Remediation Verification Addendum Report (Construction Phase)

MCFC North Stand

Prepared for:
John Sisk & Son Limited

Date:
26th October 2026

Prepared by:
W Swinnerton

Project/File:
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Stantec UK Limited

Document control sheet

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Table of Contents

Document control sheet ..... **i**
1 Introduction **1**
2 Remediation Requirements **4**
3 Remediation Works **5**
4 Verification Conclusions **11**
5 References **12**

List of Tables

Table 3.1.Summary of reports provided to Stantec on the soils prior to import to site. 6
Table 3.2 Description of imported soils 7
Table 3.3 Laboratory chemical testing frequency 8
Table 3.4 Verification of clean cover thickness 9

List of Figures

Figure 1.1 Areas of soft landscaping installed by Cara (ringed in red), Wrights (ringed in green) and Roswick (ringed in blue). 4
Figure 3.1 Image of the installation of the membrane and clean soils by wrights in the bio retention rain garden 9
Figure 3.2 VR02 - Image of clean cover (Topsoil) and Membrane visible in pit, placed by Roswick along the access road 10
Figure 3.3 VW03 - Image of Clean cover (Topsoil and subsoil) and Membrane being installed by Wrights. 10
Figure 3.4 Image of the tree cells (including membrane) being installed by Cara 10
Figure 3.5 VC04 - Image of tree cell with paving being installed. 10

List of Appendices

Appendix A Drawing
Appendix B Photographs
Appendix C Supplied Testing Results
Appendix D Testing Results and Soil Assessment Sheet

1 Introduction

1.1 Terms of reference

Stantec Limited (Stantec) has been commissioned by John Sisk & Son Limited (Sisk), the Client to prepare an addendum report to the previously issued Design Statement / Discovery Plan Verification Report (enabling phase) issued by Stantec (ref: 333801925-STN-XX-XX-RP-GE-1001-S2-P01, dated February 2026) for the construction phase of work (landscaping) for the MCFC North Stand (Hotel), Gibbon Street, Manchester M11 3FF.

A Site Location Plan (Ref: 28665-HYD-XX-XX-DR-GE-1001, dated 30/11/2023) is presented in Appendix A.

The works have been undertaken in accordance with Stantec's proposal (email dated 10/09/26) and the Client's instructions to proceed (email on 18/09/26).

1.2 Background

The development comprises the expansion of the north stand including a hotel and Site Improvement Works (SIW). A proposed site plan (Populous Drawing NSE-POP-ZZ-ZZ-DR-A-000090-S2-P01) is presented in Appendix A.

A Design Statement and Discovery Plan (ref: 28665-HYD-XX-XX-RP-GE-0002) was commissioned to support the redevelopment of the site, confirm areas of hotspot contamination were suitability removed and validated, and to ensure the works are completed in accordance with relevant waste regulations.

The Design Statement / Discovery Plan Verification Report (enabling phase) was undertaken to address Planning Condition 20 (143447/NMC/2025). The verification report verified that Provectus Remediation Ltd. (PRL) has completed the enabling phase tasks in accordance with the Design Statement and Discovery Plan.

At time of issue one task remained for the construction phase verification, this related to the landscaped area(s) which had been left at formation level by PRL.

This addendum investigates the now completed landscaped areas.

1.3 Objectives

The objective of this addendum is to fulfil Stage 3: Remediation and Verification of the Environment Agency's (EA) Land Contamination Risk Management (LCRM), to ensure that, on completion of the remediation, the site can be shown to be suitable for its intended use, such that it will not pose an unacceptable contamination risk to the identified receptors.

This document ultimately seeks to verify the completion of the remediation works with the relevant regulatory authorities. Significant departures and/or variations to this strategy will require approval from the regulators.

1.4 Scope

This Remediation Validation Addendum Report has been undertaken in general accordance with Environment Agency guidance Land Contamination Risk Management (LCRM), (EA, 2025) and the scope comprises:

- Testing of imported topsoil.
- Depth verification of placed cover system.

1.5 Available information

The following notable documents have been used in the preparation of this report:

- Populous. December 2025. 4348. MCFC - North Expansion, 'Landscape General Arrangement Plan', Ref: NSE-POP-ZZ-00-DR-L-000600. Rev C13 (Populous 2025);
- Populous. December 2025. 4348. MCFC - North Expansion, 'Landscape - Typical Tree Pit Details', Ref: NSE-POP-ZZ-ZZ-DD-L-000675-C03 (Populous 2025);
- Populous. April 2026. MCFC - North Expansion, 'Landscape Typical Bioretention Planter Details', Ref: NSE-POP-ZZ-ZZ-DD-L-000677-C02 (Populous 2026);
- Populous. April 2026. MCFC - North Expansion, 'Landscape Typical Typical Tree Pit Details City Square', Ref: NSE-POP-ZZ-ZZ-DD-L-000695-C03 (Populous 2026);
- Bourne Amenity. January 2026. 'TS5 Low Fertility Topsoil', Ref: TS-1225-02 (Bourne 2026);
- Tim O'Hare Associates, for Bourne Amenity. May 2026. 'Soil Analysis Report: Bioretention Soil', Ref: TOHA/26/7268/16/SS (Tim O'Hare 2026);
- NRM Laboratories, SED Services Ltd. April 2026. 'BS 8601:2013 Specification For Subsoil Multipurpose Grade', Ref: 48004 – 791610 (NRM 2026);
- NRM Laboratories, SED Services Ltd. April 2026. 'BS 3882 : 2015 Specification for Topsoil Multipurpose Grade', Ref: 48003-791609 (NRM 2026);
- Tim O'Hare Associates, for R Draper Ltd. April 2023. 'Soil Analysis Report: BS8601 Subsoil', Ref: TOHA/23/7913/SS (Tim O'Hare 2023); and
- Tim O'Hare Associates, for R Draper Ltd. May 2024. Topsoil Analysis Report: Grade 1 Topsoil. Ref: TOHA/24/1345/SS (Tim O'Hare 2024).

Previous Stantec reports:

- Hydrock Consultants Limited. December 2023. NS Hotel Review. 'Design Statement and Discovery Plan', Ref: 28665-HYD-XX-XX-RP-GE-0002 (Stantec 2023); and
- Stantec UK Limited. February 2026. MCFC North Stand 'Design Statement / Discovery Plan Verification Report (enabling phase)', Ref: 333801925-STN-XX-XX-RP-GE-1001 (Stantec 2026).

It is assumed that the reader has full knowledge of the ground conditions as detailed in the above documents.

1.6 Limitations

The report has been prepared by Stantec based on available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, all the potential environmental constraints or liabilities associated with the site may not have been revealed.

The Design Statement / Discovery Plan and Verification report (enabling phase) do not include geotechnical investigation and assessment or cover the risks to controlled waters or the risks associated with ground gases and shallow mine workings.

The report has been prepared for the exclusive benefit of the Client for the purpose of providing information on the remediation options for development of the site. The report contents should only be used in that context. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.

Stantec has used reasonable skill, care and diligence in the design of the remediation of the site. The inherent variation in ground conditions allows only definition of the actual conditions at the locations and depths of exploratory locations at the time of the investigations. At intermediate locations, conditions can only be inferred.

Information provided by third parties has been used in good faith and is taken at face value. However, Stantec cannot guarantee the accuracy or completeness of any information provided by others.

The Remediation Strategy and Verification Plan has been carried out in general accordance with Environment Agency guidance Land Contamination Risk Management (LCRM), (EA, 2025). Other relevant guidance that has been cross-referenced is indicated in the report text.

This report is subject to review and approval by the Manchester City Council Contaminated Land Officer as per Planning Condition 20.

This report covers only the proposed areas of soft landscaping shown below in Figure 1.1 on the MCFC - North Expansion, Landscape General Arrangement Plan (Populous 2025) in Appendix A. It should be noted that a portion of the area originally planned to be landscaped, highlighted below, has been removed from the scope of work. If this area or any additional areas were to be instated as an area of soft landscaped area in the future, it will need to be installed and validated in line with the requirements outlined in the Design Statement and Discovery Plan.

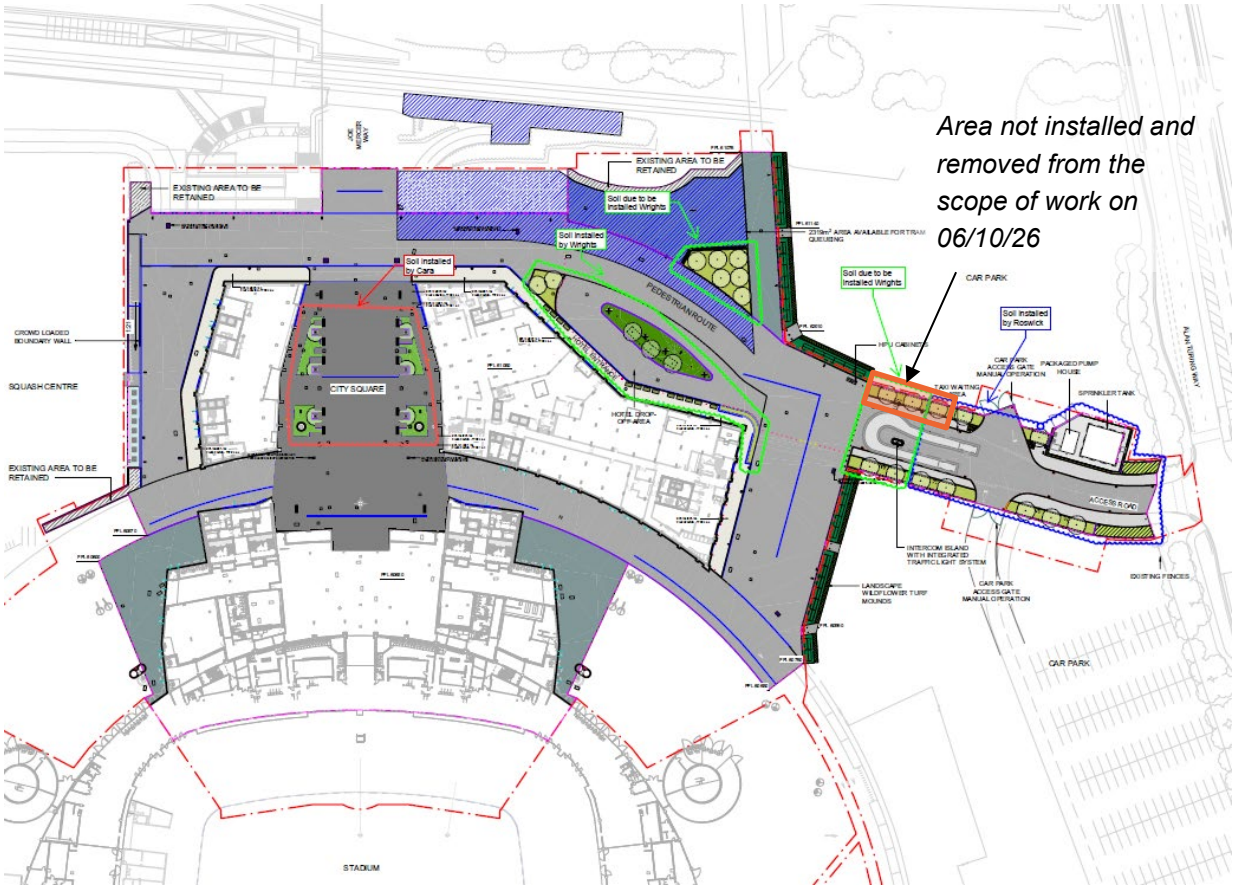


Figure 1.1 Areas of soft landscaping installed by Cara (ringed in red), Wrights (ringed in green) and Roswick (ringed in blue).

2 Remediation Requirements

As stated in the Design Statement and Discovery Plan it cannot be discounted that the Made Ground in the proposed areas of landscaping contains asbestos fibres, elevated PAH and/or TPH. Therefore, mitigation in these areas was required to reduce the risk of exposure to end users. In addition, Sisk advised in February 2026 that a total of 646m^3 of topsoil would be imported for placement in the landscaped areas.

On this basis it was recommended that the Made Ground is separated from the imported topsoil by a geotextile membrane, and should be overlain by a sufficient thickness of 'clean cover' comprising a minimum 300mm of subsoil and topsoil or just topsoil.

To verify the chemical suitability of the topsoil, chemical testing was undertaken prior to import to site and again on arrival to site. Four samples shall be collected from each sampling round and each sample tested for metals, metalloids, PAHs, asbestos and TPH Level 2. The lab results were screened against the Generic Assessment Criteria for Public Open Space (POS) 1% SOM to determine suitability.

3 Remediation Works

The remediation/ landscaping has been completed to date by three separate contractors:

1. Cara,
2. Wrights, and
3. Roswick.

3.1 Import of suitable growing medium

3.1.1 Soil at source

Six reports listed in *Table 3.1* have been provided to Stantec for review. They record the testing completed on various soils used on site before importation. The full reports are provided in Appendix C. Where results have been provided, they have been compared against the relevant Remediation Target Values (RTV) outlined within the Design Statement and Discovery Plan, to determine whether they would likely be chemically suitable for use on site.

Table 3.1.Summary of reports provided to Stantec on the soils prior to import to site.

Document Title	Location soil used on site	Included results	Can be compared to Stantec RTV?	Likely be chemically suitable for use?	Comments
Bourne Amenity. January 2026. 'TS5 Low Fertility Topsoil', Ref: TS-1225-02.	Roswick - Access Road Low Fertility Topsoil installed by	Limited results related to Low Fertility Topsoil	No	-	Reported copper, nickel, zinc are all below the RTVs
Tim O'Hare Associates, for Bourne Amenity. May 2026. 'Soil Analysis Report: Bioretention Soil', Ref: TOHA/26/7268/16/SS.	Soil installed by Wrights – bioretention rain garden	Contamination results	Yes	Yes	All reported chemicals of potential concern below the RTVs
NRM Laboratories, SED Services Ltd. April 2026. 'BS 8601:2013 Specification For Subsoil Multipurpose Grade', Ref: 48004 – 791610.	Subsoil installed by Wrights – (loamy sand)	Limited Subsoil Results	No	-	Reported copper, nickel, zinc are all below the RTVs
NRM Laboratories, SED Services Ltd. April 2026. 'BS 3882 : 2015 Specification for Topsoil Multipurpose Grade', Ref: 48003-791609'.	Topsoil installed by Wrights – (clay loam)	Limited Topsoil Results	No	-	Reported copper, nickel, zinc are all below the RTVs
Tim O'Hare Associates, for R Draper Ltd. April 2023. 'Soil Analysis Report: BS8601 Subsoil', Ref: TOHA/23/7913/SS.	Subsoil installed by Cara - City Square	Contamination results	Yes	Yes	All reported chemicals of potential concern below the RTVs
Tim O'Hare Associates, for R Draper Ltd. May 2024. 'Topsoil Analysis Report: Grade 1 Topsoil', Ref: TOHA/24/1345/SS.	Topsoil installed by Cara - City Square	Contamination results	Yes	Yes	All reported chemicals of potential concern below the RTVs

Additionally, no asbestos was identified within any of the samples analysed.

3.1.2 Visual assessment

The imported soils in place or still stockpiled (assessed on 1st October 2026) were noted to comprise:

Table 3.2 Description of imported soils

Area soil used on site	Hand Pit	Depth (Range) (m bgl)	Description
Roswick - Access Road Topsoil	VR01-04	0.00 – 0.40/ >1.00	Dark brown slightly gravelly clayey fine to coarse SAND with occasional organic matter. Gravel is fine to coarse angular to subrounded of quartzite, mudstone, sandstone, rare tile, ceramics and glass.
Roswick - Access road Subsoils*	VR03-03A	0.50- >0.60	Greyish yellowish brown fine to coarse subangular to subrounded GRAVEL of limestone.
	VR04	0.40 -0.90	Brown gravelly slightly clayey fine to coarse SAND. Gravel is fine to coarse angular to subrounded of sandstone and mudstone.
Wrights – Bioretention Rain Garden Topsoil	VW04-05	0.00-0.30	Dark greyish brown organic fine to medium SAND.
Wrights – Bioretention Rain Garden Subsoil*		0.30-0.80	Brown silty fine to coarse SAND.
Wrights –Topsoil	VW01-03,06	0.00 - >0.60	Dak brown slightly gravelly clayey organic fine to coarse SAND with a humic odour. Gravel is fine to coarse subangular to subrounded of sandstone, mudstone, flint of rare wood, bark.
Wrights – Subsoil	VW03, 07	0.60-0.80	Brown slightly gravelly slightly clayey fine to coarse SAND. Gravel is fine to coarse subangular to subrounded of sandstone and mudstone.
Cara - City Square Topsoil	VC01-04	>0.20	Dark brown slightly gravelly organic (humic) fine to coarse SAND with rootlets with rootlets. Gravel is fine to coarse angular to subrounded of flint and mudstone.
Cara - City Square Subsoil		-	Not encountered due to constraints**

*a number of soils were encountered that do not match the provided laboratory reports from the sources of material.
** The City Square imported soils have been placed in the tree pits, a cell system, and it is now not practical to expose the subsoil without damaging the tree.

During the inspection, evidence of anthropogenic material was only identified in the Roswick - Access road Topsoil (rare fragments of tile, ceramics or glass). No visual or olfactory evidence of contamination was identified in any soil.

A Clean Cover Validation Location Plan showing the locations of the hand pits and stockpiles, where the soils where accessed is included in Appendix A.

3.1.3 Laboratory Chemical Testing

To provide an assessment of potential chemical suitability of the imported soils on arrival to site, samples were screened for the range of determinands provided in Table 3.3, in accordance with the testing frequencies specified in *Table 8.1 Testing frequency* in the Design Statement and Discovery

Plan. To support the validation works, Stantec liaised with SISK, with the number of samples screened based 646m^3 of imported soil.

In accordance with *Table 8.1* in the Design Statement and Discovery Plan, in consideration of the confirmed manufactured source and testing provided by the source supplier, a minimum of four samples of soil was tested from each of the three area installed by the three contractors to date, which is considered appropriate to adequately characterise the soil as suitable for use on this site.

Table 3.3 Laboratory chemical testing frequency

Determinand Suite	Roswick - Access road		Wrights		Cara City Square
	Topsoil	Subsoil	Topsoil	Subsoil	Topsoil
ST1 Soil Package Suite*	4	1	5	2	1

*Including Asbestos (Screen and ID), metals and metalloids: Arsenic, Copper, Cadmium, Chromium (total), Chromium (III & VI), Lead, Mercury, Nickel, Selenium, Zinc and Cyanide. pH. Fraction Organic Carbon (FOC). Sulphate. Speciated Polycyclic Aromatic Hydrocarbons (USEPA 16). Total Petroleum Hydrocarbons Criteria Working Group (TPH CWG). Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and Methyl-Tert Butyl Ether (MTBE).

The analyses were carried out at an MCERTS registered and UKAS accredited laboratory.

Samples were taken from the placed soil and remaining stockpiles of soils to be placed. Only one of the samples collected from the City Square was tested as the imported soils have been placed in the tree pits, a cell system. The nature of the cells, surfaced with hard standing and metal grids covering the access to the root ball surrounded by imported Topsoil, severs any pathways between the end user and potential underlying contamination. Therefore, the source-pathway-receptor linkage is considered broken in the City Square area.

3.1.4 Screening results

The results of the chemical analysis have been assessed against the soil acceptance criteria for imported soils outlined within the Design Statement and Discovery Plan. The results of the chemical testing are included within Appendix D.

The results of the testing have been screened against both the Generic Assessment Criteria (GAC) for Public Open Space (POS) 1% SOM (Appendix D) and the RTV for imported materials outlined within the Design Statement and Discovery Plan.

From the results of the chemical testing, all determinands screened for were recorded below the GAC and proposed RTV for imported materials. Therefore, the imported topsoil and subsoils are considered to be chemically suitable for use.

Additionally, no asbestos was identified within any of the 13 samples analysed.

