WATERWAY DRAINAGE ENGINEERING

CONSTRUCTION SURFACE WATER MANAGEMENT PLAN

Land to the north of Coach Road
Whitehaven
Cumberland
CA28 9DF

October 2025
2024-099
Rev A

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1.0 INTRODUCTION

1.1 APPOINTMENT

Waterway Drainage Engineering Ltd have been instructed by PRIMA Homes Group to undertake a Construction Surface Water Management Plan (CSWMP) for the proposed erection of 35 dwellings on land adjacent to Coach Road, Whitehaven. CA28 9DF.

1.2 CONTEXT AND PURPOSE

A Construction Surface Water Management Plan (CSWMP) is based on the duty to ensure that surface water quality and quantity is managed throughout the construction process to mitigate against off-site impacts/ This document has been prepared to set out clear guidelines on the management o surface water during the construction phase of the development to prevent impact on receiving drainage systems and waterbodies.

This document provides the environmental management principles and minimum measures to be implemented by the contractor to ensure that work is carried out with minimal impact on the environment. The CSWMP will be a key part in ensuring that all mitigation measures, which are considered necessary to protect the surface water environment, prior to construction, during construction and / or during operation of the proposed project are fulfilled.

The CSWMP should be considered a live document which will be adopted, amended, and updated as necessary. Contamination of the receiving surface water environment during the construction phase has the potential to cause environmental damage mainly through the movement of silt either directly or indirectly into receiving waters. Other possible construction impacts include accidental release of oils and diesel or discharge of alkaline water during cementing works. The main aim of the construction stage surface water management plan is to ensure protection of the local receiving water and compliance with current guidance documents. This is to be achieved through the following measures:

- Understanding of the local receiving water environment, pollutant linkage pathways and the legislative requirements.
- Implementation of measures to protect the receiving water environment.

1.2 PLANNING

The planning application associated with the proposals (4/22/2466/0F1) gained full approval on the 13 May 2024 subject to a series of conditions. Specifically, this report is in relation to the discharge of condition 14 of the planning approval which is detailed below:

No development shall commence until a Construction Surface Water Management Plan (CSWMP) has been submitted to and approved in writing by the Local Planning Authority.

The approved CSWMP shall be adhered to throughout the construction period.

Reason To safeguard against flooding to surrounding sites and to safeguard against pollution of surrounding watercourses and drainage systems in accordance with the provisions of Policy ENV1, Policy ENV3, Policy DM24 and Policy DM25 of the Copeland Local Plan 2013-2028

2.0 SITE DETAILS

The proposed 1.039 ha development site on land to the north of Coach Road, Whitehaven is illustrated by the red line boundary within *Figure 1*.

