



CONTRACTOR MANAGEMENT PLAN

Company Name & Post Code Address:	W. Maher and Sons Ltd.
Client Name & Address:	Lendlease Limited 20 Triton Street, Regents Place, London, NW1 3BF
Package Name	St Johns Bulk Earthworks
Project Address	Water Street , Manchester
Package Number	40331.01

Document Number	2
Revision	02
Issue Date	10/06/2019
Drafted by	A. Kirk
Approved By	C. Maher

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2. REGISTER OF RECIPIENTS, AMENDMENTS AND REVIEWS

2.1 DISTRIBUTION

Copy Number	Holder's name	Organisation
1	Ben Marsden	Lendlease
2	Callum Maher	Maher Manager
3	Duncan Wilson	Maher Site Supervisor
4		

2.2 RECORD OF AMENDMENTS

Revision	Date	Comments
1	07/05/2019	First issue
2	10/06/2019	<i>Construction issue</i>
3	Click here to enter a date	Click here to enter text.
4	Click here to enter a date	Click here to enter text.
5	Click here to enter a date	Click here to enter text.
6	Click here to enter a date	Click here to enter text.
7	Click here to enter a date	Click here to enter text.

2.3 RECORD OF REVIEW

To be reviewed every two months, as a minimum, and updated as necessary.

Revision reviewed	Date of review	Comments
1	Click here to enter a date.	Click here to enter text.
2	Click here to enter a date.	Click here to enter text.
3	Click here to enter a date.	Click here to enter text.
4	Click here to enter a date.	Click here to enter text.
5	Click here to enter a date.	Click here to enter text.
6	Click here to enter a date.	Click here to enter text.
7	Click here to enter a date.	Click here to enter text.

3. SCOPE OF WORKS

Bulk Excavation and off site disposal of arisings from within a piled wall location, including soil sampling and testing prior to disposal.

3.1 OFF-SITE MANUFACTURE

N/A

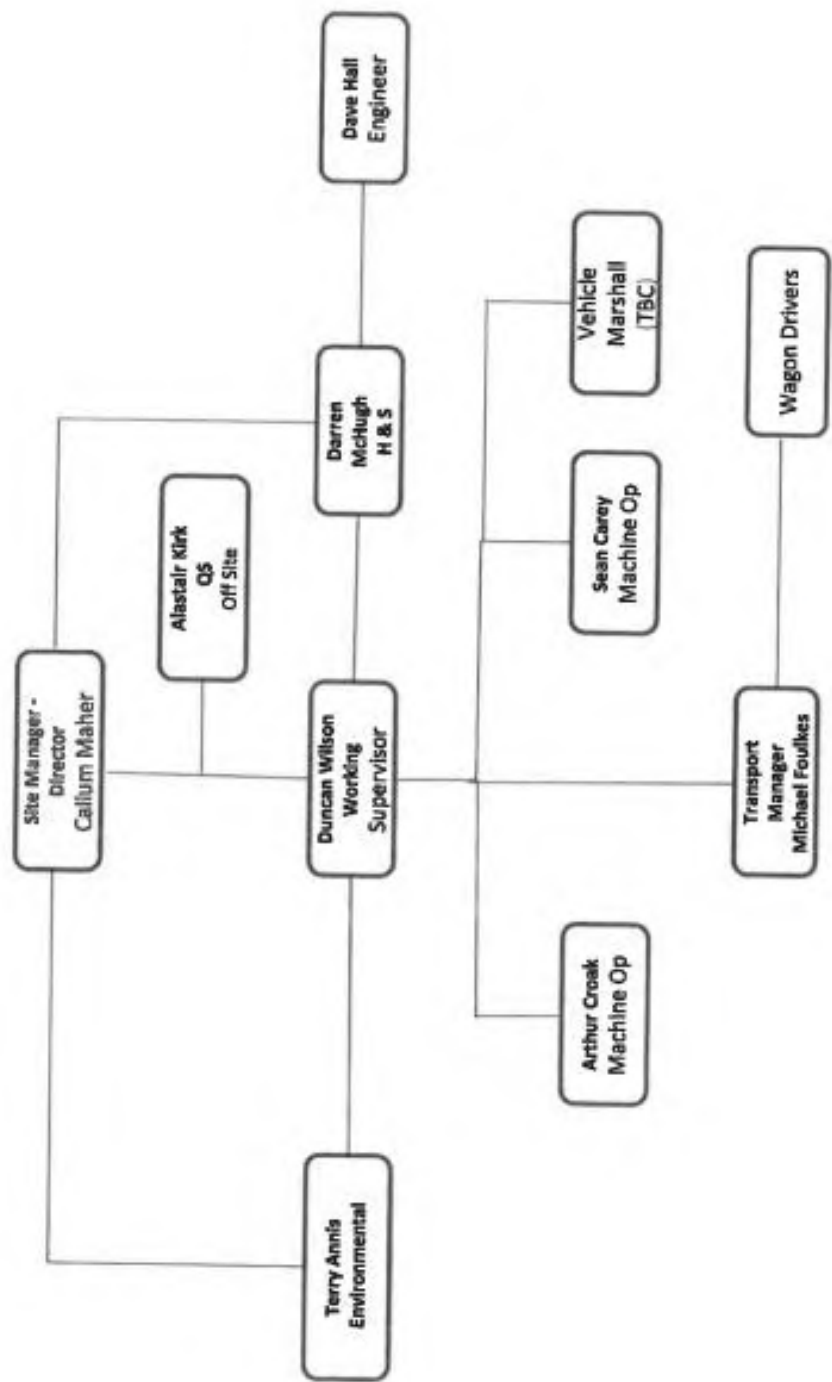
4. CERTIFICATION

Certification and accreditation issued separately.

5. PROGRAMME AND RESOURCE

Contract Start Date:	04/11/2019	Start Date on Site:	24/05/2019	Forecast Finish Date:	20/03/2020
Duration: (Weeks)	19	Indicate level of resource including supervisors: (Attach labour histogram where relevant)			5

6. ORGANISATION CHART



W Maher & Sons Ltd – St. Johns Project Organisation Chart

7. COMPETENCY OF OPERATIVES AND STAFF

Choose a statement below as appropriate within “choose an item” box.

Choose an item.

(delete all blue text)

Role (Name)	IIF	CSCS		SMSTS Training	Environmental Training (Specify)	Inspection & Test Plan Training	Benchmark / Toolbox Training	Firestopping / Intumescent – Training	Quality Training (Specify)
		Required	Type / Colour						
Manager Callum Maher		Yes	Cscs						
Supervisor Duncan Wilson		Yes	Cscs						
Machine OP Sean Carey		Yes	CPCS						
Machine OP		Yes	CPCS						
Vehicle Marshall		Yes	CSCS						

8. DESIGN MANAGEMENT

Choose an appropriate response below within “choose an item” box.

Do you have design responsibilities on this project? Choose an item.

If you selected “Yes”, complete the table below.

(delete all blue text)

What element of your scope of works requires Contractor design?	Would this be designed by your company?	Who else is involved in, or providing the design?	When will the design be completed? (Specify completion(s) date)	Are there any of your design elements necessary for other contractor(s) to complete their works? (if Yes, specify elements)	Are there any other contractor design elements necessary, that you need to complete your works? (if Yes, specify elements)	In what format will the design be provided?	Is there any third-party involvement for the approval or verification of your design before installation? (if Yes, specify names)
N/A							

(delete all blue text)

8.1 SPECIFICATION OF MATERIALS & PRODUCT

N/A

9. SPECIFICATION OF FIXINGS (FIXING RECORD SHEETS AND TRACKER)

N/A

9.1 FIXINGS SAMPLE DISPLAY BOARD

N/A

Choose an item.

9.2 FIXINGS OPERATIVE BRIEFING STRATEGY

N/A

10. INFORMATION CONTROL

We will be using Conject Project Control to access drawings and information on this project.

Our engineer will check the drawings he is using are up to date before setting out levels etc.

11. SINGLE SOURCE INSPECTION AND TEST PLAN

The single source ITP & supporting checklists are provided as a separate document. This will cover 100% of Quality Control, covering all activities in our scope of works. See also 18/1

12. HANDOVER OF WORK BETWEEN TRADES PROCESS

We will carry out a formal handover process to and from other trades, or Lendlease, and confirm the actual handover date & As-Built information on a signed handover sheet(s).

On handover of works, we will provide full checklists & verification documents, defect free.

Handover documents will be a level survey of our finished works and a report on chemical testing results taken during the sub-contract .

Sample location plans for Chemical testing , sample tracker , transfer notes and load tickets will also be provided as works proceed.

13. SAMPLES/MOCK-UPS/ BENCHMARKING

SAMPLES OF MADE GROUND WILL BE TAKEN IN ADVANCE OF EXCAVATION TO ALLOW FOR COMPLIANCE CHECKING THAT MATERIAL MEETS THE LIMITS OF THE WASTE DISPOSAL / RECOVERY SITE. SAMPLING FREQUENCY IS IN THE IATP. SAMPLES WILL BE TAKEN ON A 25M GRID FOR MADE GROUND SURFACE / SUB SURFACE.

