators are to fitted with Kill Switch preventing excavator leaving predefined exclusion zone. Banksman to receive briefing on Kill Switch working.
- Within the dry working area, Under the control of a banksman equipped with back to back communication, the excavator will begin working from the banking and will scrape the existing bed material from the access point with it being side cast and bunded, upon a polythene liner on the bank ready for re-use.
- During this activity the Site Supervisor shall monitor and record the water quality for silts taking samples upstream and downstream of the work site (the upstream sample providing the baseline). If pollution is being caused then work will stop and the control measures reassessed.
- As the bed material is removed, the excavator will access the river bed and excavate to formation level as per design.
- Care to be taken to ensure that there is no undermining of the existing abutment/pier foundations during the excavation works.
- The structure will be visually monitored throughout the works for signs of movements/cracking.
- If any undermining occurs or there are any signs of movement in the structure then works will stop and designer notified. Network Rail may also be required to be informed.
- All bed material will be side cast and stockpiled upon the polythene liner ready for reuse at the end of the works. This material shall not be mixed with other site materials
- This bed material pile should be positioned so as to pose no risk of being washed back into the watercourse during periods of high river flow or heavy rainfall. This shall be monitored and silt fence erected where required.
- Main excavation works will now be carried out. Surplus material will be transported to the compound using dump trucks and stockpiled for removal to a suitable off site treatment facility.
- With excavation works complete, the installation of the "Fabriform" concrete scour mattress (or similar approved) will be installed.
- The mattress should be rolled out to the area of final installation and connected to gether using built in zips to form 1 large mattress. Allowance should be made for contraction of size when filling with concrete.
- Micro concrete will then be uniformly pumped through filler sleeves, integral to the mattress, and controlled so as to ensure each panel is completely filled prior to moving on to the next.
- Concrete pump should be set up a minimum of 10m back from the water course.
- During this activity the Site Supervisor shall monitor and record the water quality for acidic levels by taking PH testing samples upstream and downstream of the work site (the upstream sample providing the baseline). If pollution is being caused then work will stop and the control measures reassessed.
- AMCOGiffen Site engineer will ensure concrete is installed as per design for line and level ensuring quality assurance.
- All of the above processes will be repeated throughout the proposed construction phases to ensure all concrete works are complete as per design. Once concrete has had sufficient time to reach design strength, either end will be keyed in to existing with a 600mm layer of bedding material. This material will be placed by 14t excavator.
- Using 14t excavator and dumpers, Dn50 = 600mm rock armour stone will be placed over the entire area of the concrete mattress and key in areas.
- Riverbed reinstatement will be carried out at this time using 14t excavator and previously removed and segregated material.
- With all scour protection works complete, the dry working area can be removed in a reverse of the installation process.

TB003 - Masonry Repairs

- Masonry repairs will be carried out on both abutments and central span as detailed on the Form003 drawings and repair schedules.

- Access to low level repairs will be gained from ground level.
- Access at higher level will be accessed using Alloy towers built, moved and dismantled by or under the supervision of a competent PASMA trained operative.
- There are 13no defects identified on the structure with 2 of these identified as no repair required.
- Of the remaining 11 repairs, these consist of **Re-pointing of open joints/fractures and De-vegetation.**
- Dilapidation Photos must be taken prior to any works commencing.
- The ecology report shall be referred to and nesting bird check undertaken prior to works commencing
- **Pointing** is to be carried out in accordance with NR/CIV/SD/101.
- Operatives will use hand tools such as rake/hammer/chisel/scotch (and lightweight 110v breakers if required) to remove all loose mortar from the masonry courses to a depth of at 25mm to provide a key for the new mortar installation. If a depth of 20mm or more mechanical tools to be used.
- Operatives to check to ensure that a depth of at least 25mm has been of achieved by the raking of old joints, using a suitably proportioned depth gauge for 25mm
- A lime mortar mix as per the design specification detailed on NR/CIV/SD/101 will then be dry mixed in the main compound before being transported round to the work area.
- A measured amount of water will then be added to the mix in the bucket to form the mortar, which will then be applied to the re-formed mortar beds before being struck flush.
- Utilising hand tools (trowel & pointing key), sweep mortar into the exposed joint area
- After the mortar has hardened (but before it goes off); all joints will be given a brushed finish. The mortar will be brushed with a soft brush to expose the course aggregate.
- Mortar Mix to be M6.
- This method can be repeated whenever necessary.
- **Vegetation Removal** is to be removed by hand or scrapped off using hand tools if necessary.
- If mortar is pulled free from mortar bed when vegetation is removed then repointing is to take place.

