

M5 Junction 10 Improvements Scheme

Environmental Management Plan Annex B.7 Pollution Prevention and Control Management Plan

TR010063 – APP 9.7

Regulation 5 (2) (q)

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Environmental Management Plan
Annex B.7 - Pollution Prevention and Control Management Plan

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B.7. Pollution Prevention and Control Management Plan

B.7.1. Introduction

Purpose

- B.7.1.1. This document forms Annex B7 of the Environmental Management Plan (EMP) (1st iteration (Application document TR010063/APP/7.3). Annex B7 is a Pollution Prevention and Control Management Plan (PPCMP) (1st iteration) for the M5 Junction 10 Improvements Scheme (the Scheme). This PPCMP (1st iteration) will be updated by the appointed Principal Contractor (PC) into a PPCMP (2nd iteration), as required by Requirement 3 of the DCO, prior to commencement of works.
- B.7.1.2. The PPCMP provides a framework for achieving the design objectives and mitigation and compensation measures outlined in the Environmental Statement (ES) (Application document TR010063/APP/6.1 - 6.15) and shown on the Environmental Masterplan (Application document TR010063/APP/2.13). The PPCMP identifies what the pollution prevention mitigation and compensation measures are; how they will be implemented, managed, maintained and monitored; and who will be responsible for ensuring they achieve their stated functions.
- B.7.1.3. This PPCMP has been produced to ensure that the water environment features meet the following broad objectives:
- Minimise deterioration in the existing quality of surface water features throughout construction of the Scheme in relation to water quality and hydromorphology. Pollution prevention can include but is not limited to the control of chemicals, hydrocarbons, oils and sediments along with other seemingly low hazard substances such as detergents, disinfectants and paint/dye.
 - Maintain the existing quality of groundwater throughout the construction of the Scheme in relation to water quality, level and flow. Pollution prevention can include, but is not limited to, the control of chemicals, hydrocarbons, oils and sediments along with other seemingly low hazard substances such as detergents, disinfectants and paint/dye.
 - Minimising the generation of waste in excavated soil and driving the sustainable reuse of site won excavated soils.
- B.7.1.4. This PPCMP should be read in combination with:
- Annex B1 – Material management plan (MMP) (Application document TR010063/APP/9.1) to understand the regulatory mechanisms of how excavated materials generated as part of the construction of the Scheme will be reused including details of monitoring, tracking and verification of materials.
 - Annex B2 – Soil handling management plan (SHMP) (Application document: TR010063/APP/9.2) to understand how soil will be managed and protected during the construction of the Scheme and ensure appropriate methodologies are in place to protect the integrity of soil so it is suitable for reuse.
 - Annex B3 – Noise and Vibration Management Plan (NVMP) (Application document: TR010063/APP/9.3) to understand pollution prevention in relation to noise pollution.

- Annex B4 – Air Quality management plan (AQMP) (Application document: TR010063/APP/9.4) to understand pollution prevention measures for air quality, including dust.
- Annex B6 – Emergency preparedness and response plan) (Application document: TR010063/APP/9.6) to understand measures to mitigate impacts related to pollution incidents.

Environmental Statement

- B.7.1.5. This PPCMP (1st iteration) supports Chapter 8 Road Drainage and the Water Environment of the ES (Application document TR010063/APP/6.6) and Chapter 10 Geology and Soils (Application document TR010063/APP/6.8) and has been prepared to demonstrate how pollution to water and the ground will be prevented during the construction phase of the Scheme.

Register of Environmental Actions and Commitments

- B.7.1.6. The following items are recorded in the REAC as they relate to the Pollution Prevention and Control Management Plan.

