Our Ref: 1932YOU-CDN/24/0060-DISlt01
Your Ref: SO/2024/123960/02-L01

18th July 2024

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Dear Sue

RE: Outstanding Matters to Address Condition 7 (Options Appraisal and Remediation Strategy) Raised by the Environment Agency in Application CDN/24/0060 Attached to 129197/FO/2021

The Options Appraisal and Remediation Strategy dated 30th November 2023 for the Former Jackson's Brickworks, Ten Acres Lane, Manchester ('the Site') submitted under Condition 7 attached to 129197/FO/2021 is intended to manage unacceptable risks posed by existing contamination at the Site (i.e., those requiring remediation).

The unacceptable risks posed by the existing contamination were identified within the detailed risk assessment submitted to address Condition 6 attached to 129197/FO/2021 under application CDN/23/0731. Condition 6 has already been discharged as the detailed assessment of risk was acceptable to all consultees, including the Environment Agency.

We acknowledge receipt of the Environment Agency's letter dated 08th May 2024 (ref: SO/2024/123960/02-L01) stating three main reasons why they were unable to recommend discharge of Condition 7 attached to 129197/FO/2021 for the Site, based on the Options Appraisal and Remediation Strategy dated 30th November 2023.

As a concluding statement, the letter dated 08th May 2024 states that the Environment Agency are currently unable to recommend discharge of Condition 7 because the Options Appraisal and Remediation Strategy does not demonstrate that the risks posed by existing contamination at the site shall be appropriately managed in-line with the National Planning Policy Framework (NPPF) paragraph 180(e).

For ease of reference, paragraph 180(e) of the NPPF states that ***"Planning policies and decisions should contribute to and enhance the natural and local environment by: e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local***

environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans."

Furthermore, we acknowledge receipt of an email from Deloitte, which we understand originated from Sue Wills on 30th May 2024 reflecting a discussion she had with the Environment Agency, which states five reasons why the Environment Agency were unable to recommend discharge of Condition 7. These five reasons broadly align with the three reasons given in the letter dated 08th May 2024 (see Table below).

Three reasons given in Letter dated 08th May 2024	**Five reasons given in email from Sue Wills dated 30th May 2024**
1. The subject of "end of waste" for materials intended to be returned to the excavated void had not been adequately addressed	1. The end of waste criteria needs to be defined 5. How will the developer deal with material that is defined as waste
2. The volume of materials being considered, which is closely linked to the depth of excavation of Made Ground within the main area of the former clay pit, is considered to remain 'unagreed'	2. Need to have confirmation in relation to the area where the high-risk material is located for the excavated depth to extend below 5m. 3. Need for certainty over the volume of waste to be treated 4. Need to ensure adverse levels of contamination are appropriately assessed and suitable remedial works are proposed
3. The need for a groundwater activity permit to implement the remediation strategy has not been addressed	

All three of the reasons given in the Environment Agency's letter dated 08th May 2024, which are broadly reiterated in the email from Sue Wills dated 30th May 2024, are underpinned by the Environment Agency's concerns about compliance with pollution control regimes (i.e., the environmental permitting and waste regimes) during implementation of the remediation strategy. This can be seen as follows:

- The subject of "end of waste" – this refers to the classification of the materials intended to be re-used in the context of the Waste Framework Directive to ensure that the re-deposited material is not "waste".
- The volume of materials being considered – this has relevance to the Environmental Permitting Regulations when considering how best to permit the treatment activity to control pollution.
- The need for a groundwater activity permit – this also has relevance to the Environmental Permitting Regulations to control pollution.

In view of this, we consider it pertinent to reiterate that paragraph 194 of the NPPF states that ***"The focus of planning policies and decisions should be on whether proposed development is***

an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities."

The Environment Agency's concerns about information gaps in the Remediation Options Appraisal and Remediation Strategy in relation to these pollution control regimes should not become a barrier to discharging planning conditions relating to the remediation of existing land contamination at the Site.

It is of course our intention to work closely and cooperate fully with the Environment Agency in the context of pollution control regimes to implement the remediation strategy. Therefore, enclosed with this letter are three separate technical notes prepared by VertaseFLI to address the information gaps they have identified.

While information on these matters is already provided within the Options Appraisal and Remediation Strategy dated 30th November 2023, the technical notes enhance clarity on these matters and should provide comfort to the Environment Agency that the matters shall not be overlooked upon discharge of Condition 7.

The enclosed technical notes are preceded by a short non-technical summary to aid readers who are not from a technical background.

Yours sincerely

For and on behalf of VertaseFLI Limited

Dr Duncan Scott

BSc. MSc. PhD. CSci. CGeol. SiLC. SQP. UK Registered Ground Engineering Professional

Technical Director

Enclosed:

Technical Note: Approach to demonstrating end of waste for aggregate and soil produced during remediation of the former Jackson's Brickworks site. Rev A. 1932YOU. Nuvu Developments Ltd. Dated 13th June 2024

Technical Note: Excavation depth during remediation. Rev A. 1932YOU. Nuvu Developments Ltd. Dated 05th June 2024

Technical Note: Requirement for an Environmental Permit to undertake a Groundwater Activity during land remediation at the former Jackson's Brickworks. Rev A. 1932YOU. Nuvu Developments Ltd. Dated 07th June 2024

NON-TECHNICAL SUMMARY

This is a non-technical summary of the three technical notes enclosed with this letter, which were prepared by VertaseFLI to address the three main issues raised by the Environment Agency in their letter dated 08th May 2024 (ref: SO/2024/123960/02-L01). On 30th May 2024, Sue Wills had a phone call discussion with the Environment Agency culminating in the recording of five reasons why the Environment Agency were unable to recommend discharge of Condition 7. As stated in the cover letter above, these five reasons broadly align with the three main issues raised by the Environment Agency in their letter dated 08th May 2024. Importantly, all of the reasons can be linked to pollution and waste control regimes, which shall be dealt with outside of the Planning process to comply with Regulations.

Approach to Demonstrating End of Waste (Technical Note #1)

The term "end of waste" is a central concept in the EU Waste Framework Directive (WFD), which is transposed into the waste control regimes in England. The remediation activity shall produce aggregate and soil from waste excavated from the Site. Upon reinstatement on site, it is intended that the aggregate and soil shall cease to be waste by meeting end of waste criteria set out in Article 6 of the WFD. When the materials are no longer classified as waste, they shall not require Regulation under the waste regime.