3.2 Validation of Clean Cover Thickness

Verification of the placement of topsoil and subsoil within soft landscaping areas was completed on 1st October 2026. The cover thickness are summarised below in Table 3.4.

Table 3.4 Verification of clean cover thickness

Clean cover	Roswick - Access road	Wrights	Cara - City Square
Topsoil thickness (m)	0.40 - >1.00	0.20 - >0.60	>0.10
Subsoil	0.50 (VR04)	0.20-0.60 (VW03-05)	**
Limestone gravel thickness (m)	>0.10* (VR03-03A)	-	-
Total thickness of clean cover (m)	**>0.60->1.00**	**>0.60-0.80**	**
Membrane present	Visible in pit wall of VR02. Not encountered at base of pits due to thickness of cover system	Yes (VW01 - only visible in pit wall)	**

* VR03 was terminated on encountering a consistent sized limestone gravel at 0.50 - >0.60m bgl, as underground services are often present in such medium. An additional pit, VR03A, was dug 1.5m to the north of VR03. The limestone gravel was again encountered at 0.50m bgl and the pit terminated at 0.60m bgl. This is considered to be sufficient to break the ingestion, inhalation and direct contact exposure pathway between the underlying soils and future site users.

** As previously noted, the City Square imported soils have been placed in the tree pits, a cell system, and it is now not practical to expose the full thickness of the topsoil, the underlying subsoil or membrane without damaging the trees. However, the design of the cell system, means there is no longer a pathway present between any potential underlying contamination and end users. Therefore, the source-pathway-receptor linkage is broken in the City Square area .

The locations of the validation pits are shown on the enclosed Clean Cover Validation Location Plan (Appendix A) and a photographic record is included in Appendix B.

Figure 3.1 Image of the installation of the membrane and clean soils by wrights in the bio retention rain garden



Figure 3.2 VR02 - Image of clean cover (Topsoil) and Membrane visible in pit, placed by Roswick along the access road



Figure 3.3 VW03 - Image of Clean cover (Topsoil and subsoil) and Membrane being installed by Wrights.



Figure 3.4 Image of the tree cells (including membrane) being installed by Cara



Figure 3.5 VC04 - Image of tree cell with paving being installed.



Across the three areas of landscaping the topsoil was placed to depths of between 0.40m and >1.00m bgl. In addition, a gravel or subsoil was encountered to depths of >0.60 - >1.00m bgl underlying the topsoil in a number of locations. Therefore, a sufficient thickness of ‘clean cover’ comprising a minimum 300mm of topsoil and subsoil or just topsoil has been suitably installed in all locations.

4 Verification Conclusions

The imported growing medium comprising topsoil and subsoils has been tested and is suitable for use in accordance with Section 8 the Design Statement and Discovery Plan. The cover system where placed, has been installed in accordance with recommendations given in Section 4.2 of the Design Statement / Discovery Plan Verification Report (enabling phase).

5 References

British Standards Institution (BSI), 2015. Specification for topsoil. BS 3882:2015.

BSI, 2013. Specification for subsoil and requirements for use. BS 8601:2013.

BSI, 2026. Investigation of potentially contaminated sites - Code of Practice. BS 10175:2026.

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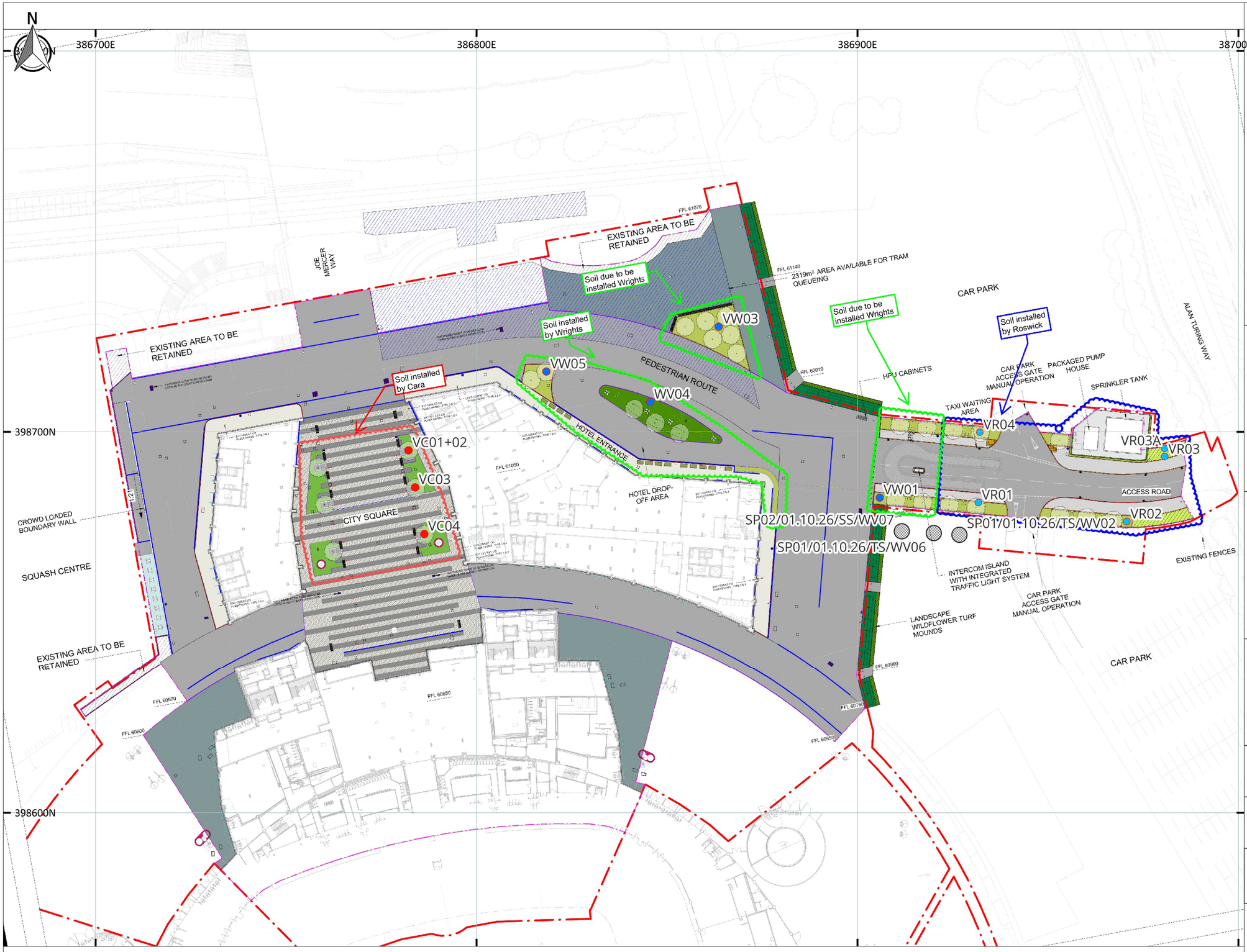
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Appendices

Appendix A Drawing



KEY PLAN

Verification Locations

- Roswick - Access road
- Wrights
- Cara - City Square
- Stockpile

NOTES

1. Contains OS data © Crown copyright and database right (2021)

REVISIONS

REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS
P01	MW	WS	21/10/202	First issue

Stantec

CLIENT
John Sisk & Son Limited

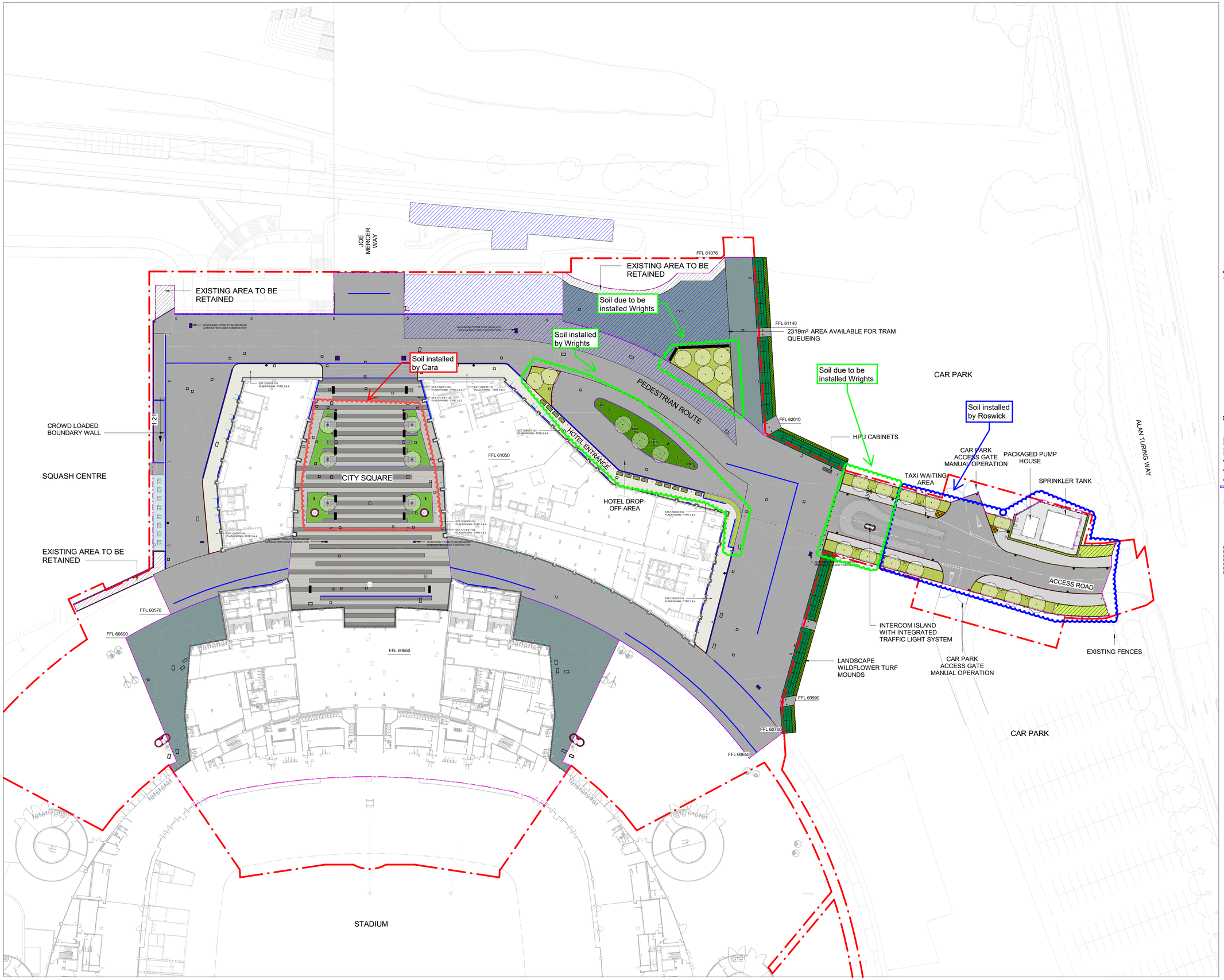
PROJECT
MCFC North Stand

TITLE
Clean Cover Validation Location Plan

PROJECT NO.	SCALE @ A3
333801925	1:1,000

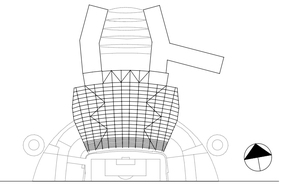
PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO.	REVISION
333801925-STN-XX-XX-DR-GE-1001	P01



REVISIONS		
REV	**DATE**	**DESCRIPTION**
P09	02.02.24	ISSUED FOR STAGE 4 UPDATE
C01	01.05.24	ISSUED FOR CONSTRUCTION
C02	20.06.24	ISSUED FOR CONSTRUCTION - TANK ENCLOSURE UPDATE
C03	16.07.24	ISSUED FOR NON MATERIAL AMENDMENT
C04	30.07.24	ISSUED FOR CONSTRUCTION - DRAINAGE UPDATE
C05	10.01.25	ISSUED FOR CONSTRUCTION
C06	30.01.25	ISSUED FOR CONSTRUCTION: ACCESS ROAD UPDATE
C07	13.02.25	ISSUED FOR CONSTRUCTION: ACCESS ROAD UPDATE
C08	21.02.25	ISSUED FOR CONSTRUCTION: ACCESS ROAD UPDATE
C09	07.03.25	ISSUED FOR CONSTRUCTION: ACCESS ROAD UPDATE
C10	22.08.25	ISSUED FOR CONSTRUCTION
C11	03.11.25	ISSUED FOR CONSTRUCTION - WAYFINDING TOTEMS
C12	10.12.25	ISSUED FOR CONSTRUCTION
C13	24.12.25	ISSUED FOR CONSTRUCTION

KEY PLAN



KEY

- PROJECT PLANNING BOUNDARY
- PROJECT CONSTRUCTION BOUNDARY
- EXT-121/ EXT-125 PLAZA PAVING - TYPE 1 & 2
- EXT-129/EXT-133 PLAZA PAVING - TYPE 3 & 4
- EXT-101 CONCRETE BLOCK PAVING - TYPE 1
- EXT-109 CONCRETE BLOCK PAVING - TYPE 3
- EXT-141 TARMAC SURFACING - TYPE 1
- EXT-145 TARMAC SURFACING - TYPE 2
- EXT-131 PRECAST CONCRETE TACTILE SLAB PAVING
- EXT-151 ARTIFICIAL TURF
- EXT-525 UNDERSTORY PLANTING
- EXT-325 SUDS PLANTER
- EXT-529 WILDFLOWER PLANTING
- EXT-601 SECURITY 'ORIENTATED' LANDSCAPED MOUND
- EXT-329 GRASS GRID
- QUEUEING ZONE
- EXISTING AREA TO BE RETAINED
- HOTEL SIGNAGE
- INTERCOM BOLLARD
- EXT-455 TIMBER BOARD ENCLOSURE
- EXT-435 STEEL SECURITY GATE - TYPE 2
- EXT-439 STEEL SECURITY GATE - TYPE 3
- BAL-145 EXTERNAL METAL BALUSTRADE-TYPE 1
- BAL-147 EXTERNAL METAL BALUSTRADE-TYPE 2
- EXT-421/EXT-423 METAL FENCING TYPE 1&2
- DOUBLE HEADED LIGHTING COLUMNS
- EXT-331 LIGHTING COLUMN & LAMP
- LINEAR LED LIGHTS IN CITY SQUARE PAVING
- LIGHTING COLUMN WITH 4 PROJECTORS
- EXT-451 DOOR BARRIER - TYPE 1
- EXT-453 DOOR BARRIER - TYPE 2
- EXT-501 PROPOSED TREE
- EXT-327 TREE GRILLES
- EXT-705 ROOT BARRIER
- EXT-401 BOLLARDS STATIC - TYPE 1
- EXT-405 BOLLARDS STATIC - TYPE 2
- EXT-409 BOLLARDS RETRACTABLE - TYPE 1
- EXT-411 BOLLARDS RETRACTABLE - TYPE 2
- EXT-201 PRECAST CONCRETE KERBS - FLUSH
- EXT-205 PRECAST CONCRETE KERBS - DROP
- EXT-209 PRECAST CONCRETE KERBS - RAISED
- EXT-212 PRECAST CONCRETE KERBS - TRAFFIC MANAGEMENT
- EXT-313 METAL PLANTER
- EXT-221 METAL EDGINGS
- EXT-823 HOPPER WELL GRILLE
- CHANNEL DRAIN
- EXT-815 DRAINAGE GULLY - TYPE1
- EXT-819 DRAINAGE GULLY - TYPE 2
- EXT-821 DRAINAGE GULLY - TYPE 3
- EXT-541 GREEN SCREEN
- SAN-751 EXTERNAL BIB TAP
- EXT-341 EXTERNAL FLOOR BOXES
- EXT-306 LITTER BIN
- EXT-309 PICNIC BENCH
- EXT-811 MANHOLE COVER
- EXT-505 BENCHES
- EXT-321 SHRUB PLANTERS - TYPE 1
- EXT-322 SHRUB PLANTERS - TYPE 2
- FEEDER PILLARS
- ANPR CAMERA COLUMN
- WAYFINDING TOTEM

REFER TO ENLARGED AREA PLAN FOR DETAILED LANDSCAPE LAYOUT AND SETTING OUT INFORMATION.
REFER TO MATERIAL SCHEDULE AND SPECIFICATION FOR HARD LANDSCAPE AND FURNITURE DETAILS.
REFER TO KERB AND EDGING SCOPE OF WORK DRAWING FOR KERB AND EDGING TYPOLOGIES.
REFER TO CIVIL ENGINEER'S PACKAGE FOR IN SITU CONCRETE, TARMAC, DRAINAGE RELATED LAYOUT AND DETAILS.
REFER TO LIGHTING PACKAGE FOR LIGHTING LAYOUT, DETAILS AND SPECIFICATIONS.
REFER TO WAYFINDING PACKAGE FOR WAYFINDING LAYOUT, DETAILS AND SPECIFICATIONS.
REFER TO CIVIL ENGINEER'S PACKAGE FOR ROAD MARKING

1:500

0 5 10 15 20 40 m

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PROJECT NAME

MCFC - NORTH EXPANSION

DRAWING TITLE

LANDSCAPE
GENERAL ARRANGEMENT PLAN
LEVEL 00

STATUS	RIBA STAGE	PROJECT NO.
A5	5	4348

DATE	SCALE	SIZE
28/02/23	1 : 500	A1

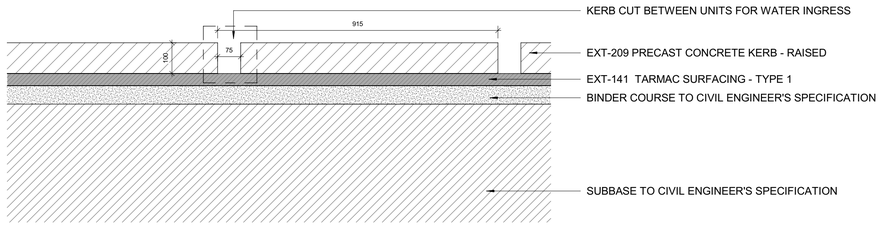
DRAWN	CHECKED	APPROVED
SA	TJ	MT

PROJECT	ORIGIN.	ZONE	LEVEL	TYPE	ROLE	DRAWING	REV
NSE	POP	ZZ	00	DR	L	000600	C13

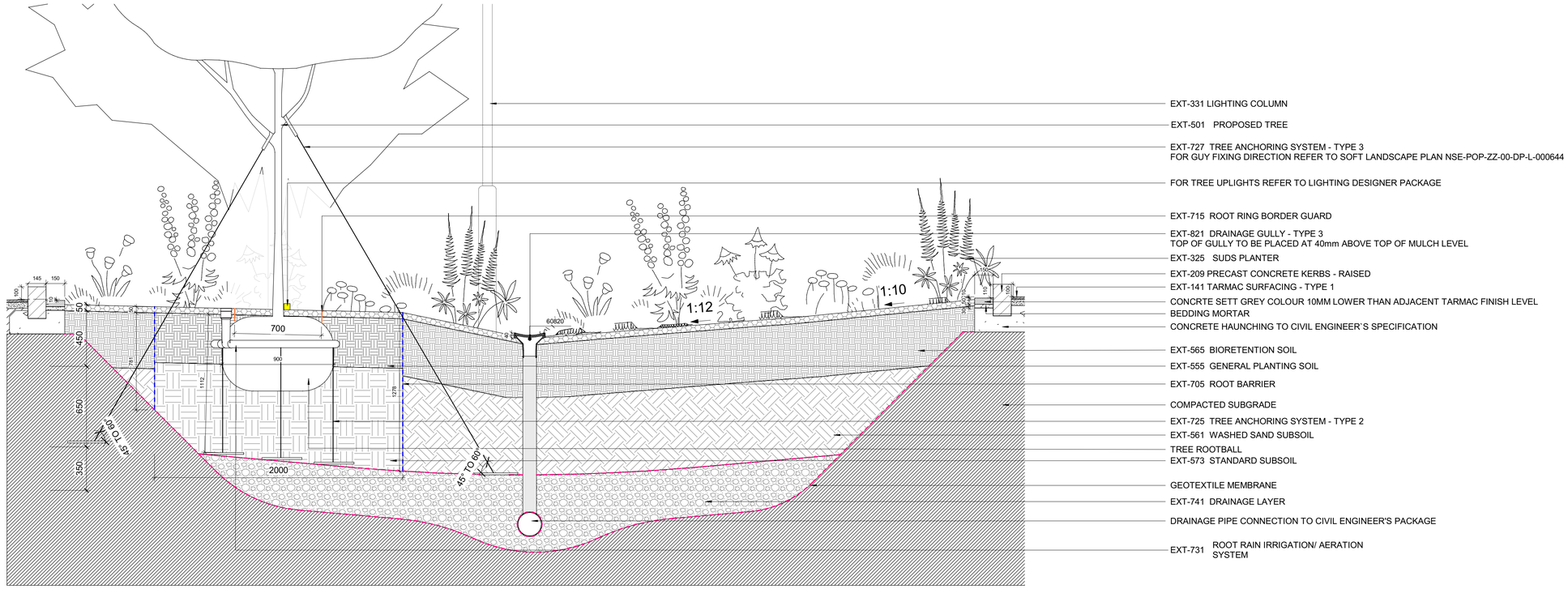
Status A: Approved



1 BIORETENTION PLANTER KEY PLAN
1 : 50



2 BIO RETENTION PLANTER KERB OPEN - ELEVATION
1 : 10

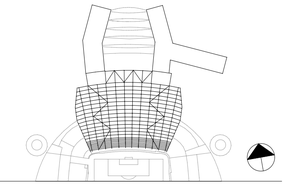


3 TYPICAL BIORETENTION PLANTER
1 : 20

REVISIONS

REV	DATE	DESCRIPTION
P00	09.06.23	ISSUED FOR STAGE 4
P01	20.07.23	DISCIPLINE CHANGED FROM "A" TO "L"
P02	02.02.24	ISSUED FOR STAGE 4 UPDATE
C01	01.05.24	ISSUED FOR CONSTRUCTION
C02	20.04.26	ISSUED FOR CONSTRUCTION

