



# **West Winch Housing Access Road**

## **Chapter 11: Water Management – Appendix K: Construction Surface Water Management Plan**

Author: WSP

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## 1 Introduction

- 1.1.1 This Construction Surface Water Management Plan (CSWMP) has been prepared on behalf of Norfolk County Council (NCC) with respect to the proposed West Winch Housing Access Road (WWHAR). The location of the WWHAR is shown on the location plan in Appendix A.
- 1.1.2 This CSWMP, which is Appendix K of the WWHAR Flood Risk Assessment, sets out indicative methods to avoid, minimise and mitigate likely environmental effects during the construction stage of the WWHAR. The requirement for a CSWMP is based on the duty to ensure that surface water quality and quantity is managed throughout the construction process to mitigate impacts off site. If you require this plan in a more accessible format, please contact [westwinchar@norfolk.gov.uk](mailto:westwinchar@norfolk.gov.uk).
- 1.1.3 This CSWMP should be regarded as outline in nature, and subject to further amendment, due to the current stage of the project (completion of preliminary design) and that a Construction Contractor(s) is yet to be appointed.



## 2 Roles and Responsibilities

2.1.1 The Construction Contractor(s) will be responsible for developing and implementing the CSWMP based on the principles set out in this document. Roles and responsibilities will be defined within the CSWMP, including, but not limited to, the personnel responsible for:

- Providing relevant training to staff and to ensure that procedures are being implemented to achieve compliance with the CSWMP.
- Site maintenance / inspections.
- Record keeping; and
- Emergency action plans.

2.1.2 The Construction Contractor(s) will provide all detail of accreditations held and the relevant qualifications of key personnel in the management of water and environmental matters on the site.

2.1.3 The Construction Contractor(s) will take responsibility for all training for personnel on site.



### 3 Relevant Legislation, Guidance and Policy

3.1.1 Construction works have the potential to impact land and watercourses therefore, works shall operate in accordance with the following environmental legislation:

#### Legislation

- Water Framework Directive (WFD) England and Wales Regulations 2017
- Land Drainage Act 1991
- Environmental Permitting (England and Wales) Regulations 2016
- National Planning Policy Framework (NPPF) 2023
- Construction Design and Management (CDM) Regulations 2015
- COSHH Regulations 2002

#### Guidance

- The SuDS Manual (C753)
- Environmental Good Practice – Site Guide (C650)
- Building Regulations Part H 2010
- BS 8582:2013 Code of Practice for surface water management for development sites
- Control of Water Pollution from Construction Sites – Technical Guidance (C648)
- Control of Water Pollution from Construction Sites – Site Guide (C649)
- Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (C649)



- Control of Water Pollution from Construction Sites – Guide to Good Practice (SP156)

### **Surface Water Drainage Discharge Guidance**

3.1.2 Surface water runoff discharge locations shall be in accordance with all documents listed above and follow the hierarchy of control described in the following:

- The SuDS Manual, CIRIA, 2015.
- Non-Statutory Technical Standards for Sustainable Drainage Systems, England, 2015.

3.1.3 These documents aim to discharge surface water run-off as high up the drainage hierarchy, as reasonably practicable. The hierarchy is as follows:

- into the ground (infiltration);
- to a surface water body;
- to a surface water sewer, highway drain, or another drainage system;
- to a combined sewer.

3.1.4 Construction surface water discharge requirements and locations should also be discussed with any relevant statutory consultees including the Environment Agency and the Lead Local Flood Authority.



## 4 Method and Schedule for Water Quality Monitoring

- 4.1.1 Water quality monitoring is required for construction works to provide assurance of compliance with regulatory requirements and to ensure that environmental degradation does not occur because of the works.
- 4.1.2 This section of the CSWMP will provide the inspection, monitoring and maintenance requirements to be included for the proposed surface water control system.
- 4.1.3 This will be communicated to the Construction Contractor(s) Environment Manager to ensure that this is in general accordance with any similar requirements of the Construction Environmental Management Plan (CEMP).
- 4.1.4 The measures will be tailored to meet the site-specific requirements (e.g., scale and duration of proposed works, methods employed, and site sensitivity).
- 4.1.5 The following requirements should be included as a minimum:
- Surface water monitoring regime for pre-construction, construction and post- construction stages
  - Site Inspection regime
  - Formal Inspections with the Environment Agency.
  - Audits
  - Performance monitoring of the surface water management system
  - Systems maintenance requirements
- 4.1.6 The water quality monitoring network will cover the upstream and downstream reaches of watercourses where trenched crossings and nearby construction compounds are proposed.

