Technical design note

Project name	Land Adjacent Haldens Parkway, Thrapston, Northamptonshire		
Design note title	Pollution Emissions Plan		
Document reference	23880-HYD-XX-XX-RP-GE-5004-S2-P02		
Author	Eric Cooper MSc C.Geol. SiLC		
Revision	02		
Date	8 August 2023	Approved	✓

1. Context

This document concerns the potential pollution emission issues relating to remedial works associated with activities covered by a Deposit for Recovery (DfR) activity and MPP Deployment on land at Thrapston, Northamptonshire.

The document:

- identifies critical receptors;
- sets out guidelines to prevent pollution and emission incidents;
- presents measures to minimise the effects where incidents occur; and
- presents measures to prevent re-occurrence.

The plan is a "live document" to be supplemented and/or revised as the project develops by the introduction of supporting documentation.

The document has been prepared to support a DfR permit application by Mick George Limited as earthworks contractor for a 75ha development located to the north of the A14. More specifically it is presented in response to Question 3b of Application Form B4.

The project comprises the development of a logistical warehousing facility on a site that includes the Rectory Farm Landfill, which was a sand gravel quarry restored to agriculture by landfilling with inert waste.

The project will include creating development plateau along with landscaped screening bunds, all in accordance with planning conditions imposed by the Local Planning Authority (LPA).

It is the re-use of the waste materials from the landfill to construct the landscape bunds that constitutes Deposit for Recovery aspects of the proposed earthworks

This document presents an assessment of the risk and specifies mitigation measures to reduce potential the effects to acceptably low levels.

2. Related Documents

This document may be read with reference to the following additional supporting documentation:

- TDN 23880-HYD-XX-XX-RP-GE-5003: Environmental Risk Assessment;

- Hydrock Technical Design Note reference 23880-HYD-XX-RP-GE-5005: Odour Management Plan.
- Hydrock Technical Design Note reference 23880-HYD-XX-RP-GE-5007: Emissions Monitoring Plan (report)
- Drawing reference 23880-HYD-XX-ZZ-DR-GE-1022: Monitoring Plan (drawing), included at Appendix A.

3. Scope of Relevant Works

As noted, the project will include the construction of landscaped bunds, mainly using site-won material from the inert waste Rectory Farm landfill. The waste materials will be excavated, screened and treated under a Mobile Plant Permit. Material not suitable for re-use will be disposed of to landfill.

The material will be assessed for suitability either treated or untreated e.g., with the addition of lime or as it is. To construct the bunds, the recovered waste will be placed in layers and engineered to form a homogenous material to construct the core of the bund. The construction derived materials (CDM) will be mixed with non-construction derived material (NCDM) material and placed in accordance with the Earthworks Specification and the Geotechnical Design Report.

4. Risks

4.1 Materials Storage and COSHH

All hazardous substances will be stored in lockable containers with liquids situated over spill trays with capacity of > 110% of the total quantity of liquid. Safety data sheets and COSHH assessments will be kept on site in a designated file for use as needed, with a list of all Hazardous Substances stored on site, for consultation during handling, or in the event of spills and emergency activities. Only personnel briefed on the risks will be allowed handle hazardous substances.

Where Hazardous materials are being stored, they will be placed on bespoke bunded impermeable surfaced areas with controlled drainage segregated from other materials. Alongside regular monitoring, operatives will be briefed to maintain vigilance regards any unexpected changes to, and unforeseen emissions from hazardous materials observable by sight or smell. Any such observations shall be reported immediately to the local Environment Agency office and where necessary, remedial measures taken. Such action might include:

- sealing or covering materials;
- in the case of strong persistent odours, clearing the area;
- gas monitoring and or odour suppression.

4.2 Noise

Background monitoring will be carried out prior to start on site and the works measured against it, all in accordance with Section 7.0 of the Construction Environmental Management Plan Framework (CEMPF) document attached to this submission, with a trigger level of 5dbLeaq above the base line set for remedial action to be taken.

Each exceedance of the trigger level will be noted and the incident assessed to determine the best remedial action to be taken

All plant will be well maintained with diesel engine powered plant being fitted with appropriate silencers.

Plant will only operate when necessary and shut down during prolonged periods of stationary idling.

