

Measures to minimise the risk to the marine environment

1. There is the potential for the works to impact on the marine environment without suitable mitigation. Therefore, the following mitigation measures will be implemented to prevent and/or minimise risk to the marine environment:

- Potential construction effects will be minimised by following construction best practice and;
- Implementing Guidance on Pollution Prevention (GPPs)1 and 5, plus the Construction Industry Research and Information Association (CIRIA) C715 Environmental good practice on site handbook

<https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/guidance-for-pollution-prevention-gpps-full-list/>

- Development of an emergency response procedure for accidental pollution events.
- All construction materials will be brought to works location on the day so there will be no storage of materials below MHWS.
- Materials will be kept within site vehicles parked landward or on existing hardstanding areas, above MHWS. This will minimise the risk of pollution from material storage.
- Quick setting marine grade concrete and resins will be used to prevent wash out of potentially polluting materials into the marine environment.
- All mixing of cementitious materials will be over secondary containment using paddle mixer. Small, manageable quantities will be mixed at any one time.
- Access will be via foot, no vehicles will be taken below MHWS.
- Hand and battery powered tools will be prioritised, where fuel based equipment is used it will be refuelled landward of MHWS and over secondary containment.
- Daily checks of equipment will be undertaken prior to works below MHWS to ensure they are working correctly and not faulty. If faulty they will be taken out of use and replaced.
- On completion of the works, all equipment and materials will be removed from works location with any waste materials bagged up and removed.
- All tools and equipment will be checked and cleaned before works to prevent biosecurity impacts from the works.

2. Flooding risks will be minimised by the following approaches:

- Tide times will be monitored daily.
- Site staff will monitor weather forecasts and check for any flood alerts/tidal surges. Should flooding be expected, all site activities will be stopped. All personnel, equipment and material will be removed from the site.

3. To minimise any undue interference to others, the following approaches will be taken:

- The access point to the works areas will be from railway infrastructure and will be fully secured to prevent unauthorised access.
 - No requirement to use vehicles. Only a hand trolley in use to transport equipment and materials to point of work each shift.
 - Foot and trolley access will be confined to shortest distance as close to the MHWS mark as possible to reach each work location.
 - Works will be undertaken during daylight hours minimising disturbance to local residents.
4. To maintain navigational safety, including marking and lighting of works; consultation was undertaken with the Marine and Coastguard Agency and Trinity House. These organisations were satisfied that the risk to users is low. MCGA have also recommended the following:
1. All maritime safety legislation is complied with;
 2. Local mariners and fishermen's organisations must be made fully aware of the activity through a local notification. This must be issued at least 5 days before the commencement of the works.
 3. Zone31@hmcg.gov.uk must be notified prior to commencement of activities.

Data and information				Judgement			Action (by permitting)		
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Habitat and species	Damage or disturbance of fauna on site from activities	Damage or loss of fauna	Direct or indirect damage from activities on site	Medium	Medium	Medium	Work activities and presence of people in a natural environment	Ecology survey conducted prior to works starting and all recommendations adhered to; Guidance for Pollution Prevention (particularly GPP5) will be followed to prevent impacting on marine environment; If protected species are seen during the works they will remain undisturbed and an ecologist will be contacted; Biosecurity (check, clean, dry) will be implemented on site.	Low
Habitat and species	Non-native invasive species	Spread invasive plants/animals-damage local ecosystem, spread of diseases, harm to protected sites	Coming into contact with invasive plants/seeds/berries	Low	Medium	Low	Working near water/ invasive plants may cause the spread of species/seeds.	Implement CHECK-CLEAN-DRY procedure on site for all staff and equipment as standard; Conduct toolbox talks prior to works to ensure all staff are aware of the risks.	Low
Water quality	Potentially polluting materials used near watercourse	Increase in sediment load, reduction in water quality	Direct run-off from site activities	Low	Medium	Low	Potential debris/spills effecting water quality	No refuelling of plant within 10m of the watercourse; Polluting materials will be stored at least 10m from the watercourse; No loose materials to be stored/left in external environment; Suitable and sufficient spill kit materials available; Static plant will be stored on plant nappies Pollution prevention measures in place i.e. secondary containment measures to be in place at point of work AmcoGiffen Permit to Work in/adjacent to a Watercourse will be completed daily.	Low
Water quality and preventing contamination	Activities associated with work activities and storage of materials	Water pollution and ground contamination	In-channel flow. Pollution from associated / support activities carried out.	Medium	Medium	Medium	Working near water/working with materials that are not normally present	Working areas will be kept clean and litter free; Any wastes generated will be stored securely; Different types of waste will not be mixed and stored separately and in correct receptacles; Waste Duty of Care checks carried out prior to works starting	Low