In their communications with Manchester City Council Planning, the Environment Agency has cited an absence of detail on "end of waste" as being a reason for not recommending discharge of Condition 7. Specifically, in their phone call with Sue Wills, they have asked that end of waste criteria are defined and that information is provided about how the developer shall deal with any material classified as waste.

The technical note provides detail on this, but in summary the following shall apply:

- Aggregate shall be produced in accordance with an existing quality protocol (published by the Environment Agency) to demonstrate that it has reached "end of waste".
- Soil shall be produced in accordance with a bespoke protocol and demonstration that it has reached end of waste shall be undertaken on a "self-assessment" basis, which is a recognised approach within current government guidance.

Both the aggregate and soil shall be returned to the excavated void as a "General Fill" (a material type recognised in the Department for Transport Specification for Highway Works Series 600) to construct the development platform. The land shall meet the requirements of the NPPF with respect to risks arising from land contamination.

Risk-based criteria applicable to contaminants of concern present in materials intended for re-use as General Fill have been set out in the Options Appraisal and Remediation Strategy and are elaborated on further in the enclosed Technical Note. These risk-based criteria align with the principles of the criteria set out in the WFD to demonstrate "end of waste".

Materials that remain a waste shall be exported off-site to a suitable facility for disposal, recycling, or energy generation.

Excavation Depth during Remediation (Technical Note #2)

In their communications with Manchester City Council Planning, the Environment Agency has cited that uncertainty about the depth of excavation and resulting volume of material to be treated is a reason for not recommending discharge of Condition 7. The volume of material proposed for excavation and treatment has relevance to the type of Environmental Permit used to treat the excavated materials. The Environmental Permitting regime is focused on pollution control from proposed activities.

The proposed excavation depths within the remediation strategy, which influence the volume of material to be excavated, are underpinned by: (i) detailed quantitative risk assessment set out in information submitted to address Condition 6; and (ii) sustainability considerations set out in the options appraisal submitted to address Condition 7. The proposed excavation depths are subdivided into:

- 'Basic' excavation depths extending up to 3m below final ground level, and
- 'Dynamic' excavation depths extending from 3m to 5m below final ground level in materials identified as High-Risk Materials (HRM).

The total estimated volume for excavation is **272,247m^3**, which makes provisional assumptions about the volume of HRM that shall require excavation beyond 3m using the dynamic approach. The logic underpinning this estimated volume is described in greater detail in the enclosed Technical Note.

Justification for terminating the excavation at 5m below final ground level is given in the Options Appraisal and is based on sustainability considerations, which Land Contamination Risk Management (LCRM) published by the Environment Agency obliges practitioners to consider when designing remediation schemes. Put simply, the environmental benefits of excavation beyond 5m do not exceed the costs (environmental, social and economic).

Upon completion of the land remediation works, some unexcavated waste shall remain at depths below 5m. This unexcavated waste shall not pose an unacceptable risk to receptors. This is supported by the existing detailed risk assessment submitted to discharge Condition 6 and additional information to verify this shall be collected as part of the Verification Plan, which forms part of the Remediation Strategy.

Requirement to Obtain an Environmental Permit for a Groundwater Activity (Technical Note #3)

In their communications with Manchester City Council Planning, the Environment Agency has cited the absence of consideration of a need for a groundwater activity permit as a reason for not recommending discharge of Condition 7. The term "groundwater activity" comes from the Environmental Permitting regime, which is focused on pollution control from proposed activities.

A "groundwater activity" is broadly defined under the Environmental Permitting Regulations to be a discharge of a pollutant to groundwater, either directly or indirectly from a point source (e.g., a water treatment plant). The proposed remediation works do not involve the discharge of pollutants to groundwater from a point source, and thus an Environmental Permit for a groundwater activity is not deemed to be required.

All water (surface water and leachate) collected during the remediation works shall be treated on-site (as required) to enable: (Option A) – discharge to public foul sewer under the terms of a trade effluent discharge consent; or (Option B) – transport off-site via a liquid tanker for discharge at an appropriate facility.

TECHNICAL NOTE

TITLE:	**Approach to Demonstrating End of Waste for Aggregate and Soil Produced during Remediation of the Former Jacksons Brickworks Site**
NUMBER:	**Rev A**
DOCUMENT REFERENCE	**1932YOU**
CLIENT NAME:	**Nuvu Developments Ltd**

Author	**Signed**	**Date**
Duncan Scott		13/06/2024
QA Approved	**Signed**	**Date**
Mike Kelly		13/06/2024

Issue 1	Revision A	13/06/2024

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1.0 Introduction

1.1 Background

1.1.1 VertaseFLI Ltd (VertaseFLI) was employed by Nuvu Developments Ltd ('the Client') to undertake pre-contract services to address the requirements of outstanding pre-commencement planning conditions associated with proposed site remediation works (including removal of existing vegetation, groundworks and other associated works) at the former Jackon's Brickworks, off Ten Acres Lane, Newton Heath, Manchester ('the Site').

1.1.2 Planning permission to undertake the works was granted by Manchester City Council (MCC application number 129197/FO/2021) subject to conditions.

1.1.3 Condition 7 attached to 129197/FO/2021 required preparation and submission of an options appraisal and remediation strategy for approval by the Local Planning Authority (LPA). The options appraisal and remediation strategy document was prepared by VertaseFLI (Revision A dated 30th November 2023) and submitted to the LPA in January 2024 (discharge of condition application number CDN//24/0060).

1.1.4 Acting in their role as consultee to the LPA, the Environment Agency (EA) confirmed in a letter correspondence dated 08th May 2024 that they were unable to recommend discharge of Condition 7 at that time. This reflected the EA's view that, based on information submitted under Condition 7, it had not been demonstrated that the contamination risks (i.e., those risks identified within information submitted to address Condition 6 under application number CDN/23/0731) will be appropriately managed in-line with National Planning Policy Framework paragraph 180(e).

1.1.5 Three specific information gaps and/or clarifications were identified by the EA that they felt required addressing prior to them being in a position to recommend discharge of Condition 7. These are as follows:

- The subject of end-of-waste in the context of the Waste Framework Directive (WFD) for materials which are proposed to be returned to the excavated void.

