

PORTWAY

REMEDIATION METHOD STRATEGY

AT

PORT STREET, MANCHESTER, M1 2EQ

CLIENT: RENAKER BUILD

Date: 08/08/2022

Ref: PTW22030/RMS

Portway Plant Ltd
Portway Remediation
Holly Farm
Whitepits Lane
Portway
Birmingham
B48 7HP

Tel 01564 826303
Fax 01564 826474

Email: jberry.portway@gmail.com



DOCUMENT CONTROL SHEET

<i>Report Ref</i>	<i>Revision No</i>	<i>Status</i>	<i>Revision Notes</i>	<i>Date</i>
PTW22030/RMS	01	Draft		08/08/2022
	02	Issue	Updated	26/09/2022
	03	issue	Updated	27/10/2022

	<i>Prepared By</i>	<i>Reviewed By</i>	<i>Approved By</i>
Name	Jon Berry	Ian Chambers	Ian Chambers
Position	Technical Director	Director	Director
Signature			
Contact	jberry.portway@googlemail.com	ichambers.portway@googlemail.com	ichambers.portway@googlemail.com

Contents

1.0	PRE-AMBLE	3
2.0	INTRODUCTION	4
3.0	SITE DETAILS AND DESCRIPTION	4
3.1	Site Location	4
3.2	Site Setting	5
4.0	REMEDIATION STRATEGY	5
4.1	Remediation Objectives	5
4.2	Pollutant Linkages & Risks	6
4.3	Remediation Options	7
4.4	Regulatory controls, permits & deployments	7
4.5	Protection of Receptors	8
4.6	Remediate Methodology & Effectiveness	8
4.7	Compatibility with other works	8
4.8	Technical & scientific basis for the choice of remediation technology	8
4.9	Effectiveness of any combined options	8
4.10	Sustainable approach	9
4.11	Dealing with uncertainties	9
4.12	Decommissioning of boreholes	9
5.0	VERIFICATION REPORT	9
6.0	LONG TERM MONITORING & MAINTENANCE, IF REQUIRED	10
7.0	SITE PLANS	11

1.0 PRE-AMBLE

Portway Remediation have been commissioned by Renaker Build to produce a Remediation Method Strategy (RMS), for land at Port Street, Manchester, M1 2EQ.

This document has been produced in line with standards from BS 10175:2017, LC:RM and guidance for the Safe Development of Housing on Land Affected by Contamination, R & D 66, Environment Agency 2000 in order to address pre-commencement planning condition

Before the development hereby approved commences, a report (the Preliminary Risk Assessment) to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site shall be submitted to and approved in writing by the City Council as local planning authority. The Preliminary Risk Assessment shall conform to City Council's current guidance document (Planning Guidance in Relation to Ground Contamination). **VPD**

In the event of the Preliminary Risk Assessment identifying risks which in the written opinion of the Local Planning Authority require further investigation, the development shall not commence until a scheme for the investigation of the site and the identification of remediation measures (the Site Investigation Proposal) has been submitted to and approved in writing by the City Council as local planning authority. **RBL**

The measures for investigating the site identified in the Site Investigation Proposal shall be carried out, before the development commences and a report prepared outlining what measures, if any, are required to remediate the land (the Site Investigation Report and/or Remediation Strategy) which shall be submitted to and approved in writing by the City Council as local planning authority. **RBL**

In compiling the Remediation Method Statement, previous phases of investigation have been reviewed. The reports listed below must be read in conjunction with the content of this report.

1. WSP UK Ltd, November 2021. Ground Investigation Report, Port Street, Manchester, Ref. 70084785-WSP-GEO-IGR-001.
2. WSP UK Ltd. January 2022. Addendum to Phase 2 Report, Port Street, Manchester, Ref. 70084785-WSP-GEO-IGR-002 R01.

2.0 INTRODUCTION

The client is seeking to develop the site for residential apartments within a tower block with basement carparking, hereafter referred to as the 'proposed development'. The construction of the tower block will remove most of the Made Ground from the site together with any superficial deposits to a depth of approximately 2mbgl.

Any sources of contamination within the ground will therefore be removed as part of the construction. Recently further works were undertaken by WSP detailed within an Addendum regarding a section of the site where the canal was infilled. Variable ground conditions were encountered, and several different methods will be used to treat the ground within this location, including dewatering, water treatment, discharged to foul under consent and stabilization prior to removal off site.