SEE 18/1

13.1 SAMPLE / MOCK-UP / BENCHMARK REGISTER

The below table will serve as a tracking register, however Individual item sign-off will be recorded formally in Sample / Mock-up / Benchmark Acceptance Record Sheet and uploaded on Conject PC for traceability and internal third party review.

The samples & benchmarks provided in the table below will match the record sheet, submitted through conject PC.

Definition:

Sample & Mock-ups – to set a standard of workmanship, to agree materials and components before final orders are placed & to put the design into reality and resolve interface issues between trades.

Benchmark – Inspection of the first permanent installation to confirm the agreed standard and thereafter used as a reference for Inspection of similar installations, to achieve consistency.

Item	Description of Installation	Acceptance Record Sheet Ref. No.	Sample / Mock-up / Benchmark ?	Date Available for Inspection	Final Date for Inspection	Comments: (how the operatives will be trained in what is required)
	N/A					

14. CONTROL OF SUB-CONTRACTORS / SUPPLIERS / THIRD PARTY INSPECTORS**If Required**

Sub-contractors / Suppliers Matrix

Sub-Contractor / Supplier/ 3 rd Party Inspectors	Trade	Will be working under our system and treat them as company employees. (Yes / No)	Will submit their own system but we will be responsible to manage their submission under our company heading as indicated above. (Yes / No)	Indicate frequency of Audit or Visits to monitor progress & Quality output before delivery	Registrations & Certificates with a UKAS accredited company. Indicate what certificates and accreditations the sub-contractor / supplier hold. (attached all certs with this plan)
P.McGuinness & Co	Asbestos advice	yes		Present during excavation of Made Ground in each area	Licensed Asbestos Contractor

15. CONTROL OF SNAGS AND DEFECTS (NON-CONFORMITIES)

We will ensure the delivery of all the works are Defect free in line with our contractual obligations.

If snags & defects occur, we will record and manage the corrective and preventive actions to ensure it is closed in expected time and works are delivered Right First Time, Every Time.

N/A

If snags & defects raised by the Client and Third Party Inspectors against our works, we will record and manage the corrective and preventive actions in the same manner as above to ensure it is closed in expected time and works are delivered to contract requirements.

16. CALIBRATION

To Follow when hired equipment arrives . eg. Levelling devices only

Instrument matrix

Instrument type	No.	Checks required (Yes / No)	Frequency	Record
GPS level			Self Calibrating	Certificates from survey equipment hire company will be provided.

17. DELIVERY, HANDLING, STORAGE, PROTECTION OF MATERIAL & CUSTOMER PROPERTY

N/A No Deliveries

18. PROJECT COMPLETION AND HANDOVER

As Built level information in CAD format, on the project Conject system (if accessible) or by email, , the completion of snags & defects, information for the Health & Safety File, and the Client deliverables indicated in the contract on completion of sub-contract works.

18.1 RECORDS FOR SUBMISSION & RETENTION

We will submit all QA records, and all the agreed sign off records in electronic format to Lendlease project team on completion. Together with chemical testing of soils and validation information

Activity (Follow Project Completion & Handover Strategy in Sequence)	% by Activity	Provided when	
		As Works Progress (Yes / No)	At Handover (Yes / No)
Soils testing	100%	Yes	yes
Level surveys	100%	Yes	Yes
Inspections	100%	Yes	Yes
Validation information	100%	Yes	Yes

19. ENVIRONMENTAL MANAGEMENT

19.1 LEGAL REQUIREMENTS

- Waste Duty of Care:
 - Sampling
 - Waste Transfer Notes – cover ticket supported by removal notes
 - Waste Carriers Licence (Maher)
 - Waste Destinations.

19.2 WASTE MANAGEMENT

Waste Stream	Total Quantity of Materials to be Ordered (m3)	Predicted Volume of Waste (m3)	% of waste being Reused Onsite	% of waste being Reused Offsite	% of waste being Recycled Offsite	% of waste being Recovered Offsite	% of waste being Landfilled Offsite	Measures taken to apply the Waste Hierarchy
Bricks (17 01 02)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Concrete (17 01 01)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Asphalt & Tar (17 03 02)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Click here to enter text.
Inert (17 01 07)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Click here to enter text.
Soils – Non Hazardous (17 05 04)	0	50000m3	0	0	0	100	0	Click here to enter text.
Hazardous (17 09 03*)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Click here to enter text.

19.3 DISPOSAL OF WASTE FROM SITE

We will ensure that all the waste that is created from our works will only be removed from the project through the following waste contractors

Waste Management Contractor Name	Carrier license number	Issue date	Expiry date
WH Maher & Sons	CBDU90617	28/02/19	25/03/22
Waste Destination	WML/EP	Issue date	Rev.
WH Maher – Waste	EPR/GB3930DG	10/05/12	V1
WH Maher – Ashton Old Rd	EPR/GB3930AM	11/05/12	V1
Churchill Enviro – Langly Rd	EPR/GB3931AX	15/05/12	V1
Marshalls Mono Ltd – Fletchly Bk	EPR/DP3692CQ	08/03//17	V1
Churchill Enviro Woolston	EAWML/50470	30/04/17	V1

M6 6JU will take inert recyclable materials such as hardcore and natural strata. Made ground will go to WA3 and BL0 ODD. Natural ground will be shared between disposal sites selected for convenience. i.e. last loads may go to WA3 as this is near our depot.

If any Haz Waste this will be disposed of dependant on nature of chemical results to an appropriate disposal facility or asbestos transfer station. Details will be provided for approval prior to disposal of waste.

19.4 FUEL & CHEMICAL STORAGE

Fuel / COSHH Rated Chemical	Use	Predicted Total Quantity required for works (Ltrs)	Maximum Quantity of fuel to be stored on site	Secondary Containment System	Fuel be used to Directly Power or Heat Building
Gasoil	Plant	15000 litres	8000 litres	Double bunded in refuelling area	nil

19.5 ENERGY REDUCTION

New machinery used and turning off machines when not in use – none

19.6 ENVIRONMENTAL COMPLIANCE

Sampling taken from 25m grid will be done prior to removal of waste. These results will be shared with Lendlease. If results show hazardous contamination, Lendlease will be informed and this will be disposed at a hazardous waste facility. If Asbestos is discovered this will be managed and removed from site by another contractor.

All waste tickets will be provided for each removal of muck from site, showing where the waste went. If waste is taken to a waste facility not shown above, we will send a copy of the waste permit.

Lendlease will be provided with fuel delivery notes. If any fuel spillages happen these will be reported immediately so the environmental engineer can ensure correct clean up.

Spill kits etc kept with machines and at refuelling areas.

19.7 FSC COMPLIANCE

N/A

19.8 TRACEABILITY - CERTIFICATES OF COMPLIANCE

N/A

20. HEALTH & SAFETY MANAGEMENT

(Lend Lease manages EH&S by applying our Global Minimum Requirements, actively using both a EH&S plan ("construction phase plan") and 6 critical plans – Fall Prevention, Logistics, Buried Services, Fire & Emergency, Electrical, Environment.) These are underpinned by our commitment to operate Incident & Injury Free and associated programmes. Contractors will require to fully review this information and demonstrate how they will manage their activities in line with our requirements.

- Buried services – Ground disturbance permit to be completed for the week period.
- Access and egress – Walkways to be distributed to the access ramp into basement. All walkways to be kept clear at all times.
- Fire and emergency – Fire points will be distributed in all working locations.
- Temporary electrics – No power requirements will be needed. However 110volt will be deployed upon the walkway immediately next to site.
- Fall prevention – Handrail (fixed) will be installed to all capping beam location where possible.

20.1 FALL PREVENTION

N/A No deliveries , no drivers out of cabs , all open excavations battered and protected with bunds or fencing, edge protection at Capping Beam level provided by Lend Lease.

Daily discussion at briefing of any extraordinary requirements to be dealt with on a daily basis. e.g unexpected excavations etc.

No Operatives to access any vehicles when unloading or loading.

20.2 LOGISTICS MANAGEMENT

Wagons for disposal allocated by Transport manager daily based on amount to be removed. These will be managed to avoid queuing . Our local yard at Ashton Old road will be used for a holding area to ensure no waiting on roads surrounding site. entry and exit routes on site as agreed with lendlease as per their logistics plans.

20.3 ELECTRICAL

NA

20.4 FIRE & EMERGENCY

Lend Leases emergency and fire procedures will be followed . Operatives will be briefed on what to do in the event of emergencies , who to contact , muster points for site wide problems etc.

20.5 BURIED SERVICES

We understand that as we are excavating within a piled wall , all services have been disconnected

20.6 EFFECTIVE RAMS

Effective, safe operations rely on having accurate risk assessments and method statements (RAMS) specific to the work being done. These must be communicated effectively to the workforce through RAMS Briefings and Daily Safe Starts. Explain how your organisation will ensure RAMS are effective and communicated.

RAMS issued to all operatives at pre-start briefing. RAMS explained at Pre start briefings. RAMS to be modified as and when a change is made onsite and as a minimum every three months. Any modification must be explained to the site team.

RAMS discussed and ammendments explained at Daily Safe Starts for works being done that day.

Explanation register kept on site.