1.2 AMCO's delivery organisation

1.2.1 The following individuals from the AMCO's organisation will be involved during this work package:

Role	Name	Contact Number
Regional Director	Alan Boyle	07557 203 539
Regional Manager	Daniel Harkins	07557 540 067
Contracts Manager	Ross McCaffer	07584 555 749
Site Agent	Gordon Paterson	07584 606 719
Senior Site Engineer	Matthew Martin	07788 975 849
General Foreman	Paul Balfour	07827 978 338
Contractors Engineering Manager	Daniel Harkins	07557 540 067
Contractors Responsible Engineer (Civils)(*As per CPP*)	Ross McCaffer	07584 555 749
ALO Responsible Manager	Ross McCaffer	07584 555 749
ALO Planner	Gordon Paterson	07584 606 719
ALO Coordinator	Matthew Martin	07788 975 849
ALO Supervisor	Paul Balfour	07827 978 338
Temporary Works Coordinator	Ross McCaffer	07584 555 749
Temporary Works Supervisor	Gordon Paterson	07584 606 719
Temporary Works Supervisor	Paul Balfour	07827 978 338
H&S Advisor	Neil Dunlop	07880 002 751
Sustainability & Assurance Advisor	Matt Barker	07801 349 671
Plant & Material Procurement	Barnsley Head Office	01226 243413

1.2.2 The following companies, specialist contractors and/or individuals will be involved during this work package as defined in the CPP:

Name of company, specialist contractor or individual, etc.	Work activity / Specialism	Point of contact details	
		Name	***Mobile***
Burnside Piling (tbc)	Dry Working Areas Creation	TBC	TBC
Tbc	Fish Survey & Rescue	Tbc	Tbc

1.3 Resources

1.3.1 The following resources will be used for this work package:

Relevant Design Documents

A copy of any drawings and other design documentation relevant to this task can be found in Appendix 2

Document Ref	Document Title	Rev
IS0971A-61061-F001	**River Fernaig Scour Protection NR/L2/CIV/003/F001: APPROVAL IN PRINCIPLE**	01
	Utility Information Drawing	

People

Number of People and their competence associated with this WPP		Task
Competence	**No of People**	**TBS Ref**
Sub Agent – SMSTS, First Aid, CSCS	1	1, 2 & 3
Senior Site Engineer – SMSTS, First Aid, CSCS	1	1, 2 & 3
General Foreman – SMSS, First Aid, CSCS	1	1, 2 & 3
General Operative – CSCS, First Aid, Plant Operators, PASMA, Dumper/Roller, Slinger/Signaller, Banksman	6	1, 2 & 3
Machine Operator	4	1 & 2
Delivery Drivers – HIAB*if required	various	1, 2 & 3
De-vegetation Team *if required	2	3
Appointed Person	1	1, 2 & 3
Slinger/Signaller	2	1, 2 & 3
Banksman/Vehicle Marshall	2	1, 2 & 3
Fish Rescue Team	4	1

Plant, Equipment and Tools

Quantity of Plant, Equipment and Tools associated with this WPP		Task
Plant item	**No**	**TBS Ref**
Hand Tools	Various	1, 2 & 3
Welfare	Various	1, 2 & 3
Power tools	Various	1, 2 & 3
Devegetation equipment	Various	3
Excavator	3	1 & 2
Dumpers	2	1 & 2
Tipper wagons (Road Going)	2	1 & 2
Hiab's	Various	1, 2 & 3
Pickup(s)	1	1, 2 & 3
Heras Fencing	Various	1, 2, 3 & 4
Red & White Barriers	various	1, 2, 3 & 4
6" Pumps	2	1 & 2
Settlement Tanks	4	1 & 2
Sheet Piling	Tbc	1
600mm dia pipe	Tbc	1

Materials

Quantity of Materials		Task
Material	**Quantity**	**TBS Ref**
Silt Curtain	2	1
Oil Boom	1	1
Micro Concrete	Various	2
Concrete Mattress	Various	2
Rock Armour	750T	2
Masonry Repair Materials	Various	3

2 Working Together

2.1 At site communication

2.1.1 Communication on site will be via phone and email between all parties involved within the contract. Any accidents or incidents that occur on site should be reported to AMCOGiffen on call manager and then after Network Rail's PM. All relevant details can be found within the CPP and WPP. Calls to emergency services will be made by mobile telephone.

2.2 Contact details

2.2.1 The following are the main contacts for this work package:.

NR Project Team

Name	Role	Contact details	Tick to confirm number works and has been tested
Micheal McArthur	NR PM	07788 924147	✓
Susan Rennie	NR SPM	07730 362 437	✓
Rod Hendry	NR Construction Manager	07818 001660	✓
Craig Robertson	NR Project Engineer	07825 376898	✓

Regulators

Organisation	Contact details	Tick to confirm number works and has been tested
Emergency Services	Emergency – 112 / Non Emergency 101	✓
British Transport Police	0800 405040	✓
HSE	Fatalities and Major Injuries - 0845 3009923. Other - http://www.hse.gov.uk/riddor/report.htm	✓
ORR	020 7282 2000	✓
EA/SEPA/NRW	0800 807060	✓
Flood line	0345 9881188	✓
Local Authority	Highland Council - 01349 886 606	✓
Spill clean up	0800 592827	✓

2.3 Other parties involved with the package of work (interfaces details)

2.3.1 The following working arrangements will apply with all parties / organisations that have been identified with this work package:

