

Former Merseyside Dogs Home

East Halewood

Flood Risk Assessment

May 2023

Project Information	
Project:	Former Merseyside Dogs Home, East Halewood
Report Title:	Flood Risk Assessment
Client:	BBE Developments Ltd
Instruction:	The instruction to undertake this Flood Risk Assessment was received from Mr Nabeil Nasr of BBE Developments Ltd
File Ref:	14506-FRA-02

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Document History		
Revision	Date	Comment
1	06/05/2023	First issue
2	12/05/2023	Second issue – Updated with revised development proposals

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This report will remain valid for a period of twelve months (from the date of last issue) after which the source data should be reviewed in order to reassess the findings and conclusions on the basis of latest available information.

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Introduction

Waterco has been commissioned to undertake a Flood Risk Assessment in relation to a proposed residential development at the Former Merseyside Dogs Home, Greensbridge Lane, Halewood, L35 1QH.

The purpose of this report is to outline the potential flood risk to the site, the impact of the proposed development on flood risk elsewhere, and the proposed measures which could be incorporated to mitigate the identified risk. This report has been prepared in accordance with the guidance contained in the National Planning Policy Framework (NPPF) and the National Planning Practice Guidance (NPPG): Flood Risk and Coastal Change.

This Flood Risk Assessment has been supported by and should be read in conjunction with the Waterco Hydraulic Modelling Report (document reference 14506-25072-HMR-1).

Existing Conditions

The site covers an area of approximately 1.28ha² and is located at National Grid Reference (NGR): 345615, 386610. A location plan and an aerial image are included in Appendix A.

Online mapping (including Google Maps / Google Streetview imagery, accessed February 2023) shows that the site comprises a residential property and a former dogs home with associated outbuildings, access, parking and landscaped areas. The site is bordered by Cartbridge Lane to the north, Greensbridge Lane with agricultural land beyond to the east, and Netherley Brook to the south-west. Access to the site is provided from Greensbridge Lane.

Local Topography

A topographical survey has been undertaken by Ian Strachan Ltd in January 2022. The topographical survey shows that the site slopes from 9.13 metres Above Ordnance Datum (m AOD) in the north-east to 7.67m AOD in the south-west.

Topographic levels to m AOD have also been derived from a 1m resolution Environment Agency (EA) composite 'Light Detecting and Ranging' (LiDAR) Digital Terrain Model (DTM). The LiDAR levels generally reflect those shown on the proposed site plan. Topographical information is included as Appendix B.

Ground Conditions

With reference to the British Geological Survey (BGS) online mapping (1:50,000 scale), the majority of the site is underlain by superficial deposits of Alluvium, generally comprising clay, silt, sand and gravel. The north-eastern extent of the site is underlain by Devensian Till, comprising diamicton. The superficial deposits are identified as being underlain by the Wilmslow Sandstone Formation.

The geological mapping is available at a scale of 1:50,000 and as such may not be accurate on a site-specific basis.

The closest historical BGS borehole record (BGS reference: SJ48NE18) is located 20m east of the site and is included in Appendix C. The borehole record identifies:

- Topsoil from ground level to 0.15 metres below ground level (m.bgl);
- Sand and gravel from 0.15m.bgl to 1.01m.bgl;
- Brown clay and stone from 1.01m.bgl to 30.48m.bgl;
- Sand and gravel from 30.48m.bgl to 32.31m.bgl;
- Red sandstone from 32.21m.bgl to 152.40m.bgl.

Groundwater was observed at 22.40m.bgl.

The EA's 'Source Protection Zones' data, viewed from MAGIC's online mapping [accessed February 2023], indicates that the southern extent of the site is located within a Zone 1 Inner Groundwater Source Protection Zone. This zone is defined by a travel time of 50-days or less from any point within the zone at, or below, the water table. Additionally, the zone has a minimum a 50-metre radius. The northern extent of the site is identified within a Zone 2 Outer Groundwater Protection Zone. This zone is defined by the 400-day travel time from a point below the water table. Additionally, this zone has a minimum radius of 250 or 500 metres, depending on the size of the abstraction.

The Cranfield University 'Soilscapes' map [accessed February 2023] indicates that the site is underlain by 'Slowly permeable, seasonally wet, loamy and clayey soils.'

Development Proposals

The proposed development is for the erection of 39no. residential properties with associated driveways, access roads and gardens. A proposed development plan is included in Appendix D.

As part of the development, it is proposed to set ground levels at a minimum of 8.74m AOD which entails raising ground levels by a maximum of 1m in the southern extent of the site.

Flood Zone Classification & Policy Context

The EA 'Flood Map for Planning', included in Appendix E, shows that the north-western extent of the site is located within Flood Zone 3 – an area considered to be at flood risk with a 1% (1 in 100) or greater annual probability of fluvial flooding. The southern extent of the site and areas adjacent to Flood Zone 3 in the northern extent of the site are located within Flood Zone 2 – an area considered to be at flood risk with between a 1% and 0.1% (1 in 1000) annual probability of flooding. The remainder of the site is located outside of the extreme flood extent (Flood Zone 1), meaning it has a less than 0.1% annual probability of flooding.

In accordance with Annex 3 of the NPPF, residential developments are considered to be 'more vulnerable'. Table 2 of the NPPG: Flood Risk and Coastal Change, states that 'more vulnerable' development is considered appropriate within Flood Zones 1 and 2. However, the Exception Test must be satisfied for more vulnerable development within Flood Zone 3.

For the Exception Test to be passed it should be demonstrated that:

- the development would provide wider sustainability benefits to the community that outweigh flood risk, and
- the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

This report details the flood risk to the site and the mitigation measures which could be carried out to ensure that the development will be safe for its lifetime.

Local Policy

The Knowsley Council Local Plan Core Strategy (adopted January 2016) contains the following policy relating to flood risk:

'Policy CS24 – Managing Flood Risk

- 1) New development that may cause an unacceptable risk of flooding on the site or elsewhere will not be permitted.*
- 2) New development should preferably be located in areas of low probability of flooding. New development in areas of medium or high flood risk will only be permitted if evidence has been submitted demonstrating that the development could not be practicably located in an area of lower flood risk and if applicable the 'exception test' has been complied with, in accordance with national guidance.*
- 3) All development which is within or otherwise affects an area of flood risk or is larger than one hectare in size shall be accompanied by a site-specific Flood Risk Assessment (FRA).*
- 4) New development shall include flood mitigation measures, where necessary, to manage flood risk associated with or caused by the development. These measures shall be derived from the Strategic Flood Risk Assessment (SFRA), relevant FRA(s) or a local strategy for flood risk management, and;*
 - a) Be designed to contribute to the biodiversity of the borough unless it can be demonstrated that this would not be technically feasible;*
 - b) Incorporate a Sustainable Drainage System;*
 - c) Be fully described in the planning application; and*
 - d) Be funded by the developer, including long term maintenance.*

- 5) *The drainage of the new development shall be designed to reduce surface water run-off rates to those associated with a green-field site by treating it as its source. The chosen method of implementation should take account of site size, ground contamination or conditions, and potential damage to adjacent buildings or sites.*
- 6) *Further guidance on these issues will be provided in a proposed Supplementary Planning Document.*

The Knowsley Council and Sefton Council Strategic Flood Risk Assessment (SFRA) (June 2009), Knowsley Metropolitan Borough Council Level 2 SFRA (October 2012) and the Knowsley Council Preliminary Flood Risk Assessment (PFRA) (June 2011) have been reviewed and inform this report.

Consultation

A pre-planning opinion request was submitted to the EA in January 2023. In their response (Appendix E), the EA have stated that:

‘Our basic constraint check has identified the following environmental issues on your site:

- *The site is located within Flood Zone 3 defined as having a high probability of flooding in the National Planning Practice Guidance. The development proposal is for a ‘more vulnerable’ use.*
- *The proposed development site is bounded by Netherley brook which is designated as a Main River watercourse.*
- *The proposed development is within an area of Principal Aquifer bedrock.*
- *The proposed development is within Source Protection Zones 1 and 2.*

Based on this, the development raises some environmental concerns that you will need to address as part of your planning application. Further work will be needed to show how these issues can be satisfactorily addressed to ensure no environmental impacts.’

Sources of Flooding and Probability

Fluvial

The nearest watercourse is Netherley Brook which is located immediately west of the site. Netherley Brook flows south-east in this location to its confluence with the River Mersey approximately 4.6km from the site. Other watercourses in the area include an unnamed watercourse which joins Netherley Brook immediately west of the site. The unnamed watercourse serves a limited catchment area and appears to drain nearby agricultural and urban land.

Fluvial flooding could occur if Netherley Brook overtopped its banks during or following an extreme rainfall

event. Flooding could also occur from a blockage at the inlet of the Cartbridge Lane road culvert immediately north-west of the site, or the Greensbridge Lane road culvert immediately south-east of the site.

The development site benefits from flood defences in the form of an earth bund located along the sites western boundary.

The EA 'Historic Flood Risk' map (Appendix E) indicates that there are no records of historical flooding at or near to the site.

Modelled Outputs

Modelled outputs for Netherley Brook have been obtained from the EA and updated by Waterco in November 2022. The modelled output data is taken from the EA 'Netherley, Halewood and Woodend' (2012) model. The model has been updated by Waterco to; investigate flood risk in the event of a blockage of nearby hydraulic structures; and simulate a proposed development scenario with site levels raised to 8.74m AOD (as required to create a flood free development platform). The modelled outputs have been processed to create flood depth, velocity, hazard and water level mapping, provided as Appendix F.

Two modelled scenarios have been assessed, namely the existing and proposed scenarios. The existing scenario represents the site with its existing site levels. The proposed scenario represents the site with a development platform raised to 8.74m AOD.

Modelled outputs have been processed for the existing and proposed scenarios for the 5% Annual Exceedance Probability (AEP) event, 1% AEP event, 1% AEP plus 44% CC event and the 0.1% AEP event.

Structure blockages have been assessed at two locations with respect to the 1% AEP plus 44% CC event for both the existing and proposed site layout scenarios. The following structure blockages have been considered: a 33% blockage of a large arch culvert upstream of the site beneath Cartbridge Lane (BL1); and a 33% blockage of a large culvert downstream of the site beneath Greensbridge Lane (BL2).

Existing Scenario

As shown in Figure 1, during the 5% AEP event, the majority of the site remains flood free. Flooding is estimated to the site's western boundary, however is contained within the channel of Netherley Brook.

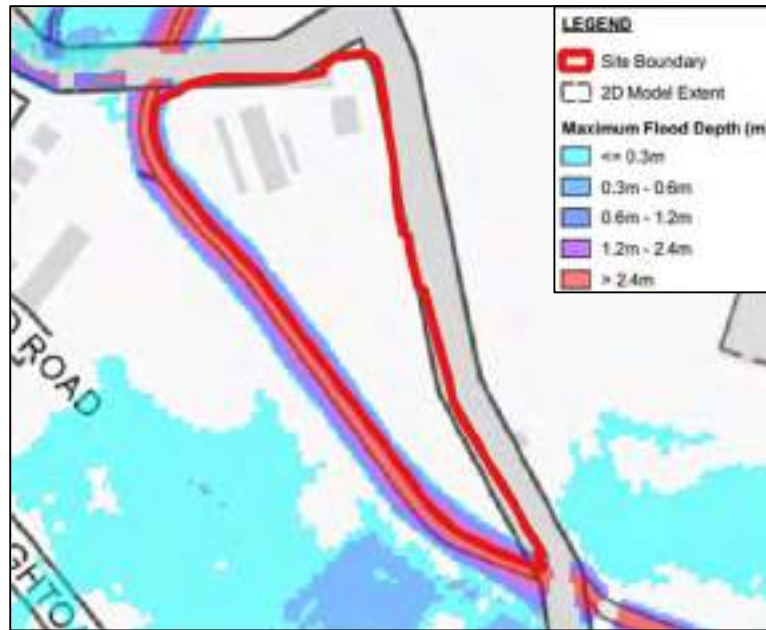


Figure 1 – Existing 5% AEP Event – Maximum Flood Depth

As shown in Figure 2, during the 1% AEP event, the north-western extent of the site is estimated to flood. The flooding mechanism is such that flood flows spill out of channel north of Cartbridge Lane and flow overland, across Cartbridge Lane and onto the site. Flood depths reach a maximum of 240mm in the north-western extent of the site. The majority of the site is flood free.

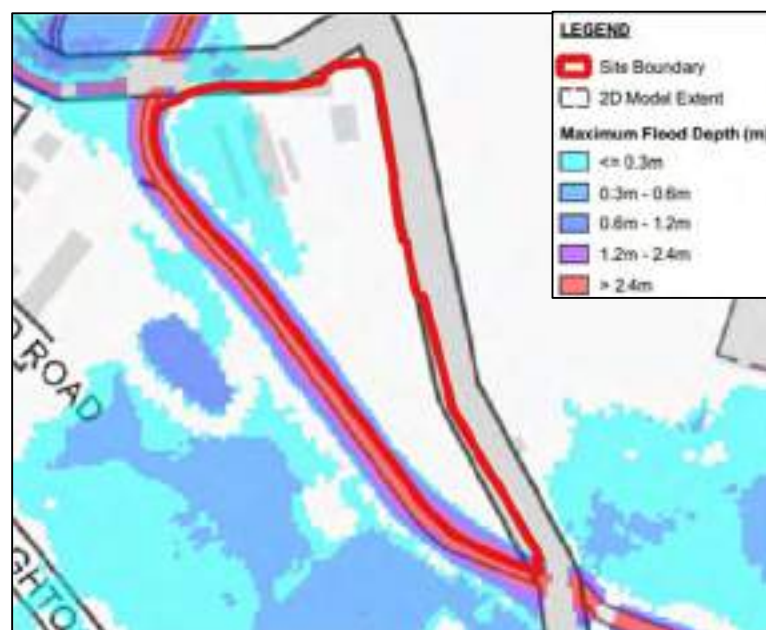


Figure 2 – Existing 1% AEP Event – Maximum Flood Depth

As shown in Figure 3, during the 1% AEP plus 44% CC event, the southern and western extents of the site are estimated to flood. A maximum flood level of 8.57m AOD is estimated with a maximum flood depth of 470mm in the north-western extent.

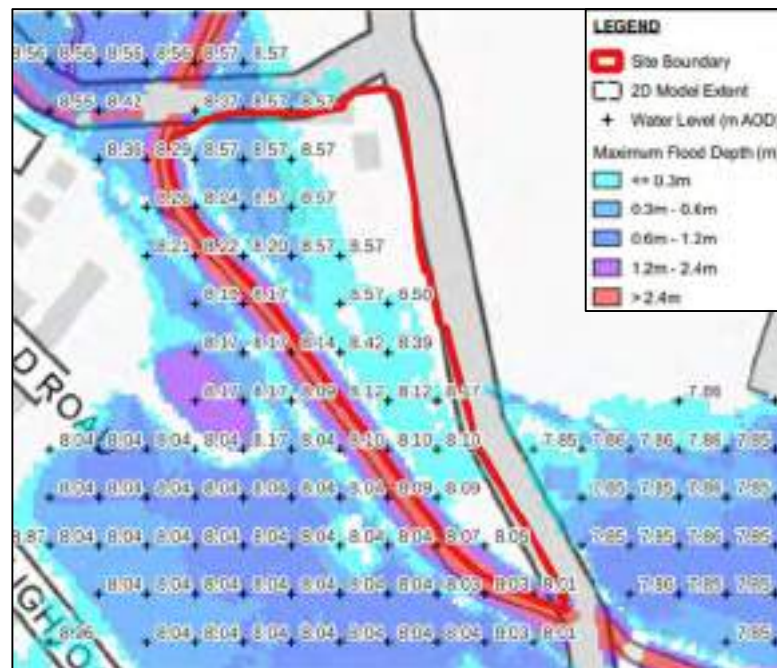


Figure 3 - Existing 1% AEP + 44% CC Event – Maximum Water Levels & Depths

As shown in Figure 4, during the 0.1% AEP event, the majority of the site is estimated to flood. A maximum flood level of 8.70m AOD is estimated with a maximum flood depth of 640mm in the north-western extent.

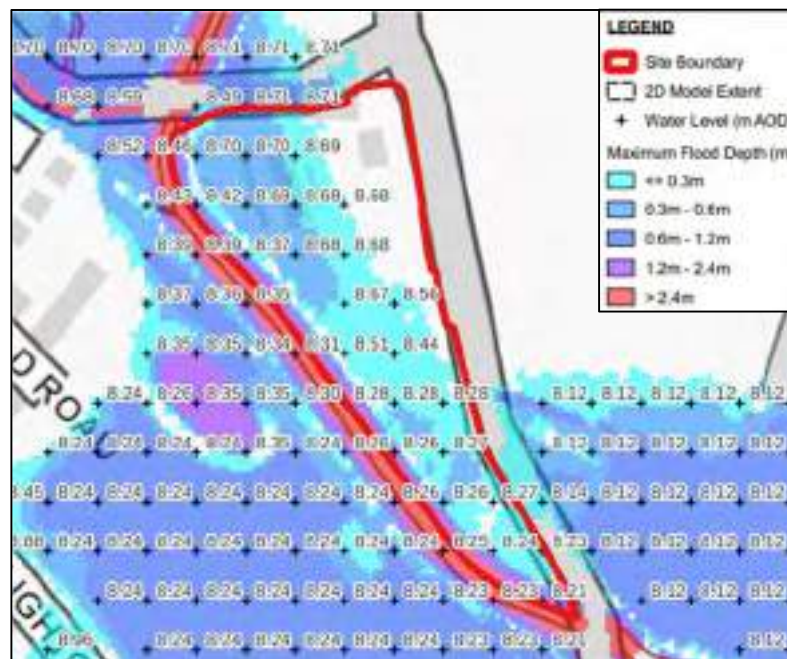


Figure 4 – Existing 0.1% AEP Event – Maximum Water Levels & Depths

Existing Scenario – Cartbridge Lane Blockage

As shown in Figure 5, during a 33% blockage of the Cartbridge Lane culvert coinciding with the 1% AEP plus 44% CC event, the majority of the site is estimated to flood. A maximum flood level of 8.67m AOD is estimated with a maximum flood depth of 610mm in the north-western extent. Flood depths, levels and extents remain

similar to the 'normal conditions' (without blockage) scenario.

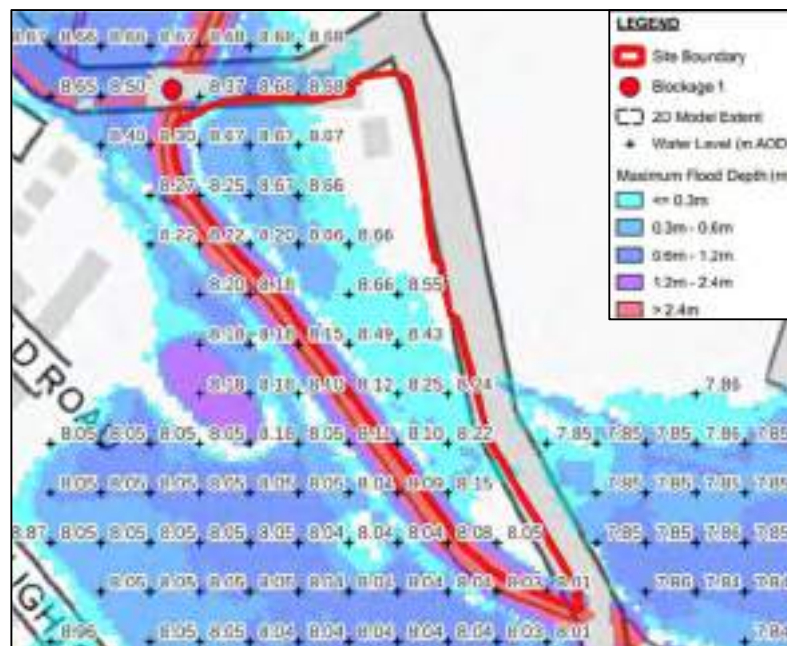


Figure 5 – Existing 1% AEP + 44% CC Event – Maximum Water Levels & Depths – Blockage Scenario

Existing Scenario – Greensbridge Lane Blockage

As shown in Figure 6, during a 33% blockage of the Greensbridge Lane culvert coinciding with the 1% AEP plus 44% CC event, the majority of the site is estimated to flood. A maximum flood level of 8.65m AOD is estimated with a maximum flood depth of 590mm in the north-western extent.

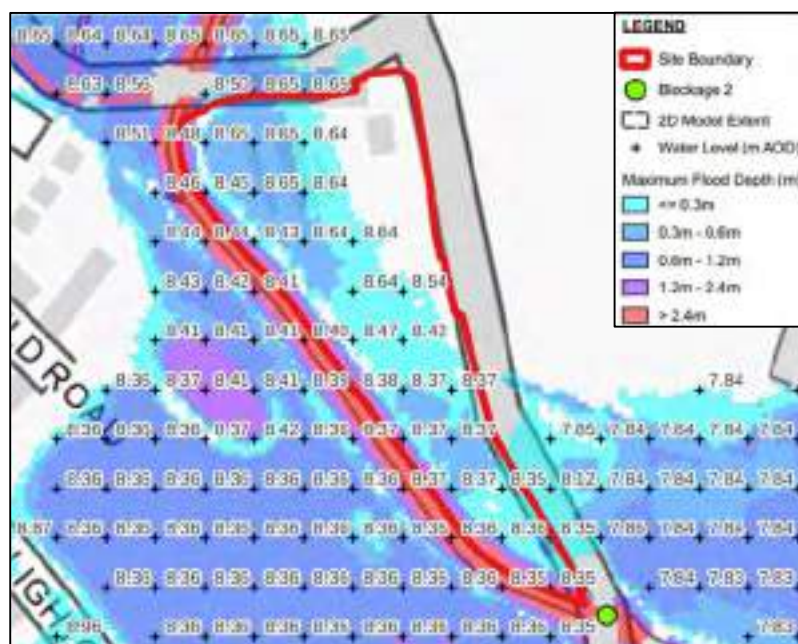


Figure 6 – Existing 1% AEP + 44% CC Event – Maximum Water Levels & Depths – Blockage Scenario

It can be concluded that the western and southern extents of the site are at risk from fluvial flooding. Flood

depths are generally shallow and the flooding mechanism is such that flood water enters the site in the northern extent and flows off site in the south-east. The existing bund along the western boundary prevents flood water from flowing from the site and into Netherley Brook.

Proposed Development Scenario

To mitigate the risk of flooding, site levels will be raised to a minimum of 8.74m AOD and above the 0.1% AEP flood level.

As shown in Figure 7, raising the development platform to 8.74m AOD ensures the development is flood free during all events up to and including the 0.1% AEP event. The proposed land raising prevents flood flows from entering the site in the north with flood water directed back into the channel of Netherley Brook. The impact of land raising on flood risk elsewhere is considered in the following sections of this report.

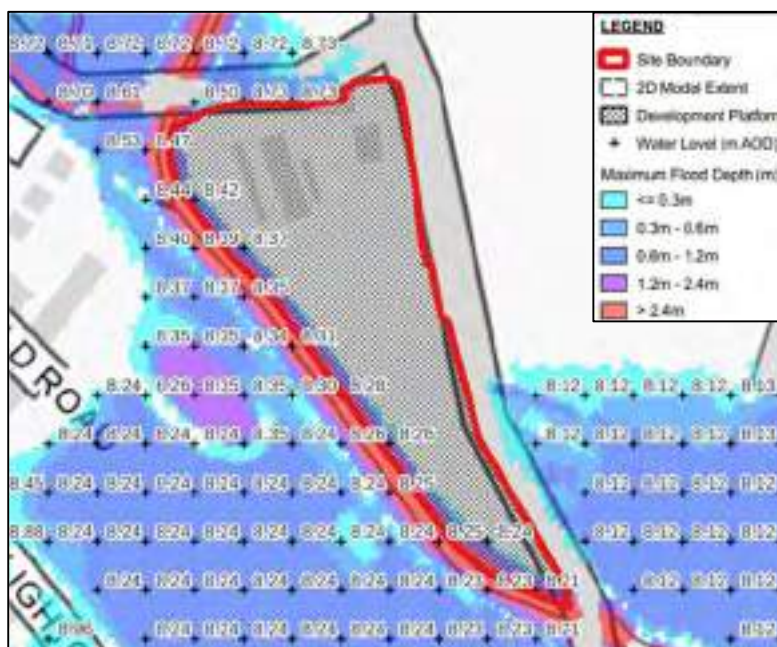


Figure 7 – Proposed Scenario - 0.1% AEP Event – Maximum Water Levels & Depths

Tidal

The site is located approximately 4.6km from the Mersey estuary. The EA 'Flood Map for Planning' does not identify any tidal flood risk from the River Mersey to the site.

The EA 'Historic Flood Risk' map (Appendix E) shows that there are no records of tidal flooding affecting the site.

Tidal flood levels and flood extent mapping for the Mersey Estuary have been obtained from the EA. The flood levels are taken from the EA Mersey Estuary 2016 tidal model.

During the present day 0.1% AEP event, the maximum water level is estimated as 7.2m AOD. The site

(minimum level of 7.67m AOD) is therefore flood free during all events up to and including the 0.1% AEP tidal event.

Climate Change Scenario

The flood levels for the River Mersey provided by the EA do not include an allowance for climate change. In the absence of modelled data to assess climate change scenarios, a qualitative assessment has been made using the climate change guidance detailed in Table 1 of the GOV.UK 'Flood risk assessments: climate change allowances' document.

Using the 'Upper End' sea level rise allowance, water levels increase by 1.29m when applying climate change to the year 2123 (from a base year of 2016). By applying a 1.29m uplift to account for 100 years climate change on the present day (year 2016) 0.1% AEP flood level of 7.2m AOD, a flood level of 8.49m AOD is estimated for the 0.1% AEP year 2123 event.

When accounting for the proposed site level of 8.74m AOD, the site will be flood free during all tidal events up to and including the 0.1% AEP year 2123 event.

It can therefore be concluded that the risk of tidal flooding is very low.

Surface Water

Surface water flooding occurs when rainwater does not drain away through the normal drainage system or soak into the ground. It is usually associated with high intensity rainfall events but can also occur with lower intensity rainfall or melting snow where the ground is saturated, frozen or developed, resulting in overland flow and ponding in depressions in topography. Surface water flooding can occur anywhere without warning. However, flow paths can be determined by consideration of contours and relative levels.

The EA 'Flood Risk from Surface Water' map (Appendix E) indicates that the site is at very low risk of surface water flooding, meaning it has a less than 0.1% annual probability of flooding.

There are no records of surface water flooding at or near to the site. There are no distinct flow routes in the area that would direct any potential surface water flooding towards the site.

It can therefore be concluded that the risk of surface water flooding is very low.

Sewer

Flooding from sewers can occur when a sewer is overwhelmed by heavy rainfall, becomes blocked, is damaged, or is of inadequate capacity. Flooding is mostly applicable to combined and surface water sewers.

United Utilities sewer records, provided as Appendix G, identify a public foul rising main immediately east of the site within Greensbridge Lane. Flooding from rising mains is rare as flows are controlled by the upstream pumping station. As such, the risk of flooding from the foul rising main in Greensbridge Lane is very low.

The public sewer records also show a network of public foul and surface water sewers within the residential area west of the site and beyond Netherley Brook. Any potential flooding arising from the sewer network in

the residential area west of the site would be intercepted by Netherley Brook and would not affect the site.

The SFRA and PFRA contain no records of sewer flooding affecting the site. It can therefore be concluded that the risk of sewer flooding is very low.

Groundwater

Groundwater flooding occurs when water levels underneath the ground rise above normal levels. Prolonged heavy rainfall soaks into the ground and can cause the ground to become saturated. This results in rising groundwater levels which leads to flooding above ground.

As described above, a BGS borehole record located 20m east of the site records groundwater at 22.4m.bgl. The PFRA 'Areas Susceptible to Groundwater Flooding' map (Appendix H) shows that the site is not located in an area susceptible to groundwater flooding.

It can therefore be concluded that the risk of groundwater flooding is very low.

Artificial Sources

There are no canals within the vicinity of the site. The EA 'Flood Risk from Reservoirs' map (Appendix E) shows that the site is at risk from a failure of the following reservoirs when Netherley Brook is also in flood:

Table 1 - EA Flooding from Reservoirs

Name	Location	Owner
Pex Hill Number 2 Reservoir	350038, 388921	United Utilities
Pex Hill Number 3 Reservoir	350143, 388958	United Utilities
Prescot Number 3 Reservoir	347115, 393822	United Utilities
Prescot Number 4 Reservoir	346800, 394000	United Utilities
Prescot Number 5 Reservoir	346600, 393500	United Utilities

The EA state that reservoir flooding is extremely unlikely to happen. All large reservoirs must be inspected and supervised by reservoir panel engineers. As the enforcement authority for the Reservoirs Act 1975 in England, the EA ensure that reservoirs are inspected regularly, and essential safety work is carried out.

It can therefore be concluded that the risk of flooding from artificial sources is very low.

Summary of Potential Flooding

It can be concluded that fluvial flooding is the main potential source of flood risk to the site. The associated risk has been used to inform mitigation design.

Mitigation

The site is identified at risk of fluvial flooding from Netherley Brook with a flood level of 8.70m AOD during the 0.1% AEP event. It is proposed to set site levels at a minimum of 8.74m AOD to create a flood free development platform. A site level of 8.74m AOD provides 170mm freeboard above the 1% AEP plus 44% CC flood level.

In accordance with Building Regulations, finished floor levels should be set 150mm above surrounding ground levels, equating to a minimum level of 8.89m AOD.

Safe Access / Egress

Safe access / egress is available from Greensbridge Lane to the east of the site which is shown to be flood free, heading north. A safe access / egress route plan is included in Appendix I.

Impact on Flood Risk Elsewhere

The proposed development includes raising ground levels to form a development platform at 8.74m AOD. The impact on flood risk elsewhere as a result of raising ground levels has been assessed by comparing the existing and proposed development modelling scenarios. Water level difference mapping showing any variance in water level (+/- 5mm) is included in Appendix F.

The flood depth difference mapping shows that during all events the development does not increase flood risk to third party properties or roads. It can therefore be concluded that the impact on flood risk elsewhere as a result of the development is negligible.