KEY PLAN



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PROJECT NAME

MCFC - NORTH EXPANSION

DRAWING TITLE

LANDSCAPE

TYPICAL BIORETENTION PLANTER DETAILS

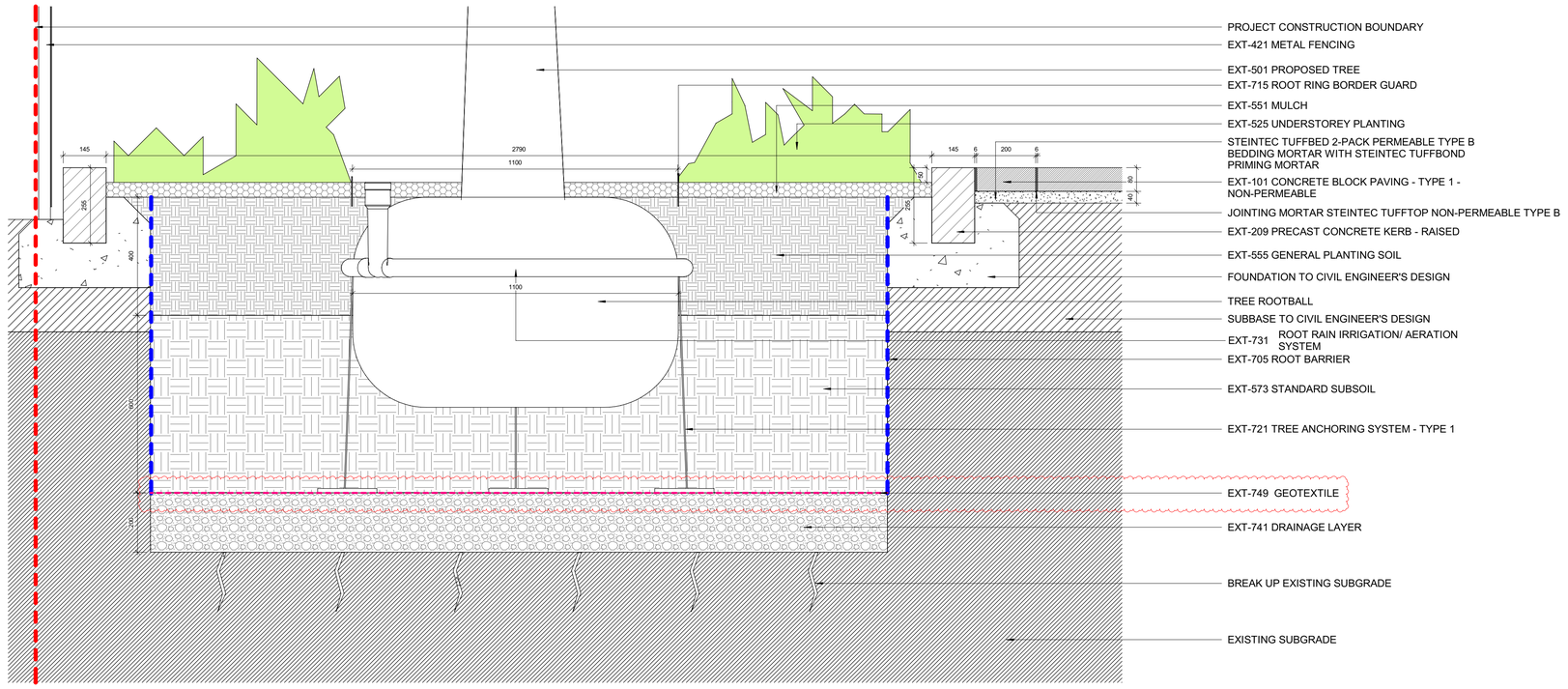
STATUS	RIBA STAGE	PROJECT NO.
A5	5	

DATE	SCALE	SIZE
09/06/23	As indicated	A1

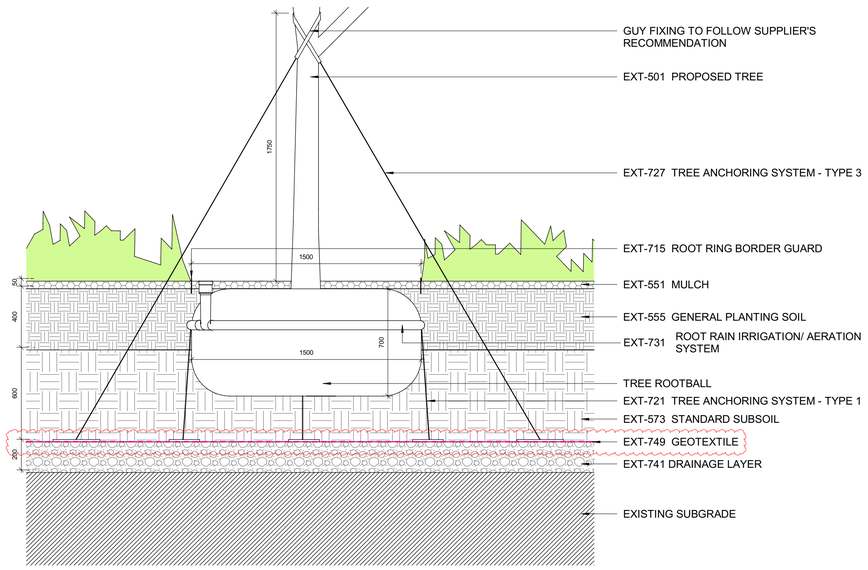
DRAWN	CHECKED	APPROVED
SA	TJ	MT

PROJECT	ORIGIN.	ZONE	LEVEL	TYPE	ROLE	DRAWING	REV
NSE	POP	ZZ	ZZ	DD	L	000677	C02

Status C with Major Comment



1 TYPICAL TREE PIT IN PLANTING (ACCESS ROAD)
1 : 10

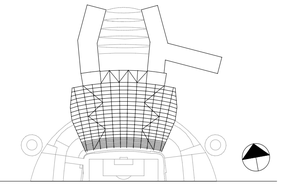


2 TYPICAL TREE PIT WITH GUY FIXING (QUEUING AREA)
1 : 20

REVISIONS

REV	DATE	DESCRIPTION
P00	09.06.23	ISSUED FOR STAGE 4
P01	20.07.23	DISCIPLINE CHANGED FROM "A" TO "L"
P02	02.02.24	ISSUED FOR STAGE 4 UPDATE
C01	01.05.24	ISSUED FOR CONSTRUCTION
C02	07.03.25	ISSUED FOR CONSTRUCTION: ACCESS ROAD UPDATE
C03	24.12.25	ISSUED FOR CONSTRUCTION

KEY PLAN



NOTES:

1. VEHICULAR ACCESS SURFACE, KERB AND EDGING FOUNDATION, AND DRAINAGE FOUNDATION DESIGN FOLLOWING CIVIL ENGINEER'S DESIGN.

2. FOR SUBBASE BELOW HAUNCHING REFER TO CIVIL ENGINEER'S DESIGN.

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PROJECT NAME

MCFC - NORTH EXPANSION

DRAWING TITLE

LANDSCAPE

TYPICAL TREE PIT DETAILS

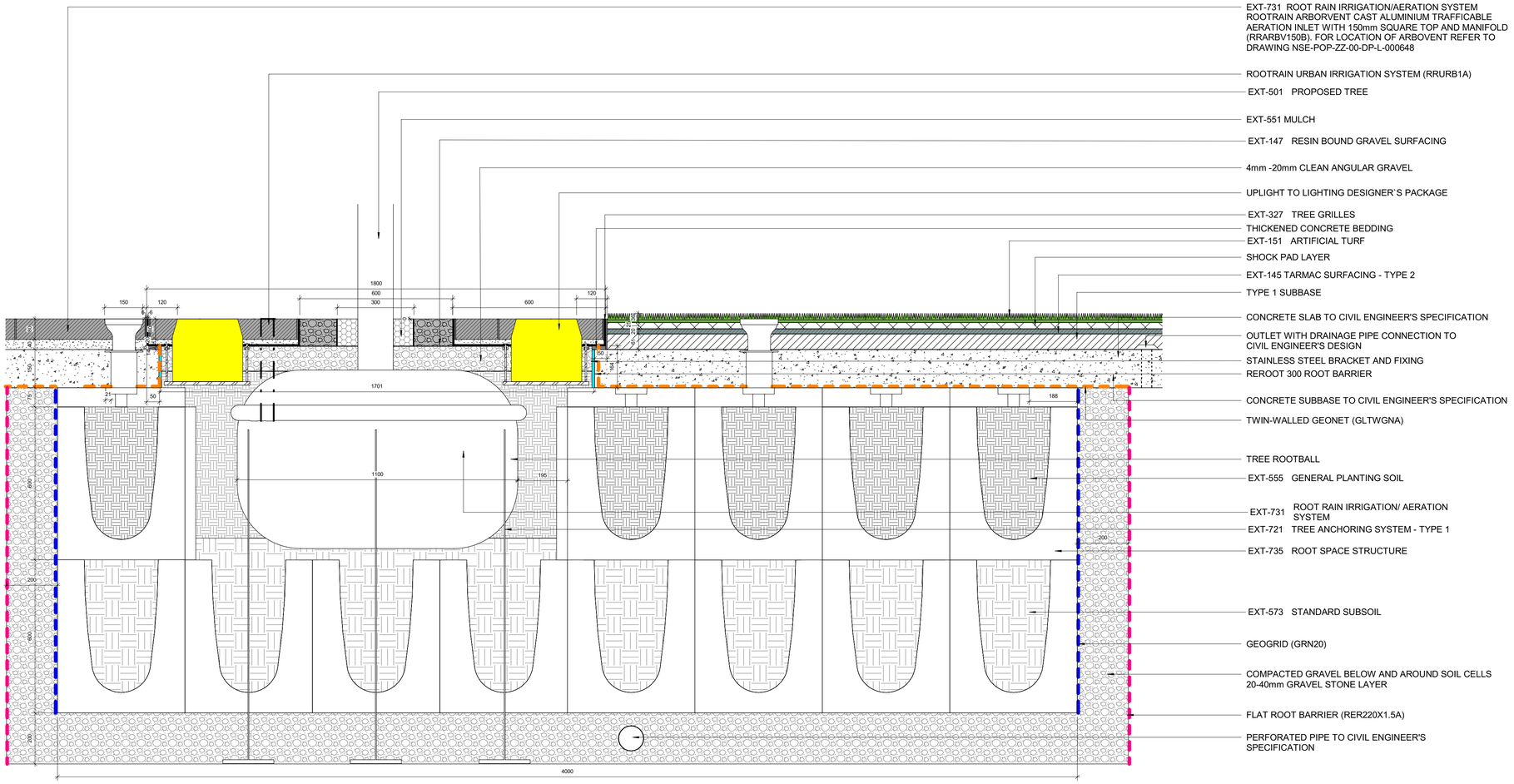
STATUS	RIBA STAGE	PROJECT NO.
A5	5	4348

DATE	SCALE	SIZE
09/06/23	As indicated	A1

DRAWN	CHECKED	APPROVED
SA	TJ	MT

PROJECT	ORIGIN.	ZONE	LEVEL	TYPE	ROLE	DRAWING	REV
NSE	POP	ZZ	ZZ	DD	L	000675	C03

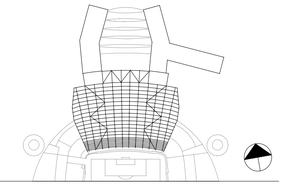
Status A: Approved



2 TYPICAL TREE PIT (CITY SQUARE)
1 : 10

REVISIONS		
REV	DATE	DESCRIPTION
C01	01.05.24	ISSUED FOR CONSTRUCTION
C02	21.05.24	ISSUED FOR CONSTRUCTION - TREE CELL AND ROOT BARRIER UPDATE
C03	20.04.26	ISSUED FOR CONSTRUCTION

KEY PLAN



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PROJECT NAME

MCFC - NORTH EXPANSION

DRAWING TITLE

LANDSCAPE
TYPICAL TREE PIT DETAILS
CITY SQUARE

STATUS	RIBA STAGE	PROJECT NO.
A5	5	

DATE	SCALE	SIZE
24/03/2024	1 : 10	A1

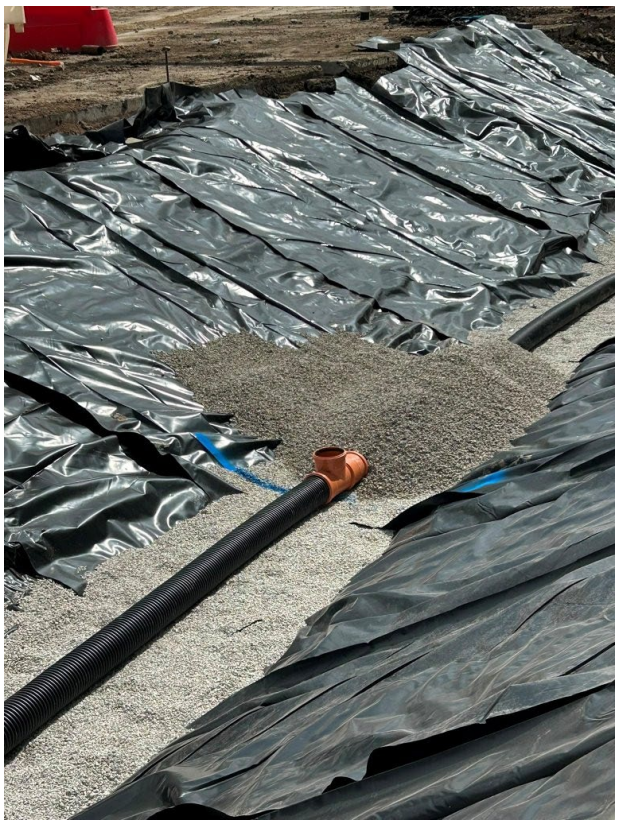
DRAWN	CHECKED	APPROVED
SA	TJ	MT

PROJECT	ORIGIN.	ZONE	LEVEL	TYPE	ROLE	DRAWING	REV
NSE	POP	ZZ	ZZ	DD	L	000695	C03

Status A: Approved

Appendix B Photographs

Photograph 1	
Date: September 2024	
Direction Photograph Taken: N/a	
Description: Installation of tree cells including membrane in City Square by Cara.	

Photograph 2	
Date: 06/07/2026	
Direction Photograph Taken: N/a	
Description: Installation of membrane in the bioretention rain garden by Wrights.	

Photograph 3	
Date: 27/07/2026	
Direction Photograph Taken: East	
Description: Installation of bioretention rain garden by Wrights.	

Photograph 4	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VR01 (Typo on photo board). Hand pit excavated to 1.00m bgl. Soils comprise topsoil.	

Photograph 5	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VR01, close up of hand pit.	

Photograph 6	
Date: 01/10/2026	
Direction Photograph Taken: West	
Description: VR02, Hand pit excavated to 0.80m bgl. Soils comprise topsoil.	

Photograph 7	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VR02, close up of hand pit. Note the membrane.	

Photograph 8	
Date: 01/10/2026	
Direction Photograph Taken: North	
Description: VR03 Hand pit terminated at 0.60m bgl. Soils comprise topsoil over limestone gravel.	

Photograph 9	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VR04, Hand pit excavated to 0.90m bgl. Soils comprise topsoil to 0.40m bgl over subsoil.	

Photograph 10	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VR04, close up of hand pit.	

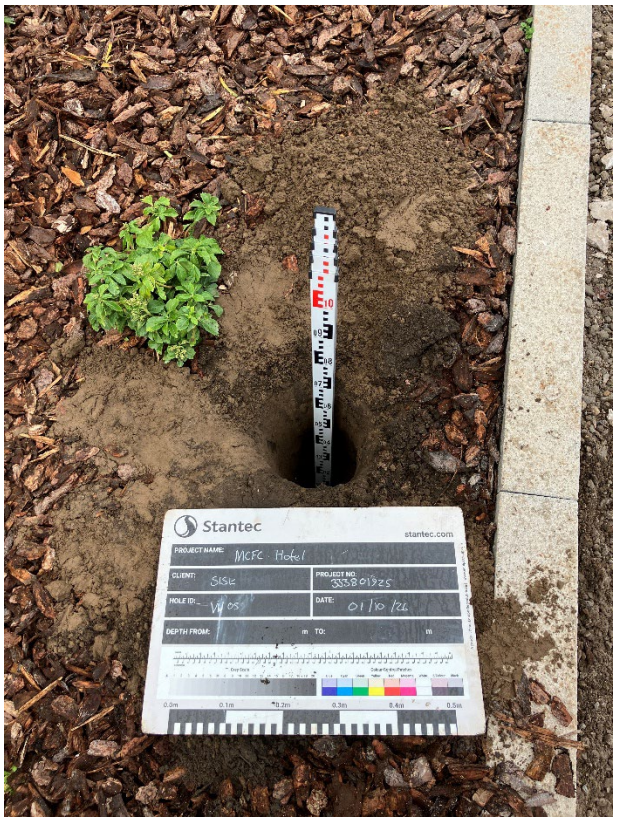
Photograph 11	
Date: 01/10/2026	
Direction Photograph Taken: Northeast	
Description: VW01, Hand pit excavated to 0.60m bgl. Soils comprise topsoil over membrane.	