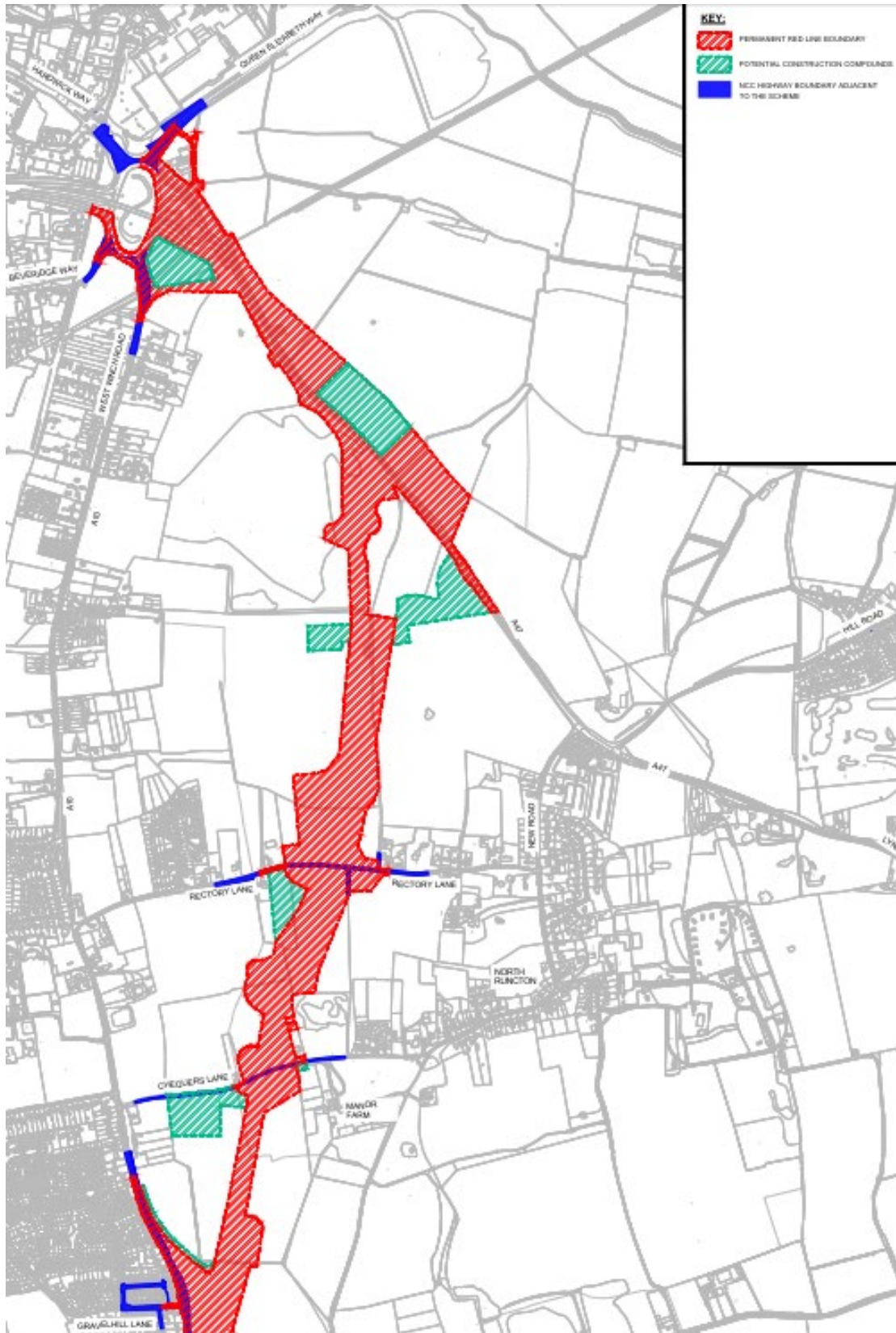


4.1.7 Potential locations for construction compounds are shown in Figure 4-1 overleaf hatched in green although it should be noted that there is no formal agreement of these at this stage and they are subject to further discussions with the Construction Contractor(s) and relevant stakeholders.





Figure 4-1 Potential Construction Compound Locations





## 5 Contaminated Control of Watercourses

5.1.1 The construction site will be managed and maintained by the Construction Contractor(s) to minimise pollution of watercourses in the instance of contamination from various potential sources in accordance with any appropriate guidance and these are outlined in the following sections.

### General

5.1.2 Providing temporary SuDS, for new impermeable surfaces at construction compounds, to manage surface water discharge and prevent pollution from operations.