Provision for complaints processing will be in the form a contact numbers on signage and liaison with the public and local authorities. All complaints relating to noise will be recorded in the site diary together with a record of action taken to investigate and mitigate the noise at source and actions to prevent re-occurrence.

4.3 Dust

The monitoring and management of dust emissions will be carried out in accordance with Section 7.0 of the Construction Environmental Management Plan Framework (CEMPF) document attached to this submission,

Dust monitoring will take the form of "Frisbee" collection stations (location to be agreed). Daily visual inspections will be carried out on site by a designated supervisor with comments and weather conditions being recorded on the appropriate pro-forma.

Speed limits set on site for safety reasons will also help to reduce dust during dry periods.

Access haulage routes will be constructed and maintained to reduce deterioration giving rise to higher dust emissions.

A tractor and tank bowser with pump, will be on hand to damp down dusty areas in dryer periods.

A trigger level will be set in line with workplace exposures limits set out by the HSE.

All operatives will be asbestos awareness trained. If any unexpected asbestos is encountered work will be stopped immediately and work re-assessed and where require specialist consultation will be employed.

Provision for complaints processing will be in the form a contact numbers on signage and liaison with the public and local authorities. All complaints relating to dust will be recorded in the site diary together with a record of action taken to investigate and mitigate the dust at source and actions to prevent re-occurrence.

4.4 Odour

The monitoring and management of odour issues will be undertaken in accordance with Odour Management Plan reference 23880-HYD-XX-XX-RP-GE-5005-S2-P02 attached to this submission.

Reference also to Table 4.2 of Environmental Risk Assessment reference 23880-HYD-XX-XX-RP-GE-5003-S2-P02 attached to this submission.

4.5 Vibration

The site is sufficient distance from residential and commercial receptors that vibration should not be an issue. Good access route maintenance and speed limits on site will also act to reduce vibration.

Provision for complaints processing will be in the form a contact numbers on signage and liaison with the public and local authorities. All complaints relating to vibration will be recorded in the site diary together with a record of action taken to investigate and mitigate the vibration issue at source and actions to prevent re-occurrence.

4.6 Emissions to Water

4.6.1 Sources of Pollution

Sources are:

» Pre-existing leachate encountered during waste excavation;

- Leachate generated by infiltration through the completed bunds;
- Contaminated run off from incidental rainfall falling on the excavated waste;
- Silt-laden run off falling elsewhere on the construction works area.

4.6.2 *Receptors*

Potential receptors are:

- Polopit Brook; and
- Underlying natural groundwater.

4.6.3 *Surface Water Assessment*

The following measures apply:

- Pre existing leachate and incidental rainfall will be collected in sumps for testing, treatment, end either re-use on site (e.g., for dust suppression) or off-site disposal;
- The completed bunds will be subject to engineered drainage with the uncontaminated water flowing into the natural drainage system.

4.6.4 *Groundwater Assessment*

- In the landfill, the geological barrier will be left in place in each cell until all the waste has been removed;
- On the bund, DQRA has established re-use criteria for the recovered waste used to construct the bund itself, so no risk to groundwater is anticipated if these criteria are adhered to.

4.7 Ecological Receptors

Reference to the on-line resource 'Multi Agency Geographic Information for the Countryside' (MAGIC) website indicates the nearest conservation sites as being as listed in Table 4.1.

Table 4.1: Conservation Sites

Site Name	Site Type	Approximate distance (m)	Direction
Aldwincle Marsh & The Upper Nene Valley Gravel Pits	SSSI / Ramsar/ SPA	1300	NW
Thrapston Station Quarry	SSSI	1400	SW
Titchmarsh Meadow	SSSI	1670	NE
Titchmarsh LNR	LNR	1610	NW
Deciduous woodland	Priority Habitat	430	S
Deciduous woodland	Priority Habitat	630	S
Deciduous woodland	Priority Habitat	660	W
Deciduous woodland	Priority Habitat	755	S
Deciduous woodland	Priority Habitat	1060	NE
Deciduous woodland	Priority Habitat	1120	N
Deciduous woodland	Priority Habitat	1120	E

Deciduous woodland	Priority Habitat	1250	NE
Deciduous woodland	Priority Habitat	1300	SW
Traditional Orchard	Priority Habitat	1750	E

Given the distances involved and the low-risk nature of the facility, the risk of a significantly adverse impact on the above conservation sites is considered to be very low.