Interfacing Organisation	Interface Point for:	Point of Contact and contact details	Interface arrangements
Land Owner	Land Access	tbc	tbc
	Marine Licence	tbc	tbc
Fisheries	Fish Rescue	tbc	Tbc

3 Hazard Management

3.1 Work involving particular risks

3.1.1 The work in this package involves the following particular risk(s), as detailed in Regulation 12 (2), (Schedule 3) of the CDM Regulations 2015:

Risk	When and where will the risk be present?	Permits Required	How will this risk be controlled?
Work which puts workers at risk of burial under earthfalls, engulfment in swampland or falling from a height, where the risk is particularly aggravated by the nature of the work or processes used or by the environment at the place of work or site.	**Excavation for Scour Protection and access.**	**Permit to Dig**	Follow good digging practices and guidance described in the methodology. All excavation sides to be battered back to reduce the risk of collapse. Personnel only to enter excavations if safe to do so and under the guidance of the banksman. Stop blocks, water filled barriers to be used to prevent accidental incursion by plant/personnel onto the excavation. Regular inspections of excavation carried out by site supervisors. Weather and tidal forecasts to be monitored and periods of high tide to be identified and works outwith the dry working area avoided during this time. Ensure rescue equipment and lifesaving PPE is on site and utilised during this time.
Work which puts workers at risk from chemical or biological substances constituting a particular danger to the safety or health of workers or involving a legal requirement for health monitoring.	**During all refuelling activities. Working with imported aggregates. Working with concrete.**		MSDS and COSHH assessments to be communicated to workforce with all control measures detailed in the assessment adhered to. Suitable PPE / RPE as detailed in the COSHH assessment to be used whilst working with substances hazardous to health. Gloves to be worn should be rubber coated completely as appose to rubber palm coating only. During periods of excessive dry warm weather water suppression will be sprayed over aggregate to prevent dust. Face masks of FFP3

			variety should be worn. Face masks to be worn during working with dry dusty material operations. During concrete operations, all personnel should ensure bare skin is covered with an appropriate barrier against concrete splashes. Footwear should prevent ingress of cementitious liquid through to skin. Gloves should be pvc with the ability to block liquids reaching skin.
Work which puts workers at risk of falling from a height, where the risk is particularly aggravated by the nature of the work or processes used or by the environment at the place of work or site.	**During all deliveries and working next to an edge.**	**Permit to work at height.**	All works to be carried out with Fall Prevention Equipment in place. No working next to a leading edge unless personnel are wearing a harness with lanyard "clipped on" to a suitable fixed anchor point. Exclusion zone to be set up, signed and maintained below all works at height including deliveries. Banksman to control all plant movements and exclusion zones. Any access to the back of a flatbed van or HGV must only be completed once a safety rail system has been installed. All works at the top of embankments to be carried out with banksman in a position of safety. Only authorised personnel involved in the works to enter the exclusion zone under the control of the banksman. Ensure equipment is certified and checked prior to each and every use. Exclusion zone to be identified, barriers and warning signs to be erected.
Work involving the assembly or dismantling of heavy prefabricated components.	**During all deliveries and collections specifically sheet piling materials and equipment.**	**Permit to Lift.**	All lifting operations to be planned and assessed and lift plan produced. All lifting equipment to be checked and records kept on site. All lifting to be controlled by banksman/signaller. Banksman/slinger to control all plant movements if installed using kill switch. All lifting to take place from a

			failsafe position. Exclusion zones to be established and maintained around all lifting operations. These are to be fenced off using heras type fencing. Fall/edge protection must be in place for any personnel having to access either the back of an HGV or pick up.
Work exposing workers to the risk of drowning	All works in and around the water.	Permit to Work near/in watercourse.	Weather conditions, Tidal flow and river levels to be monitored before commencing works adjacent to or in the water. Life jackets to be worn during periods of increased water levels and rescue buoys and life lines to be positioned on the river banks adjacent to the work site. Dry working area to be established for works within the river. Due to the tidal nature of the works, shift plans to take cognisance of the tidal times and works within the river only authorised during periods of low tide or approx. 6hours either side of low tide point.

3.2 Significant railway and construction risks

3.2.1 The following are the significant railway and construction safety and health risks that apply during this work package. A copy of the risk assessments associated with this WPP can be found in **Appendix 1**

What are the main risks (including health) during this Work Package?	When and where will the risk be present?	Permits Required	How will the risk be controlled
Change Management	**Throughout the lifetime of this package of works.**		Adhere to the following: If you haven't been briefed on a certain task, don't do it. If the work activity differs from what you have been briefed on, stop. If you become unsure how to progress your works, stop. If in doubt, speak to your line manager or supervisor. Undertake a POWRA detailing the change control measures, consult with the supervisor and proceed if safe to do so. Do not restart works until you have been re-briefed on the task.

