



METHOD STATEMENT & RISK ASSESSMENT

Southgate Final Effluent Pipe Repair Works 2024



Document Control Sheet						
Title: Southgate Final Effluent Pipe Repair Works 2024 METHOD STATEMENT & RISK ASSESSMENT		Document No. GL/KM/DCWW-SOR/SEPT24/1				
Additional Documentation: -		Relevant Drawings/Tender Docs – Ref: 50876-BUR-XX-XX-PR-C--0001_WorksInformationScopeOfWorks-1.1-; 50876-BUR-XX-XX-RA-C-0001_DesignersRiskAssessment(A1-C1.0)-1.1-; - Q50876-121316-13-BG-DR-CA-CI1001-A1-C1.0-GeneralArrangment.				
Originator:  Kaymac Marine & Civil Engineering Ltd. Osprey Business Park Byng Street Landore Swansea SA1 2NR Tel: 01792 301818		Client:  Dŵr Cymru Welsh Water Spooner Close Coedkernew Marshfield Newport NP10 8FZ Tel: 0800 052 0145				
Authorisation						
Prepared by:	G. Lippiett	Signature: -		Date: - 03/09/2024		
Checked By:	J. Burgess	Signature: -		Date: - 03/09/2024		
Approved by:	R. Colcombe	Signature: -		Date: - 03/09/2024		
Date	Description	Revision				
September 2024	Method Statement & Risk Assessment in relation to the Final Effluent Pipe Repair Works at Southgate	Issue				
Copy No.	Issued to:					
1	DCWW – Tom Steven					
2	APEM – Kelly Greener					
3	Kaymac Marine Records					

!!!THIS IS A LIVE DOCUMENT THAT CAN BE ALTERED BY THE ON SITE MANAGER / SUPERVISOR AT ANY TIME SHOULD THEY FEEL THE WORKING CONDITIONS ON SITE REQUIRE A CHANGE TO THE PLANNED WORKING PROCEDURES!!!

1.0 Introduction

1.1 Legislation

This document has been prepared to comply with, as far as reasonably practicable, the following current relevant legislation;

- The Health & Safety at Work etc. Act 1974
- Construction Health Safety and Welfare Regulations 1996 (CHSW)
- The Management of Health & Safety at Work Regulations 1999
- The Provision and Use of Workplace Equipment Regulations 1998
- The PPE (Personal Protective Equipment) Regulations 1992
- The Manual Handling Regulations 2002
- The Reporting of Injuries, Diseases & Dangerous Occurrences Regulations (RIDDOR) 1995
- The Work at Height Regulations 2005
- The Lifting Operations and Lifting Equipment Regulations (LOLER) 1998
- Provision and Use of Work Equipment Regulations (PUWER) 1998
- The Construction (Design and Management) Regulations 2015
- The Conservation of Habitats and Species Regulations 2010
- Environmental Protection Act 1990
- Wildlife and Countryside Act (1981)

1.2 Description of the Site & Work

Kaymac Marine & Civil Engineering Ltd. has been commissioned by **Dŵr Cymru Welsh Water** to undertake the Final Effluent Pipe Repair and Protection Works at Southgate Outfall.

In general, the works will comprise of: -

- Mobilisation to site with a Landing Craft;
- Break out sections of pipe either at bends in the pipe or at 100m intervals, as the pipe is an Asbestos Cement – **Bond Demolition**;
- CIPP Lining for the existing Outfall Pipe – **DrainForce**;
- Protection of the newly lined outfall pipe, comprising of concrete repairs at exposed section of pipe along its length.

1.3 Location of Site

Southgate Final Effluent Outfall Pipe is located at Foxhole Cove Beach, Southgate with a nearest postcode of SA3 2AS.

The site is located at OS Grid Reference SS 55341 87076.

Nearest address to site: -

Kaymac Marine & Civil Engineering Ltd.

Westcliff

Penard

Southgate

Swansea

SA3 2AN

OS Grid Reference: SS 55341 87076 (E255341 N187076)

what3words: - ///rainwater.destroyer.wipes



Fig 1 – Southgate Outfall Location (courtesy of Google Maps).

Deliveries will be taken at Swansea Marina due to access constraints, delivery address: -

Kaymac Marine & Civil Engineering Ltd.

Trawler Road
SA1 Swansea Waterfront
Swansea
SA1 1UN

OS Grid Reference: SS 66365 92602 (E266365 N192602)

what3words: - ///hints.loss.senses



Fig 2 – Approx. Delivery Location (courtesy of Google Maps).

1.4 Interface with others

There is a high possibility of an interface with the general public, there is a very popular coastal walk along the top of the cliff and foot access down to Foxhole Cove Beach, which will be the same route utilised by operatives who will be accessing from Southgate.

The footpaths will remain open during the works and will be locally managed with signage, diversions etc.

Kaymac will erect appropriate signage and fencing to ensure all are aware of the construction works and no unauthorised access to the works location.

1.5 Named Supervisor

TBC.

1.6 Number of Personnel/Job Titles

1. TBC – Kaymac Site Manager;
2. TBC – Kaymac Site Supervisor;
3. TBC – Kaymac General Operative;
4. TBC – Kaymac Dumper Operative;
5. TBC – Kaymac Excavator Operative;
6. TBC – 1 x Landing Craft Skipper;
7. TBC – 1 x Landing Craft Deck Hand.

1.7 Authorised Persons (permits etc.)

Person In Charge of Works – Tom Steven (**Dŵr Cymru Welsh Water**) – 07778 812429.

1.8 Specific Job Training (confined spaces etc.)

1. All operatives certificates will be provided prior to works commencing; the team will include operatives with the following competencies: -
 - SMSTS;
 - CSCS;
 - CPCS (Slinger/Signaller, Dumper, Excavator, Telehandler etc.);
 - Confined Space;
 - Asbestos Awareness;
 - CAT & Genny;
 - First Aid at Work;
 - Etc.

All certificates will be provided to **Dŵr Cymru Welsh Water** prior to the commencement of the works.

1.9 Asbestos/Hazardous Substances

- The existing Final Effluent Pipe is constructed from Asbestos Cement, we will be required to break into this pipe to allow the relining works to take place, this will be carried out by a specialist contractor in Bond Demolition (TBC).

1.10 First Aid Requirements

See 4.0 *Emergency Procedures* below.

1.11 Plant/Tools/Equipment/Materials

- 14t Tracked Excavator (Bio-oil);
- 6t Dumper (Bio-oil);
- Breaker for Excavator;
- 500L Column Skip;
- MTS Terramare (Landing Craft);
- CAT4+ & Genny;
- 40N Concrete Bags;
- Sika UCS underwater additive or similar;
- Shuttering materials – Plywood, Timbers fixings etc.;
- 1000L IBC x 4;
- Concrete Mixing Equipment – Petrol Mixer;
- Aluminium Staircase;
- Generators;
- Small Tools;
- Welfare – Groundhog on Landing Craft and Welfare Unit in NT Car Park;
- Misc Items.

DrainForce: -

- CIPP Lining Equipment;
 - Recycler which has a 300m reel and 110 Gallons per minute jetting;
 - Portable Camera System;
 - UV Rig with 300m Cable Drum.
- CIPP Lining Materials: -
 - Saetex 'S' 3mm liner.

Bond Demolition: -

- Asbestos Cutting Equipment;
- Disposal.

Certificates and specification sheets will be provided and checked prior to the commencement of works.

1.12 PPE Requirements

The minimum PPE requirement for the site will be: -

- High Visibility Jacket/Waistcoat to EN471:2003;
- High Visibility Trousers to EN ISO 20471;
- Safety Boots (or Wellington Boots) to BS EN ISO 20345;
- Safety Glasses to EN166;

- Gloves to BS EN 14328;
- Safety Helmet to BS EN 397:2012;
- Hearing Protection to EN 352-1:1993;
- Dry suit to BS EN ISO 14225-2 : 2005;
- Lifejacket to ISO12402-2.

1.13 Pre-Start Operation/Arrangements

Prior to starting any works on site:-

- Site Induction of all Kaymac Operatives by Kaymac Site Manager / Site Supervisor;
- Walk Round Induction of the Site by Kaymac and DCWW representative;
- Sign In to the Site Attendance Register Daily;
- Receive Brief on planned works for that day from Kaymac Supervisor.

1.14 Lone Working

There will be no requirements for Lone Working on site.

1.15 Work at Height requirements

Working at Height is not expected on this project, but if there is a requirement for works at height to take place, a Dynamic Risk Assessment will be carried out on site and all Working At Height will be eliminated where possible.

1.16 COSHH Assessments

- OPC;
- Petrol;
- Diesel.

COSHH Assessments & MSDS to be found within Kaymac Site Folder.

1.17 Welfare

Welfare to be provided and maintained by Kaymac, this will consist of a 16+' Eco Hybrid Welfare Unit, supplied by GAP at the National Trust Car Park. There are also Welfare Facilities on the MTS Terramare: -



Fig 3 – Example Welfare Unit for the National Trust Car Park.

A Welfare unit as above will be situated within the National Trust Car Park: -

National Trust Car Park

Southgate

Swansea

SA3 2AN



Fig 4 – Welfare location within National Trust Car Park (Image courtesy of Google Maps).

The MTS Terramare also has welfare facilities aboard, please see specification below: -



Fig 5 – Welfare Facilities on the MTS Terramare.