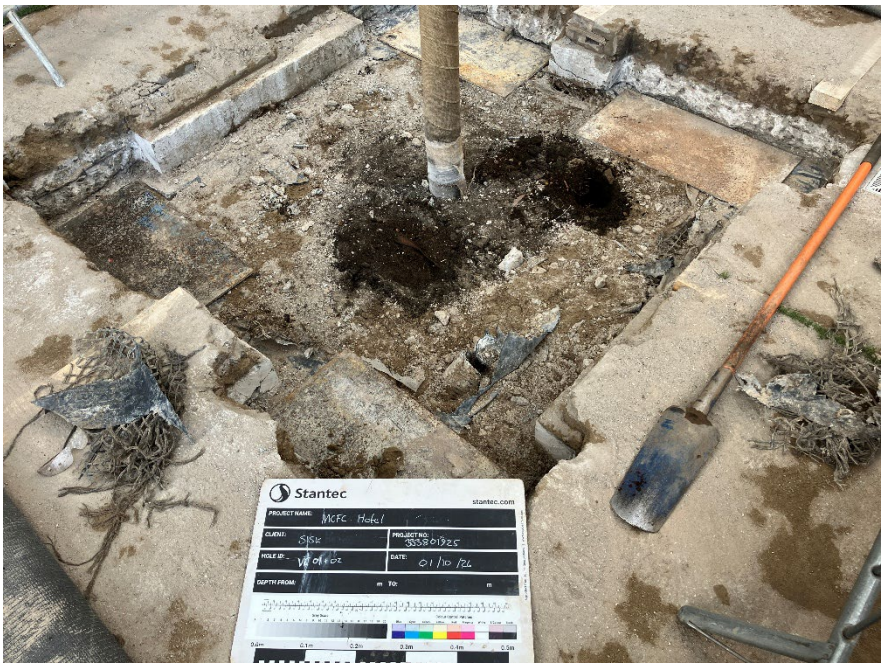
Photograph 12	
Date: 01/10/2026	
Direction Photograph Taken: West.	
Description: Area of soft landscaping not installed and removed from the scope of work on 06/10/2026.	

Photograph 13	
Date: 01/10/2026	
Direction Photograph Taken: South	
Description: VW03 – Area of soft landscaping in the process of being installed by Wrights. Comprising Topsoil to 0.60m bgl, over subsoil and a membrane to 0.80m below the surrounding ground level.	

Photograph 14	
Date: 01/10/2026	
Direction Photograph Taken: N/a	
Description: VW04, Hand pit excavated to 0.80m bgl. Soils comprise topsoil to 0.30m bgl over subsoil and a membrane at the base.	

Photograph 15	
Date: 01/10/2026	
Direction Photograph Taken: N/a	
Description: VW04, close up of hand pit.	

Photograph 16	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VW05, Hand pit excavated to 0.80m bgl. Soils comprise topsoil to 0.20m bgl over subsoil and a membrane at the base.	

Photograph 17	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VC01 and VC02. Image of tree installed in tree pit in City Square.	

Photograph 18	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VC03. Image of tree installed in tree pit in City Square, with cover in process off being installed.	

Photograph 19	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: Close up of VC03.	

Photograph 20	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: VC04. Image of tree installed in tree pit in City Square, with cover in process off being installed.	

Photograph 21	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: Image of the remaining Wrights topsoil Stockpile – SP01/01.10.26/TS/VW 02	

Photograph 22	
Date: 01/10/2026	
Direction Photograph Taken: N/A	
Description: Image of the remaining Wrights subsoil Stockpile – SP01/01.10.26/SS/VW 07	

Appendix C Supplied Testing Results

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Jonathan Bourne
Bourne Amenity Ltd
The Wharf
Rye Road
Newenden
Kent, TN18 5QG

11th June 2026
Our Ref: TOHA/26/7268/16/SS
Your Ref: PO 162949

Dear Sirs

Soil Analysis Report: Bioretention Soil

We have completed the analysis of the *Bioretention Soil* sample and have pleasure reporting our findings.

INTRODUCTION

The purpose of the analysis was to determine the suitability of the sample for use as within a bioretention rain garden where a high drainage rate is desirable.

A bioretention system usually has several components including a vegetation layer, a filter medium, a transition layer and a drainage layer, together with inlets, outlets and pipework. The soil represented by this sample is to be used as the "Filter Medium". The purpose of this analysis was therefore to determine the suitability of the sample for this use.

This report presents the results of analysis for the sample submitted to our office on 19/05/2026, and it should be considered 'indicative' of the soil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the soil has left the Bourne Amenity Ltd site.

SAMPLE EXAMINATION

The sample was described as a greyish brown (Munsell Colour 10YR 5/2), moist, friable, non-calcareous SAND with a single grain structure. The sample was virtually stone-free and contained a low proportion of organic fines. No unusual odours or deleterious materials were observed.

Bourne Amenity Ltd



Plate 1: Bioretention Soil Sample

ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition, performance and fertility of the soil. The following parameters were determined:

- detailed particle size distribution;
- stone content;
- saturated hydraulic conductivity;
- total, air-filled and capillary porosity;
- pH value;
- calcium carbonate
- electrical conductivity value;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- visible contaminants (>2.00mm).
- heavy metals (Sb, As, B, Ba, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, V, Zn);
- total cyanide and total (mono) phenols;
- elemental sulphur, sulphide and water soluble sulphate;
- aromatic and aliphatic TPH (C5-C35 banding);
- speciated PAHs (US EPA16 suite);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis, and an interpretation of the results is given below.

In the absence of site-specific assessment criteria, the concentrations of potential contaminants that affect human health have been compared with the *residential with homegrown produce* land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels* (C4SLs) *for Assessment of Land Affected by Contamination – Policy Companion Document* (2014). Levels of phytotoxic metals determined (Cu, Ni, Zn) have also been compared against threshold values indicated in *BS3882:2015 Specification for Topsoil*.

Bourne Amenity Ltd

COMMENTS

A bioretention filter medium is normally sand-based with some source of organic matter and slow-release plant nutrients to maintain healthy plant growth, filter out pollutants and control the rate at which water filters through the system, which is a key influence on the effectiveness. The material should be sufficiently permeable and porous to allow water to infiltrate, attenuate and drain through it so that the surface does not become waterlogged. It also needs to contain sufficient organic matter and plant nutrients to support the vegetation layer.

From the examination and laboratory analysis, the sample was described as a strongly alkaline, non-saline, non-calcareous *sand* with a single grain structure and very low stone content. The sample contained low to moderate reserves of organic matter and all major plant nutrients. Of the potential contaminants determined, none exceeded their respective guideline values.

Note due to the dark colour of the sample, the colorimetry analysis of hexavalent chromium could not be performed in this instance (noted as U/S - unsuitable sample on the certificate). In this instance, the laboratory has provided additional, unaccredited, testing for hexavalent chromium in this sample by ion chromatography, which was reported to be less than the limit of detection (< 1.80 mg/kg).

A bioretention soil usually requires a high-water attenuation capacity and a good drainage rate in order to absorb run-off. The grading of this sample is within the desirable range, and the saturated hydraulic conductivity result is what would be expected for a bioretention rain garden soil.

The sample was strongly alkaline in reaction (pH 8.3). However, further analysis of the calcium carbonate (lime) content of the soil found the level to be low. Therefore, the high pH recorded is likely to be due to the very low buffering capacity of the high sand content material and influence of potassium ions from the compost in the soil blend. As such, this pH value would be considered suitable for most plant species, including those that are intolerant of calcareous (chalky) soils.

The organic matter and total nitrogen content were too low to support more demanding planting types such as trees and shrubs, especially during the initial establishment phase. However, raising the proportion of organic component could lead to increased moisture retention and subsequently reduced percolation performance. Therefore, consideration could be given to use of an appropriate soil conditioner (e.g. TerraCottem – see recommendations below) to supplement nutrient reserves and enhance nutrient retention in the longer term. Application of suitable slow-release fertiliser may also be necessary during maintenance operations.

RECOMMENDATIONS

Soil Conditioner

To improve the water and nutrient retention capacities of this soil and address the total nitrogen deficiency, we recommend application and incorporation of the soil conditioner *TerraCottem "Universal"*, at the manufacturer's recommended rate.

Soil Handling Recommendations

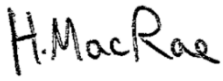
It is important to maintain the physical condition of the soil and avoid compaction during all phases of soil handling (e.g. stockpiling, respreading, cultivating, seeding or turfing). As a consequence, soil handling operations should be carried out when soil and the underlying ground is sufficiently dry and stable.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the ground has dried out. If the soil is compacted at any stage during the course of soiling or landscaping works, it should be decompacted appropriately.

Bourne Amenity Ltd

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully





Harriet MacRae
BSc MSc
Soil Scientist

Ceri Spears
BSc MSc MISoilSci
Senior Associate

For and on behalf of Tim O'Hare Associates LLP

Bourne Amenity Ltd

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**Bourne Amenity Limited**
Project:	**Bioretention Soil**
Job:	**Physical and Horticultural Properties**
Date:	**11/06/2026**
Job Ref No:	**TOHA/26/7268/16/SS**

Sample Reference			**Bioretention Soil**
		Accreditation	
Clay (<0.002mm)	%	UKAS	2
Silt (0.002-0.05mm)	%	UKAS	3
Very Fine Sand (0.05-0.15mm)	%	UKAS	3
Fine Sand (0.15-0.25mm)	%	UKAS	13
Medium Sand (0.25-0.50mm)	%	UKAS	61
Coarse Sand (0.50-1.0mm)	%	UKAS	15
Very Coarse Sand (1.0-2.0mm)	%	UKAS	3
Total Sand (0.05-1.0mm)	%	UKAS	95
Texture Class (UK Classification)	--	UKAS	S
Stones (2-20mm)	% DW	UKAS	1
Stones (20-50mm)	% DW	UKAS	0
Stones (>50mm)	% DW	UKAS	0
Saturated Hydraulic Conductivity	mm/hr	A2LA	241
Total Porosity	%	A2LA	48
Air-filled Porosity	%	A2LA	26
Water-filled Porosity	%	A2LA	22
pH Value (1:2.5 water extract)	units	UKAS	8.3
Calcium Carbonate	%	UKAS	1
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS	587
Electrical Conductivity (1:2 $CaSO_4$ extract)	uS/cm	UKAS	2830
Exchangeable Sodium Percentage	%	UKAS	3.9
Organic Matter (LOI)	%	UKAS	1.8
Total Nitrogen (Dumas)	%	UKAS	0.09
C : N Ratio	ratio	UKAS	12
Extractable Phosphorus	mg/l	UKAS	52
Extractable Potassium	mg/l	UKAS	918
Extractable Magnesium	mg/l	UKAS	96
Visible Contaminants: Plastics >2.00mm	%	UKAS	0
Visible Contaminants: Sharps >2.00mm	%	UKAS	0

S = SAND

Visual Examination

The sample was described as a dark brown (Munsell Colour 10YR 3/3), slightly moist, non-plastic, non-calcareous SAND with a single grain structure. The sample was virtually stone-free and contained a low proportion of organic fines. No deleterious materials, unusual odours, roots or rhizomes of pernicious weeds were observed.

H.MacRae

Harriet MacRae
BSc MSc
Soil Scientist

Results of analysis should be read in conjunction with the report they were issued with

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Bourne Amenity Ltd

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**Bourne Amenity Limited**
Project:	**Bioretention Soil**
Job:	**Chemical Properties**
Date:	**11/06/2024**
Job Ref No:	**TOHA/24/1403/SS**

Sample Reference			**Bioretention Soil**
		Accreditation	
Total Antimony (Sb)	mg/kg	MCERTS	1
Total Arsenic (As)	mg/kg	MCERTS	8
Total Barium (Ba)	mg/kg	MCERTS	9
Total Beryllium (Be)	mg/kg	MCERTS	0.3
Total Cadmium (Cd)	mg/kg	MCERTS	< 0.2
Total Chromium (Cr)	mg/kg	MCERTS	15
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS	U/S
Total Copper (Cu)	mg/kg	MCERTS	10
Total Lead (Pb)	mg/kg	MCERTS	7
Total Mercury (Hg)	mg/kg	MCERTS	< 0.3
Total Nickel (Ni)	mg/kg	MCERTS	12
Total Selenium (Se)	mg/kg	MCERTS	< 1.0
Total Vanadium (V)	mg/kg	MCERTS	34
Total Zinc (Zn)	mg/kg	MCERTS	30
Water Soluble Boron (B)	mg/kg	MCERTS	1.4
Total Cyanide (CN)	mg/kg	MCERTS	< 1.0
Total (mono) Phenols	mg/kg	MCERTS	< 1.0
Elemental Sulphur	mg/kg	MCERTS	< 5.0
Sulphide	mg/kg	MCERTS	< 1.0
Water Soluble Sulphate (SO_4)	mg/kg	MCERTS	63
Naphthalene	mg/kg	MCERTS	< 0.05
Acenaphthylene	mg/kg	MCERTS	< 0.05
Acenaphthene	mg/kg	MCERTS	< 0.05
Fluorene	mg/kg	MCERTS	< 0.05
Phenanthrene	mg/kg	MCERTS	< 0.05
Anthracene	mg/kg	MCERTS	< 0.05
Fluoranthene	mg/kg	MCERTS	0.09
Pyrene	mg/kg	MCERTS	0.07
Benzo(a)anthracene	mg/kg	MCERTS	< 0.05
Chrysene	mg/kg	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS	< 0.05
Dibenzo(a,h)anthracene	mg/kg	MCERTS	< 0.05
Benzo(g,h,i)perylene	mg/kg	MCERTS	< 0.05
Total PAHs (sum USEPA16)	mg/kg	MCERTS	< 0.80
Aliphatic TPH >C5 - C6	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C6 - C8	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C8 - C10	mg/kg	MCERTS	< 0.010
Aliphatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aliphatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aliphatic TPH >C16 - C21	mg/kg	MCERTS	< 8.0
Aliphatic TPH >C21 - C35	mg/kg	MCERTS	< 8.0
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Aromatic TPH >C5 - C7	mg/kg	MCERTS	< 0.010
Aromatic TPH >C7 - C8	mg/kg	MCERTS	< 0.010
Aromatic TPH >C8 - C10	mg/kg	MCERTS	< 0.020
Aromatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aromatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aromatic TPH >C16 - C21	mg/kg	MCERTS	< 10
Aromatic TPH >C21 - C35	mg/kg	MCERTS	< 10
Aromatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Benzene	mg/kg	MCERTS	< 5.0
Toluene	mg/kg	MCERTS	< 5.0
Ethylbenzene	mg/kg	MCERTS	< 5.0
p & m-xylene	mg/kg	MCERTS	< 5.0
o-xylene	mg/kg	MCERTS	< 8.0
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS	< 5.0
Asbestos Screen	ND/D	ISO 17025	Not-detected

U/S = Unsuitable Sample

Results of analysis should be read in conjunction with the report they were issued with

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H.MacRae

Harriet MacRae
BSc MSc
Soil Scientist

Bourne Amenity Ltd

Certificate of Analysis

Client: STUART BALDWIN
(T283) SED SERVICES LTD
LANDGATE FARM
LANDGATE LANE
BRYN
WIGAN WN4 0EJ

Originator: SUBSOIL

Lab ID: 48004 - 791610
Sample ID: SUBSOIL
Fresh Sample Weight: 2191 (g)

Date Received: 07/04/2026
Date Reported: 21/04/2026

BS 8601 : 2013 SPECIFICATION FOR SUBSOIL
Multipurpose Grade

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc
Texture:	Clay	% w/w	6				
	Silt	% w/w	9		*See area of permitted soil textural*		
	Sand	% w/w	85		*classes in Fig. 1.*		
	Textural Class		Loamy Sand				
Mass Loss on Ignition:		% w/w	1.2		Y	Y	Y
Coarse	>2 mm	% w/w	3.1		Y	Y	Y
Fragment	>20 mm	% w/w	0.0		Y	Y	Y
Content:	>75 mm	% w/w	0.0		Y	Y	Y
Soil pH:			8.5		Y	N	Y
Carbonate:		% w/w	3.5				Y
Exchangeable Sodium Percentage:		%	0.3		Y	Y	Y
Phytotoxic	Total Zinc	mg/kg	18.4		Y	Y	Y
Contaminants:	Total Copper	mg/kg	5.3		Y	Y	Y
	Total Nickel	mg/kg	<10		Y	Y	Y
Visible	> 2mm	% w/w	0.00		Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y
	Sharps	% w/w	0.00		Y	Y	Y
	Weight of Sharps	g	0.0				
Available	Phosphorus	mg/l	11.6	(1)*			
Plant	Potassium	mg/l	66.8	(1)*			
Nutrients:	Magnesium	mg/l	40.1	(1)*			
Additional	Available Sodium	mg/l	4.6				
Analysis:	Available Calcium	mg/l	1249.8				
	Conductivity	uS/cm	2036				
	Conductivity CaSO4 Adj.	uS/cm	220				
Compliancy:					**Y**	**N**	**Y**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: *Teresa Clyne* **Date: 21/04/2026**

DECLARATION: I certify that this sample has been analysed by NRM. in accordance with BS 8601 Specification for Subsoil (2013).

Analytical Report

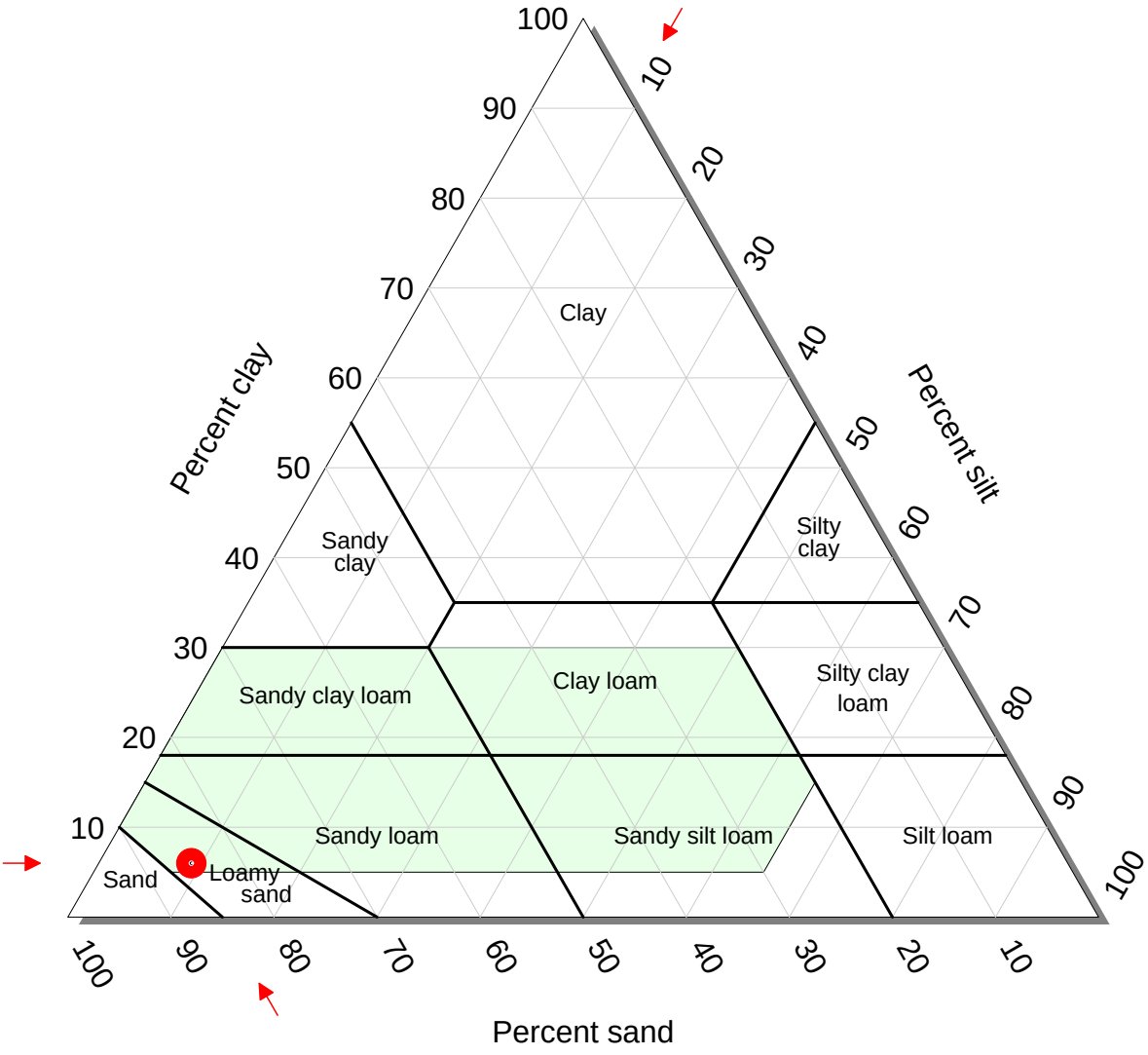
Client: STUART BALDWIN
(T283) SED SERVICES LTD
LANDGATE FARM
LANDGATE LANE
BRYN
WIGAN WN4 0EJ

Originator: SUBSOIL

Lab ID: 48004 - 791610
Sample ID: SUBSOIL
Fresh Sample Weight: 2191 (g)

Date Received: 07/04/2026
Date Reported: 21/04/2026

Fig. 1. Textural Class: Loamy Sand (compliant)



Key

Area within which texture of subsoil is required to fall.