- The volume of materials being considered, which is closely linked to the depth of excavation of Made Ground within the main area of the former clay pit, which the EA considered to remain 'unagreed' at the time of their consultation response letter (08th May 2024).
- The need for an environmental permit for a groundwater activity permit to implement the remediation works. This was based on the EA's understanding that a groundwater activity permit is required if pollutants are being released into groundwater.

1.2 Document Purpose

1.2.1 The purpose of this document is to provide clarification regarding the end of waste criteria for the materials which are proposed to be returned to the excavated void.

2.0 End of Waste

2.1 Treated Materials

2.1.1 End of waste is a central concept in the WFD which provides significant opportunity for the on-site re-use of materials in the context of sustainable risk-based remediation of land affected by contamination (without an ongoing need for waste management controls), and indeed for the wider circular economy.

2.1.2 The VertaseFLI Options Appraisal and Remediation Strategy (VertaseFLI 2023) submitted under Condition 7 describes a comprehensive treatment process for the waste materials excavated from the Site. Output materials from the waste treatment process that are intended to be returned to the excavated void shall include 'aggregate' and 'soil'.

2.1.3 It is understood that treated aggregate and soil shall continue to be regulated as waste until they meet the end of waste test in accordance with Article 6 of the Waste Framework Directive (WFD). Demonstrating that the end of waste test has been met for treated materials can be achieved by:

- Following a relevant end of waste regulation
- Meeting quality protocols and resource frameworks
- Doing a self-assessment
- Getting an opinion through the Environment Agency's definition of waste service

2.2 End of Waste Regulation

2.2.1 The European Commission has adopted only three End of Waste Regulations for use across all states within the European Union (EU). These are for (i) scrap iron, steel and aluminium; (ii) crushed glass; and (iii) scrap copper. There are currently no EU-level End of Waste Regulations for aggregate or soil. It is understood that End of Waste Regulations for recycled plastics and for textiles are currently under development.

2.2.2 Since leaving the EU, the UK Secretary of the State for Environment, Food and Rural Affairs has the power to make further end of waste regulations in the future. In 2023, the Irish Environmental Protection Agency (EPA) developed National End of Waste criteria for recycled aggregates in Ireland.

2.3 Quality Protocols and Resource Frameworks

2.3.1 A Quality Protocol sets out end of waste criteria for the production and use of a product from a specific waste type. Compliance with these criteria is considered sufficient to ensure that the fully recovered product may be re-used without undermining the effectiveness of the WFD and therefore without the need for ongoing waste management control.

2.3.2 The Environment Agency, Northern Ireland Environment Agency (NIEA) and the Waste Resources Action Programme (WRAP), in consultation with others, developed a Quality Protocol for the Production of Aggregates from Inert Waste (Environment Agency 2013). The Quality Protocol sets out end of waste criteria for aggregates produced from inert waste that are applicable in England, Wales and Northern Ireland.

2.4 Self-Assessment

2.4.1 It is possible to come to an opinion on whether a material is classed as a non-waste by applying the relevant end of waste test. In doing so, any guidance published by the Environment Agency and Defra must be considered. The information required to assess if the material meets end of waste status is provided by the Environment Agency's definition of waste service guidance (How to use the definition of waste service - GOV.UK (www.gov.uk)).

2.5 Opinion from the Definition of Waste Service

2.5.1 The Environment Agency Definition of Waste Service can give an opinion on whether a material is a 'waste', a 'by-product', or has achieved end of waste status. However, it is understood that the service is currently suspended for new submissions (at the time of

writing in June 2024) and any opinion provided remains open to legal challenge.

3.0 Aggregate

3.1 Quality Protocol

3.1.1 The proposed approach for demonstrating that the end of waste test has been met for aggregate produced from inert waste is that set out in the Quality Protocol for the Production of Aggregates from Inert Waste (Environment Agency 2013). This quality protocol shall be followed during the remediation works to demonstrate that aggregates produced, which meet the end of waste criteria set out in the protocol, can be regarded as having been fully recovered and have ceased to be waste.

3.1.2 The definition of aggregate adopted herein is taken from the Quality Protocol to be "a granular material used in construction" (i.e., excluding clays and silts). For avoidance of doubt, this definition includes granular general fill used in the Highways Agency Specification for Highway Works Series 600.

3.2 Factory Production Control

3.2.1 To adhere to the Quality Protocol, a Factory Production Control System (i.e., management system focussing on the production process to ensure that product quality is consistently maintained to the required specification) must be set up.

3.2.2 VertaseFLI have prepared a Factory Production Control Document that shall fulfil this requirement.

4.0 Soil

4.1 Self-Assessment

4.1.1 The approach for demonstrating that the end of waste test has been met for soil produced from the waste shall be based on self-assessment.

4.1.2 The definition of soil adopted herein is cohesive material (i.e., clays and silts) acceptable for use as general fill or landscape fill in earthworks based on the Highways Agency Specification for Highway Works Series 600.

4.2 End of Waste Test

4.2.1 Article 6(1) of the EU Waste Framework Directive (2008/98/EC) states that "*Member states shall take appropriate measures to ensure that waste which has undergone a recycling or other recovery operation is considered to have ceased to be waste if it complies with the following conditions:*

a) The substance or object is to be used for specific purposes;

b) A market demand exists for such a substance or object;

c) The substance or object fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and

d) *The use of the substance or object will not lead to overall adverse environmental or human health impacts."*

4.2.2 The first three Conditions shall be addressed with reference to the proposed use of the soil as an earthworks material (i.e., a specific purpose) on the site of origin where there is a need for the material to contribute to the construction of final ground levels agreed in planning (i.e., a demand exists). The soil shall only be used if it is geotechnically and geochemically suitable for proposed use to meet the requirements of the National Planning Policy Framework (NPPF) (i.e., fulfilling technical requirements).

4.2.3 With regard to Condition d, the meaning of "adverse" in the context of environmental or human health impacts is not defined in the Waste

Framework Directive (WFD). Furthermore, the meaning of "adverse" is not clearly defined in the various Regulations that transpose parts of the WFD into UK law.

