

Redrow Homes Limited

# Great Milton Park, Llanwern, Cot Hill, Newport, NP18 2DP

Bespoke Environmental Permit (Discharge Activity) Application  
– Supporting Information

315591 R02 (00) – DRAFT

# RSK GENERAL NOTES

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**Project No.:** 315591 R02 (00)

**Title:** Great Milton Park, Llanwern, Cot Hill, Newport, NP18 2DP  
Bespoke Environmental Permit (Discharge Activity) Application – Supporting Information

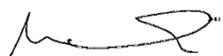
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RSK Environment Limited (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd. No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

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# 1 INTRODUCTION

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## 1.1 Commissioning

RSK Environment Limited were engaged by Redrow Homes Limited to prepare a Bespoke Environmental Permit application to discharge surface water during the construction phase at their residential development, Great Milton Park, Llanwern, Cot Hill, Newport, NP18 2DP, herein referred to as the Site.

This document is presented in support of the application to discharge water and dewatering activities.

The report should be read and used in accordance with the limitations and constraints identified in the report text, and at **Appendix A** – Service Constraints.

## 1.2 Objective

In order to allow for the managed discharge of water from the constructed stormwater drainage system into the nearby watercourses whilst construction activities take place, it may be necessary to carry out treatment of the water on site to remove suspended solids (silt) prior to subsequent water discharge. This treatment activity necessitates a need for a Bespoke Environmental Discharge Permit from Natural Resources Wales (NRW).

This document presents pertinent background information required to support a Bespoke Environmental Discharge Permit application for discharge to surface water, in addition to Forms EPA Part A, EPB Part B2 and Part B6, EPF Part F1, which have been submitted to NRW.

## 2 PROPOSED DISCHARGE ACTIVITIES

### 2.1 Proposed development

The Redrow Homes Limited residential development comprises the construction of approximately 850 No. residential units with private gardens and associated infrastructure along with areas of public open space (POS).

The proposed construction surface water drainage strategy for the site has water falling under gravity through drains set beneath the highways that will inflow into three on site attenuation ponds.

Copies of the engineering drawings for the site are included in **Appendix B** and should be referred to in conjunction with this report.

### 2.2 Discharge locations

A summary of the proposed discharges, including receiving surface watercourse / sewer and associated National Grid References (NGR) is presented below.

**Table 1: Summary of proposed discharge points**

Discharge Point Ref:	Type of Activity	Discharge Point NGR	Receiving Watercourse / Sewer
HW1	Water Discharge Activity	ST 36844 88063	Monk's Ditch
Station Road	Water Discharge Activity	ST 36844 88063	Station Road / Sewer
MH1401	Water Discharge Activity	ST 36114 88470	Halle Close / Sewer

It is confirmed that no foul water will be present in the proposed discharge and that this permit application is not associated with the pumping or treatment of foul water.

### 2.3 Discharge volume and rate

The provided drainage strategy for the development indicates that water from the proposed attenuation ponds will be discharged at the following maximum controlled rates:

- Discharge from 'Pond 1 Northern Catchment Pond' to Monk's Ditch at 98.46 l/s.
- Discharge from 'Pond 2 Southern Catchment Pond' to Llanwern Ditch, via highway drainage at 57.96 l/s.
- Discharge from 'Pond 3 Cot Hill Catchment Pond' to 'SWS MH No. 1401' at 26.17l/s. (Approved by Welsh Water)

The flows will be limited to their respective values by means of a hydrobrake to control the flows.

### 2.4 Discharge duration

The programme of construction works is estimated to be 5 years.

### **2.4.1 Review of potential to discharge to foul sewer**

Redrow Homes have received authorisation for the temporary disposal of trade effluent at the Great Milton Park site. Consent is limited to a maximum 2 litres per second to the foul sewer system only. The current consent is only valid until 13<sup>th</sup> July 2025. A copy of the consent is included within the appended construction surface water management plan.