Working in/adjacent to watercourse	**All works within or adjacent to the river**	**Permit to Work in/Near Watercourse**	Static plant to be sited minimum 10m from watercourse with suitable plant nappy to prevent oil/diesel spillage. Awareness of hazardous flora and fauna. Correct PPE. Adherence to Weill's Disease procedures. Prevent contact with water. Minimise working in river bed prior to dry working area being set up to prevent spread of silt. Rescue point to be set up at prior to the works commencing and to contain as a minimum. Life Ring and Life Line. Operatives to be conversant with the Rescue Procedure and a "Dummy" rescue carried out. SEPA licence to be in place and conditions adhered to. Prior to works commencing the Site Supervisor shall register with the SEPA Floodline. Tidal times to be monitored at regular intervals and shift plans adjusted to suit working only around low tide. Ensure that all plant, unsecured equipment and unsecured materials are removed from the river prior to high tide. All personnel involved in the works to be competent. Suitable PPE to be provided for operatives including good quality Waterproof jacket and trousers along with waders for entering the river. Waterproof welly boots to be used for when working within the dry working area. No lone working at any time within the Dry Working Area. Silt levels to be monitored up and down stream of the works, before during and after the works are complete to identify the potential for any issues and allow for mitigation measures to be implemented. All plant working in river to be fitted with Bio Oil. All operatives working in river to wear life jackets.
Breaching of dam	**Works within cofferdam during high water levels**	**Permit to proceed.**	Sheet piling to be used to form a dry working area. Water levels to be monitored along with forecasts of rain and river level. Mitigation measures to be put in place if the risk of high water levels is of concern to Site Management. Rescue point set

			up containing Life Ring and Life Line as a minimum. Dummy rescue carried out and Operatives to be familiar with rescue procedure including details of the rescue plan. Over pumping on site to assist with any influx of water during operations. 600mm diameter pipe to be installed between cofferdam walls to allow for river levels to be maintained along with allowing safe passage of local wildlife as required.
Over Pumping	**All works within the dry working area**	**Permit to proceed.**	Over Pumping to be agreed with the designer and supply hire company prior to starting on site. Pumps to be set up by competent operatives. Ensure pumps are in working order on delivery. Additional pumps to be hired in order to provide backup in case of breakdown of the main pump. Water to be pumped in to silt buster then through a silt bag on the grass banking. All equipment to be monitored for working and suitability for the operations i.e. levels of silt are low enough to allow the plant to run effectively. In the event of breakdown, alarm to alert site team and as soon as possible the pumps to be swapped over. Hire company to attend site as soon as possible to carryout repair to the breakdown and allow the site to have one working pump and one back up. On completion of the initial draining of the dry work area, it may be required to carryout a further fish rescue.
Undermining of bridge foundations. Affecting stability of structure	**All excavation and piling works within the river.**		Abutment stability check to be carried out prior to excavation works. No undermining of abutments permitted. Care to be taken when removing material to ensure no undermining occurs. Structure to be visually monitored for signs of movement. If any undermining or movement occurs then works must stop and Senior managers, Network Rail and Designer informed.
Excavations and breaking ground	**All excavation works and installation of sheet piles.**		Ensure excavations are carried out using a permit to dig. All areas for excavation to be CAT

			scanned and service drawings checked before work commences. All services to be marked on the ground, Positions of disconnections to be marked up. Check exactions at the beginning and end of each shift and record on appropriate Phoenix form. Backfill excavations as soon as possible. Fence off excavation if they have to be left unattended. Do not leave excavations within the watercourse open overnight. Operatives excavating within the area of a known live service must wear flame retardant overalls, gauntlets and hard hat with visor. Installation of sheet piling will take place around tides. Ensure initial inspection of previously installed piles is carried out each shift start.
Stability of Excavations	**During all excavation and fill works.**	**Permit to excavate. F91 excavation register.**	Site supervisor to carryout daily inspections of all excavations prior to shift start and throughout the shift. These are to be recorded in a site excavations inspection file and held on site. All excavations to be carried out with sides benched or battered back at a safe angle to prevent collapse of sides. Deep excavations to be excavated in small depths with batters regarded as the excavation deepens. Exclusion zone managed by banksman to prevent unauthorised personnel from entering excavation. Banksman to maintain a safe position at all times during the works and keep watch for signs of stress on the sides of excavation. Upon completion of the excavation, Permit to Proceed to be completed by the TWS prior to commence filling operation. Excavation to be monitored during the filling operation as above with permit to proceed completed upon completion of the filling operation.
Buried Services	**All Excavation & Fill Operations.**	**Permit to Break Ground.**	All areas of disturbed ground to be scanned with CAT and Genny, this to include areas for roadway and compound installation.