5.1.3 Where works are within 10m of watercourses, sediment barriers will be provided between earth works and the construction zone and the watercourse to prevent sediment from washing into the river. Silt management will be considered not only for areas adjacent to the watercourse, but also up the valley sides to minimise fine sediment input to the watercourse. Where practicable, there will be no works within 8m of watercourses.

5.1.4 Sewage generated from site welfare facilities will be disposed of appropriately. This may be by discharge to the foul sewer network or by collection in cesspool for disposal off-site.

5.1.5 Works will be undertaken in compliance with the relevant sections of BS6031:2009 Code of Practice for Earthworks (British Standards, 2009) with respect to protection of water quality and control of site drainage including washings, dewatering, abstractions, and surface water.

5.1.6 Identify what consents are required from the Environment Agency for temporary discharge and in watercourses affecting Main Rivers.

5.1.7 Ensure all surface water drainage solutions and discharge rates from construction compounds will be discussed with the LLFA .



## Oils And Hydrocarbons

### 5.1.8 The Construction Contractor will:

- Provide an emergency incident response plan and make spill kits available on site.
- Measures to be put in place to prevent pollution from construction plant, vehicles and machinery including refuelling and lubricating in designated areas, over an impermeable surface, with appropriate cut-off drainage located away from watercourses; plant to be maintained in a good condition with wheel washing in place (avoiding vehicle cleaning near to existing watercourses), all refuelling would be supervised and carried out in a designated area. In the event of plant breakdown, drip trays would be used during any emergency maintenance and spill kits would be available on-site.
- All drains within the construction works areas will be identified and labelled and measures implemented to those considered most at risk of polluting substances from entering them.
- Areas with a greater risk of spillage (for example, vehicle maintenance and storage areas for hazardous materials) will be carefully sited (for example, away from drains or areas where surface waters may pond) and on an impermeable surface.
- Fuels and potentially hazardous construction materials would be stored in bunds that have areas with external cut-off drainage; fuel would be stored in double skinned tanks with 110% capacity .
- Construction plant will be checked regularly for oil and fuel leaks, particularly when construction works are undertaken in or near the existing waterbodies.



- Waste fuels and other fluid contaminants will be collected in leak-proof containers prior to removal from the construction area to an approved recycling processing facility.
- Oil absorbent booms will be made available at construction compounds and works areas and will be deployed as soon as possible in the event of a significant spillage.
- Measures implemented to control spillage or pollution risks for site runoff or works within watercourses will be regularly inspected to ensure they are working effectively.
- Surface water run-off and excavation dewatering will be captured and settled out prior to disposal where practicable. The Construction Contractor(s) will ensure that any contaminants are to be suitably removed prior to disposal.

### **Stockpile Mitigation**

5.1.9 To avoid the leaching of any potential contaminants and increased sediment loading, the Construction Contractor(s) will comply with the following:

- Ensure works will avoid the positioning of temporary material stockpiles near to watercourses and will ensure material stockpiles are located outside of the flood zone where practicable. Welfare facilities and stored equipment and materials are to be located within the compounds so that areas of high flood risk are avoided.
- Temporary stockpiles will be located at a minimum of 10m from the top of the bank of any watercourses, where practicable .
- Where necessary, temporary stockpiles will be protected by silt netting when not in use .



### **Concrete Wash Out**

5.1.10 To avoid concrete wash out polluting the surface water, groundwater and impacting the flood risk the following measures may be adopted:

- Ensure concrete wash out only takes place at designated concrete washout areas.
- Ensure pumping or similar processes of concrete is avoided over or adjacent to open water where possible and such works will be closely observed to ensure the swift shut off any pumps if a spillage occurs .

### **Method and Schedule for Spill Kits**

5.1.11 During the construction stage, the Construction Contractor(s) will ensure the creation of an emergency response plan to manage leakages or spillages containing contaminating substances and measures will be put in place to prevent pollution from construction plant, vehicles and machinery. The following measures should be implemented by the Construction Contractor(s):

- Measures implemented to control spillage or pollution risks for site runoff or works within watercourses will be regularly inspected to ensure they are working effectively .
- Ensure maintenance vehicles are equipped with spill kits in case of emergency.
- Make oil absorbent booms available at construction compounds and work areas to ensure they can be deployed in the event of significant spillage .
- Emergency response plans will be developed, and spill kits made available on site.



## Silt and Soil Management Measures

5.1.12 During construction, the likelihood of silt and soil disturbance is high. The Construction Contractor(s) will consider implementing the following silt and soil management measures during construction.