4.8 VOCs and Ground Gases

Site investigation indicates in respect of polluting hazardous VOC/gas emissions are unlikely but should either be identified by visual observation (of material considered capable of emitting VOCs) or by smell will be carried out with a PID meter at the point of occurrence. If proven to be an issue the material will be excavated and placed in quarantine for testing and off-site disposal to an appropriate facility.

5. Incident Recognition

5.1 Major Incident

A major environment incident is likely to be characterised by one or more of the following:

- Persistent or extensive effect on water quality (e.g. major spillage to controlled waters);
- Persistent or extensive contamination of land (e.g. spillage requiring extensive decontamination measures);
- Persistent or extensive effects on air quality (e.g. significant accidental release of airborne contaminants, localised air pollution event causing exceedances of National Air Quality standards for a sustained period);
- Major damage to aquatic or terrestrial ecosystem such as:
  - Destruction or major damage to fish population;
  - Destruction or major damage to important aquatic or terrestrial wildlife habitat including SSSI or Natura 2000 site;
  - Destruction or major impact on protected and/or important fauna and flora;
- Closure of a water abstraction point;
- Major impact on properties (e.g., serious damage to residential housing);
- Major adverse effect on amenity value of an area or on an important recreation activity (e.g., cancellation or postponement of an important event);
- Major damage to agriculture (e.g., extensive contamination of crops/soil, destruction of fish farm stock) and/or commerce (extensive contamination of product, serious interruption of production);
- Serious health risk to the public;
- Likelihood of prosecution by the Regulatory Authorities
- Persistent and significant breach of a permit / licence or consent conditions.

5.2 Significant Incident

A significant environment incident is likely to be characterised by one or more of the following:

- Significant but local effect on water quality;
- Significant but localised contamination of land;

- Significant effect on air quality e.g., noticeable and sustained deterioration in air quality from visible sources (dust and particulate fallout);
- Significant but localised damage to aquatic ecosystem such as:
  - Significant impact on fish population;
  - Localised damage to important aquatic or terrestrial wildlife habitat including SSSI or Natural 2000 site;
- Significant effect on fauna and flora;
- Significant impact on properties;
- Significant adverse effect on a recreational activity or event e.g., deposition of dust over a wide area;
- Significant damage to agriculture or commerce;
- Minor health risk to the public;
- Potential prosecution by the Regulatory Authorities;
- Persistent non-significant breach or significant non-persistent breach of consent conditions.
- Significant or persistent breach of monitoring threshold

5.3 Minor Incident

A minor environment incident is likely to be characterised by one or more of the following:

- Limited effect on water quality around discharge;
- Minimal contamination of land (no overall effect on the use or quality of that land);
- Minimal effect on air quality;
- Limited effect on local ecosystem, such as:
  - Minor impact on fish population;
  - Very limited impact on wildlife habitat, flora and fauna;
- Minor impact on aesthetic quality;
- Minimal impact on agriculture or commerce (but still fit for purpose)
- Receipt of a substantiated complaint associated with specific site activity;
- Non-significant & non-persistent exceedance of monitoring threshold.

5.4 Near Miss

A near miss is considered to have occurred where an event has taken place which could have resulted in an Environmental Incident, but the occurrence has had no effect on a receptor, either due to chance, or as a result of appropriate management systems in place.

6. Incident Response

It is generally the case that, considering the nature of the works and the site setting, the risk of a major or significant incident occurring is remote, and is low or very low for most minor incidents (see TDN 23880-HYD-XX-XX-RP-GE-5003-S1-P01 Environmental Risk Assessment). Nevertheless, an incident response plan will be in place to deal with any incidents that arise. Operatives will be trained in the following procedures:

Upon discovery of a suspected pollution incident a rapid assessment will be made as to the severity and the individual's ability to take immediate action i.e., to stop the progression of the problem, or to seek help.

As soon as possible after the discovery a supervisor must be notified.

If it is decided that the problem can be easily dealt within the site procedures (e.g., the use of spill kits etc.) then it will be dealt with using safe procedures and correct PPE. A report must then be filled out by the site management with an investigation completed.