(delete all blue text)

20.7 HEALTH MANAGEMENT

Contractors operations may create Health hazards and you are required to clearly show how you will control these issues; this may include but not be limited to, Safety Critical Workers, the use of Chemicals or materials, Vibration from plant or tools, dust, noise or musculoskeletal issues in relation to posture, manual handling and lifting. Your response should detail how you will control hazards at the workplace and detail your overall Occupational Health Management Plan and assessments carried out to employees. - (delete all blue text)

Operatives have health screening and questionnaires to complete regularly . Safety Critical operatives such a machine drivers are required to have health checks and be recommended as fit for work by a health professsional .

Workers are briefed on any specific hazards that relate to their work / site and advised to inform their doctors if they have any symptoms arising from potential health risks at work e.g. Leptospirosis and inform .

Risk assesments and method statements deal with minimising or omitting any risks to operatives by working methods such as use of dust control or PPE.

For high risk or contaminated operations - operatives are given health screening before commencing on site and at intervals afterwards to ensure that no deterioration has occurred due to the risks such as dust from lime stabilisation.

Hand tools are not used and only modern vibration compliant plant is used . Plant is checked and monitored as necessary to ensure risks from vibration are minimised and any faults corrected.

21. APPENDIX A

Attach copies of Certification and accreditations as indicated in section 4 above.

MANDATORY

<i>Supplier / Contractor Logo</i>	Project: St. Johns Quarter	ITP Title: Bulk excavation
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It is Mandatory for all Suppliers and Contractors to use this Template when submitting their works Inspection & Test Plan to Lend Lease for approval prior to commencing the contract works

Supplier	Maher's			Package Number:	40331.01
ITP Reference	Bulk Excavation	Revision	2	Date Issued	10/06/19
				Date of Review	10/09/19

Supplier / Contractor:

Names of Supervisors / Operatives who will carry out inspections and sign the checklists

Names	Title	Names	Title
Calum Maher	Contract/Project Manager		
Alastair Kirk	Commercial Manager		
Signed by Supplier/Contractor			

Lend Lease:

Names of Project Managers / Construction Managers Who will carry out inspections and sign the checklists

Names	Title	Names	Title
Ben Marsden	Project Manager	Graeme Atkinson	Sen Construction Manager
Ray Long	Construction manager		

NOTE:

Above names / titles must correspond to the names / titles in the ITP column below.

Inspection Authorities:	Con = Contractor: Must inspect & Indicate 100%		LL = Lend Lease: Indicate % Percentage that it will be checked and countersigned		
Action Column: Indicate letter for:	H = LL Hold point (no further work carried not until the activity is passed by LL)	A = LL Approval (LL Approval Required before proceeding)	W = Witness (for correctness)		
Doc No:for site use	Rev No: 1	Issued: 26/05/19	Owner: AK	Page 1 of 4	

MANDATORY

<i>Supplier / Contractor Logo</i>	Project: St. Johns Quarter	ITP Title: Bulk excavation
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Item / Activity	Controlling Document	Inspection Method	By Whom See above list	Size of Sample Frequency	Inspection Authority			Action	Check List Ref./ Verification Third Party Inspection Ref:
					Con	LL	Other		

Lend Lease key inspections and tests are indicated below: (Lend Lease to complete before the placement of the contract and submit to the Supplier / Contractor)

These activities are to be incorporated by the Supplier / Contractor in their own Works Inspection & Test Plan as a combined submission before start of contract works.

Supplier / Contractor must use this template and expand with their detailed Inspections & Tests specific to the contract works inclusive of the off-site, on site, handover and completion works.

1. Precommencement level survey	◦ Maher's survey/survey Ops survey.	◦ As built record	Maher's/Lendlease	As built survey	100%				◦
2. Soil sampling	◦ Contractors management plan/Site waste management plan.	◦ Recording tracker and location mapping.	Maher's	Weekly log reports.	100%				◦ Contractors management plan/Site waste management plan.
3. Pile cleaning	◦ Waterproofing specification	◦	Maher's	Visual inspection	100%				◦ Teccrete handover sheet
4. Batter retainment and survey	◦ Temporary work procedure	◦	Maher's	Visual inspection	100%				◦ Temporary works design

Detailed Supplier / Contractor Inspection & Test Plan incorporating Lend Lease key inspections and tests indicated above as a combined single ITP.

5. Made Ground Soils compliance testing	◦ Sample tracker, waste classification results, visual inspection.	◦ soil sample	Churchill Enviro	1kg samples - as required 25m grid	100		T. Annis		◦ UKAS testing by Envirolab
6. Level Survey on completion	◦ Survey	◦ GPS survey	David Hall	As areas are completed	100			W	◦
7. Validation testing	◦ Validation report	◦	Churchill Enviro	As areas are completed	100		T. Annis	A	◦ UKAS testing by Envirolab
8. Asbestos management	◦ test results	◦ chemical testing	Churchill Enviro	Prior to excavation of made ground section	100		T. Annis		◦ UKAS testing by Envirolab
9. Surface water management	◦ n/a	◦ Grips / sumps / pumps	C. Maher	As required	100				◦
10.	◦	◦							◦
11.	◦	◦							◦
12.	◦	◦							◦

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Doc No: for site use			Rev No: 1		Issued: 26/05/19		Owner: AK		Page 2 of 4

MANDATORY

<i>Supplier / Contractor Logo</i>	Project: St. Johns Quarter	ITP Title: Bulk excavation
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Item / Activity	Controlling Document	Inspection Method	By Whom See above list	Size of Sample Frequency	Inspection Authority			Action	Check List Ref./ Verification Third Party Inspection Ref:
					Con	LL	Other		
13.	o	o							o
14.	o	o							o
15.	o	o							o
16.	o	o							o
17.	o	o							o
18.	o	o							o
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27.	o	o							o
28.	o	o							o
29.	o	o							o
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31.	o	o							o
32.	o	o							o
33.	o	o							o
34.	o	o							o
35.	o	o							o
36.	o	o							o

Inspection Authorities:	Con = Contractor: Must inspect & Indicate 100%	LL = Lend Lease: Indicate % Percentage that it will be checked and countersigned		
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MANDATORY

<i>Supplier / Contractor Logo</i>	Project: St. Johns Quarter	ITP Title: Bulk excavation
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Item / Activity	Controlling Document	Inspection Method	By Whom See above list	Size of Sample Frequency	Inspection Authority			Action	Check List Ref./ Verification Third Party Inspection Ref:
					Con	LL	Other		
37.	o	o							o
38.	o	o							o
39.	o	o							o
40.	o	o							o
41.	o	o							o
42.	o	o							o
43.	o	o							o
44.	o	o							o
45.	o	o							o
46.	o	o							o

Inspection Authorities:	Con = Contractor: Must inspect & Indicate 100%	LL = Lend Lease: Indicate % Percentage that it will be checked and countersigned		
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St. Johns Development, Manchester

Asbestos Management Plan (AMP) - Preliminary Assessment

For Allied London

Date: 18 December 2018

Doc ref: STJ-HYD-XX-XX-RP-GE-0001-S2-P2

DOCUMENT CONTROL SHEET

Issued by	Hydrock Consultants Limited Northern Assurance Buildings 9-21 Princess Street Albert Square Manchester M2 4DN United Kingdom	T +44 (0)161 804 5550 E manchestercentral@hydrock.com www.hydrock.com
Client	Allied London	
Project name	St. Johns Development, Manchester	
Title	Asbestos Management Plan (AMP) - Preliminary Assessment	
Doc ref	STJ-HYD-XX-XX-RP-GE-0001-S2-P2	
Project no.	C-10979	
Status	Live	
Date	18/12/2018	

Document Production Record

Issue Number	P2	Name
Prepared by	James Macfarlane	
Checked by	Eric Cooper / Adam Cheers	
Approved by	Danny Hope	

Document Revision Record

Issue Number	Status	Date	Revision Details
P1	Live	11/12/2018	Preliminary AMP to cover Piling Guide Wall works
P2	Live	18/12/2018	Updated with 'Key Contacts' supplied by Sam Peck (LL)

Hydrock Consultants Limited has prepared this report in accordance with the instructions of the above-named client for their sole and specific use. Any third parties who may use the information contained herein do so at their own risk.

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1. INTRODUCTION

1.1 Background

Hydrock Consultants ("Hydrock"), on behalf of Allied London ("Allied London"), has undertaken an appraisal of all currently available information associated with the presence of Asbestos in Soils ("AiS") relating to the redevelopment of the St. Johns, Water Street, Manchester site ("the site"). This report will align Allied London, Lendlease, their subcontractors and their Health and Safety advisors, with the most relevant industry good practice guidance for managing AiS risks at the site.

Previous investigations, archaeological and demolition works at the site have identified asbestos fragments and loose fibre within made ground material. There remains the potential for further visible fragments and/or loose fibre of asbestos to be encountered during the proposed works package.

1.2 Objectives

The overall purpose of this report is to place Lendlease, as the Principal Contractor, in a fully informed position with regards to the known spatial distribution and environmental risk posed by AiS, and to provide recommendations to mitigate those risks as far as reasonably practicable.

Specific objectives are to:

1. Collate and assess existing information provided by Allied London/Lendlease and their sub-contractors and advisors;
2. Provide applicable AiS guidance and assessment tools for the management principals; and,
3. Set out a good-practice framework for the management of asbestos during the groundworks phase, such that Allied London/Lendlease are both continually informed and in control.