Table B 7-1 - Pollution Prevention and Control Management Plan REAC

REAC	Commitment Text	Implementation mechanism
WE1	Minimising deterioration in surface water quality resulting from construction activities.	EMP (2 nd iteration). All Plans.
WE3	Minimising deterioration in surface water hydromorphology resulting from construction of the Scheme.	EMP (2 nd iteration). All Plans.
MS2	Minimising consumption of primary materials or other resources.	EMP (1 st iteration). Annex B1 – Materials management plan (Application document TR010063/APP/9.1). Annex B2 – Soil handling management plan (Application document TR010063/APP/9.2). Annex B7 – Pollution prevention and control management plan. Annex B12 – Site waste management plan (Application document TR010063/APP/9.9).

B.7.2. Pollution Prevention Management Plan

Legislation, regulations and other requirements

- B.7.2.1. The construction works will comply with all relevant legislation and regulations to ensure legal construction works as outlined in Chapter 8 Road Drainage and the Water Environment of the ES (Application document TR010063/APP/6.6).
- B.7.2.2. Other requirements from the Local Authority (Gloucestershire County Council and Tewkesbury Borough Council), National Highways or other Statutory Bodies (such as Natural England) will be reviewed by the PC and applied where applicable.
- B.7.2.3. All work carried out will be conducted with due cognisance of client standards, obligations and best practice.

- B.7.2.4. A legislation register will be maintained and updated following any changes to applicable legislation. Any applicable changes will be evaluated and communicated to the relevant personnel through environmental alerts, newsletters, staff briefings or toolbox talks. Site-specific procedures will also provide guidance to activity specific legislation.

Project team roles and responsibilities

- B.7.2.5. Please refer to Table 2-2 of the EMP 1st iteration (Application document TR010063/APP/7.3) for the project team roles and responsibilities. Roles and responsibilities of water environment and contaminated land specialists personnel will be detailed here in the next iteration.

Site induction, toolbox talks and environmental training

- B.7.2.6. The PC will provide general information to staff on site on pollution prevention and specific information relating to the PPCMP in site inductions and toolbox talks.
- B.7.2.7. The specific requirements for inductions, daily briefings, toolbox talks and environmental training will be updated by the contractor as the EMP develops.
- B.7.2.8. All staff on site will be trained in the use of emergency equipment and spill kits and will be fully briefed on the actions to be taken to deal with and report an environmental incident.
- B.7.2.9. Site-specific toolbox talks will include details of the actions to be taken in the event of an environmental incident.
- B.7.2.10. Environmental Site Notices, posters and advisory notices dealing with environmental incidents will be displayed in the main site office notice boards.

Pollution Sources

- B.7.2.11. As presented in Table 10-9 of chapter 10 Geology and Soils (Application document TR010063/APP/6.8), the following key sources identified for the Scheme have the potential to cause harm to human health and / or pollution to the water environment:
- Made Ground associated with the construction and operation of the existing road networks including potential for fuel / hydraulic fluid spillages / leaks.
 - Agricultural activities including use of herbicides, pesticides, silage, effluent, and fuel oils.
 - Migration of contaminants in soil derived dusts and groundwater from historical and current commercial and / or industrial activities within the Study Area (sewage works, corn mills, smithy, engineering works).
 - Migration of contaminants in soil derived dusts and groundwater from historical and current landfill sites within the Study Area (Unauthorised landfill, 85 m north of Piffs Elm Interchange bridge and Violet Villa historical landfill 30 m north-east (Gallagher Retail Park).
 - Migration of contaminants in groundwater from below ground fuel tanks associated with petrol stations within the Study Area (200 m north and 360 m south-east).

Pollution Pathways and Receptors

- B.7.2.12. Site users are potential receptors to pollution through the following pathways:
- Dermal contact and ingestion of soils and water.
 - Inhalation of soil derived dusts, fibres and vapours.