### Silt Management Measures

- A sufficient work area, as agreed by the Construction Contractor(s), is made available for effective sediment management for works within watercourses.
- Surface water runoff from construction works within 10m of watercourses will be treated by use of a sediment trap where required.
- Silt fences, silt traps, filter bunds, settlement basins and/or proprietary units will be used to treat sediment laden water generated on-site before discharge.
- Temporary drainage systems will be implemented near sensitive receptors to control surface water runoff, to alleviate both flood risk and help to prevent sediment laden runoff entering the watercourse.
- Temporary cut-off drains will be used uphill and downhill of the Construction Compounds to prevent clean runoff entering and dirty water leaving the working area without appropriate treatment.
- Use of temporary cofferdams to exclude work areas from waterbodies reducing risk of increased sediment load entering the main water flow .
- Where practicable, construction works will avoid works on watercourses during high flow events to reduce the risk of fine sediment release and minimise the increase to flood risk from dewatering / hydrostatic testing discharges. The Detailed Design construction programme will seek to target the construction activities involving watercourses for the drier summer months to reduce this risk,



whilst taking into account the window for construction activities in relation to aquatic ecology.

### **Temporary Culverting**

5.1.13 Temporary culverting and storm water outfall construction may be required to allow construction traffic to cross the watercourses. Any temporary culverting of the watercourses needs to be agreed in advance through relevant consents and methodologies discussed with the Environment Agency / LLFA demonstrating that this will not increase the risk of flooding elsewhere and manage water quality for these watercourses.

5.1.14 As a result, the watercourse may be temporarily blocked and pumped over where practicable whilst the temporary crossing is constructed. Therefore, the Construction Contractor(s) will allow for the following pollution mitigation measures to be implemented:

- If temporary culverting is required for any duration of works, pollution measures will be put in place to protect watercourses. It will be identified if any works are being carried out near a main river ordinary watercourse, ditch or other watercourse that measures are implemented to reduce pollution, silting and erosion.
- If work is to be carried out on, or near a foul sewer, (the Construction Contractor(s) should be aware of any trunk sewers in the vicinity), electricity cables or oil/chemical pipes, the Environment Agency shall be notified 7 days prior to allow agreement of pollution prevention measures.



## 6 Outline Flood Action Plan

6.1.1 This section presents the key requirements which will be developed into a Flood Action Plan by the appointed Construction Contractor(s) during the construction stage.

6.1.2 A Flood Action Plan will be developed and implemented for all construction compounds and temporary works areas. The Flood Action Plan will contain procedures to minimise the risk to construction workers and the measures will be reflective of the flood risk of each area. The minimum requirements include:

- Where applicable the Construction Contractor(s) will sign up to a flood warning service to obtain information related to the area of the proposed WWHAR and will check online warnings regularly in areas at risk of fluvial/coastal flooding.
- Construction works will seek to minimise working in the floodplain, where practicable and
- Weather forecasts will be regularly monitored so to avoid working in peak flows or when flooding is possible. If a flood warning is received from the Environment Agency move all machinery and equipment out of any undefended floodplain. If this cannot be completed in a safe time, secure equipment to prevent it being washed away.

6.1.3 Weather conditions will be monitored and the Construction Contractor(s) will sign up for the flood warning service. Where appropriate, action will be taken to halt works when information indicates a flood event or peak flows may occur.

6.1.4 The Construction Contractor(s) will be responsible for instructing workers and for monitoring the effectiveness and accuracy of any Flood Action Plan documentation. They will also be responsible for following the recommendations in this section in order to place any temporary sites in areas that are at as low a risk as is reasonably possible. If temporary sites must be





placed in areas that are at risk of flooding, they must follow the recommendations for a Flood Action Plan later in this section, along with appointing appropriate people to manage and update the Flood Action Plan.

- 6.1.5 To mitigate the impact of flooding, it is crucial to prioritise the selection of areas with the least flood risk for temporary works and compounds. If the best available area falls within a higher flood zone (2 or 3) or is located in any area deemed at risk of flooding, a comprehensive Flood Action Plan will be developed, specific to the factors identified on that individual site.
- 6.1.6 A strategy for exceedance flows during pumping or pump malfunction will be implemented during peak flows. This will need to assess where the water would naturally flow in those instances and include appropriate control measures if a potential impact on third parties is possible e.g. in case of flows potentially affecting developed areas.
- 6.1.7 The Flood Action Plan will review flood risk from all potential sources and ensure that there is no increase in flood risk to the construction compounds or third parties.