4.2.4 Instead, Government Guidance for the end of waste request form published on www.gov.uk states that a "comparator approach" must be used to assess whether a material leads to overall adverse environmental or human health impacts (i.e., the final waste-derived material must be compared to a relevant "non-waste comparator" to assess the impacts).

4.3 Non-Waste Comparator

4.3.1 Recent correspondence from the Environment Agency dated 30th November 2023 clarified that the relevant non-waste comparator for final waste-derived soils from historic waste deposits is "*soil from the receiving site (which is uncontaminated and unaffected by any waste deposit) or soil from a site in close proximity and on the same soil type*".

4.3.2 In effect, the non-waste comparator is therefore confirmed to be 'uncontaminated soil' from the Site or within close proximity to the Site.

4.4 Uncontaminated Soil

4.4.1 There is no clear definition or chemical signature for soil that is 'uncontaminated' in the UK. However, soil is generally considered to be uncontaminated if it does not pose an unacceptable risk of harm or pollution within the exposure scenario or environmental context that the soil exists.

4.4.2 The threshold contaminant concentration in soil below which the soil is agreed by Regulators to pose no unacceptable risk of harm to human health is defined by generic or site-specific assessment criteria (contaminant concentrations in soil) whereby the exposure is equal to a level of exposure that represents "minimal risk" to human health. A method of calculating these assessment criteria is provided by the Contaminated Land Exposure Assessment (CLEA) Model developed by the Environment Agency. This model has been used by practitioners to develop generic assessment criteria for standard land use exposure

scenarios, which have become widely adopted by Local Authorities under the Planning context when demonstrating land is suitable for use.

4.4.3 The threshold contaminant concentration in soil below which the soil is agreed by Regulators to pose no unacceptable risk of pollution to Controlled Waters is defined by site-specific assessment criteria (contaminant concentrations in soil) whereby the resulting concentration in water is equal to an agreed relevant water quality standard. A method of calculating these assessment criteria is provided by the Remedial Targets Methodology (RTM) developed by the Environment Agency. This method has been used by VertaseFLI to derive chemical re-use / end of waste criteria for soils that have been derived from the historic waste deposits at the Former Jacksons Brickworks Site. These chemical re-use criteria are set out in the VertaseFLI Options Appraisal and Remediation Strategy (VertaseFLI 2023).

4.4.4 For clarity, the threshold contaminant concentrations in soil below which soil can be considered 'uncontaminated' are fundamentally different to the threshold concentrations in soil above which the soil quality may lead to a designation of "Contaminated Land" under Part 2A of the Environmental Protection Act 1990 on the basis of significant harm or significant pollution being caused, or likely to be caused. This is illustrated in Figure 4-1 where an appreciable gap lies between the thresholds.

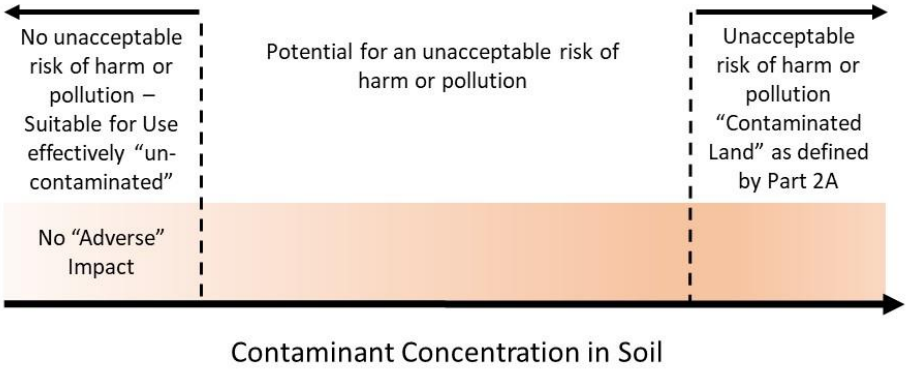


Figure 4-1. Schematic illustrating the spectrum of contaminant concentrations in soil and the indicative threshold below which there is no unacceptable risk of harm or pollution

5.0 Conclusions

5.1 End of Waste Criteria for Aggregate

5.1.1 The approach for demonstrating that the end of waste test has been met for aggregate produced from inert waste is that set out in the Quality Protocol for the Production of Aggregates from Inert Waste (Environment Agency 2013). This quality protocol shall be followed during the remediation works to demonstrate that the aggregates produced, which meet the end of waste criteria set out in the protocol, can be regarded as having been fully recovered and have ceased to be waste.

5.2 End of Waste Criteria for Soil

5.2.1 The approach for demonstrating that the end of waste test has been met for soil produced from the waste shall be based on self-assessment.

5.2.2 When conducting a self-assessment, current guidance for demonstrating 'end of waste' under the WFD states that a "comparator approach" must be used to assess whether a material leads to overall adverse environmental or human health impacts (i.e., the final waste-derived material must be compared to a relevant non-waste comparator).

5.2.3 The non-waste comparator for soils derived from historic waste deposits has been confirmed to be 'uncontaminated soil' from the Site or within close proximity to the Site by the Environment Agency.

5.2.4 Soils are generally considered to be 'uncontaminated' if they do not pose an unacceptable risk of harm or pollution within the exposure scenario or environmental context that they exist or are being used.

5.2.5 Site-specific contaminant concentration thresholds (also termed 'assessment criteria') can, and have been, derived for soils, below which there is no unacceptable risk of harm or pollution at the Former Jacksons Brickworks Site. These assessment criteria shall form the basis for demonstrating that soils produced from historic waste deposits pose "no adverse environmental or human health impacts" in

the context of ensuring that the have reached end of waste under the WFD.

5.1 Using waste-derived soils that comply with the site-specific assessment criteria would lead to no adverse environmental health impacts when compared with the use of the non-waste comparator (uncontaminated soil).