- B.7.2.13. Soils, surface water, groundwater and property are potential receptors to pollution through the following pathways.
- Leaching of contaminants in soil with subsequent migration of contaminated water to surface water and groundwater. Discharge of contaminants entrained in surface water run-off to surface water. Direct contact of contaminated soils or water with below ground foundations or infrastructure.
- B.7.2.14. Pollution of surface water and groundwater directly or via surface water drainage systems by for example fuel oils, chemicals can be caused by:
- Use of potentially polluting substances near groundwater abstraction boreholes.
 - Use of potentially polluting substances near springs.
 - Use of potentially polluting substances in areas where groundwater is vulnerable e.g. high groundwater table and thin covering soil.
 - Sub-water table construction using materials containing potential pollutants.
 - Use of potentially polluting substances near surface watercourses.
 - Works directly in the channel such as new crossings, realignments or over pumping which could alter sediment loads or introduce contaminants from machinery directly to the watercourse.
- B.7.2.15. Pollution of soils directly or indirectly can be caused by:
- Spread of pollutants onto the ground anywhere on the site.
 - Adjacent land.
 - Haul roads access roads.
 - Hardstanding or public highways.
- B.7.2.16. Pollution to property could be caused by discharge consents which have not been granted into the asset e.g. sewerage, whether by accident or intent
- B.7.2.17. Runoff may become contaminated via:
- Vehicles accessing compounds, refuelling, oil/fuel storage tanks and accidental spillage.
 - Storage and use of construction materials/chemicals (e.g., solvents, degreasers).
 - Runoff from construction compounds such as from stockpiles, drainage, wheel washings and material movement.

Pollution Prevention measures

- B.7.2.18. The following paragraphs detail preventative and response measures that will be in place to reduce the risk of pollution entering highway drainage, the water environment or the ground. All work will be completed in line with the following best practice guidance:
- Environment Agency's Pollution Prevention Guidance (PPG) including:
 - General Guide to Prevention of Pollution (PPG1)¹. This guidance provides an introduction to the five main activities which should be looked at to help construction activities avoid pollution incidents and comply with the law.
 - Works and maintenance in or near water (PPG5)². This guidance provides advice on how to make sure construction activities protect the environment and meet

¹ [\[Withdrawn\] Basic good environmental practices, PPG1: prevent pollution - GOV.UK \(www.gov.uk\)](#)

² Including PPG23 (maintenance of structures over water)

legal requirements when you are working near, in or over water.

- Working at Construction and Demolition Sites (PPG 6)³. This guidance was developed in partnership with industry to provide guidance to those working at construction and demolition sites to prevent pollution.
- Construction Industry Research and Information Association (CIRIA) technical guidance:
 - CIRIA 532 - Control of water pollution from construction sites⁴.
 - CIRIA 649 - Control of water pollution from linear construction projects. Site guide⁵.
 - CIRIA C736F - Containment systems for the prevention of pollution⁶.
 - CIRIA C811 - Environmental good practice on site guide⁷.

B.7.2.19. The PPGs contain a mix of regulatory requirements and good practice advice. They have been withdrawn by the Environment Agency but are still considered good practice advice to avoid pollution of watercourses.

B.7.2.20. The measures below are outlined in the PPG and CIRIA guidance and will be carried out by the PC to ensure no pollutants will enter drainage, runoff to a watercourse or be allowed to infiltrate the ground:

- Storage and handling of fuels and other potentially polluting materials:
 - No storage of oils or chemicals will be allowed within 10 m of a watercourse.
 - Any storage of hydrocarbons, oils and chemicals to be stored in accordance with the Control of Pollution (Oil Storage) Regulations 2001⁸ within impermeable bunds capable of holding 110% of the largest container or 25% of the total capacity of all tanks (whichever is greater) and with an impervious base to contain pollutants in the event of leakage. Fuel bowsers and stores will be secured against vandalism when not in use. All taps and valves shall be fitted with a lock.
 - Inspections will be undertaken of all areas where potentially polluting liquids are stored in mobile fuel bowsers at least once a week and immediately after prolonged periods of heavy rainfall.
 - Undertaking of regular (daily) visual checking of watercourses located near areas of construction works for changes in water colour, transparency and for signs of oil sheen, scum or foam build up. Measures will then be put in place to rectify any changes identified.
 - Correct disposal of any contaminated wastewater collected from bunded areas and plant nappies will be carried out in the proper manner in accordance with legislative requirements and relevant best practice guidance.