Sequential and Exception Test

Sequential Test

The NPPF requires the Local Authority to apply the Sequential Test in consideration of new development. The aim of the Test is to steer new development to areas at the lowest probability of flooding. The Sequential Test is based on the EA Flood Zones and information contained within the SFRA.

The site is partly located in Flood Zone 1, with lower areas of the site in Flood Zones 2 and 3. The development site is located adjacent to an existing residential area and provides opportunity for re-development of a brownfield site.

The flood risk to the site will be removed post-development by raising site levels to 8.74m AOD. As such, it is considered that the Sequential Test is passed.

Exception Test

For the Exception Test to be passed it must be demonstrated that:

- A. the development would provide wider sustainability benefits to the community that outweigh flood risk, and
- B. the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

With reference to point (a) above, the proposed development will contribute to the Council's housing objectives and promotes development of brownfield sites.

With reference to point (b) above, the flood risk to the site will be managed by raising site levels to create a flood free development platform. The proposed development does not increase flood risk elsewhere.

Conclusions

The proposed development is for the erection of 39no. residential properties with associated driveways, access roads and gardens.

The Environment Agency 'Flood Map for Planning' shows that the north-western extent of the site is located within Flood Zone 3 – an area considered to be at flood risk with a 1% (1 in 100) or greater annual probability of fluvial flooding. The sites southern extent of the site is located within Flood Zone 2 – an area considered to be at flood risk with between a 1% and 0.1% (1 in 1000) annual probability of flooding. The remainder of the site is located outside of the extreme flood extent (Flood Zone 1), meaning it has less than 0.1% annual probability of flooding.

Fluvial flooding from Netherley Brook is the main potential source of flood risk to the site. In order to establish the risk of fluvial flooding to the site, modelled outputs for Netherley Brook have been obtained from the EA and updated by Waterco in November 2022.

The results of the hydraulic modelling show that the site is flood free during the 5% AEP fluvial flood event. The site is at risk of flooding during all other simulated fluvial flood events up to and including the 1% AEP plus 44% CC and 0.1% AEP events. A maximum flood level of 8.57m AOD is estimated during the 0.1% AEP event with flood depths up to 470mm, however generally less than 200mm. A maximum flood level of 8.70m AOD is estimated during the 0.1% AEP event with flood depths up to 640mm.

As part of the proposed development, site levels will be raised to a minimum of 8.74m AOD. The proposed site levels will ensure that the site will remain flood free during all fluvial flood events up to and including the 0.1% AEP event.

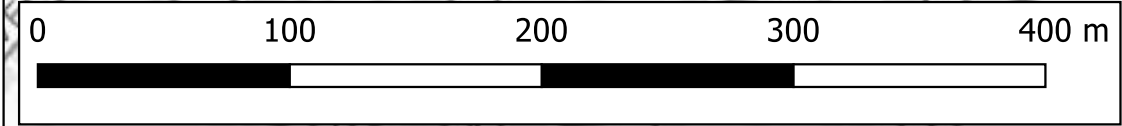
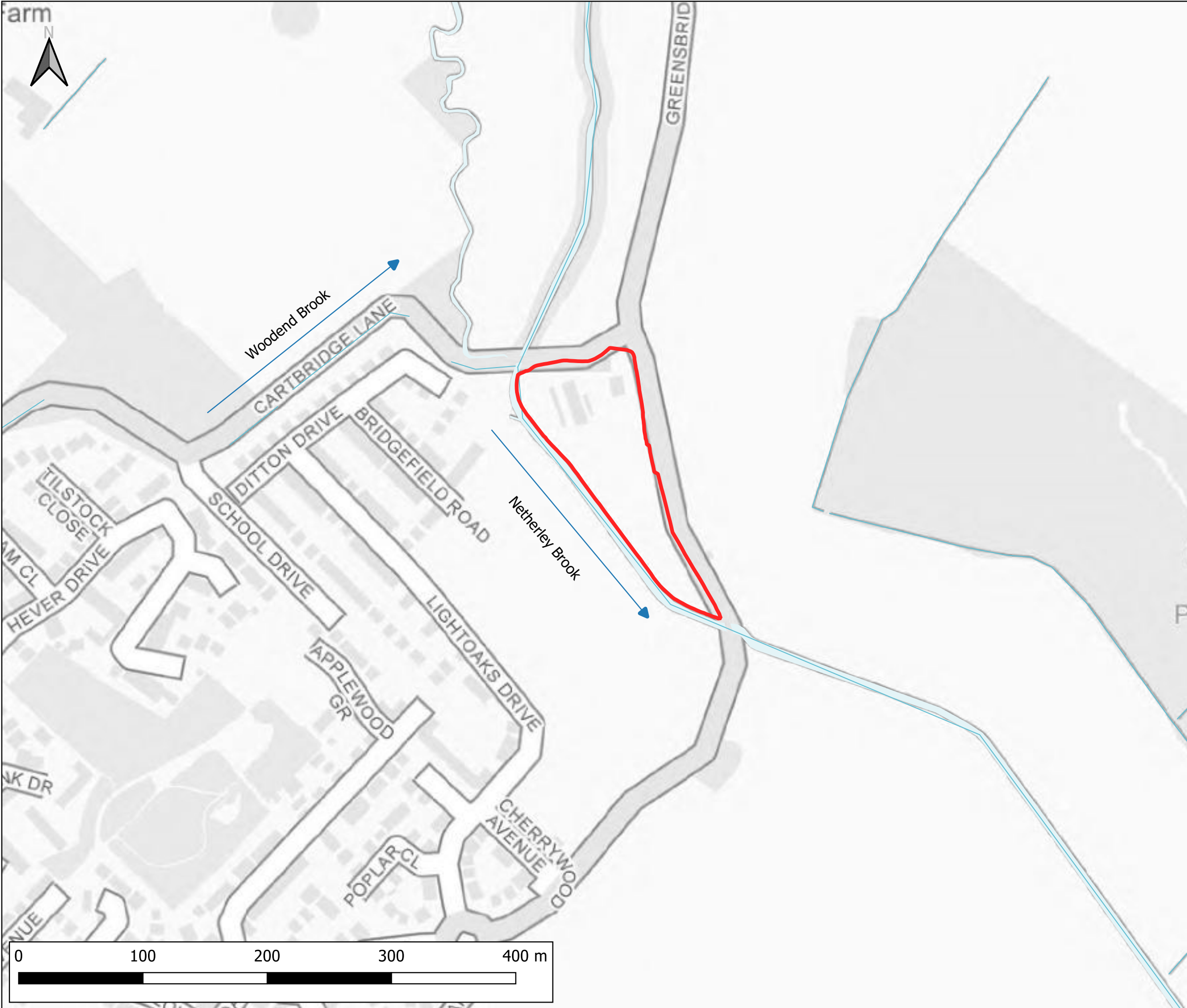
In order to quantify the impact of the proposed ground raising on flood risk elsewhere, a series of water level difference maps have been generated to establish any variations in water levels between the existing and proposed development scenarios. The water level difference mapping shows that during all events the development does not increase flood risk to third party properties or roads.

Safe access / egress is available along Greensbridge Lane heading north during all considered flood events.

Recommendations

1. Submit this Flood Risk Assessment to the Planning Authority in support of the Planning Application.
2. Set the development platform at or above 8.74m AOD.
3. Set finished floor levels 150mm above surrounding ground levels or a at a minimum of 8.89m AOD, whichever is highest.

Appendix A Location Plan & Aerial Image



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- Watercourses
- Waterbodies

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Location Plan

PLOT STATUS:		FINAL		DATE:		05-01-2023	
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:				
AM	AW	MW	1:3000				
PLOT NAME:					REVISION:		
14506_Location_Plan					-		



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary



CLIENT:

BBE Developments Ltd



www.waterco.co.uk

SCHEME:

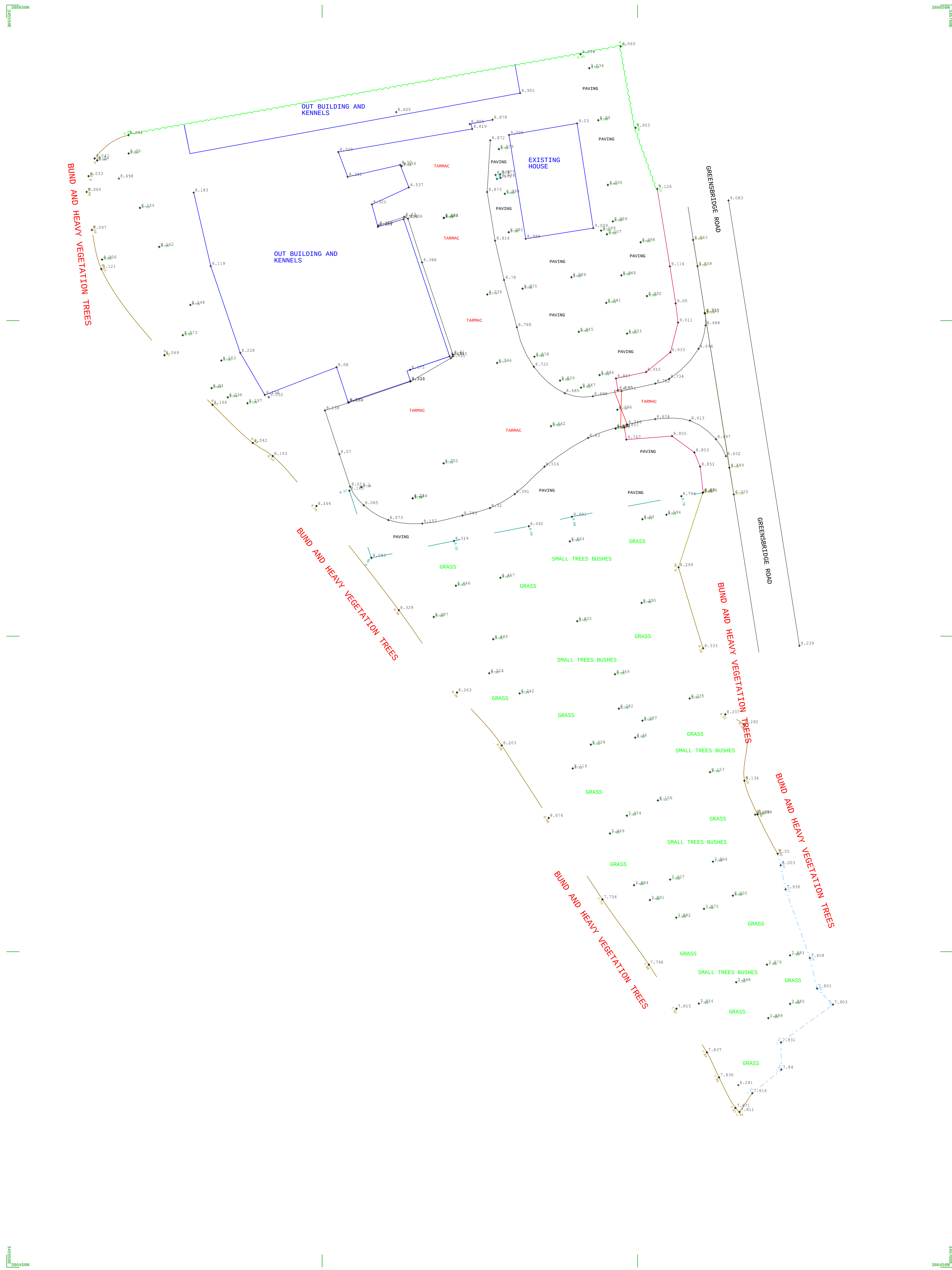
Former Merseyside Dogs Home, East Halewood

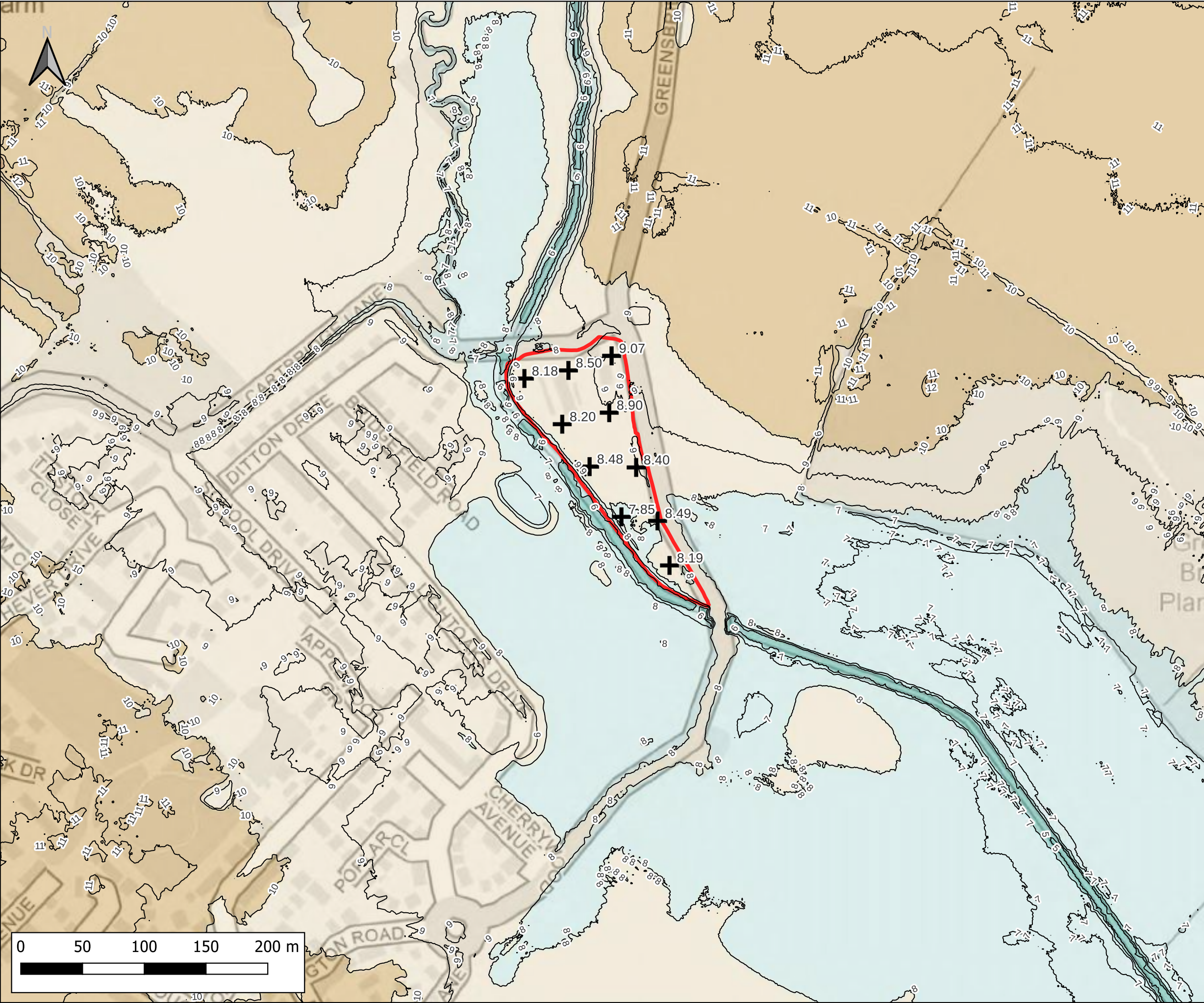
PLOT TITLE:

Aerial Plan

PLOT STATUS:		FINAL		DATE:		05-01-2023	
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:				
AM	AW	MW	1:3000				
PLOT NAME:						REVISION:	
14506_Aerial_Plan						-	

Appendix B Topographical Information





Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

Site Levels (m AOD)

Ground Elevations (m AOD)

- <= 6
- 6 - 8
- 8 - 10
- 10 - 12
- > 12

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

LIDAR Plan
1m Resolution
Data from Environment Agency

PLOT STATUS:		FINAL		DATE:		05-01-2023	
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:				
AM	AW	MW	1:3000				
PLOT NAME:						REVISION:	
14506_LiDAR_Plan						-	

Appendix C BGS Borehole Record



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- Borehole location

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Borehole Location Plan

PLOT STATUS:			FINAL	DATE:	11-05-2023
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DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	MW	1:1200

PLOT NAME:	REVISION:
14506_Borehole_Location_Plan	-

RECORD OF WELL At <u>Greenbridge Lane Pumping Station (No 2)</u> Town or Village..... County <u>Lancashire</u>		For Survey use only Location No. <u>N12033</u> <u>97/48NE/18</u> <u>NGR 4572 8650</u>	
EXACT SIZE OF WELL	Six-inch sheet <u>11/16 E</u> Six-inch National Grid sheet..... For <u>Widnes Corporation</u> State whether owner, tenant, builder, contractor, consultant, etc. <u>✓</u>		
* NOTE WHENEVER IN APPLICABLE	Address (if different from above) <u>Calderine St, Widnes.</u> Level of ground surface above sea level (O.D.).....ft.	If well top is not at ground level, state how far above* below;.....ft.	
	SHAFT.....ft.; diameter.....ft.; HEADINGS (please attach details—dimensions and directions) BORE <u>5.00</u> ft.; diameter of bore: at top <u>24</u> in.; at bottom <u>18</u> in. Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.) <u>See attached sheet</u>		
	Water struck at depths of.....ft. below well top. Rest level of water <u>73.5</u> ft. ^{above} below well top. Suction at.....ft. Yield on.....hours* test days* pumping at.....galls. per.....with depression to.....ft. below well top. Recovery to rest level in.....mins.* hours Capacity of pump.....g.p.h. Date of measurements.....		
TEST CONDITIONS	DESCRIPTION OF PERMANENT PUMPING EQUIPMENT: Make and/or type.....Motive power..... Capacity.....galls. per hour. Suction at.....ft. below well top. Amount pumped.....galls. per day. Estimated consumption.....galls. per week. Well made by <u>J. Smith & Son (Cm) Ltd</u> Date of sinking <u>Nov '67</u> Information from.....		
NORMAL CONDITIONS	ADDITIONAL NOTES ANALYSIS (please attach copy if available)		
		For Survey use only Date Received <u>S.I. 67</u> Section 6..... Pumping test..... Observe well..... Recorder..... E.R. log..... Site marked on 1" map ☒ <u>18</u> 5" map ☒ <u>18</u> (use symbol) Record forwarded to <u>M. H. B. Davis</u> date <u>2</u> Geological Survey, Water Division, Borehole Records	

(For Survey use only) GEOLOGICAL CLASSIFICATION	NATURE OF STRATA If measurements start below ground surface, state how far	THICKNESS		DEPTH	
		Feet	Inches	Feet	Inches
		48		NE	18
	Loil		6		6
	Sand and gravel	3	0	3	6
	Brown clay and stone	36	6	40	0
	Brown sandy clay & stone	13	0	53	0
	Dark brown clay & stone	7	0	60	0
	Brown sandy clay & stone	5	0	65	0
	Hard brown boulder clay and stone	7	0	72	0
	Light sandy clay & stone	18	0	90	0
	Hard brown clay with sand seams	10	0	100	0
	Sand and gravel	6	0	106	0
	Soft red sandstone	178	0	284	0
	Soft red sandstone with hard bands of sandstone	30	0	314	0
	Red sandstone with bands of shale	186	0	500	0

Appendix D Proposed Development Plan



RESIDENTIAL UNITS:					
Type	Description	Bedrooms	GIFA		NO.
T01	Terrace	2	c.70sqm	c.753sq ft	11
T02 A	Semi Detached	3	c.89sqm	c.958sq ft	10
T02 B	Semi Detached	3	c.89sqm	c.958sq ft	8
T03	Detached	3	c.106sqm	c.1141sq ft	4
APT	Apartment	1	c.53.5sqm	c.576sq ft	6
TOTAL					39

Note: All areas stated do not include garages. Integral or otherwise



Greensbridge Lane 531

ARCHITECTURAL EMPORIUM Ltd
EMAIL: mail@architectural-emporium.co.uk
WEB: www.architectural-emporium.co.uk
ADDRESS: 13 Hope St, Liverpool, L1 9BQ
PHONE: +44 (0)151 363 0000



- North Point



Key:

Site Boundary



Proposed location for Sub Station nearby existing roads as per M&E advice

ATTENUATION STORAGE
- c. 153 sqm tank beneath apartment block shared open car park

Indicative position of existing power post as per Scottish Power Electricity Infrastructure records

ATTENUATION STORAGE
- c. 229 and c. 102 sqm attenuation ponds to the south-east of the site. Ponds offset 2 meters from assumed underground powerline as per Scottish Power Electricity Infrastructure records

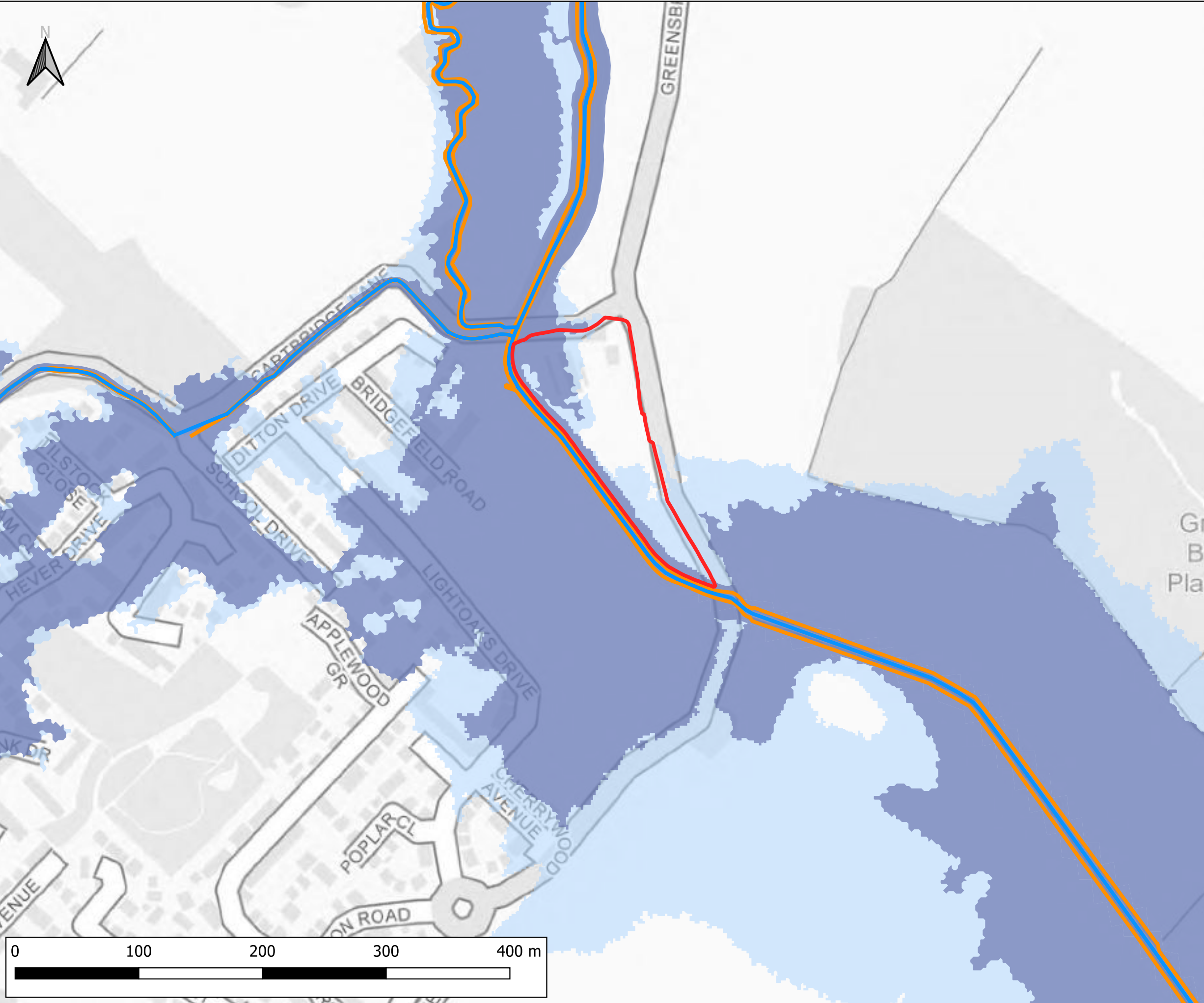
Indicative position of high level power line cables as per Scottish Power Electricity Infrastructure records

Rev*: First Issue

FOR: PLANNING
CHECKED BY: LC | DRAWN BY: AK
SCALE: 1:1000
PAPER SIZE: A3
JOB: GREENSBRIDGE LANE 531

2.010_Rev*
FIRST ISSUE: 24.03.23
MASTERPLAN LAYOUT

Appendix E EA Flood Maps & Correspondence



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- Main Rivers
- Spatial Flood Defences (without standardised attributes)
- Flood Storage Areas
- Areas Benefitting from Defences
- Flood Zone 1
- Flood Zone 2
- Flood Zone 3

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

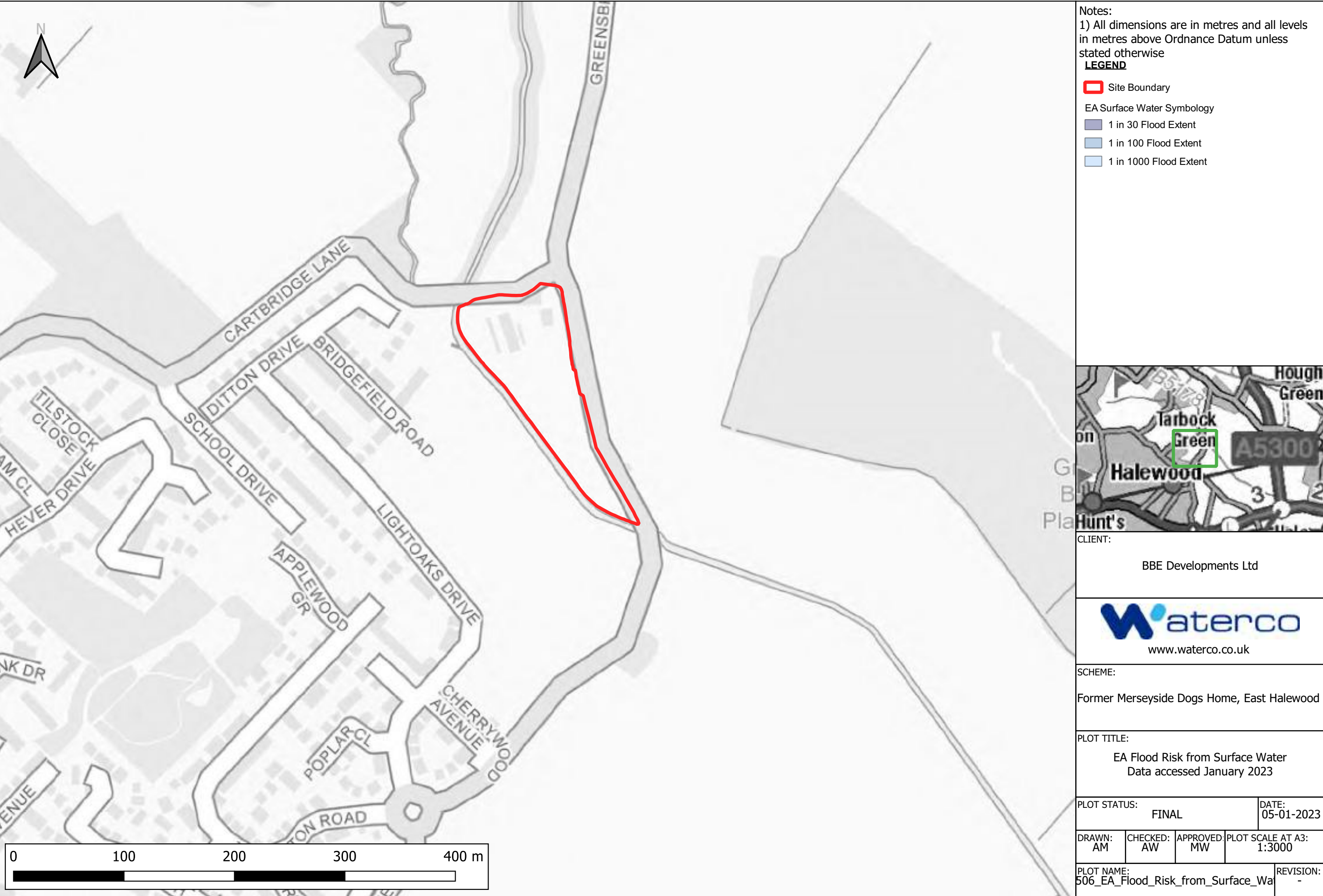
SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

EA Flood Map for Planning
Data accessed January 2023

PLOT STATUS:		FINAL		DATE:	05-01-2023
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:		
AM	AW	MW	1:3000		
PLOT NAME:				REVISION:	
14506_EA_FMP				-	



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

EA Surface Water Symbolology

- 1 in 30 Flood Extent
- 1 in 100 Flood Extent
- 1 in 1000 Flood Extent

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

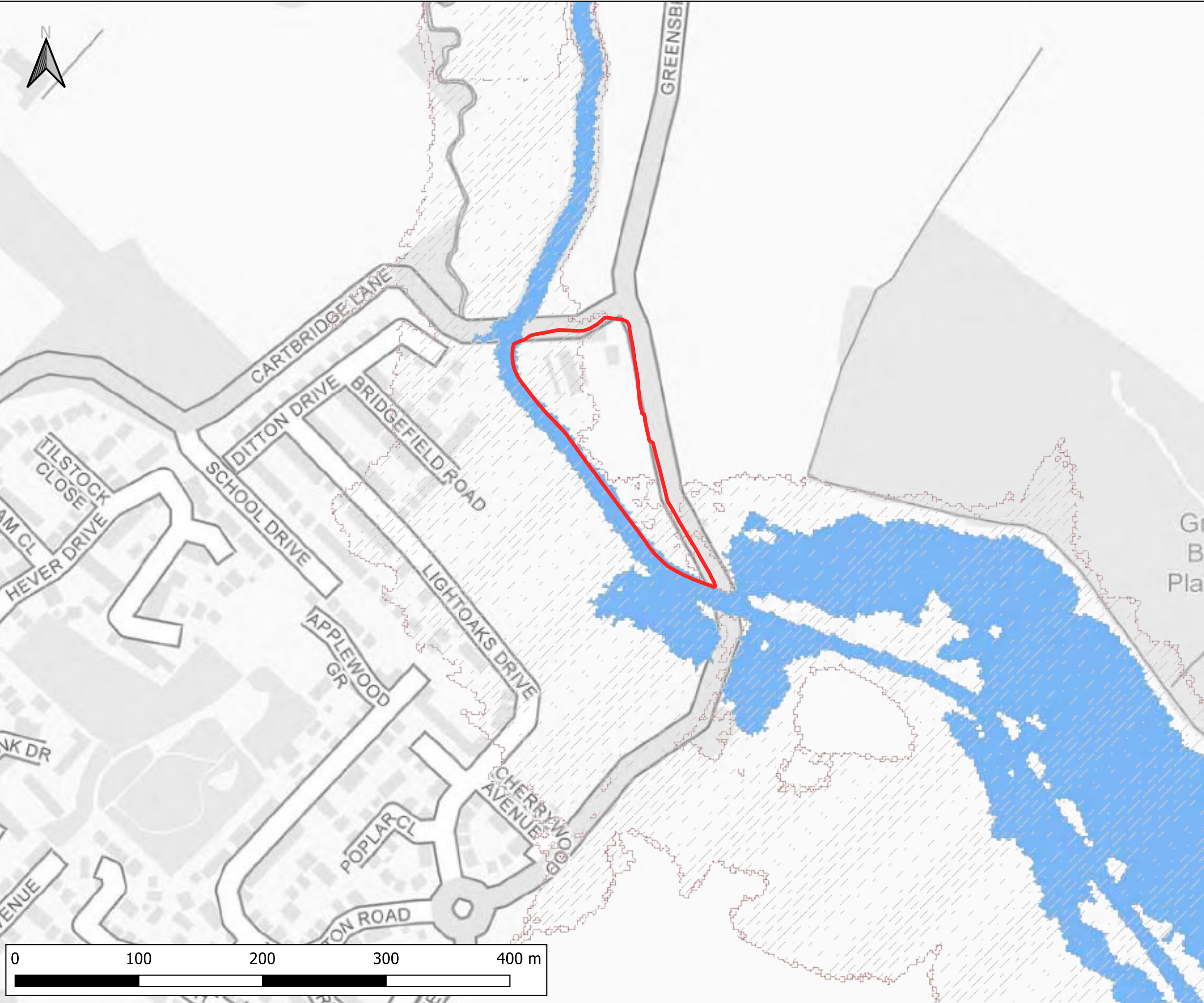
SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

EA Flood Risk from Surface Water
Data accessed January 2023

PLOT STATUS:		FINAL		DATE:	05-01-2023
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:		
AM	AW	MW	1:3000		
PLOT NAME:					REVISION:
506_EA_Flood_Risk_from_Surface_Wa					-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

Reservoir

When river levels are normal

When there is also flooding from rivers

CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
EA Flood Risk from Reservoirs Data accessed January 2023			
PLOT STATUS:			DATE:
FINAL			05-01-2023
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	MW	1:3000
PLOT NAME:			REVISION:
14506_EA_Flood_Risk_from_Reservoirs			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise
2) The Historic Flood Map is a GIS layer showing the maximum extent of individual Recorded Flood Outlines from river, the sea and groundwater springs that meet a set criteria. It shows areas of land that have previously been subject to flooding in England. This excludes flooding from surface water, except in areas where it is impossible to determine whether the source is fluvial or surface water but the dominant source is fluvial.
3) If an area is not covered by the Historic Flood Map it does not mean that the area has never flooded, only that the EA do not currently have records of flooding in this area that meet the criteria for inclusion.
4) The Historic Flood Map takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding. It will include flood extents that may have been affected by overtopping, breaches or blockages.