Statutory guidance identifies that for pollution of the controlled waters to occur; poisonous, noxious, polluting, or solid waste matter must be entering such sensitive waters or must be considered more likely than not to enter controlled waters in the future. Following discussions with the client, Portway Remediation is proposing to remove the impacted ground and perched water where practicable from within the site boundary, impacted material retained within the site on the boundary will be sampled and tested.

WSP Preliminary Conceptual Site Model, concluded on the balance of probabilities that all risks are Moderate to Low, i.e. 'It is unlikely that either: Harm is being (or may be) caused to the receptors identified by the contamination source identified'. (Please see the table Figure 2)

3.0 SITE DETAILS AND DESCRIPTION

3.1 Site Location

The site, Port Street, Manchester is approximately 410m East of Piccadilly Gardens (the site) and is approximately 0.49ha in size for redevelopment. The site is currently a car park on 2 levels, ground level and a lower section towards the canal.

Figure 1 - Site with red boundary line.



3.2 Site Setting

The Geology is underlain by Glacial Till and Chester Formation (sandstone). The Hydrogeology is classed as a “Secondary Aquifer – Undifferentiated” within the superficial deposits and the bedrock is classed as a “Principal Aquifer”.

The site has been used for both commercial operations and residential, the surrounding area is mixed with the canal to the south of the site. The site did have a “basin” linked to the Rochdale Canal, this was infilled prior to the 1948 map being issued.

4.0 REMEDIATION STRATEGY

The remediation strategy is focused on the relic infilled canal basin. This area of the site is likely to be impacted with a wide range of historic materials. As the basin will be clay lined the perched dirty water contained will be pumped out and pass through a settling tank system to reduce the suspended solids. Then the partly treated water will pass through a biological treatment plant to polish the water before passing through a flow meter into the foul sewer under a discharge consent issued by the Statutory Water Undertaker (testing rates and discharge rates to be confirmed with the Statutory Water Undertaker).

Due to the development requirement for basement car parking, all made ground within the first 2mbgl will be removed off site for disposal. In order to facilitate this the made ground held within the former canal basin will be stabilized with a cement binder to facilitate the removal and transportation of the waste materials. It is anticipated that the resultant material recovered from the former canal will have a high moisture content and may resemble a slurry, hence the need for stabilization.

4.1 Remediation Objectives

Removal of material used to infill the canal basin and prevent future pollution risks to the Rochdale Canal. The remaining made ground which also requires removal for the basement car parking will be removed off site to a permitted waste facility. Portway will assist Renaker in overseeing this operation. The current ground reports produced by WSP will be issued to the appointed haulage contractor who will act as a waste broker to confirm the location of the landfills. During this process the waste will be assessed by the receiving landfill inline with the waste acceptance criteria and permitted limits of contamination as defined on the license or permit which is issued and regulated by the Environment Agency.

4.2 Pollutant Linkages & Risks

Extract from WSP Report Ref 70084785-WSP-GEO-IGR-001 Table 10-2

Revised Conceptual Site Model

Potential Contaminants	Potential Pathways	Potential Receptors	Comments
Free asbestos fibres in soils	Inhalation of asbestos fibres.	Construction workers Future site users Future maintenance workers	Moderate – Asbestos was identified in two soil samples, (quantification results outstanding) Large areas of Made Ground are present at the site and asbestos fibres may be encountered in Made Ground in un-investigated locations at the site. Appropriate work control procedures would be required to control any exposure risk during the works.
Contaminants in Soils	Dermal contact, ingestions, inhalation of impacted Made Ground and soil particles.	Construction workers Future site users Future maintenance workers	Moderate – Exceedances of human health assessment criteria were recorded during the investigation for a number of contaminants.
	Vertical leaching from impacted soil and lateral migration of impacted groundwater from on-site	Principal Aquifer Rochdale Canal	Low – Given the concentration of contaminants recorded in soil and groundwater beneath the site and the distance to the nearest surface water receptor, it is considered at this stage that the risk from contaminated soils and groundwater to controlled waters is low to moderate.