5.3 Relevance to Planning

5.1 Implementation of the VertaseFLI remediation strategy shall be sufficient to manage risks posed by contamination in line with paragraph 180(e) of the National Planning Policy Framework, which states that "*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

(*e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans."*

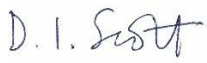
6.0 References

Environment Agency (2013). Quality Protocol. Aggregates from Inert Waste. End of Waste Criteria for the Production of Aggregates from Inert Waste (Environment Agency, Oxon)

VertaseFLI (2023). Remediation Options Appraisal and Remediation Strategy. Revision A. VertaseFLI for Nuvu Developments Ltd. November 2023

TECHNICAL NOTE

TITLE:	**Excavation Depth During Remediation**
NUMBER:	**Rev A**
DOCUMENT REFERENCE	**1932YOU**
CLIENT NAME:	**Nuvu Developments Ltd**

Author	**Signed**	**Date**
Duncan Scott		05/06/2024
QA Approved	**Signed**	**Date**
Mike Kelly		05/06/2024

Issue 1	Revision A	05/06/2024

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Appendices

Appendix A Drawings

1.0 Introduction

1.1 Background

1.1.1 VertaseFLI Ltd (VertaseFLI) was employed by Nuvu Developments Ltd ('the Client') to undertake pre-contract services to address the requirements of outstanding pre-commencement planning conditions associated with proposed site remediation works (including removal of existing vegetation, groundworks and other associated works) at the former Jackon's Brickworks, off Ten Acres Lane, Newton Heath, Manchester ('the Site').

1.1.2 Planning permission to undertake the works was granted by Manchester City Council (MCC application number 129197/FO/2021) subject to conditions.

1.1.3 Condition 7 attached to 129197/FO/2021 required preparation and submission of an options appraisal and remediation strategy for approval by the Local Planning Authority (LPA). The options appraisal and remediation strategy document was prepared by VertaseFLI (Revision A dated 30th November 2023) and submitted to the LPA in January 2024 (discharge of condition application number CDN//24/0060).

1.1.4 Acting in their role as consultee to the LPA, the Environment Agency (EA) confirmed in a letter correspondence dated 08th May 2024 that they were unable to recommend discharge of Condition 7 at that time. This reflected the EA's view that, based on information submitted under Condition 7, it had not been demonstrated that the contamination risks (i.e., those risks identified within information submitted to address Condition 6 under application number CDN/23/0731) will be appropriately managed in-line with National Planning Policy Framework paragraph 180(e).

1.1.5 Three specific information gaps and/or clarifications were identified by the EA that they felt required addressing prior to them being in a position to recommend discharge of Condition 7. These are as follows:

- The subject of end-of-waste in the context of the Waste Framework Directive (WFD) for materials which are proposed to be returned to the excavated void.

- The volume of materials being considered, which is closely linked to the depth of excavation of Made Ground within the main area of the former clay pit, which the EA considered to remain 'unagreed' at the time of their consultation response letter (08th May 2024).
- The need for a groundwater activity permit to implement the remediation works.

1.2 Document Purpose

1.2.1 The purpose of this document is to provide clarification regarding the depth of excavation of Made Ground within the main area of the former clay pit, which the EA considered to remain 'unagreed' at the time of their latest consultation response letter dated 08th May 2024.

2.0 Depth of Excavation

2.1 Risk Assessment

2.1.1 Made Ground at the Site extends to a maximum depth of up to 14.8m (which occurs within the footprint of the former clay pit). The total volume of Made Ground on the entire Site is estimated to be 677,000m^3.

2.1.2 The risk assessment prepared by VertaseFLI and submitted under Condition 6 (CDN/23/0731), which has been approved by the LPA, assumes that the Made Ground has been well characterised with respect to contaminant concentration throughout its entire depth. Specifically, the assessment assumes that maximum concentrations of contaminants have been measured (and that there are not significantly higher concentrations / hotspots within the Made Ground that have not been measured).

2.1.3 The risk assessment is based on information obtained during the site investigation implemented by Wardell Armstrong LLP (WA) that was submitted to address Condition 5 (CDN/23/0731). The EA has previously provided a critique of the sampling strategy implemented by WA as part of their site investigation. The focus of the critique was on the depth distribution of solid sampling as the EA correctly pointed out that the majority of the solid samples were obtained from the shallow Made Ground (0 – 5m), with fewer samples having been obtained from the deeper Made Ground (i.e., depths ranging from >5m – 14.8m).

2.1.4 WA prepared a technical note to provide clarification on this matter (dated 14th April 2023), which was also submitted under Condition 5 (CDN/23/0731) to supplement their site investigation report. Key justifications for the implemented sampling strategy put forward by WA in the technical note were that: (i) obtaining representative solid samples of the Made Ground from depths >5m was difficult due to limitations associated with the reach of the excavator bucket and the recovery of deep drilling arisings; (ii) the volume of waste decreases with depth and therefore the solid sampling frequency per volume of material was not unreasonable throughout the full depth of the Made Ground; and (iii) because the waste is saturated at depths >3m, their

sampling strategy put a greater emphasis on characterising the quality of the leachate in direct contact with the Made Ground as it was assumed that, given the age of the Made Ground, contaminant concentrations dissolved in the leachate would be in equilibrium with the solid, thus providing a more representative measure of contaminant concentration to inform an assessment of risk to Controlled Waters.

2.1.5 Notwithstanding the justifications for the sampling strategy provided by WA, it was acknowledged in the risk assessment prepared by VertaseFLI that the assumption that the Made Ground has been well characterised with respect to contaminant concentration throughout its entire depth had some inherent uncertainty. It was therefore proposed in the VertaseFLI remediation strategy that additional verification of this assumption would be undertaken when access to the deeper Made Ground is made easier due to the excavation works associated with the remediation (i.e., it would be easier to obtain deeper samples via trial pitting from the base of a larger excavation into the Made Ground). The information gathered from this exercise would form part of the remediation verification dataset that would be made available in the verification report.

2.1.6 The conclusion of the risk assessment was that contaminants present throughout the full depth of Made Ground on the Site were unlikely to pose unacceptable risks to Controlled Waters, with the exception of heavy metals. However, without remediation, contaminants present in the shallow Made Ground are likely to pose unacceptable risks to future site users.

2.2 Sustainability Considerations

2.2.1 In line with LCRM, the options appraisal prepared by VertaseFLI gives weighting to sustainability considerations (Section 4.0 of the Options Appraisal and Remediation Strategy), which involves examination of the impacts of the remediation versus the environmental benefits culminating in the establishment of sustainability criteria to inform the options appraisal.