This consent does not cover the anticipated volume of construction surface water that will be generated and requires to be discharged. It is therefore considered that connection to a foul sewer is not feasible and discharge of construction surface water to the proposed outfalls will be required for the remainder of the development period.

## **2.5 Effluent quality and treatment**

### **2.5.1 Surface water pollution risk assessment**

Previous ground investigations reported that no contamination in the near surface topsoil or sub soils has been identified, which could adversely affect groundwater or nearby surface watercourses, and therefore there is a low risk to controlled waters receptors from contamination. Relevant report extracts are included as **Appendix D**.

### **2.5.2 Effluent quality and treatment**

Surface water discharges from the site will comprise rainfall, falling onto the development area, including haul roads, building footings and areas of disturbed/exposed ground following the installation of below ground infrastructure and the raising of site levels to finished floor levels (FFL).

As a result of general construction activity, silt may become entrained within site surface water drainage. In light of this, mitigation measures have been designed to minimise remobilisation and assist with the removal of silt from site surface water drainage, prior to discharge. A Construction Surface Water Management Plan has been prepared and is included at **Appendix C**, which sets out the proposed silt management strategy in detail.

Where possible surface water will be directed into on site swales and attenuation ponds. The surface water will be primarily treated to remove suspended solids through a passive, gravity-driven silt settlement methods to allow natural settlement.

It is however recognised that due to the colloidal nature of the underlying soils, that settlement alone may only deliver a limited quality effluent, and that further treatment is required to achieve the clarity of water required for discharge to the environment. The surface water management plan includes the use of gel flocculant blocks. Gel flocculants, an anionic polyacrylamide, will encourage the agglomeration of silt particles to form larger 'flocs' of silt and allow for deposition to promote the solid separation from water prior to discharge.

Gel flocculant blocks are to be deployed at strategic locations within the installed drainage system to ensure appropriate dosing of collected surface water. Copies of the appropriate gel flocculant material safety data sheets (MSDS) are presented within the surface water management plan (SWMP).

The use of gel flocculant does not alter the ambient pH or temperature of the surface water (effluent). Therefore, the proposed discharge from the site will be at ambient pH and

temperature. The recommended pH range to be included within the permit is between 6 to 9.

It is proposed that the passive / gravity driven measures, supplemented by Gel Flocculant (as appropriate) will remain in place throughout the site's construction lifecycle.

The recommended maximum Total Suspended Solid (TSS) to be included within the permit, pending approval from the regulator, is 80 mg/L.

## **2.6 Management of the dewatering activities**

### **2.6.1 Environmental management system**

A copy of Redrow Homes ISO 14001:2015 certificate is included as **Appendix E**.

### **2.6.2 Risk assessment**

An assessment of the environmental risks of the operations covered under this application for discharge consent has been prepared in accordance with the NRW guiding principles stated below:

- Step 1 – identify risks and potential sources of the risk
- Step 2 – identify receptors at risk
- Step 3 – identify pathways from source to receptor
- Step 4 – assess risks relevant to the specific activity
- Step 5 – state what will be done to control any identified risks

#### **Step 1: Identify Risks and Potential Sources**

The following different types of risk to the environment are identified within the NRW guiding principles.

- Any discharge, sewage or trade effluent to surface or groundwater
- Odour – there are no potentially odorous activities or chemicals associated with the on-going construction works
- Noise & vibration – Significant noise & vibration resulting from the discharge activity are not envisaged.
- Accidents – the potential for accidents to occur at the site exists. The potential for contamination of the watercourse will be managed through the control measures put in place for the construction activities.
- Fugitive emissions to air and water - no significant risks have been identified. The potential for contamination of the watercourse will be managed through the control measures put in place for the construction activities.
- Controlled releases to air / visible emissions – there are no point source emissions to air.
- Release of bioaerosols – there are no activities or associated activities identified.