The report will remain a live document throughout the works package and any further/new information regarding asbestos contamination will be added accordingly. On that basis, the recommendations provided by Hydrock may require periodic reassessment. Alterations to the recommendations will be communicated accordingly with each reissue of the document.

1.3 Legislation and Regulation

The protection of workers and the general public from exposure to asbestos from work-related activities is regulated by the "Control of Asbestos Regulations", 2012 ("CAR 2012"). Further clarification and guidance are provided in the associated Approved Code of Practice, "Managing and working with asbestos", 2013 ("L143").

The CAR 2012 and L143 documents are predominantly focussed on construction and demolition industries. Existing guidance from the HSE for asbestos is readily applied to the presence of asbestos in buildings and asbestos that is lying on the surface of the ground. However, guidance is not easily transferred to asbestos encountered in soil and was not written with ground contamination or groundworks in mind. This key point leads to uncertainty when working on sites with Asbestos in Soil ("AiS"), contamination and the requirements applicable to site personnel to effectively manage risk during groundwork activities.

Due to this uncertainty, several industry led publications have been produced to clarify and standardise works with AiS. Most notably, the Joint Industry Working Group CAR-SOIL™ provides interpretation of

the asbestos regulations and assists decision makers manage works with Asbestos in Soil and Construction & Demolition materials.

The risk of asbestos-related work activities is reflected in Part 2,11(1) of CAR 2012 which states that an employer must “prevent the exposure to asbestos of any employee employed by that employer so far as is reasonably practicable; and where it is not reasonably practicable to prevent such exposure, to take the measures necessary to reduce exposure to asbestos of any such employee to the lowest level reasonably practicable”.

Furthermore, Regulations 4 of CAR 2012 places the duty to manage those risks on all non-domestic premises with the duty holder. The duty holder is required to manage the risk from asbestos and prevent harm by:

- ensuring that a suitable and sufficient assessment is carried out as to whether asbestos is or is liable to be present;
- where the assessment shows that asbestos is or is liable to be present in any part of the premises the duty holder must ensure that—
 - a. a determination of the risk from that asbestos is made;
 - b. a written plan identifying those parts of the premises concerned is prepared; and
 - c. the measures which are to be taken for managing the risk are specified in the written plan.
- periodically review the information and ensure that the conclusions of the assessment and every review are recorded.

All other persons working on, or within, the premise must co-operate with the duty holder so far as is necessary to enable the duty holder to comply with the duties as set out under Regulation 4.

In situations where the assessment concludes that there is a potential to encounter asbestos such that it poses a risk to site personnel, an Asbestos Management plan (AMP) must be compiled. The AMP should take account of the above requirements and set out how the risks identified from asbestos will be managed, including, but not limited to:

- identifying the person(s) responsible for managing the asbestos risk;
- detailing the known and unknown asbestos risks (including locations) and the likelihood of encountering those risks;
- providing details on the procedure to be followed should unexpected asbestos containing material be encountered during the works;
- providing recommendations on the required mitigation measures and training; and
- identifying appropriate methods to be used to ensure the mitigation measures are effective.

1.4 Sources of information

This report has been compiled with reference to the following site-specific information and datasets:

1. Curtins (2018) - St Johns, Manchester Phase 2 Site Investigation (ref. 065330-CUR-00-XX-RP-GE-001-V02)
2. Curtins (2018) - Laboratory certificates - Supplied by email in absence of report. (ref. 18-08489-1)
3. Curtins (2018) - Laboratory certificates - Supplied by email in absence of report. (ref. 18-08762-1)
4. Curtins (2018) - Laboratory certificates - Supplied by email in absence of report. (ref. 18-09025-1)

5. Curtins (2018) - Laboratory certificates - Supplied by email in absence of report. (ref. 18-09265-1)
6. bEk Enviro Ltd (2018). REMEDIATION WORKS – OLD GRANADA STUDIOS, MANCHESTER (ref. BEK-18470-181114 BEK004)
7. Greens-Overlay-MASTER.dwg - Drawing supplied by email (Drawing ref. SK-GHO-01)

Copies of these documents can be provided upon request.

Anecdotal information on potential asbestos contamination issues have also been provided by Messrs. Sam Peck & Nick Surtees of Lendlease. Several documents and/or information sources have been supplied which cannot be referenced due to the documentation type or it being supplied anecdotally.

1.5 Limitations

This AMP is a working document designed to effectively manage and minimise asbestos-related health risks to personnel working on, living adjacent to, or visiting the Site. Currently this report relates specifically to the installation of a 'Guide Wall' and does not cover all site-wide asbestos management issues. The report will subsequently be revised to include other areas of the site as further information/instruction is provided by the Client or third parties.

This AMP is based on the identification and recognition of ACM by others. Hydrock has not undertaken any intrusive investigation at the site and is thus reliant on third-party information. The information has been used in good faith and is recognised as presenting a preliminary interpretation of the current site conditions.

Noting that investigation of the site is currently Work in Progress and that more is planned, some of the information provided contains significant gaps in terms of location, frequency, material type depths and extents. Hydrock has provided this AMP on the basis of the limited information provided only, with the understanding that the assessment will be updated when additional information becomes available. Such additional information is expected to include additional ground investigation, sampling, and delineation works.

2. SITE CONDITIONS

2.1 Site Location

The development site is located in Manchester City Centre, in the Spinningfields area of the city. The site is approximately centred on NGR 383110, 398029, and covers an area of approximately 5.4 ha. The general site setting is urban-commercial, a setting that has characterised the site for many years. The River Irwell is located approximately 60m to the West of the site.

The site is current being redeveloped as a mixed residential, retail, leisure and commercial complex including (up to) 30-storey high rise buildings. Significant basement excavations are required as part of the development which will include the removal of Made Ground and natural arisings from the majority of the development plots.

The site has been split into zones and works will be conducted in a phased manner. Approximate zone locations have been added to drawing 10979-G001 at Appendix B

The zones are:

1. T1
2. MGY
3. G&S
4. SJP2
5. Quay Street 'Existing Road'
6. No1 Grape St.

Hydrock has been informed that the current works package includes the installation of a 'guide wall' to the perimeter of T1 and MGY to facilitate piling operations.

2.2 Site History

The Curtins Phase 2 report (ref. 065330-CUR-00-XX-RP-GE-001-V02) note that the site was historically used for a range of commercial, industrial and warehouses buildings. Additionally, an infilled canal and dry dock are suspected to have been present on site to the South of MGY. A former railway line is also known to have been present to the South of the main site.

Most recently the site was the location of the former Granada Studios which have been demolished as part of the redevelopment activities. The demolition works of the former studio included the removal of all redundant buildings and the breakout of the existing carpark.

The site is currently covered by a piling mat or remnants of the historic carpark and slab. The thickness of the piling mat varies from 300mm -800mm.

2.3 Works Package

The current scope of works includes the installation of a linear guide wall installation to the perimeter of T1 and MGY. The majority of the site is covered with either a piling mat or hard standing (former car park).

The scope of work relevant to this preliminary assessment includes the excavation of a ~600mm deep by 1500mm wide trench to the perimeter to facilitate the guide wall installation. The material arising

from the excavation will be stockpiled and retained to facilitate testing of the material to assess its suitability for re-use as general fill.

Once the trench is complete, the installation of the wall sections will be completed from a clean working platform formed by imported quarried stone. It is not thought that traversing the site on the existing Made Ground will be required.

3. SUMMARY OF KNOWN ASBESTOS OCCURRENCES

3.1 Supplied Previous Reports/information

3.1.1 General

Visible fragments of asbestos containing materials (ACM) have been identified several times during the site works to date, most notably on two occasions where visible fragments of asbestos were uncovered during the archaeological and demolition excavation works (both within Made Ground).

Loose fibre contamination has been identified within soils in various locations, albeit at generally low levels.

3.1.2 Curtins Phase 2 (ref. 065330-CUR-00-XX-RP-GE-001-V02)

The Curtins report notes that on the 17th July 2018, suspected 'asbestos board' was visually identified within an archaeological trench being conducted as a separate package of works running simultaneously with the Curtins intrusive investigation. Neither a photographic record nor the location were recorded by either party.

A sample was not obtained of the material for 'Bulk ID' or 'Gravimetric' analysis by a UKAS accredited laboratory, according to the report. The material was presumed to be 'Chrysotile board' but in the absence of a laboratory analysis this identification cannot be confirmed. Whilst the quantity of the material present was not recorded, Curtins consider it likely that more asbestos will be present in during the investigation in untested locations.

Hydrock has requested further details from Curtins so that an estimated location can be included within this AMP during a subsequent review. Some further anecdotal information is supplied in Section 3.2 of this Hydrock report (below).

Hydrock concurs with the Curtins opinion that further sporadic ACM's may be present on site within the Made Ground material.

The Curtins report confirms that as all Made Ground is scheduled to be removed from site, the risk to the end user is eliminated. However, the report does not consider the potential for exposure to airborne fibres during the removal of Made Ground to on-site and off-site receptors.

The 2018 Curtins report did not record any positive results for loose asbestos fibre within any of the selected 26nr. samples screened for asbestos content.