³ [ppg-6.pdf \(netregs.org.uk\)](https://www.netregs.org.uk/ppg-6.pdf)

⁴ https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C532&Category=BOOK

⁵ <https://www.ciria.org/ItemDetail?iProductCode=C649&Category=BOOK&WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91>

⁶ https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C736F&Category=FREEPUBS

⁷ [Environmental good practice on site guide \(fifth edition\) \(ciria.org\)](https://www.ciria.org/Environmental-good-practice-on-site-guide-fifth-edition)

⁸ Control of Pollution (Oil Storage) Regulations 2001

- Any identified leaking or empty fuel or oil drums or chemical containers will be removed from site in accordance with legislative requirements and relevant best practice guidance.
- Any new car parks and associated access/haul roads will incorporate, at least, oil interceptors before discharging to the receiving body of water to intercept any oily substances that may build up on surfaces. The oil interceptors will be maintained sufficiently to ensure they function as pollution prevention measures throughout construction. Specific details of maintenance requirements will be included in later stages of this PPCM plan.
- Refuelling activities:
 - All refuelling and any maintenance oiling will take place in designated and bunded areas and on an impermeable surface. Any refuelling, maintenance activities or storage of potentially polluting substances must be at least 10 m away from any watercourse and at least 50 m from a spring, well or borehole.
 - Refuelling will be mandatory to be attended by a competent and trained site representative.
 - Appropriate spill kits will be put in place to deal with accidental leakages or spillages of hydrocarbons and oils, or accidental spillages of hazardous substances. They will be available at all times to all areas of work activity. All spill kits will be clearly marked and will be maintained with adequate quantities of appropriate absorbent materials (including booms, granules and matting).
 - All site workers will be trained in the use of spill kits and informed of their location.
 - Plant nappies will be placed below static mechanical and mobile plant.
 - Emergency controls, including cessation of pumping, deployment of spill kits and informing the Environment Agency, for all works adjacent to or over the river network will be in place.
- The Control of Substances Hazardous to Health (COSHH) regulations will be adhered to with regard to the following:
 - COSHH assessments will be briefed to operatives via the task briefing where stipulations for storage, handling and waste will be considered.
 - Storage of COSHH materials and waste will be in a secure, bunded, and sheltered area. If materials are stored in a sealed container, it will be vented.
 - Areas will be supervised, and records of materials maintained via a register which will be held by the store's manager. Waste stored in, or removed from, the area will be recorded.

B.7.2.21. Waste will be segregated, stored in suitable, sealed containers, classified according with the Environment Agency Guidance on the classification and assessment of waste Technical Guidance WM3⁹ and removed from site.

⁹ Environment Agency, Technical Guidance WM3, Guidance on the classification and assessment of waste (1st Edition v1.2 GB)