1.18 Project Directory

Dŵr Cymru Welsh Water		
Tom Steven – Project Co-ordinator	07778 812429	Tom.Steven@dwrcymru.com
Dai Roberts – Project Manager	07557 920132	David.Roberts3@dwrcymru.com
KAYMAC		
Kaymac Head Office – Swansea	01792 301818	enquiries@kaymac ltd.co.uk

Jeff Lippiett – Operations Director	07971 880029	Jeff.Lippiett@kaymacltd.co.uk
Rhys Colcombe – Project Director	07950 501774	Rhys.Colcombe@kaymacltd.co.uk
Dean Munkley – Civils Foreman	07557 921044	Dean.Munkley@kaymacltd.co.uk
Simon Osbourn – Site Manager	07902 098444	Simon.Osbourn@kaymacltd.co.uk
Jon Dean – Project Co-ordinator	07976 122883	Jon.Dean@kaymacltd.co.uk
Gareth Lippiett –Project Manager	07772 749833	Gareth.Lippiett@kaymacltd.co.uk
Gareth Crees – Health & Safety Manager	01792 301818	Gareth.Crees@kaymacltd.co.uk
DrainForce		
David Evans – Director	07584 314496	David.evans@drainforce.co.uk
Shaun Ratcliffe	07584 314484	Shaun.ratcliffe@drainforce.co.uk
APEM		
Kelly Greener - Senior Marine Ecology Consultant	07393 002754	K.Greener@apemltd.co.uk
OTHER CONTACTS		
NRW (TBC)		

1.19 Access

Pedestrian access can be gained from via the coastal path down to Foxhole Cove Beach off E Cliff Road, Southgate – it is highly recommended that sturdy footwear is worn when using this footpath for access/egress. See *Fig 4* below for approximate route.

All materials and plant will be transported to site using MTS Terramare Landing Craft, the Landing Craft will be loaded up at Swansea Barrage and sailed to the works location on the proposed route in *Fig 5* below.

Works will be planned around the tide, with the aim on landing on the beach during a falling tide to give us the longest working window possible.



Fig 6 – Pedestrian route to/from site highlighted in yellow.

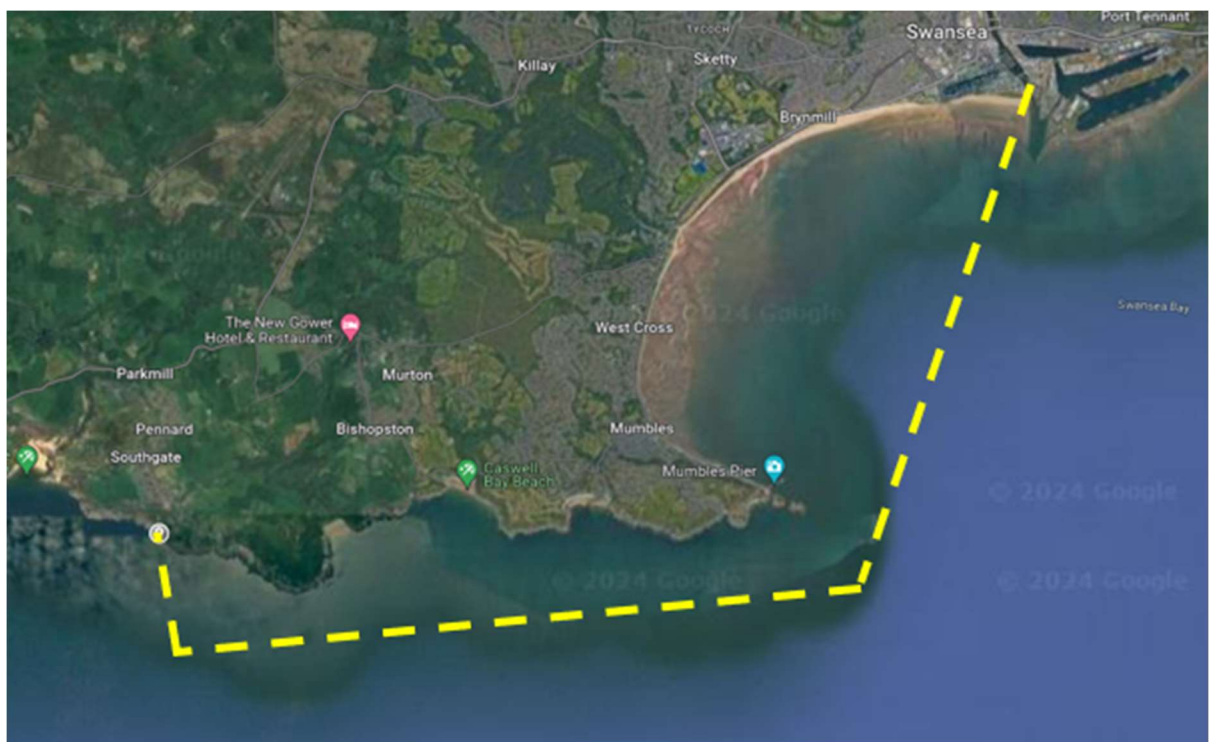


Fig 7 – Proposed route for MTS Terramare from Swansea barrage to/from site highlighted in yellow.

1.20 Special Requirements

- All Kaymac staff are to be inducted into the site by the Kaymac Site Manager / Site Supervisor;
- All Kaymac staff are to sign in and out on the Site Attendance Record on a daily basis;
- All Kaymac staff are to be inducted/briefed by Kaymac Supervisor prior to works commencing on site;
- A weekly safety audit/report is to be compiled by the Kaymac site supervisor;
- Kaymac are to complete daily health & safety briefings each morning with regard to the specific works being carried out;
- A weekly toolbox talk will be delivered to the Kaymac at the beginning of the works;
- Kaymac operate a 'Close Call' card system and any issues raised will be relayed to the Dŵr Cymru Welsh Water representative;
- Any landowner consents/issues are to be dealt with by Dŵr Cymru Welsh Water prior to the commencement of works.

1.21 Environmental Considerations

Specific Environmental advice will be provided by the Client on award of the contract.

Kaymac plan to carry out the works utilising practical pollution prevention control methods and best practices in accordance with SEPA Document Ref "Engineering in the Water Environment, Good Practice Guide: Temporary Construction Methods".

The main considerations when working within this site are:

- Concrete operations to protect the final effluent pipe following completion of the relining works.

Throughout all aspects of the works, Kaymac will actively aim to conduct activities in a manner that will cause minimum detrimental effects to the local ecology and wildlife and as a result, will carry out the works with the following Environmental Actions:

- No plant that is leaking fuel, lubricating oil or hydraulic fluid will be allowed on site;
- Bio-degradable hydraulic fluid will be used on all plant on site;
- Rubber Tracks on all plant to avoid high ground pressures and minimise impact to surrounding habitats;
- All plant will be steam cleaned prior to delivery to site;
- Fluid and oil will be stored fully bunded to 110% of the volume stored. Delivery and vent pipes will be terminated within the bund;
- All equipment being used on or near to the watercourse will be appropriately 'bunded' to prevent any possible spillages from harming the local ecology and wildlife;

- No re-fuelling of any plant is to take place within 10m of the watercourse. Refuelling of plant to be carried out in accordance with the approved procedures and in accordance with the Control of Pollution (Oil Storage) Regulations 2001;
- No refuelling procedures are to be carried out at sea during the works. All re-fuelling will take place at the satellite compound within the nearby harbour;
- Any spilt fuel, hydraulic fluid or lubricating oil will be immediately contained and removed from site;
- Any small items of plant (generators, small pumps, etc.) will be placed within plant nappies/drip trays;
- Spill Kit's will be immediately available for all plant and equipment;
- All practical measures will be adopted on site to prevent any cross contamination of invasive species;
- Leptospirosis – Weils Disease: All operatives and visitors will be given a Tool Box Talk on Leptospirosis and measures required to protect from its effects;
- The works will be planned and undertaken in such a way that disruption to the natural environment and local habitat is kept to a minimum;
- Noise levels shall be minimised where possible and within the site working hours. In line with Control of Noise Regulations 1998.

Kaymac will also implement the '**Check, Clean, Dry**' process to prevent the spread of invasive non-native species (INNS) and protect the local ecosystem. The process applies to smaller equipment and personal protective equipment (PPE) as below:

1. **Check:** After using your equipment or PPE in a potentially contaminated area, carefully inspect it for mud, water, plant material, or animals. Pay attention to small, hard-to-reach areas like seams and crevices;
2. **Clean:** Thoroughly clean all items as soon as possible. Use clean water, preferably hot, to remove any remnants of organic material or organisms;
3. **Dry:** Ensure all equipment and clothing are completely dry before moving to a new location. Many invasive species can survive in damp conditions for extended periods, so drying is essential to kill these potential stowaways.

1.22 Permits to Work

It is not envisaged that a Permit to dig will be required, but if this becomes a necessity, the Kaymac Site Manager will issue on completion of relevant checks.

A Hot Works Permit will be issued by the Kaymac Site Manager as and when required.

1.23 Contract Commencement and Duration

Works planned to coincide with the highest tides in March 2025.

Start Date: - Monday 17th March 2025 – Approx. 4 Weeks – TBC;
Planned Completion Date: - Friday 11th April 2025 – TBC.

1.24 Working Hours

Working hours will depend on the optimum tidal working windows, to be confirmed closer to the time.

Monday to Friday – TBC;
Saturday & Sunday – TBC.

1.25 Emergency Response Procedure

Prevention

Kaymac Site Manager will be signed up to the Natural Resources Wales Flood Watch and will receive automated phone calls regarding Flood Events and/or SSA for the area.

Kaymac Site Manager will monitor the tide times on a regular basis to ensure the maximum working windows are targeted and enough time is allowed to clear site before the tide impacts the works; tides to be monitored using the tide table for Southgate: -

- <https://tides4fishing.com/uk/wales/southgate>

Working areas will be fenced off during working hours, and any equipment which could be affected by the tide, will be removed from site prior to submersion.

Works will be put on hold under extreme temperatures (hot – threshold temperature to be decided on site) or any biological, accidental hazard.

Fire

If a fire occurs, the muster points will be identified within the Site Induction and signed appropriately.

Suitable fire extinguishers will be positioned within the compound, on the MTS Terramare and at the works location to deal with a fire.

The Fire Marshal for the site will be confirmed and identified within the Site Induction.

Recovery of an Incapacitated Person(s) from site through Ill Health or Injury

In the event of one of team becoming incapacitated through ill health or injury, but NOT as a result of an unsuitable atmosphere, the following procedures will be applied;

- The other team members will raise the alarm with operatives on site;
- If it is deemed safe to do so, the first aid kit will be mobilised to the casualty by one or more of the other team members;

- The First Aid trained rescuers will then give emergency first aid where required;
- The casualty will then be removed from the site via stretcher to an accessible point, as mentioned below, may be Caswell or Langland Bay or back to Swansea Barrage;
- Once recovered to an accessible part of the road, further first aid can be administered and the emergency services contacted if required;
- The operatives will then return to the site with the stretcher to retrieve the second casualty (if required) and safely transport them an accessible point where the emergency services can take over;

1.26 Environmental and Flood Risk Management

Environmental

There is an Environmental risk as we will be placing concrete around an existing outfall pipe at a tidal location and also the will be the requirement of plant movements on the beach. All items of plant will be supplied with Bio-oil and be steam cleaned prior to entry and upon completion to prevent cross-contamination.