			Services drawings checked prior to excavation. Hand dig to locate services. Permit to dig to be in place and briefed to all personnel. No mechanical excavation within 1.2m of known buried service without director's approval. Operatives excavating within the area of a known live service must wear flame retardant overalls, gauntlets and hard hat with visor. Follow the guidance of AMCO procedure HS33. Temporary works to take cognisance of underground services. Temporary works and setting up of delivery HIAB jacks to take cognisance of underground services.
ALO	**Excavation and fill works. Installation of sheet piling.**	**ALO Plan and Daily Checklist**	ALO plan must be produced, approved and briefed to all operatives involved in the works. Works will be below the level of the track however the excavator will be working in a position where it will be feasible to breach the ALO. Excavators should have height restrictors fitted and activated to the required height. In addition to the above all excavators are to be fitted with Kill Switch preventing excavator leaving predefined exclusion zone. Banksman to receive briefing on Kill Switch working. Prior to any excavator movements, Kill Switch to be checked each shift using mock test to ensure fit for purpose. This will involve turning on excavator and hitting the kill switch to ensure it is fully functional.
Plant Movements	**During the lifetime of the site activities.**		Only Trained and authorised personnel to use plant. Plant not to be overloaded and load not to restrict drivers view. Reversing horns to be working on mobile plant at all times whilst reversing.. Banksman with machine at all times whilst working or travelling. Exclusion zones to be established around working / manoeuvring plant. Site records to document adherence to this. Use of VCAS system on dumpers. xclusion zones around all operating plant.

			All Excavators to be fitted with Kill Switches. Banksman to assist with these movements where possible. No parking off site due to the narrow of road. Ensure entry gate is set back to allow for the safe locking and unlocking of the gate.
Lifting operations	**During the lifetime of the site activities.**		All lifting to be planned and assessed with a lift plan. All members of the lifting team to sign the lift plan. All lifting equipment to be checked & records kept. All lifting to be controlled by a banksman/signaller. All lifting from a failsafe position. Exclusion zones to be established around all lifting operations.
Environmental interface	**Throughout Entirety of Project**		Consult with Authorities. Ecology survey has been carried out. 24hr spill response team on standby. Trained and competent staff and personnel. Well informed personnel. Fuelling over plant nappies and static plant to be set on nappies. Chemical and fuel spill kits to be positioned adjacent to the point of potential spill i.e. next to fuel bowser and flamebank. All static plant to have plant nappies underneath. All spills reported and dealt with accordingly. No refuelling or storing of COSHH materials within 10m of the culvert or cattle bath. Nesting bird survey to be carried out prior to start. Water sampling to be carried out throughout works. No fuelling operations or fuel storage within 10m of watercourse. Do not create soil bunds adjacent to the watercourse where run off could enter the watercourse. Use of bio oil in machinery working in or adjacent to watercourse. Use of silt curtain downstream to prevent spread of silt. Creation of dry working area using sheet piling for all works within the watercourse. Adhere to licence conditions at all times. Daily monitoring of silt levels in watercourse. Silt bags to be used on pump discharge hoses. Water to be discharged through a silt buster onto the embankment and not directly into the river. Oil

			booms and spill kits to be available adjacent to the worksite. SEPA licence to be in place and conditions adhered to. Prior to works commencing the Site Supervisor shall register with the SEPA Floodline.
Temporary works	**Installation of Dry Working Area. Excavation & Fill operations.**		TW co-ordinator & supervisor to be appointed. Supervisor must inspect and sign off TW installation. Permit to proceed to be issued upon completion of works before fist put into use. Daily inspection and checks to be carried out.
Hazardous substances	**During the lifetime of all site activities.**		COSHH Assessments. Methodology defined in WPP. Correct PPE and RPE. FFP3 masks to be worn when spreading stone during dry dusty conditions if required, additional water suppression is to be put in place. Suitable welfare facilities. Full rubber gloves to be worn when working with liquid materials to protect back of hands. Cover skin when mixing or working with grout or concrete. Ensure additional breaks and water is available if working in warm weather. Ensure hazardous materials are stored more than 10m away from the watercourse or a sewer/tributary running into the river.
Manual Handling	**During the lifetime of all site activities.**		All personnel to have received Manual Handling Training. Restriction of weight. Restriction of distance carried. Eliminate twisting when loading. Use of additional personnel. Use mechanical means where possible. Red & white barriers only to be lifted when empty. 2 man lift for red & white barriers to prevent damage to units, no mechanical lifting unless using forklift forks.
Use of small tools/hand tools/power tools	**During the lifetime of all site activities.**		Use of battery powered tools. Low voltage equipment (110v). Regular circuit test/PAT. HAVS assessments to be undertaken and briefed. Noise assessments to be undertaken. Ensure you complete the HAVS register at the end of each shift.
Noise	**During the lifetime of all site activities.**		Noise levels to be monitored and hearing protection worn if