4.3 Remediation Options

As a basement forms part of this development, it is not possible to treat and retain the material on site. Therefore, the made ground is to be treated as waste, based on the findings from WSP and this material will be removed off site to a permitted waste facility. If clean inert natural material is discovered in a significant volume, then a materials management plan (MMP) will be obtained prior to excavation and removal of the material this material will be sampled and tested (TPH working group, PAH, metals, asbestos screen) every 200m³. The remaining sidewalls and base of the excavation will be tested (TPH working group, PAH, metals, asbestos screen) on a 25m grid for validation purposes against the WSP target values, copy below;

				Lab No	Sample ID	Depth	Other ID	Sample Type	GAC - Residential without Plant	Sampling Date	Sampling Time	LOD	Units	Uptake - 1% SOM
Test	Method													
Metals														
Antimony	DETS 2301*	1	mg/kg										643	
Arsenic	DETS 2301*	0.2	mg/kg										35	
Beryllium	DETS 2301*	0.2	mg/kg											
Boron, Water Soluble	DETS 2311*	0.2	mg/kg										10500	
Cadmium	DETS 2301*	0.1	mg/kg										87	
Chromium III	DETS 2301*	0.15	mg/kg										1590	
Chromium, Hexavalent	DETS 2204*	1	mg/kg										4.50	
Copper	DETS 2301*	0.2	mg/kg										7520	
Lead	DETS 2301*	0.3	mg/kg										188	
Manganese	DETS 2301*	20	mg/kg										1820	
Mercury	DETS 2325*	0.05	mg/kg										56	
Molybdenum	DETS 2301*	0.4	mg/kg										673	
Nickel	DETS 2301*	1	mg/kg										181	
Selenium	DETS 2301*	0.5	mg/kg										430	
Zinc	DETS 2301*	1	mg/kg										40400	
Inorganics														
Loss on Ignition (Fines)	DETS 5022	0.01	%											
pH	DETS 2008*		pH											
Cyanide, Total	DETS 2130*	0.1	mg/kg										15	
Organic matter	DETS 2002*	0.1	%											
Sulphate Aqueous Extract as SO ₄	DETS 2076*	10	mg/l											
Petroleum Hydrocarbons														
Aliphatic C5-C6	DETS 3321*	0.01	mg/kg										161	
Aliphatic C6-C8	DETS 3321*	0.01	mg/kg										529	
Aliphatic C9-C10	DETS 3321*	0.01	mg/kg										154	
Aliphatic C10-C12	DETS 3072*	1.5	mg/kg										754	
Aliphatic C12-C16	DETS 3072*	1.2	mg/kg										3490	
Aliphatic C16-C21	DETS 3072*	1.5	mg/kg										89100	
Aliphatic C21-C35	DETS 3072*	3.4	mg/kg										89100	
Aliphatic C5-C35	DETS 3072*	10	mg/kg											
Aromatic C5-C7	DETS 3321*	0.01	mg/kg										1360	
Aromatic C7-C9	DETS 3321*	0.01	mg/kg										3640	
Aromatic C9-C10	DETS 3321*	0.01	mg/kg										265	
Aromatic C10-C12	DETS 3072*	0.9	mg/kg										1090	
Aromatic C12-C16	DETS 3072*	0.5	mg/kg										1730	
Aromatic C16-C21	DETS 3072*	0.6	mg/kg										1340	
Aromatic C21-C35	DETS 3072*	1.4	mg/kg										1340	
Aromatic C5-C35	DETS 3072*	10	mg/kg											
TPH Al/Aro Total C5-C35	DETS 3072*	10	mg/kg											
Benzene	DETS 3321*	0.01	mg/kg										1.4	
Ethylbenzene	DETS 3321*	0.01	mg/kg										435	
Toluene	DETS 3321*	0.01	mg/kg										3700	
Xylene	DETS 3321*	0.01	mg/kg										424	
MTBE	DETS 3321	0.01	mg/kg											
PAHs														
Naphthalene	DETS 3301	0.1	mg/kg										13	
Acenaphthylene	DETS 3301	0.1	mg/kg											
Acenaphthene	DETS 3301	0.1	mg/kg											
Fluorene	DETS 3301	0.1	mg/kg											
Phenanthrene	DETS 3301	0.1	mg/kg											
Anthracene	DETS 3301	0.1	mg/kg											
Fluoranthene	DETS 3301	0.1	mg/kg											
Pyrene	DETS 3301	0.1	mg/kg											
Benzofluoranthene	DETS 3301	0.1	mg/kg											
Chrysene	DETS 3301	0.1	mg/kg											
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg											
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg											
Benzo(a)pyrene	DETS 3301	0.1	mg/kg										1.7	
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg											
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg											
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg											
PAH Total	DETS 3301	1.6	mg/kg											
Phenols														
Phenol - Monohydric	DETS 2130*	0.3	mg/kg										280	

4.4 Regulatory controls, permits & deployments

- Planning Condition 02 decision notice 132489/FO/2021
- Portway Remediation Mobile Treatment Permit, Permit Number: WML100513
- Discharge Consent to be issued by the Statutory Water Undertaker – Pending.