Spill kits will be immediately available in each item of plant in readiness to contain any spills that may occur.

All re-fuelling will take place greater than 10m away from any watercourse or drainage inlet.

1.27 Drugs and Alcohol

Alcohol and drugs are forbidden on site. Anyone suspected of being under the influence will be reported to their employer and may be tested accordingly.

1.28 Sub-contractors

Kaymac will be employing **Bond Demolition Ltd.** to undertake the following works –

- Breaking into existing Asbestos Concrete Pipe in at least 4 No. locations as directed by **DrainForce** to allow access for their relining materials and equipment;
- Disposal of any Asbestos Materials.

Bond Demolition Ltd. will be on site from Monday 17th March 2025 (TBC) to undertake the works described above.

Bond Demolition Ltd. have completed our sub-contractor questionnaire and have been approved as a supplier.

Bond Demolition Ltd. details: -

Unit 3B Ocean Park

Pant Glas Industrial Estate
Caerphilly
CF83 8DR
Tel: 02920 888788
Email: info@bonddemolition.co.uk
Company Registration No.: - 03810886

Kaymac will be employing **DrainForce** to undertake the pipe relining works.

DrainForce will be on site from Wednesday 19th March 2025 (TBC) to undertake the works described above.

DrainForce have completed our sub-contractor questionnaire and have been approved as a supplier.

DrainForce details –

Unit 2
Heol Ffaldau
Brackla Industrial Estate
Bridgend
CF31 2AJ
Tel: 01656 651101
Email: Info@drainforce.co.uk
Company Registration No. - 06885525

1.29 Health & Safety

Kaymac will employ our 'Target Zero' approach to Health & Safety for this project, our aim is: -

- No injury, ill health or incident caused by our work activities;
- To ensure safe access and egress to and from the site;
- To protect pedestrians and adjacent occupiers from any risks associated with the site;
- To ensure all persons visiting the site have been given necessary safety information on any hazards related to the current phase of work;
- Visitors are to be escorted while on-site at all times;
- Ensure operatives act safely and wear personal protective equipment appropriate to the task in hand;
- To investigate any accidents or incidents on-site and take note of any recommendations coming from accident and incident investigations;
- To use (where required) professional support for assisting in the safety of the site;
- To provide regular toolbox talks throughout the project.

These safety goals are monitored and discussed during site meetings and actions given to the appropriate personnel.

The works will be monitored by our Site Manager, **Simon Osbourn (TBC)**. All reporting will be in accordance with the Kaymac Organisational and Report Chart in *Appendix G*.

If required, Kaymac Site Manager will amend RAMS on site if any elements of the works are to alter from what has been planned from the information provided.

1.30 Traffic/Pedestrian Management Plan

No traffic management will be required, but there will be need for some pedestrian management. Signage will be erected by Kaymac / Dŵr Cymru Welsh Water to make local residents aware of the works. Signage will be placed around working areas and pedestrian diversions set in place to ensure that there is no interface at the works location.

1.31 Site Constraints

Tidal Working: -

- Works are to be undertaken at low water during a 3 week period.

1.32 Lifting Equipment

- All craneage, chains, slings, shackles and shoes will have valid certification for inspection at all times. Present colour of all in test lifting equipment is **Red**.
- Daily checks to be made on chain clamp / lock-nut pitching chain and component connectors together with the standard daily rig check carried out by the operator.

1.33 Lighting

Safety and Task lighting will be provided as necessary by Kaymac.

1.34 Housekeeping

All vehicles and plant will be kept in a clean condition.

The working area will be kept clean and clear of trip hazards. Any spillages will be reported to Kaymac and cleared immediately. All waste will be deposited into skips provided by Kaymac for disposal.

All plant will carry a comprehensive spill kit.

1.35 Deliveries

Deliveries will be to Swansea Marina, this is where they will then be loaded onto the MTS Terramare prior to transporting around to the working area on a suitable tide.

All delivery drivers are asked to call site at least 30 minutes ahead of arrival so that we can prepare if necessary.

Depending on the load, it may be necessary to have a suitability sized crane on site to take these deliveries and load onto the Landing Craft.

1.36 PUWER

1. *Compliance with Regulations:* All Equipment used will comply with the requirements outlined in the PUWER Regulations 1998.
2. *Equipment Selection and Suitability:* The plant to be used on site has been selected based on the site conditions and work activities that are to be undertaken.
3. *Risk Assessments:* The potential hazards from the plant on this site include operatives being struck by moving plant, services being struck, overtopping into excavation, contamination of the watercourse and vandalism of plant causing contamination.

The control measures in place to avoid any of these hazards include: -

- all plant movements to be controlled by banksman and no movement of plant without the 'thumbs up' from the banksman and operator;
 - excavations being undertaken carefully and checked every 300mm by trained CAT scanner;
 - no excavator movements too close to the edge of excavation, can be controlled by installing timber baulks a suitable distance from the edge of the excavation and when required, stepping the excavation or installing a TW retention system;
 - bio-oil in all plant and no refuelling within 10m of the watercourse;
 - plant to be stored within the fenced off area at the end of each shift, no keys left in plant at any time and vandal guards to be installed on equipment as provided by the plant hire provider. We will also have a CCTV tower installed which will monitor the plant while we are off site and the site manager will be notified immediately if any unauthorised personnel enter the site.
4. *Safe Use and Operation:* All plant is to be operated by CPCS trained and competent operators under the supervision of a banksman. All plant to be operated within it's limits in accordance with their perspective operating manual.
 5. *Maintenance and Inspection:* Each item of plant will have been checked prior to being delivered to site by the provider (Flannery - TBC) and Kaymac will carry out our inspection upon delivery and at the start of each shift – a record of these inspections can be found

within the site folder. The excavator will also be checked every 6/12 months, depending on their operation (lifting of equipment or personnel), and these check sheets will be provided by the hire company and to DCWW prior to works commencing.

6. *Emergency Procedures:* Should a fault occur with the plant, that item will be immediately switched off and the hire company informed. A fitter from the hire company will then attend site and if possible, carry out the necessary repairs, if unable to do so, that item of plant will be replaced.
7. *Reporting and Recording:* Kaymac operate a Close Call/Observation system, this is where any close call, incidents or accident involving any work equipment will get reported via the link found at the end of this document to our QSHE Manager who will then undertake a thorough investigation as to what happened and why, and then issue a report on what lessons have been learned and how we can improve to prevent any future occurrences.
8. *Training and Competence:* All plant operators are to be CPCS trained and competent for the duties that they will be undertaking. All certificates are to be checked prior to works commencing to ensure that they are correct and in date – all certs are checked by our Training Manager and operatives update as necessary. Please see all specific certs for all operatives within section 1.8 above.
9. *Communication and Consultation:* Prior to any works commencing, all operatives will be conducted the approved RAMS by the Kaymac Site Manager, each briefed operate will then sign onto the RAMS to confirm that all have been briefed and understood. Also, at the start of each shift/new work activity, a daily/task brief will be issued to the operatives involved prior to commencement – all briefing will be recorded within the site folder. Any new legislation that may come out during a scheme, the Kaymac QSHE Manager will issue new to the Kaymac Site Management system who will then brief to all operatives which it will impact, if necessary, new training courses will be attended by those required to update their certs to the relevant legislation. Regular consultation will be kept between all employees and subcontractors to maintain a collaborative approach to safety.

1.37 LOLER

1. *Compliance with Regulations:* All Lifting Operations and Lifting Equipment used will comply with the requirements outlined in the LOLER Regulations 1998.
2. *Equipment Selection and Suitability:* All lifting equipment has been selected based on the activities required to be undertaken – lifting of gullies and manhole units are to be undertaken using 4-leg chains and strops on site for general lifts using the excavator. All chains and strops have been checked prior to deployment to site and have been tagged to show that they are in date and when the date of next inspection is to be carried out.
3. *Risk Assessments:* All lifting operations are to be under the guidance of CPCS Slinger/signaller following the constraints set out in the approved Lift Plan produced by

Kaymac Appointed Person. All lifts carry the potential hazard of chain/strop failure and over-loading/failure of plant resulting in load falling from its lifted position.

The control measures in place include: -

- all lifting equipment to be certified prior to deployment to site;
- visual inspection of the lifting tackle and equipment before attaching to a load;
- checks to the lift plan to ensure that the load is manageable by the proposed lifting arrangement;
- ensure that the ground is fairly even where the lift is taking place;
- ensure that the load has been secured in accordance with the manufacturer's guidance and checked by CPCS trained operatives;
- ensure that the weight of the load has been evenly distributed with the lifting tackle;
- carry out test lift prior to final lift.

4. *Safe Use and Operation:* All lifting operations are to be carried out under the supervision of a CPCS trained and competent lifting supervisor, who will be following the parameters set out in the Lift Plan which will have been produced by the Kaymac Appointed Person. Communication is key when carrying out lifting operations on site, a clear line of sight between operator and lift is to be maintained and where this is not possible, the slinger/signaller will control the lift by guiding the operator with radio contact. All lifting equipment will be checked as suitable for the proposed operation by trained and competent operatives prior to undertaking any lifting activities.
5. *Maintenance and Inspection:* All lifting tackle will be checked, serviced and repaired if necessary, at 6 or 12 monthly intervals depending on use – a test certificate will then be issued following inspection which will state the date of inspection and the date that the next inspection is due. Before deployment to site, a visual check will be carried out by Kaymac and all records will be issued to the Principal Contractor and a record kept with the site file.

All thorough examinations of lifting equipment is conducted by competent persons as required by LOLER.

6. *Emergency Procedures:* If any items of lifting equipment are found to be faulty prior to use, that item will be immediately quarantined and swapped out for a new/replacement tested item.