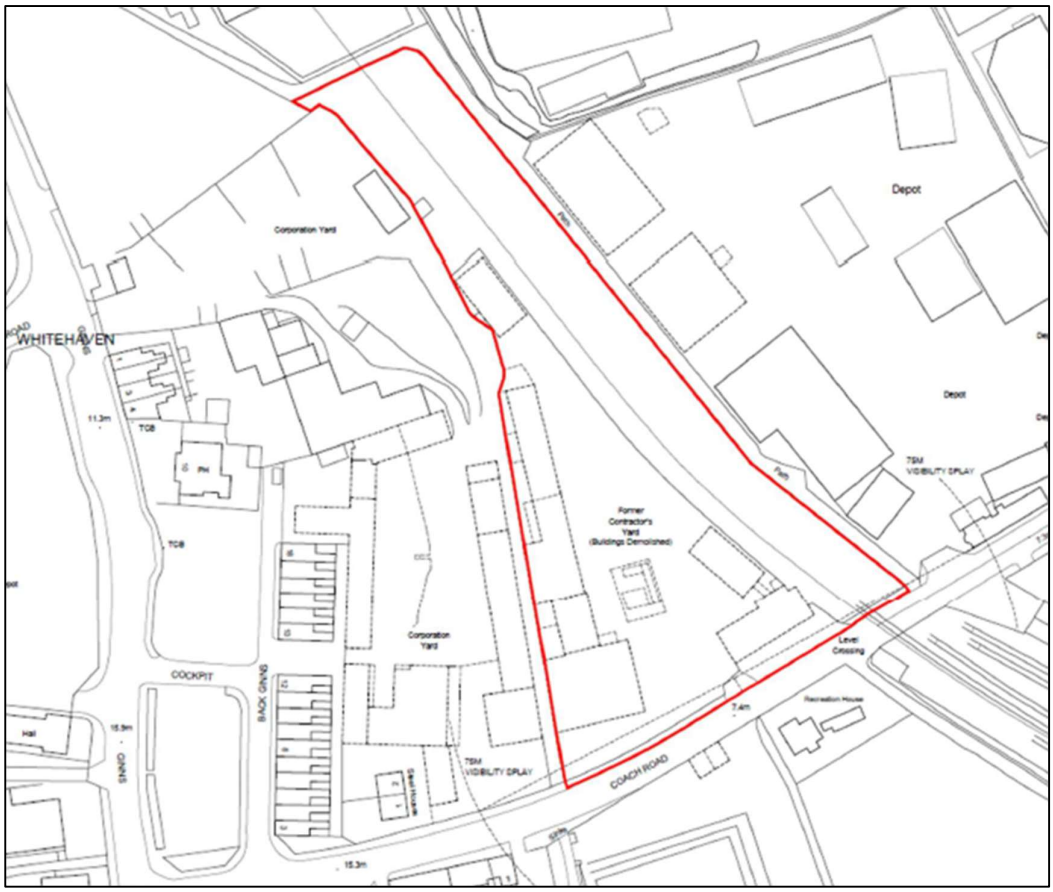

Figure 1: Site Location Plan

The site is bounded by the culverted Pow Beck to the west and a section of the Coast 2 Coast cycle route to the east. The total site area is approximately 1.039ha in area with approximately 0.5ha covered in hardstanding. The remaining section, to the east of the site, is covered in scrubland.

A topographical survey of the proposed development site was undertaken in October 2022. A review of the topographical survey carried out at the site indicates ground levels range between 6.72m to 8.45m above Ordnance Datum (AOD). The lower elevations are present to the north of the site, and higher elevations to the west of the site bounded by Pow Beck.

The proposed development hardstanding areas are split as follows:

- 35 Dwellings = 0.189ha
- Roads and Driveways = 0.254ha
- Compensatory Floodplain Storage = 0.098ha

3.0 GROUND AND GROUNDWATER CONDITIONS

British Geological Survey (BGS) and Land Information Systems (LandIS) mapping services have been used determine the following land make-up:

- Bedrock: Pennine Middle Coal Measures Formation - Mudstone, siltstone, and sandstone.
- Superficial drift: Alluvium - Clay, silt, sand, and gravel.
- Soil: Soilscape 20 - Loamy and clayey floodplain soils with naturally high groundwater.

As part of the site investigations undertaken as part of the previously approved planning application 4/14/2124/0F1, it was identified that the site sits over varying depths of contaminated made ground over alluvium clays, sands, and gravels. It was concluded that these ground conditions are not favourable for the use of infiltration techniques for the disposal of surface water. This was accepted by the Local Planning Authority and as such infiltration techniques for the disposal of surface water are not proposed as part of the proposals to create 35 new dwellings.

Along the western boundary of the site is a culverted section of Pow Beck as is illustrated within the drawing number 23-C-16902-001 and 23-C-16902-002 submitted as part of the planning approval 4/22/2466/0F1.

An adopted United Utilities (UU) combined sewer is located within Coach Road to the south of the proposed development site and to the west flowing in parallel to Pow Beck. In addition, an adopted surface water sewer flows across the development site from east to west.

Existing on-site drainage for both foul and surface water discharges into the combined sewer within Coach Road to the south of the development site. It is noted that the existing surface water discharge rate is unrestricted.

4.0 HAZARDS ASSOCIATED WITH THE DEVELOPMENT SITE

The primary risk associated with the proposed development on land to the north of Coach Road, Whitehaven is contamination of the groundwater. At the location of the development site is positioned a Secondary A Aquifer.

A Secondary A aquifer, as defined by the Environment Agency, is a permeable geological layer that can support local water supplies and may contribute significantly to river base flow, although it does not possess the strategic importance of a Principal Aquifer. It is also noted that the location of the proposed development site is located within an area of medium to high groundwater vulnerability.

As such safeguarding the quality of this resource is of paramount importance. The hazards associated with the proposed development, in terms of risks to the Secondary A Aquifer are detailed below:

- The construction of the new dwellings and infrastructure on site
- Infiltration of pollutants during the construction phase of the development into the soil strata.

Groundwater pathways include migration of spilled hazard materials through:

- Natural drift deposits.
- Infiltration of surface water into the soil strata during the construction phase of the development.