4.5 Protection of Receptors

The proposed remediation is to and prevent any odour, dusts or any other fugitive emissions from being emitted beyond the side boundary. Subjective monitoring for fugitive emissions will be undertaken during the works. The stabilization is a contained treatment operation within the former canal basin and the environmental monitoring is in place to ensure that all receptors are protected to maintain a site which does not cause harm or a nuisance.

The historic section of clay lined canal will be left insitu and any relic services will be sealed to prevent off site migration. If an unexpected hotspot of contamination or asbestos is encountered, the area will be covered and held within its current location until tested and defined to ensure the correct measures are followed to facilitate the removal for offsite disposal.

4.6 Remediate Methodology & Effectiveness

The proposed remediation is to remove offsite the impacted ground and any trapped pockets of water within the former canal basin. The impacted material cannot remain on site due to the required basement parking area, hence the excavated and stabilized material will be waste, and it will be removed to a permitted waste facility. By removing the source material no risk will remain to any receptors and the site will be sealed by the proposed redevelopment. Any residual impacted material remaining at depth or within the sidewalls will be sampled and tested where it is not safe or possible to be removed, for example on the boundary of adjoining structure which would result in undermining the foundation.

4.7 Compatibility with other works

The proposed remediation to remove the impacted ground interlocks with the development requirement to remove materials to construct the foundations and basement car parking.

4.8 Technical & scientific basis for the choice of remediation technology

The material cannot be treated and remain on site due to the development, if treated material was left under the foundation of the new development this could cause differential settlement and compromise the building.

4.9 Effectiveness of any combined options

To reduce the waste generated it might be possible to screen out bricks and hard surfaced materials near the surface, however this will be undertaken where possible when the works commences, and volumes of the materials will need to be assessed as encountered.

4.10 Sustainable approach

To improve the groundwater regime the impacted perched water will be treated prior to discharge into the foul sewer.

An assessment of nature ground if discovered will be made in case it can be reused under a Materials Management Plan, however this is unlikely due to the requirements of the basement parking and reduction of materials (mostly made ground) present within the site.

4.11 Dealing with uncertainties

During the associated piling and later deep earthworks to remove the majority of the material within the footprint of the site to a depth of 2m below ground level a quarantine area will be set up to hold any material which exhibits any form of suspected contamination.

All materials inert or hazardous/contaminated are being tested throughout the project to ensure that the duty of care is being following and waste is being correctly handled and disposed of at permitted waste facilities.

The site also has CCTV. This could help in proving if an accident or malicious incident has occurred on site to explain any odd events.

4.12 Decommissioning of boreholes

Where borehole installations are discovered, these will be filled with bentonite pellets to block the pathway. A record of the installations found and decommissioned will be presented within the verification report.

5.0 VERIFICATION REPORT

Following the remediation, a verification report will be produced detailing the works undertake, explaining the results and findings to confirm that the risks have been reduced and a level of betterment has been achieved.

NOTE: The verification report is normally produced once remediation is complete. If phased remediation occurs, then separate verification reports for each phase may be required. Verification shall prove:

- Remediation has been successful if:
 - o independent witnessing of samples obtained from the site to prove impacted materials have been removed via the clients (Renaker) consultant (WSP) and the works to be undertaken in conjunction with the remediation contractor (Portway Remediation).
 - o Detailed perched water testing and discharge volumes are required which must interlink with detailed records.
 - o Lines of evidence, including:
 - i. Resting GWL – assumed vs actual
 - ii. Historical projects completed by Renaker near to the current site
 - iii. Removal of any relic items eg tanks
 - iv. Soil sampling (25m grid to cover the site)
 - v. Water sampling
 - vi. PID monitor