If an item of lifting equipment were to fail or a near miss occur, the Site Manager will issue a non-conformance or complete the Close Call/Observation link which will report direct to the Kaymac QSHE. Following receipt, our QSHE will carry out an investigation and a report on findings will be briefed to all Kaymac operatives so that lessons can be learned and the occurrence does not happen again. These failures could be a dropped load, equipment collapse or entrapment of an operative.

If an operative were to become entrapped, the Emergency Procedures at the end of this document are to be followed.

7. *Reporting and Recording:* Kaymac operate a Close Call/Observation system, this is where any close call, incidents or accident involving any lifting equipment will get reported via the link found at the end of this document to our QSHE Manager who will then undertake a thorough investigation as to what happened and why, and then issue a report on what lessons have been learned and how we can improve to prevent any future occurrences.
8. *Training and Competence:* All operatives involved in Lifting Operations are to be CPCS trained and competent for the relevant duties that they will be undertaking. All certificates are to be checked prior to works commencing to ensure that they are correct and in date – all certs are checked by our Training Manager and operatives update as necessary. Please see all specific certs for all operatives within section 1.8 above.
9. *Communication and Consultation:* Prior to any works commencing, all operatives will be conducted the approved RAMS by the Kaymac Site Manager, each briefed operate will then sign onto the RAMS to confirm that all have been briefed and understood. Also, at the start of each shift/new work activity, a daily/task brief will be issued to the operatives involved prior to commencement – all briefings will be recorded within the site folder. Any new legislation that may come out during a scheme, the Kaymac QSHE Manager will issue new to the Kaymac Site Management system who will then brief to all operatives which it will impact, if necessary, new training courses will be attended by those required to update their certs to the relevant legislation. Regular consultation will be kept between all employees and subcontractors to maintain a collaborative approach to safety.

2.0 Methodology

The works will comprise of: -

- Mobilisation to site with a Landing Craft;
- Break out sections of pipe either at bends in the pipe or at 100m intervals, as the pipe is an Asbestos Cement – **Bond Demolition**;
- CIPP Lining for the existing Outfall Pipe – **DrainForce**;
- Protection of the newly lined outfall pipe, comprising of concrete repairs at exposed section of pipe along its length.

Mobilisation

The Kaymac team will attend site on the start date agreed with the Client as per the project programme and the Kaymac Site Manager will liaise with the Dŵr Cymru Welsh Water responsible person.

All Kaymac personnel and any other personnel involved in the project will be site inducted by Kaymac Site Supervisor to ensure they are aware of: -

- The site layout;
- Method of works and risk assessments;
- Hazards and risks involved in carrying out the works;
- Environmental considerations and site constraints;
- Emergency arrangements in the event of an incident, including location of the nearest hospital.

All Kaymac and sub-contact personnel will be required to sign in on the site attendance register prior to starting work each day, and to sign out at the end of each shift.

The Kaymac Site Manager/Supervisor will be responsible for briefing the site-specific Method Statement and Risk Assessments appertaining to the project tasks to the site team.

Following completion of the initial site Health & Safety procedures, works will commence.

Sub-Contract Works – BOND DEMOLITION

It is a requirement due to the length of the pipe, number of bends and existing access hatches being fused shut, that the pipe is to be broken out, cut out to provide access for DrainForce to carry out the relining works.

As the effluent pipe is made of Asbestos Concrete and Kaymac Operatives do not hold the relevant certification to handle/cut/break Asbestos, a specialist contractor will be required.

Note: - *All Kaymac Operatives have Asbestos Awareness Training.*

Bond Demolition have been chosen as our specialist sub-contractor to carry out the cutting/breaking out and disposal of the Asbestos Concrete Pipe.

Bond Demolition operatives and equipment will be loaded onto the Landing Craft at Swansea Barrage and transported round to the works location on a suitable tide – works will commence at the closest point to the outfall.



Fig 8 –MTS Terramare Landing Craft.

Approx. 100m along the length of pipe, a suitable area will be identified by Kaymac/DrainForce/DCWW/Bond Demolition and an access hatch will be cut out of the top of the pipe, big enough to allow DrainForce to undertake the relining works, size TBC by DrainForce. The section of Asbestos Concrete Pipe which has been cut/broken out will be removed from site and transported back to Swansea Barrage on the Landing Craft and disposed of to a licenced facility by Bond Demolition.

The above process will be carried out at at least 4 No. locations along the length of the pipe, specific location to be determined on site.

There is a potential that all sections of the pipe will be broken out over 1 or 2 shifts, these sections will remain open until relining works have been completed.

Upon completion of the relining works, Kaymac will place concrete protection around the pipe – detailed later in the methodology.

Bond Demolition RAMS still to be received – will be inserted into the Appendix.

Sub-Contract Works – DRAINFORCE

Due to the damage to the existing pipe and concrete protection, the most suitable repair method has been deemed as relining with a structural UV Liner.

As UV Lining is not something that Kaymac currently offer, a specialist sub-contractor, in DrainForce will be employed to undertake this element of the works.

DrainForce operatives and equipment will be loaded onto the Landing Craft at Swansea Barrage and transported round to the works location on a suitable tide – works will commence at the closest point to the outfall.

Following Bond Demolition cutting access hatches / breaking the pipe, DrainForce will carry out a CCTV survey of the section to check for any obstructions or abrasions which could affect the relining operations.

DrainForce will then jet the section of pipe using 'Recycler, which will be transported to site on the Landing Craft – this has a 300m reel and jets at 110 gallons per minute, 'Recycler' below: -



Fig 9 – Photo of DrainForce 'Recycler'.

If there are any blockages, we may be required to break into this section of pipe also to remove the blockage – Bond Demolition will be on standby for this scenario.

The above will be repeated at each section of the pipe – 4/5 No.

Upon completion of the CCTV and jetting operations, relining works will commence from the outfall up to the further point of damaged pipe.

The Saertex 'S' plus Liner will be supplied in at least 100m lengths.

The Saertex 'S' plus Liner will be inserted into the outfall of the pipe at low water and 'blown' through the pipe until it reaches the 'hatch' which has previously been cut/broken out. The liner will then be tied off and the UV Lining equipment placed within the newly inserted liner to cure in place.

Following curing of the pipe, all equipment will be loaded back onto the Landing Craft and transported back to Swansea Barrage to moor overnight.

The above process will be repeated until the pipe is fully lined with the new Saertex 'S' plus Liner.

The liner will be cured using a UV Rig with 300m cable drum, example below: -



Fig 10 – Photo of DrainForce UV Rig.

DrainForce RAMS still to be received – will be inserted into the Appendix.

Concrete Works

Upon completion of the relining works, concrete protection will be placed around the pipe to protect the pipe from the tidal wave action and stones/debris etc. which will undoubtedly impact the pipe.

Kaymac operatives and concreting equipment, including mixer, raw materials, water (IBC's) etc. will be loaded onto the Landing Craft and transported to the working area at a suitable tide.

Sections required for concrete protection will be measured previously while the breaking of the pipe and relining activities are taking place. Once measurements have been taken, timber formwork will be made at Swansea Barrage or back at Kaymac Swansea Yard (Head Office) to suit the measurements taken on site.

Starting from the section closest to the outfall and working our way back up to the furthest broken section, SoluForm bagwork will be placed and pinned along the length of the exposed section to create a base for the formwork, the previously fabricated timber formwork will then be placed on top of the SoluForm bagwork and secured in place. Any voids will be packed with further SoluForm bagwork of Natcem Waterstop prior to placement of concrete.

Concrete will be provided in 40N pre-mixed bags and water will be supplied in 1000L IBC units for ease due to the works location.

Following erection of the formwork and sealing, the 40N Concrete bags will be mixed in accordance with the manufacturers specifications in a 110v drum mixer and placed into the prepared section using a column skip with the 14T Excavator. Underwater and rapid additives, Sika UCS and Rapid Cement, will also be added to the concrete mix during the mixing operation, this ensures no washout of cement fines when submerged in water and with the rapid cement, should set enough prior to being submerged by the tide.

The formwork will remain in place overnight and be struck at the earliest opportunity the next day.

The above operation will be carried out at all locations of exposed pipe.

Upon completion of the works, the equipment, material and labour will be demobilised from site and transported back to Swansea Barrage

The site will be demobilised upon completion of all works and agreement with the client. All plant and equipment will be collected and removed from site – before and after photos will be taken and photo log report provided upon completion.

A final site walkover will be conducted by Kaymac personnel to ensure the site is free of any rubbish or debris arising from the works. All personnel will then mobilise back to the main compound to sign out prior to demobilising site.

3.0 On-site Risks / Hazards

- Interface with traffic/pedestrians;
- Debris removal;
- Working within or above water;
- Working at Height;
- Exceptional weather;
- Difficult site access;
- Environmental constraints;

- Manual handling;
- Silt agitation;
- Pollution of sea;
- Leptospirosis (Weil's disease).

4.0 Emergency Procedures

A stretcher will always be available on site. If there is a minor accident and the injured party needs further assistance more than first aid, they will be transported by boat to Swansea Barrage. If unable to make Swansea Barrage, the boat will go to Caswell or Langland Bay where they can be met with a company vehicle or ambulance. If this is not possible and all other avenues have been exhausted, the coastguard will be called.