			required. When noise levels reach 85db hearing protection shall be mandatory. When using any hand held power tools or near or with machinery hearing protection shall be mandatory. Letter Drop local residents before works begin.
HAVS	**Throughout the lifetime of all works.**		Use low vibration tools. Where appropriate use anti vibration handles. HAVS monitoring to be completed daily. Ensure ELV's are not breached and actions are taken when EAV are reached. Rotate personnel Be aware of your permitted trigger times prior to starting work. Do not exceed trigger times. Note trigger times may differ to operation times. Trigger times for tools in use for these operations are whacker plate (greater than 24hrs to EAV), cut off saw (789mins to EAV), cordless drill (245mins to EAV). Trigger times noted within the HAVS file. Ensure you are familiar with times prior to starting an operation. If the tool to be used isn't listed stop and speak to a supervisor to acquire the required data.
Dust	**During the lifetime of all site activities**		Use water supression methods at all times if dry conditions are causing dusty atmosphere. Wear FFP3 dust masks at all times during filling operations on dry dusty days. Carry out occupational health assessments. FFP3 masks to be used when cutting pipes or stone work. Ensure water bottles available with cut off saws. Monitor condition of Unamed Road and organise road sweeper if required to reduce mud/dust on surrounding roads. Haul Road to be kept clean and washed as required to reduce slips, trips and falls.
Weil's Disease	**Throughout Entirety of Project**		Identify locations and eliminate where possible. Carry Information card. Be aware of symptoms. Protect cuts and damaged skin. Wear appropriate PPE. Do not ingest. Personal hygiene. Inform GP if reporting 'flu symptoms
Vehicle Movements	**Throughout the lifetime of this package of works.**		Vehicle marshals to be used at all times on site to monitor and

			control plant/vehicle movements. Segregated walking routes to be formed within the compound. Gates at the compound and the main site to be closed and locked at all times. Do not leave gates open at any time. Warning notification signage to be erected on approach roads advising members of the public of the presence of Construction traffic and the site entrance. All suppliers to be notified of the Traffic Management Plan for the site including the requirement to notify/book in deliveries to allow for AMCO attendance at the gate and remove the requirement for Signage to be erected advising contact numbers for access for any suppliers who fail to notify of a delivery time. Site traffic to be advised site speed limit of 5mph. Vehicles exiting the site to give priority to vehicles entering the site to prevent a coming together on Unamed Road. Banksman to assist with these movements where possible. Ensure site gate is set back from the main carriageway to allow for the safe locking and unlocking of the gate.
Sharps	**Throughout the lifetime of this package of works.**		Identify possible locations. If discovered, fence off and advise site management who in turn will inform NR control. Do not touch or remove the sharp. Instruction on procedure in event of cutting / puncture. Encourage the wound to bleed, prevent further contamination. Report to hospital, taking offending sharp with patient. Inform NR control on 0141 335 2020. Due to remote location, no expectation to find needles on this site however vigilance is key.
Theft or vandalism	**Throughout the lifetime of this package of works.**		All sites are adequately signed and demarcated with suitable and sufficient barriers. Areas to be secured at all times outside normal working hours. Remove all valuables and potential hazards when out of use. No dangerous plant or materials to be left accessible when unattended. Remote CCTV

			guarding on site from Black Diamond during all periods when AMCO has no attendance on site. During busy shifts with multiple persons/contractors, store man to be used to monitor comings and goings from stores.
Competent Resources	**Throughout the lifetime of this package of works.**		Inspection of training certification prior to works commencing. Cross reference training with training providers to ensure accuracy. Only competent personnel who are experienced in the techniques/equipment shall be employed on the works. All Plant Operators (HIAB, excavator etc) shall prove they are competent to operate the relevant type of plant. Evidence shall be provided by the hire Company to confirm recent experience on similar plant. Training records to be checked with issuing authority for compliance.
Fire	**TB003 and TB004 Concrete reinforcement and masonry dowels**		Avoidance of accumulation of combustible material Correct storage of gasses and highly flammable liquids Control of sources of ignition Firefighting equipment to be readily available, serviced and maintained No smoking to be permitted on site Electrical appliances and small tools to be inspected Hot works permit
Public Interface (Local residents)	**Throughout the lifetime of this package of works.**		Ensure that good communication and correspondence is kept between AMCO, Network Rail and the local Council. Always ensure the area is clean and tidy. Always give public right of way and be polite and courteous at all times. Site manager to ensure no vehicles park on the unamed Road at any times without TM in place. Letter drop to be completed prior to works commencing to residents within a 200m boundary of the worksite, road closure and compound. Ensure walking route is kept clear, tidy and away from overhead services where possible. Site hazard warning signage to be erected throughout the works site. Assist vehicles

			entering/exiting the site onto local roads to minimise nuisance to local residents.
Eye Injuries	**Throughout the lifetime of this package of works.**		Standard safety glasses to be worn for general site work and impact resistant goggles for powered tools. Impact resistant visors and goggles to be to EN1661B standard. High Impact goggles to be worn during all cutting/drilling tasks. If wearing the Bolle tracker glasses for high impact work, the head band must be worn to achieve high impact status.
Working in inclement weather	**Throughout the lifetime of this package of works.**		Extra care particularly on slopes. Adequate Safety Footwear to be worn at all times. Lace up boots at all times unless wet weather working or carrying out a task with water. Remove trip obstructions. Remove signs from temporary fencing during forecast periods of high winds. Water suppression in periods of excessive heat/dry weather. Regular breaks. During sunny periods, operatives to take time out of the sun and to take on additional water/fluids. During wet weather ensure drying facilities are operational and wet weather clothing is available to all. Weather station to be set up to monitor for high winds etc. Monitor long and short range weather forecasts for periods of concern.
Fire	**Throughout the lifetime of this package of works.**	**Hot Works Permit**	Avoidance of accumulation of combustible material. Correct storage of gas and highly flammable liquids. Control of sources of ignition. Firefighting equipment to be readily available, serviced and maintained. Fire point to be set up, one at the compound and one at the bridge. Both to contain a first aid kit, fire extinguisher set and signage advising types of fie for each extinguisher. No smoking to be permitted onsite. Electrical appliances and small tools to be inspected. Hot works permit
Environmental Spillages (Site activities)	**All site activities**		Use drip trays and nappies with static plant. A&A Environmental to be on 24hr call out. Spillage granules and spill kits are to be