2.2.2 One of the key sustainability criteria identified was to minimise the disturbance of the Made Ground that extends greater than 3m below

final ground level. This is because the environmental benefits to groundwater quality resulting from the excavation of Made Ground beyond 3m below final ground level are unlikely to increase significantly within the timescale associated with the development lifetime. This is particularly noteworthy for heavy metals, which are likely to be ubiquitous at low levels within the Made Ground and thus implementation of remediation measures to reduce their concentrations or mobility within the Made Ground would not be cost-effective.

2.3 Proposed Excavation Depth

2.3.1 In view of the risk assessment (Section 2.1) and sustainability considerations influencing the remediation options appraisal (Section 2.2), the VertaseFLI remediation strategy proposes a general site-wide excavation depth not exceeding 3m below final ground level or top of natural ground, whichever is encountered first. These 'basic' excavation depths are illustrated in detail in Drawing D4744_20 in Appendix A.

2.3.2 However, within the areas of high-risk materials (HRM) identified on Drawing D4744_22 in Appendix A, localised excavation of Made Ground from 3m below final ground level to a depth not exceeding 5m below final ground level shall be undertaken within scenarios where the additional excavation shall result in significant betterment. Scenarios identified are: (i) where the additional deeper excavation shall remove materials that are visibly grossly impacted by chemical contamination; and (ii) where the additional deeper excavation is required to provide a stable sub-formation for the placement and compaction of overlying fill.

2.3.3 The requirement to excavate HRM from 3m below final ground level to 5m below final ground level shall be determined on-site during implementation of the remediation works in a manner that is reactive to the materials encountered, hence being described as a "dynamic" strategy. The term "dynamic" was used to describe the approach by the EA in their pre-application advice letter dated 26th May 2023 (EA Ref: SO/2020/120757/06-L01). Appendix F of the VertaseFLI options

appraisal and remediation strategy provides an implementation protocol for the dynamic strategy.

2.4 Proposed Volumes

2.4.1 Based on the proposed excavation depths summarised in Paragraph 2.3.1 of Section 2.3 the VertaseFLI remediation strategy presents calculations of initial remediation volumes, which are reproduced in Table 2-1.

2.4.2 The initial volumes exclude the volumes of additional materials that may be excavated from depths extending from 3m to 5m below final ground level during implementation of the dynamic approach to excavation.

Table 2-1. Initial remediation volumes

Material Classification	Excavation Volume (m^3)
Topsoil	18,728
High Risk Materials	83,778
Low Risk Materials C&D	96,110
Low Risk Materials	73,631
Total Materials	**272,247**

Notes:
The total volume of materials to be excavated excludes the volume of materials that may be excavated from depths extending from 3m to 5m below final ground level in areas of HRM illustrated in Drawing D4744_22 (Appendix A)

3.0 Conclusions

3.1 Implementation of the VertaseFLI remediation strategy based on the proposed Made Ground excavation depths shall be sufficient to manage risks posed by contamination in line with paragraph 180(e) of the National Planning Policy Framework, which states that "*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

(*e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans."*

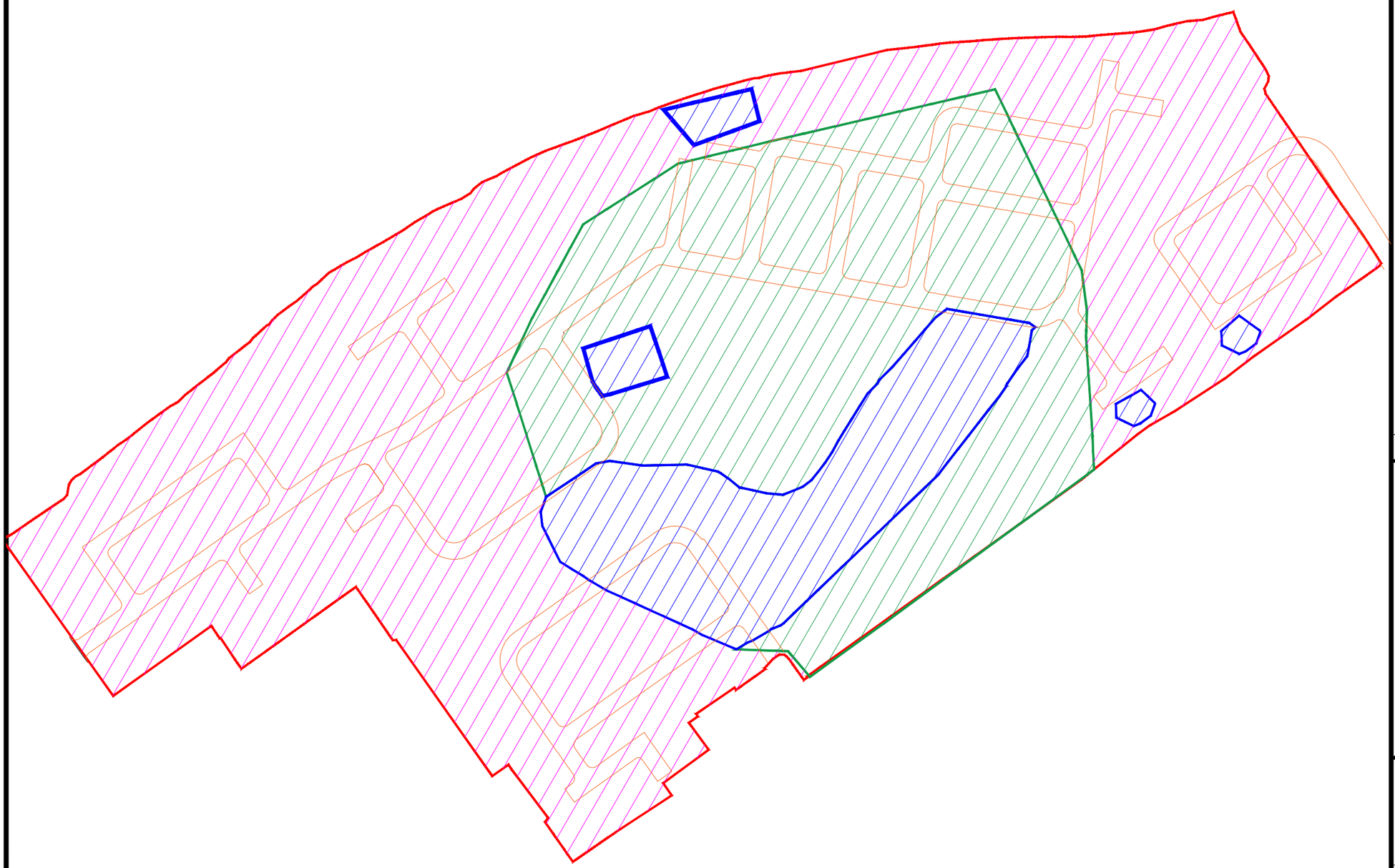
4.0 References

VertaseFLI (2023). Remediation Options Appraisal and Remediation Strategy. Revision A. VertaseFLI for Nuvu Developments Ltd. November 2023