Recovery Point Address and Postcode (Southgate): -

Southgate National Trust Car Park
Westcliff
Pennard
Southgate
Swansea
SA3 2AN

What3Words: - retaliate.stored.guard

Grid Reference: - SS 55426 87369

Recovery Point Address and Postcode (Swansea Barrage): -

Pilot House Cycles
Trawler Road
SA1 Swansea Waterfront
SA1 1UN

What3Words: - does.entry.clouds

Grid Reference: - SS 66383 92589

The nearest hospital to the site with a 24-hour Accident and Emergency Unit has been identified as: -

Morriston Hospital
Heol Maes Eglwys
Cwmrhydyceirw
Swansea
SA6 6NL

Tel: 01792 702222

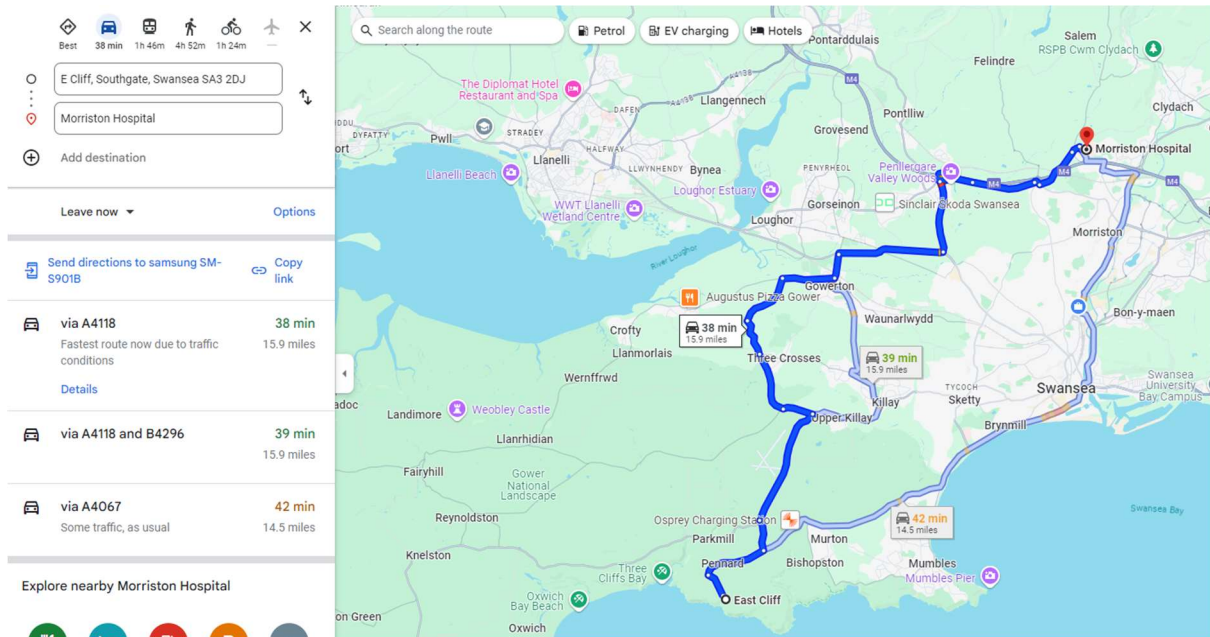


Fig 11 – Vehicle Route to Morriston Hospital from Southgate (Courtesy of Google Maps).

Transfer time from site; approximately **38 minutes (Distance – 15.9 miles)**. Full details can be found in the emergency procedures section of this document.

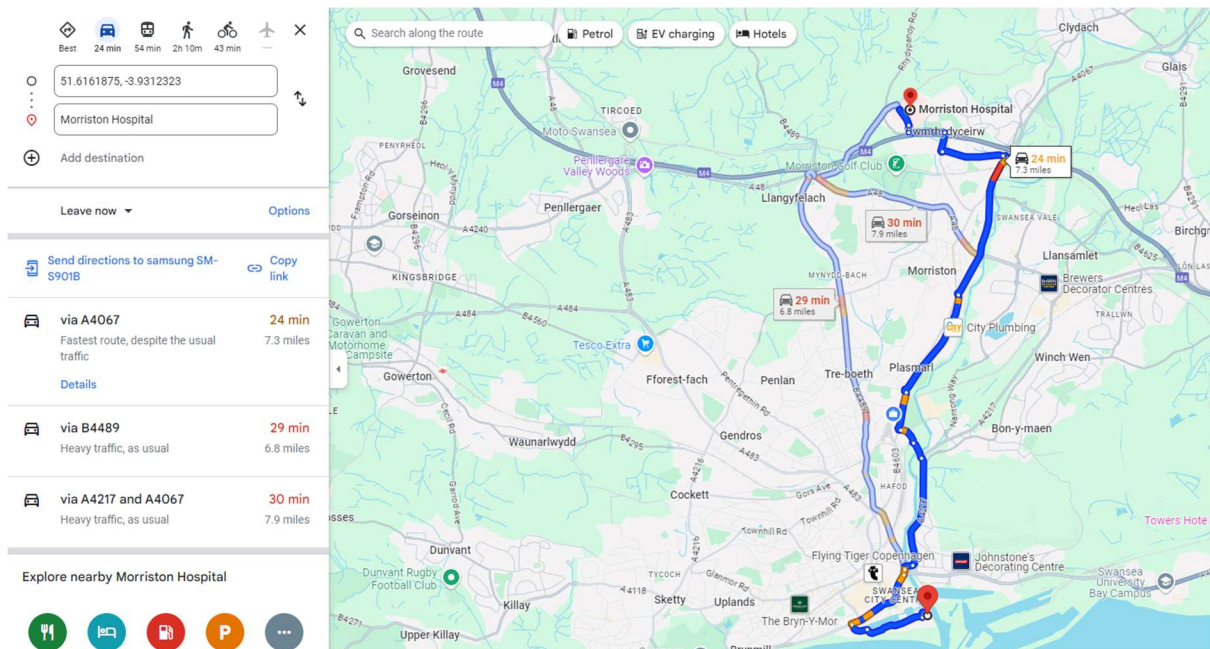


Fig 12 – Vehicle Route to Morriston Hospital from Swansea Barrage (Courtesy of Google Maps).

Transfer time from site; approximately **24 minutes (Distance – 7.3 miles)**. Full details can be found in the emergency procedures section of this document.

4.1 Minor & Major Injuries

Depending on the injury, a Kaymac First Aider, **TBC**, will administer First Aid on Site as appropriate before contacting the nearest hospital, if required: -

Bleeding – It is important to stop the flow of blood as quickly as possible.

Small Cuts – Small cuts in the vein stop bleeding and clot within a few minutes. The area should then be washed, and a plaster placed gently on top.

Deeper Cuts – Deeper cuts in the veins produce dark blood that seeps out slowly and steadily. It can be stopped by gentle pressure on the wound with a sterile or clean cloth, followed by the application of a clean or sterile bandage.

Arterial Bleeding – ARTERIAL BLEEDING MUST ALWAYS BE TREATED BY A DOCTOR - Bleeding from an artery can cause death within a few minutes, so urgent first aid is essential. This type of bleeding pulsates and squirts blood, as the pulse beats. To stop the bleeding from an artery:

- Apply hard pressure on the wound, and keep this up until the patient receives medical treatment;
- Press with a sterile cloth or just use your hand, if nothing else is available;
- Put a bandage on the wound if possible. If blood soaks through the bandages, press harder until the bleeding stops;
- Do not remove the soaked bandages, but place another on top if necessary;
- Do not attempt to clean the wound;
- The person must be made to lie down, preferably with their head lower than the rest of the body. This will ensure that enough oxygen gets to the brain.
- If possible, position the wounded area higher than the rest of their body - so that the bleeding will be reduced.

Nosebleeds – Occur when small blood vessels in the mucous membranes of the nose burst. Blood may also run into the stomach and then be vomited up.

Do not bend the head backwards or lie down, because this increases blood pressure in the head and so increases the bleeding.

To limit the bleeding:

- Pinch the nostrils shut with the index and middle finger for 10 minutes. This way, the vein is compressed, which is often enough to stem the flow;
- While the nostrils are shut, the person must breathe through their mouth;
- If the bleeding continues, it is important to contact a doctor.
- If the person frequently suffers sudden, intense nosebleeds - they should also consult a doctor.

Chocking – Chocking happens when the passage through the windpipe is blocked. This usually occurs when food that hasn't been thoroughly chewed gets stuck. If someone looks like they are chocking, ask them if they're able to talk.

A person who is genuinely chocking can usually only communicate with hand movements, and may place their hand against their throat. In such a case they will definitely need help, so summon assistance for them.

Provided the person is conscious and talking, you should not interfere. Encourage them to cough. However, be prepared to do so, if the obstruction appears to become complete or markedly worse.

If the person is conscious, but struggling to breath, stand behind them and lean their head slightly forward.

Using a flat palm, strike them forcefully between the shoulder blades, in the hope they will cough up (and out) the item causing choking. Repeat up to five times. If unsuccessful, proceed to the Heimlich manoeuvre.

The Heimlich Manoeuvre

- Stand behind the person, who is choking;
- Place your arms around their waist, and bend them well forward;
- Clench your fist, and place it right above the person's navel (belly button);
- Place your other hand on top, then thrust both hands backwards onto the stomach with a hard, upward movement;
- Repeat this until the object stuck in the throat is expelled through their mouth.

If you need to carry out this manoeuvre on yourself, place a clenched hand above your naval (belly button) and your other hand on top. Then thrust your fist hand hard into your stomach.

Repeat this until the object stuck in the throat is expelled through the mouth.

Shock – Shock occurs when too little blood circulates to the brain.

This means that the brain is not receiving enough oxygen, which leads to a feeling of faintness, disorientation and dizziness.

Shock may occur: -

- After an accident involving loss of blood;
- After a serious infection, with loss of fluid;
- After a serious burn;
- After other accidents that cause loss of fluids or blood;
- As part of an allergic reaction (anaphylaxis).

When there is not enough blood in the blood vessels, the blood pressure drops and too little oxygen is circulated to the brain.

When this occurs, a person may: -

- Go pale;
- Turn sweaty, clammy and cold;
- Become dizzy;
- Become anxious or restless;
- Have a weak, fast pulse;
- Have low blood pressure;
- Have slow, weak breathing;
- Lose consciousness.

What to do if someone is in shock?

- The person must lie on their back – preferably with their feet raised – to ensure enough blood gets to the brain;
- Make sure the person is warm, comfortable and covered by a blanket if possible;
- Do not give them anything to drink because they could run a risk of choking;
- If the person vomits or bleeds from the mouth, he or she must be placed on their side to prevent choking;
- Call for an Ambulance; a person in shock must always be treated by a doctor.

Burns – The first thing to do is to limit the extent of the damage and prevent the burn from becoming worse.