If the incident is deemed beyond the capability of the site resources, professional help will be sought as soon as possible. It may also be necessary to consult with the regulatory authorities and/or the emergency services

When dealing with any spill of a known substance the COSHH data sheet should be consulted as part of the clean-up strategy.

All spill kits and contaminated materials must be disposed of in the correct manner using appropriate containers and PPE and sent to a suitably permitted facility

7. Reporting

All pollution incidents will be reported to the site management who will then report to the client and when necessary, the regulatory authorities. The initial identification of a pollution event will either be reported through routine site inspection or it may be on an incident report form due to a problem arising during the works. In either case an incident investigation report will be completed. The findings will be reported to HS & E Manager and to the client with preventative measures incorporated to avoid re-occurrence and a record kept on site.

8. Contract Management

Name	Role	email	Phone	Address
Client: Equities Newlands				
Warren Cull	Infrastructure Director	Warren.Cull@newlandsuk.com	07498 418534	Lumonics House, Valley Drive, Swift Valley Industrial Estate, CV21 1 TQ
Contractor: Mick George Limited				
tba*	Project Director			
tba	Project Manager			
tba	HS&E Manager			
tba	COTC Manager			
tba	Site Manager			

** to be advised on contract appointment*

9. Management, Training and Competence

Health, Safety, and Environmental issues will be included in Site Meetings and will also be in the agenda for the Weekly and Monthly Progress Meeting with the client.

The Mick George Ltd Health, Safety, and Environmental and Quality management system will be worked to as a minimum standard, taking account of the site rules and client requirements and due

regard for the hazards and project information provided in this document. Subcontractors will be required to provide evidence of their own Health, Safety and Environmental Management system, to which they will work, wherever the standards exceed that of Mick George Ltd.

At a minimum, all personnel will have a basic CSCS operative's card or equivalent. No person will operate any items of plant or drive any site vehicle unless that person has been trained or attended a Safety Awareness course or holds evidence of such training from an approved scheme (CPCS, CITB).

As well as a site induction, all employees and all self-employed persons and sub-contractors working on activities covered by the environmental Permit will receive a brief of this and other permit specific documentation.

All site personnel receive a site-specific induction that includes instruction on the whereabouts of spill kits and there use and the disposal of used kits.

10. Health & Safety

10.1 Inspections

Weekly site inspections will be carried out by qualified personnel appointed to the task. Non-compliances are to be addressed and confirmed as complete using the appropriate pro-forma.

Subcontractor's representatives (foreman safety supervisors/reps) will also be responsible for everyday monitoring of HS&E matters.

Checks will also be made to ensure that relevant parts of the Construction Health, Safety, Environmental and Quality Plan have been communicated, such as method statements and risk assessment control measures. On a monthly basis as part routine inspections the Construction Phase Health, Safety, Environmental (incorporating the PPP) and Quality Plans will be checked to ensure it takes due account of changes of circumstance.

The Health, Safety and Environmental Manager will be based on site and will take an active part in the day to day running of the site. The Site Manager will, where possible, accompany the HS&E assessor for site inspection and a list of items that require attention will be recorded. All actions identified must be closed out within 7 days of the report's date and signed off by the Project Manager.

10.2 Reviews

The Health, Safety, & Environmental issues on this project will be subject to a full review conducted every 6 months from the start of the project.