### **Steps 2, 3 and 4: Identify Receptors and Potential Pathways**

Based on the identified potential risks and sources above, an assessment of the potential pathways and receptors has been undertaken which has identified the following potential pathways:

- Surface water discharges
- Accidents

A specific risk assessment relating to accidents is included below in Table 2.

Due to the nature of the identified pollutant – (silt); the absence of recorded soil contaminants on site; and the proximity of nearby surface waters and the general cohesive and low permeability nature of the underlying geology beneath the site, it is not considered necessary to consider risks to groundwater.

#### **Surface water discharges**

Prior to the commencement of construction activities at the site, rainwater falling across the development site would discharge by one of the following pathways:

- Infiltrate into the topsoil and percolate into the underlying geology (which may be in hydraulic connection with off site watercourses);
- Be intercepted by vegetation; or
- Flow via overland flow toward the off site watercourses and field ditches.

Accordingly, the surface watercourses which the proposed discharges will enter are the same as those that received run-off prior to the commencement of construction activities.

The water to be discharged from the site comprises storm water from the development area. Storm water flows over site access roads into the storm water drainage network, or overland towards the site boundaries.

As identified previously, the principal potential contaminant to surface waters is mobilised silt (suspended solids).

No other significant pollutants or priority hazardous substances associated with the proposed site discharge have been identified. As such, an Environmental Risk Assessment is not considered to be required as part this permit application

All proposed flocculants and coagulants usage will be in accordance with manufacturer specifications and dosing rates. This will ensure no significant impact on receiving controlled waters.

The management and mitigation measures installed at the site will remove suspended solids and ensure that discharges from the site will be clean and uncontaminated. Regular monitoring will be undertaken to confirm appropriate discharge quality is maintained.

The discharge will be at ambient conditions so there will be no temperature effects as a result of the management and mitigation measures.

As the discharge will not contain any hazardous substances, sanitary determinants or other pollutants, detailed specific substances assessments are not considered to be necessary.

Accidents

The site will be secured by fencing with no public access. Therefore, accidental releases as a result of vandalism is not likely. However, the potential for accidents/accidental releases of contaminants on the construction site cannot be discounted and as such is assessed.

The proposed site surface water discharge risk assessment (including accidents) is presented in the Table 2.

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**Table 2 Risk Assessment for accidents, discharges to surface water and vandalism**

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
Leak/spillage of hazardous material on site (e.g. oils and fuels)	Local watercourse (Monk's Ditch; Llanwern Ditch)	Infiltration  The surface water drainage system (storm system)  Over pumped using a pumping system	Containment measures for storage. Minimisation of storage volumes.	Unlikely	Contamination of the watercourse with hazardous material.	Low – due to procedures detailed in environmental management plans (e.g. fuel/oil use and storage, waste/material storage).
Leak of oil/fuel from pump	Local watercourse (Monk's Ditch; Llanwern Ditch)	Via surface flow or installed surface water drainage system	Containment measures for pumps. Spill kit. Maintenance & inspection	Unlikely	Contamination of the watercourse with hazardous material.	Low – due to procedures detailed in environmental management plans (e.g. fuel/oil use and storage, waste/material storage).
Discharge of water containing solids/sediment.	Local watercourse (Monk's Ditch; Llanwern Ditch)	Pumped / discharged via outfall	Monitoring of discharge to be visibly free of silt and grease/oils. pH/turbidity testing completed with in situ instrumentation.	Unlikely	Contamination of the watercourse with suspended solids (silt).	Low – implementation of management and monitoring plans to reduce the potential for additional silt to be present in the site surface water drainage. Suspended solids to be removed from site surface water drainage via a combination of both active and passive management