No suspected asbestos containing materials (ACMs) were identified in the Curtins exploratory hole logs and laboratory screening confirmed that asbestos was absent in the soil samples tested.

3.1.3 Curtins (2018) - Laboratory certificates - Supplied (by email) prior to Site Investigation Report issue. (ref. 18-08489-1, 18-08762-1, 18-09025-1, 18-09265-1)

Sample results from a 2nd phase of ground investigation works have been received in advance of site investigation report issue. A total of 18nr. soil samples were screened for asbestos content.

Two samples were returned positive for Chrysotile loose fibre within the 'Trench 1' excavation, all other samples screened were negative for asbestos content. The two positive samples were put forward for gravimetric analysis which confirmed both samples contained asbestos loose fibre <0.001%w/w. Both

positive samples with collected from within 'Trench 1' and based on the laboratory certificates it is understood that the sample depths were at 2.0m and 3.0m bgl.

In the absence of trial pit logs and the final report Hydrock is unable to confirm the location of 'Trench 1' and if visible ACM's are likely to be encountered in that area. It can only be inferred from these samples that there may be visible ACM present and the surrounding soils are likely to contain low level loose fibre at levels similar to the known results

Hydrock has requested further details from Curtins so that an estimated location can be included within this AMP during a subsequent review.

3.1.4 *Greens-Overlay-MASTER.dwg - Drawing supplied by email (Drawing ref. SK-GHO-01)*

Hydrock has been supplied with an overlay plan of the site which includes a hatched area of MGY labelled 'Asbestos Area'; the plan forms part of a handover package from the demolition contractor. The hatching covers a section of the MGY guide wall installation from piles P516 - P527.

No further information is supplied within the drawing other than a guide location.

Some further anecdotal information is supplied in Section 3.2 below.

3.2 Anecdotal Information

Archaeological trench - Additional information

Hydrock was supplied with additional clarification on the approximate location of the archaeological trench where the suspected asbestos board was recorded. There is no further information as to the type, quantity of material found, but the approximate location has been confirmed by Sam Peck of Lendlease.

The location has been added to drawing 10979-G001 at Appendix B

Greens-Overlay-MASTER.dwg - Additional information

Sam Peck of Lendlease confirmed that material found by Greens included 'asbestos board'. Further confirmation of the material type (including sample analysis) has been requested to confirm the material type.

Upon discovery, the Contractor encapsulated the material under a 'Visqueen' cover and backfilled the excavation with approximately 2m of site won material prior to the 6F2 pile matt placement.

Piling Mat Placement - Additional information

A piling mat has been placed across parts of the site including areas where the 'guide wall' installation is required. The piling mat is ~300mm to ~800mm thick dependant on the CBR results/requirements. The mat capped with imported quarried stone with either a site-won or imported 6f2 below.

Prior to installation of the piling mat, site-won crushed demolition arisings were used to make levels and ensure a site was suitable for the piling mat placement.

It is presumed that prior to the building demolition works, an appropriate demolition asbestos survey was conducted and that all ACM's (as far as reasonably practicable) were removed from the buildings prior to demolition.

This is a requirement of CAR 2012 and Hydrock has received verbal confirmation that all ACM's were removed prior to demolition. Given this confirmation it is considered that all site won material reused should be clear of visible ACM but low-level loose fibre is likely to remain in some of the site won demolition arisings.

Hydrock have requested further details from regarding the removal of ACM's prior to demolition to be included within this AMP during a subsequent review.

3.3 Discussion

The risk to human health from asbestos is related to the inhalation of asbestos fibres. Therefore, any asbestos cement fragments or friable material presents a negligible risk if buried and undisturbed. Friable asbestos may generate elevated airborne fibre levels if lying on the soil surface or disturbed and cement fragments may also do so if they are broken up and pulverised such as may occur during excavation or materials processing activities.

Hydrock considers it likely that further AiS will be encountered during the site works where disturbance of Made Ground material is required. Therefore, there remains the potential to encounter visible fragments of ACM (of unknown type, location and frequency) sporadically throughout the works package. Additionally, it is considered highly likely that, during disturbance of Made Ground, based on the current data, some soils will have the potential for low-level loose fibre contamination.

Based on the supplied information, Table 1 is a qualitative risk ranking table of the materials relevant to the guide wall installation:

Table 1 - Qualitative risk ranking table

Material Type/Location.	Risk of encountering visible ACM or loose fibre >0.001%.	Reasoning.
Upper piling mat material	Very Low	Mainly imported quarried stone or imported 6f2.
Site won demolition arisings & lower piling mat material	Low- Moderate	Recent demolition works verbally confirmed as having all ACM removed 'as far as reasonably practicable' prior to demolition. Risk of encountering ACM which were missed during the surveying and demolition works remains. Crushed demolitions arisings are likely to contain low level loose fibre albeit at a very low level.
Car park Concrete/Tarmac	Low-Moderate	No visible ACM reported at surface level. However, Made Ground is likely to be present just below concrete/tarmac cover.
General Made Ground	Low - Moderate	All evidence of visible ACM has been within the Made Ground material. However, incidences are sporadic and were not highlighted in the Curtins report. Loose fibres likely to be present but currently thought to be low-level.

Made Ground in encapsulated 'Asbestos Area'	Negligible	Area is encapsulated with Visqueen and at >2.0m depth. Current planned dig depth is 600mm
Made Ground in the vicinity of the Encapsulated 'Asbestos Area'	Moderate	Due to the adjacent asbestos find and the lack of delineation, potential for further ACM remains.
Made Ground in the vicinity of archaeological trench.	Moderate	Due to the adjacent asbestos find and the lack of delineation, potential for further ACM remains.

Note: Our interpretation is based information supplied by the client and anecdotal information. Hydrock have not undertaken a detailed inspection of ACM type, frequency, extents or general site conditions.

The information provided is considered to be adequate for the purpose of the guide wall installation, but the gaps will need to be filled prior to commencement of the main site works (bulk excavation). Currently, there remains a great degree of uncertainty on the frequency, extents, material type and risk posed by the ACM identified to date.

It should be noted that the maximum excavation depth of the guide wall installation is ~600mm and the clean piling mat is only 300mm in some locations. However, pile probing has been undertaken to an average depth of 2.4m to ensure no Made Ground nor obstructions are present below the pile locations.

The area of known asbestos identified within the Greens-Overlay-MASTER.dwg (between P516 - P527) is currently excluded from the guide wall installation (confirmed by Sam Peck (Lendlease)). Works to remove the contamination and probe the area will be conducted by 'Greens' prior to any further work being undertaken in the area by Lendlease.

Currently the location and depth of the guide wall installation works will not interact with made ground (confirmed by Sam Peck (Lendlease)). However, the potential risk of encountering ACM with Made Ground must be adequately conveyed to ground operatives and some basic mitigation measures should be adopted to prevent potential exposure.

While the guide wall installation crew will not impact on the encapsulated 'Asbestos Area' noted by Green's, this area should be noted in the site documentation and must be adequately conveyed to ground operatives. No excavation works >1.5m should be conducted in the vicinity of this area until removal/probing works have been concluded and verified.

3.4 Other Asbestos Risks / Sources

No assessment has been made of potential off-site airborne contamination which may adversely affect the site. Sufficient information to assess this risk is not currently available.

All risks to the guide wall installation are highlighted above. Other risks will be assessed as part of future versions of this report.

4. SITE MANAGEMENT OF ASBESTOS IN SOILS

4.1 Roles and Responsibilities

The main responsibilities for the onsite management and administration of this AMP falls to the Client as land owner but also the Principal Contractor ("PC") in their role of controlling the on-site risks. Both parties combined must ensure that the appropriate preventative and control measures are implemented and maintained during works. This control can be achieved by application of this AMP as a preventative and control measure. An AMP provides guidance and acts as a resource to inform and protect personnel required to work at the sites where ACM and asbestos contamination is present and hence to protect their health, safety and well-being.

All sub-contractors and site operative should be provided with the site reporting procedure. This procedure will usually include the reporting of any asbestos related issues (e.g. encountering unexpected visible contamination or laboratory analysis >0.001%) to the site management team in a timely manner.

Table 2 - Key site contacts for reporting asbestos incidences.

Name	Company	Role	Phone Number	Email
Gary Mather	Allied London	Client	0743 7014170	gary.mather@alliedlondon.com
Sam Peck	Lend Lease	Project Manager	0774 006 1976	Samuel.Peck@lendlease.com
Steve Boyd	Lend Lease	Site Construction Lead	0779 3306708	Steven.Boyd@lendlease.com
Jack Overson	Lend Lease	Site Construction Manager	07834730900	Jack.Overson@lendlease.com

The Client / Principal Contractor / Employer has a responsibility in relation to asbestos to:

- comply with legislative requirements;
- provide and maintain, as far as practicable, a safe working environment and have a written procedure on the control of asbestos (such as within this AMP);
- provide adequate information, instruction and training (IIT) for employees and supervisors relating to asbestos (at level relative to the risk and CAR2012);
- ensure, as far as reasonably practicable, that all asbestos or ACM is identified;
- update employees on a continuous basis on the location of new or unanticipated asbestos discoveries and ensure it is communicated effectively;
- set out the required control measures to mitigate the risk from asbestos as far as reasonably practicable; and
- where applicable, provide appropriate personal protective clothing and respiratory protective equipment (PPE/RPE) and personal decontamination facilities.