			available on site. Ensure refuelling point and storage is set up 10m (minimum) away from a known gully or watercourse. Ensure oil booms are positioned alongside the silt curtain to prevent any risk of oil from the machine entering the water course.
Fuel spillage from compound generator	**Throughout Entirety of Project**		Secure-set generator to be used (containerised, with built in fuel tank and bund to 110% capacity). Nappies to be used during refuelling. Spill kits and granules to be available on site. A&A Environmental to be on 24hr call out.

3.3 Lifesaving rules and High Risk Areas

3.3.1 The following table highlights those Life Saving Rules applicable to this WPP

Always		Never	
	✓ or X		✓ or X
	✓		✓
	✓		✓
	X		✓
	✓		✓
	✓		✓

3.3.2 The following table highlights those HRA's applicable to this WPP

 Breaking Ground	 Change Management	 Confined Spaces	 Electrical & Stored Energy	 Fire & Hot Work
Yes	**Yes**	**No**	**No**	**Yes**
 Lifting Activities	 People & Plant	 Railway Operations	 Working at Height	 Work Related Road Risk
Yes	**Yes**	**Yes**	**Yes**	**Yes**

4 Environmental and Waste Management Arrangements

4.1 Environmental management arrangements

4.1.1 The following environmental issues are applicable to this WPP

Environmental Issues	Project Control Measures	Environmental Consents and Permits
Management of oils and chemicals	• All tanks shall be bunded in accordance with the oil storage regulations. • Storage facilities shall be positioned at least 10m away from a watercourse • Drip trays shall be used whilst refuelling. • Containers shall be fit for purpose, labelled and have proper fitting lids. • Containers and tanks shall be made secure against vandalism or theft • Refuelling and concrete washout shall take place in a dedicated area at least 10m away from a watercourse • Spill kits shall be kept on site in high risk areas and shall be appropriate to the risk and amount of oils and chemicals present	
Management of silt	• Consideration shall be given to the silt hierarchy where potential for silt/soil pollution on site, this will be controlled by creation of a dry working area and overpump assisted by the below: • 2no Silt Curtains • 1no Oil Boom • Sediment Filtration Bags	SEPA Licence and Permit to Work within Watercourse.

Dust, Noise, Odour	• Dust from cutting or grinding to be suppressed using water • Stockpiles of soil to be battered back • Noise hierarchy to be followed in accordance with BS5228 – Eliminate, Substitute, Isolate, Control • Hybrid or battery operated technology to be utilised • Silenced plant to be used • Screening to be used .	•
Works affecting flora or fauna	• Ecology survey to be undertaken and recommendations complied with • Work to stop if protected species or nesting birds found and advice sought.	•
Works affecting cultural heritage	• Works to comply with consent • Works to be in keeping with the style of the original structure.	•
Flood Risk Management	• Monitoring of compliance with any permit / licence / consent affecting watercourses and flood risk • Daily completion of the Permit to Work Within, Over, and Adjacent to a Watercourse (HS131) • Review and communication of weather forecast, flood information and tide times. Use of national flood warning services: https://flood-warning-information.service.gov.uk/warnings • Checking of any temporary works to ensure that they suitable and sufficient to cope with seasonal weather / river flows • Measures to be established to prevent debris entering the watercourse which may pose a flood risk. • Where possible, materials, plant and other items shall be stored at least 10m from the watercourse edge or, preferably, off the flood plain altogether.	•
Nesting birds	• Nesting bird survey to be carried out prior to works commencing	
Potential for otters	• Carry out works during daytime hours to prevent disturbance to foraging/commuting otters. • If habitat is discovered then stop works and consult specialist ecologist. • Lift silt curtain at the end of each shift to allow for otters unhindered access.	

4.2 Waste management arrangements

4.2.1 The following waste management arrangements are applicable to this WPP. All waste shall be reused or recycled in accordance with the Site Waste management Plan.