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
						systems prior to discharge. if water is silty, additional treatment measures will be implemented to reduce silt loading to an acceptable level.
Discharge of water containing chemicals from passive treatment process (gel flocculant)	Local watercourse (Monk's Ditch; Llanwern Ditch)	Overland flow from site boundary, or discharged from outfall(s)	Use of flocculant gel product with known controlled release rates.	Unlikely	Contamination of the watercourse with hazardous material water with ecotoxins.	<p>Low – The completion of a dosing trial by the supplier of the passive management system will ensure that the combination of flocculants volumes of the chemicals are applied to the incoming water and that there are no significant residual chemicals in the treated water upon discharge.</p> <p>If monitoring and testing identify the potential imbalance in chemical dosing rates, the management system supplier will be contacted and a revised dosing trial will be undertaken and chemical dosing rates will be updated as necessary.</p>

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
Spillage of collected solids from sediment collection systems	Local watercourse (Monk's Ditch; Llanwern Ditch)	Overland flow from site boundary, or discharged from outfall(s)	<p>Preparation and review of activity specific method statements for cleaning sediment collection systems.</p> <p>Method statements to consider risks associated with spillages of collected solids.</p> <p>Discharges from outfalls prevented during sediment collection.</p> <p>Site spillage control procedures.</p> <p>Deployment of additional silt management / spill kits.</p>	Very unlikely	Contamination of the watercourse with hazardous material with suspended solids (silt).	<p>Low – settlement system to be cleaned in such a way as to prevent silt spillage.</p> <p>Discharge outfalls to be bunged during cleaning.</p> <p>Cleaning to be completed by competent persons.</p>
Failure of pumping equipment – overflow of water from drainage etc.	Local watercourse (Monk's Ditch; Llanwern Ditch)	Via surface flow or surface water drainage system	Management measures set out within site-specific Surface Water Management Plan.	Unlikely	Contamination of the watercourse with hazardous material with suspended solids (silt).	Low – water is contained on site within surface water detention basins if pumps fail.
Vandalism	Local watercourse (Monk's Ditch; Llanwern Ditch)	Via surface flow	Site is secure without public access.	Unlikely	Contamination of local watercourse.	Low – due to security arrangements and nature of discharge equipment/ access to the area.

# FIGURES

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## **FIGURE 1 CONSTRUCTION SURFACE WATER DISCHARGE LOCATION PLAN**

# **APPENDICES**

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## **APPENDIX A**

### **SERVICE CONSTRAINTS**

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# APPENDIX A

## SERVICE CONSTRAINTS

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### 1. Service Constraints for all Reports

1.1. This Report (the "Report") and any study, inspection, investigation, sampling, testing and or interpretation carried out in connection with the Report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) trading as Carbon Zero Consulting, Leap Environmental or RSK Geosciences, for the Client named in the first paragraph of the Report (the "Client") in accordance with the terms of an RSK Fee Proposal including RSK Environment Standard Terms and Conditions (the "Appointment") between RSK and the Client, unless otherwise stated in the first paragraph of the Report. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by a geo-environmental consultant at the time the Services were performed. Nothing in this Report shall be construed as imposing any fitness for purpose obligation. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.

1.2 Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services. RSK shall not be liable in respect of any action or proceedings arising out of or in connection with this Report whether in contract, in tort, for breach of statutory duty or otherwise after the expiry of six (6) years from either (i) the date of the Report or (ii) such earlier date as prescribed by law, unless varied in the terms of the Appointment.

1.3 Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent, or condone any party, other than the Client relying upon the Services. Should this Report or any part of this Report, or details of the Services or any part of the Services, be made known to any such party, and such party relies thereon, that party does so wholly at its own and sole risk, and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent geo-environmental consultant and/or lawyer.

1.4 The Client shall not, without the prior written consent of RSK, assign, transfer, charge, mortgage, subcontract, or deal in any other manner with all or any of the benefits provided in this Report. Unless specified in the Appointment, RSK shall not be obliged to assign the benefit of the Report whether by collateral warranty, third party rights pursuant to the Contracts (Rights of Third Parties) Act 1999, letter of reliance or otherwise. If RSK agrees to any assignment of the benefit of this Report, in whatever form, benefits to third parties through collateral warranties, third party rights or letters of reliance shall not be provided unless a fee for each right, warranty or letter is agreed. The form of wording used in the warranty or letter shall be provided by RSK for agreement by the Client. Any reasonable changes to the form of wording will be implemented by mutual agreement, however the terms in the warranty or letter cannot offer the third party any greater benefit than the Appointment offered to the Client.