4.2 Site Personnel

Employees must also be committed to working in accordance with this AMP and participate in maintaining the health and safety of themselves and their co-workers. This might be achieved as a result of their personal experience, training (e.g. Asbestos Awareness), or by complying with the site rules, emergency and reporting procedures.

Site operatives have a responsibility in relation to asbestos to:

- take reasonable care that their actions do not endanger the health and safety of themselves and others;
- comply with instructions given by the Client/PC for their own health and safety and that of others;
- comply with all work procedures and instructions related to asbestos;
- co-operate with supervisors and managers in their fulfilment of legislative obligations;
- report immediately to their supervisor any perceived asbestos risk;
- wear and maintain in good order any protective clothing and apparatus provided to them; and
- ensure all supplied equipment is in good working order.

4.3 Lines of Communication

It will be the overarching responsibility of the Project Manager to update the Client should asbestos related issues arise onsite. While the Client cannot delegate their duty, they are normally reliant on the swift passage of information from the site team (PC) to be able to react accordingly.

Hydrock should be informed of any unexpected ACM finds or positive laboratory test results as soon as practicable. Hydrock will then reassess the AMP with the new data and reissue it with further recommendations if required.

4.4 Staff Training & Experience

Training and sharing of information are the most important elements of this AMP. All site personnel employed at the Site who have the potential to encounter ACM must be provided with Category A 'Asbestos Awareness' training.

The training must include a module specific to asbestos in soils and should not be confined to a generic asbestos awareness focussed around asbestos in buildings. The course should provide site operatives with sufficient knowledge to be able to spot fragments of ACM within soils, construction and demolition arisings, and provide them with an adequate awareness of the health risks associated with asbestos.

For the guide wall installation, it is not considered necessary to provide additional training in accordance with 'Work with asbestos' (Category B&C training) which would include specific methods of prevention and control, asbestos work practices, and the use of respiratory protective equipment (RPE).

Appropriate asbestos awareness training is intended to provide site operatives the knowledge required to identify the warning signs of AiS and to act accordingly. These actions are mainly to: cease works; make the area safe; and report the incident to the site management team.

4.5 Site Inductions & Permits to Dig

All site operatives must be provided with a site induction as part of the CDM Regulation (2015). A section in the site induction which focuses on the site-specific issues relating to AiS should be included.

The induction should include a site plan identifying the known areas of asbestos risks and any area which is deemed to have a potentially high risk of encountering otherwise unexpected asbestos contamination.

The induction should include details of:

- the nature of the work carried out by the worker and if excavation work in made ground is required;
- the nature of the risks associated with work within made ground;
- the control measures required to carry out the work safely;
- the procedure to be followed upon encountering unexpected ACM; and
- who the issue should be reported to.

A record of the induction and the date it was undertaken should be recorded. If new information or a reissue of this AMP occurs, a toolbox talk should be provided to update the site staff on any new requirements

Presuming that a permitting system is in place at St. Johns, a section should be added to the 'permit to dig/work' form to record any asbestos related risks in the area to be excavated. This will provide proof that the area has been checked and that task specific information has been passed to the excavation team.

4.6 Asbestos Licensing

The information provided thus far has been assessed by a competent person (the principal author of this report) and the information has been inputted into the JIWG 'Decision Support Tool for work categorisation'. Only an assessment of the guide wall works has been conducted at this time.

Given the information currently provided, the guide wall installation works are likely to fall outside the remit of the Control of Asbestos Regulations in terms of licensing assessment (i.e. CAR DOES NOT APPLY). However, it should be noted that several gaps in the information have been identified which will require reassessment for further work activities (see section 1.4).

See Appendix C for a copy of the JIWG DST for the guide wall works.

4.7 Site Records

A detailed site-specific Risk Assessment and Method Statement (RAMS) specifying how the material is to be excavated in a safe and controlled manner will need to be produced by the Contractor. The RAMS should take account of the information within this document and include a section for asbestos risks.

The RAMS should assess the risks of asbestos and provide a workable methodology but should also consider other site risks such as buried services, plant movement and excavations among others. Additional RAMS will be required from any subcontractors who have a specific task to complete, for example an asbestos removal contractor who may be employed to undertake hand picking works.

5. RECOMMENDED CONTROL MEASURES

5.1 Personal Protective Equipment (PPE) & Respiratory Protection Equipment (RPE)

It is considered unlikely that ACM will be identified during the guide wall installation. General site PPE requirements will apply and there is no requirement for asbestos-specific PPE/RPE

Basic site hygiene practices will be suitable to ensure that potentially contaminated material is not tracked back to desiccating environments. All efforts should be made to reduce the quantity of soils being migrated to the site welfare and offices, but asbestos specific personal decontamination is not considered to be required.

5.2 Site Hygiene

The site supervisor/contractor should adopt the following controls:

- smoking, eating or drinking shall not be permitted in construction areas and should only be undertaken in designated areas (i.e. In the vicinity of lunch room/site sheds or off-site);
- bathroom amenities should be provided (where practicable) and workers should utilise the provided amenities to wash hands and face – prior to eating, drinking or smoking and at the end of each shift;
- workers must wash/clean safety boots prior to leaving the site;
- workers must utilise personal protective equipment in accordance with site procedures including but not limited to:
 - » Hard Hat;
 - » Safety boots;
 - » Gloves; and
 - » Eye protection.

Additionally, it is recommended that site workers have a change of clothes and leave work clothes at the site to prevent the spread of contaminated soil outside the work place. Site operative should have a change of clothes available onsite in case of an uncontrolled release.

5.3 Controlled Digging Techniques & Basic Material Management

Potential environmental impacts may be associated the following works involving soils at the site:

- excavation and stockpiling;
- on-site movement of soil;
- on-site retention of soil; and
- disposal operations of contaminated soils.

Some best practice recommendations have been provided below to assist the ground operatives avoid disturbance of unexpected AiS's, reduce the potential for cross contamination, and recognise ACM at the earliest opportunity.

Whilst it has been stated that the guide wall works are likely to fall outside the remit of CAR 2012 (see sections 4.5) any excavation works should be conducted in a controlled and careful manner. In general, this will include the use of 'layered excavation' practices, where excavation works should be conducted

in 100mm layers. Laying the excavation works will provide ground operatives the best opportunity to identify suspected ACM, while minimising the potential for disturbance.

- all material arising from the clean quarried stone should be excavated first and placed in a separate stockpile (broadly this material should be free of asbestos contamination);
 - » No requirement for 'layered excavation'.
- all material arising from the site won 6f2 should be excavated placed in a separate stockpile (there is a potential this material may contain low-level loose fibre);
 - » No requirement for 'layered excavation'.
- all Made Ground arisings should be placed separately in a dedicated material storage area and not on top of the clean piling mat. The Contractor should consider stockpiling the material on a geotextile membrane if stockpiling away from the clean cap is not feasible.
 - » material should be excavated in 100mm layers to ensure the site operatives have the best opportunity to identify visible ACM and take action accordingly;
 - » drop heights should be minimised; and
 - » double handling should be avoided where feasible.

All material stockpiles should be labelled accordingly and tested for either site retention, or, offsite disposal. Excavated soils should be segregated and stockpiled with soils of similar soil types to avoid the potential for cross contamination. Should the potential for the excavation of two or more soil domains (i.e. fill and natural soils) be present, it is recommended that a segregation process is undertaken.

Stockpiles of imported material should be kept away from potentially contaminative sources to minimise the potential for cross-contamination.

5.4 Dust Mitigation Measures

The following applies to Made Ground and other materials of anthropogenic origin; there are no restrictions on excavation of the clean, naturally occurring materials.

Dust generation is a potential pathway for contaminated soils and asbestos fibres and should be suppressed where practicable.

During the excavation of site-won demolition arisings and Made Ground general nuisance dust should be reduced as far as reasonably practicable. The Contractor will need to assess the requirement on a case by case basis, but the uses of water suppression should be considered to ensure the material is kept damp during the excavation work.

The aim of water suppression is to ensure soils are kept damp to mitigate the release of dust without causing complete saturation. Constant use of water suppression is not considered necessary. The Contractor will need to assess ground and weather conditions and decide when and where water suppression will be applicable.

5.5 Plant decontamination

The use of heavy equipment such as excavators and dumpers can increase the potential for cross-contamination to occur.

While during the guide wall installation works cross contamination is unlikely, any plant used in the excavation of made ground material should be decontaminated prior to excavating 'cleaner' material.

This is likely to include pressure washing the bucket of excavators and the rear of dumpers prior to the plant being used to excavate or transport 'cleaner' materials.

5.6 Haulage Routes and Vehicle Movements

All vehicle movement during the guide wall installation will be on clean quarried stone and as such the risk of fibre release is mitigated.

5.7 Watching Brief

It is considered unlikely that ACM will be identified during the guide wall installation. Basic asbestos awareness by the site operatives is appropriate for the current task i.e. no specialist supervision is required.

Should any ACM be identified during any of the guide wall installation work this requirement should be reassessed.