- Clearly marked spill kits will be maintained with adequate quantities of appropriate absorbent materials (including booms, granules and matting) at each location where potentially polluting liquids are stored and handled.
 - Wash down activities:
 - Vehicles will be washed down only in designated areas banded areas to prevent migration of runoff to watercourses and groundwater.
- B.7.2.22. Designated areas will be provided for washing out concrete delivery lorries and concrete pumps. These will consist of a skip or suitably constructed containment pit lined with an impermeable membrane. Concrete washout water will be managed in line with the Environment Agency position statement July 2011¹⁰.
- When the wash water in a construction site concrete washout container has been removed or allowed to evaporate, the hardened concrete that remains can be crushed and reused as a construction material or delivered to a recycler with the Duty of Care documentation.
 - Site-specific responses will be prepared for potential pollution incidents (e.g., spillages) or extreme weather events (e.g. storms) which may cause an increase in sediment runoff. Specific details are recorded in: Annex B6.
 - Adherence to Scheme-wide drainage strategy (Application Document TR010063/APP/6.15).
 - Use of appropriate measures to ensure contaminants (including fine sediments) from construction activities do not enter the watercourse.
 - If required, silt fences at the toe of slopes, made from geotextiles, to reduce silt transport will be employed. Exposed ground and soil stockpiles will be minimised to prevent runoff to watercourses and drains.
 - Mud and dust control:
 - To prevent mud from being carried onto public roads the Construction Manager will, where necessary, arrange wheel washes. If practical and economic they will be mechanical with contained effluent systems. The need for vehicle / plant / wheel wash bays shall be established in accordance with Environment Agency guidelines – PPG 5 Works in or near watercourses, and a competent person responsible for the maintenance and vehicle washing will be appointed. Wheel wash facility units will be of the type that recycles water.
 - Any measures in place to limit adverse dust and air pollution effects will also apply to reducing the likelihood of polluted surface water run-off being generated. Specific measures associated with dust and air quality pollution are covered in Annex B4 of this EMP (Application document TR010063/APP/9.4).
 - Stockpile management:
 - Stockpile management (such as water spraying and avoiding over stockpiling to reduce compaction of soil and loss of integrity) and timely removal of stockpiled soil to prevent windblown dust and surface water runoff.

¹⁰ Environment Agency, Regulatory Position Statement, Managing concrete wash waters on construction sites: good practice and temporary discharges to ground or to surface waters, June 2011

- Stockpiles will be located away from watercourses and site drainage will be installed to prevent uncontrolled silty runoff entering a watercourse by use of swales and pollution chambers / interceptors, or similar measures.
 - Should any unexpected contamination be identified on-site, it will be stored on an impermeable membrane and covered within a bunded area to prevent rainwater infiltration and leachate migration via surface water runoff.
- Preparation of piling risk assessments as required in accordance with Environment Agency guidance to assess and manage risks to controlled waters.
 - Potential flooding effects, as per the approved Flood Risk Assessment, will be considered when planning remediation activity sites and storage of materials as covered in Annex B6 (Application document TR010063/APP/9.6).
 - Identification of site-specific drainage requirements.
 - A nominated specialist emergency spill response contractor in the event of an emergency/major pollution incident.

Runoff from de-vegetated ground

- B.7.2.23. Care will be taken to reduce potential loss of riparian vegetation to reduce the impacts from surface runoff and sediment entrainment. Where vegetation must be removed, or new earthworks are yet to become established with grasses and other ground cover areas are vulnerable to erosion and runoff. Consideration will be given to the use of methods to protect and stabilise unvegetated areas to reduce erosion, such as using woodchip/mulch, benching and roughening of slopes and geotextiles.
- B.7.2.24. Graded slopes increase the velocity of surface water runoff, the risk of erosion and subsequent silty water runoff. Consideration should be given to more natural rough, uneven slopes as this encourages infiltration and decreases the velocity of surface water runoff. It also allows seeds and vegetation to establish more readily. Roughening can be achieved with the use of tracked machinery leaving track imprints parallel to the slope.
- B.7.2.25. If necessary, general mitigation measures to prevent the runoff of sediment from the de-vegetated ground will be implemented temporarily. Sediment mitigation measures could include the use of small bunds and silt traps to isolate any relevant areas in close proximity to watercourses; use of straw bale traps where appropriate.