Appendix A

Drawings

A3



Key

- Site Boundary
- LRM: Excavation Depth FFL -1m (or natural, whichever is shallower)
- LRM C+D: Excavation Depth FFL -1m (or natural, whichever is shallower)
- HRM: Excavation Depth FFL -3m (or natural, whichever is shallower)
- Adoptable Roads: Excavation Depth FFL -3m (or natural, or LRM with a 2.5% CBR whichever is shallower)

Rev.	Description	Revised By	Date
	FIRST ISSUE		14-11-2023

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Rev:

Site Address:

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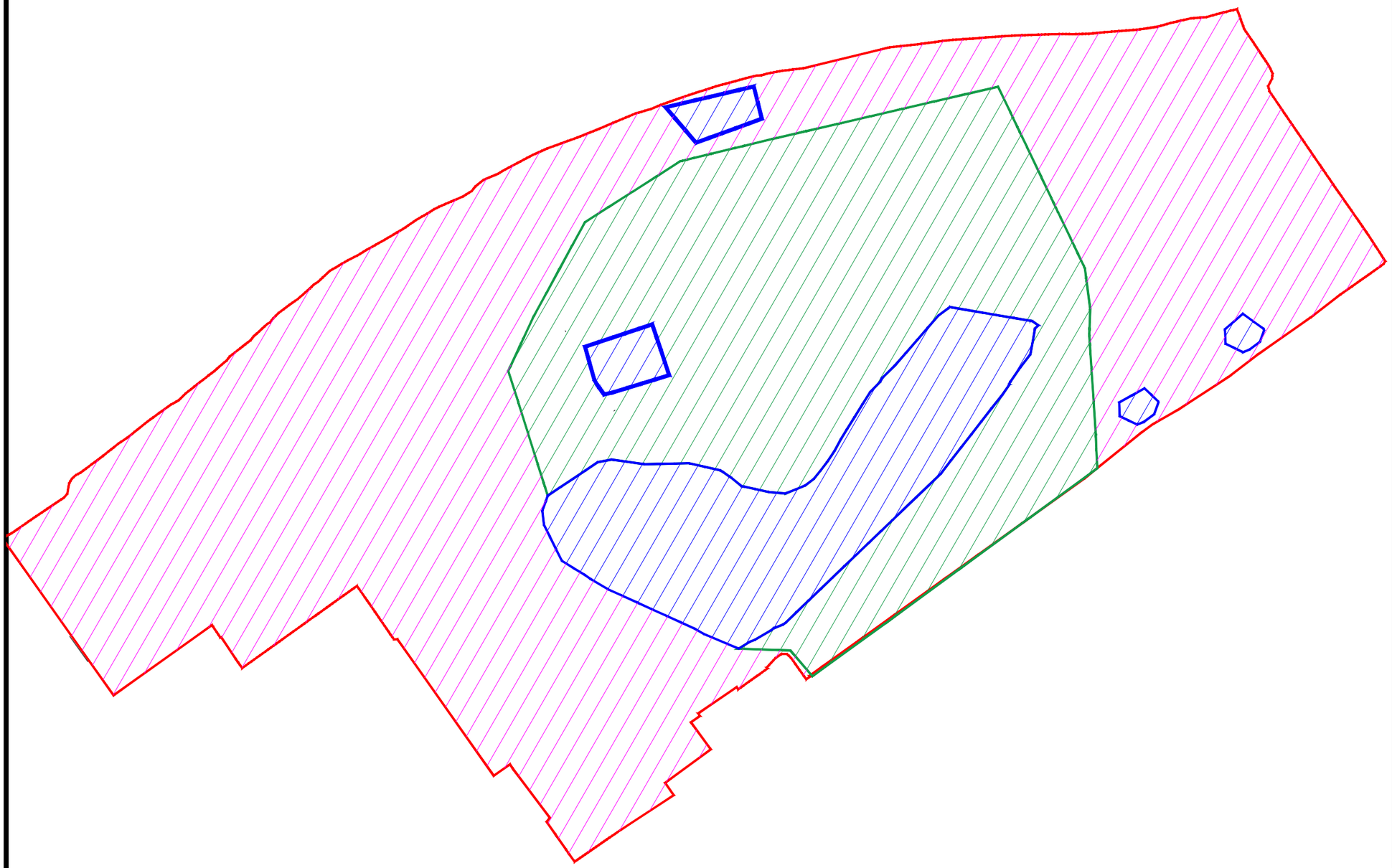
Title: Basic Remediation Excavation Depth

Client: Your Housing Group Ltd

Drawn: JGL	Checked: SE	Approved: SE
Dwg: D4744_20	Contract: 4744YOU	Scale: 1:2500

A3



Key

- Site Boundary
- LRM: Excavation Depth FFL -1m
  Areas where dynamic strategy not applicable, standard base investigation protocol only
- LRM C+D: Excavation Depth FFL -1m
  Depth at which dynamic strategy is employed for remaining HRM
- HRM: Excavation Depth FFL -3m
  Depth at which dynamic strategy is employed for remaining HRM

See also Deeper Excavation Protocol

Rev.	Description	Revised By	Date
	FIRST ISSUE		16-11-2023

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Rev:

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Title: Areas for Dynamic Remediation Strategy

Client: Your Housing Group Ltd

Drawn: JGL	Checked: SE	Approved: SE
Dwg: D4744_22	Contract: 4744YOU	Scale: 1:2500

TECHNICAL NOTE

TITLE:	**Requirement for an Environmental Permit to Undertake a Groundwater Activity during Land Remediation at the Former Jacksons Brickworks**
NUMBER:	**Rev A**
DOCUMENT REFERENCE	**1932YOU**
CLIENT NAME:	**Nuvu Developments Ltd**

Author	Signed	Date
Duncan Scott		07/06/2024
QA Approved	**Signed**	**Date**
Mike Kelly		07/06/2024

Issue 1	Revision A	07/06/2024

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1.0 Introduction

1.1 Background

1.1.1 VertaseFLI Ltd (VertaseFLI) was employed by Nuvu Developments Ltd ('the Client') to undertake pre-contract services to address the requirements of outstanding pre-commencement planning conditions associated with proposed site remediation works (including removal of existing vegetation, groundworks and other associated works) at the former Jackon's Brickworks, off Ten Acres Lane, Newton Heath, Manchester ('the Site').