Accreditation and method details

NRM is a UKAS-accredited testing laboratory (No 2334), accredited to BS EN ISO 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF communique dated April 2017). http://ilac.org/?ddownload=120917

NRM is accredited for particular determinands in specific matrices as set out in the laboratory's current UKAS schedule of accreditation https://www.ukas.com/wp-content/uploads/schedule_uploads/00002/2334Testing -Multiple.pdf

Accreditation applies to the following parameters in this report and is applicable to SOIL samples only. All other tests within this report are unaccredited.

Test	Analysis SOP	Method Description
Fluoride	JAS-487	Sulphuric acid extraction (1:10 ratio) and determination by ion selective electrode
Arsenic	JAS-510 / JAS-300	Aqua regia digest on hot block and determination by ICP-OES
Barium		
Beryllium		
Cadmium		
Chromium		
Cobalt		
Copper		
Lead		
Molybdenum		
Mercury		
Nickel		
Vanadium		
Zinc		
Selenium	JAS-510 / JAS-455	Aqua regia digest on hot block and determination by AFS

Analysis Notes

Analysis is carried out on the air-dried (<30°C) and ground sample.

The results as reported relate only to the item(s) submitted for testing.

The results are presented on a dry matter basis.

Indices are derived solely from the numerical value and test result without reference to measurement uncertainty.

Document Control

This test report shall not be reproduced, except in full, without the written approval of the laboratory.
We cannot offer interpretation or opinions for results.

Sampling information

BS ISO 18512:2007 (Soil quality – Guidance on long and short-term storage of soil samples) states that for pH the period of stability and therefore holding time for a wet or 'fresh' soil sample is one week from sampling. Other determinants in the fresh sample may be considered stable for up to a month. Once the sample has been dried the sample may then be considered stable for up to 3 years. No records are maintained by NRM on date sampled or date dried so all samples within this report are considered not to be meeting the requirements of this BS / ISO. Consequently, all pH results given are those of the as-received sample and may not reflect the pH value of the sample when taken.

END OF REPORT

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Alan Draper
R. Draper Ltd
Barrow Nook Lane
Bickerstaffe
Nr. Ormskirk
Lancashire
L39 0ET

19th April 2023
Our Ref: TOHA/23/7913/SS
Your Ref: see below

R. Draper Ltd

Dear Sirs

Subsoil Analysis Report: BS8601 Subsoil

We have completed the analysis of the soil sample recently submitted, referenced *BS8601 Subsoil*, and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the sample for use as subsoil in general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Subsoil *(BS8601:2013 – Specification for subsoil and requirements for use – Table 1, Multipurpose Subsoil),* including analysis of potential contaminants.

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the subsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing, especially after the subsoil has left the R. Draper site.

SAMPLE EXAMINATION

The sample was described as a very dark greyish brown (Munsell Colour 10YR 3/2), slightly moist, friable, non-calcareous SAND with a single grain structure. The sample was stone-free and no unusual odours, roots or rhizomes of pernicious weeds were observed.

ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- particle size analysis (% sand, silt, clay);
- stone content (2-20mm, 20-75mm, >75mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- organic matter content;
- heavy metals (As, B, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Particle Size Analysis and Stone Content

The sample fell into the *sand* texture class and would be described as light in texture. Such soils typically have good aeration and drainage properties, but can possess poor water retention capacities. As a consequence they often have a greater risk of drought, particularly during prolonged dry periods, and additional irrigation should be considered.

The sample was stone-free and, as such, stones should not restrict the use of the soil for use as subsoil in general landscape purposes.

pH and Electrical Conductivity Values

The sample was alkaline in reaction (pH 7.8). This pH value would be considered suitable as subsoil for general landscape purposes, providing species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

The electrical conductivity (salinity) value (water extract) was low, which indicates that soluble salts were not present at levels that would be harmful to plants.

The electrical conductivity value by $CaSO_4$ extract (*BS8601* requirement) fell below the maximum specified value (2800 µS/cm) given in *BS8601:2013 – Table 1*.

Organic Matter Content

The organic matter content was low (<2%) and compliant with *BS8601:2013 – Table 1*.

Potential Contaminants

With reference to *BS8601:2013 – Section 4.2*: Note 2, there is a recommendation to confirm levels of potential contaminants in relation to the subsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the residential with homegrown produce land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment (2015) and the DEFRA SP1010: Development of Category 4 Screening Levels (C4SLs) for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none exceeded their respective guideline values.

R. Draper Ltd

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS8601:2013 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the sample for use as subsoil in general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Subsoil *(BS8601:2013 – Specification for subsoil and requirements for use – Table 1, Multipurpose Subsoil),* including analysis of potential contaminants.

From the soil examination and subsequent laboratory analysis, the sample was described as an alkaline, non-saline, non-calcareous, stone-free *sand* with a single grain structure. The organic matter content of the sample was low and consistent with that of subsoil. Of the potential contaminants determined, none exceeded their respective guideline values.

To conclude, based on our findings, the soil represented by this sample would be considered suitable as subsoil for general landscape purposes (trees, shrubs and amenity grass), provided the physical condition of the soil is satisfactory and species with a wide pH tolerance or those known to prefer alkaline soils are selected.

The sample was largely compliant with the requirements of the British Standard for Subsoil *(BS8601:2013 – Specification for subsoil and requirements for use – Table 1, Multipurpose Subsoil)* with the exception of the high total sand content. On this occasion, this non-compliance is considered minor when reviewed in the context of all the other results and provided additional irrigation is considered.

Soil Handling Recommendations

Reference should be made to Section 6.0 of *BS8601:2013* with regard to the handling and management of the subsoil:

"Soils generally lose strength and become less resistant to damage as they become wetter; therefore, it is essential that they are stripped, handled and trafficked only in the appropriate conditions of weather and soil moisture, and with suitable machinery. If sustained heavy rainfall (e.g. >10 mm in 24 h) occurs during soil stripping operations, work should be suspended and not restarted until the ground has had at least one dry day or until a suitable moisture content has been reached. A soil can be considered to have a suitable moisture content for stripping and handling if the whole thickness of the subsoil layer being stripped and/or handled is at a moisture content below the plastic limit as determined in accordance with BS 1377-2:1990 (incorporating Amendment No. 1).

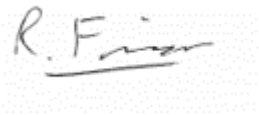
Machinery should be selected and routed to minimise soil compaction."

Further guidance is provided in Clauses 6.1–6.5.

R. Draper Ltd

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully





Ross Friar
MEnvSci
Graduate Soil Scientist

Rebecca Hollands
BSc MSc MISoilSci
Senior Soil Scientist

For & on behalf of Tim O'Hare Associates LLP

R. Draper Ltd

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**R Draper Ltd**
Project:	**BS8601 Subsoil**
Job:	**Subsoil Analysis (BS8601:2013)**
Date:	**19/04/2023**
Job Ref No:	**TOHA/23/7913/SS**

Sample Reference			**BS8601 Subsoil**
		Accreditation	
Clay (<0.002mm)	%	UKAS	3
Silt (0.002-0.063mm)	%	UKAS	4
Sand (0.063-2.0mm)	%	UKAS	93
Texture Class (UK Classification)	--	UKAS	S
Stones (2-20mm)	% DW	GLP	0
Stones (20-75mm)	% DW	GLP	0
Stones (>75mm)	% DW	GLP	0
pH Value (1:2.5 water extract)	units	UKAS	7.8
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS	249
Electrical Conductivity (1:2 $CaSO_4$ extract)	uS/cm	UKAS	2141
Organic Matter (LOI)	%	UKAS	1.3
Exchangeable Sodium Percentage	%	UKAS	0.5
Total Arsenic (As)	mg/kg	MCERTS	2
Total Cadmium (Cd)	mg/kg	MCERTS	< 0.2
Total Chromium (Cr)	mg/kg	MCERTS	4
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS	< 1.8
Total Copper (Cu)	mg/kg	MCERTS	8
Total Lead (Pb)	mg/kg	MCERTS	8
Total Mercury (Hg)	mg/kg	MCERTS	< 0.3
Total Nickel (Ni)	mg/kg	MCERTS	3
Total Selenium (Se)	mg/kg	MCERTS	< 1.0
Total Zinc (Zn)	mg/kg	MCERTS	8
Water Soluble Boron (B)	mg/kg	MCERTS	< 0.2
Total Cyanide (CN)	mg/kg	MCERTS	< 1.0
Total (mono) Phenols	mg/kg	MCERTS	< 1.0
Naphthalene	mg/kg	MCERTS	0.07
Acenaphthylene	mg/kg	MCERTS	< 0.05
Acenaphthene	mg/kg	MCERTS	< 0.05
Fluorene	mg/kg	MCERTS	< 0.05
Phenanthrene	mg/kg	MCERTS	< 0.05
Anthracene	mg/kg	MCERTS	< 0.05
Fluoranthene	mg/kg	MCERTS	< 0.05
Pyrene	mg/kg	MCERTS	< 0.05
Benz(a)anthracene	mg/kg	MCERTS	< 0.05
Chrysene	mg/kg	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS	< 0.05
Dibenzo(a,h)anthracene	mg/kg	MCERTS	< 0.05
Benzo(g,h,i)perylene	mg/kg	MCERTS	< 0.05
Total PAHs (sum USEPA16)	mg/kg	MCERTS	< 0.80
Aliphatic TPH >C5 - C6	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C6 - C8	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C8 - C10	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aliphatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aliphatic TPH >C16 - C21	mg/kg	MCERTS	< 8.0
Aliphatic TPH >C21 - C35	mg/kg	MCERTS	< 8.0
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Aromatic TPH >C5 - C7	mg/kg	MCERTS	< 0.001
Aromatic TPH >C7 - C8	mg/kg	MCERTS	< 0.001
Aromatic TPH >C8 - C10	mg/kg	MCERTS	< 0.001
Aromatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aromatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aromatic TPH >C16 - C21	mg/kg	MCERTS	< 10
Aromatic TPH >C21 - C35	mg/kg	MCERTS	< 10
Aromatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Benzene	mg/kg	MCERTS	< 0.005
Toluene	mg/kg	MCERTS	< 0.005
Ethylbenzene	mg/kg	MCERTS	< 0.005
p & m-xylene	mg/kg	MCERTS	< 0.005
o-xylene	mg/kg	MCERTS	< 0.005
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS	< 0.005
Asbestos Screen	ND/D	ISO 17025	Not-detected

S = SAND

Visual Examination

The sample was described as a very dark greyish brown (Munsell Colour 10YR 3/2), slightly moist, friable, non-calcareous SAND with a single grain structure. The sample was stone-free and no unusual odours, roots or rhizomes of pernicious weeds were observed.

Ross Friar
MEnvSci
Graduate Soil Scientist

Results of analysis should be read in conjunction with the report they were issued with

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R. Draper Ltd

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

R. Draper Ltd

Alan Draper
R. Draper Ltd
Barrow Nook Lane
Bickerstaffe
Nr. Ormskirk
Lancashire
L39 0ET

2nd May 2024
Our Ref: TOHA/24/1345/2/SS
Your Ref: as below

Dear Sirs

Topsoil Analysis Report – Grade 1 Topsoil

We have completed the analysis of the topsoil sample recently submitted, referenced *Grade 1 Topsoil,* and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil *(BS3882:2015 Specification for Topsoil – Multipurpose Topsoil)*.

This report presents the results of analysis for the sample submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the topsoil has left the R Draper Ltd site.

SAMPLE EXAMINATION

The sample was described as a very dark brown (Munsell Colour 10YR 2/2), slightly moist, friable, non-calcareous LOAMY SAND with a moderately-developed, fine to medium granular structure*. The sample was very slightly stony and contained a moderate proportion of organic fines. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

*This appraisal of soil structure was made from examination of disturbed sample. Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- particle size analysis (sand, silt, clay);
- stone content (2-20mm, 20-50mm, >50mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn, B);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Particle Size Analysis and Stone Content

The sample fell into the *loamy sand* texture class, which is usually considered suitable for general landscape applications provided the soil's physical condition is maintained.

The stone content of the sample was low, and as such, stones should not restrict the use of the soil for general landscape purposes.

pH and Electrical Conductivity Values

The sample was slightly acid in reaction (pH 6.7), with a pH value that would be considered ideal for general landscape purposes.

The electrical conductivity (salinity) value (water extract) was low, which indicates that soluble salts were not present at levels that would be harmful to plants.

The electrical conductivity value by $CaSO_4$ extract (*BS3882* requirement) fell below the maximum specified value (3300 µS/cm) given in *BS3882:2015 – Table 1*.

Organic Matter and Fertility Status

The sample was adequately supplied with organic matter and most major plant nutrients, with a deficiency in extractable potassium. This can be remedied by a routine compost application.

The C:N ratio of the sample was acceptable for general landscape purposes.

Potential Contaminants

With reference to *BS3882:2015 - Table 1*: Notes 3 and 4, there is a recommendation to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the *residential with home grown produce* land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels* (C4SLs) *for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none exceeded their respective guideline values.

R. Draper Ltd

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS3882:2015 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the topsoil sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil *(BS3882:2015 Specification for Topsoil – Multipurpose Topsoil)*.

From the soil examination and laboratory analysis, the sample was described as a slightly acid, non-saline, non-calcareous *loamy sand* with an adequate structure and very low stone content. The sample contained sufficient reserves of organic matter and most major plant nutrients, with a deficiency in extractable potassium. Of the potential contaminants determined, none exceeded their respective guideline values.

To conclude, based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass), provided the physical condition of the soil is maintained and the potassium deficiency addressed.

The topsoil was largely compliant with the requirements of the British Standard for Topsoil *(BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil)*, with the exception of the extractable potassium content. On this occasion, this non-compliance is considered minor and insignificant when reviewed in the context of all the other results and considering the proposed end-use of this soil. This can easily be remedied by routine compost application.

RECOMMENDATIONS

Compost Application

To address the deficiency in potassium, we recommend applying and incorporating suitable compost (e.g. PAS100:2011 /Landscape Institute/WRAP grade (10mm screened) green compost) at a rate of **15%** by volume, ensuring the soil is dry and friable.

For planting purposes, the compost should be incorporated to a depth of 200mm and for grass areas the compost should be worked into the upper 100mm.

Soil Handling Recommendations

It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, respreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is reasonably dry and non-plastic (friable) in consistency.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

Further details on soil handling are provided in Annex A of *BS3882:2015.*

R. Draper Ltd

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully



Ceri Spears
BSc MSc MISoilSci
Senior Associate

For & on behalf of Tim O'Hare Associates LLP

R. Draper Ltd

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**R Draper Ltd**
Project	**Grade 1 Topsoil**
Job:	**Topsoil Analysis - BS3882:2015**
Date:	**02/05/2024**
Job Ref No:	**TOHA/24/1345/2/SS**

Sample Reference			**Grade 1 Topsoil**
		Accreditation	
Clay (<0.002mm)	%	UKAS	7
Silt (0.002-0.063mm)	%	UKAS	8
Sand (0.063-2.0mm)	%	UKAS	85
Texture Class (UK Classification)	--	UKAS	LS
Stones (2-20mm)	% DW	GLP	1
Stones (20-50mm)	% DW	GLP	0
Stones (>50mm)	% DW	GLP	0
pH Value (1:2.5 water extract)	units	UKAS	6.7
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS	225
Electrical Conductivity (1:2 $CaSO_4$ extract)	uS/cm	UKAS	2113
Exchangeable Sodium Percentage	%	UKAS	0.7
Organic Matter (LOI)	%	UKAS	4.5
Total Nitrogen (Dumas)	%	UKAS	0.17
C : N Ratio	ratio	UKAS	15
Extractable Phosphorus	mg/l	UKAS	43
Extractable Potassium	mg/l	UKAS	68
Extractable Magnesium	mg/l	UKAS	61
Total Arsenic (As)	mg/kg	MCERTS	10
Total Cadmium (Cd)	mg/kg	MCERTS	< 0.2
Total Chromium (Cr)	mg/kg	MCERTS	10
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS	< 1.8
Total Copper (Cu)	mg/kg	MCERTS	36
Total Lead (Pb)	mg/kg	MCERTS	81
Total Mercury (Hg)	mg/kg	MCERTS	< 0.3
Total Nickel (Ni)	mg/kg	MCERTS	9
Total Selenium (Se)	mg/kg	MCERTS	< 1.0
Total Zinc (Zn)	mg/kg	MCERTS	42
Water Soluble Boron (B)	mg/kg	MCERTS	< 0.2
Total Cyanide (CN)	mg/kg	MCERTS	< 1.0
Total (mono) Phenols	mg/kg	MCERTS	< 1.0
Naphthalene	mg/kg	MCERTS	< 0.05
Acenaphthylene	mg/kg	MCERTS	< 0.05
Acenaphthene	mg/kg	MCERTS	0.09
Fluorene	mg/kg	MCERTS	< 0.05
Phenanthrene	mg/kg	MCERTS	0.73
Anthracene	mg/kg	MCERTS	0.15
Fluoranthene	mg/kg	MCERTS	1.20
Pyrene	mg/kg	MCERTS	1.20
Benzo(a)anthracene	mg/kg	MCERTS	0.56
Chrysene	mg/kg	MCERTS	0.78
Benzo(b)fluoranthene	mg/kg	MCERTS	0.73
Benzo(k)fluoranthene	mg/kg	MCERTS	0.38
Benzo(a)pyrene	mg/kg	MCERTS	0.66
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS	0.33
Dibenzo(a,h)anthracene	mg/kg	MCERTS	< 0.05
Benzo(g,h,i)perylene	mg/kg	MCERTS	0.42
Total PAHs (sum USEPA16)	mg/kg	MCERTS	7.25
Aliphatic TPH >C5 - C6	mg/kg	MCERTS	< 0.020
Aliphatic TPH >C6 - C8	mg/kg	MCERTS	< 0.020
Aliphatic TPH >C8 - C10	mg/kg	MCERTS	< 0.050
Aliphatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aliphatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aliphatic TPH >C16 - C21	mg/kg	MCERTS	< 8.0
Aliphatic TPH >C21 - C35	mg/kg	MCERTS	< 8.0
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Aromatic TPH >C5 - C7	mg/kg	MCERTS	< 0.010
Aromatic TPH >C7 - C8	mg/kg	MCERTS	< 0.010
Aromatic TPH >C8 - C10	mg/kg	MCERTS	< 0.050
Aromatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aromatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aromatic TPH >C16 - C21	mg/kg	MCERTS	< 10
Aromatic TPH >C21 - C35	mg/kg	MCERTS	< 10
Aromatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Benzene	mg/kg	MCERTS	< 0.005
Toluene	mg/kg	MCERTS	< 0.005
Ethylbenzene	mg/kg	MCERTS	< 0.005
p & m-xylene	mg/kg	MCERTS	< 0.005
Xylene	mg/kg	MCERTS	< 0.005
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS	< 0.005
Asbestos Screen	N/ND	ISO 17025	Not-detected

LS = LOAMY SAND

Visual Examination

The sample was described as a very dark brown (Munsell Colour 10YR 2/2), slightly moist, friable, non-calcareous LOAMY SAND with a moderately-developed, fine to medium granular structure. The sample was very slightly stony and contained a moderate proportion of organic fines. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

Ceri Spears
BSc MSc MISoilSci
Senior Associate

Results of analysis should be read in conjunction with the report they were issued with.