Waste type	How will it be stored?	Testing required prior to disposal	Waste classification	Reuse (R) onsite / Disposal off site (D)
Mixed Waste	Skip	No	Non-Haz	D
Effluent Tank	Septic Tank	No	Non-Haz	D
Excavated material	Loose	Yes	Non-Haz	D

5 Emergency Arrangements

5.1 Site emergency arrangements

5.1.1 First aid arrangements

5.1.1.1 *The first aid arrangements for this package of work are*

first aiders	**Name**	**Qualifications**
	Gordon Paterson	British Red Cross Trained
	Paul Balfour	St Andrews Ambulance Trained
	William Paterson/Connor Balfour	St Andrews Ambulance Trained
Likely injuries associated with this work package	Minor Injuries, Falls From Height, knocked down, drowning.	
First aid equipment provision	Equipment	Location
	First Aid Boxes, rescue equipment, accident book. Life ring and safety line set up downstream of the works. Operatives entering the watercourse or working within close proximity to the water course to have life jackets issued along with waders.	Supervisor's vehicle + Site vehicles + site offices + First Aid Points + life ring point.

A first Aid risk assessment can be found in Appendix 5 of the CPP.

5.1.2 Evacuation arrangements

5.1.2.1 Evacuation arrangements can be found in Appendix 6 of the CPP

5.1.3 Fire safety arrangements

5.1.3.1 A Fire Risk assessment can be found in Appendix 6 of the CPP.

5.1.4 Security arrangements

5.1.4.1 No plant or materials will be left unsecured on site at any time – only remaining items that will be left on site are site fencing and locked/secured plant. CCTV active out with working times. Return all plant and materials to the compound for storing overnight.

5.1.5 Environmental Emergencies

5.1.5.1 Oil Spill: Adopt the following procedure where safe to do so: STOP the source of the spill. CONTAIN the spill using available spill equipment. NOTIFY your Site Manager. CLEAN UP the spill and dispose of waste materials as a hazardous waste. If the spill is beyond your control, contact the 24hr emergency response contractor on 0800 592827.

5.1.5.3 Silt Incident: Adopt the following procedure where safe to do so: STOP the source of the silt disturbance where possible. CONTAIN the silt using resources on site (e.g., straw bales, sedimats, and creation of diversion drains). NOTIFY your Site Manager. CLEAN UP any silty water held and remove used silt mitigation measures once water quality has returned to normal.

5.1.6 Summoning emergency services

This will be via mobile phone. The compound will be given as the site location and this can be found within the WPP. On arrival the emergency services will be met by the nominated person (Site Supervisor)

5.1.7 Railway emergency (trains and electrical)

5.1.6.1

	Contact Details
ECO	N/A
Signal box	See SSOW Pack

Protection Signals Ref	See SSOW Pack

In the event of an emergency affecting the safety of the railway the following actions will be undertaken.

1. Do not place yourself or the safety of others in danger
2. The lead communicator on site will be one of the following people and in this order – PICOP > Route Setting Agent > Protection Controller > COSS or SWL or IWA.
3. In an emergency a train can be stopped by raising both arms in the air or at night by waving a light vigorously
4. In an emergency the signaller / ECO shall be contacted immediately via mobile phone or using the nearest signal post telephone.
   The lead communicator shall state (*using the phonetic alphabet to communicate any* difficult words) :
   - 'This is an emergency call'
   - Confirm who you are speaking to the right person *ie usually the signaller or Electrical Control Operator (ECO)*
   - Tell them
     - who you are (*Joe bloggs*),
     - what you do (ie *COSS*); and
     - your location (for example *Shapton East Junction or near to SH20 (sierra, hotel, two, zero) signal*
   - Describe the problem and what part of the railway is affected ie *Down Main xx or Level crossing at yy*
   - Tell them what action needs to be taken ie any emergency service required
   - Ask the person to 'repeat back' the information
   - The Signaller or ECO shall end the conversation.

Access to the track shall be via the following rail access point - tbc

5.1.8 Asbestos

5.1.7.1 N/A

5.1.9 Utilities

5.1.8.1 Buried service pack will be obtained by AMCOGiffen for the works and this will be available on site during construction works

Organisation	Contact details
Electricity	0800 300 999
Gas	0800 111 999
Telecoms	0800 800 154
Water	0800 778 778

6 Work Package Arrangements

6.1 Site Layout

6.1.1 A site layout plan can be found in Appendix 3.

6.2 Access and Egress

6.2.1 Access to the compound will be signed from Stromeferry and Achmore. The site route will be via the foot and road ways within the car park.

6.3 Welfare

6.3.1 AMCO shall comply with the requirements of the Network Rail Welfare Standard NR/L3/INI/CP0036 Appendices A & B. Details on site welfare provision can be found in Appendix 3 of the CPP.

6.4 Rail Traffic Management

6.4.1 the works will not require track access.

6.5 Road Traffic Management

6.5.1 N/A

7 Hand Over and Hand Back Arrangements

7.1 Hand over and hand back arrangements

7.1.1 Certificate of Completion will be sought from Network Rail on completion of the works. Handback file will be produced by AMCOGiffen and submitted to Network Rail.

APPENDICES – Supporting information

Appendix 1 – Site Specific RA
Appendix 2 – Drawings
Appendix 3 – Site layout Plan
Appendix 4 – Buried Service Information
Appendix 5 - Lift Plan

Appendix 1 – Site Specific Risk Assessment

Appendix 2 – Drawings

Appendix 3 – Site Layout Plan

Appendix 4 – Buried Services Information

Appendix 5 – Lift Plan