- Taking care that you do not put yourself at risk from the cause of the burns, move the person away from the danger area. Smother flames with a blanket or douse the person with water but beware of electricity or caustic chemicals;
- Remove clothing or jewellery from the burned area but do not try to peel back any clothing that is stuck to the skin;
- The burnt area must be cooled by being placed under tepid running water. The water should not be unpleasantly cold;
- Keep the damaged area under running water for at least one hour or longer if the pain has not stopped. Up to four hours of this treatment can be beneficial. However, in severe burns it is more important to get the person to hospital for treatment, so do not let this delay calling the Ambulance;
- Meanwhile keep the person warm; a lot of heat can be lost from large burns so put a blanket or clothing around the non-injured areas;
- First-degree burns e.g. mild sunburn, may not require this treatment although it may help to soothe discomfort;
- Put cling film or a plastic bag over the burn before moving the person to hospital, but do not wrap the cling film tightly around the limb;

- Do not put any creams on the burn at this stage, but you can give the person simple pain relief such as paracetamol.

Which burns need to be treated by health professionals?

- Burns that are bigger than the palm of the hand;
- Burns on the face, neck, hands and in the groin;
- All chemical and electrical burns (electrical burns can look surprisingly minor while causing a lot of damage, and chemical burns may need specific treatment for the chemical that caused them);
- All third-degree burns;
- Most second-degree burns.

Remember that it can be difficult to distinguish between second- and third-degree burns, so always have a doctor or nurse check all but the most minor burns.

For Minor Injuries the company vehicle will transport the injured person to the local casualty department at the *above* Hospital if required.

For Major Injuries, Kaymac on site First Aider will administer First Aid on site, and then contact the emergency services requesting an ambulance to the site location.

The majority of Kaymac personnel are trained in First Aid and the operative's First Aid certification will be sent to Dŵr Cymru Welsh Water ahead of mobilisation. For Minor Injuries, a record of the accident is to be entered with all details in the Company Accident Book and notify Dŵr Cymru Welsh Water's responsible person.

For Major Injuries, Kaymac will compile report on accident and ensure H.S.E. is informed by way of form F2508.

4.2 Emergency Contact Numbers

To contact the police, ambulance or fire service in an emergency; dial 999

Morriston Hospital (24hr A & E)	01792 702222
Ambulance, Police or Fire & Rescue Service	999
HSE Incident Contact Centre	0845 3009923
HSE Infoline	08701 545500
Natural Resources Wales Floodline	0345 988 1188
Natural Resources Wales Incident Hotline	0300 065 3000 (Option 1)
Gareth Crees, Kaymac Health & Safety Manager	01792 301818
Simon Osbourn – Kaymac Site Manager & First Aider - TBC	07902 098444
Gareth Lippiett – Kaymac Project Manager	07772 749833
Kaymac Head Office – Swansea	01792 301818

Tom Steven – Dŵr Cymru Welsh Water Project Co-ordinator	07778 812429
Dai Roberts – Dŵr Cymru Welsh Water Project Manager	07557 920132
Kelly Greener – APEM - Senior Marine Ecology Consultant	07393 002754
David Evans – DrainForce - Director	07584 314496
Shaun Ratcliffe – DrainForce – Site Agent	07584 314484
David Milton – Bond Demolition – Operations Manager	07889 535102
NRW	

5.0 Reporting Accidents, Work Related Diseases and Dangerous Occurrences

5.1 DCWW Contractors Reporting Procedures

Contractor injuries and other incidents that have the potential to cause a serious or major injury will be reported in accordance with RIDDOR, notified to Welsh Water via the Authorised Person (Contracts) and escalated in accordance with the Rule of 2 (Appendix A). The Authorised Person (Contracts) must enter the information onto ASSURE and manage and close the record using investigation findings provided by the contractor.

The potential severity of incidents will be considered. For example, where a near miss had potential to result in a fatality this should be considered as a major/ fatality when scoring using the severity matrix, see below: -

When scoring the incident consider the actual or potential severity of the event. *ALL LOST TIME INJURIES MUST BE SCORED AT LEAST MEDIUM *ALL RIDDOR INCIDENTS MUST BE SCORED HIGH Score A and B 2-4 then multiply to give overall significance rating					Overall Significance Rating
Significance score	A Severity		B Likelihood of Recurrence		C = A x B
2	Minor		Seldom		
3	Serious		Occasional		
4	Major / Fatality		Frequent		
Significance Rating:	≥ 6 Low		8 – 9 Medium		12 - 16 High
Investigation led by:	Supervisor		Lead Incident Investigator and involving Manager		Lead Incident Investigator and involving Head of Department

5.2 Kaymac Reporting procedures

The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) require that certain accidents that happen on site must be reported to the Health and Safety Executive. Any of the following types of accidents that occur on site

have to be reported in the first instance to the company Safety Officer or Safety Manager who will then notify H.S.E.

Fatal or Specified Injuries see www.hse.gov.uk/riddor/specified-injuries.htm for further details) should be reported by completing the appropriate form at www.hse.gov.uk/riddor/report.htm as soon as possible or by telephone by calling the Incident Contact Centre on 0345 300 9923 (Monday to Friday 08.30 to 17:00). A report must be received within 10 days of the incident.

Any Dangerous Occurrence should be reported as soon as possible at www.hse.gov.uk/riddor/report.htm by completing the appropriate form. A report must be received within 10 days of the incident.

An occupational disease should be reported as soon as possible at www.hse.gov.uk/riddor/report.htm by completing the appropriate form. A report must be received within 10 days of the incident.

5.3 Over-seven-day incapacitation of a worker

Accidents must be reported where they result in an employee or self-employed person being away from work, or unable to perform their normal work duties, for more than seven consecutive days as the result of their injury. This seven-day period does not include the day of the accident, but does include weekends and rest days. The report must be made within 15 days of the accident.

5.4 Over-three-day incapacitation

Accidents must be recorded, but not reported where they result in a worker being incapacitated for more than three consecutive days.

5.5 Non-fatal accidents to non-workers (e.g. members of the public)

Accidents to members of the public or others who are not at work must be reported if they result in an injury and the person is taken directly from the scene of the accident to hospital for treatment to that injury. Examinations and diagnostic tests do not constitute 'treatment' in such circumstances.

5.6 Keeping records

A record must be kept of any reportable injury, disease or dangerous occurrence. This must include the date and method of reporting; the date, time and place of the event, personal details of those involved and a brief description of the nature of the event or disease. The record can be kept in any form preferred, but each site is supplied with a copy of the Accident Book BI 510 issued by the HSE, and this is the company's preferred method of keeping such records.

6.0 Risk Assessments

RISK ASSESSMENT SCHEDULE	Client: Dŵr Cymru Welsh Water Location: Southgate, Swansea, SA3 2AN Start Date: Monday 17th March 2025 (TBC)	
--	---	--

SECTION A – IDENTIFICATION OF HAZARDS AND RISK LEVEL BEFORE ACTION

RISK CATEGORY CALCULATION

PROBABILITY MULTIPLIED BY SEVERITY EQUALS RISK LEVEL

PROBABILITY	SEVERITY	RISK LEVEL
1. Highly improbable 2. Improbable 3. Probable 4. Likely 5. Highly Likely	1. Minor injuries 2. Multiple injuries x 1 3. Multiple injuries 2 + 4. Fatality 5. Multiple fatalities	1-4 Minimal 4-9 Acceptable 10-14 Moderate 15-19 Substantial 20-25 Intolerable

HAZARD	RISK	PROBABILITY	SEVERITY	RISK LEVEL
KAYMAC PERSONNEL				
Manual Handling.	Back or other musco-skeletal injuries due to poor work practices.	3	2	6
Noise.	Work induced hearing loss	2	3	6
Biological Agents.	Leptospirosis or Legionella infection	2	4	8
Working at Height	Musco-skeletal injuries from falls.	2	5	10
Collapse of areas of unstable structure.	Crush injuries.	2	5	10
Slips, Trips or falls.	General injuries	2	2	4
Possible presence of discarded used hypodermic syringes.	Needle-stick injuries resulting in biological contamination or risk of Hepatitis B & C or HIV	3	4	12
Exposure to wet or windy conditions	Illness from exposure to poor weather conditions.	5	2	10
Environmental Hazard – spillage from re-fuelling operations	Contamination of the environment.	2	3	6
Substances hazardous to health.	Dermatitis or other skin damage due to contact with hazardous substances.	3	4	12

Contamination of the watercourse	Contamination of the watercourse and damage to ecosystems and natural habitats.	3	4	12
Aggressive behaviour towards company employees	Injuries sustained by employees.	2	3	6
Falling objects.	Head injuries.	2	3	6
Exceptional weather.	Exceptional weather may delay progress of construction works leading to additional costs.	3	4	12
Risk of pollution of watercourse.	Pollution of the watercourse leading to fish kills. Prosecution by Natural Resources Wales.	2	4	8
Planned events, particularly around Bank Holidays	Additional disruption to traffic and residents.	1	1	1
Vandalism to any part of the works.	Cost of repair or replacement.	2	3	6
Risk of Structural Failure of structure during works.	Risks to personnel and delays to construction works leading to additional costs and contract prolongation.	1	5	5
Use of electrical equipment.	Electrical shock/burns, heart attack, risk of fire.	3	5	15
Working with vibrating equipment.	Hand/Arm Vibration Syndrome-nerve or circulatory damage to hands and/or fingers.	2	3	6
Contact with buried services.	Electric shock. Damage to plant and equipment.	3	5	15
Contact with overhead cables.	Electric shock. Damage to plant and equipment.	1	5	5
Use of excavators	Most fatal and serious injuries involving excavators occur when the excavator is: Moving – and strikes a pedestrian, particularly while reversing; Slewing – trapping a person between the excavator and a fixed structure or vehicle; or Working – when the moving bucket or other attachment strikes a pedestrian or when the bucket inadvertently falls from the excavator.	3	4	12
Sudden increase in water flow or level through rainfall or incoming tide	Drowning.	2	5	10

Ecological hazards associated with wildlife	Injury/ death to animals, protected species, etc	2	3	6
Poor weather conditions causing high waves.	Overturning of floating plant/ Drowning.	3	5	15
GENERAL PUBLIC				
Movement of company vehicles during access / egress to site	Members of the public being struck by vehicles.	2	4	8
Members of the public coming into contact with work equipment	Injuries sustained by public.	2	4	8
Interface with traffic / pedestrians.	Injury to workforce or public.	3	5	15
Public interface.	Death / injury of public following entry to working area.	3	5	15