1.5 It is the understanding of RSK that this Report is to be used for the purpose described in the introduction to the Report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the Report is used, or the proposed use of the site change, this Report may no longer be valid and any further use of or reliance upon the Report in those circumstances by the Client without the review and advice of RSK shall be at the Client's sole and own risk. RSK shall not be liable for any use of this Report for any purpose other than that for which it was provided.

1.6 The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions contained in this Report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the Report in the future shall be at the Client's own and sole risk.

1.7 The observations and conclusions described in this Report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out, or required by the Appointment between the Client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this Report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, fuel storage, persistent bio-accumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.

1.8 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of desk based publicly available information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services and the limitations below:

- a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.
- b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.
- c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the Client or third parties, including laboratories and information services, during the performance of the Services.
- d. The Client has identified in writing to RSK, the information, reports, findings, surveys and preliminary works RSK may not rely upon when providing the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK, and including the doing of any independent investigation of the information provided to RSK, save as otherwise provided in the terms of the Appointment between the Client and RSK.

1.9 Any site drawing(s) provided in this Report is (are) not meant to be an accurate base plan for scale measurement but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for accurate setting out and should be considered indicative only.

1.10 Should RSK be requested to review the Report after the date of issue of this Report, RSK shall be entitled to additional payment at the existing rates, or such other terms as agreed between RSK and the Client.

## **2. Service Constraints where the Report provides an intrusive assessment of ground conditions:**

2.1 The intrusive environmental ground investigation aspects of the Services are a limited sampling of soil from the site, at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this Report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together

with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope agreed between the Client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species (not tested) are not present.

2.2 The comments given in this Report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development, site usage, timescales or the Client's specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an indicative assessment of ground conditions on site. There may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

2.3 Where the Services include Investigation of an exploratory nature or relating to physical ground works, any costings and prices provided in the Report are estimated and provided for guidance purposes only. The actual cost and time quantities shall be remeasured and shall be dependent upon the ground or other conditions, constraints present, and number and depth of the investigation locations, which shall influence the number of samples and tests required, and the quantities of soil being classified.

2.4 Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works. However, this Report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

2.5 Unless stated otherwise, only preliminary geotechnical recommendations are presented in this Report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed. Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this Report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7, although this is subject to the restrictions imposed on the investigation, as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this Report will not meet the requirements of a Geotechnical Design Report (GDR) and should therefore be used for preliminary guidance only.

### **3. Service Constraints where the Report relates to Surface Water Management:**

3.1 The Surface Water Management Inspection (SWMI) Report, documents provided, observations, actions, and recommendations, with respect to the management of potential pollution issues to surface waters, made during the site Inspection visit, are those present at the time of the visit, and may not represent those recorded by others on the same day.

3.2 The comments given in this Report and the opinions expressed are based on the weather, ground and ground water conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not

been disclosed by the inspection and therefore could not be taken into account. In addition, groundwater levels and flows, may vary from those Reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

3.3 RSK places a degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this Report was prepared.

3.4 This Report is a live document, to be continually reviewed and updated as the development progresses or other changes occur on site. RSK can only maintain the currency of this Report through the Client requesting support with supplementary site visits or attendance at meetings ahead of key stages of the development in relation to surface water management. Our risk rating assesses a number of risk factors in line with the source-pathway- receptor model and is therefore subject to constant change.

3.5 Standard design drawings are indicative. Material types, dimensions and construction details will need to be adjusted by the Client to suit the specific conditions / flows on Site.