1.1.2 Planning permission to undertake the works was granted by Manchester City Council (MCC application number 129197/FO/2021) subject to conditions.

1.1.3 Condition 7 attached to 129197/FO/2021 required preparation and submission of an options appraisal and remediation strategy for approval by the Local Planning Authority (LPA). The options appraisal and remediation strategy document was prepared by VertaseFLI (Revision A dated 30th November 2023) and submitted to the LPA in January 2024 (discharge of condition application number CDN//24/0060).

1.1.4 Acting in their role as consultee to the LPA, the Environment Agency (EA) confirmed in a letter correspondence dated 08th May 2024 that they were unable to recommend discharge of Condition 7 at that time. This reflected the EA's view that, based on information submitted under Condition 7, it had not been demonstrated that the contamination risks (i.e., those risks identified within information submitted to address Condition 6 under application number CDN/23/0731) will be appropriately managed in-line with National Planning Policy Framework paragraph 180(e).

1.1.5 Three specific information gaps and/or clarifications were identified by the EA that they felt required addressing prior to them being in a position to recommend discharge of Condition 7. These are as follows:

- The subject of end-of-waste in the context of the Waste Framework Directive (WFD) for materials which are proposed to be returned to the excavated void.

- The volume of materials being considered, which is closely linked to the depth of excavation of Made Ground within the main area of the former clay pit, which the EA considered to remain 'unagreed' at the time of their consultation response letter (08th May 2024).
- The need for an environmental permit for a groundwater activity permit to implement the remediation works. This was based on the EA's understanding that a groundwater activity permit is required if pollutants are being released into groundwater.

1.2 Document Purpose

1.2.1 The purpose of this document is to provide clarification regarding the need for a groundwater activity permit to implement the remediation works.

2.0 Permit for a Groundwater Activity

2.1 Groundwater Activity

2.1.1 The term "groundwater activity" is defined under the Environmental Permitting Regulations (Paragraph 3(1) of Schedule 22) to cover the following:

a) The discharge of a pollutant that results in a direct input to groundwater;

b) The discharge of a pollutant that might lead to an indirect input to groundwater;

c) Any other discharge that might lead to a direct or indirect input of a pollutant to groundwater;

d) An activity in respect of which a notice (i.e. a notice requiring an environmental permit) under Schedule 22 (Paragraph 10) of the Environmental Permitting Regulations has been served and has taken effect;

e) An activity that might lead to a discharge mentioned above, where that activity is carried out as part of the operation of a Regulated facility of another class.

2.1.2 Key to whether an activity falls under the term "groundwater activity" is the occurrence, or potential occurrence, of a "discharge" of a pollutant to "groundwater".

2.2 Discharges to Groundwater During Remediation

2.2.1 The VertaseFLI options appraisal and remediation strategy identifies the following activities that shall generate waste-water requiring discharge:

- Pumping and ex-situ treatment of leachate
- Management of surface water runoff collected during the remediation works.

2.2.2 As set out in the remediation strategy, all waste-water produced during remediation shall be discharged to public foul sewer as "trade effluent" under the terms of a trade effluent discharge consent issued by the statutory water and sewerage undertaker for the area (United Utilities

Water Ltd). Provisions related to the discharge of trade effluent to the public sewer network are contained within the Water Industry Act 1991. No trade effluent shall be discharged directly or indirectly to groundwater.

2.3 Groundwater Activity Exclusions

2.3.1 During the remediation works there is the potential for passive discharges to groundwater from the land, which shall result from the infiltration of precipitation and the resulting leaching/mobilisation of contaminants.

2.3.2 Passive discharges from contaminated soils are not regarded as discharges for the purpose of the Environmental Permitting Regulations (i.e., they are instead Regulated via a combination of the planning system, Part 2A of the Environmental Protection Act 1990 and Anti-Pollution Works Notices under Section 161A of the Water Resources Act 1991).

2.3.3 It is acknowledged that if there is an activity which disturbs land affected by contamination causing a release of pollutants, then there may be a discharge to groundwater that potentially requires a permit. However, based on the Environment Agency's guidance on groundwater activity exclusions from environmental permits (last updated 5th August 2021), it is considered likely that the activity (remediation) shall qualify as an exclusion because the resulting potential discharge is extremely low risk. The relevant exclusions are listed below:

- Very minor discharges exclusion – relates to discharges that only pose an extremely low risk of polluting groundwater and result in no future deterioration in groundwater quality. This is likely to be applicable because the remediation works are not expected to result in a net increase in infiltration over the duration of their implementation. Furthermore, the remediation works shall result in a long-term improvement in groundwater quality rather than a deterioration.
- Disproportionate cost for land contamination exclusion – land affected by contamination qualifies as an exclusion where an input

of a pollutant, for technical reasons, cannot be prevented without using disproportionately costly measures to remove the pollutant or otherwise control percolation of the pollutant. This is likely to be applicable as it would be disproportionately costly to implement the remediation works in such a way that prevented infiltration during the works.

3.0 Conclusions

3.1 Implementation of the VertaseFLI remediation strategy does not result in a discharge to groundwater (i.e., a "groundwater activity") that requires an environmental permit.

3.2 Furthermore, implementation of the VertaseFLI remediation strategy shall be sufficient to manage risks posed by contamination in line with paragraph 180(e) of the National Planning Policy Framework, which states that "*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

(*e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans."*

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VertaseFLI (2023). Remediation Options Appraisal and Remediation Strategy. Revision A. VertaseFLI for Nuvu Developments Ltd. November 2023