RISK ASSESSMENT SCHEDULE

Client: Dŵr Cymru Welsh Water

Location: Southgate, Swansea,
SA3 2AN

Start Date: Monday 17th March
2025 (TBC)



SECTION B – IDENTIFICATION OF HAZARDS AND RISK LEVEL AFTER ACTION

RISK CATEGORY CALCULATION

PROBABILITY MULTIPLIED BY SEVERITY EQUALS RISK LEVEL

PROBABILITY	SEVERITY	RISK LEVEL	
1. Highly improbable	1. Minor injuries	1-4	Minimal
2. Improbable	2. Multiple injuries x 1	4-9	Acceptable
3. Probable	3. Multiple injuries 2 +	10-14	Moderate
4. Likely	4. Fatality	15-19	Substantial
5. Highly Likely	5. Multiple fatalities	20-25	Intolerable

HAZARD	RISK	PROBABILITY	SEVERITY	RISK LEVEL
--------	------	-------------	----------	------------

KAYMAC PERSONNEL

Manual Handling	The need for manual handling is eliminated or reduced as far as practicable by the availability of mechanical handling devices/machinery, the positioning of storage areas as near as is practicable to where materials will be used. Information, instruction and training provided on safe manual handling techniques. Guidance provided on risk reduction measures e.g. 'team lifting, dividing the load, kinetic handling etc. Staff are encouraged to report work related back pain at an early stage. Staff are encouraged to seek medical advice if suffering from work related back pain.	1	2	2
Noise.	Ear defender to be available if noise levels rise to more than 80 dB(A) Daily Personal Exposure Level	1	3	3
Biological Agents.	Cover any cuts or abrasions with waterproof dressing prior to work. Wear gloves! Wash and disinfect hands prior to eating or drinking.	1	4	4

Working at Height	Only competent staff are employed to work at height. The work is organised so that the possibility of falls from height are minimised. All personnel to work behind safety barriers where possible. All personnel to be briefed prior to embarking onto the MTS Terramare by the Skipper.	1	5	5
Collapse of areas of unstable structure.	Condition of structure to be monitored for duration of works.	1	5	5
Slips, Trips & Falls.	Keep site tidy and remove any non-permanent trip hazards where possible. Wear appropriate footwear for the terrain.	1	2	2
Possible presence of discarded used hypodermic syringes.	Always assume there will be needles mixed in with debris-handle with extreme caution! Use appropriate gloves. When wading through water, dry suits should have steel toe caps and mid-sole protection. If a needle penetrates the skin; Encourage the wound to bleed by holding under running clean water; Wash the wound with soap and water; Dry the wound and cover with a waterproof dressing; Seek urgent medical advice-A&E.	2	4	8
Exposure to wet or windy conditions	Appropriate clothing to be worn during poor weather conditions, surface personnel to wear diver's dry suits when entering the watercourse.	2	2	4
Environmental Hazard – spillage from re-fuelling operations	Comprehensive spill kits to be provided along with training in its deployment. Refuelling operations ONLY to take place over supplied drip-trays and more than 10m away from watercourse.	1	3	3
Substances hazardous to health i.e. cementitious products	COSHH assessments are to be carried out and the information gained is passed to those who may be at risk.	1	5	5

	Manufacturer's safety data sheets are made available. Systems of work eliminate or minimise the chance of skin contact. Information is provided on the safe use of hazardous substances. Adequate washing and first aid facilities, including trained first aiders, are available. Cleaning procedures exist for non-disposable protective clothing.			
Contamination of the watercourse	Ensure environmental mitigations are in place at all times as detailed in the method statement.	1	4	4
Aggressive behaviour towards company employees	Do not enter into any confrontation with any members of the public. Segregate working areas where possible to prevent any unauthorised access into work areas. Inform police if necessary.	1	3	3
Falling objects.	Equipment to be checked before, during and after use. Hard hats to be worn at all times. Be aware of headroom restrictions while working. All Equipment will be suitable for use.	1	3	3
Exceptional weather.	Where possible, review programme to prioritise completion of weather dependant activities early.	2	4	8
Risk of pollution of watercourse.	Kaymac Environmental coordinator to monitor compliance of control measures to prevent pollution. COSHH assessments for all coshh items. Dispose of all waste materials to designated skips etc. Emergency spill kits are to be maintained at every work location or be easily accessible at all times from a centralised location. Equipment to be stored on designated drip trays/ bundied areas.	1	4	4
Planned events, particularly around Bank Holidays	No planned events identified to date. Liaise with Swansea City Council for information on planned events.	1	1	1

Vandalism to any part of the works.	Securely fence and protect the works from unauthorised access.	1	3	3
Risk of Structural Failure during works.	Monitor structure throughout the works and have appropriate working methods to mitigate the risk.	1	5	5
Flood risk.	Site Manager to receive Flood warnings. If required, personnel to evacuate site to a safe location.	2	3	6
Use of electrical equipment.	Personnel to be trained and competent in the use of electrical equipment; 110v equipment only to be used for work on site (apart from welding); equipment to be checked daily by supervisor and result entered onto PUWER check sheet; operators to carry out visual checks on electrical equipment prior to each use. Tool box talks for personnel using electrical equipment.	1	5	5
Working with vibrating equipment.	The lowest vibration tool that is suitable and can do the work efficiently will be selected The use of high-vibration tools wherever possible will be strictly limited and controlled. The exposure limit for the equipment should be obtained and this should not be exceeded. The use of good quality gloves will be used to encourage good blood circulation which should help protect operatives from developing vibration white finger, but these should not be relied upon to provide protection from vibration. Carry out health surveillance to personnel exposed to vibration from tools and equipment.	1	3	3
Contact with buried services.	No large excavation works planned. Prior to any excavation area to be CAT Scanned by a trained operative. Service Drawings to be checked and any identified services marked on the ground using timber pegs or spray paint.	1	5	1

	Other than that notified above, service drawings for area have not identified any services, however operatives should proceed with care. If any unidentified services are located cease work and contact Dŵr Cymru Welsh Water.			
Contact with overhead cables.	Not anticipated as there are no overhead cables present at works location. Works to be carried out in accordance with approved RAMS. Exclusion zone to be set up in accordance with power providers guidelines. Kaymac to set out exclusion zone.	1	5	5
Use of excavators	Exclusion: People should be kept away from areas of excavator operation by the provision of suitable barriers. Bunting or fencing to be used to create and maintain a pedestrian exclusion area, where not possible a trained slinger/signaller to be assigned. Clearance: When slewing in a confined area the selection of plant with minimal tail swing is preferred. Clearance of over 0.5m needs to be maintained between any part of the machine, particularly the ballast weight, and the nearest obstruction, a trained signaller/slinger to bank the machine to ensure minimum clearance is achieved. Visibility: Excavators with the best view around them directly from the driver position should be selected. Excavators should be equipped with adequate visibility aids to ensure drivers can see areas where people may be at risk from the operation of the machine. A trained signaller/slinger to bank the machine to ensure restricted visibility areas are covered. Plant and vehicle marshaller: A Plant and vehicle marshaller should be	1	4	4

	provided in a safe position to direct excavator operation and any pedestrian movements. Bucket attachment: Quick hitches can be used to secure buckets to the excavator arm. Check that you are able to implement and manage any quick hitch used			
Sudden increase in water flow or level through rainfall or incoming tide	Check tide table and weather report prior to commencement of works and monitor during duration of shift. If flows or water levels are predicted to/or increase to a point where a risk is perceived, works should cease, and all equipment and personnel should be withdrawn from the site.	1	5	5
Ecological hazards associated with wildlife	WFD and HRA assessments to be undertaken prior to commencement on site. The site will be monitored at all times for evidence of wildlife activity. Any activity will be reported to the site manager.	1	3	3
Poor weather conditions causing high waves.	Weather is to be monitored by the Kaymac supervisor throughout each day. If the conditions are deemed too poor to allow works to be carried out safely, works will cease until conditions improve.	1	5	5
GENERAL PUBLIC				
Movement of company vehicles during access/egress to site	Ensure that banksman is in attendance while moving vehicles on site.	1	4	4
Members of the public coming into contact with work equipment	Work areas to be cordoned off, path running underneath bridge to be closed for duration of the works and pedestrians/cyclists etc to be diverted over the road and appropriate signage to be erected. Road running over the bridge to be restricted for the duration of the works. NO reversing of vehicles/plant is to be carried out without banksman.	1	4	4

Interface with traffic / pedestrians.	Suitable traffic / pedestrian management to be in place; protective barriers, adequate safety zones, appropriate signage etc.	1	5	5
Public interface	Border around work site to be fenced, preventing public from entering the works site.	1	5	5

7.0 Personnel Information Briefing Forms

KAYMAC MARINE & CIVIL ENGINEERING LTD. PERSONNEL INFORMATION BRIEFING	
--	--

Document Reference (If Applicable)	GL/KM/DCWW-SOR/SEPT24/1	Issue No.	1
Briefing Subject	Southgate Final Effluent Pipe Repair Works 2024		

Key Points
1. Equipment checks 2. Health & Safety implications 3. Scope of works 4. Method of carrying out the works 5. Hazards and risks 6. Emergency evacuation plan 7. Emergency contact numbers 8. Location of welfare facilities 9. Location of hospital

Briefing delivered by		Date	
-----------------------	--	------	--

Briefing Received By-Name	Signature

Appendix A – DCWW The Rule of 2 Appendix to HSP 802

 Health, Safety
and Wellbeing

The Rule of 2

For serious accidents and incidents follow the rule of 2

This will include any accidents that result in a serious injury requiring medical treatment or that are likely to result in an injured colleague needing time off work. Any other incident that had the potential to result in a serious injury should also be reported in this way.



2 hours

Report to department managers and escalate to relevant director, managing director and director of health and safety by phone call or short text message.



2 days

Incident report made on ASSURE by the appropriate manager. Should include basic facts, photographs and witness statements.



2 weeks

A full incident investigation AC4 form completed with any necessary actions identified. AC4 form and actions should be added to the ASSURE record.