- vii. Haulers controlled waste transfer note for soils or liquids
 - viii. Measuring quantities of contaminated materials recovered and recharge rates within the former canal basin.
 - ix. Evidence of compliance with controls such as permits; WML100513
 - x. Odour monitoring results at site boundaries or agreed locations (at Site boundary for all fugitive emissions) and this will continue during the construction phase.
 - xi. Compliance with regulatory position statement – Remediation trial and deployment of a mobile plant permit where required.
 - xii. Photographs taken at key stages during the works.
- Remediation has met the objectives & criteria
 - o Compliance criteria – This is defined as removing the impacted materials
 - o Analytical data, sampling frequencies & methods. Water and soil samples collected will be sent directly to an accredited laboratory holding UKAS/MCERTS(i2).
 - o Field monitoring data, level surveys; As the assessment criteria is based on visible free product recovery this will be jointly assessed in conjunction with the Client (Renaker).
 - o Additional monthly soil/waste/water sampling will be undertaken to assess the amount of contamination present.
 - Remediation has been verified
 - o This will be results based on the validation samples of the remaining materials/natural strata after the removal of unsuitable materials.

6.0 LONG TERM MONITORING & MAINTENANCE, IF REQUIRED

This will not be required as the impacted material is being removed off site to a permitted waste facility.

All imported materials required for engineering and landscaping will be inert and free from contamination.

Imported material will be required for filling the resultant void within the former canal basin, approximately 2420m³. A further 3,300m³ of a stone product will also be required to form the piling mat.

The imported soil will be tested at source and tested every 200m³ (1 in every 10 lorry loads with a minimum of 4 samples/tests). The growing medium will be of a suitable depth to promote and sustain growth of the desired plants. After placement the depth of the growing medium will be confirmed with photographs and measuring equipment. Prior to importing any materials to be used, test results for the proposed material must be agreed with the Contaminated Land Officer prior to placement (contact details TBC).

7.0 SITE PLANS

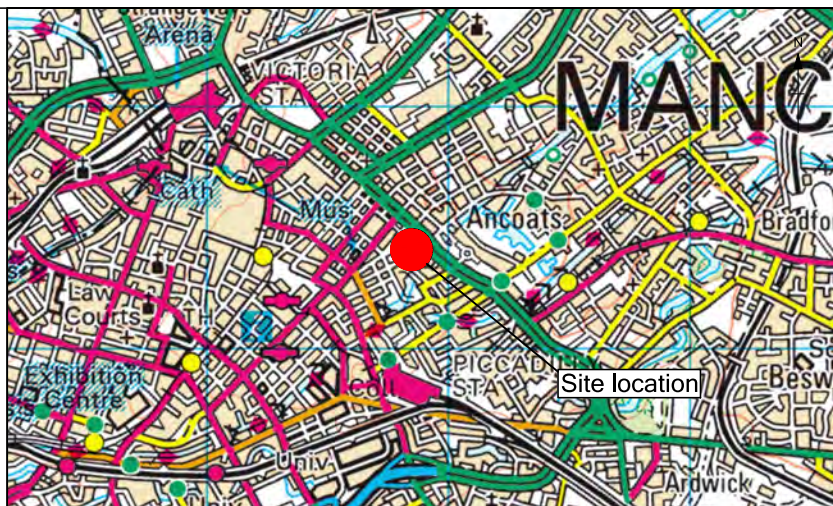
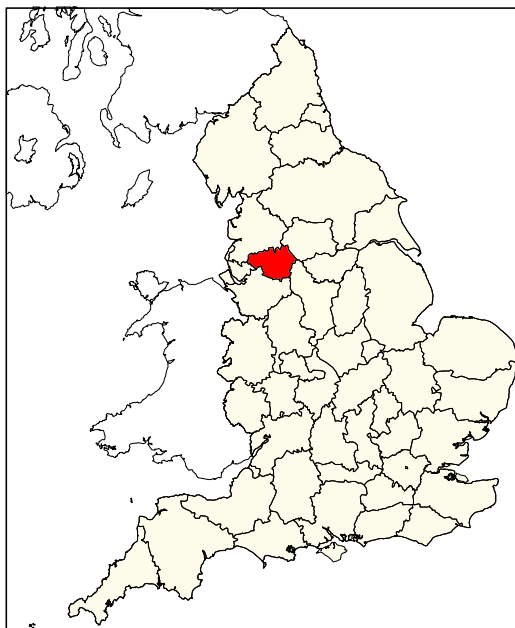


Figure 1:

Site Location

Contains Ordnance Survey data © Crown copyright and database right 2021



SALFORD
ARCHAEOLOGY



Contains OS data © Crown copyright and database right (2019)

Average existing ground levels (EGL):
Split level site



Excavation levels relative to EGLs

The site plan illustrates various excavation areas with their respective levels and depths. The plan is divided into several colored zones: a light blue area at the top, a yellow area in the center, and a light green area at the bottom. White arrows point from a legend box to specific excavation areas. The legend box contains the text 'Excavation level' in blue and 'Depth of excavation' in red. The excavation areas are labeled with their levels and depths as follows:

- Top left: 41.375m, -8.125m
- Top center: 43.95m, -5.55m
- Top right: 45.90m, -3.6m
- Center left: 43.95m, -5.55m
- Center: 42.15m, -5.45m
- Center right: 43.95m, -3.65m
- Bottom left: 41.375m, -6.225m
- Bottom center: 43.95m, -3.65m
- Bottom right: 45.90m, -1.7m
- Far right: 43.95m, -5.55m

Excavation level
Depth of excavation

Excavation level

Depth of excavation

Existing infilled canal wharf
Relative to new building foundations

This technical site plan illustrates the relationship between existing infrastructure and new building foundations. The plan features a grid of red dashed lines with circular markers at the intersections, labeled with numbers 1 through 25. A prominent red boundary line encloses the central area of the site. A large, irregularly shaped area is shaded in light red, representing the 'Existing infilled canal wharf'. Within and around this area, numerous small rectangular blocks, some filled with red and others with green, represent building foundations. These foundations are labeled with elevation points, such as +48.02, +47.85, +47.84, +47.83, +47.82, +47.81, +47.80, +47.79, +47.78, +47.77, +47.76, +47.75, +47.74, +47.73, +47.72, +47.71, +47.70, +47.69, +47.68, +47.67, +47.66, +47.65, +47.64, +47.63, +47.62, +47.61, +47.60, +47.59, +47.58, +47.57, +47.56, +47.55, +47.54, +47.53, +47.52, +47.51, +47.50, +47.49, +47.48, +47.47, +47.46, +47.45, +47.44, +47.43, +47.42, +47.41, +47.40, +47.39, +47.38, +47.37, +47.36, +47.35, +47.34, +47.33, +47.32, +47.31, +47.30, +47.29, +47.28, +47.27, +47.26, +47.25, +47.24, +47.23, +47.22, +47.21, +47.20, +47.19, +47.18, +47.17, +47.16, +47.15, +47.14, +47.13, +47.12, +47.11, +47.10, +47.09, +47.08, +47.07, +47.06, +47.05, +47.04, +47.03, +47.02, +47.01, +47.00, +46.99, +46.98, +46.97, +46.96, +46.95, +46.94, +46.93, +46.92, +46.91, +46.90, +46.89, +46.88, +46.87, +46.86, +46.85, +46.84, +46.83, +46.82, +46.81, +46.80, +46.79, +46.78, +46.77, +46.76, +46.75, +46.74, +46.73, +46.72, +46.71, +46.70, +46.69, +46.68, +46.67, +46.66, +46.65, +46.64, +46.63, +46.62, +46.61, +46.60, +46.59, +46.58, +46.57, +46.56, +46.55, +46.54, +46.53, +46.52, +46.51, +46.50, +46.49, +46.48, +46.47, +46.46, +46.45, +46.44, +46.43, +46.42, +46.41, +46.40, +46.39, +46.38, +46.37, +46.36, +46.35, +46.34, +46.33, +46.32, +46.31, +46.30, +46.29, +46.28, +46.27, +46.26, +46.25, +46.24, +46.23, +46.22, +46.21, +46.20, +46.19, +46.18, +46.17, +46.16, +46.15, +46.14, +46.13, +46.12, +46.11, +46.10, +46.09, +46.08, +46.07, +46.06, +46.05, +46.04, +46.03, +46.02, +46.01, +46.00, +45.99, +45.98, +45.97, +45.96, +45.95, +45.94, +45.93, +45.92, +45.91, +45.90, +45.89, +45.88, +45.87, +45.86, +45.85, +45.84, +45.83, +45.82, +45.81, +45.80, +45.79, +45.78, +45.77, +45.76, +45.75, +45.74, +45.73, +45.72, +45.71, +45.70, +45.69, +45.68, +45.67, +45.66, +45.65, +45.64, +45.63, +45.62, +45.61, +45.60, +45.59, +45.58, +45.57, +45.56, +45.55, +45.54, +45.53, +45.52, +45.51, +45.50, +45.49, +45.48, +45.47, +45.46, +45.45, +45.44, +45.43, +45.42, +45.41, +45.40, +45.39, +45.38, +45.37, +45.36, +45.35, +45.34, +45.33, +45.32, +45.31, +45.30, +45.29, +45.28, +45.27, +45.26, +45.25, +45.24, +45.23, +45.22, +45.21, +45.20, +45.19, +45.18, +45.17, +45.16, +45.15, +45.14, +45.13, +45.12, +45.11, +45.10, +45.09, +45.08, +45.07, +45.06, +45.05, +45.04, +45.03, +45.02, +45.01, +45.00, +44.99, +44.98, +44.97, +44.96, +44.95, +44.94, +44.93, +44.92, +44.91, +44.90, +44.89, +44.88, +44.87, +44.86, +44.85, +44.84, +44.83, +44.82, +44.81, +44.80, +44.79, +44.78, +44.77, +44.76, +44.75, +44.74, +44.73, +44.72, +44.71, +44.70, +44.69, +44.68, +44.67, +44.66, +44.65, +44.64, +44.63, +44.62, +44.61, +44.60, +44.59, +44.58, +44.57, +44.56, +44.55, +44.54, +44.53, +44.52, +44.51, +44.50, +44.49, +44.48, +44.47, +44.46, +44.45, +44.44, +44.43, +44.42, +44.41, +44.40, +44.39, +44.38, +44.37, +44.36, +44.35, +44.34, +44.33, +44.32, +44.31, +44.30, +44.29, +44.28, +44.27, +44.26, +44.25, +44.24, +44.23, +44.22, +44.21, +44.20, +44.19, +44.18, +44.17, +44.16, +44.15, +44.14, +44.13, +44.12, +44.11, +44.10, +44.09, +44.08, +44.07, +44.06, +44.05, +44.04, +44.03, +44.02, +44.01, +44.00, +43.99, +43.98, +43.97, +43.96, +43.95, +43.94, +43.93, +43.92, +43.91, +43.90, +43.89, +43.88, +43.87, +43.86, +43.85, +43.84, +43.83, +43.82, +43.81, +43.80, +43.79, +43.78, +43.77, +43.76, +43.75, +43.74, +43.73, +43.72, +43.71, +43.70, +43.69, +43.68, +43.67, +43.66, +43.65, +43.64, +43.63, +43.62, +43.61, +43.60, +43.59, +43.58, +43.57, +43.56, +43.55, +43.54, +43.53, +43.52, +43.51, +43.50, +43.49, +43.48, +43.47, +43.46, +43.45, +43.44, +43.43, +43.42, +43.41, +43.40, +43.39, +43.38, +43.37, +43.36, +43.35, +43.34, +43.33, +43.32, +43.31, +43.30, +43.29, +43.28, +43.27, +43.26, +43.25, +43.24, +43.23, +43.22, +43.21, +43.20, +43.19, +43.18, +43.17, +43.16, +43.15, +43.14, +43.13, +43.12, +43.11, +43.10, +43.09, +43.08, +43.07, +43.06, +43.05, +43.04, +43.03, +43.02, +43.01, +43.00, +42.99, +42.98, +42.97, +42.96, +42.95, +42.94, +42.93, +42.92, +42.91, +42.90, +42.89, +42.88, +42.87, +42.86, +42.85, +42.84, +42.83, +42.82, +42.81, +42.80, +42.79, +42.78, +42.77, +42.76, +42.75, +42.74, +42.73, +42.72, +42.71, +42.70, +42.69, +42.68, +42.67, +42.66, +42.65, +42.64, +42.63, +42.62, +42.61, +42.60, +42.59, +42.58, +42.57, +42.56, +42.55, +42.54, +42.53, +42.52, +42.51, +42.50, +42.49, +42.48, +42.47, +42.46, +42.45, +42.44, +42.43, +42.42, +42.41, +42.40, +42.39, +42.38, +42.37, +42.36, +42.35, +42.34, +42.33, +42.32, +42.31, +42.30, +42.29, +42.28, +42.27, +42.26, +42.25, +42.24, +

Existing infilled canal wharf
Relative to site boundary