3.6 The full responsibility for implementing the site-specific protection and maintenance measures to protect the surface water system as stated in this Report, remains with the Client and their site management team. Additional control measures may be required to achieve the objectives set out in the Surface Water Management Plan to be implemented and financed by the Client.

#### **4. Service Constraints where the Report relates to Waste Management:**

4.1 In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if re-used on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not necessarily become waste until the criteria above are met. Excavation arisings from the development may therefore be classified as waste if surplus to requirements and/or unsuitable for re-use.

4.2 It is the duty of the waste producer, to ensure that all waste is accurately classified prior to waste disposal. Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. Unless otherwise stated, the waste assessment presented in this Report should be considered as preliminary and further testing and assessment of the waste under the provisions of a Waste Sampling Plan may be required to obtain the necessary level of data required for basic characterisation of the waste in support of disposal.

4.3 Unless stated otherwise in the Report, information relating to historical operations at the site was not reviewed as part of the assessment by RSK. In addition, unless otherwise stated in the Services, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this Report are based solely on any information that were provided to RSK (e.g., laboratory chemical data, exploratory hole records) and were completed without prejudice for our Client.

4.4 RSK's assumes that any ground investigation data, chemical testing results etc., that were provided by the Client to inform the waste assessment and supporting review were carried out in accordance with current best practice and relevant guidance/ standards, where applicable. Thus, the comments given in this Report and the opinions expressed are based solely on the information provided by the Client. However, it is noted that there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account as part of the RSK assessment.

## **5. Service Constraints for Construction Environmental Management Plan Reports:**

5.1 This Report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

5.2 The measures and comments outlined in this Report and any opinions expressed are based on the plans provided at the time and discussions with relevant parties. However, there may be conditions pertaining to the site that have not been disclosed by investigations and therefore could not be taken into account.

5.3 This CEMP is a live document and is subject to change throughout the project, as and when necessary, to ensure management of environmental aspects remains relevant, and to ensure continued compliance with legislation and commitments as they may change. RSK understands that this CEMP will be reviewed by the Client every six months and updated as and when necessary.

5.4 It is the full responsibility of the Principal Contractor/ Client to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Principal Contractor.

## **6. Service Constraints where the Report relates to Ground Gas Membrane Verification:**

6.1 This Report is limited to the verification of the gas resistant membrane/vapour membrane/radon barrier after installation and no inspections were undertaken of the substrate (i.e. prepared ground). The Report therefore does not constitute as a full verification of ground gas protection system.

6.2 The comments given in this Report and the opinions expressed, are based on the condition of the ground gas membrane as encountered at the time of inspection by suitably qualified personnel. RSK cannot accept liability for any subsequent change to the status of the gas membrane by follow-on trades or other construction activity.

6.3 Where not designed by RSK, the verification of protection measures is carried out with reference to the gas protection design provided by the Client. RSK assume the scope of gas protection measures as determined by third parties to be correct and to have achieved any required approval from authorities.

6.4 The Ground Gas Design Report/Remediation Strategy and Verification Plan contains details of the procedures to be adopted for inspection and validation of the works. However, it should be noted that responsibility for the correct implementation of the strategy lies with the appointed contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and validation of the works by a representative from RSK.

## **7. Service Constraints for Environmental Due Diligence (EDD) Reports:**

7.1 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the site, therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information.

7.2 This Report describes the results of the EDD exercise. The scope of this EDD Report, where appropriate, covers legal or regulatory compliance with respect to UK or international regulations associated with environmental matters.

7.3 As with any EDD exercise, there is a certain degree of dependence upon information provided by the target company. The EDD does not include a site walkover / visit or liaison with site representatives unless identified in the Services. Therefore, the assessment is based on the available desk study information. Also, there is a certain degree of dependence upon oral information provided

by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this EDD exercise was performed.

7.4 This Report, including all supporting data and notes (collectively referred to hereinafter as "information"), was prepared or collected by RSK for the benefit of its Client.

7.5 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment and the site inspection visit. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the Site therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information and observations collected during the site inspection visit.