LEGEND

- Site Boundary
- Historic Flood Map



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
EA Historic Flood Risk Data accessed January 2023			
PLOT STATUS:			DATE:
FINAL			05-01-2023
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	MW	1:3000
PLOT NAME:			REVISION:
14506_EA_Historic_Flood_Risk			-

Adam McCulloch

From: SPPlanning.RFH <SPPlanning.RFH@environment-agency.gov.uk>
Sent: 19 January 2023 11:49
To: Adam McCulloch
Subject: Preliminary opinion response: SO/2023/122828/01 - Former Merseyside Dogs Home, Greensbridge Lane, Halewood, L35 1QH
Attachments: Preliminary Opinion.pdf

Dear Adam McCulloch,

Thank you for requesting a preliminary opinion from the Environment Agency in regards to your development proposal. As part of our free service, we undertake a basic environmental constraint check of your site and provide the attached guidance note which outlines our expectations as a statutory consultee in the planning process. This should support you in planning and designing your development proposal.

Our preliminary opinion

Based on a high level mapping exercise undertaken of your development site (as per the geographic information you have provided to us), along with any information you have provided us with on the nature of the development, we have been able to provide the below preliminary advice. We have not undertaken a detailed review of any technical documents as part of this preliminary opinion. If you would like any further advice concerning technical issues for this proposal it will need to be as part of our charged service. Further information on this service is set out below, and within the attached guidance note.

Our basic constraint check has identified the following environmental issues on your site:

- The site is located within Flood Zone 3 defined as having a high probability of flooding in the National Planning Practice Guidance. The development proposal is for a 'more vulnerable' use.
- The proposed development site is bounded by Netherley brook which is designated as a Main River watercourse.
- The proposed development is within an area of Principal Aquifer bedrock
- The proposed development is within Source Protection Zones 1 and 2.

Based on this, the development raises some environmental concerns that you will need to address as part of your planning application. Further work will be needed to show how these issues can be satisfactorily addressed to ensure no environmental impacts.

Our charged service

As stated above, we have not undertaken a detailed review of your pre-application enquiry. We therefore cannot confirm at this stage whether the proposed development is acceptable to us. We do have a voluntary charged-for service where we can provide more detailed pre-application advice to the applicant. As part of this service, we can provide a dedicated project manager to act as a single point of contact to coordinate any problems, data requests or review technical documents. Should you wish us to undertake a detailed review of the proposal (or any subsequent documentation) or want further advice, we can do this as part of our charged service.

Further engagement at the pre-application stage will speed up our formal response to your planning application and provide you with certainty as to what our response to your planning application will be. It should also result in a better quality and more environmentally sensitive development. As part of our charged advice service we will provide a dedicated project manager to act as a single point of contact to help resolve any problems.

We currently charge £100 per hour/per person plus VAT. We will provide you with an estimated cost for any further discussions or review of documents. The terms of our charged for service can be found on GOV.UK.

Final comments

Please note this response is based on the information you have made available at this time. It is based on current national planning policy, associated legislation and environmental data / information. If any of these elements change in the future then we may need to reconsider our position.

We also recommend that you consult with the relevant Local Planning Authority (LPA) to ensure that your planning application meets their requirements.

We trust that the above information is of assistance. If you would like further detailed advice, please do not hesitate to contact us.

Kind regards,

India Blythin

Pronouns: she/her

Planning Advisor | Sustainable Places | Greater Manchester, Merseyside, Cheshire

Environment Agency | Richard Fairclough House, Knutsford Road, Latchford, Warrington WA4 1HT

Email: SPPlanning.RFH@environment-agency.gov.uk

From: Adam McCulloch <adam.mcculloch@waterco.co.uk>

Sent: 06 January 2023 09:35

To: Enquiries, Unit <enquiries@environment-agency.gov.uk>

Subject: RE: 14506-Pre-planning Opinion 230113/NW11

Proposed residential development at the Former Merseyside Dogs Home, Greensbridge Lane, Halewood, L35 1QH. Grid reference: 345627, 386583

Dear Sir / Madam,

We are currently preparing a Flood Risk Assessment for the site at the above address and are seeking a pre-planning opinion relating to flood risk. The proposed development is for the demolition of an existing Dog Home and residential property, and the erection of 40no. residential dwellings with associated access and parking. Please see attached a location plan and proposed site plan for your reference.

If you require any further information, please do not hesitate to contact me.

Kind Regards,

Adam McCulloch

Environmental Consultant

Teams: adam.mcculloch@waterco.co.uk

We're recruiting! For more information, please take a look at our [website](#).



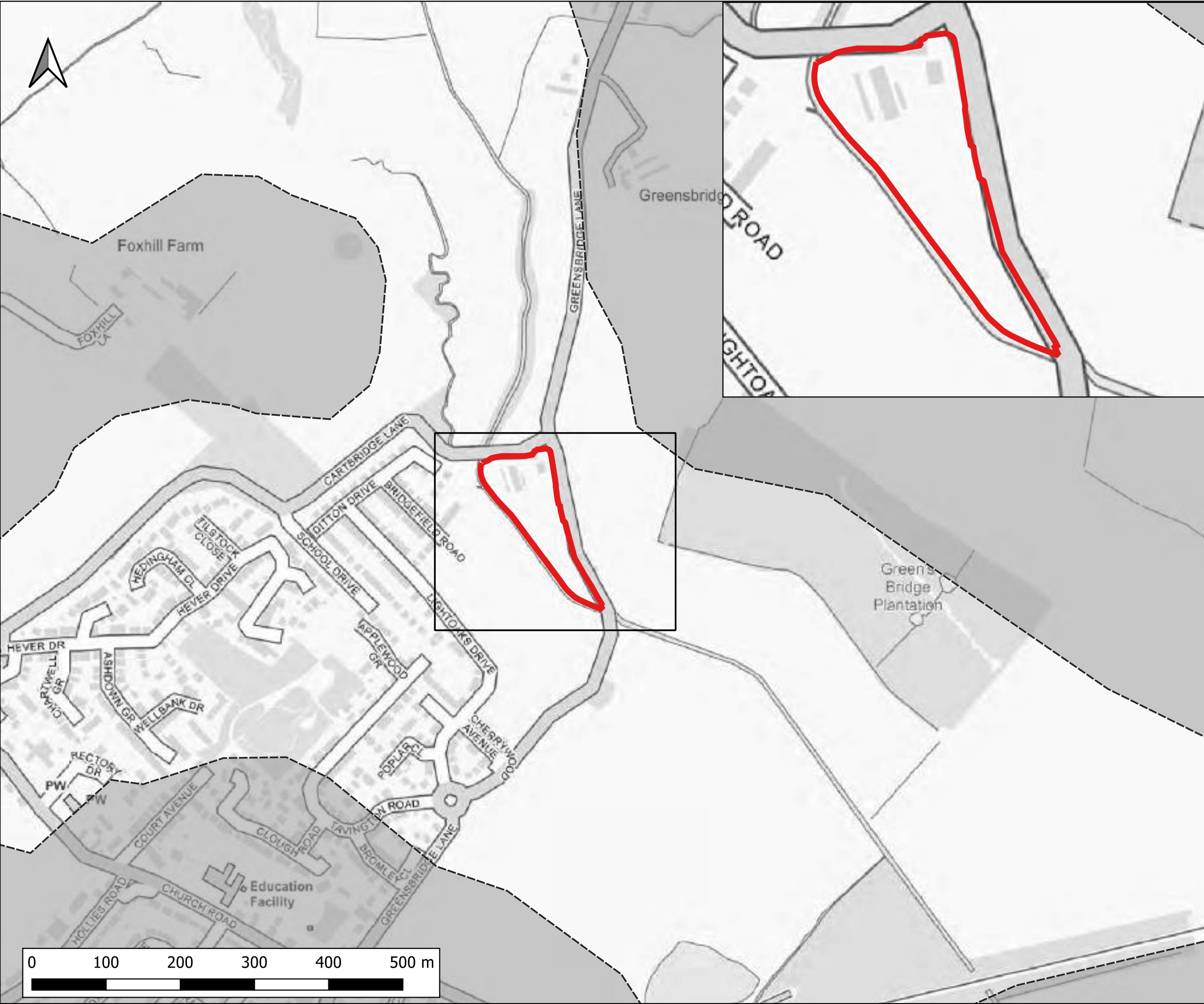
For email confidentiality, limitations and company details please see our disclaimer webpage. Registered in Wales under company no. 3577754. Waterco Ltd, Eden Court, Ruthin LL15 1NJ. Please click for our GDPR policy.

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Information in this message may be confidential and may be legally privileged. If you have received this message by mistake, please notify the sender immediately, delete it and do not copy it to anyone else. We have checked this email and its attachments for viruses. But you should still check any attachment before opening it. We may have to make this message and any reply to it public if asked to under the Freedom of Information Act, Data Protection Act

or for litigation. Email messages and attachments sent to or from any Environment Agency address may also be accessed by someone other than the sender or recipient, for business purposes.

Appendix F Modelled Outputs



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

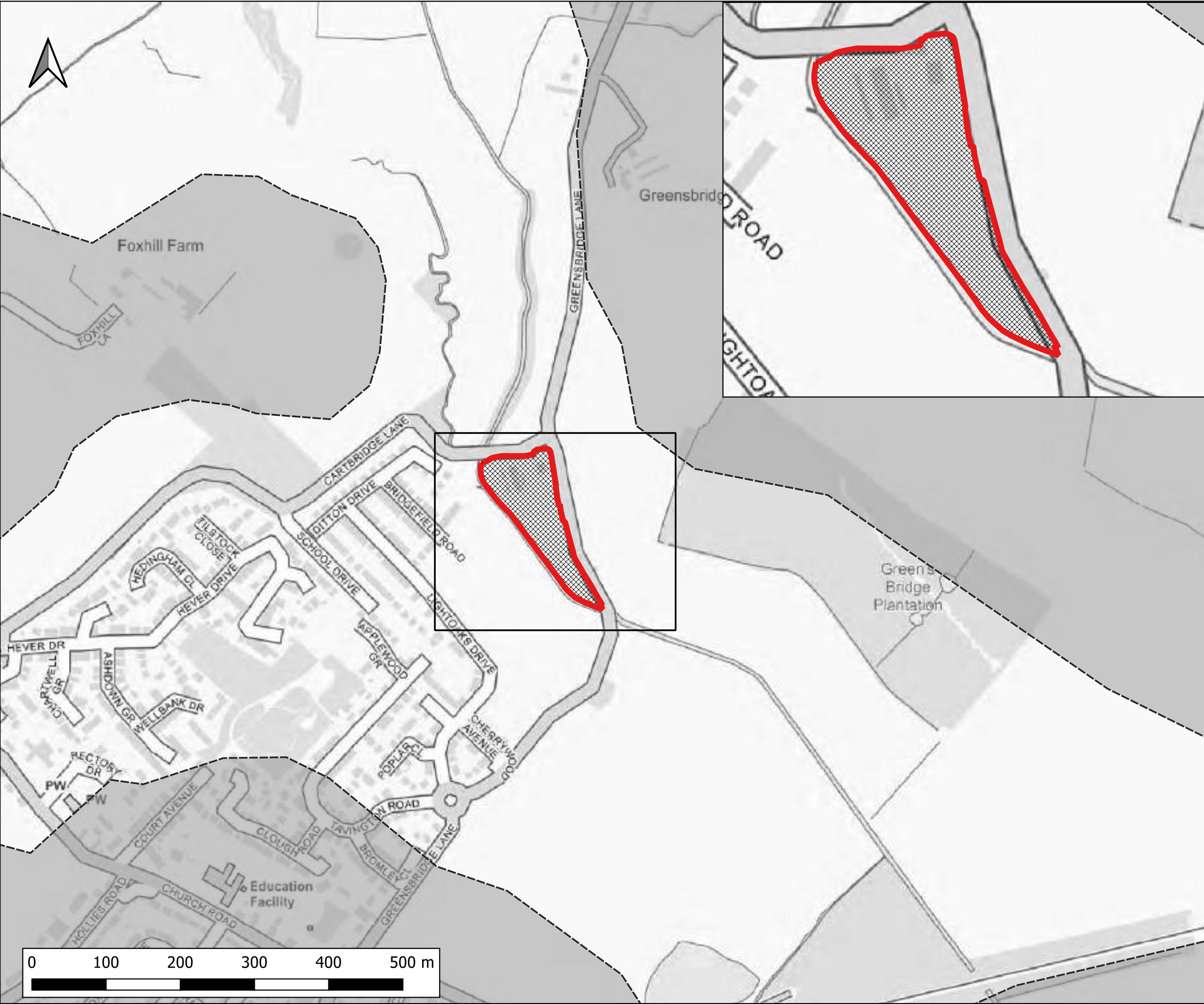
PLOT TITLE:

Maximum Flood Depth
5% AEP Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:		FINAL		DATE:	16-11-2022
--------------	--	-------	--	-------	------------

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:		REVISION:
14506-Neth_Q20_EXG_NC_015_d_Max		-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Development Platform

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

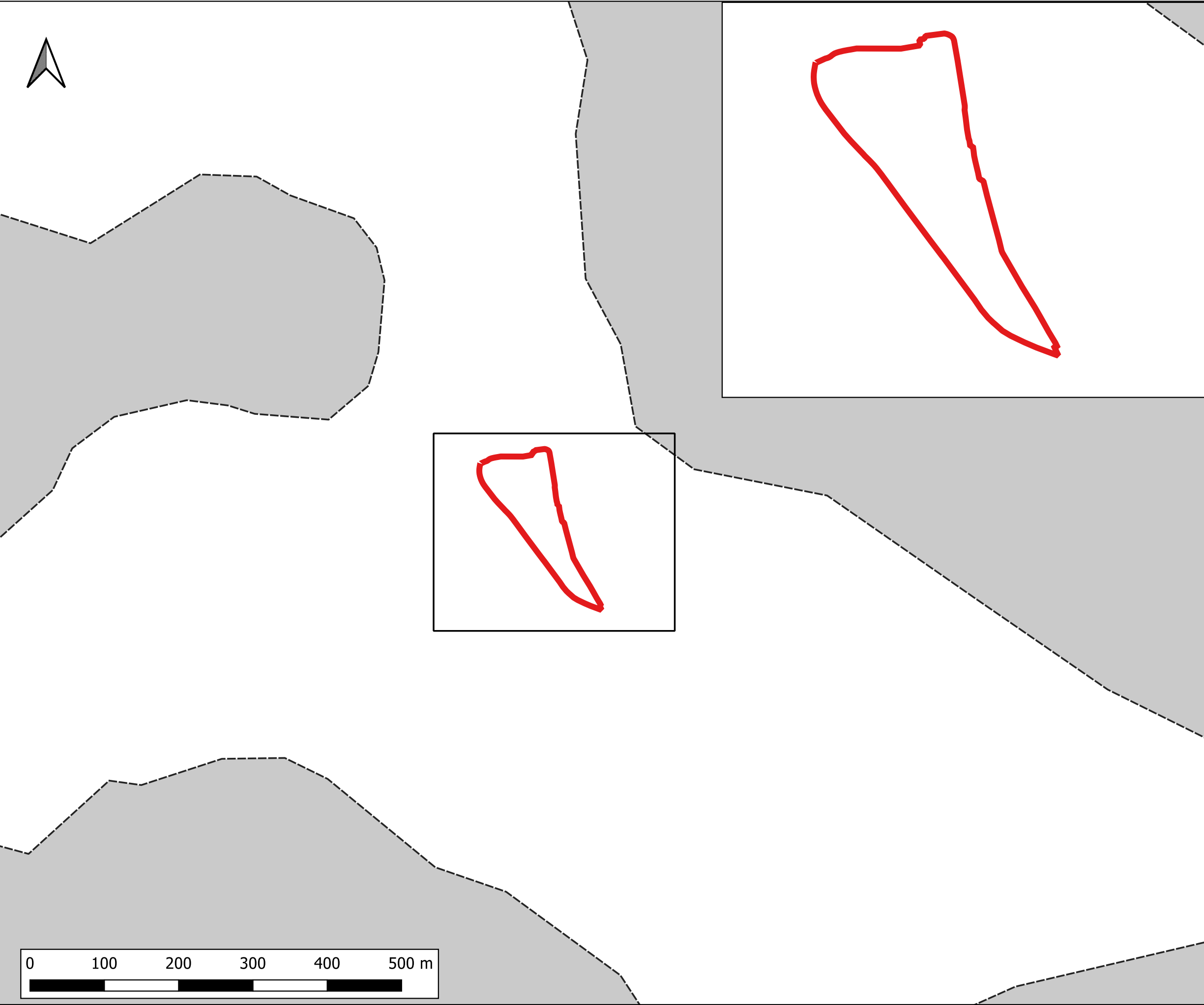
PLOT TITLE:

Maximum Flood Depth
5% AEP Fluvial Event
Proposed Development (DEV)

PLOT STATUS:		FINAL		DATE:	16-11-2022
--------------	--	-------	--	-------	------------

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:	REVISION:
14506-Neth_Q20_DEVSITE_NC_015_d_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Development Platform

Maximum Depth Variation

- > -100mm
- 50mm to -100mm
- 20mm to -50mm
- No Change (+/- 20mm)
- +20mm to +50mm
- +50mm to +100mm
- > +100mm



CLIENT:

BBE Developments Ltd

waterco
www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

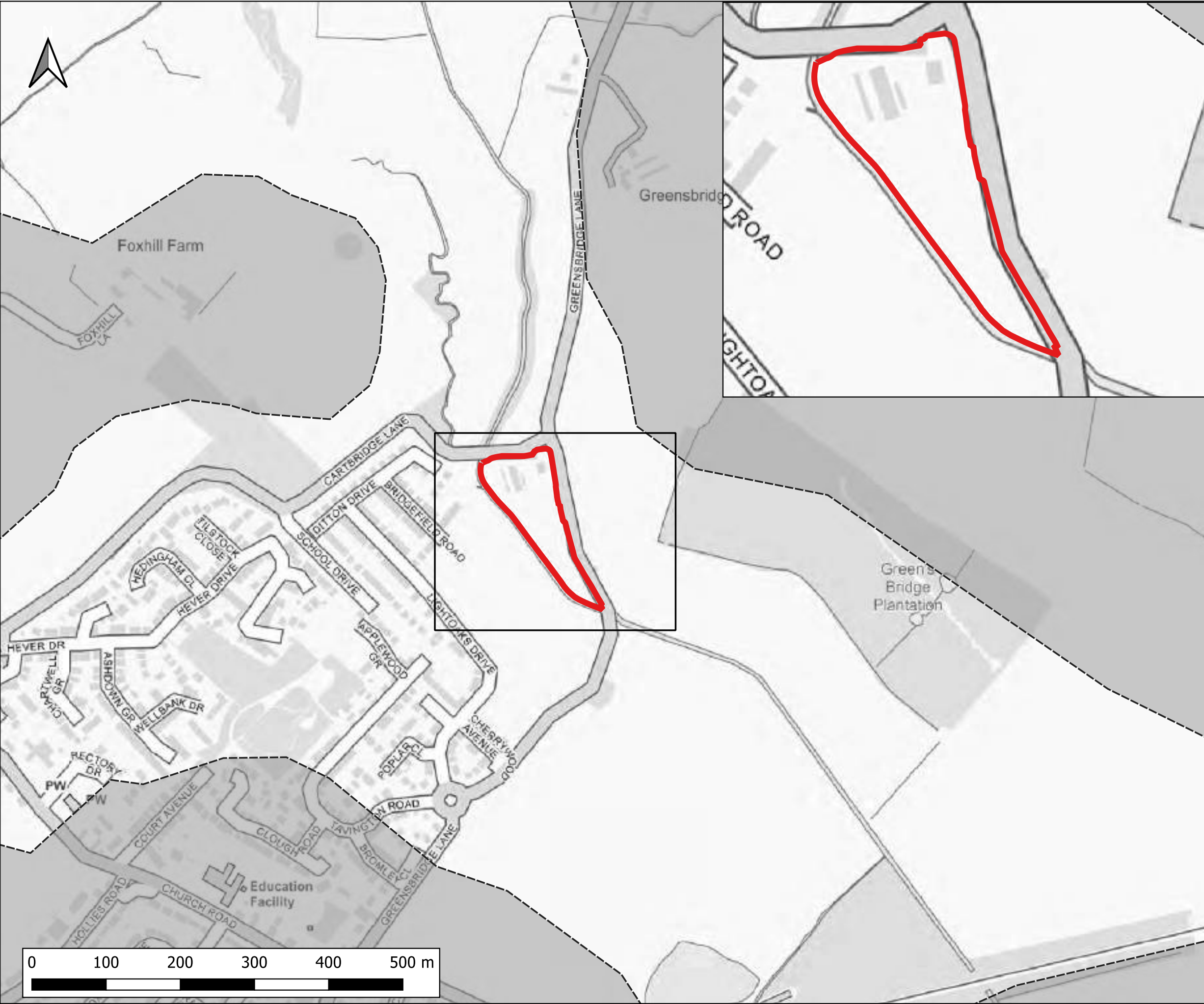
PLOT TITLE:

Maximum Depth Difference
5% AEP Fluvial Event
DEV-EXG

PLOT STATUS:			DATE:
FINAL			16-11-2022

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000

PLOT NAME:	REVISION:
14506-Neth_Q20_NC_DIFF_015	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

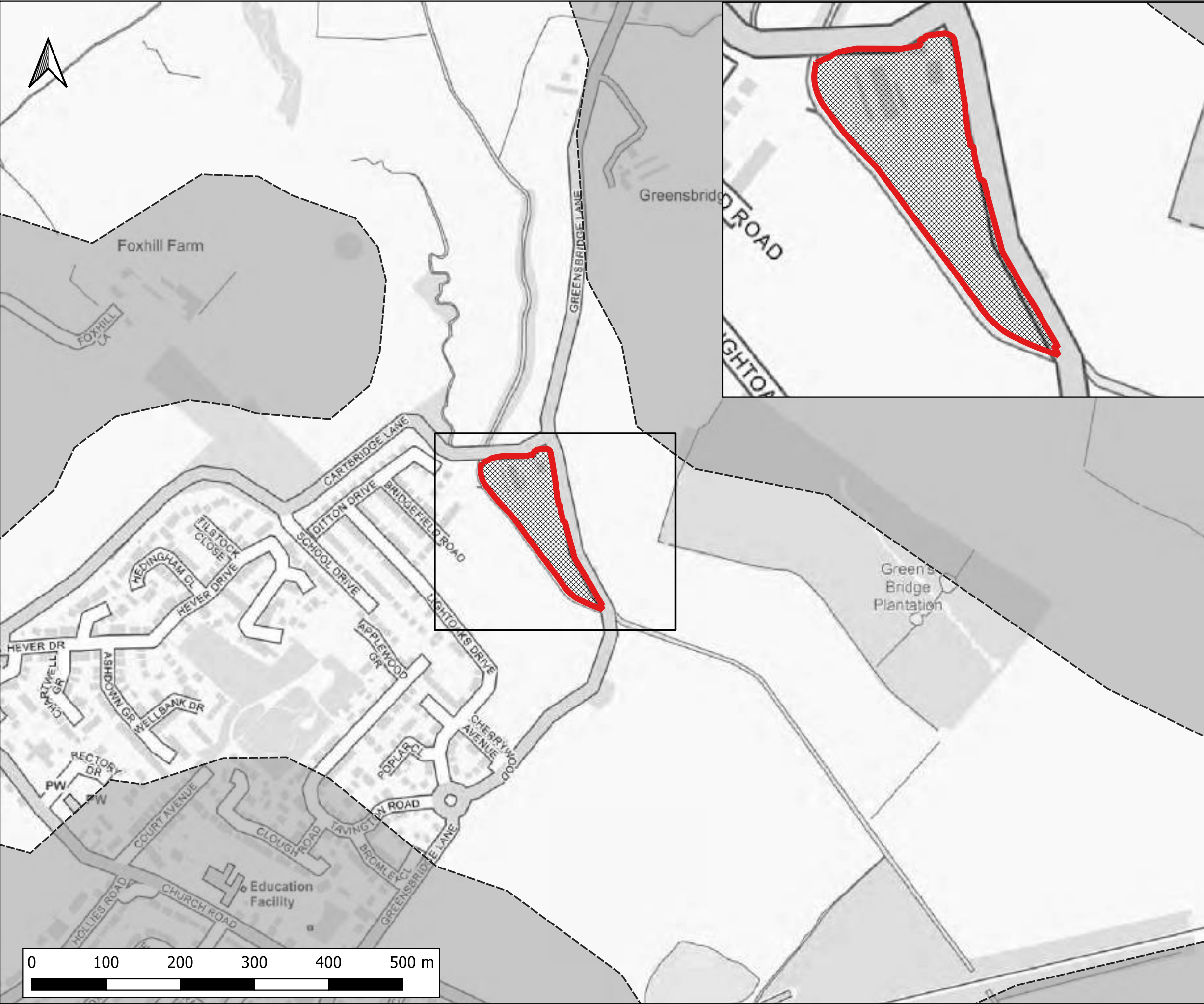
PLOT TITLE:

Maximum Flood Depth
1% AEP Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:			DATE:
FINAL			16-11-2022

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000

PLOT NAME:	REVISION:
14506-Neth_Q100_EXG_NC_015_d_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Development Platform