It is noted that infiltration techniques are not to be utilised for the disposal of surface water on site due to the potential of ground contamination. As such, this risk factor is not considered within the hazards associated with the development site.

The primary receptor is the groundwater of the Secondary A Aquifer.

5.0 OUTLINE OF THE CSWMP AND LEGISLATIVE REQUIREMENTS

This document aims to set out the proposed procedures and operations to be utilised on the proposed construction site to protect water quality. The mitigation and control measures set out in this plan will be carried out on site during the construction phase. The main areas of water related concerns covered by this document are:

- Pre-Construction and Construction Phase drainage control.
- Earthworks (i.e., basement bulk digs, infrastructure & drainage) and surface water quality protection.
- Temporary stockpiles water management and controls.
- Settlement tanks/systems.
- Stream/watercourse and drain crossings/upgrade.
- Fuel usage, storage, and management
- Working at or near existing streams / watercourses.
- Wastewater and on-site sanitation. The CSWMP is considered a live document.

The CSWMP will be taken over by the main contractor(s) for the works and will be modified and updated, as necessary, as detailed contractor method statements are developed.

4.1 RELEVANT LEGISLATION

It is proposed that all surface water control measures relating to the proposed development will be constructed using best practice and in conformance with the requirements of the relevant regulatory authorities. The key legislation which will be adhered to are defined as follows:

- The Water Environment (England and Wales) Regulation 2009 Land Drainage Act 1991
- Control of Water Pollution from Construction Sites – Guide to Good Practice (SP156)
- Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (C532)
- Control of Water Pollution from Linear Construction Projects – Technical Guidance (C648)
- Control of Water Pollution from Linear Construction Projects – Site Guide (C649)
- Environmental Good Practice – Site Guide (C650)
- The SUDS Manual (C753)
- BS 8582:2013 Code of practice for surface water management for development sites
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5.2 GUIDANCE FOR POLLUTION PREVENTION

Guidance for Pollution Prevention (GPP) documents are based on relevant legislation and reflect current good practice. Following this guidance aids in the management of environmental responsibilities to prevent pollution and comply with the law. This guidance pertains to works or activities carried out in or near water environments. Such activities have the potential to cause pollution, transfer non-native species and can impact on the bed and banks of a watercourse. Potential environmental risks when working in or near water include:

- Silt
- Cement and concrete
- Chemicals and solvents
- Bridge cleaning debris
- Herbicides
- Invasive Non-Native Species
- Waste materials (including hazardous waste)

The site and activities will only cause a risk to the environment or people if all three parts of the pollutant linkage are present i.e., a source, a pathway, and a receptor. Measures should be put in place to prevent, minimise, or mitigate the effects of any risks and therefore break the pollutant linkages between these three. This aids the prevention and / or reduction in the likelihood of pollution and reduces the impacts of any risks that may occur.

5.3 POTENTIAL SOURCES OF WATER POLLUTION

The following are a list of potential water pollutions that could arise on the construction site.

- Suspended Solids: The contractor is to apply measures to ensure that water pollution does not arise because of suspended solid pollution. Sources of suspended pollution include, excavation, earth stockpiles, plant and wheel washing, build-up of mud on site roads.
- Oils & Hydrocarbons: Oils are a potential source of pollutants on a construction site. Diesel, lubricating oil, fuel, petrol, and hydraulic fluids are used quite readily on construction sites for various types of machinery, and these entail a risk of spillage or leakage. The contractor will need to employ good practice measures to prevent these potential pollutants entering the combined sewer network. These measures will include bunded areas for the storage of fuels, regular maintenance of machinery to ensure that no leakages occur and the provision of a preselected refuelling area within the site compound on site (at the furthest point from the river) or refuelling off site.

- Concrete and Cement Products: It is important the cement products are carefully stored to withstand various weather conditions such as heavy rainfall and high winds to prevent run off and dust pollution. Concrete products can cause contaminating during wash down of the trucks which can cause a large volume of uncontrolled runoff.

5.4 INDICATORS OF POLLUTION

Construction site staff should be aware of the following indicators of water pollution. If such indicators are observed, further investigation should be undertaken:

- Change in water colour.
- Change in water transparency.
- Oily sheen to water surface.
- Floating detritus.
- Scums and foams.
- Dead/decaying fauna and/or flora.

6.0 CONSTRUCTION SURFACE WATER MANAGEMENT

The following suite of construction surface water management and risk mitigation measures shall be implemented by the Main Contractor.