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R. Draper Ltd

Certificate of Analysis

Client: STUART BALDWIN
(T283) SED SERVICES LTD
LANDGATE FARM
LANDGATE LANE
BRYN
WIGAN WN4 0EJ

Originator: TOPSOIL
SOIL

Lab ID: 48003 - 791609
Sample ID: TOPSOIL
Sample Weight: 1679g

Date Received: 07/04/2026
Date Reported: 21/04/2026

BS 3882 : 2015 SPECIFICATION FOR TOPSOIL
Multipurpose Grade

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc	Low-F	Low-F Acid	Low-F Calc
Texture:	Clay	% w/w	29							
	Silt	% w/w	22			*See area of permitted soil textural*				
	Sand	% w/w	49			*classes in Fig. 1.*				
	Textural Class		Clay Loam		Y	Y	Y	Y	Y	Y
Organic Matter:		% w/w	12.9		Y	Y	Y	Y	Y	Y
Coarse	>2 mm	% w/w	0.8		Y	Y	Y	Y	Y	Y
Fragment	>20 mm	% w/w	0.0		Y	Y	Y	Y	Y	Y
Content:	>50 mm	% w/w	0.0		Y	Y	Y	Y	Y	Y
Soil pH:			6.2		Y	N	N	Y	N	N
Carbonate:		% w/w	1.7				Y			Y
Available	Nitrogen	% w/w	0.447		Y	Y	Y			
Plant	Phosphorus	mg/l	91.8	(5)*	Y	Y	Y	N	N	N
Nutrients:	Potassium	mg/l	152.3	(2-)*	Y	Y	Y			
	Magnesium	mg/l	173.6	(3)*	Y	Y	Y			
Carbon:Nitrogen Ratio:		:1	16.7		Y	Y	Y	Y	Y	Y
Exchangeable Sodium Percentage:		%	0.8							
Phytotoxic	Total Zinc	mg/kg	78.0		Y	Y	Y	Y	Y	Y
Contaminants:	Total Copper	mg/kg	35.0		Y	Y	Y	Y	Y	Y
	Total Nickel	mg/kg	32.1		Y	Y	Y	Y	Y	Y
Visible	> 2mm	% w/w	0.10		Y	Y	Y	Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y	Y	Y	Y
	Number of Sharps		0		Y	Y	Y	Y	Y	Y
Additional	Available Sodium	mg/l	21.0							
Analysis:	Available Calcium	mg/l	1950.0							
	Conductivity	uS/cm	2083		Y					
Compliancy:					**Y**	**N**	**N**	**N**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: *Teresa Clyne* **Date: 21/04/2026**

DECLARATION: I certify that this sample has been analysed by NRM in accordance with BS 3882 Specification for Topsoil (2015).

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

NRM Laboratories is a division of Cawood Scientific Ltd, Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS Registered Number: 05655711

Analytical Report

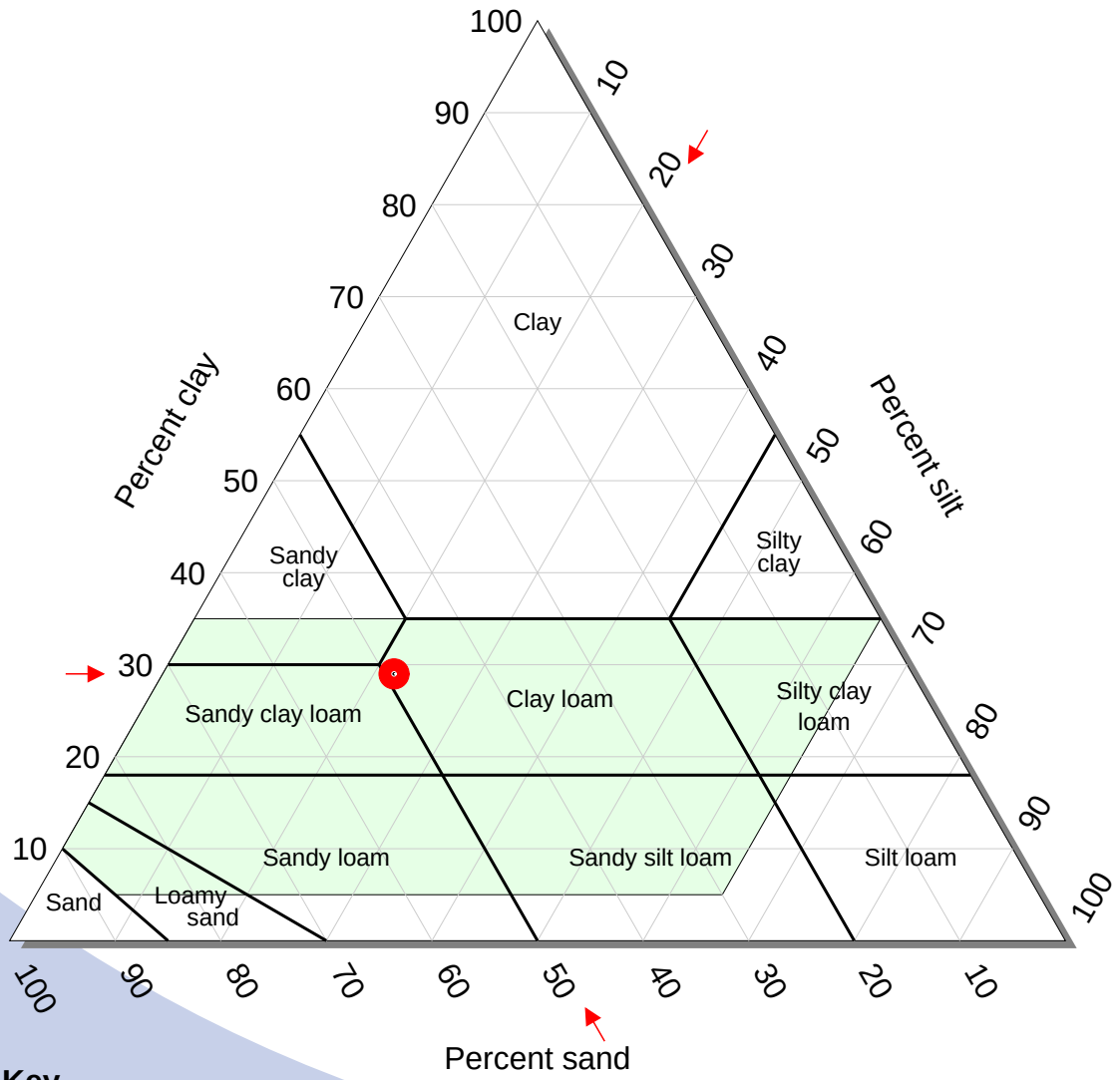
Client: STUART BALDWIN
(T283) SED SERVICES LTD
LANDGATE FARM
LANDGATE LANE
BRYN
WIGAN WN4 0EJ

Originator: TOPSOIL
SOIL

Lab ID: 48003 - 791609
Sample ID: TOPSOIL
Sample Weight: 1679g

Date Received: 07/04/2026
Date Reported: 21/04/2026

Fig. 1. Textural Class: Clay Loam (compliant)



Key

Area within which texture of topsoil is required to fall.

Analytical Notes

Accreditation and method details

NRM is a UKAS-accredited testing laboratory (No 2334), accredited to BS EN ISO 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF communique dated April 2017). http://ilac.org/?ddownload=120917

NRM is accredited for particular determinands in specific matrices as set out in the laboratory's current UKAS schedule of accreditation https://www.ukas.com/wp-content/uploads/schedule_uploads/00002/2334Testing-Multiple.pdf

Accreditation applies to the following parameters in this report and is applicable to SOIL samples only. All other tests within this report are unaccredited.

Test	Analysis SOP	Method Description
Fluoride	JAS-487	Sulphuric acid extraction (1:10 ratio) and determination by ion selective electrode
Arsenic	JAS-510 / JAS-300	Aqua regia digest on hot block and determination by ICP-OES
Barium		
Beryllium		
Cadmium		
Chromium		
Cobalt		
Copper		
Lead		
Molybdenum		
Mercury		
Nickel		
Vanadium		
Zinc		
Selenium	JAS-510 / JAS-455	Aqua regia digest on hot block and determination by AFS

Analysis Notes

Analysis is carried out on the air-dried (<30°C) and ground sample.

The results as reported relate only to the item(s) submitted for testing.

The results are presented on a dry matter basis.

Indices are derived solely from the numerical value and test result without reference to measurement uncertainty.

Document Control

This test report shall not be reproduced, except in full, without the written approval of the laboratory.

We cannot offer interpretation or opinions for results.

Sampling information

BS ISO 18512:2007 (Soil quality – Guidance on long and short-term storage of soil samples) states that for pH the period of stability and therefore holding time for a wet or 'fresh' soil sample is one week from sampling. Other determinants in the fresh sample may be considered stable for up to a month. Once the sample has been dried the sample may then be considered stable for up to 3 years. No records are maintained by NRM on date sampled or date dried so all samples within this report are considered not to be meeting the requirements of this BS / ISO. Consequently, all pH results given are those of the as-received sample and may not reflect the pH value of the sample when taken.

Conformity Assessment

Where a result has been converted to an index or if it has been classified as a pass or fail to a certain specification anywhere in this report a rule has been applied to convert the analytical result to that index or a pass/fail . Statistically the rule is a simple acceptance rule which does not account for uncertainty and therefore has a zero guard band which nominally has a width w=0. This means there is a 50% probability that a result exactly equal to the specification limit will be outside the specification.

The uncertainty of measurement has been calculated for the tests in this report. This value can provide further information on the validity of conformity statements close to the specification limit and is available from the laboratory on request.

Customer-supplied information

The following information in this report has been supplied by the customer: customer details; client details; quotation number / analysis required; order number; sampling date (if present); sample identifications.

END OF REPORT

TS5 Low Fertility Topsoil

Date Tested: 07/01/2026
Report ID: TS 1225 02

Parameter	Unit	BS3882:2015 Low Fertility	Result	Compliance
Texture:				
Clay (<0.002mm)	% w/w	5 - 30%	14	*Yes*
Silt (0.002 - 0.05mm)	% w/w	0 - 65%	37	*Yes*
Sand (0.05 - 2.0mm)	% w/w	20 - 90%	49	*Yes*
Textual Class:	**Sandy Silt Loam**			
Stones (2 - 20mm)	% w/w DW	0 - 30%	0.8	*Yes*
Stones (20-50mm)	% w/w DW	0 - 10%	0	*Yes*
Stones (>50mm)	% w/w DW	0%	0	*Yes*
Organic Matter (LOI)	% w/w	2.0 - 20.0	2.2	*Yes*
Ph		3.5 - 9.0	7.8	*Yes*
Exchangeable Sodium Percentage	%	< 15%	1.1	*Yes*
Phytotoxic Contaminants:				
Total Zinc	mg/kg	< 300	28.8	*Yes*
Total Copper	mg/kg	< 200	8.7	*Yes*
Total Nickel	mg/kg	< 110	<10	*Yes*
Available Nutrients:				
Nitrogen	mg/l	n/a	0.097	*Yes*
Phosphorus	mg/l	< 20	16.4	*Yes*
Potassium	mg/l	n/a	50.0	*Yes*
Magnesium	mg/l	n/a	40.5	*Yes*
Carbon:Nitrogen Ratio	:1	< 35:1	13.2	*Yes*
Additional Analysis:				
Electrical Conductivity (1:2 $CaSO_4$ extract)	µS/cm	3300	2156	*Yes*
Visible Contaminants:				
Plastics (>2.0mm)	% w/w	< 0.5	0.0	*Yes*
Sharps (>2.0mm)	% w/w	< 0.25	0.0	*Yes*

Bourne Amenity Ltd

Bourne Amenity Ltd, The Wharf, Rye Road, Newenden, Kent TN18 5QG
01797 252299 • info@bourneamenity.co.uk
www.bourneamenity.co.uk
VAT No: 863 1196 22 • Registered in England No: 3453821

Appendix D Testing Results and Soil Assessment Sheet

Stantec
GE Stafford
ST17 4UJ

t: 0131 297 2230

e: ben.douglas@stantec.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: info-i2analytical@normecgroup.com

Analytical Report Number : 26-054849

Project / Site name:	MCFC Hotel	**Samples received on:**	02/10/2026
Your job number:	333801925	**Samples instructed on/ Analysis started on:**	02/10/2026
Your order number:	ER0041051	**Analysis completed by:**	15/10/2026
Report Issue Number:	1	**Report issued on:**	16/10/2026
Samples Analysed:	13 soil samples		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-054849
Project / Site name: MCFC Hotel
Your Order No: ER0041051

Lab Sample Number				1070349	1070350	1070351	1070352	1070353
Sample Reference				SP01/01.10.26/TS/VW02	VC02	VR01	VR02	VR03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.30	0.30	0.30
Date Sampled				01/10/2026	01/10/2026	01/10/2026	01/10/2026	01/10/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	9.8	16	15	14
Total mass of sample received	kg	0.1	NONE	0.8	1	1	0.9	0.9
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MBI	MBI	MBI	MBI	MBI
Analysis completed	N/A	N/A	N/A	13/10/2026	13/10/2026	13/10/2026	13/10/2026	13/10/2026
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.7	7.7	8.2	7.6	7.9
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	300	130	60	52	39
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.027	0.02	0.022	0.027	0.022
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.28	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.06	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.23	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.2	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.13	< 0.05	0.21	1.9	0.19
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.4	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.31	0.08	0.47	2.1	0.39
Pyrene	mg/kg	0.05	MCERTS	0.3	0.07	0.47	2.2	0.38
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.16	0.06	0.29	1.1	0.24
Chrysene	mg/kg	0.05	MCERTS	0.16	0.08	0.31	1.1	0.29
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.2	< 0.05	0.4	1.1	0.33
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.08	< 0.05	0.16	0.52	0.17
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.16	0.05	0.32	1.1	0.28
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.08	< 0.05	0.17	0.46	0.15
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.1	< 0.05	0.21	0.62	0.18
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.69	< 0.80	3.01	13.3	2.6

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Analytical Report Number: 26-054849
Project / Site name: MCFC Hotel
Your Order No: ER0041051

Lab Sample Number				1070349	1070350	1070351	1070352	1070353
Sample Reference				SP01/01.10.26/TS/VW02	VC02	VR01	VR02	VR03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.10	0.10	0.30	0.30	0.30
Date Sampled				01/10/2026	01/10/2026	01/10/2026	01/10/2026	01/10/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.4	5.3	7.6	5.9	4.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S *U/S g	U/S *U/S g	U/S *U/S g	U/S *U/S g	U/S *U/S g
Chromium (III)	mg/kg	1	NONE	U/S *U/S g	U/S *U/S g	U/S *U/S g	U/S *U/S g	U/S *U/S g
Chromium (hexavalent) by IC	mg/kg	1.8	NONE	< 1.80	< 1.80	< 1.80	< 1.80	< 1.80
Chromium (III) by IC	mg/kg	1	NONE	10	14	15	12	10
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10	14	15	12	10
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	13	31	26	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	35	15	45	53	33
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.9	7.6	13	11	9.4
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	73	34	71	64	50
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	16	< 8.0	< 8.0	12	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 $_{EH_CU_1D_AL}$	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	16	< 10	< 10	12	< 10
TPHCWG - Aliphatic >EC5 - EC44 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	16	< 10	< 10	12	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.4	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	2.8	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	12	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	22	< 10	< 10	31	14
TPHCWG - Aromatic >EC35 - EC44 $_{EH_CU_1D_AR}$	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	13	< 8.4
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	22	< 10	< 10	47	14
TPHCWG - Aromatic >EC5 - EC44 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	22	< 10	< 10	60	14
VOCs								
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 26-054849
Project / Site name: MCFC Hotel
Your Order No: ER0041051

Lab Sample Number				1070354	1070355	1070356	1070357	1070358
Sample Reference				VR04	VR04	VW01	VW03	VW03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.30	0.60	0.50	0.30	0.70
Date Sampled				01/10/2026	01/10/2026	01/10/2026	01/10/2026	01/10/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Mass of stone >10mm	%	0.1	NONE	< 0.1	4.5	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	24	12	16	11	11
Total mass of sample received	kg	0.1	NONE	0.9	0.9	0.9	0.9	0.9
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JWU	JWU	JWU	JWU	DSA
Analysis completed	N/A	N/A	N/A	13/10/2026	13/10/2026	13/10/2026	13/10/2026	13/10/2026
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.3	8.5	7.9	7.8	7.9
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	79	150	310	270	210
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.031	0.011	0.039	0.022	0.0084
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.09	0.15	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.16	0.19	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.11	0.14	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.98	1.3	0.17	0.13	0.16
Anthracene	mg/kg	0.05	MCERTS	0.23	0.31	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.3	1.8	0.46	0.35	0.46
Pyrene	mg/kg	0.05	MCERTS	1.2	1.8	0.41	0.35	0.49
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.65	0.87	0.22	0.19	0.29
Chrysene	mg/kg	0.05	MCERTS	0.77	0.99	0.28	0.22	0.27
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.77	1	< 0.05	0.28	0.35
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.38	0.52	< 0.05	0.13	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.7	1	0.24	0.23	0.29
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.34	0.47	0.15	0.13	0.17
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.09	0.11	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.46	0.56	0.17	0.14	0.18
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	8.24	11.2	2.1	2.16	2.66

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Analytical Report Number: 26-054849
Project / Site name: MCFC Hotel
Your Order No: ER0041051

Lab Sample Number				1070354	1070355	1070356	1070357	1070358
Sample Reference				VR04	VR04	VW01	VW03	VW03
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.30	0.60	0.50	0.30	0.70
Date Sampled				01/10/2026	01/10/2026	01/10/2026	01/10/2026	01/10/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.1	7.7	6.3	7	7.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.2	< 0.2	0.2	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S *U/S g	< 1.8	U/S *U/S g	U/S *U/S g	U/S *U/S g
Chromium (III)	mg/kg	1	NONE	U/S *U/S g	15	U/S *U/S g	U/S *U/S g	U/S *U/S g
Chromium (hexavalent) by IC	mg/kg	1.8	NONE	< 1.80	-	< 1.80	< 1.80	< 1.80
Chromium (III) by IC	mg/kg	1	NONE	12	-	11	15	15
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	15	11	15	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27	29	17	18	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	58	72	38	41	41
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	14	11	11	11
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	67	71	82	100	110
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	14	15	26	25	30
TPHCWG - Aliphatic >EC35 - EC44 $_{EH_CU_1D_AL}$	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	14	15	26	25	30
TPHCWG - Aliphatic >EC5 - EC44 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	14	15	26	25	30
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	1.3	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	4.4	2.1	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	13	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	20	42	32	41	26
TPHCWG - Aromatic >EC35 - EC44 $_{EH_CU_1D_AR}$	mg/kg	8.4	NONE	< 8.4	22	13	29	15
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	25	58	32	41	26
TPHCWG - Aromatic >EC5 - EC44 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	25	80	44	70	41
VOCs								
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number: 26-054849
Project / Site name: MCFC Hotel
Your Order No: ER0041051

Lab Sample Number				1070359	1070360	1070361
Sample Reference				VW04	VW04	VW05
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.20	0.50	0.10
Date Sampled				01/10/2026	01/10/2026	01/10/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	10	21
Total mass of sample received	kg	0.1	NONE	0.9	1	1
Asbestos						
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA
Analysis completed	N/A	N/A	N/A	13/10/2026	13/10/2026	13/10/2026
General Inorganics						
pH (L099)	pH Units	N/A	MCERTS	8.2	7.5	8.1
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	33	55	100
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.012	0.0054	0.026
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.34	0.43
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.09	0.09
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.8
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.42	0.67
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.35	0.49
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.35	0.54
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.31	0.51
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.22	0.37
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.3	0.47
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.17	0.26
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.07
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.15	0.3
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	2.68	4.99