10.3 Compliance with Method Statements

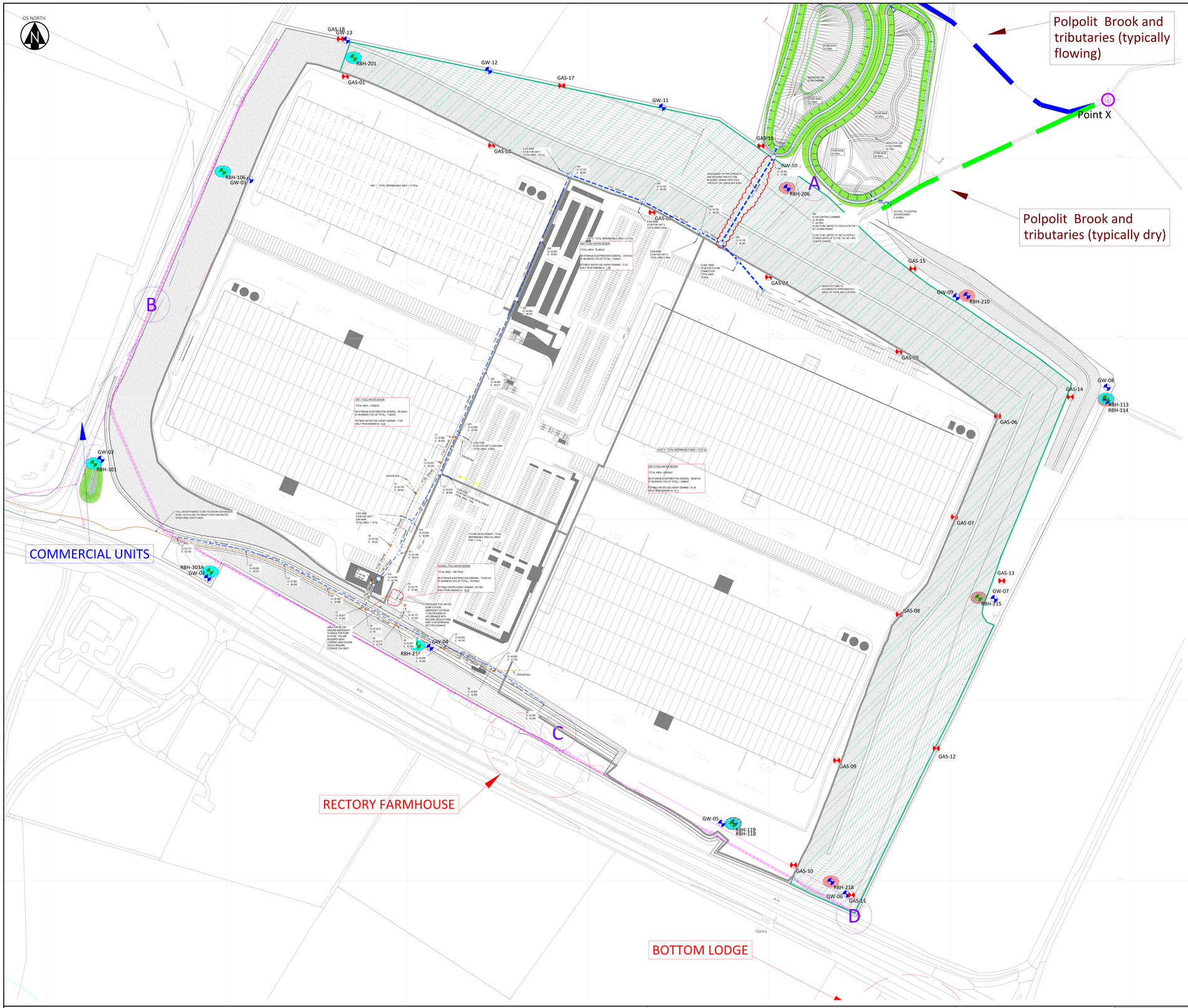
All Risk Assessments and Method Statements will be prepared, reviewed (by Hydrock, as the specialist engineering adviser to Mick George Ltd), and communicated in compliance with standard company procedures.

Site management will carry out on-site monitoring to ensure the method statement is effective and complied with as part of the regular inspection and monitoring process.

On no account will any contractor start work on an activity without a checked and approved method statement.

Day to day responsibility for the health and safety of site operations will lie with the site-based Contracts Manager or another nominated person with a minimum SMSTS qualification.

Appendix A Monitoring Plan



Surface Water Monitoring Point			
Location	X	Y	Zone
Point X	502375	278664	Polpolit Brook

Nuisance Receptors Monioring Point			
Location	Provisional x	Provisional y	Receptor
A	502050	278570	General receptor
B	501320	278435	Haldens Parkway Industrial Estate
C	501765	277965	Rectory Farmhouse
D	502095	277760	Bottom Lodge