6.1 MANAGEMENT

- The main contractor shall appoint a site environmental officer with responsibility for the subject site.
- Two distinct methods should be employed in the management of construction surface water runoff.
- The first method involves 'keeping clean water clean' by avoiding disturbance to natural drainage features, minimising any works in or around artificial drainage features, and diverting clean surface water flow around excavations, construction areas and temporary storage areas.
- The second method involves collecting any drainage waters from works areas within the site that might carry silt or sediment, and nutrients, and to route them towards settlement tanks prior to controlled discharge, to be agreed with the Local Authority, to the existing combined sewer network. There shall be no direct discharge to surface waters or onto the highway network.
- Construction operations will adopt best working practices and the early establishment of the temporary construction drainage facilities will reduce the risk of pollution problems during construction.
- A Construction Drainage Control System will be put in place so that all silt laden water will be diverted to temporary settlement storage tanks prior to discharge. This discharge, and the associated pollution control measures, will be subject to the approval of the Local Authority

6.2 PHYSICAL MEASURES

- To avoid excessive silt runoff, site clearance is not to be undertaken during very wet conditions.
- Temporary silt fencing will be installed along site boundary. The fencing will be inspected daily by the site management staff, and after and adverse conditions, for any signs of contamination or excessive silt deposits.
- Fuels, lubricants, and hydraulic fluids for equipment used on the construction site, as well as any solvents and oils etc. are to be carefully handled to avoid spillage. Properly secured against unauthorised access or vandalism and provided with spill containment. All staff to be trained in management of chemicals and spill response.

- On site fuel storage should be avoided if possible. However, if fuel storage is proposed to take place on site, then as a minimum the Main Contractor shall provide, operate, and maintain, a proprietary self-contained and 110% self-bunded fuel store system such as that indicated in the image below, complete with pump, dispensing hose, removable fuel particle filter, automatic shut off trigger. Fuelling should only be undertaken in designated areas with spill control measures in place. Smaller quantities of fuel may be carried/stored in clearly labelled metal jerry cans. Green for diesel and red for petrol and mixes. The Jerry cans shall be in good condition and have secure lockable lids. The Jerry cans shall be stored in a drip tray when not in use.
- Any spillage to ground of fuels, lubricants or hydraulic oils is to be immediately contained and the contaminated soil removed from the site and properly disposed of.
- Waste oils and hydraulic fluids is to be collected in leak-proof containers and removed from the site for disposal or recycling.
- The washing of any plant equipment will be carried out in designated areas to prevent potentially polluting material from contaminating soils/subsoils. No washing out of concrete trucks will be allowed on any part of the site.
- Excavations for site services will be backfilled as soon as reasonably practicable to mitigate risk of infiltration of potentially polluting compounds to the subsurface.
- There will be no discharge of effluent to groundwater during the construction phase. All wastewater from the construction facilities will be directly connected to the existing foul drainage within the site.
- Plant and equipment to be used during works, will be in good working order, fit for purpose, regularly serviced/maintained, and have no evidence of leaks or drips.
- No plant used shall cause a public nuisance due to fumes, noise, and leakage or by causing an obstruction.
- Regular environmental toolbox talks / briefing sessions will be conducted for all persons working to outline the relevant environmental control measures and to identify any environment risk areas/works.
- The clearing and topsoil stripping of each phase of work will be delayed until ready to proceed, insofar as is practicable.
- Excavation works will require works below ground levels and to control the groundwater in the areas being excavated the contractor will need to isolate the area by digging trenches to the perimeter of the foundation area with suitable falls and sumps.
- Concrete should always be placed in a controlled method to prevent spillages as is good construction practice. Where possible concrete should be placed using a concrete pump. At the concrete delivery point it is important that measures are employed to prevent spillages from concrete delivery trucks contaminating the ground.

- Dewatering measures should only be employed where necessary.
- Dewatering by pumping to an appropriate treatment facility or settlement tanks to allow sediment to settle from solution prior to discharge.
- Existing surface drainage systems within the site shall be retained in place for as long as reasonably practicable.
- Regular inspections of settlement tanks will be carried out and additional treatment used if settlement is not adequate.
- Sufficient onsite cleaning of vehicles prior to leaving the site and o nearby roads, will be carried out, particularly during groundworks. In this regard all construction site access points will have static, automated wheel wash systems in place.
- The Site Manager will be responsible for the pollution prevention programme and will ensure that at least daily checks are carried out to ensure compliance. A record of these checks will be maintained.