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Analytical Report Number: 26-054849
Project / Site name: MCFC Hotel
Your Order No: ER0041051

Lab Sample Number				1070359	1070360	1070361
Sample Reference				VW04	VW04	VW05
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.20	0.50	0.10
Date Sampled				01/10/2026	01/10/2026	01/10/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.5	6.8	9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	0.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S *U/S g	< 1.8	U/S *U/S g
Chromium (III)	mg/kg	1	NONE	U/S *U/S g	12	U/S *U/S g
Chromium (hexavalent) by IC	mg/kg	1.8	NONE	< 1.80	-	< 1.80
Chromium (III) by IC	mg/kg	1	NONE	14	-	17
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	12	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.8	12	27
Lead (aqua regia extractable)	mg/kg	1	MCERTS	7.5	20	66
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	9.6	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	28	54	160
Petroleum Hydrocarbons						
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	14
TPHCWG - Aliphatic >EC35 - EC44 $_{EH_CU_1D_AL}$	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10	14
TPHCWG - Aliphatic >EC5 - EC44 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	< 10	< 10	14
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10	< 10	18
TPHCWG - Aromatic >EC35 - EC44 $_{EH_CU_1D_AR}$	mg/kg	8.4	NONE	< 8.4	< 8.4	11
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	< 10	18
TPHCWG - Aromatic >EC5 - EC44 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	< 10	< 10	29
VOCs						
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

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Analytical Report Number : 26-054849
Project / Site name: MCFC Hotel

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1070349	1/01.10.26/TS/V	None Supplied	0.1	Brown loam with vegetation
1070350	VC02	None Supplied	0.1	Brown loam and sand with vegetation
1070351	VR01	None Supplied	0.3	Brown loam and sand with vegetation
1070352	VR02	None Supplied	0.3	Brown sandy clay
1070353	VR03	None Supplied	0.3	Brown sandy clay with vegetation
1070354	VR04	None Supplied	0.3	Brown sandy clay with vegetation
1070355	VR04	None Supplied	0.6	Brown loam and clay with gravel and stones
1070356	VW01	None Supplied	0.5	Brown loam and clay with gravel and vegetation
1070357	VW03	None Supplied	0.3	Brown loam and clay with gravel and vegetation
1070358	VW03	None Supplied	0.7	Brown loam and clay with gravel and vegetation
1070359	VW04	None Supplied	0.2	Brown loam and sand with gravel and vegetation
1070360	VW04	None Supplied	0.5	Brown loam and sand with gravel and vegetation
1070361	VW05	None Supplied	0.1	Brown loam and sand with gravel and vegetation

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Analytical Report Number : 26-054849
Project / Site name: MCFC Hotel

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Hexavalent chromium in soil by Ion Chromatography	Determination of hexavalent chromium in alkaline soil extract by use of ion chromatography with spectrophotometric detection	In-house method	L130B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate	In-house method	L009B	D	MCERTS

Analytical Report Number : 26-054849
Project / Site name: MCFC Hotel

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Where coal tar is reported as "indicative/not indicative", PAH source attribution has been assessed using the ratio of parent PAHs to alkylated PAHs to indicate a likely pyrogenic (coal tar–related) or petrogenic (bitumen-related) origin. This assessment is independent of total residue and/or benzo(a)pyrene concentrations and is provided for indicative purposes only; it represents a single line of evidence and does not, in isolation, constitute confirmation or classification as hazardous under WM3 guidance.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

*U/S g- Unsuitable for analysis due to high colour intensity.

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter: Default - Human Health - POSpark (1%SOM)
Client: John Sisk & Son Limited
Site: MCFC North Stand
Job no.: 3E+08
Lab. report no(s).: 26-054849-1

Data Filters
Zone: ALL
Strata: ALL
Depth Min (m bgl): 0.1
Depth Max (m bgl): 0.7

Dataset mean SOM%: 3.87
Scenario SOM%: 1

All values in mg/kg unless otherwise stated

CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @1% SOM	GAC	GAC Source	Date	07/01/26	11/06/26	07/04/26	07/04/26	19/04/23	02/05/24	1/10/2026	1/10/2026	1/10/2026	1/10/2026	1/10/2026	1/10/2026	1/10/2026
														Zone	Roswick	Wrights	Wrights	Wrights	Cara	Cara	Wrights	Wrights	Wrights	Cara	Roswick	Roswick	Roswick	Roswick
														Location	Bourne Amenity	Bourne Amenity	SED	SED	R Draper Ltd	R Draper Ltd	VW04	VW05	01/01.10.26/TS/VV	VC02	VR01	VR02	VR03	VR04
														Depth (m bgl)							0.2	0.1	0.1	0.1	0.3	0.3	0.3	0.3
	Asbestos																											
P1020	Asbestos Identified	text	Y/N	16	-	-	-	-	No. of detects:	0	-	-	-			N			N	N	N	N	N	N	N	N	N	N
	Hydrock Default Suite - FOC / SOM / pH										-																	
P1085	FOC (dimensionless)	-	0.001	13	0.005	0.039	0.021	0.022	0.01		-	-	-								0.012	0.026	0.027	0.02	0.022	0.027	0.022	0.031
-	SOM (calculated)	%	0.1724	18	0.93	12.90	3.87	3.79	2.76		-	-	-		2.2	1.8		12.9	1.3	4.5	2.0688	4.4824	4.6548	3.448	3.7928	4.6548	3.7928	5.3444
P1334	pH (su)	pH Units	0.1	19	6.20	8.50	7.77	7.80	0.57		-	-	-		7.8	8.3	8.5	6.2	7.8	6.7	8.2	8.1	7.7	7.7	8.2	7.6	7.9	7.3
	Hydrock Default Suite - Metals & PAH																											
7440-38-2	Arsenic	mg/kg	1	16	2.00	10.00	6.71	6.90	1.87	0	NR	170	C4SL - CL:AIRE 2014			8			2	10	7.5	9	6.4	5.3	7.6	5.9	4.9	5.1
7440-41-7	Beryllium	mg/kg	0.06	1	0.30	0.30	0.30	0.30	-	0	NR	63	Hydrock Derived			0.3												
7440-42-8	Boron	mg/kg	0.2	3	0.20	1.40	0.60	0.20	0.69	0	NR	46000	Hydrock Derived			1.4			<0.2	<0.2								
7440-43-9	Cadmium	mg/kg	0.2	16	0.20	0.50	0.23	0.20	0.08	0	NR	880	C4SL - CL:AIRE 2014			<0.2			<0.2	<0.2	<0.2	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
16065-83-1	Chromium (III)	mg/kg	1	2	12.00	15.00	13.50	13.50	2.12	0	NR	27000	Hydrock Derived								***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***
18540-29-9	Chromium (VI)	mg/kg	1.8	4	1.80	1.80	1.80	1.80	0.00	0	NR	250	C4SL - CL:AIRE 2014			***U/S***			<1.8	<1.8	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***
7440-47-3	Chromium (Total)	mg/kg	1	16	4.00	17.00	12.56	13.00	3.16			-				15			4	10	14	17	10	14	15	12	10	12
7440-50-8	Copper	mg/kg	1	19	5.30	36.00	19.09	17.00	9.61	0	NR	44000	Hydrock Derived		8.7	10	5.3	35	8	36	9.8	27	15	13	31	26	19	27
7439-92-1	Lead	mg/kg	1	16	7.00	81.00	38.78	39.50	23.31	0	NR	1300	C4SL - CL:AIRE 2014			7			8	81	7.5	66	35	15	45	53	33	58
7439-97-6	Mercury, inorganic	mg/kg	0.3	16	0.30	0.30	0.30	0.30	0.00	0	NR	1300	Hydrock Derived			<0.3			<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
7440-02-0	Nickel	mg/kg	1	19	3.00	32.10	11.51	11.00	5.53	0	NR	800	Hydrock Derived		<10	12	<10	32.1	3	9	12	13	8.9	7.6	13	11	9.4	11
7782-49-2	Selenium	mg/kg	1	16	1.00	1.00	1.00	1.00	0.00	0	NR	1800	Hydrock Derived			<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
7440-62-2	Vanadium	mg/kg	1	1	34.00	34.00	34.00	34.00	-	0	NR	5000	Hydrock Derived			34												
7440-66-6	Zinc	mg/kg	1	19	8.00	160.00	61.54	64.00	36.37	0	NR	170000	Hydrock Derived		28.8	30	18.4	78	8	42	28	160	73	34	71	64	50	67
P1095	Cyanide (free)	mg/kg	1	16	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020			<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
P1186	Total Phenols (Monohydric)	mg/kg	1	3	1.00	1.00	1.00	1.00	0.00	0	24237	440	Hydrock Derived			<1			<1	<1								
83-32-9	Acenaphthene	mg/kg	0.05	16	0.05	0.23	0.08	0.05	0.06	0	57	29000	Hydrock Derived			<0.05			<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	0.23	<0.05	0.16
208-96-8	Acenaphthylene	mg/kg	0.05	16	0.05	0.06	0.05	0.05	0.00	0	86	29000	Hydrock Derived			<0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05
120-12-7	Anthracene	mg/kg	0.05	16	0.05	0.40	0.11	0.05	0.11	0	1.17	150000	Hydrock Derived			<0.05			<0.05	0.15	<0.05	0.09	<0.05	<0.05	<0.05	0.4	<0.05	0.23
56-55-3	Benz(a)anthracene	mg/kg	0.05	16	0.05	1.10	0.35	0.27	0.31	0	1.71	49	Hydrock Derived			<0.05			<0.05	0.56	<0.05	0.49	0.16	0.06	0.29	1.1	0.24	0.65
50-32-8	Benzo(a)pyrene	mg/kg	0.05	16	0.05	1.10	0.37	0.29	0.33	0	0.91	21	C4SL - CL:AIRE 2014			<0.05			<0.05	0.66	<0.05	0.47	0.16	0.05	0.32	1.1	0.28	0.7
205-99-2	Benzo(b)fluoranthene	mg/kg	0.05	16	0.05	1.10	0.39	0.32	0.35	0	1.22	13	Hydrock Derived			<0.05			<0.05	0.73	<0.05	0.51	0.2	<0.05	0.4	1.1	0.33	0.77
191-24-2	Benzo(ghi)perylene	mg/kg	0.05	16	0.05	0.62	0.23	0.18	0.19	0	0.02	1400	Hydrock Derived			<0.05			<0.05	0.42	<0.05	0.3	0.1	<0.05	0.21	0.62	0.18	0.46
207-08-9	Benzo(k)fluoranthene	mg/kg	0.05	16	0.05	0.52	0.20	0.15	0.17	0	0.69	370	Hydrock Derived			<0.05			<0.05	0.38	<0.05	0.37	0.08	<0.05	0.16	0.52	0.17	0.38
218-01-9	Chrysene	mg/kg	0.05	16	0.05	1.10	0.39	0.29	0.34	0	0.44	93	Hydrock Derived			<0.05			<0.05	0.78	<0.05	0.54	0.16	0.08	0.31	1.1	0.29	0.77
53-70-3	Dibenz(ah)anthracene	mg/kg	0.05	16	0.05	0.11	0.06	0.05	0.02	0	0.004	1.1	Hydrock Derived			<0.05			<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	0.09
206-44-0	Fluoranthene	mg/kg	0.05	16	0.05	2.10	0.62	0.43	0.65	0	19	6300	Hydrock Derived			0.09			<0.05	1.2	<0.05	0.8	0.31	0.08	0.47	2.1	0.39	1.3
86-73-7	Fluorene	mg/kg	0.05	16	0.05	0.20	0.07	0.05	0.04	0	31	20000	Hydrock Derived			<0.05			<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.2	<0.05	0.11
193-39-5	Indeno(123cd)pyrene	mg/kg	0.05	16	0.05	0.47	0.19	0.16	0.14	0	0.06	150	Hydrock Derived			<0.05			<0.05	0.33	<0.05	0.26	0.08	<0.05	0.17	0.46	0.15	0.34
91-20-3	Naphthalene	mg/kg	0.05	16	0.05	0.28	0.07	0.05	0.06	0	76	800	C4SL - CL:AIRE 2024			<0.05			0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.28	<0.05	0.09
85-01-8	Phenanthrene	mg/kg	0.05	16	0.05	1.90	0.43	0.18	0.54	0	36	6200	Hydrock Derived			<0.05			<0.05	0.73	<0.05	0.43	0.13	<0.05	0.21	1.9	0.19	0.98
129-00-0	Pyrene	mg/kg	0.05	16	0.05	2.20	0.63	0.42	0.64	0	2.2	15000	Hydrock Derived			0.07			<0.05	1.2	<0.05	0.67	0.3	0.07	0.47	2.2	0.38	1.2
P1310	PAH 16 Total	mg/kg	0.8	16	0.80	13.30	4.07	2.63	3.89			-				<0.8			<0.8	7.25	<0.8	4.99	1.69	<0.8	3.01	13.3	2.6	8.24
	TPH fractions																											
P1407	TPH ali EC05-EC06	mg/kg	0.001	16	0.00	0.02	0.01	0.01	0.004	0	304	95000	Hydrock Derived			<0.001			<0.001	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1408	TPH ali >EC06-EC08	mg/kg	0.001	16	0.00	0.02	0.01	0.01	0.004	0	144	150000	Hydrock Derived			<0.001			<0.001	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1409	TPH ali >EC08-EC10	mg/kg	0.001	16	0.00	0.02	0.01	0.01	0.004	0	78	14000	Hydrock Derived			<0.001			<0.001	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1410	TPH ali >EC10-EC12	mg/kg	1	16	1.00	1.00	1.00	1.00	0.00	0	48	21000	Hydrock Derived			<1			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
P1411	TPH ali >EC12-EC16	mg/kg	2	16	2.00	2.00	2.00	2.00	0.00	0	24	25000	Hydrock Derived			<2			<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
-	TPH ali >EC16-EC21	mg/kg	8	16	8.00	8.00	8.00	8.00	0.00			-				<8			<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
-	TPH ali >EC21-EC35	mg/kg	8	16	8.00	30.00	13.50	10.00	7.37			-				<8			<8	<8	<8	14	16	<8	<8	12	<8	14
P1415	TPH ali >EC35-EC44	mg/kg	8.4	13	8.40	8.40	8.40	8.40	0.00	0	8	450000	Hydrock Derived								<8.4	<8.4	<8.4	<8.4	<8.4	<8.4	<8.4	<8.4
-	TPH ali >EC5-EC35	mg/kg	10	16	10.00	30.00	14.50	11.00	6.60			-				<10			<10	<10	<10	14	16	<10	<10	12	<10	14
-	TPH ali >EC5-EC44	mg/kg	10	13	10.00	30.00	15.54	14.00	6.95			-									<10	14	16	<10	<10	12	<10	14
P1441	TPH aro EC05-EC07	mg/kg	0.001	16	0.00	0.01	0.01	0.01	0.00	0	1218	76000	Hydrock Derived			<0.01			<0.001	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1355	TPH aro >EC07-EC08	mg/kg	0.001	16	0.00	0.01	0.01	0.01	0.00	0	869	87000	Hydrock Derived			<0.01			<0.001	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
P1356	TPH aro >EC08-EC10	mg/kg	0.001	16	0.00	0.05	0.02	0.02	0.01	0	613	7200	Hydrock Derived			<0.02			<0.001	<0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
P1357	TPH aro >EC10-EC12	mg/kg	1	16	1.00	1.40	1.04	1.00	0.12	0	364	9200	Hydrock Derived			<1			<1	<1	<1	<1	<1	<1	<1	1.4	<1	<1
P1358	TPH aro >EC12-EC16	mg/kg	2	16	2.00	4.40	2.21	2.00	0.62	0	169	10000	Hydrock Derived			<2			<2	<2	<2	<2	<2	<2	<2	2.8	<2	4.4
P1359	TPH aro >EC16-EC21	mg/kg	10	16	10.00	13.00	10.31	10.00	0.87	0	54	7600	Hydrock Derived			<10			<10	<10	<10	<10	<10	<10	<10	12	<10	<10
P1360	TPH aro >EC21-EC35	mg/kg	10	16	10.00	42.00	19.75	16.00	11.46	0	5	7800	Hydrock Derived			<10			<10	<10	<10	18	22	<10	<10	31	14	20
P1362	TPH aro >EC35-EC44	mg/kg	8.4	13	8.40	29.00	12.45	8.40	6.38	0	5	7800	Hydrock Derived								<8.4	11	<8.4	<8.4	<8.4	13	<8.4	<8.4
-	TPH aro >EC5-EC35	mg/kg	10	16	10.00	58.00	22.06	16.00	15.26			-				<10			<10	<10	<10	18	22	<10	<10	47	14	25
-	TPH aro >EC5-EC44	mg/kg	10	13	10.00	80.00	32.69	25.00	24.44			-									<10	29	22	<10	<10	60	14	25
	VOCs - BTEX & MTBE																											
71-43-2	Benzene	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25	0	1218	190	C4SL - CL:AIRE 2014			<5			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

CAS No / P Code	Chemical of Potential Concern	Strata	Pre LF TS	Pre BRG	Pre SS	Pre TS	Pre SS	Pre TS	TS	TS	TS	TS	TS	TS	TS	TS

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:	Default - Human Health - POSpark (1%SOM)
Client:	John Sisk & Son Limited
Site:	MCFC North Stand
Job no.:	3E+08
Lab. report no(s).:	26-054849-1

Data Filters

Zone	ALL
Strata	ALL
Depth Min (m bgl)	0.1
Depth Max (m bgl)	0.7
Dataset mean SOM%	3.87
Scenario SOM%	1