#### **8. Service Constraints for Ground source heat energy Reports:**

8.1 It is understood that this is a desktop survey only and that there are no requirements for a site walkover, service utility survey, or provision of service plans. These services can be provided upon request if required.

8.2 At a later stage, it is possible that a thermal response test (TRT) will need to be completed, for which a test borehole will have to be drilled, and these would be costed at the time. RSK can provide all aspects of subsequent site work for a GSHP system if required.

#### **9. Service Constraints for Water Abstraction Borehole Reports:**

9.1 The Report aims principally to only identify and assess the suitability of the site for a water abstraction borehole. This Report should be considered in the light of any changes in legislation, statutory requirements, and industry practices, that have occurred subsequent to the date of the Report.

9.2 Unless stated in the Report, the opinions expressed in this Report including all comments and recommendations provided are on the basis of the information obtained from a desk-based assessment.

**APPENDIX B**  
**ENGINEERING DRAWINGS**

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**APPENDIX C**  
**SURFACE WATER MANAGEMENT PLAN (SWMP)**

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**APPENDIX D**  
**GROUND INVESTIGATION – EXTRACT**

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### **10.3 HUMAN HEALTH RISK ASSESSMENT (CONTINUED)**

Reference should be made to the Health and Safety Executive document "Protection of Workers and the General Public during the development of contaminated land" for detailed guidance on these matters.

### **10.4 RISKS TO VEGETATION**

No formal planting is proposed as part of these works, thus the risks to vegetation has not been assessed in any detail. However, the limited contamination testing has not identified any contaminants at a concentration that would adversely affect plant growth.

### **10.5 GROUNDWATER RISK ASSESSMENT**

No contamination in the near surface topsoil and sub soils has been identified which could adversely affect groundwater. When considering this and the demonstrated near surface low permeability of the soils beneath the site, the risk to controlled waters is considered to be low.

### **10.6 GROUND GAS RISK ASSESSMENT**

No ground gas producing materials have been identified on site, and when given the development proposals, the risk of ground gases affecting the development proposals and any site users, construction workers and off-site receptors is considered low.

### **10.7 RISKS TO BUILDINGS AND MATERIALS DURABILITY**

#### **10.7.1 Concrete Classification**

A summary of the laboratory chemical test results for the chemicals monohydric phenol, sulphur, total sulphate, water soluble sulphate, sulphide and pH, which may adversely affect the durability of building materials is presented in Appendix D.

#### ***Natural soils***

Evidence to date does not indicate any specifically aggressive conditions, but it would be reasonable to expect a degree of sulphate and acidic aggressiveness from the natural soils.



## **APPENDIX E**

# **ENVIRONMENTAL MANAGEMENT SYSTEM – CERTIFICATE**

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BUREAU  
VERITAS

# Redrow Homes Limited

Redrow House, St David's Park, Ewloe, Deeside, Flintshire, CH5 3RX, United Kingdom

This is a multi-site certificate, additional site(s) are listed on the next page(s)

*Bureau Veritas Certification Holding SAS - UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below*

## ISO 14001:2015

Scope of certification

**Development & management of construction of residential and commercial properties.**

Original cycle start date:	09-08-2017
Expiry date of previous cycle:	08-08-2023
Certification / Recertification Audit date:	20-09-2023
Certification / Recertification cycle start date:	19-12-2023
Subject to the continued satisfactory operation of the organisation's Management System, this certificate expires on:	08-08-2026

Certificate No.: UK014107

Version: 1

Issue date: 19-12-2023

MARIBEL O PEÑA



0008

**Signed on behalf of BVCH SAS UK Branch**

*Certification Body Address: 5th Floor, 66 Prescott Street, London, E1 8HG, United Kingdom*

*Local Office: 5th Floor, 66 Prescott Street, London, E1 8HG, United Kingdom*

Further clarifications regarding the scope and validity of this certificate, and the applicability of the management system requirements, please call: +44 (0) 207 550 8998