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

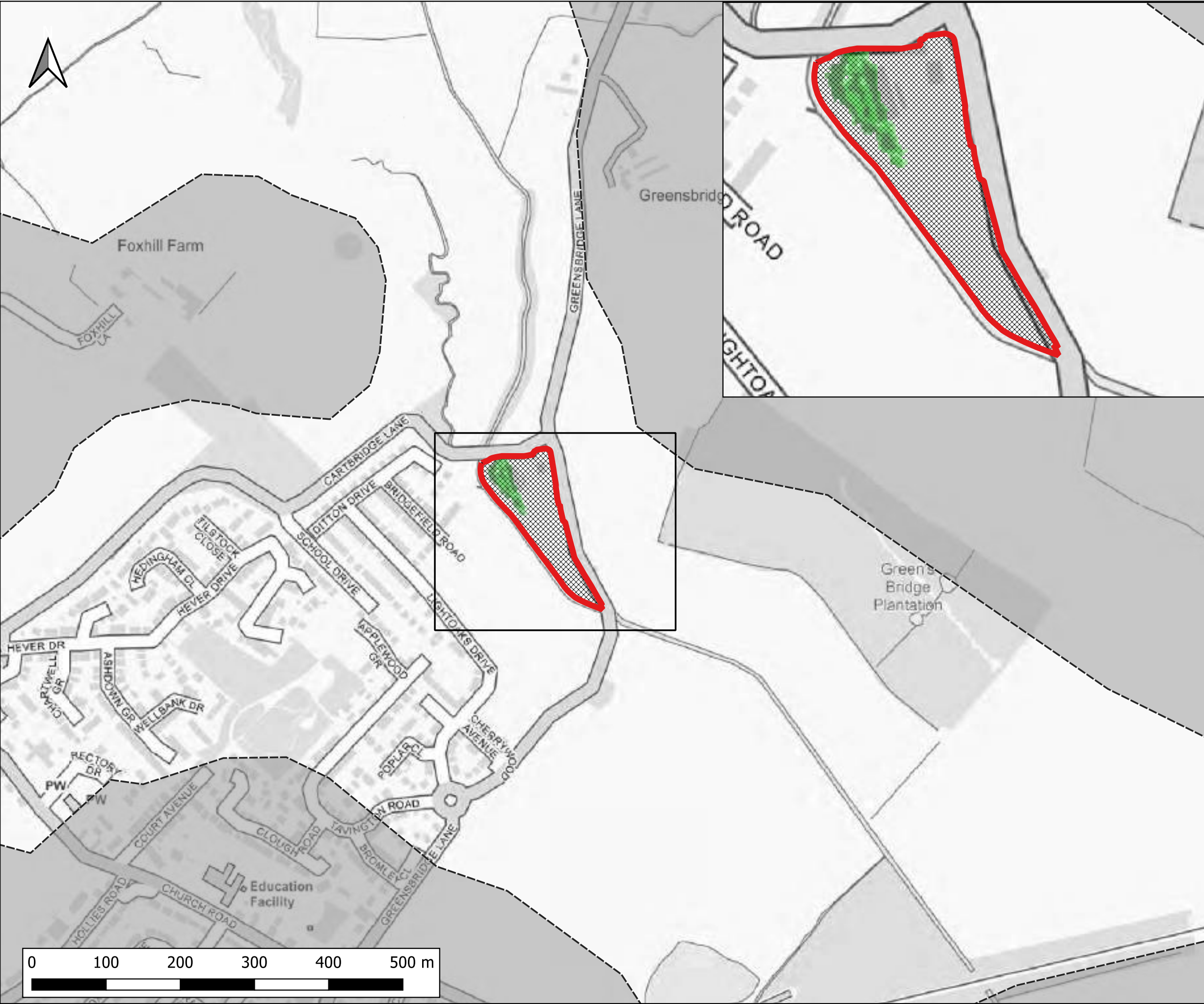
PLOT TITLE:

Maximum Flood Depth
1% AEP Fluvial Event
Proposed Development (DEV)

PLOT STATUS:		FINAL		DATE:	16-11-2022
--------------	--	-------	--	-------	------------

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:	REVISION:
14506-Neth_Q100_DEVSITE_NC_015_d_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

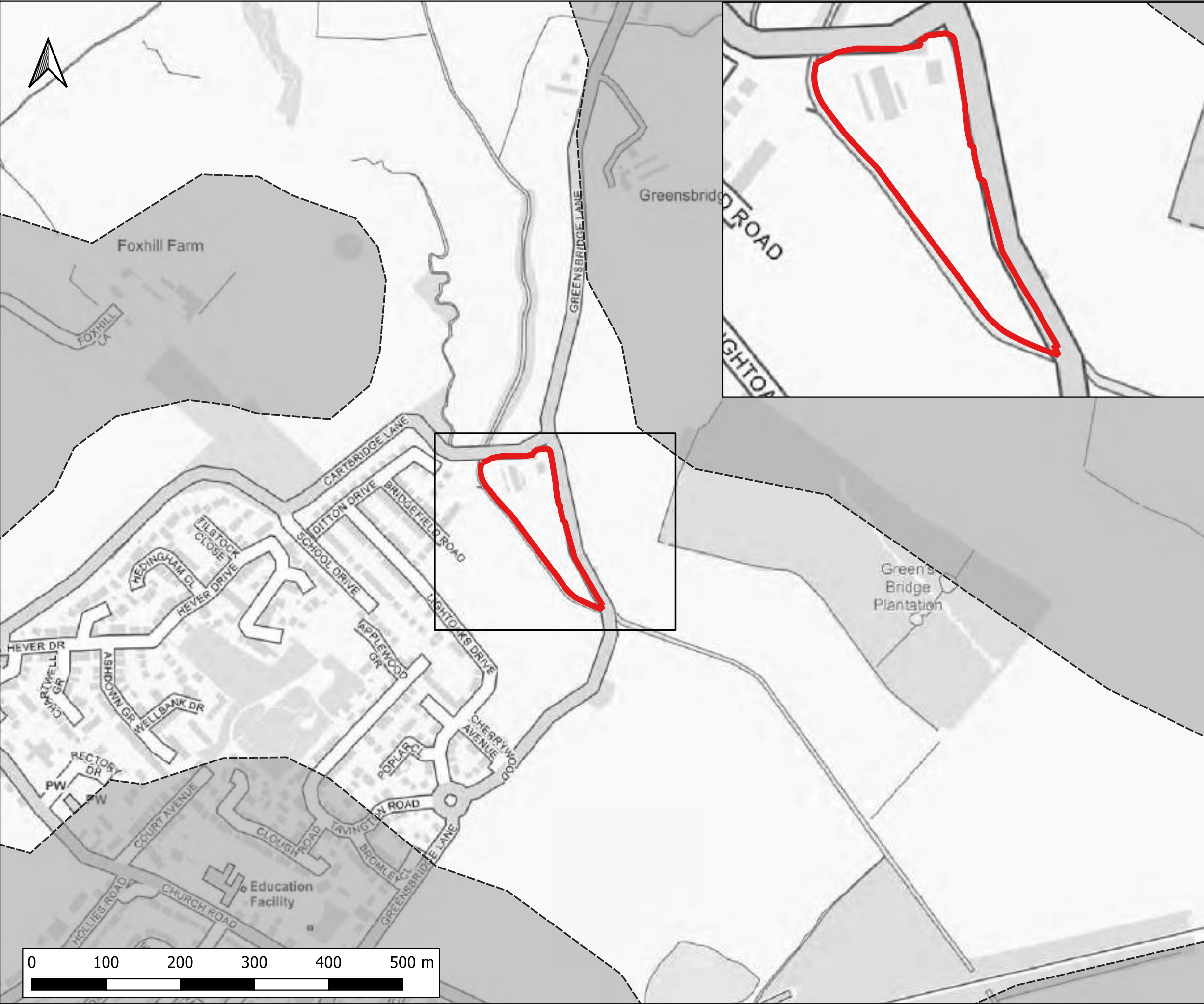
- Site Boundary
- 2D Model Extent
- Development Platform

Maximum Depth Variation

- > -100mm
- 50mm to -100mm
- 20mm to -50mm
- No Change (+/- 20mm)
- +20mm to +50mm
- +50mm to +100mm
- > +100mm



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Depth Difference 1% AEP Fluvial Event DEV-EXG			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506-Neth_Q100_NC_DIFF_015			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

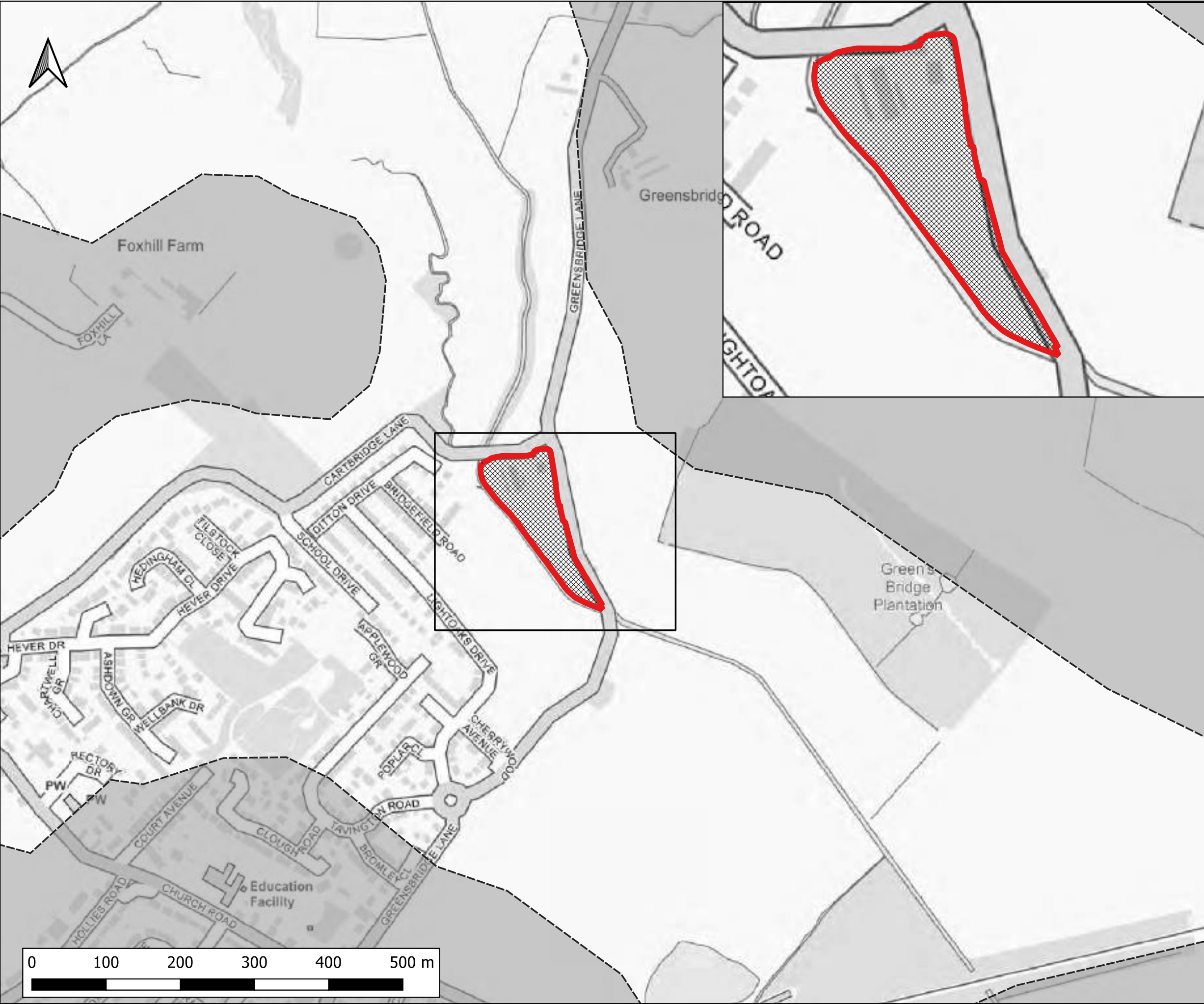
PLOT TITLE:

Maximum Flood Depth
1% AEP + 44% CC Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:			DATE:
FINAL			16-11-2022

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000

PLOT NAME:	REVISION:
14506-Neth_Q100CC44_EXG_NC_015_d_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Development Platform

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Maximum Flood Depth
1% AEP + 44% CC Fluvial Event
Proposed Development (DEV)

PLOT STATUS:		FINAL		DATE:	16-11-2022
--------------	--	-------	--	-------	------------

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:		14506-		REVISION:
Neth_Q100CC44_DEVSITE_NC_015_d_Max				-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

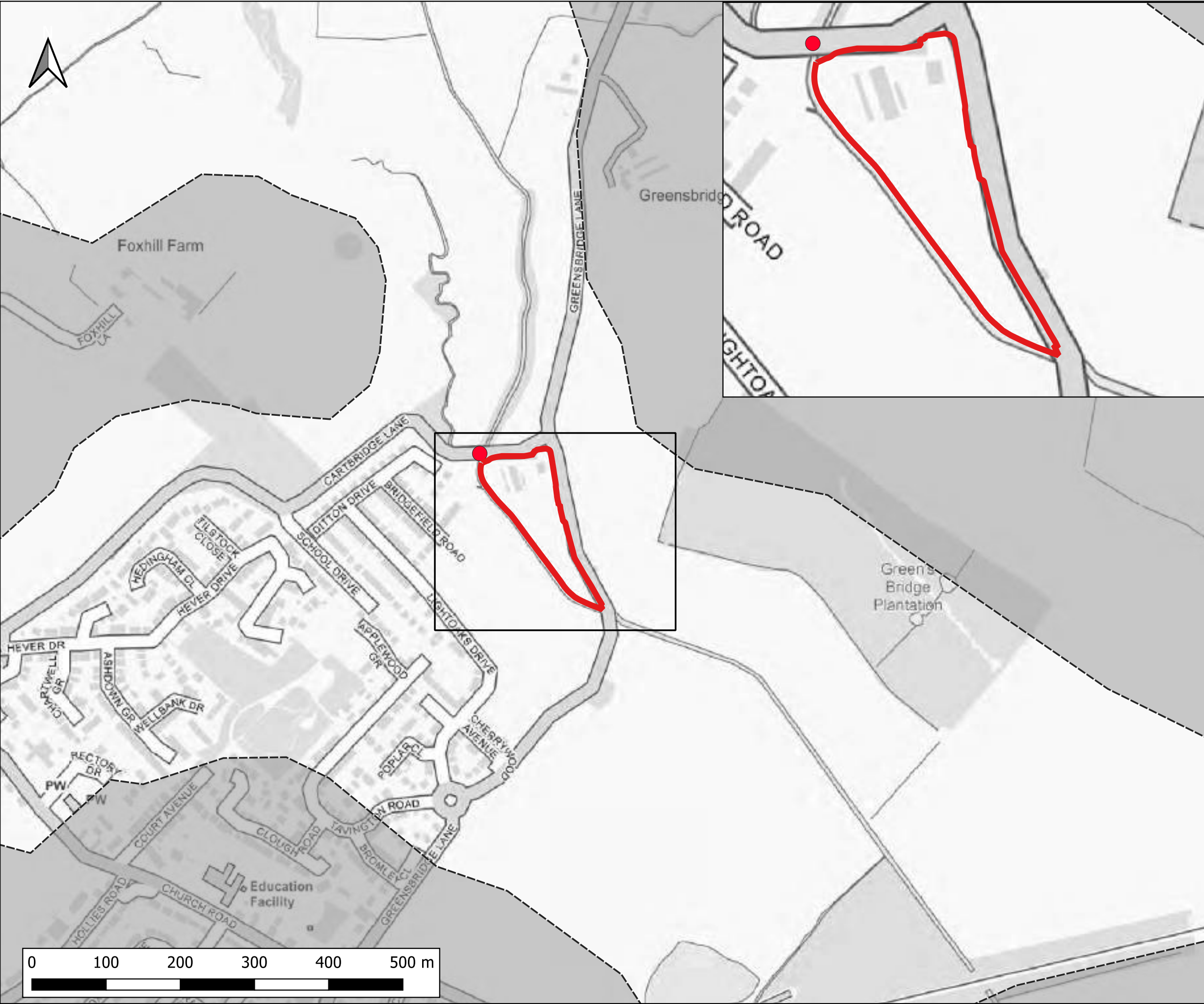
- Site Boundary
- 2D Model Extent
- Development Platform

Maximum Depth Variation

- > -100mm
- 50mm to -100mm
- 20mm to -50mm
- No Change (+/- 20mm)
- +20mm to +50mm
- +50mm to +100mm
- > +100mm



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Depth Difference 1% AEP + 44% CC Fluvial Event DEV-EXG			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506-Neth_Q100CC44_NC_DIFF_015			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Blockage 1

Maximum Flood Depth (m)

≤ 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

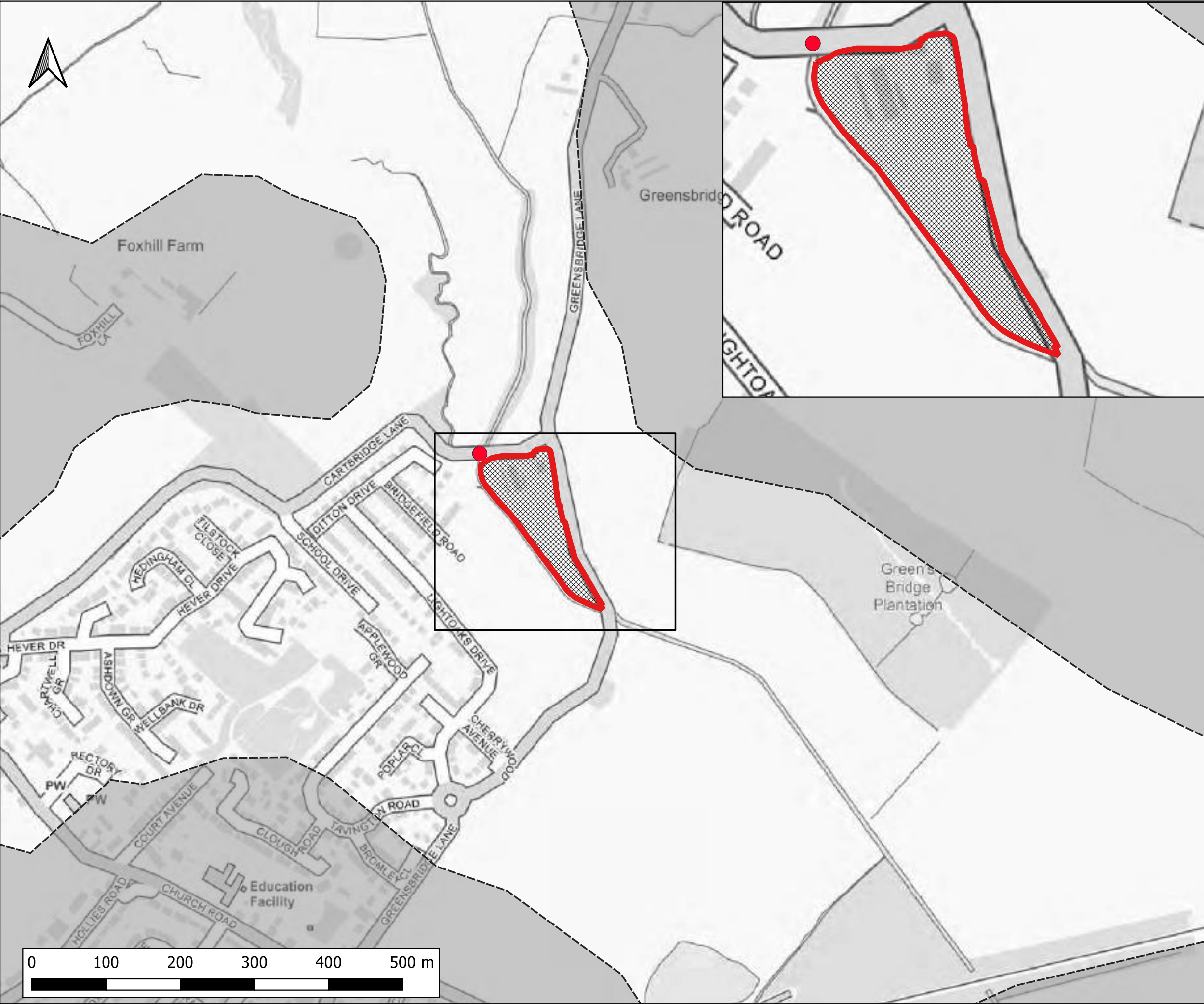
PLOT TITLE:

Maximum Flood Depth
1% AEP + 44% CC Fluvial Event
Existing Scenario (EXG) 33% Blockage of
Cartbridge Lane (BL1)

PLOT STATUS:			DATE:
FINAL			16-11-2022

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000

PLOT NAME:	REVISION:
14506-Neth_Q100CC44_EXG_BL1_015_d_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Development Platform
- Blockage 1

Maximum Flood Depth (m)

- <= 0.3m
- 0.3m - 0.6m
- 0.6m - 1.2m
- 1.2m - 2.4m
- > 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

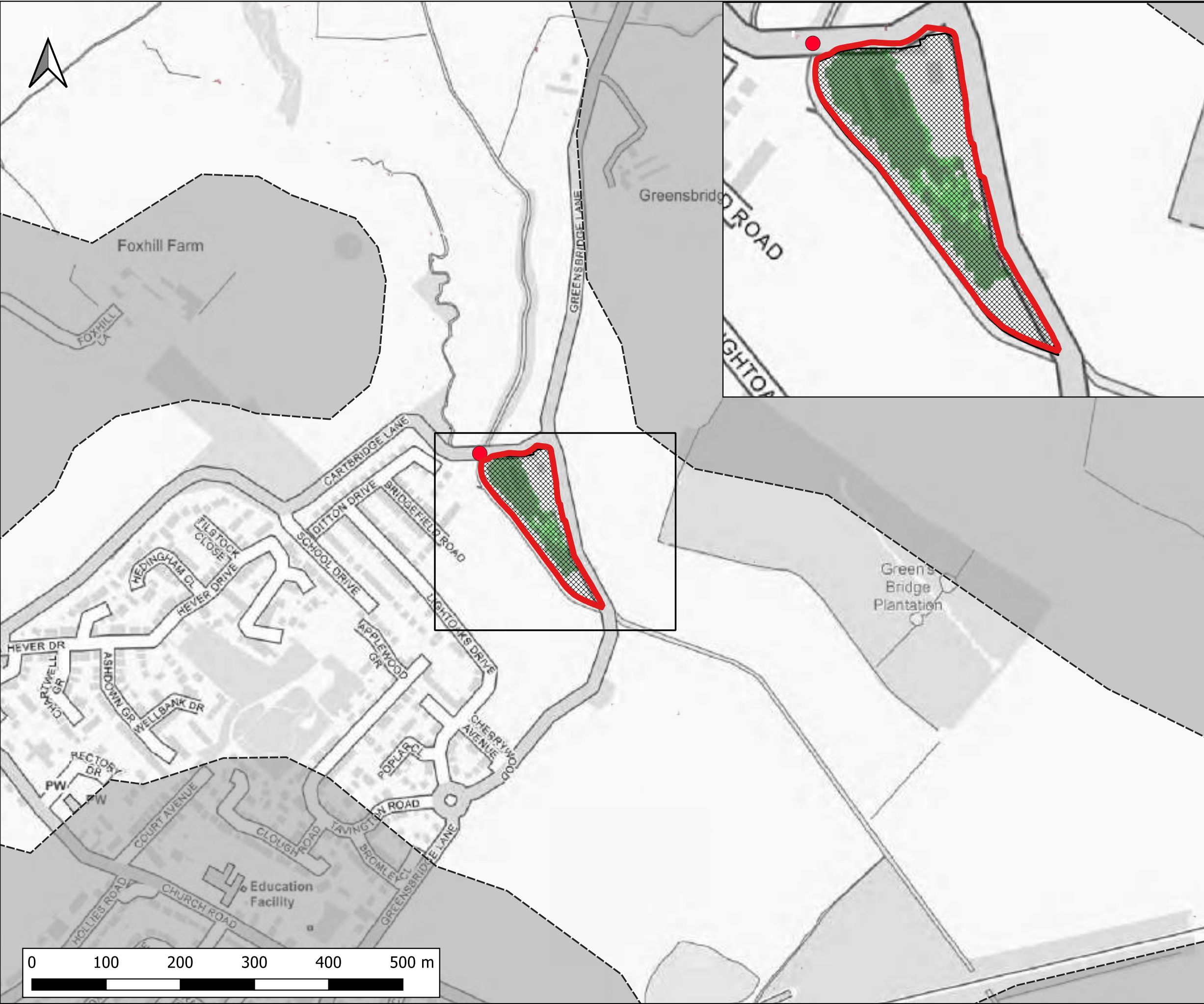
PLOT TITLE:

Maximum Flood Depth
1% AEP + 44% CC Fluvial Event
Proposed Development (DEV) 33% Blockage of
Cartbridge Lane (BL1)

PLOT STATUS:		FINAL		DATE:	16-11-2022
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DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:		14506-	REVISION:
Neth_Q100CC44_DEVSITE_BL1_015_d_Max			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Development Platform

Blockage 1

Maximum Depth Variation

> -100mm

-50mm to -100mm

-20mm to -50mm

No Change (+/- 20mm)

+20mm to +50mm

+50mm to +100mm

> +100mm

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

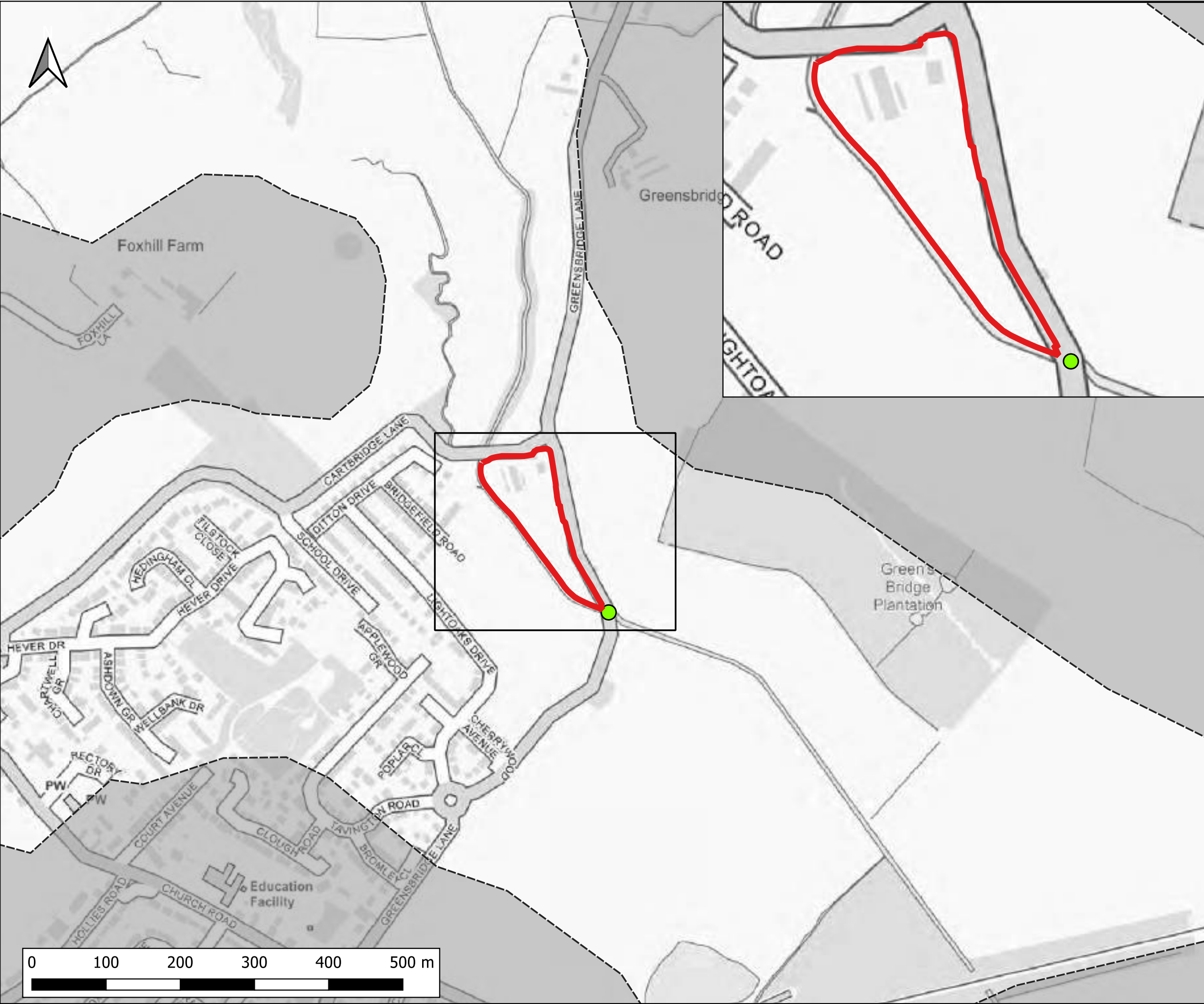
PLOT TITLE:

Maximum Depth Difference
1% AEP + 44% CC Fluvial Event
33% Blockage of Cartbridge Lane (BL1)
DEV-EXG

PLOT STATUS:			DATE:
FINAL			05-01-2023

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	LW	AW	1:5000

PLOT NAME:	REVISION:
14506-Neth_Q100CC44_BL1_DIFF_015	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Blockage 2

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

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www.waterco.co.uk

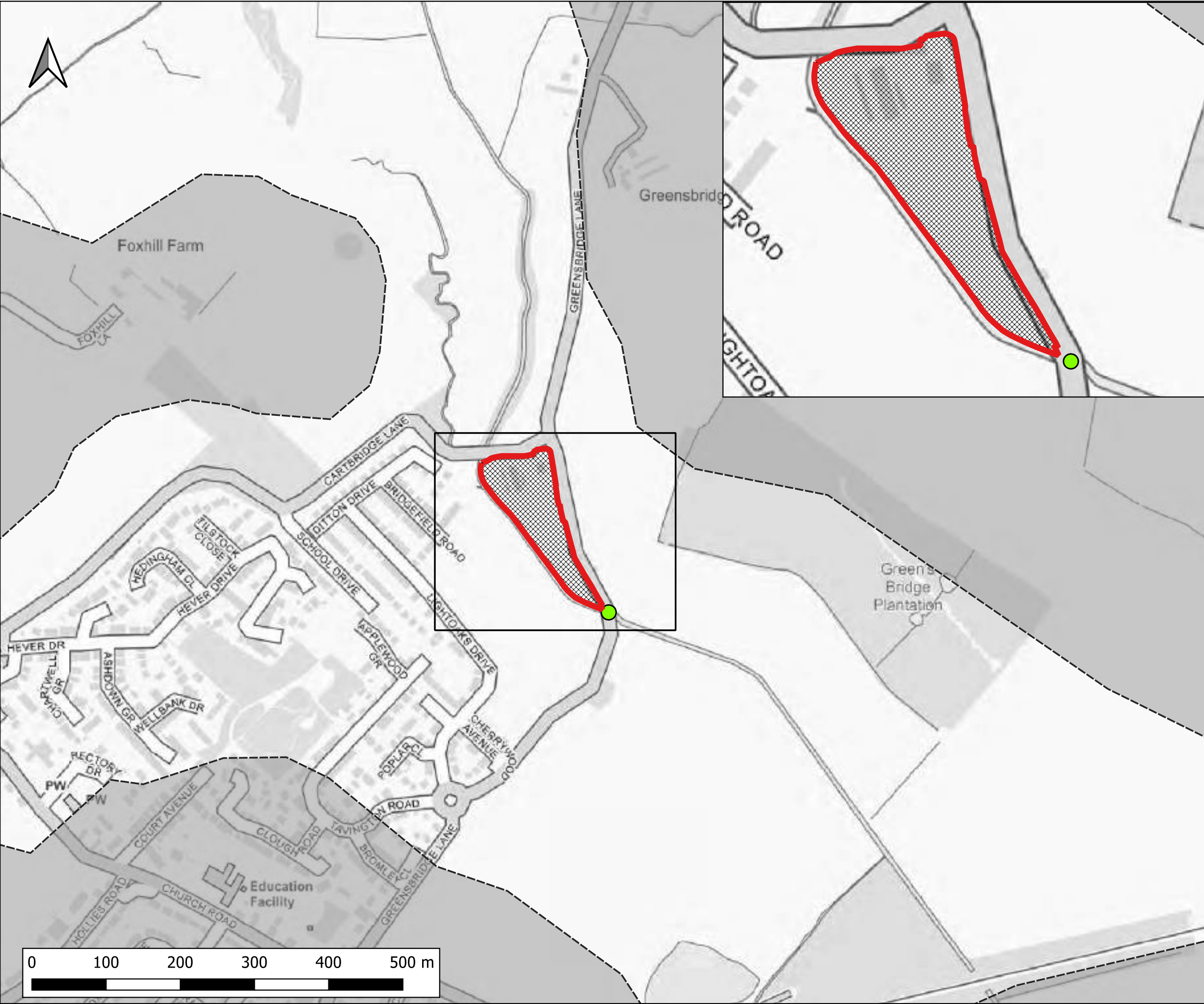
SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Maximum Flood Depth
1% AEP + 44% CC Fluvial Event
Existing Scenario (EXG) 33% Blockage of
Greensbridge Lane (BL2)