All values in mg/kg unless otherwise stated

CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @1% SOM	GAC	GAC Source	Strata	Pre LF TS	Pre BRG	Pre SS	Pre TS	Pre SS	Pre TS	TS	TS	TS	TS	TS	TS	TS	TS
Date															07/01/26	11/06/26	07/04/26	07/04/26	19/04/23	02/05/24	1/10/2026	1/10/2026	1/10/2026	1/10/2026	1/10/2026	1/10/2026	1/10/2026	1/10/2026
Zone															Roswick	Wrights	Wrights	Wrights	Cara	Cara	Wrights	Wrights	Wrights	Cara	Roswick	Roswick	Roswick	Roswick
Location															Bourne Amenity	Bourne Amenity	SED	SED	R Draper Ltd	R Draper Ltd	VW04	VW05	01/01.10.26/TS/VV	VC02	VR01	VR02	VR03	VR04
Depth (m bgl)																					0.2	0.1	0.1	0.1	0.3	0.3	0.3	0.3
108-88-3	Toluene	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25	0	869	87000	Hydrock Derived			<5			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
100-41-4	Ethylbenzene	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25	0	518	17000	Hydrock Derived			<5			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
95-47-6	Xylene, o-	mg/kg	1	16	0.01	8.00	0.50	0.01	2.00	0	478	17000	Hydrock Derived			<8			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
-	Xylene, p- (or combined m & p)	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25			-				<5			<0.005	<0.005	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
1634-04-4	MTBE	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25	0	20358	98000	Hydrock Derived			<5			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	Insufficient data to derive GAC	**mg/kg**																										
90-12-0	1-Methylnaphthalene	mg/kg		0																								
P1022	Sulfur (elemental)	mg/kg		1	5.00	5.00	5.00	5.00	-			-				<5												
	TPH Additivity Check						**HAZARD QUOTIENTS FOR EACH FRACTION**																					
													Aliphatics >EC5-EC6			1.05263E-08			1.05263E-08	2.10526E-07	1.05263E-07	1.05263E-07	1.05263E-07	1.05263E-07	1.05263E-07	1.05263E-07	1.05263E-07	1.05263E-07
													Aliphatics >EC6-EC8			6.66667E-09			6.66667E-09	1.33333E-07	6.66667E-08	6.66667E-08	6.66667E-08	6.66667E-08	6.66667E-08	6.66667E-08	6.66667E-08	6.66667E-08
													Aliphatics >EC8-EC10			7.14286E-08			7.14286E-08	1.42857E-06	7.14286E-07	7.14286E-07	7.14286E-07	7.14286E-07	7.14286E-07	7.14286E-07	7.14286E-07	7.14286E-07
													Aliphatics >EC10-EC12			4.7619E-05			4.7619E-05	4.7619E-05	4.7619E-05	4.7619E-05	4.7619E-05	4.7619E-05	4.7619E-05	4.7619E-05	4.7619E-05	4.7619E-05
													Aliphatics >EC12-EC16			0.00008			0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008	0.00008
													Aliphatics >EC16-EC35															
													Aliphatics >EC35-EC44								1.86667E-05	1.86667E-05	1.86667E-05	1.86667E-05	1.86667E-05	1.86667E-05	1.86667E-05	1.86667E-05
													Aromatics EC5-EC7			1.31579E-07			1.31579E-08	1.31579E-08	1.31579E-07	1.31579E-07	1.31579E-07	1.31579E-07	1.31579E-07	1.31579E-07	1.31579E-07	1.31579E-07
													Aromatics >EC7-EC8			1.14943E-07			1.14943E-08	1.14943E-08	1.14943E-07	1.14943E-07	1.14943E-07	1.14943E-07	1.14943E-07	1.14943E-07	1.14943E-07	1.14943E-07
													Aromatics >EC8-EC10			2.77778E-06			1.38889E-07	6.94444E-06	2.77778E-06	2.77778E-06	2.77778E-06	2.77778E-06	2.77778E-06	2.77778E-06	2.77778E-06	2.77778E-06
													Aromatics >EC10-EC12			0.000108696			0.000108696	0.000108696	0.000108696	0.000108696	0.000108696	0.000108696	0.000108696	0.000152174	0.000108696	0.000108696
													Aromatics >EC12-EC16			0.0002			0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.00028	0.0002	0.00044
													Aromatics >EC16-EC21			0.001315789			0.001315789	0.001315789	0.001315789	0.001315789	0.001315789	0.001315789	0.001315789	0.001578947	0.001315789	0.001315789
													Aromatics >EC21-EC35			0.001282051			0.001282051	0.001282051	0.001282051	0.002307692	0.002820513	0.001282051	0.001282051	0.003974359	0.001794872	0.002564103
													Aromatics >EC35-EC44								0.001076923	0.001410256	0.001076923	0.001076923	0.001076923	0.001666667	0.001076923	0.001076923
													Hazard Index for ali>C8-C16			**0.00012769**			**0.00012769**	**0.000129048**	**0.000128333**	**0.000128333**	**0.000128333**	**0.000128333**	**0.000128333**	**0.000128333**	**0.000128333**	**0.000128333**
													Hazard Index for aro>C8-C16			0.000311473			0.000308835	0.00031564	0.000311473	0.000311473	0.000311473	0.000311473	0.000311473	0.000434952	0.000311473	0.000551473
													Hazard Index for aro>C16-C35			**0.002597841**			**0.002597841**	**0.002597841**	**0.002597841**	**0.003623482**	**0.004136302**	**0.002597841**	**0.002597841**	**0.005553306**	**0.003110661**	**0.003879892**

Considered additive (Aliphatics >EC8-EC10 to Aliphatics >EC12-EC16)

Considered additive (Aromatics >EC8-EC10 to Aromatics >EC12-EC16)

Considered additive (Aromatics >EC16-EC21 to Aromatics >EC21-EC35)

Hazard Index
HI or HQ greater than 1 highlighted with orange shading

Legend:

TS	Topsoil	<0.02	Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
SS	Subsoil	0.02	Value greater than, or equal to, the generic assessment criterion (GAC).
Pre LF TS	Pre import - Low Fertility Topsoil	64.00	Value exceed saturation limit and substance is liquid or solid at ambient temperature
		***<10**	Value excluded from statistical analysis
Pre BRG	Pre import - Bioretention rain garden	***Y***	Text result
Pre TS	Pre import - Topsoil	-	Represents a determinand that was not tested.
Pre SS	Pre import - Subsoil	*+*	represents a data point that is not included in the current filter settings

Template Version:
1.18: 11/06/26

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:	Default - Human Health - POSpark (1%SOM)
Client:	John Sisk & Son Limited
Site:	MCFC North Stand
Job no.:	3E+08
Lab. report no(s).:	26-054849-1

Data Filters

Zone	ALL
Strata	ALL
Depth Min (m bgl)	0.1
Depth Max (m bgl)	0.7
Dataset mean SOM%	3.87
Scenario SOM%	1

Stantec

Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @1% SOM	GAC	GAC Source	1/10/2026 Wrights VW01 0.5 TS	1/10/2026 Wrights VW03 0.3 TS
Asbestos														
Asbestos Identified	text	Y/N	16	-	-	-	-	No. of detects:	0	-	-	-	N	N
Hydrock Default Suite - FOC / SOM / pH										-				
FOC (dimensionless)	-	0.001	13	0.005	0.039	0.021	0.022	0.01		-	-	-	0.039	0.022
SOM (calculated)	%	0.1724	18	0.93	12.90	3.87	3.79	2.76		-	-	-	6.7236	3.7928
pH (su)	pH Units	0.1	19	6.20	8.50	7.77	7.80	0.57		-	-	-	7.9	7.8
Hydrock Default Suite - Metals & PAH														
Arsenic	mg/kg	1	16	2.00	10.00	6.71	6.90	1.87	0	NR	170	C4SL - CL:AIRE 2014	6.3	7
Beryllium	mg/kg	0.06	1	0.30	0.30	0.30	0.30	-	0	NR	63	Hydrock Derived		
Boron	mg/kg	0.2	3	0.20	1.40	0.60	0.20	0.69	0	NR	46000	Hydrock Derived		
Cadmium	mg/kg	0.2	16	0.20	0.50	0.23	0.20	0.08	0	NR	880	C4SL - CL:AIRE 2014	<0.2	0.2
Chromium (III)	mg/kg	1	2	12.00	15.00	13.50	13.50	2.12	0	NR	27000	Hydrock Derived	***U/S***	***U/S***
Chromium (VI)	mg/kg	1.8	4	1.80	1.80	1.80	1.80	0.00	0	NR	250	C4SL - CL:AIRE 2014	***U/S***	***U/S***
Chromium (Total)	mg/kg	1	16	4.00	17.00	12.56	13.00	3.16			-		11	15
Copper	mg/kg	1	19	5.30	36.00	19.09	17.00	9.61	0	NR	44000	Hydrock Derived	17	18
Lead	mg/kg	1	16	7.00	81.00	38.78	39.50	23.31	0	NR	1300	C4SL - CL:AIRE 2014	38	41
Mercury, inorganic	mg/kg	0.3	16	0.30	0.30	0.30	0.30	0.00	0	NR	1300	Hydrock Derived	<0.3	<0.3
Nickel	mg/kg	1	19	3.00	32.10	11.51	11.00	5.53	0	NR	800	Hydrock Derived	11	11
Selenium	mg/kg	1	16	1.00	1.00	1.00	1.00	0.00	0	NR	1800	Hydrock Derived	<1	<1
Vanadium	mg/kg	1	1	34.00	34.00	34.00	34.00	-	0	NR	5000	Hydrock Derived		
Zinc	mg/kg	1	19	8.00	160.00	61.54	64.00	36.37	0	NR	170000	Hydrock Derived	82	100
Cyanide (free)	mg/kg	1	16	1.00	1.00	1.00	1.00	0.00	0	NR	24	Acute Risk - SoBRA 2020	<1	<1
Total Phenols (Monohydric)	mg/kg	1	3	1.00	1.00	1.00	1.00	0.00	0	24237	440	Hydrock Derived		
Acenaphthene	mg/kg	0.05	16	0.05	0.23	0.08	0.05	0.06	0	57	29000	Hydrock Derived	<0.05	<0.05
Acenaphthylene	mg/kg	0.05	16	0.05	0.06	0.05	0.05	0.00	0	86	29000	Hydrock Derived	<0.05	<0.05
Anthracene	mg/kg	0.05	16	0.05	0.40	0.11	0.05	0.11	0	1.17	150000	Hydrock Derived	<0.05	<0.05
Benz(a)anthracene	mg/kg	0.05	16	0.05	1.10	0.35	0.27	0.31	0	1.71	49	Hydrock Derived	0.22	0.19
Benzo(a)pyrene	mg/kg	0.05	16	0.05	1.10	0.37	0.29	0.33	0	0.91	21	C4SL - CL:AIRE 2014	0.24	0.23
Benzo(b)fluoranthene	mg/kg	0.05	16	0.05	1.10	0.39	0.32	0.35	0	1.22	13	Hydrock Derived	<0.05	0.28
Benzo(ghi)perylene	mg/kg	0.05	16	0.05	0.62	0.23	0.18	0.19	0	0.02	1400	Hydrock Derived	0.17	0.14
Benzo(k)fluoranthene	mg/kg	0.05	16	0.05	0.52	0.20	0.15	0.17	0	0.69	370	Hydrock Derived	<0.05	0.13
Chrysene	mg/kg	0.05	16	0.05	1.10	0.39	0.29	0.34	0	0.44	93	Hydrock Derived	0.28	0.22
Dibenz(ah)anthracene	mg/kg	0.05	16	0.05	0.11	0.06	0.05	0.02	0	0.004	1.1	Hydrock Derived	<0.05	<0.05
Fluoranthene	mg/kg	0.05	16	0.05	2.10	0.62	0.43	0.65	0	19	6300	Hydrock Derived	0.46	0.35
Fluorene	mg/kg	0.05	16	0.05	0.20	0.07	0.05	0.04	0	31	20000	Hydrock Derived	<0.05	<0.05
Indeno(123cd)pyrene	mg/kg	0.05	16	0.05	0.47	0.19	0.16	0.14	0	0.06	150	Hydrock Derived	0.15	0.13
Naphthalene	mg/kg	0.05	16	0.05	0.28	0.07	0.05	0.06	0	76	800	C4SL - CL:AIRE 2024	<0.05	<0.05
Phenanthrene	mg/kg	0.05	16	0.05	1.90	0.43	0.18	0.54	0	36	6200	Hydrock Derived	0.17	0.13
Pyrene	mg/kg	0.05	16	0.05	2.20	0.63	0.42	0.64	0	2.2	15000	Hydrock Derived	0.41	0.35
PAH 16 Total	mg/kg	0.8	16	0.80	13.30	4.07	2.63	3.89			-		2.1	2.16
TPH fractions														
TPH ali EC05-EC06	mg/kg	0.001	16	0.00	0.02	0.01	0.01	0.004	0	304	95000	Hydrock Derived	<0.01	<0.01
TPH ali >EC06-EC08	mg/kg	0.001	16	0.00	0.02	0.01	0.01	0.004	0	144	150000	Hydrock Derived	<0.01	<0.01
TPH ali >EC08-EC10	mg/kg	0.001	16	0.00	0.02	0.01	0.01	0.004	0	78	14000	Hydrock Derived	<0.01	<0.01
TPH ali >EC10-EC12	mg/kg	1	16	1.00	1.00	1.00	1.00	0.00	0	48	21000	Hydrock Derived	<1	<1
TPH ali >EC12-EC16	mg/kg	2	16	2.00	2.00	2.00	2.00	0.00	0	24	25000	Hydrock Derived	<2	<2
TPH ali >EC16-EC21	mg/kg	8	16	8.00	8.00	8.00	8.00	0.00			-		<8	<8
TPH ali >EC21-EC35	mg/kg	8	16	8.00	30.00	13.50	10.00	7.37			-		26	25
TPH ali >EC35-EC44	mg/kg	8.4	13	8.40	8.40	8.40	8.40	0.00	0	8	450000	Hydrock Derived	<8.4	<8.4
TPH ali >EC5-EC35	mg/kg	10	16	10.00	30.00	14.50	11.00	6.60			-		26	25
TPH ali >EC5-EC44	mg/kg	10	13	10.00	30.00	15.54	14.00	6.95			-		26	25
TPH aro EC05-EC07	mg/kg	0.001	16	0.00	0.01	0.01	0.01	0.00	0	1218	76000	Hydrock Derived	<0.01	<0.01
TPH aro >EC07-EC08	mg/kg	0.001	16	0.00	0.01	0.01	0.01	0.00	0	869	87000	Hydrock Derived	<0.01	<0.01
TPH aro >EC08-EC10	mg/kg	0.001	16	0.00	0.05	0.02	0.02	0.01	0	613	7200	Hydrock Derived	<0.02	<0.02
TPH aro >EC10-EC12	mg/kg	1	16	1.00	1.40	1.04	1.00	0.12	0	364	9200	Hydrock Derived	<1	<1
TPH aro >EC12-EC16	mg/kg	2	16	2.00	4.40	2.21	2.00	0.62	0	169	10000	Hydrock Derived	<2	<2
TPH aro >EC16-EC21	mg/kg	10	16	10.00	13.00	10.31	10.00	0.87	0	54	7600	Hydrock Derived	<10	<10
TPH aro >EC21-EC35	mg/kg	10	16	10.00	42.00	19.75	16.00	11.46	0	5	7800	Hydrock Derived	32	41
TPH aro >EC35-EC44	mg/kg	8.4	13	8.40	29.00	12.45	8.40	6.38	0	5	7800	Hydrock Derived	13	29
TPH aro >EC5-EC35	mg/kg	10	16	10.00	58.00	22.06	16.00	15.26			-		32	41
TPH aro >EC5-EC44	mg/kg	10	13	10.00	80.00	32.69	25.00	24.44			-		44	70
VOCs - BTEX & MTBE														
Benzene	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25	0	1218	190	C4SL - CL:AIRE 2014	<0.005	<0.005

Assessment of Chemicals of Potential Concern to Human Health

Risk parameter:	Default - Human Health - POSpark (1%SOM)
Client:	John Sisk & Son Limited
Site:	MCFC North Stand
Job no.:	3E+08
Lab. report no(s).:	26-054849-1

Data Filters

Zone	ALL
Strata	ALL
Depth Min (m bgl)	0.1
Depth Max (m bgl)	0.7
Dataset mean SOM%	3.87
Scenario SOM%	1

Stantec

Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	Soil Saturation Limit @1% SOM	GAC	GAC Source	1/10/2026 Wrights VW01 0.5 TS	1/10/2026 Wrights VW03 0.3 TS
Toluene	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25	0	869	87000	Hydrock Derived	<0.005	<0.005
Ethylbenzene	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25	0	518	17000	Hydrock Derived	<0.005	<0.005
Xylene, o-	mg/kg	1	16	0.01	8.00	0.50	0.01	2.00	0	478	17000	Hydrock Derived	<0.005	<0.005
Xylene, p- (or combined m & p)	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25			-		<0.008	<0.008
MTBE	mg/kg	1	16	0.01	5.00	0.32	0.01	1.25	0	20358	98000	Hydrock Derived	<0.005	<0.005
Insufficient data to derive GAC	**mg/kg**													
1-Methylnaphthalene	mg/kg		0											
Sulfur (elemental)	mg/kg		1	5.00	5.00	5.00	5.00	-			-			
TPH Additivity Check						**HAZARD QUOTIENTS FOR EACH FRACTION**								
												Al	1.05263E-07	1.05263E-07
												Al	6.66667E-08	6.66667E-08
												Aliş	7.14286E-07	7.14286E-07
												Alipł	4.7619E-05	4.7619E-05
												Alipł	0.00008	0.00008
												Alipł		
												Alipł	1.86667E-05	1.86667E-05
												A	1.31579E-07	1.31579E-07
												Ar	1.14943E-07	1.14943E-07
												Aro	2.77778E-06	2.77778E-06
												Aron	0.000108696	0.000108696
												Aron	0.0002	0.0002
												Aron	0.001315789	0.001315789
												Aron	0.004102564	0.00525641
												Aron	0.001666667	0.003717949
												Hazard Inc	**0.000128333**	**0.000128333**
												Hazard Inde	**0.000311473**	**0.000311473**
												Hazard Inde	**0.005418354**	**0.0065722**

Considered additive

Considered additive

Considered additive

Hazard Index
HI or HQ greater than 1 highlighted with orange shading

Legend:

TS	Topsoil	<0.02	Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
SS	Subsoil	0.02	Value greater than, or equal to, the generic assessment criterion (GAC).
Pre LF TS	Pre import - Low Fertility Topsoil	64.00	Value exceed saturation limit and substance is liquid or solid at ambient temperature
		***<10**	Value excluded from statistical analysis
Pre BRG	Pre import - Bioretention rain garden	***Y***	Text result
Pre TS	Pre import - Topsoil	-	Represents a determinand that was not tested.
Pre SS	Pre import - Subsoil	+	represents a data point that is not included in the current filter settings

Assessment of Chemicals of Potential Concern to Plant Life

Risk parameter: Phytotoxic pH 7
Client: John Sisk & Son Limited
Site: MCFC North Stand
Job no.: 3.34E+08
Lab. report no(s).: 26-054849-1

Data Filters
Zone: All
Strata: All
Depth Min (m bgl): 0.1
Depth Max (m bgl): 0.7

Dataset mean pH: 7.77
Scenario pH: 7

All values in mg/kg unless otherwise stated

CAS No / P Code	Chemical of Potential Concern	Units	LoD	No. Samples	Min. Value	Max. Value	Mean	Median	Standard Deviation	No. Samples >= GAC & > LoD	GAC	GAC Source	Strata	Pre LF TS	Pre BRG	Pre SS	Pre TS	Pre SS	Pre TS	SS	TS	SS	TS	TS	TS	TS	TS	TS	TS	SS	TS	TS
	Hydrock Default Suite - FOC / SOM / pH																														
P1334	pH (su)	pH Units	0.1	19	6.20	8.50	7.77	7.80	0.57		-	-		7.8	8.3	8.5	6.2	7.8	6.7	7.9	8.2	7.5	8.1	7.7	7.7	8.2	7.6	7.9	7.3	8.5	7.9	7.8
	Hydrock Default Suite - Metals & PAH																														
7440-38-2	Arsenic	mg/kg	1	16	2.00	10.00	6.71	6.90	1.87	0	250	MAFF 1998			8			2	10	7.9	7.5	6.8	9	6.4	5.3	7.6	5.9	4.9	5.1	7.7	6.3	7
7440-42-8	Boron	mg/kg	0.2	3	0.20	1.40	0.60	0.20	0.69	0	5	Nable, et al. 1997			1.4			<0.2	<0.2													
16065-83-1	Chromium (III)	mg/kg	1	2	12.00	15.00	13.50	13.50	2.12	0	400	MAFF 1998 (Cr(T))								***U/S***	***U/S***	12	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	***U/S***	15	***U/S***	***U/S***
7440-50-8	Copper	mg/kg	1	19	5.30	36.00	19.09	17.00	9.61	0	135	BS3882 2015		8.7	10	5.3	35	8	36	16	9.8	12	27	15	13	31	26	19	27	29	17	18
7440-02-0	Nickel	mg/kg	1	19	3.00	32.10	11.51	11.00	5.53	0	75	BS3882 2015		<10	12	<10	32.1	3	9	11	12	9.6	13	8.9	7.6	13	11	9.4	11	14	11	11
7440-66-6	Zinc	mg/kg	1	19	8.00	160.00	61.54	64.00	36.37	0	300	BS3882 2015		28.8	30	18.4	78	8	42	110	28	54	160	73	34	71	64	50	67	71	82	100

Legend:

TS	Topsoil
SS	Subsoil
Pre LF TS	Pre import - Low Fertility Topsoil
Pre BRG	Pre import - Bioretention rain garden
Pre TS	Pre import - Topsoil
Pre SS	Pre import - Subsoil

<0.02	Value below the laboratory reporting limit and are considered as being at the detection limit for the purposes of statistical analysis, as a conservative estimate.
0.02	Value greater than, or equal to, the generic assessment criterion (GAC).
64.00	Value exceed saturation limit and substance is liquid or solid at ambient temperature
<10	Value excluded from statistical analysis
Y	Text result
-	Represents a determinand that was not tested.
+	represents a data point that is not included in the current filter settings

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Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

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