Bureau Veritas Certification



BUREAU  
VERITAS

# Redrow Homes Limited

## ISO 14001:2015

### Scope of certification

Site Name	Site Address	Site Scope
Head office	Redrow House, St David's Park, Ewloe, Deeside, Flintshire, CH5 3RX, United Kingdom	Group services activities supporting the development & management of construction of residential and commercial property.  Development & management of construction of residential property and commercial properties where required.
East Midlands Division	Redrow House, Arundel Avenue, Castle Donington, DE74 2HJ, United Kingdom	
Eastern Division	Redrow House, 2 Aurum Court, Sylvan Way Southfields Business Park, Laindon, Basildon, Essex, SS15 6TU, United Kingdom	
Lancashire Division	Redrow House, 14 Eaton Avenue, Buckshaw Village, Chorley, Lancashire, PR7 7NA, United Kingdom	
London Division	Redrow House, 1 Denmark Hill Drive, London, NW9 4BQ, United Kingdom	
North West Division	Redrow House, 6450 Cinnabar Court Daresbury Business Park, Daresbury, Warrington, WA4 4GE, United Kingdom	
South East Division	Redrow House, 6-12 Talbot Lane Weldon, Ebbsfleet Valley, Kent, DA10 1AZ, United Kingdom	
South Midlands Division	Redrow House, 6 Waterside Way, The Lakes, Northampton, NN4 7XD, United Kingdom	

Certificate No.: UK014107

Version: 1

Issue date: 19-12-2023

MARIBEL O PEÑA



**Signed on behalf of BVCH SAS UK Branch**

Certification Body Address: 5th Floor, 66 Prescott Street, London, E1 8HG, United Kingdom

Local Office: 5th Floor, 66 Prescott Street, London, E1 8HG, United Kingdom

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UKAS Certificate Template Multi Site Rev.4.1

28 Aug 2023



Bureau Veritas Certification



BUREAU  
VERITAS

# Redrow Homes Limited

## ISO 14001:2015

### Scope of certification

Site Name	Site Address	Site Scope
South Wales Division	Redrow House, Copse Walk, Cardiff Gate Business Park, Cardiff Gate, Cardiff, CF23 8RH, United Kingdom	Development & management of construction of residential property and commercial properties where required.
South West Division	Redrow House, West Point, Great Park Road, Bradley Stoke, Bristol, BS32 4QG, United Kingdom	
Southern Counties Division	Unit 1 Faraday Office Park, Rankine Road, Basingstoke, RG24 8QQ, United Kingdom	
Yorkshire Division	Redrow House, Brunel Road, Wakefield, West Yorkshire, WF2 0XG, United Kingdom	
Midlands Division	Redrow House, Kinsall Green, Wilnecote, Tamworth, Staffordshire, B77 5PX, United Kingdom	Development & management of construction of residential property and commercial properties where required and Group Services digital marketing.

Bureau Veritas Certification

Certificate No.: UK014107

Version: 1

Issue date: 19-12-2023

MARIBEL O PEÑA



**Signed on behalf of BVCH SAS UK Branch**

Certification Body Address: 5th Floor, 66 Prescott Street, London, E1 8HG, United Kingdom

Local Office: 5th Floor, 66 Prescott Street, London, E1 8HG, United Kingdom

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## **APPENDIX F**

### **REDROW HOMES LIMITED COMPANIES HOUSE OFFICER DETAILS**

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Active officers for Redrow Homes Limited listed on Companies House.

<b>Name of Officer</b>	<b>Role</b>
Ford, Bethany	Secretary
Crisp, Gary Charles	Director
Lilley, Christopher David	Director
Pratt, Matthew John	Director
Richmond, Barbara Mary	Director
Robinson, Neil	Director
Stone, Timothy	Director

Note: Information Accessed from:

**<https://find-and-update.company-information.service.gov.uk/company/01990710/officers>**

on 3 July 2024.