6. AIR MONITORING REQUIREMENTS

6.1 General

Currently the air monitoring requirements for the site are minimal. As it is not anticipated that the guide wall installation work will disturb any below ground ACM. The requirement for air monitoring is restricted to gaining background fibre levels for comparison during later more disruptive work phases.

6.2 Background Monitoring

Air monitoring should be undertaken at the site to establish background fibre levels within the local area. These results will be used as a comparison once the main works commences to ensure there is no measurable difference in airborne fibre levels during the works.

If elevated airborne fibre levels are present on, or at, the boundary of the site at this stage, then the relevant concentration can be discounted during subsequent air monitoring visits due to background contamination.

Airborne asbestos fibre control limits applicable to any work with asbestos will include:

- <0.01f/mL - **acceptable limit**
 - » Equal to background and detectable limits. Level to achieve for air clearances.
- >0.01f/mL - **alert/action required**
 - » Review control measures, investigate the cause and implement controls to eliminate or minimise exposure.

The preliminary air monitoring should include 1 day of monitoring by a UKAS accredited laboratory. This should consist of 12 static background fixed monitoring points situated down wind of the main excavation area and run for a minimum of 4 hours.

Further monitoring should be conducted by a UKAS accredited laboratory upon commencement of the main excavation works for a comparative airborne fibre level to be established. This should consist of a minimum of 4nr. full days of monitoring undertaken whilst excavation works are being conducted. The analyst will be able to provide advice on the air monitoring strategy and suitable locations for monitoring points, but an example scope for each full day visit is detailed below:

- 6nr. static reassurance monitoring points situated down wind of the main excavation area and run for a minimum of 4 hours.
- 6nr. static activity/reassurance monitoring points situated down wind of the main excavation in close proximity to the works area (within 10 metres).

Based on the available data for the site all static tests results should not exceed the original background fibre level or 0.01f/ml, whichever is greater.

6.3 Personal Monitoring

Personal air monitoring is not deemed necessary at this time Discovery Strategy

7. DISCOVERY STRATEGY

In areas of the site where no works are taking place but it is suspected that asbestos containing materials may exist at depth, there will only be a potential risk if these materials are exposed on the ground surface. If there are buried ACM on the site, they cannot give rise to airborne fibres unless uncovered.

The procedure to be followed in the event of suspected ACM being uncovered can be found in Appendix A.

The primary response should be to avoid any further disturbance of the material and to prevent access by the placement of appropriate barricades.

If the material appears friable or there is a risk of further disturbance from the weather such as high winds the material may be dampened down and covered with heavy gauge polythene or geo-fabric, either of which should then be secured with clean fill material, rocks or other heavy items.

Warning signs should be put in place and the discovery should be included in any daily toolbox talks.

All incidents concerning the uncovering of suspected ACM are to be dealt with and recorded via the site management team. In no circumstances should site operatives or sub-contractors attempt to deal with the contamination.

Report the incident to the site management team immediately, including details of;

- » date and time of uncovering;
- » nature of the problem and location;
- » supply any photographs if held; and
- » details of the response/action taken.

The management team will then organise a suitably qualified & experienced asbestos specialist to investigate the suspected ACM and obtain representative samples if required.

Once the material has been confirmed as containing asbestos the material may be removed in accordance with the CAR 2012 and the approved ACOP's. If the material is confirmed to be 'non-asbestos' the fencing can be removed and works can recommence.

Details of the event should be passed to Hydrock for inclusion in subsequent reissues of this AMP.

7.1 Working with Asbestos

While it is not anticipated that 'Working with Asbestos' will be required at this stage, it should be noted that asbestos awareness alone is not appropriate for 'Working with Asbestos'. No hand-picking or remedial actions should be conducted by operatives who hold asbestos awareness only.

An experienced asbestos removal contractor or remediation contractor should be contacted should confirmed asbestos be identified during the works at any stage.

More details will be provided on this subject for the main site works package when the AMP is reissued.

7.2 AMP Review

A mechanism for ensuring this AMP is periodically reviewed should be in place for the duration of the project. In particular Hydrock should be informed and new information, results, reports or incidents relating to asbestos become available.

Currently, this AMP was prepared based on third party information and in the knowledge that it will need to be updated pending the issue of new information and/or findings of further assessment works or proposed works at the site.

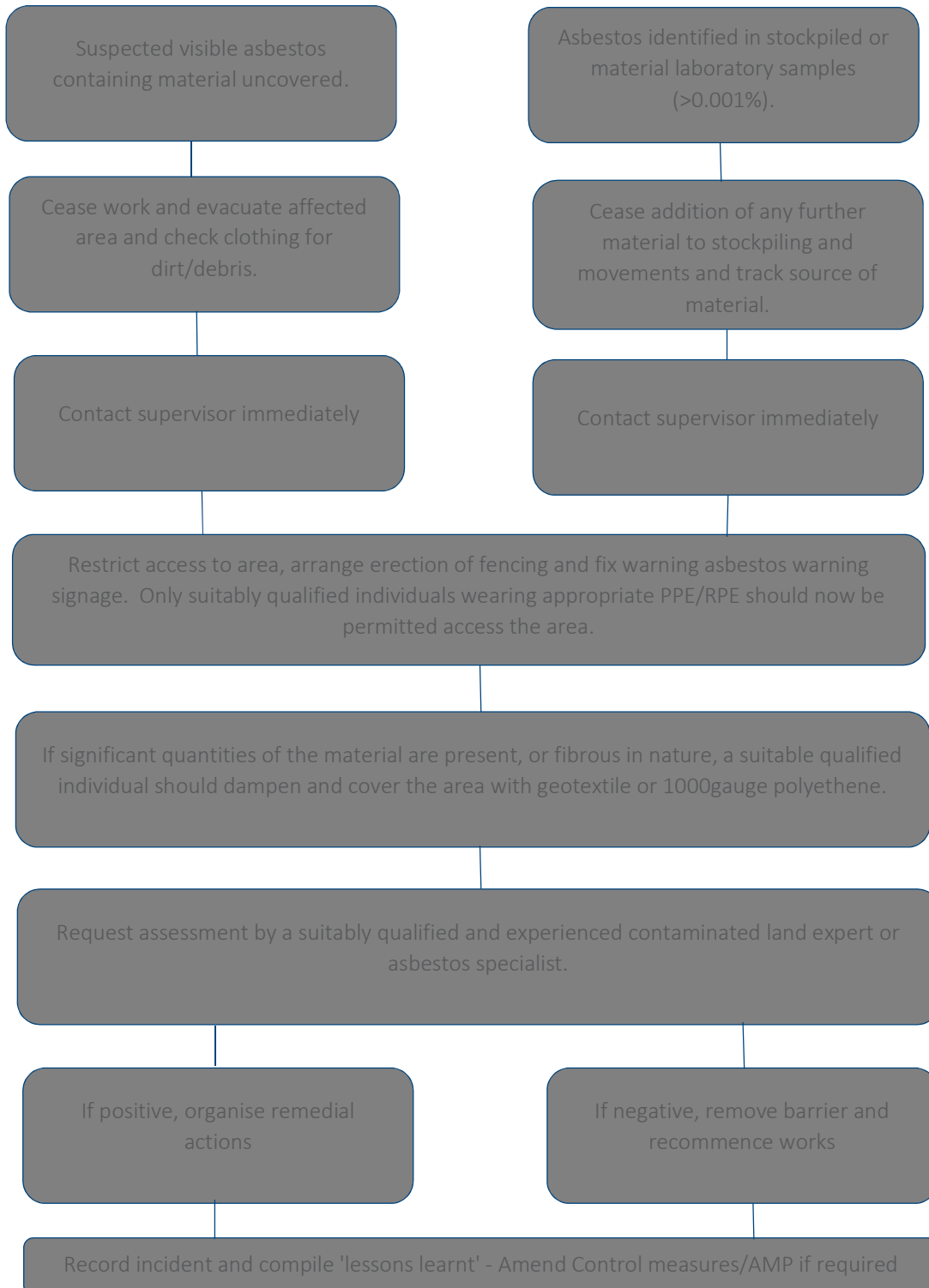
The ASMP should be revised and reviewed by a competent person as changes to the current understanding of site contamination conditions, work requirements, legislation, or construction scope, arise.

The ASMP should be revised to reflect changes and provide adequate procedures for ensuring compliance by site operatives with regulatory requirements and industry best practice.