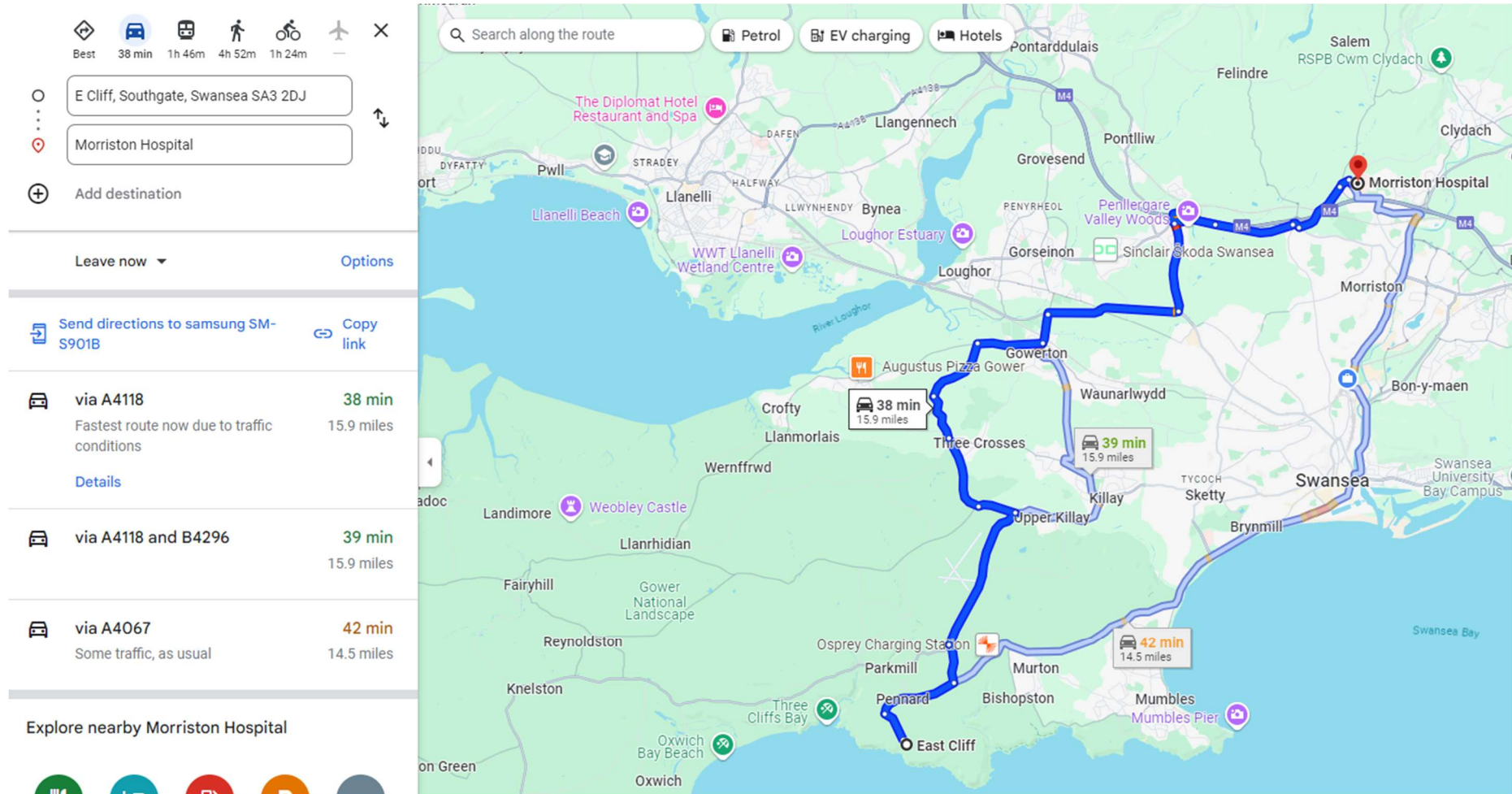
2 months

All actions to be completed and closed on ASSURE. Some actions may take longer than this to complete, if this is the case make sure this is clear and a realistic date assigned on ASSURE.



Appendix B – Hospital Route

Morrison Hospital (24hr A&E)



Appendix C – Management Structure

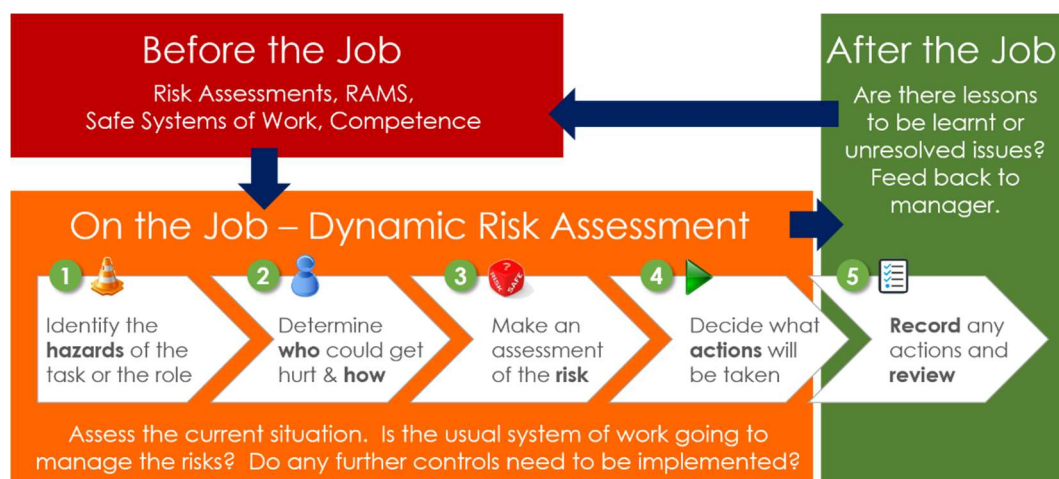
Role	Name	Qualifications	Experience
Managing Director	Gareth Crees	NEBOSH General Certificate in Occupational Health & Safety Part 1 Commercial Diver Mechanical Fitter	35 years in the diving and marine engineering industry; Managing Director since acquiring the company in 1986.
Operations Director	Jeff Lippiett	Part 1 Commercial Diver BEng (Hons) Civil Engineering CPCS Construction Project Manager	35 years in the diving and marine engineering industry; 7 years as a commercial diver/supervisor, 28 years as Operations Manager with Kaymac.
Projects Director	Rhys Colcombe	BEng (Hons) Civil Engineering MSc Civil & Structural Engineering CEng MICE CPCS Appointed Person NEBOSH General Certificate in Occupational Health & Safety NEBOSH Environmental Management	Joined the company as a Graduate Engineer in 2009, appointed Project Engineer in 2013.
Project Co Ordinator	Jon Dean	BSc (Hons) Construction & Project Management HND Building Studies	Project Manager with the company for 8 years.
Project Manager	Gareth Lippiett	HND Construction Project Management SMSTS NEBOSH General Certificate in Occupational Health & Safety	Joined the company in 2010 as a Junior QS, appointed as a Site Agent/Manager in 2013.

		Working towards NVQ level 4 In construction site supervision to obtain CSCS Supervisors Gold Card	
Dive Superintendent and Civil Engineering Site Manager	Alan Byrne	Part 1 Commercial Diver ADC Diving Supervisor CPCS Lift Supervisor, Slinger/Signaller SMSTS CPCS 360 machine driver Working towards NVQ level 4 In construction site supervision to obtain CSCS Supervisors Gold card	Joined the company as our first apprentice diver in 2004, made supervisor and then Dive superintendent 2016
Senior Project Manager	Jonathan Colcombe	Part 1 Commercial Diver ADC Diving Supervisor CPCS Lift Supervisor, Slinger/Signaller SMSTS CPCS 360 machine driver Working towards NVQ level 4 In construction site supervision to obtain CSCS Supervisors Gold card	Joined the company as an apprentice diver in 2007, made supervisor and then Site manager 2015
Civil Engineering Site Manager	Dean Munkley	SMSTS Working towards NVQ level 4 In construction site supervision to obtain CSCS Supervisors Gold card CPCS CSCS First Aid at Work	Joined the company in 2017 as Civil Engineering Foreman.
Civil Engineering Site Manager	Simon Osbourn	SMSTS CPCS CSCS First Aid at Work	Joined the company in 2017 as Civil Engineering Site Supervisor.

Assistant Project Manager	Josh Burgess	SSSTS CSCS CPCS Confined Space	Joined the company in 2008 as an apprentice fitter, appointed as Site Supervisor in 2018, Site Manager in 2022 and Assistant Project Manager in 2024.
Site Manager	Ben Dark	SSSTS CSCS Confined Space First Aid at Work	Joined the company in 2007 as an apprentice fitter, appointed Site Supervisor in 2019 and Site Manager in 2022.
Site Supervisors	Jan Evans	SSSTS CSCS Confined Space First Aid at Work	Joined the company in 2008 as fitter and welder, appointed Site Supervisor in 2019.

Appendix D – Dynamic Risk Assessment

DYNAMIC RISK ASSESSMENT



LIKELIHOOD

		1	2	3	4	5
SEVERITY	1	Low	Low	Low	Low	Low
	2	Low	Low	Medium	Medium	Medium
	3	Low	Medium	Medium	Medium	Medium
	4	Low	Medium	Medium	High	High
	5	Low	Medium	Medium	High	High

Date of Assessment: -		To be reviewed on (date): -		Carried out by: -		
Hazard of Risk	Level of Risk (1-5)	Likelihood (1-5)	What needs to be done about the hazard?	What further action needs to be done?	Action taken by who?	Result

Appendix E – Amendments

No.	Description	Page No.	Date	Initials
1				
2				
3				
4				
5				

Appendix F – Close Calls / Observations



<https://Kaymac.softr.app>

Appendix G – Other Items

Other Items

Kaymac Policies to be adhered to during the works will include but not limited to: -

- Health & Safety Policy;
- Drugs & Alcohol Policy;
- PPE Policy;
- Coronavirus (COVID-19) Policy.

All Kaymac operatives have been briefed on the most recently updated *Kaymac Policies* and it is the responsibility of all for ensuring that the intentions of the policies are effectively implemented on site with Site Agents/Managers ensuring necessary appropriate action is determined and actioned upon if required.