In channel working

- B.7.2.26. Where new crossings are required in the form of bridges or culverts, there is potential for increased sediment loads within the channel. This could be as a result of vegetation removal from the banks and surrounding area which will need to be mitigated as described in sections B.7.2.23 to B.7.2.25.
- B.7.2.27. Where works are required to the channel profile such as realignments or works to the bed and banks, there is potential for increased sediment loads within the channel. This should be mitigated through implementation of sediment management techniques such as silt traps, silt nets, bunds or straw bale traps.
- B.7.2.28. There are potential requirements to over pumping of watercourses where culvert works are required. The duration of over pumping should be minimised to ensure that any impacts on the sediment loads and the hydromorphological function of the channel is minimised.

Notification Procedures

- B.7.2.29. Environmental incidents are classified as follows:
- "Minor" environmental incident is capable of being resolved by immediate action on a localised scale by those present at or near the incident.
 - "Intermediate" environmental incident requires the mobilisation of resources from outside the work-site.
 - "Major" environmental incident requires the assistance of external emergency services and/or regulatory authorities.
- B.7.2.30. Minor environmental incidents will be notified to the Environmental Manager as soon as practicable following an incident. An Environmental Incident Report Form will be completed for all environmental incidents and circulated to relevant staff.
- B.7.2.31. Intermediate and major environmental incidents will in the first instance be notified to the Works Manager, who will notify the Environmental Manager and other appropriate personnel. This may also include the Environment Agency.
- B.7.2.32. Emergency contact details will be updated by the contractor as the EMP develops.

Incident Control

Pollution Control Equipment

- B.7.2.33. All staff will have a responsibility to identify, and if possible, control and restrict the adverse effects of environmental incidents by using the emergency equipment provided on site. In addition to this, the Environmental Manager and appointed, trained staff members will regularly inspect the site, especially areas where the bulk of the work is occurring, as these will be the most sensitive. It is therefore likely that they will either discover that an environmental incident has occurred or be quickly summoned to the event. They will be trained in the use of spill equipment including booms and spill kits to control the impact of spillages and other pollution events.
- B.7.2.34. In case of an emergency the initial response will be followed up with a call to the Environmental Manager or designated staff member who will then, where necessary, call for the appropriate authorities' assistance i.e. the emergency services, the Environment Agency, local water company or specialist personnel.
- B.7.2.35. The Environmental Manager will ensure that the spill equipment is appropriately located, maintained, tagged, and recorded. A minimum stock level list will be maintained, and a stores procedure and register will be set up to ensure that the issue of the equipment is tracked as well as making certain that the correct disposal methods are being followed.
- B.7.2.36. The Environmental Manager will decide the position, both static and mobile, quantity and type of emergency spill kits kept on site. The specific location of spill kits will be detailed in the Spill Kit Register which will be maintained by the Environmental Team. Spill kits will be expected to contain the following as a minimum:
- Absorbent granules.
 - Oil only socks.
 - Oil only cushions.
 - Oil only pads.
 - Plugging granules or equivalent.
 - Disposal bags.
 - Contents sheet.

- Gloves.

- B.7.2.37. Spill Kits will be placed in a waterproof dry bag or spill kit bin and made tamper proof by placing a tamper tag around the bag buckle/ bin lid opening and tagged to ensure it can be signed by the individual undertaking an inspection.
- B.7.2.38. Procedures for dealing with environmental incidents are further detailed within the Emergency Preparedness and Response Plan (Annex B6 of this EMP) (Application document TR010063/APP/9.6).

Emergency Call Out Services

- B.7.2.39. The Environmental Manager will ensure that emergency call-out services are established where appropriate e.g. vacuum tanker for removal of oily water from sumps/drains.

Incident Reporting

- B.7.2.40. Environmental incidents will be recorded using an Incident Form. This will include details of corrective action implemented to ensure that the incident has been controlled and details of preventative action agreed with the Environmental Manager to prevent recurrence of similar incidents. In the case of a major environmental incident a written investigation report will be produced. This will include details of corrective and preventative actions that are to be implemented before the work can resume.

AtkinsRéalis

5th Floor, Block 5
Shire Hall
Bearland
Gloucester
GL1 2TH

Tel: +44 (0) 8000 514 514