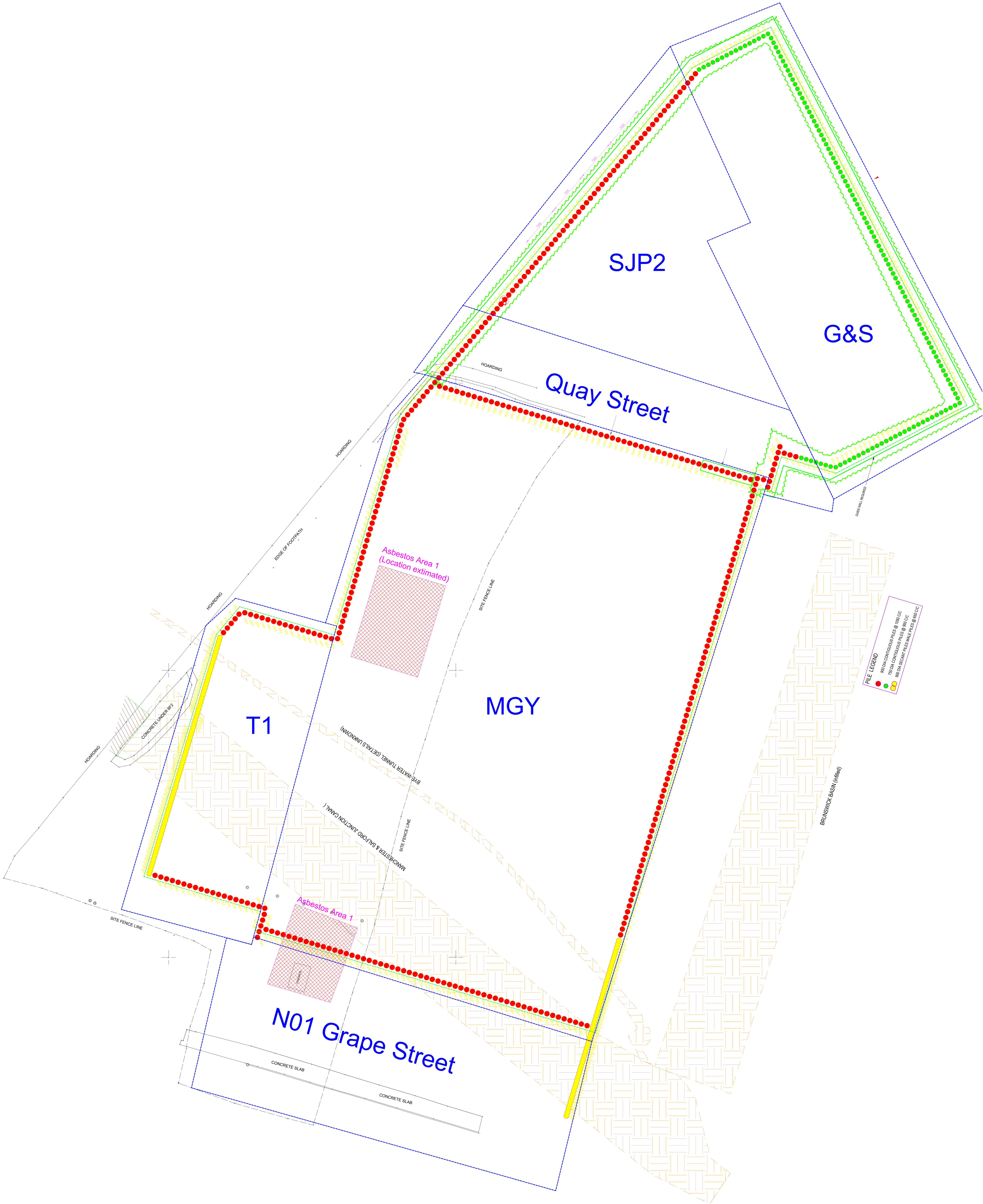
7.3 Recommendation for additional GI

To be confirmed.

Appendix A - Emergency procedure



Appendix B - Plan of Known Asbestos Locations



Legend

Known locations of ACM's (Approximate)

Notes:

1. Original DWG supplied by Lendlease, adapted by Hydrock

2. Locations are indicative only

3. NOT TO SCALE

Hydrock

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www.hydrock.com

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Project:

**ST. JOHNS DEVELOPMENT
MANCHESTER**

Client:

ALLIED LONDON

Drawing Title:

**KNOWN ASBESTOS
LOCATIONS
(APPROXIMATE)**

Project Number:

C10979

Drawn: JM Checked: AC Scale: @ A0 Drawn Date: 07/12/2018 First Issue:

Drawing Status:

INFORMATION

Drawing No. 10979-G001 Revision A

Notes:

All dimensions are to be checked on site before the commencement of works.
Any discrepancies are to be reported to the Architect & Engineer for
verification. Reported dimensions only are to be taken from this drawing. This
drawing is to be read in conjunction with all relevant Engineering and Service
Engineers' drawings and specifications. This drawing is copyright.

Rev	Date	Description	By	Ckd
A	07/12/2018	Information issue.	JM	AC

Appendix C - JIWG Decision support tool



Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Project Reference	C-10979
Site Name	St. Johns
Client	Allied London
Run by	J. Macfarlane
Date	07.12.2018
Scenario details	Activity 1 - Guide wall excavations

Decision Support Tool for CAR2012 Work Categories

Stage 1

Hazard Factors

Select ACM type (run model for each type to generate 'Worst Case' output)
Extent of degradation of ACMs at outset of work
Friability and degree of bonding by matrix (ACM matrix, not ground materials)
Distribution of Visible Asbestos Across Affected Area
Amount of asbestos fibre in selected ACM/fibre type as % of host material

Free dispersed fibres/fibre bundles	2
Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friable ACM or ACM with fibres not linked in any matrix (free dispersed fibres/fibre bundles)	4
No visible ACMs/fibre bundles	0
Trace quantities - <0.0001 to 0.001 %wt/wt	0

Score

Sub-total

0

Note: the asbestos licensing regime is unaffected by the type of asbestos fibre present in ACMs

Hazard ranking

Negligible

No warranty, expressed or implied, or reliance, is provided in relation to the use of this tool.

It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.



Stage 2

Exposure Factors

Score

Anticipated airborne fibre concentration - Control Limit or SALI?
Anticipated duration of exposure to asbestos
Activity type and effect on deterioration of ACMs during work
Best description of primary host material matrix (soil/made ground)
Respirable fibre index for ACM - RIVM report 711701034 (2003)

<0.001 fibres/ml
> 2 hours in a 7 day period and Up to 10 hours in a day (e.g. full time occupational exposure)
Low intensity, no or minimal deterioration expected
Naturally occurring rock, stone (crushed or not)
Negligible

0
4
0
4
0

Sub-total

8

Exposure ranking

Low

Combined hazard and exposure ranking

8

Very Low



Joint Industry Working Group

Asbestos in Soil and Construction & Demolition Materials

Stage 3

Risk Assessment Outputs

Probable Licensing Status	CAR do not apply
RPE*	None
Dust Suppression**	None
Hygiene/Decontamination***	None

*Where RPE has to be worn continuously for long periods (e.g. more than 1-hour), then powered RPE may be necessary.

**Reduction in control measures possible if natural mitigation factors are present (e.g. raining, wet ground)

***Guide only; suitability of selected personal hygiene measures may be reviewed on a site/contamination-specific basis

Appendix D - Photographs



Photograph 1. Display of the current site border between divided site



Photograph 2. Extents of piling mat



Photograph 3. General site setup

EUROPEAN DELIVERY REQUIREMENTS

WASTE PERMITTING DEMOLITION AND EARTHWORKS EDR





Appendix A LCRM Process Flow

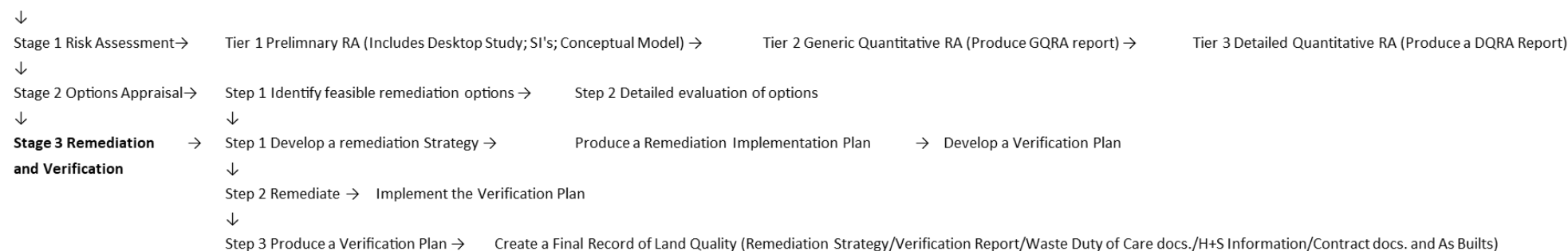
Land Contamination Risk Management- UK Governemnt Guidance

GMR reviews →

1.1.1 Risk Reviews	1.2.1 IPRs	2.3.3 Methodology Reviews	4.13.3 Soil Contamination
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↳ Table Part A, B + C; Latent Risk

LCRM → <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>



GMR- Degredation or Pollution of the Environment

4.13.3 SOILS AND GROUNDWATER CONTAMINATION

- i) Identify, signpost and segregate from site activities any known contaminated soils or groundwater on the site likely to cause risk to health, safety or the environment. Erect physical barriers to prevent unauthorised entry, exposure and cross contamination and cover with suitable materials to prevent stockpile erosion.
- ii) Cease any site activities that involve soil or groundwater disturbance where the contamination levels of the soil and groundwater are either unknown or where evidence of possible contamination is presented, until a technically qualified person is able to determine the contamination status or risk.
- iii) Plan and conduct all excavation, (including piling) movement, treatment, processing or remediation of contaminated soils, materials or groundwater in accordance with the requirements of high-risk activities.
- iv) All site remediation activities are to be conducted in accordance with regulatory requirements including provision for any decontamination and wash/disposal facilities. All contaminated waste must be delivered to an approved licensed facility and documentary evidence is maintained by the operations