Shallow Gas Monitoring Wells			
Location	Provisional x	Provisional y	Zone
GAS01	501532	278690	DfR Bund - Development Side
GAS02	501693	278614	DfR Bund - Development Side
GAS03	501871	278540	DfR Bund - Development Side
GAS04	502000	278468	DfR Bund - Development Side
GAS05	502144	278385	DfR Bund - Development Side
GAS06	502253	278314	DfR Bund - Development Side
GAS07	502205	278203	DfR Bund - Development Side
GAS08	502144	278095	DfR Bund - Development Side
GAS09	502075	277933	DfR Bund - Development Side
GAS10	502027	277817	DfR Bund - Development Side
GAS11	502091	277784	DfR Bund - Field Side
GAS12	502185	277947	DfR Bund - Field Side
GAS13	502258	278132	DfR Bund - Field Side
GAS14	502333	278335	DfR Bund - Field Side
GAS15	502159	278477	DfR Bund - Field Side
GAS16	501991	278613	DfR Bund - Field Side
GAS17	501771	278680	DfR Bund - Field Side
GAS18	501526	278731	DfR Bund - Field Side

Groundwater Monitoring Wells				
Location	Provisional x	Provisional y	Orientation	Anticipated Strata
GW01	501426	278576	Up-gradient	Cornbrash Formation
GW02	501261	278266	Up-gradient	Cornbrash Formation
GW03	501379	278135	Up-gradient	Cornbrash Formation
GW04	501625	278058	Up-gradient	Cornbrash Formation
GW05	501948	277863	Up-gradient	Cornbrash Formation
GW06	502086	277785	Up-gradient	Cornbrash Formation
GW07	502249	278112	Cross-gradient	Blisworth Limestone
GW08	502374	278346	Up-gradient	Cornbrash Formation
GW09	502207	278446	Down-gradient	Blisworth Limestone
GW10	502035	278586	Down-gradient	Blisworth Limestone
GW11	501882	278656	Down-gradient	Cornbrash Formation
GW12	501690	278697	Down-gradient	Cornbrash Formation
GW13	501533	278730	Cross-gradient	Cornbrash Formation

The current development plan indicates that the following existing groundwater monitoring points may potentially serviceable thoughout the development process. Preference is to be given to retaining these locations instead of constructing the associated new monitoring point.

Location		
Existing	Proposed	Screened Strata
RBH-113	GW08	Cornbrash Formation
RBH-119	GW05	Cornbrash Formation
RBH-303A	GW03	Cornbrash Formation
RBH-101	GW02	Cornbrash Formation

KEY

Existing Installation (for historical trends at equivalent locations to post DfR monitoring plan)

Cornbrash Limestone Formation

Blisworth Limestone Formation

Proposed Monitoring Plan

GAS-17 — Shallow gas monitoring well (installed above groundwater level)

GW-13 — Groundwater Monitoring Well (installed in either Blisworth Limestone or Cornbrash Formation as appropriate)

Point X — Surface water monitoring point (Polopit Brook, most up-stream location where flows are observed)

A — Nuisance Receptor Monitoring Point

DfR Area

KEY:
- PROPOSED SURFACE WATER DRAINAGE
- PROPOSED FOUL WATER DRAINAGE
- PROPOSED FOUL RISING MAIN
- PROPOSED HEADWALL - SIZE T.B.C
- EXISTING ANGLIAN WATER FOUL WATER SEWER

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.

2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.

3. This drawing has been based on the following drawings and information:
HRT-php-01-XX-DR-A-4432-012-P18
ACAD-LTP-BWB-DGT-XX-M3-C-0601-S1-P1_Basins Proposed Levels-Model
x-332210963-STN-HDG-SW-M2-CD-0501_On-Site FW-SW

REV						
P03	Key amended					
	LW	09/08/23	EC	09/08/23	EC	09/08/23
P02	22/06/23					
	LW	22/06/23	AB	22/06/23	AB	22/06/23
P01	FIRST ISSUE					
	LH	22/06/23	LW	22/06/23	EC	22/06/23
REV	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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CLIENT
MICK GEORGE LIMITED

PROJECT
LAND ADJACENT HALDEN PARKWAY THRAPSTON

TITLE
DfR Proposed
Environmental Monitoring Plan

HYDROCK PROJECT NO. 23880
SCALE @ A0 1:1500
PURPOSE OF ISSUE SUITABLE FOR INFORMATION
STATUS S2
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) 23880-HYD-XX-ZZ-DR-GE-1022
REVISION P03