PLOT STATUS:		FINAL		DATE:	16-11-2022
DRAWN:	AQ	CHECKED:	LW	APPROVED:	AP
PLOT NAME:				14506-Neth_Q100CC44_EXG_BL2_015_d_Max	
PLOT SCALE AT A3:				1:5000	
REVISION:				-	



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

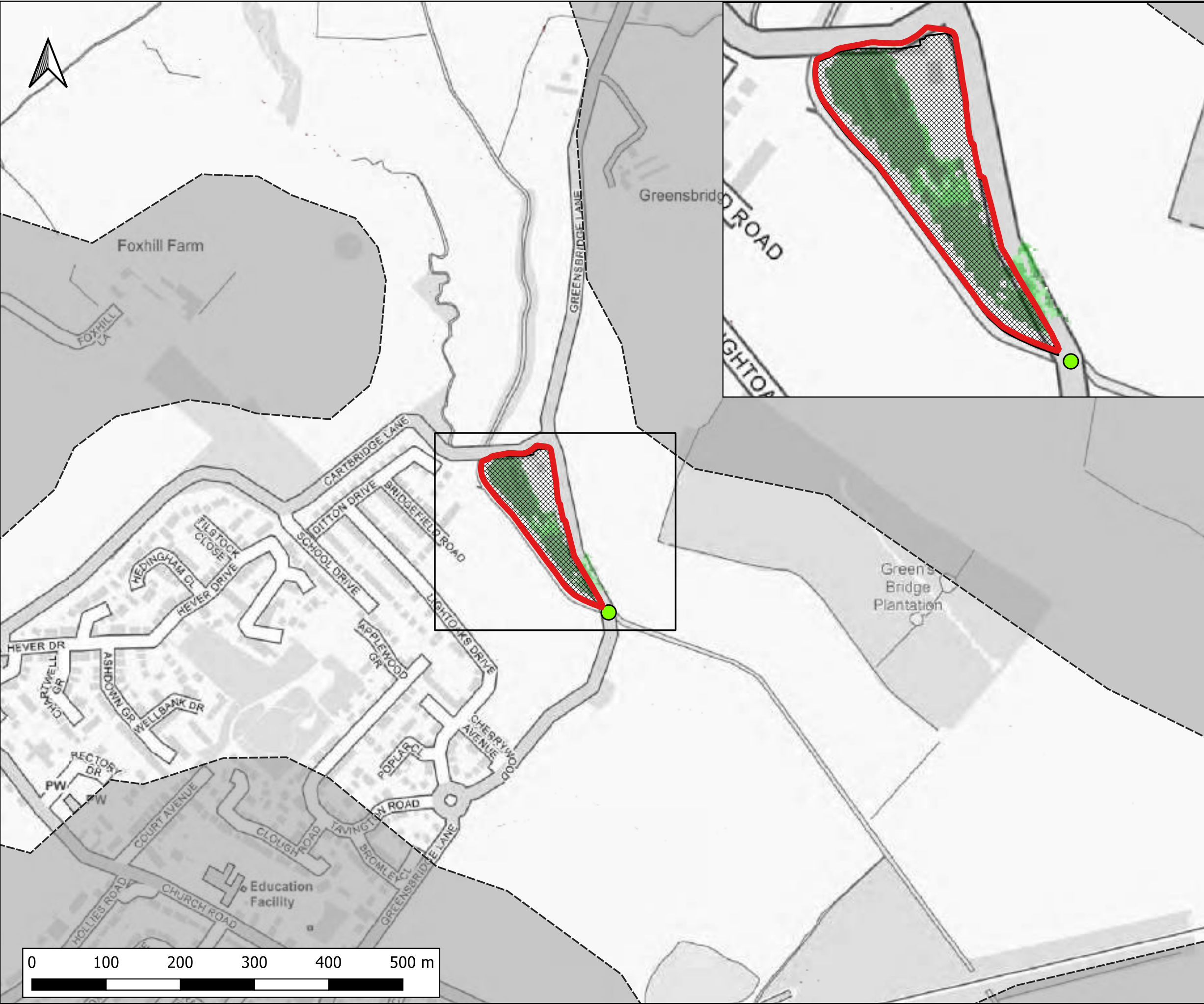
- Site Boundary
- 2D Model Extent
- Development Platform
- Blockage 2

Maximum Flood Depth (m)

- <= 0.3m
- 0.3m - 0.6m
- 0.6m - 1.2m
- 1.2m - 2.4m
- > 2.4m



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Flood Depth 1% AEP + 44% CC Fluvial Event Proposed Development (DEV) 33% Blockage of Greensbridge Lane (BL2)			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506- Neth_Q100CC44_DEVSITE_BL2_015_d_Max			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Development Platform
- Blockage 2

Maximum Depth Variation

- > -100mm
- 50mm to -100mm
- 20mm to -50mm
- No Change (+/- 20mm)
- +20mm to +50mm
- +50mm to +100mm
- > +100mm

CLIENT:

BBE Developments Ltd

SCHEME:

Former Merseyside Dogs Home, East Halewood

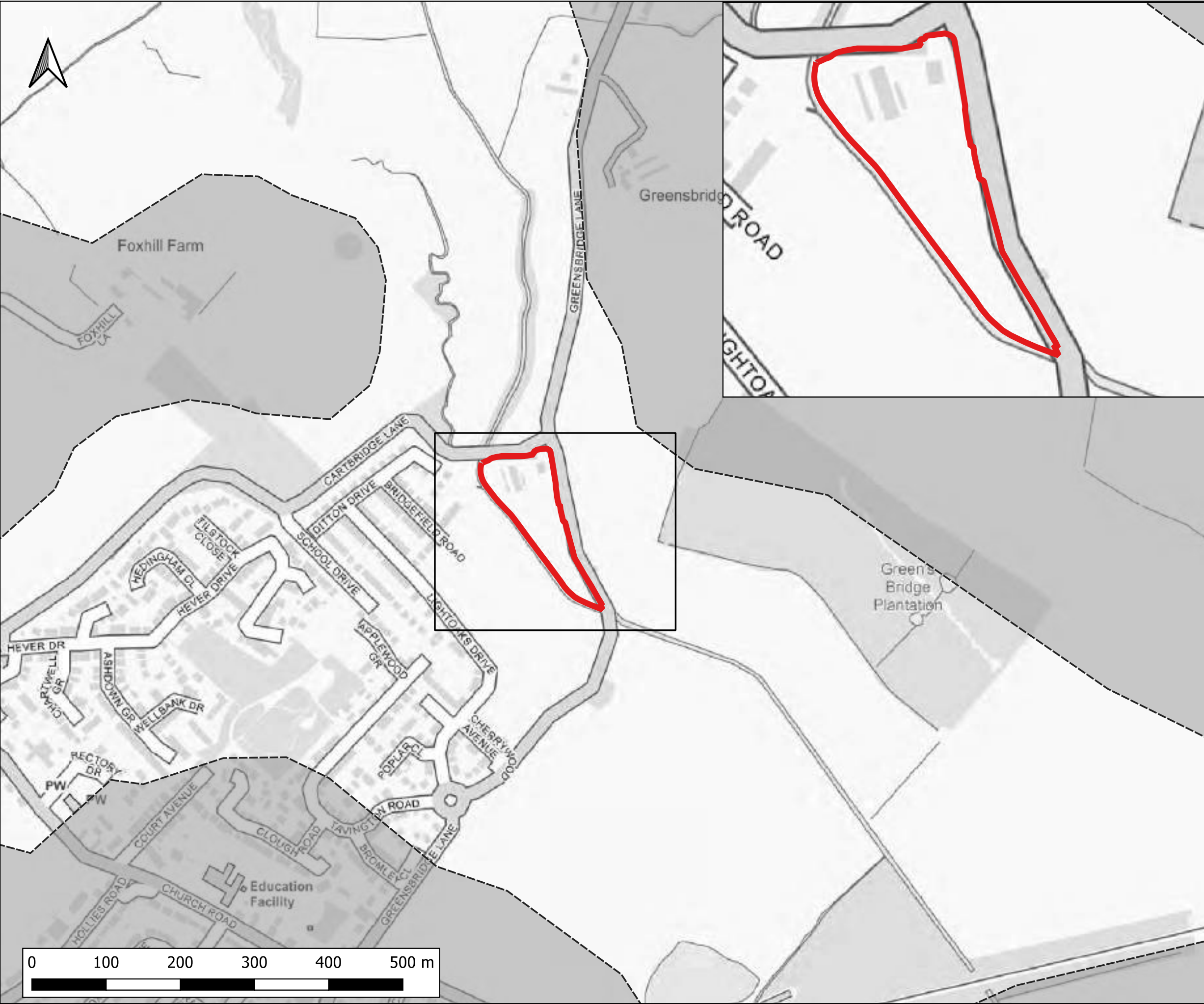
PLOT TITLE:

Maximum Depth Difference
1% AEP + 44% CC Fluvial Event
33% Blockage of Greensbridge Lane (BL2)
DEV-EXG

PLOT STATUS:			DATE:
FINAL			05-01-2023

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	LW	AW	1:5000

PLOT NAME:	REVISION:
14506-Neth_Q100CC44_BL2_DIFF_015	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

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www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

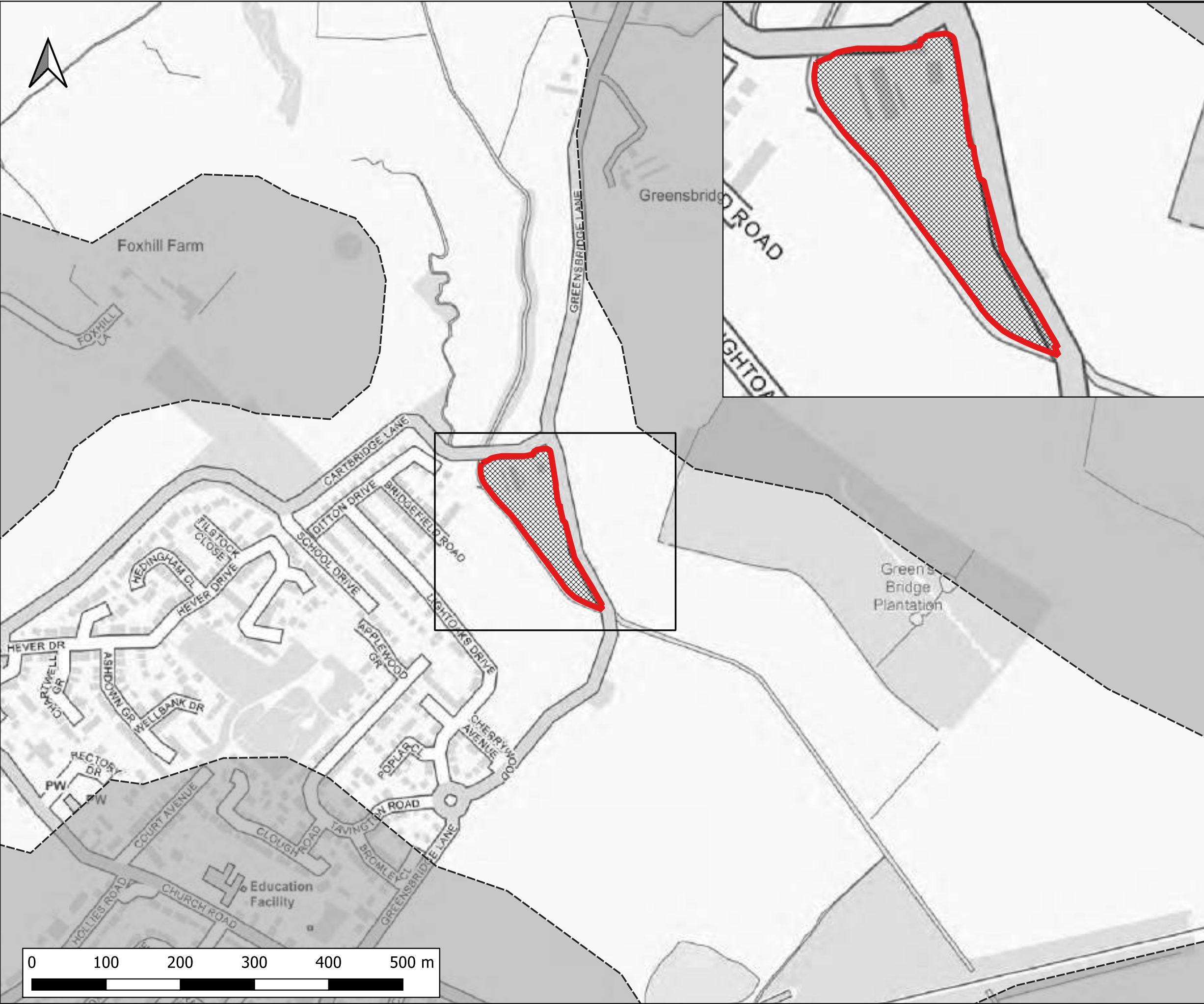
PLOT TITLE:

Maximum Flood Depth
0.1% AEP Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:			DATE:
FINAL			16-11-2022

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000

PLOT NAME:	REVISION:
14506-Neth_Q1000_EXG_NC_015_d_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Development Platform

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Maximum Flood Depth
0.1% AEP Fluvial Event
Proposed Development (DEV)

PLOT STATUS:		DATE:	
FINAL		16-11-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000

PLOT NAME:	REVISION:
14506-Neth_Q1000_DEVSITE_NC_015_d_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

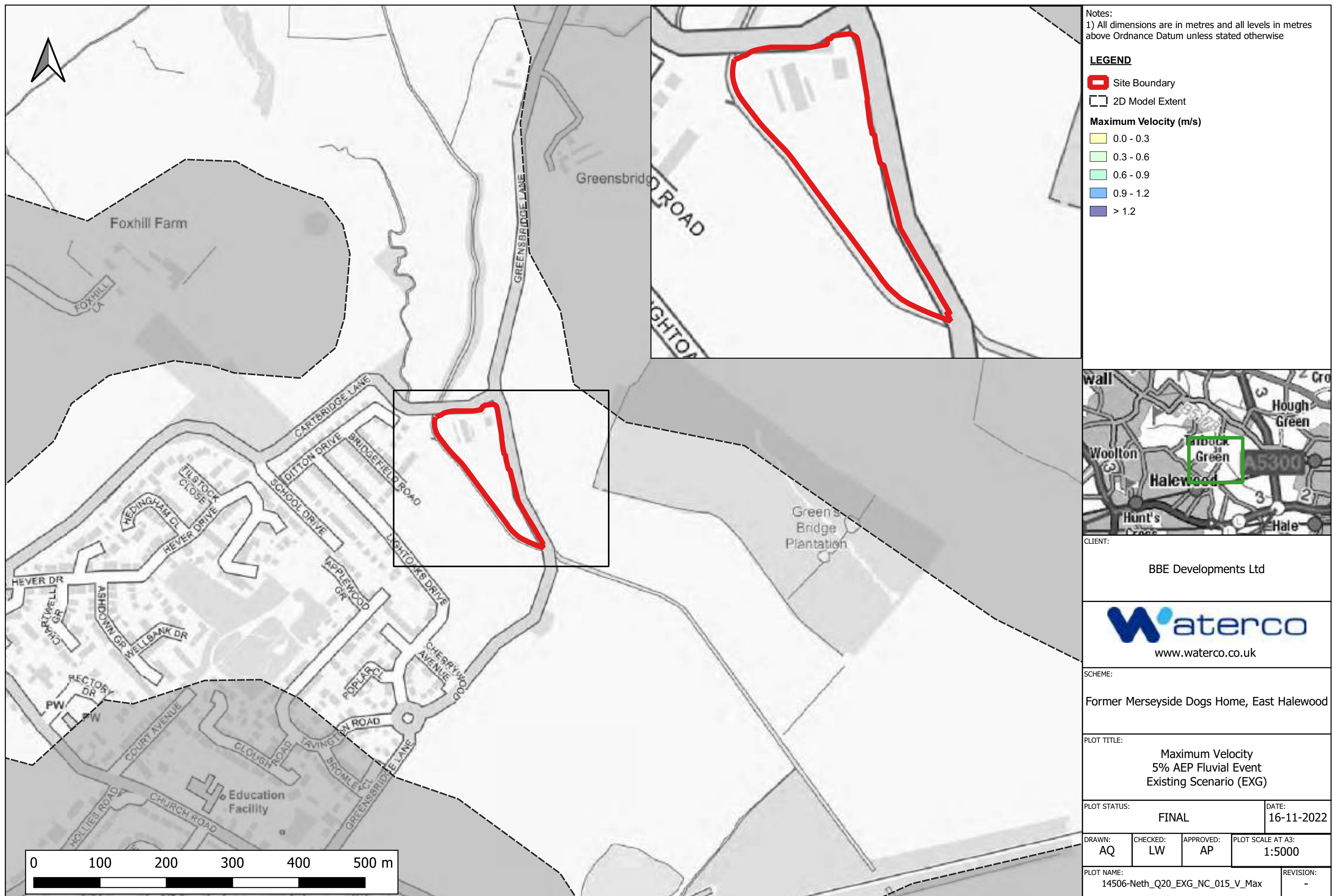
- Site Boundary
- 2D Model Extent
- Development Platform

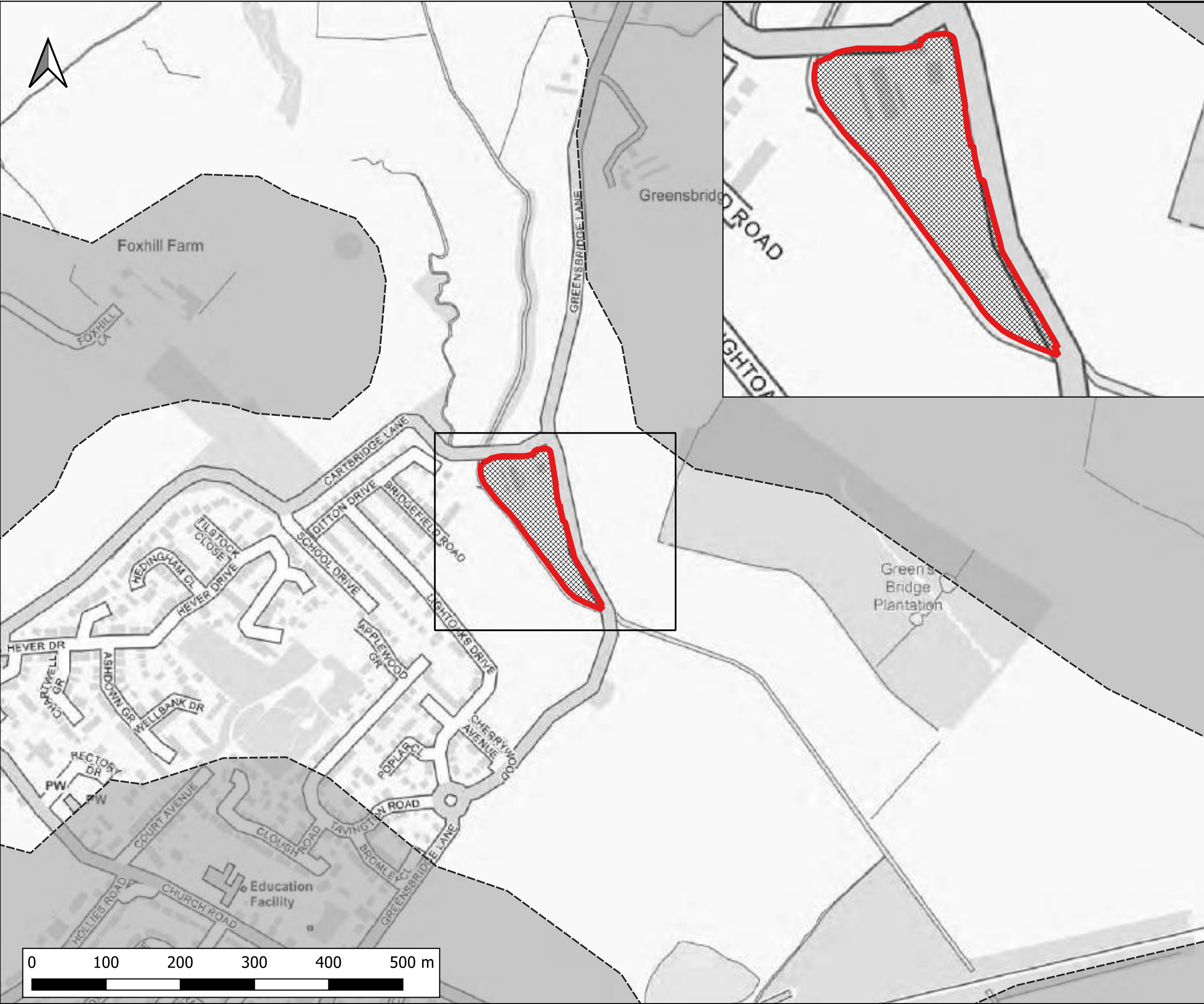
Maximum Depth Variation

- > -100mm
- 50mm to -100mm
- 20mm to -50mm
- No Change (+/- 20mm)
- +20mm to +50mm
- +50mm to +100mm
- > +100mm



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Depth Difference 0.1% AEP Fluvial Event DEV-EXG			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506-Neth_Q1000_NC_DIFF_015			-





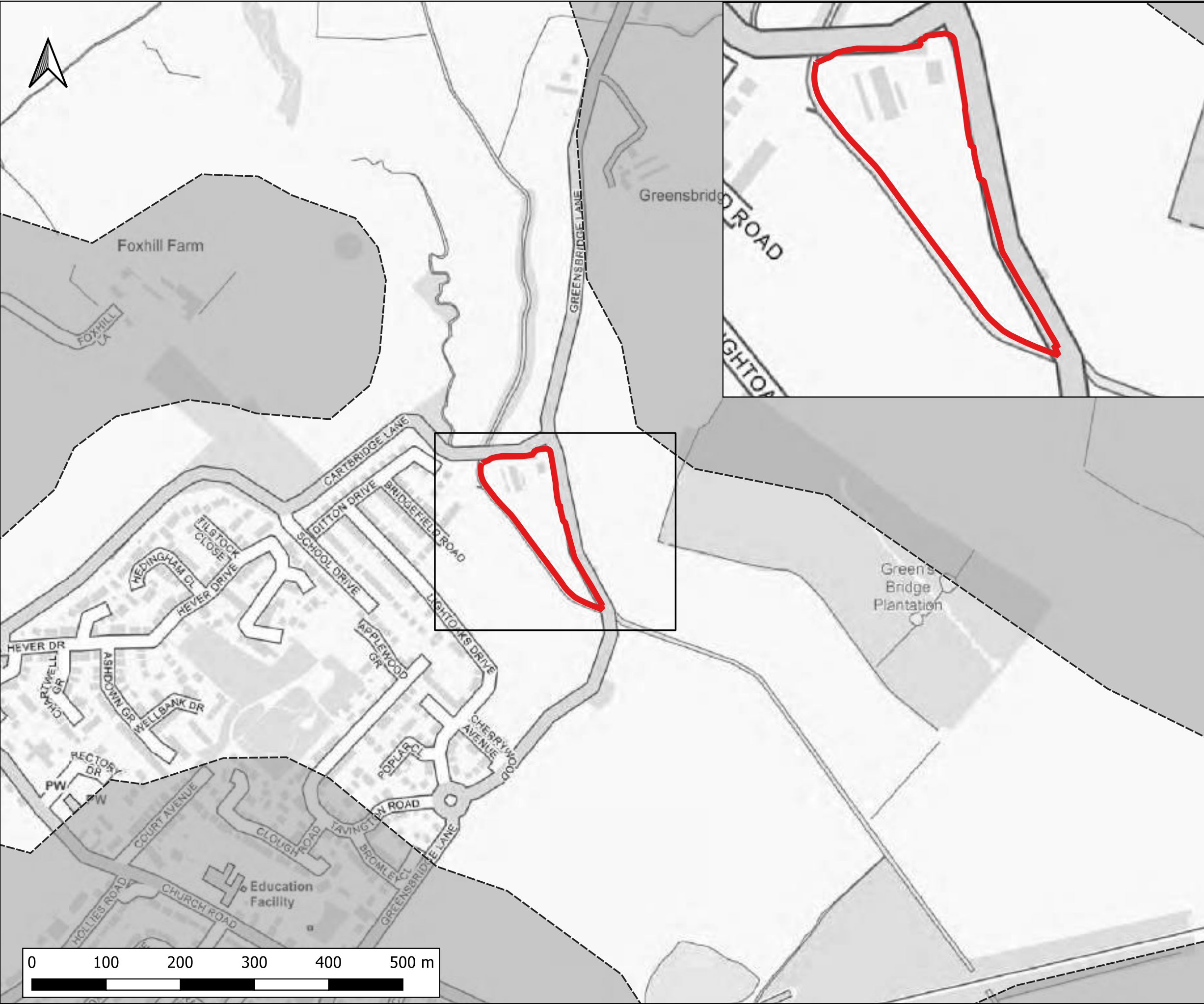
Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Development Platform
- Maximum Velocity (m/s)
 - 0.0 - 0.3
 - 0.3 - 0.6
 - 0.6 - 0.9
 - 0.9 - 1.2
 - > 1.2



CLIENT: BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME: Former Merseyside Dogs Home, East Halewood			
PLOT TITLE: Maximum Velocity 5% AEP Fluvial Event Proposed Development (DEV)			
PLOT STATUS: FINAL			DATE: 16-11-2022
DRAWN: AQ	CHECKED: LW	APPROVED: AP	PLOT SCALE AT A3: 1:5000
PLOT NAME: 14506-Neth_Q20_DEVSITE_NC_015_V_Max			REVISION: -



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Velocity (m/s)

0.0 - 0.3

0.3 - 0.6

0.6 - 0.9

0.9 - 1.2

> 1.2

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

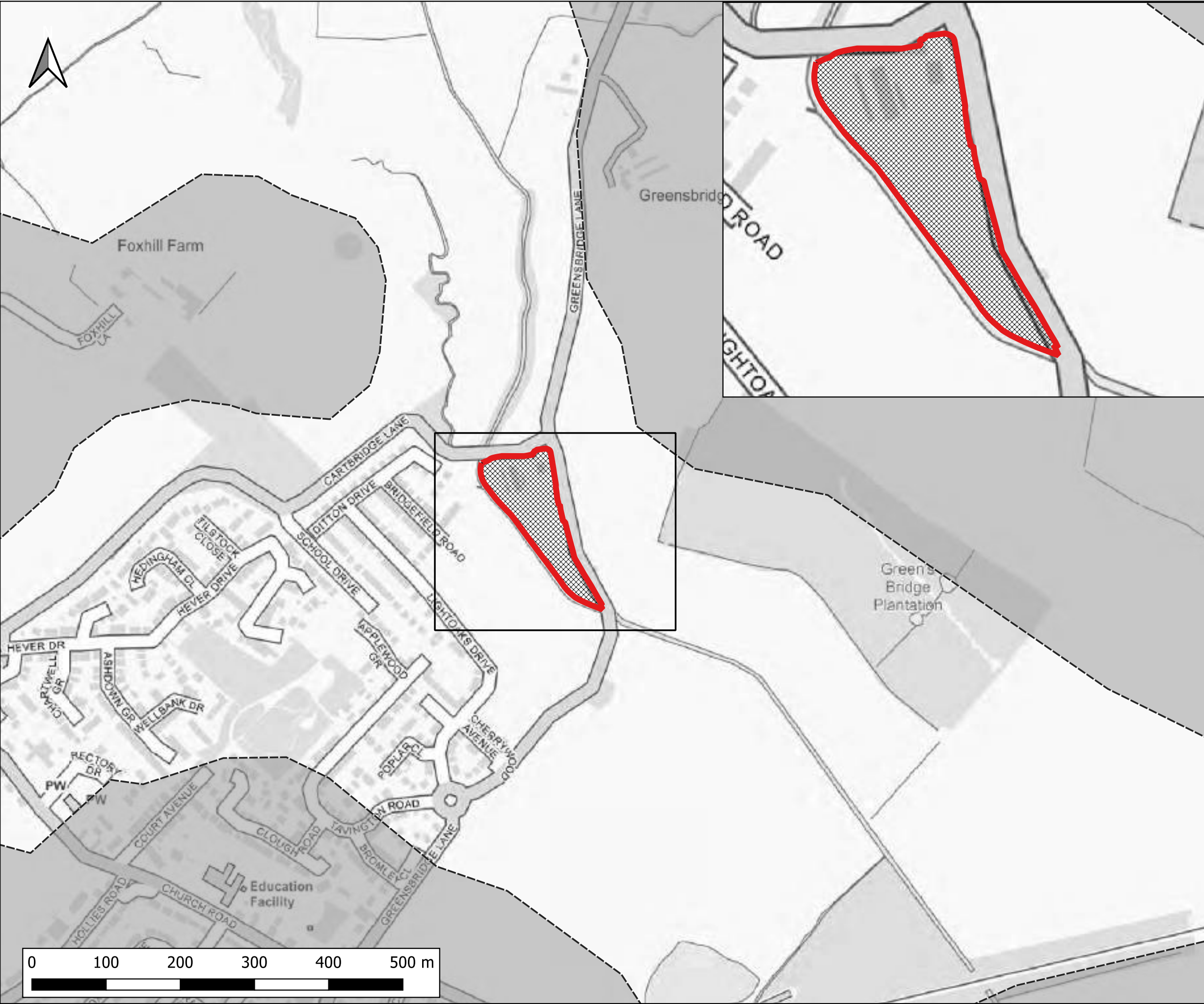
PLOT TITLE:

Maximum Velocity
1% AEP Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:		FINAL		DATE:	16-11-2022
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DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:	REVISION:
14506-Neth_Q100_EXG_NC_015_V_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Development Platform

Maximum Velocity (m/s)

0.0 - 0.3

0.3 - 0.6

0.6 - 0.9

0.9 - 1.2

> 1.2

CLIENT:

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SCHEME:

Former Merseyside Dogs Home, East Halewood

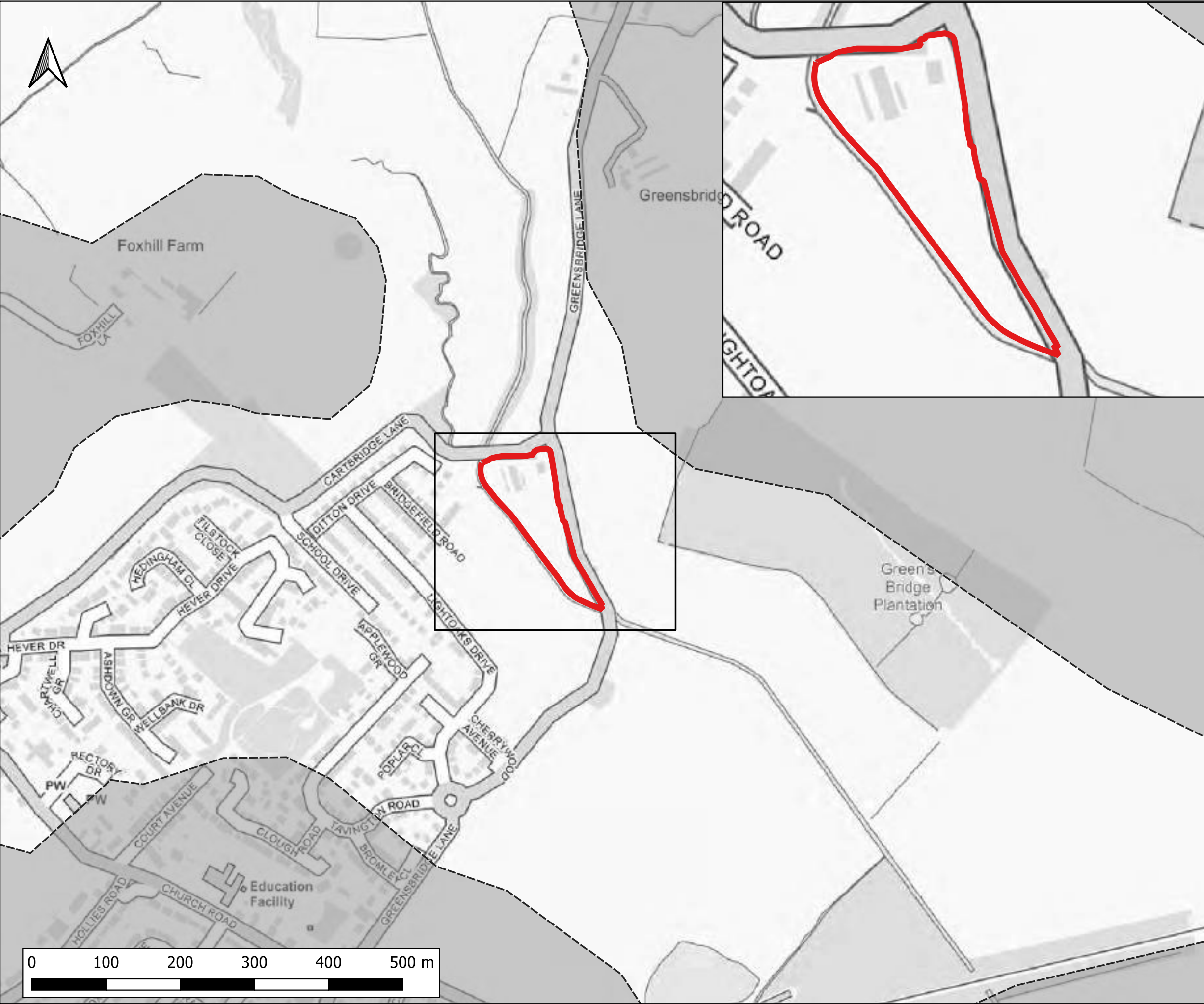
PLOT TITLE:

Maximum Velocity
1% AEP Fluvial Event
Proposed Development (DEV)

PLOT STATUS:		FINAL		DATE:	16-11-2022
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DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:	REVISION:
14506-Neth_Q100_DEVSITE_NC_015_V_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Velocity (m/s)

0.0 - 0.3

0.3 - 0.6

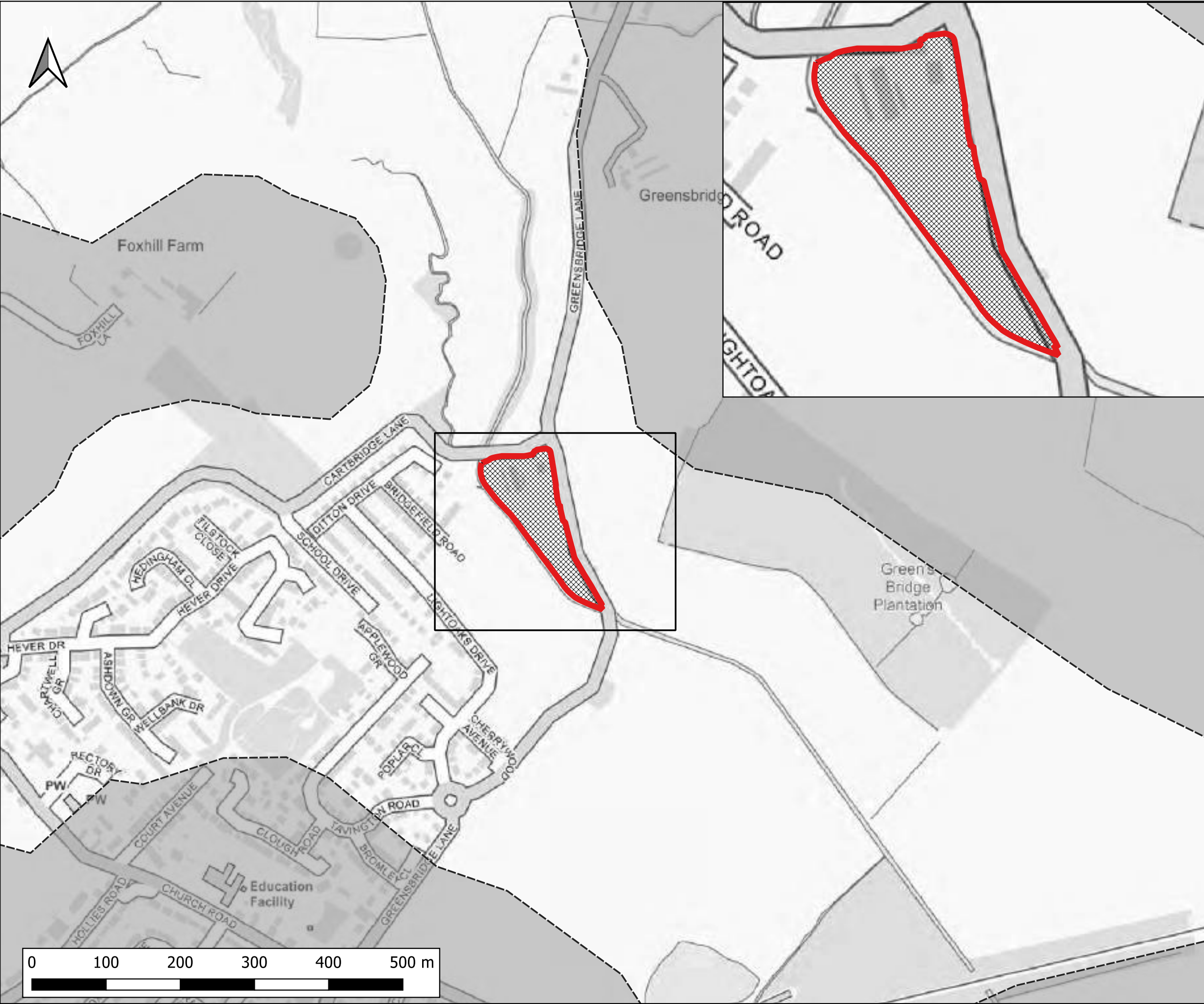
0.6 - 0.9

0.9 - 1.2

> 1.2



CLIENT: BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME: Former Merseyside Dogs Home, East Halewood			
PLOT TITLE: Maximum Velocity 1% AEP + 44% CC Fluvial Event Existing Scenario (EXG)			
PLOT STATUS: FINAL			DATE: 16-11-2022
DRAWN: AQ	CHECKED: LW	APPROVED: AP	PLOT SCALE AT A3: 1:5000
PLOT NAME: 14506-Neth_Q100CC44_EXG_NC_015_V_Max			REVISION: -



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

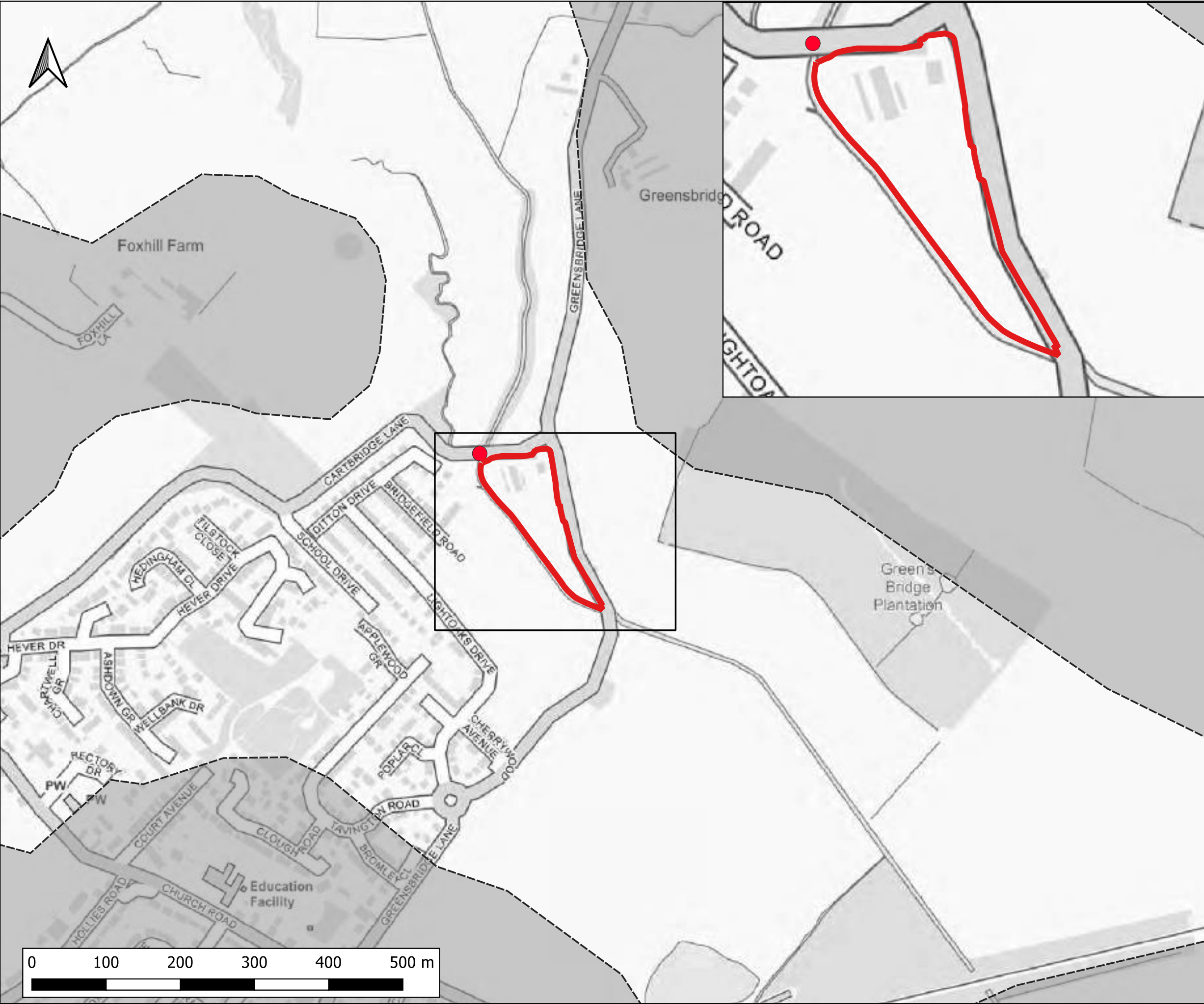
- Site Boundary
- 2D Model Extent
- Development Platform

Maximum Velocity (m/s)

- 0.0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- > 1.2



CLIENT:			
BBE Developments Ltd			
www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Velocity 1% AEP + 44% CC Fluvial Event Proposed Development (DEV)			
PLOT STATUS:		DATE:	
FINAL		16-11-2022	
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506- Neth_Q100CC44_DEVSITE_NC_015_V_Max			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Blockage 1

Maximum Velocity (m/s)

- 0.0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- > 1.2

CLIENT:

BBE Developments Ltd

SCHEME:

Former Merseyside Dogs Home, East Halewood

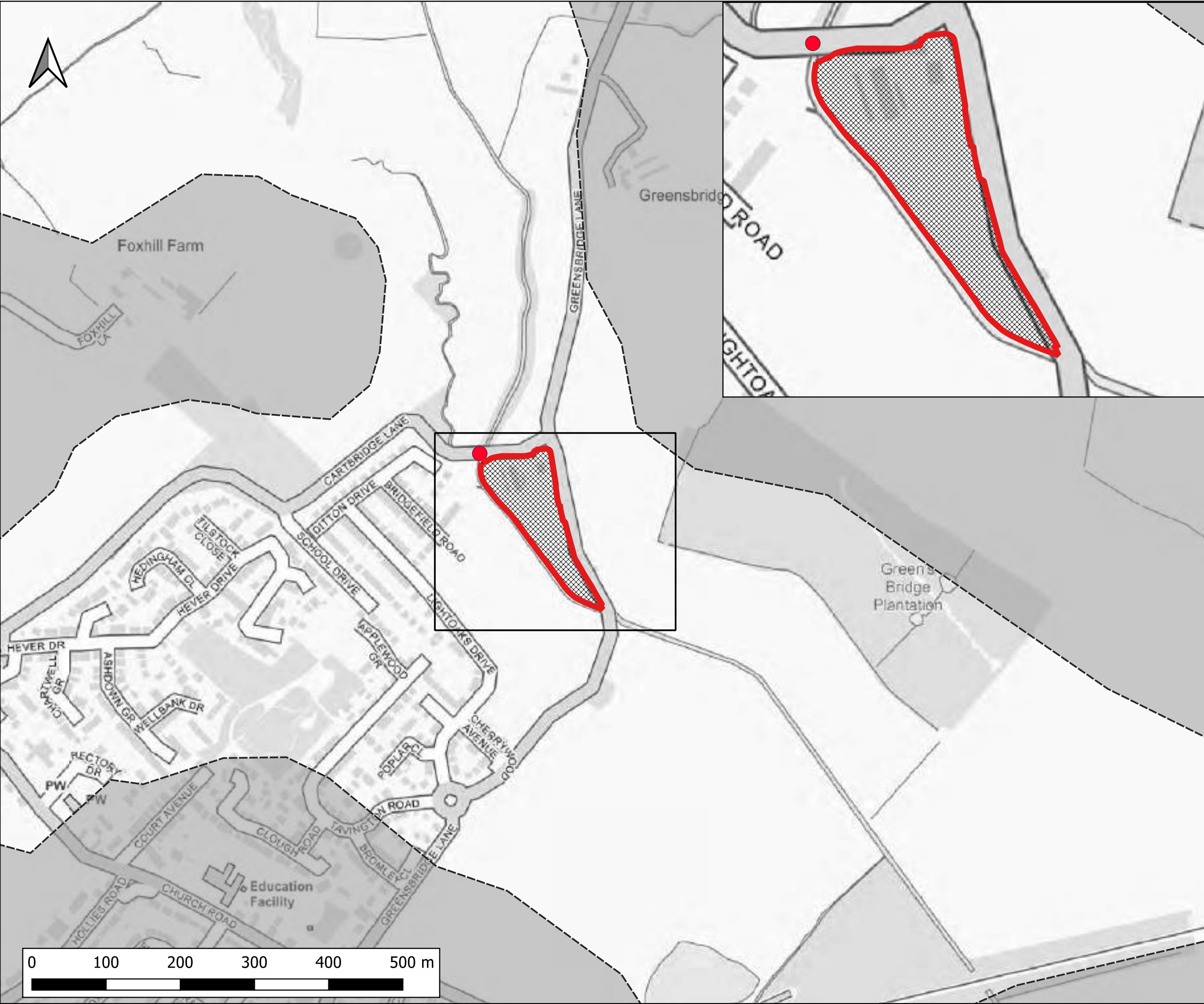
PLOT TITLE:

Maximum Velocity
1% AEP + 44% CC Fluvial Event
Existing Scenario (EXG) 33% Blockage of
Cartbridge Lane (BL1)

PLOT STATUS:		FINAL		DATE:	16-11-2022
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DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:	REVISION:
14506-Neth_Q100CC44_EXG_BL1_015_V_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

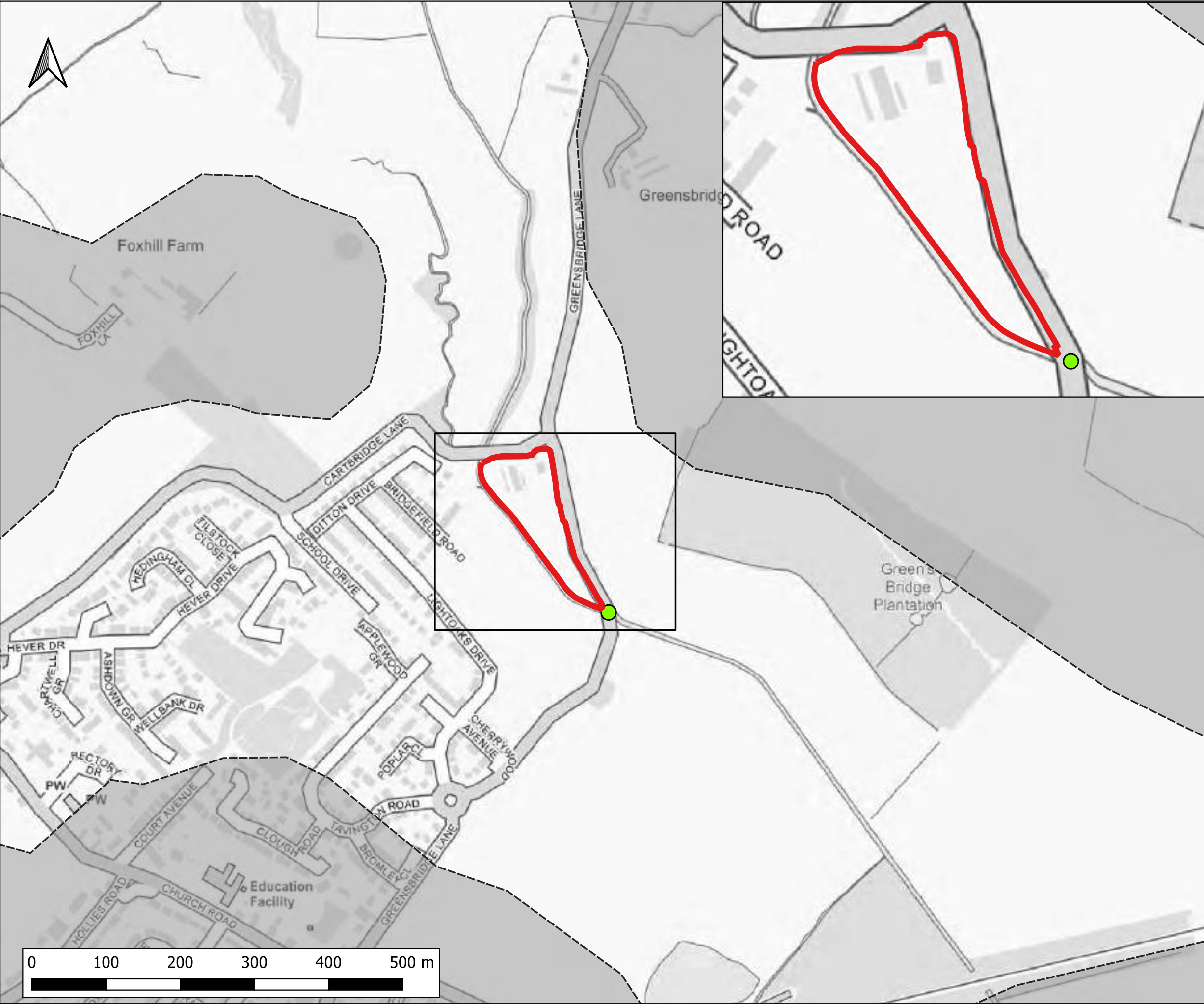
- Site Boundary
- 2D Model Extent
- Development Platform
- Blockage 1

Maximum Velocity (m/s)

- 0.0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- > 1.2



CLIENT: BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME: Former Merseyside Dogs Home, East Halewood			
PLOT TITLE: Maximum Velocity 1% AEP + 44% CC Fluvial Event Proposed Development (DEV) 33% Blockage of Cartbridge Lane (BL1)			
PLOT STATUS: FINAL			DATE: 16-11-2022
DRAWN: AQ	CHECKED: LW	APPROVED: AP	PLOT SCALE AT A3: 1:5000
PLOT NAME: 14506- Neth_Q100CC44_DEVSITE_BL1_015_V_Max			REVISION: -



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Blockage 2

Maximum Velocity (m/s)

- 0.0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- > 1.2

CLIENT:

BBE Developments Ltd

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SCHEME:

Former Merseyside Dogs Home, East Halewood

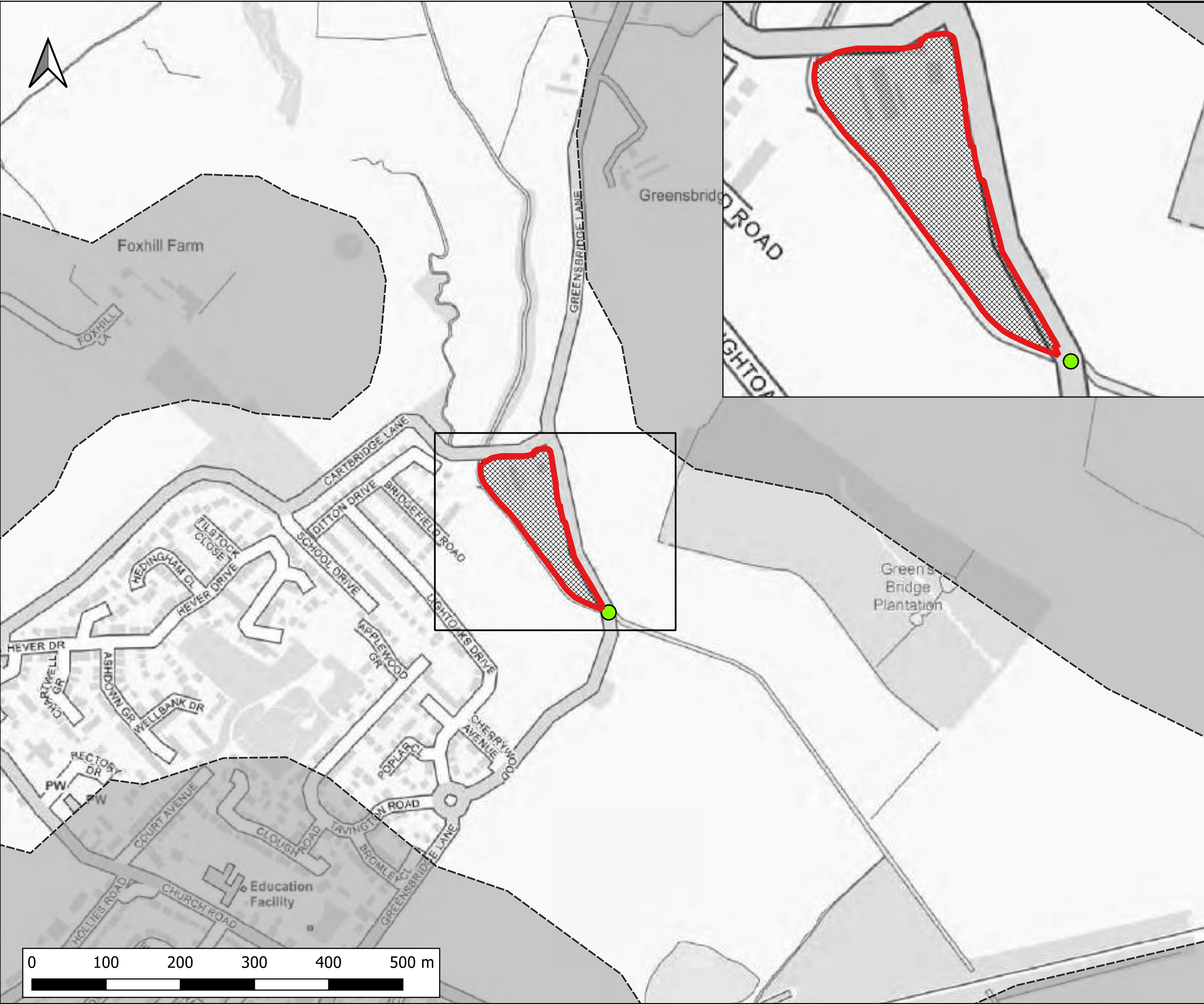
PLOT TITLE:

Maximum Velocity
1% AEP + 44% CC Fluvial Event
Existing Scenario (EXG) 33% Blockage of
Greensbridge Lane (BL2)

PLOT STATUS:		FINAL		DATE:	16-11-2022
--------------	--	-------	--	-------	------------

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:5000	

PLOT NAME:	REVISION:
14506-Neth_Q100CC44_EXG_BL2_015_V_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Development Platform
- Blockage 2

Maximum Velocity (m/s)

- 0.0 - 0.3
- 0.3 - 0.6
- 0.6 - 0.9
- 0.9 - 1.2
- > 1.2

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

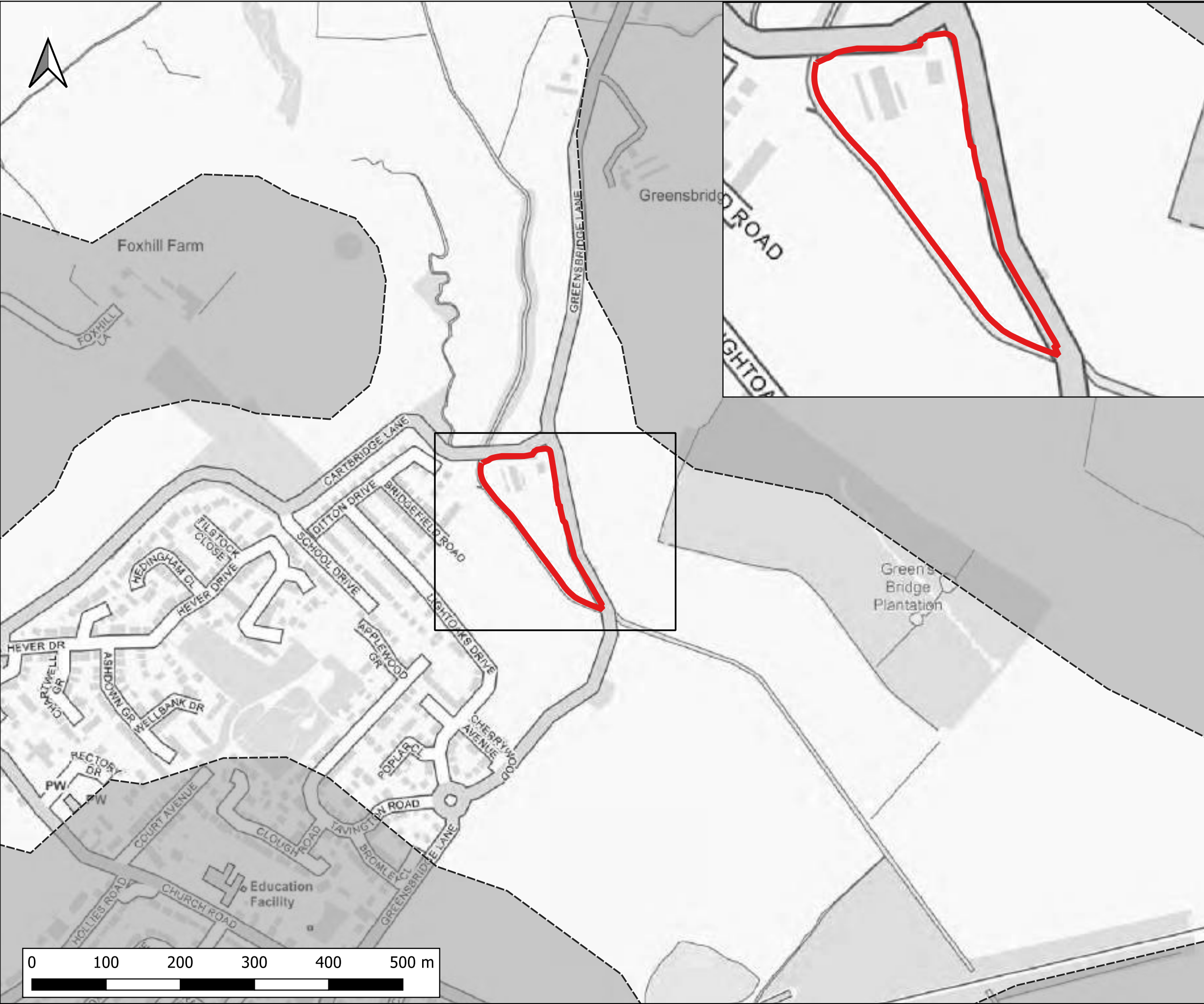
PLOT TITLE:

Maximum Velocity
1% AEP + 44% CC Fluvial Event
Proposed Development (DEV) 33% Blockage of
Greensbridge Lane (BL2)

PLOT STATUS:		DATE:	
FINAL		16-11-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000

PLOT NAME:	14506- Neth_Q100CC44_DEVSITE_BL2_015_V_Max	REVISION:
		-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Velocity (m/s)

0.0 - 0.3

0.3 - 0.6

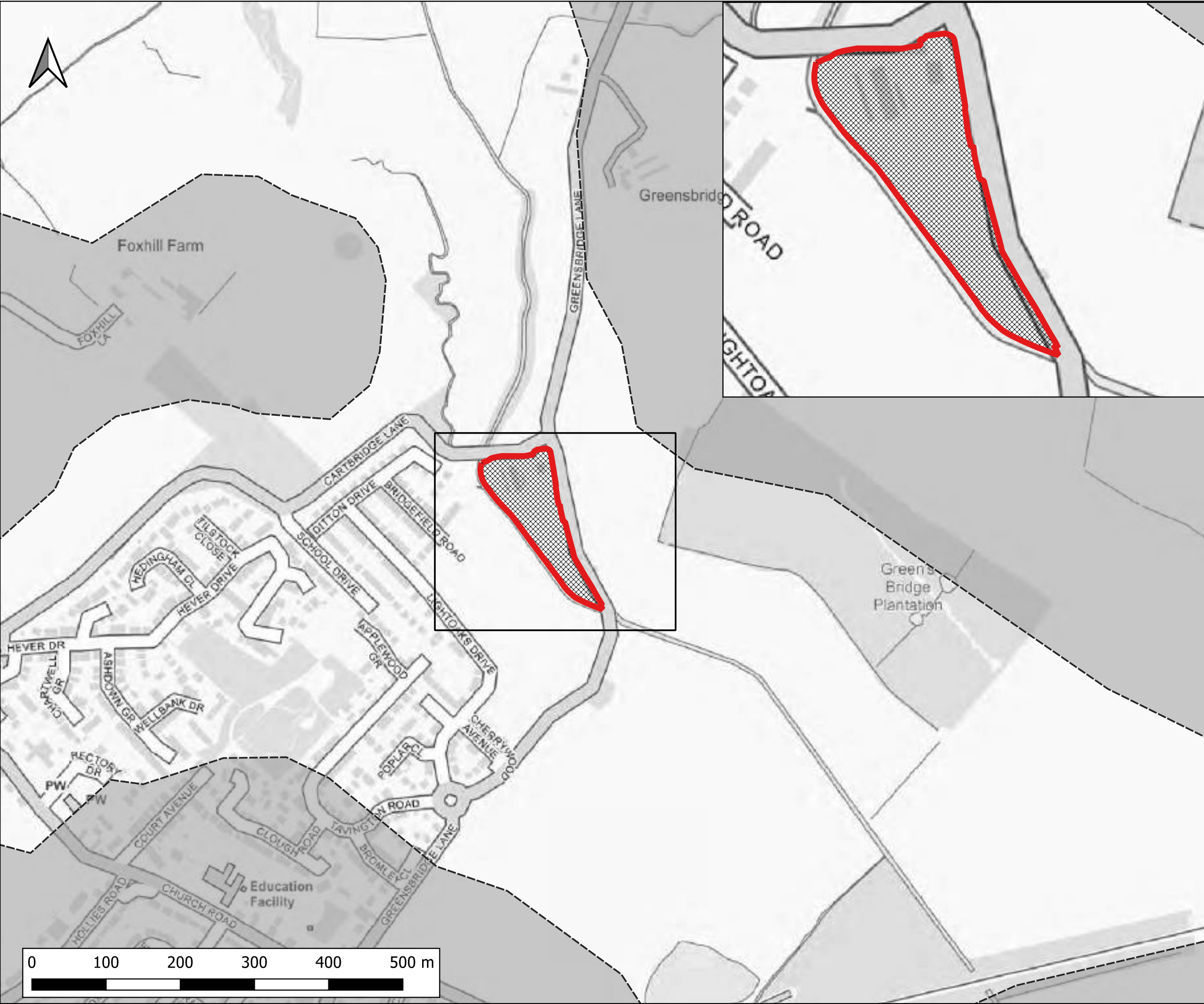
0.6 - 0.9

0.9 - 1.2

> 1.2



CLIENT:			
BBE Developments Ltd			
www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Velocity 0.1% AEP Fluvial Event Existing Scenario (EXG)			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506-Neth_Q1000_EXG_NC_015_V_Max			-



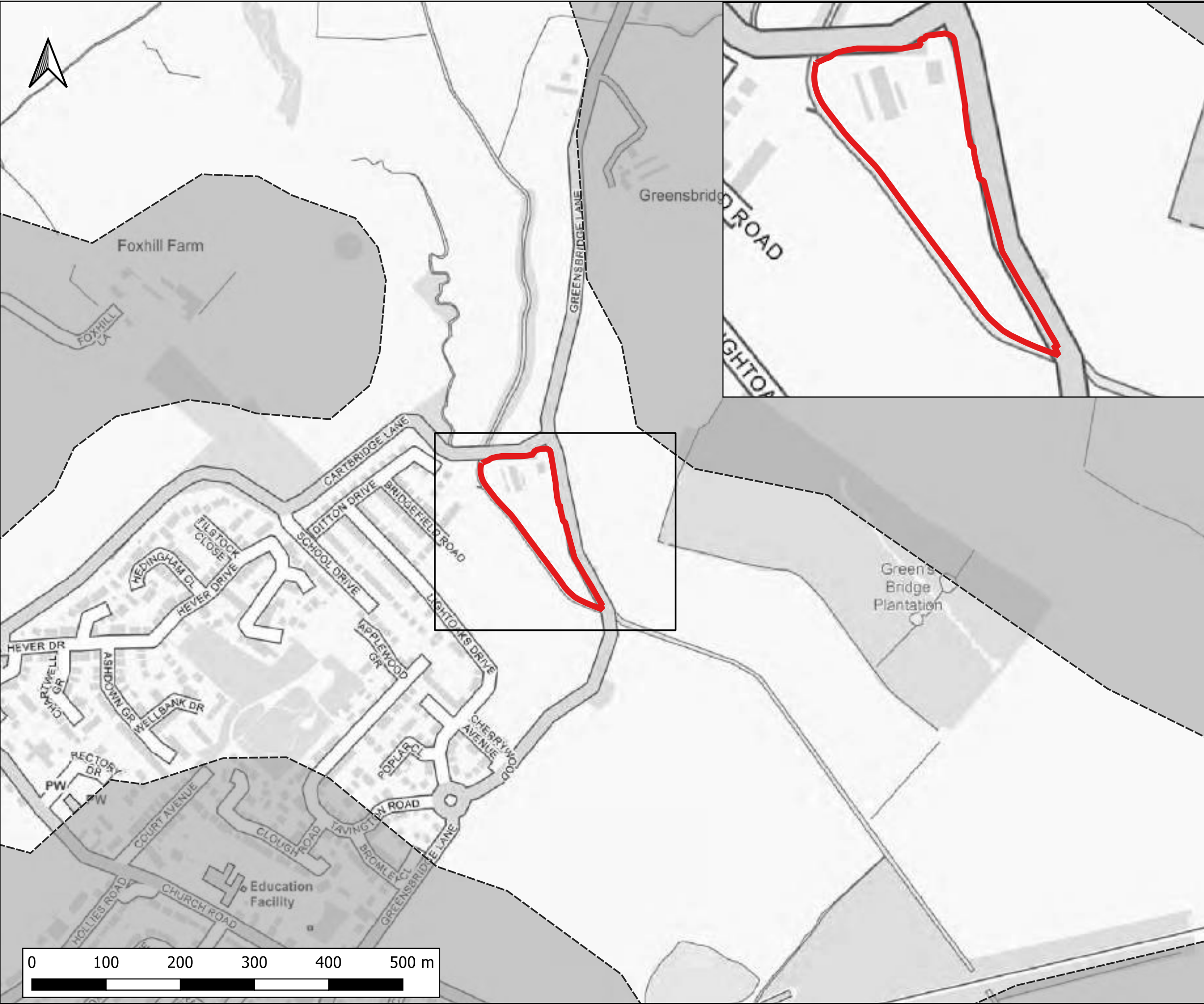
Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
 - 2D Model Extent
 - Development Platform
- Maximum Velocity (m/s)
- 0.0 - 0.3
 - 0.3 - 0.6
 - 0.6 - 0.9
 - 0.9 - 1.2
 - > 1.2



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Velocity 0.1% AEP Fluvial Event Proposed Development (DEV)			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506-Neth_Q1000_DEVSITE_NC_015_V_Max			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Flood Hazard Rating (FD2320)

Caution

Danger for Some

Danger for Most

Danger for All



CLIENT:

BBE Developments Ltd



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SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Maximum Flood Hazard Rating
5% AEP Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:

FINAL

DATE:

16-11-2022

DRAWN:

AQ

CHECKED:

LW

APPROVED:

AP

PLOT SCALE AT A3:

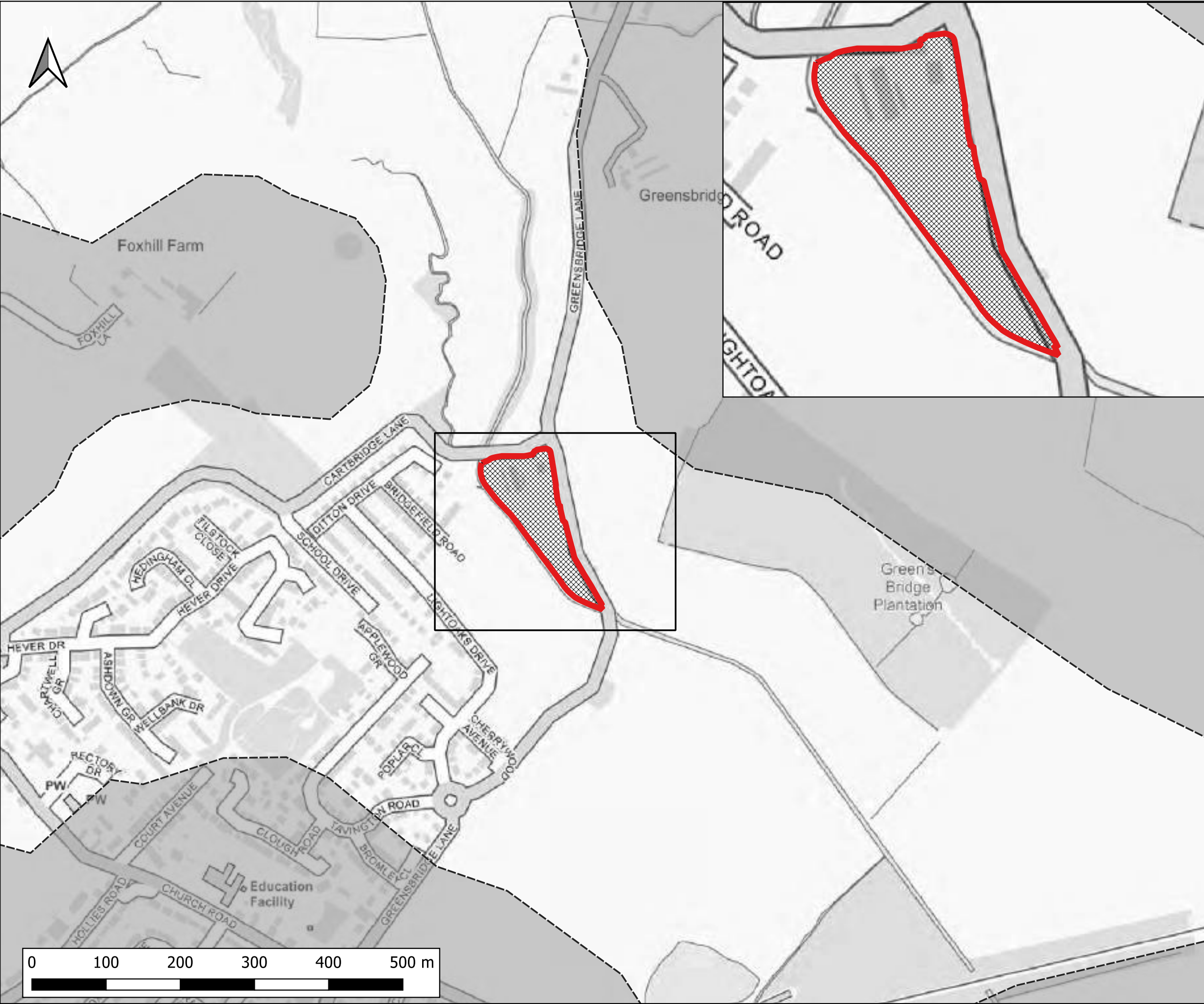
1:5000

PLOT NAME:

14506-Neth_Q20_EXG_NC_015_ZUK2_Max

REVISION:

-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

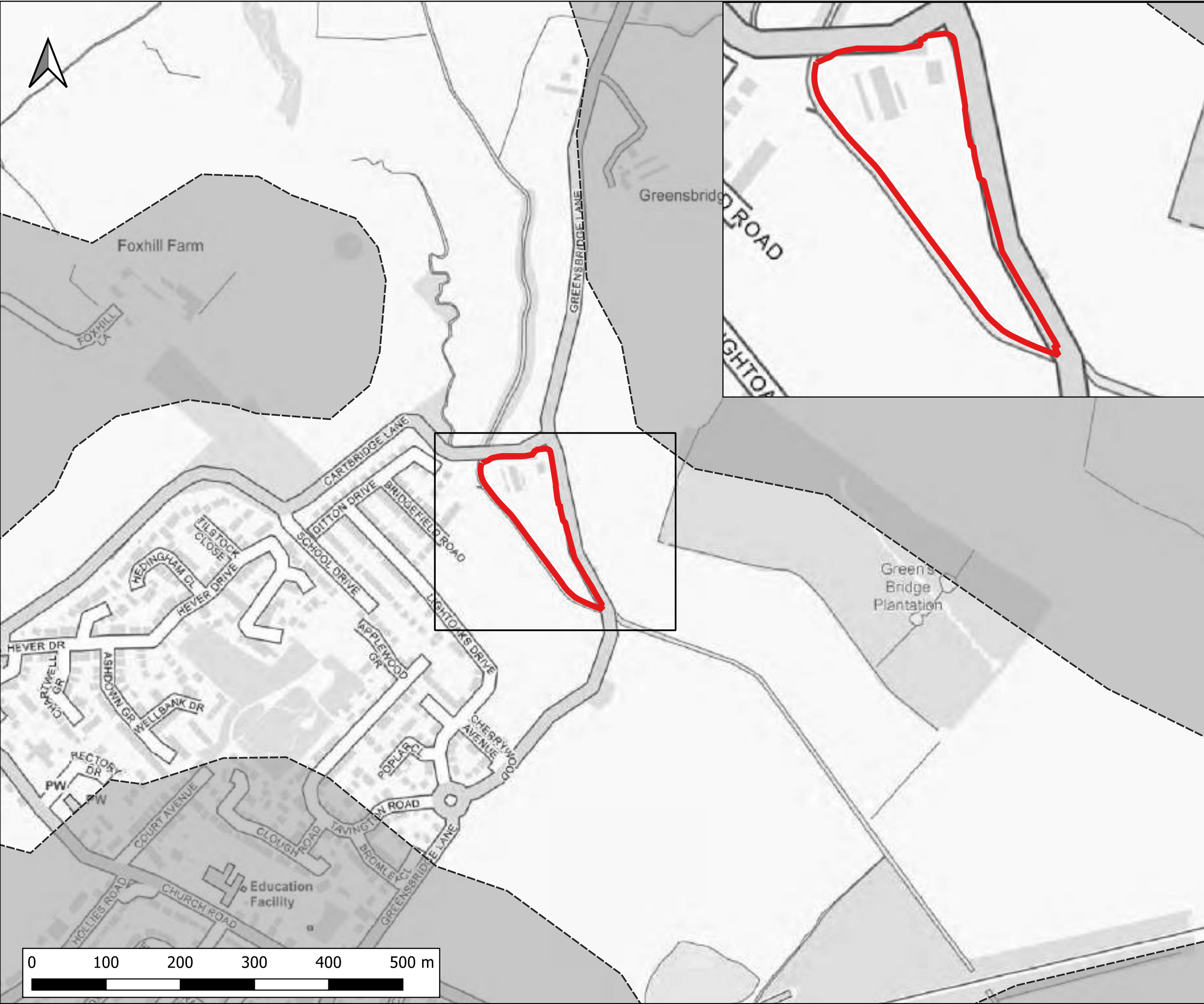
- Site Boundary
- 2D Model Extent
- Development Platform

Maximum Flood Hazard Rating (FD2320)

- Caution
- Danger for Some
- Danger for Most
- Danger for All



CLIENT: BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME: Former Merseyside Dogs Home, East Halewood			
PLOT TITLE: Maximum Flood Hazard Rating 5% AEP Fluvial Event Proposed Development (DEV)			
PLOT STATUS: FINAL			DATE: 16-11-2022
DRAWN: AQ	CHECKED: LW	APPROVED: AP	PLOT SCALE AT A3: 1:5000
PLOT NAME: 14506-Neth_Q20_DEVSITE_NC_015_ZUK2_Max			REVISION: -



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Flood Hazard Rating (FD2320)

Caution

Danger for Some

Danger for Most

Danger for All



CLIENT:

BBE Developments Ltd



www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Maximum Flood Hazard Rating
1% AEP Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:

FINAL

DATE:

16-11-2022

DRAWN:

AQ

CHECKED:

LW

APPROVED:

AP

PLOT SCALE AT A3:

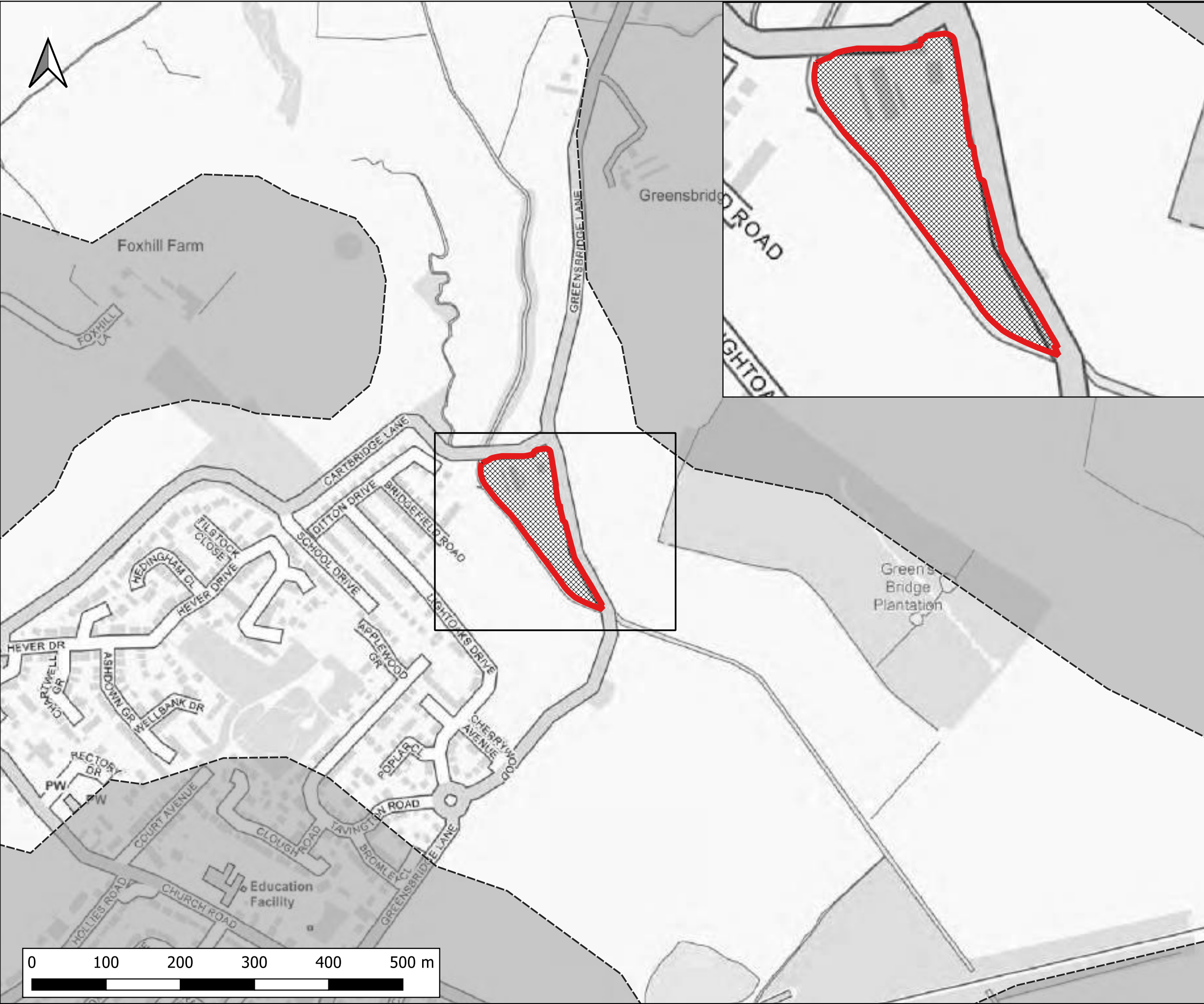
1:5000

PLOT NAME:

14506-Neth_Q100_EXG_NC_015_ZUK2_Max

REVISION:

-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

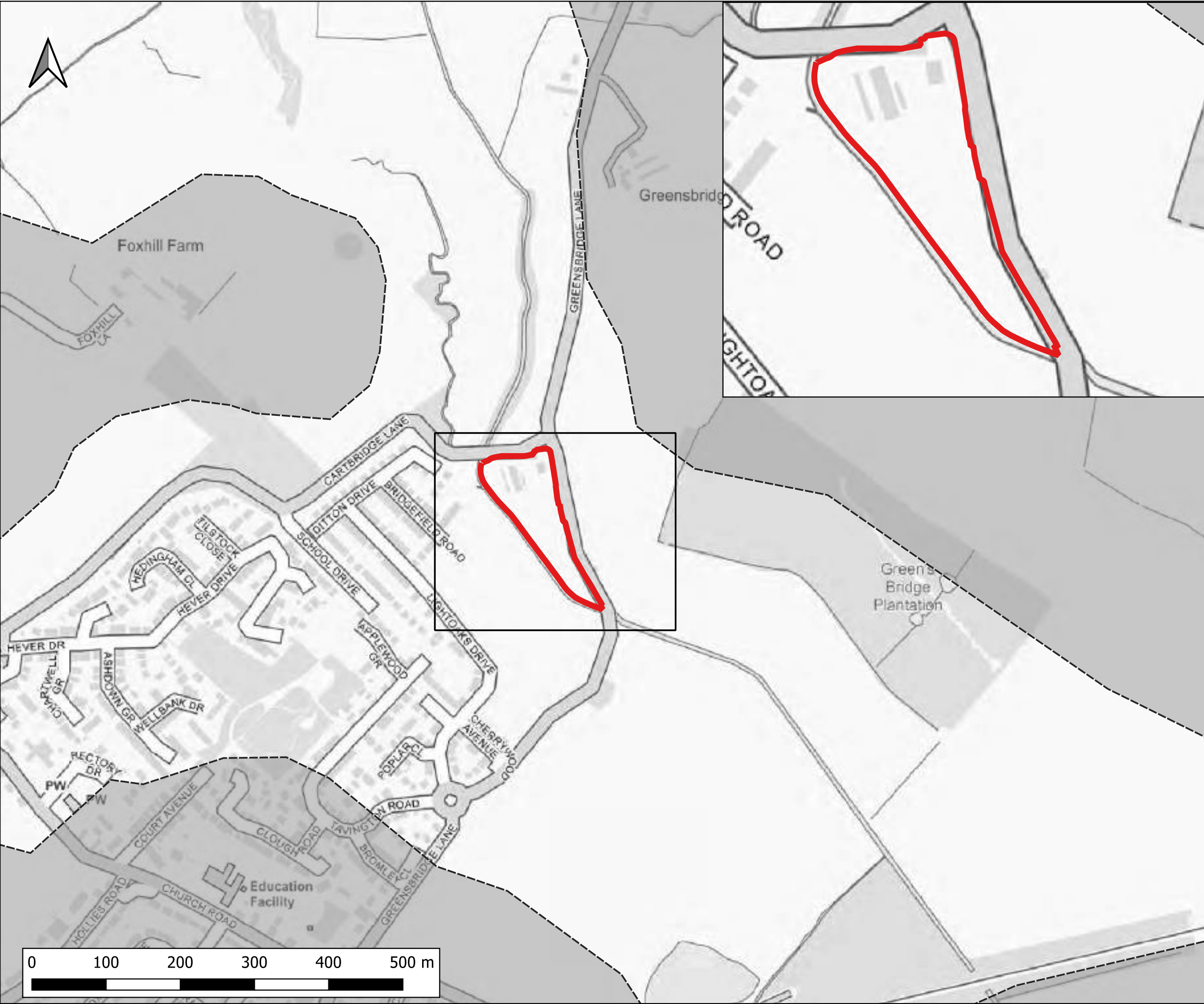
- Site Boundary
- 2D Model Extent
- Development Platform

Maximum Flood Hazard Rating (FD2320)

- Caution
- Danger for Some
- Danger for Most
- Danger for All



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Flood Hazard Rating 1% AEP Fluvial Event Proposed Development (DEV)			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506- Neth_Q100_DEVSITE_NC_015_ZUK2_Max			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Flood Hazard Rating (FD2320)

Caution

Danger for Some

Danger for Most

Danger for All



CLIENT:

BBE Developments Ltd



www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Maximum Flood Hazard Rating
1% AEP + 44% CC Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:

FINAL

DATE:

16-11-2022

DRAWN:

AQ

CHECKED:

LW

APPROVED:

AP

PLOT SCALE AT A3:

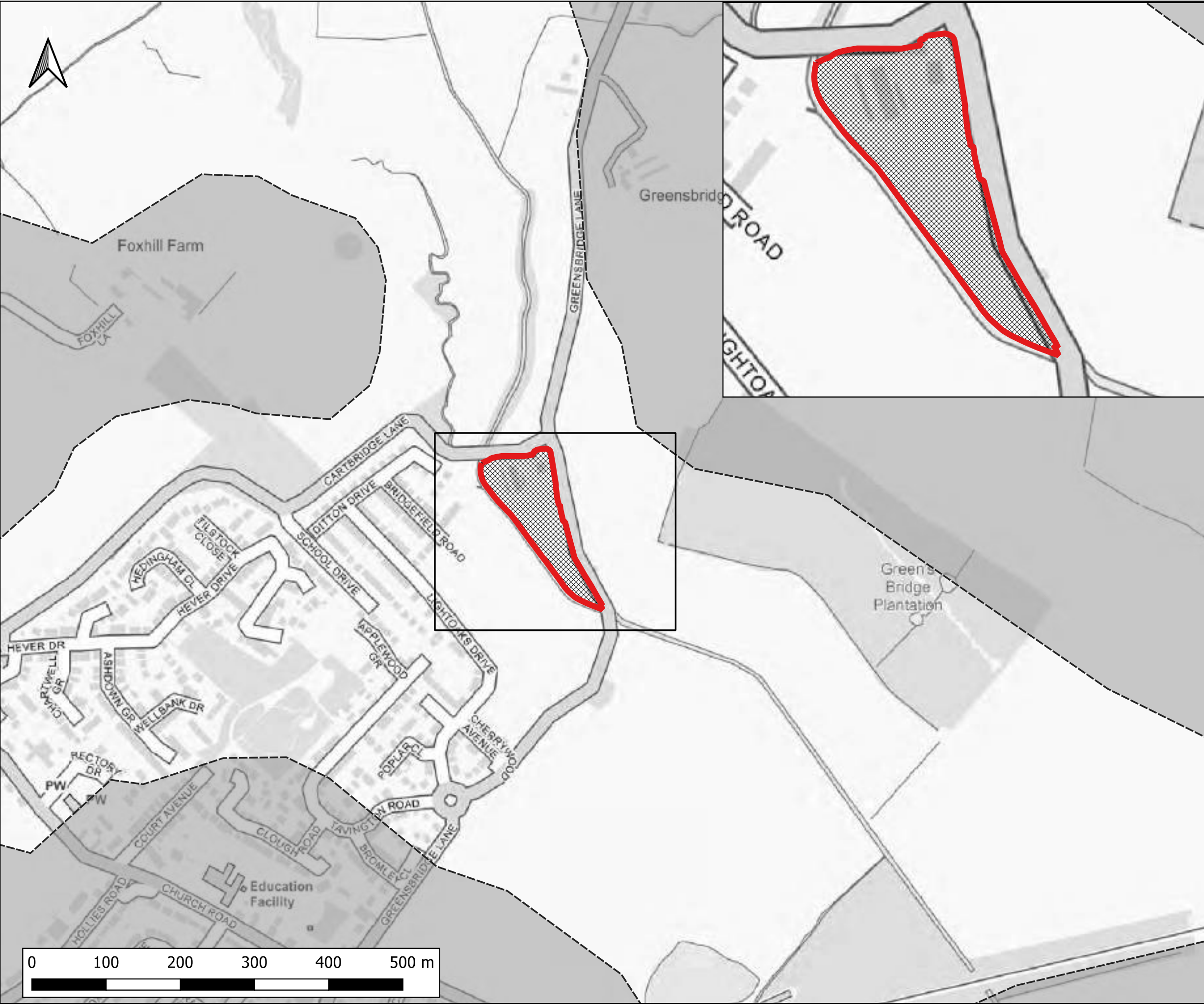
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PLOT NAME:

14506-
Neth_Q100CC44_EXG_NC_015_ZUK2_Max

REVISION:

-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

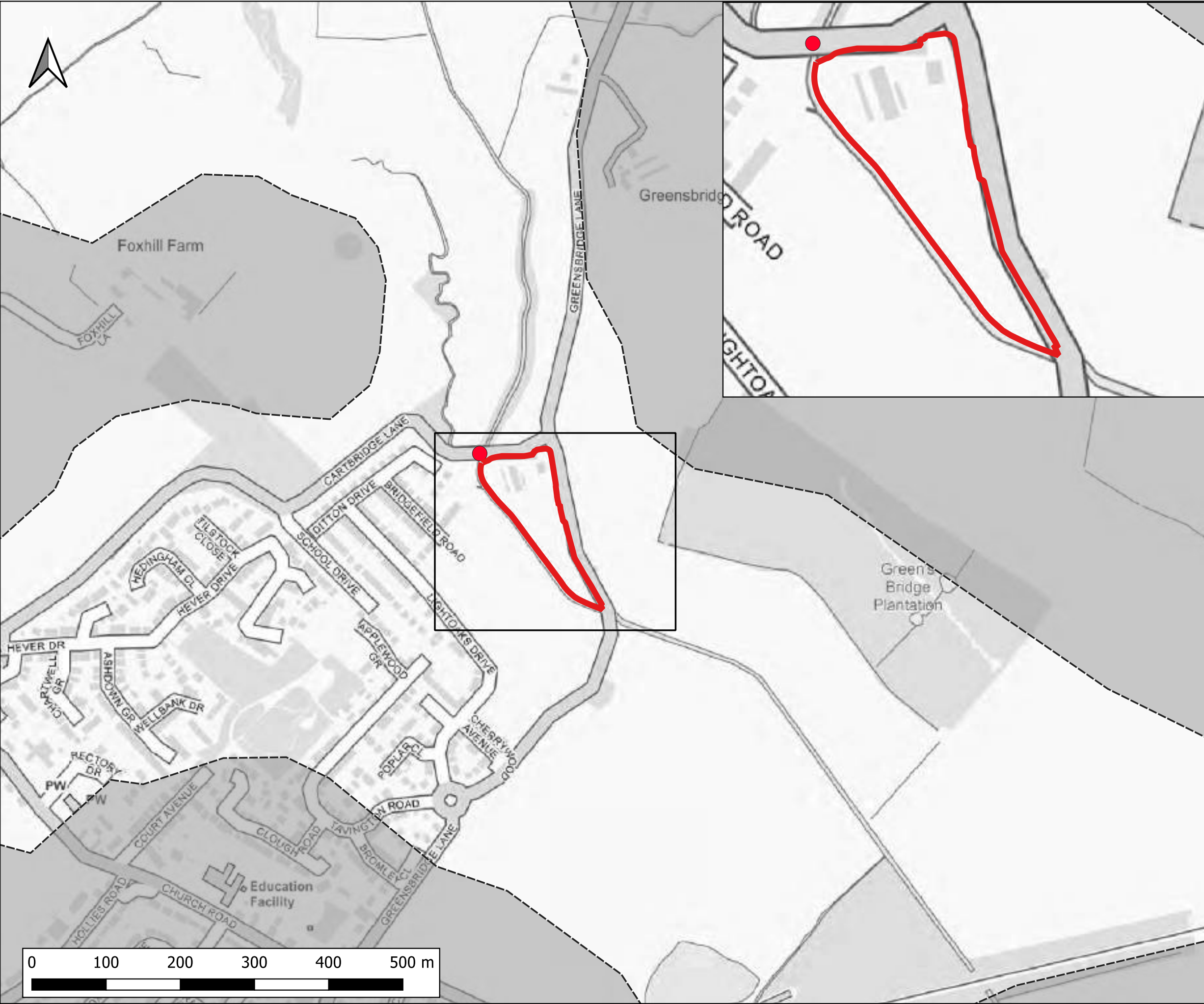
- Site Boundary
- 2D Model Extent
- Development Platform

Maximum Flood Hazard Rating (FD2320)

- Caution
- Danger for Some
- Danger for Most
- Danger for All



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Flood Hazard Rating 1% AEP + 44% CC Fluvial Event Proposed Development (DEV)			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506- Neth_Q100CC44_DEVSITE_NC_015_ZUK2_Max			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Blockage 1

Maximum Flood Hazard Rating (FD2320)

- Caution
- Danger for Some
- Danger for Most
- Danger for All

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

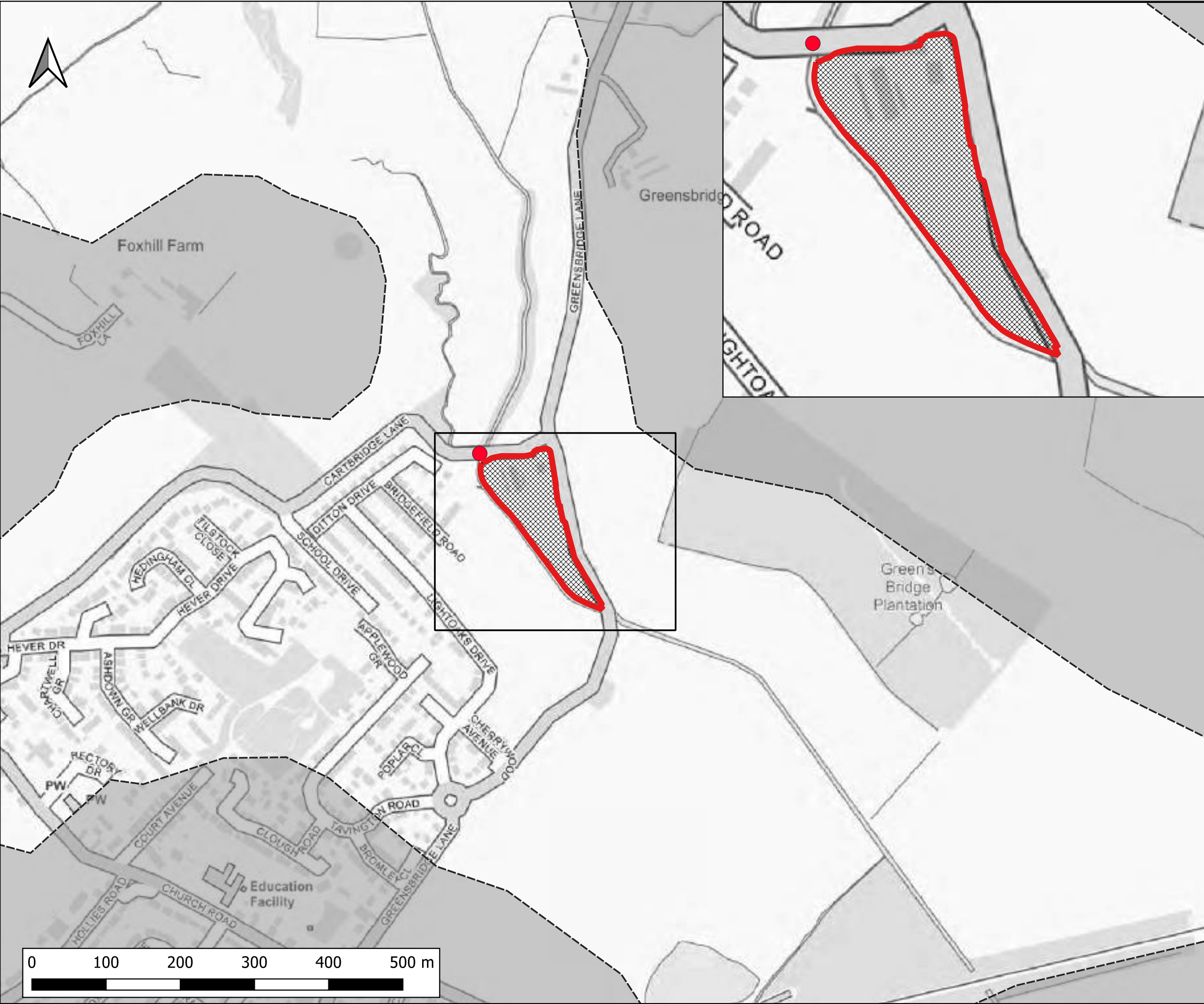
PLOT TITLE:

Maximum Flood Hazard Rating
1% AEP + 44% CC Fluvial Event
Existing Scenario (EXG) 33% Blockage of
Cartbridge Lane (BL1)

PLOT STATUS:		DATE:	
FINAL		16-11-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000

PLOT NAME:	REVISION:
14506- Neth_Q100CC44_EXG_BL1_015_ZUK2_Max	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

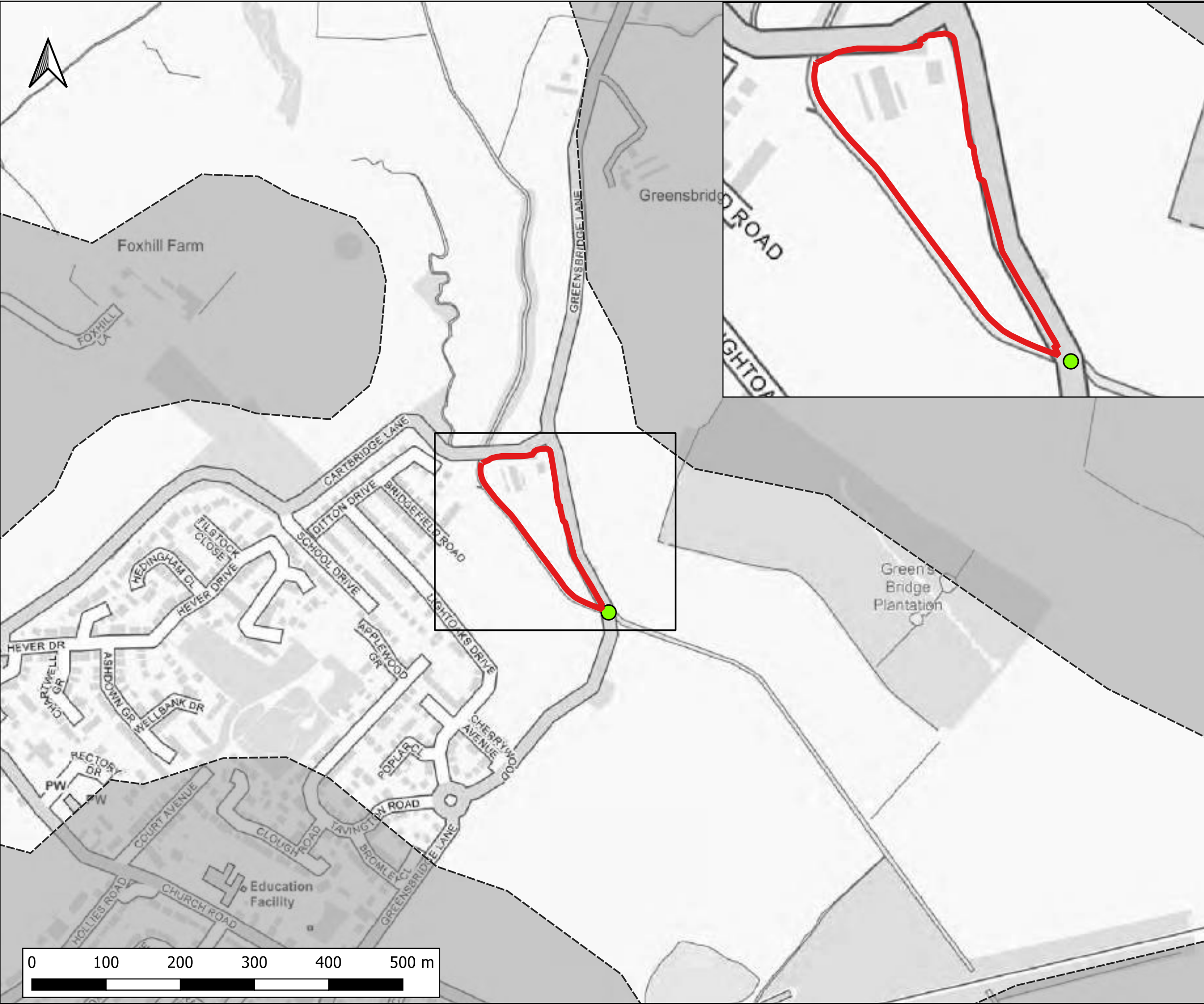
- Site Boundary
- 2D Model Extent
- Development Platform
- Blockage 1

Maximum Flood Hazard Rating (FD2320)

- Caution
- Danger for Some
- Danger for Most
- Danger for All



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Flood Hazard Rating 1% AEP + 44% CC Fluvial Event Proposed Development (DEV) 33% Blockage of Cartbridge Lane (BL1)			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506- Neth_Q100CC44_DEVSITE_BL1_015_ZUK2_Max			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

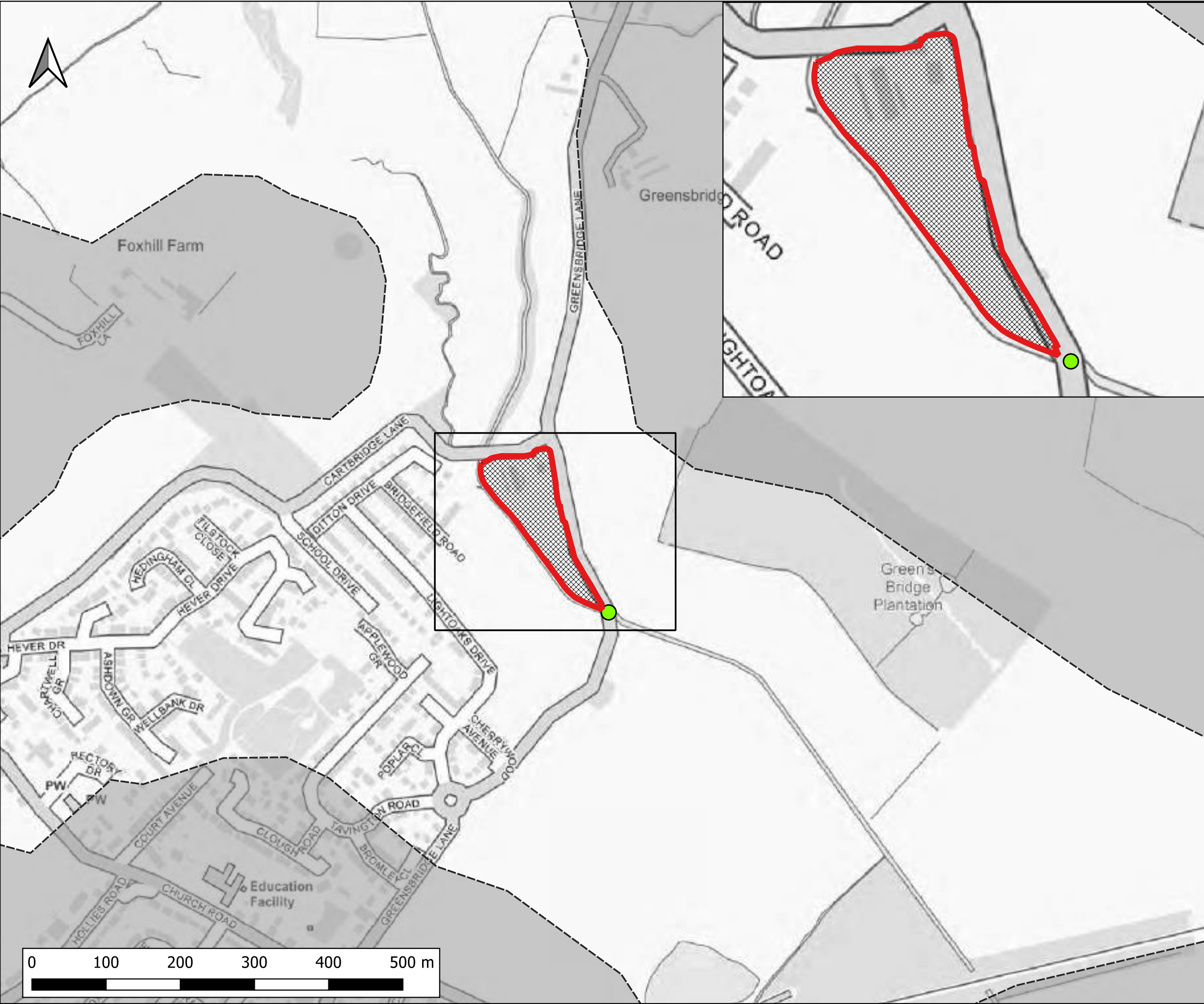
- Site Boundary
- 2D Model Extent
- Blockage 2

Maximum Flood Hazard Rating (FD2320)

- Caution
- Danger for Some
- Danger for Most
- Danger for All



CLIENT: BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME: Former Merseyside Dogs Home, East Halewood			
PLOT TITLE: Maximum Flood Hazard Rating 1% AEP + 44% CC Fluvial Event Existing Scenario (EXG) 33% Blockage of Greensbridge Lane (BL2)			
PLOT STATUS: FINAL			DATE: 16-11-2022
DRAWN: AQ	CHECKED: LW	APPROVED: AP	PLOT SCALE AT A3: 1:5000
PLOT NAME: 14506- Neth_Q100CC44_EXG_BL2_015_ZUK2_Max			REVISION: -



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

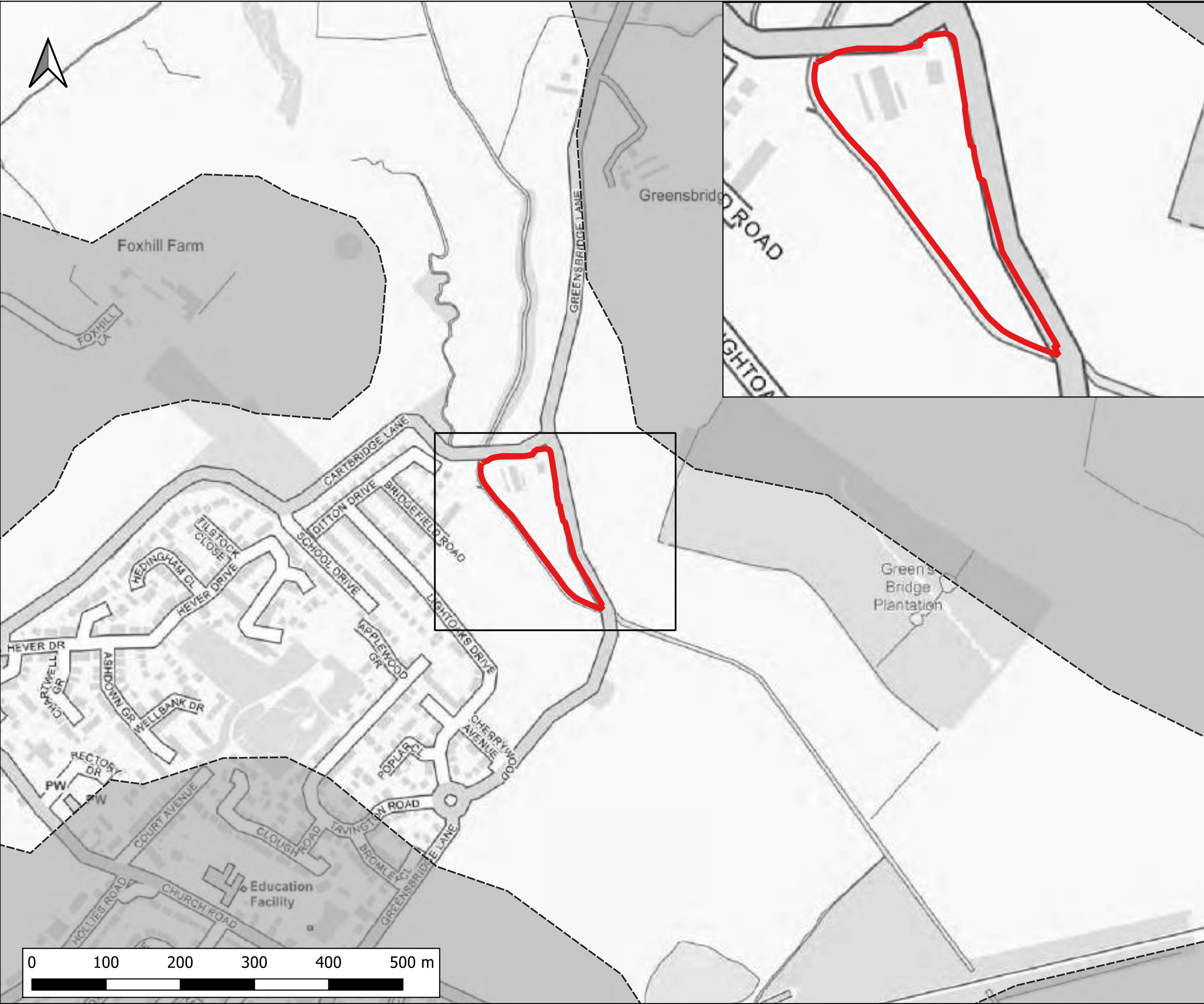
- Site Boundary
- 2D Model Extent
- Development Platform
- Blockage 2

Maximum Flood Hazard Rating (FD2320)

- Caution
- Danger for Some
- Danger for Most
- Danger for All



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Flood Hazard Rating 1% AEP + 44% CC Fluvial Event Proposed Development (DEV) 33% Blockage of Greensbridge Lane (BL2)			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506- Neth_Q100CC44_DEVSITE_BL2_015_ZUK2_Max			-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Maximum Flood Hazard Rating (FD2320)

Caution

Danger for Some

Danger for Most

Danger for All



CLIENT:

BBE Developments Ltd



www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Maximum Flood Hazard Rating
0.1% AEP Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:

FINAL

DATE:

16-11-2022

DRAWN:

AQ

CHECKED:

LW

APPROVED:

AP

PLOT SCALE AT A3:

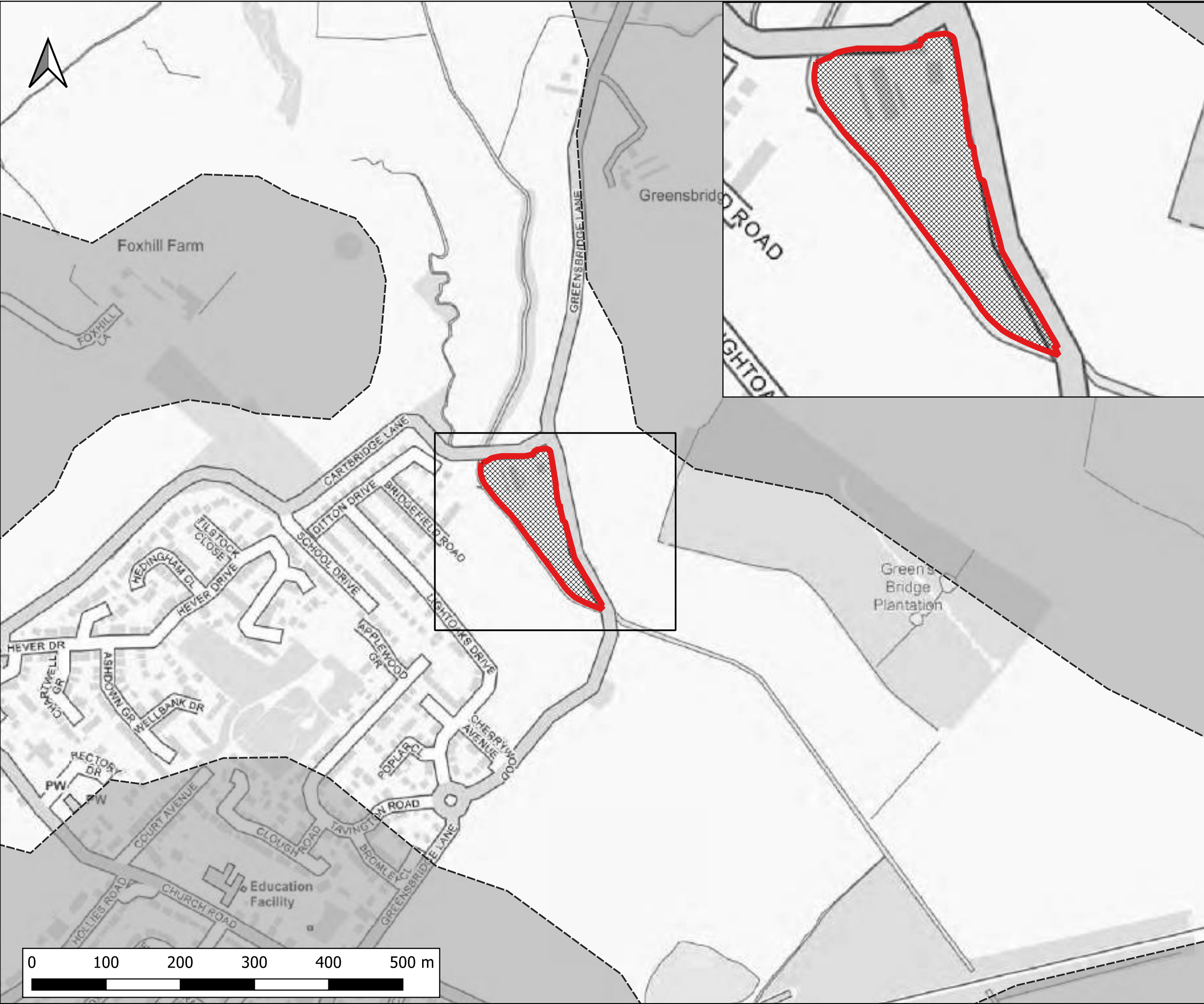
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PLOT NAME:

14506-Neth_Q1000_EXG_NC_015_ZUK2_Max

REVISION:

-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Development Platform

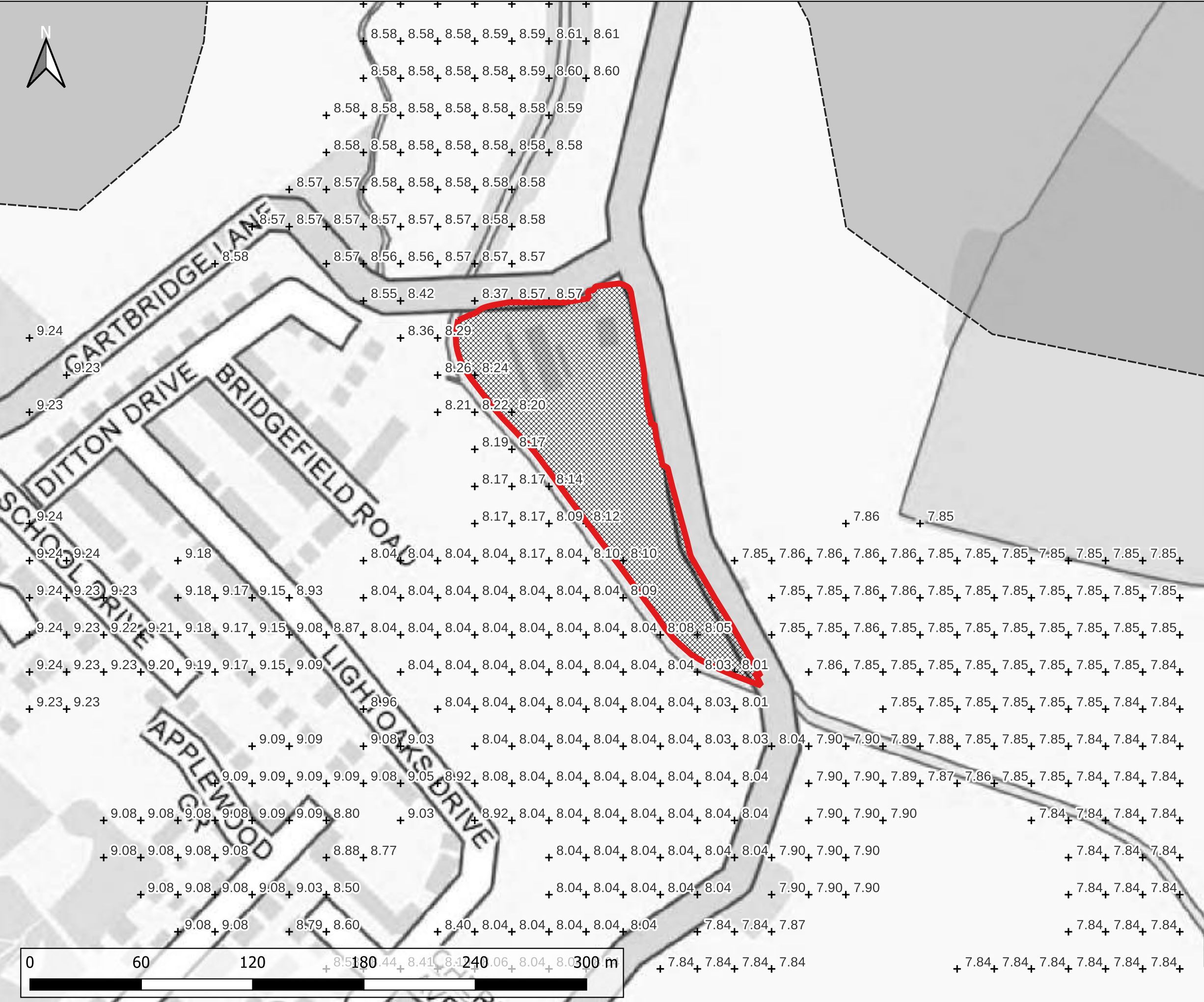
Maximum Flood Hazard Rating (FD2320)

- Caution
- Danger for Some
- Danger for Most
- Danger for All



CLIENT:			
BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home, East Halewood			
PLOT TITLE:			
Maximum Flood Hazard Rating 0.1% AEP Fluvial Event Proposed Development (DEV)			
PLOT STATUS:			DATE:
FINAL			16-11-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:5000
PLOT NAME:			REVISION:
14506- Neth_Q1000_DEVSITE_NC_015_ZUK2_Max			-





Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Development Platform
- Water Level (m AOD)

Maximum Flood Depth (m)

- <= 0.3m
- 0.3m - 0.6m
- 0.6m - 1.2m
- 1.2m - 2.4m
- > 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

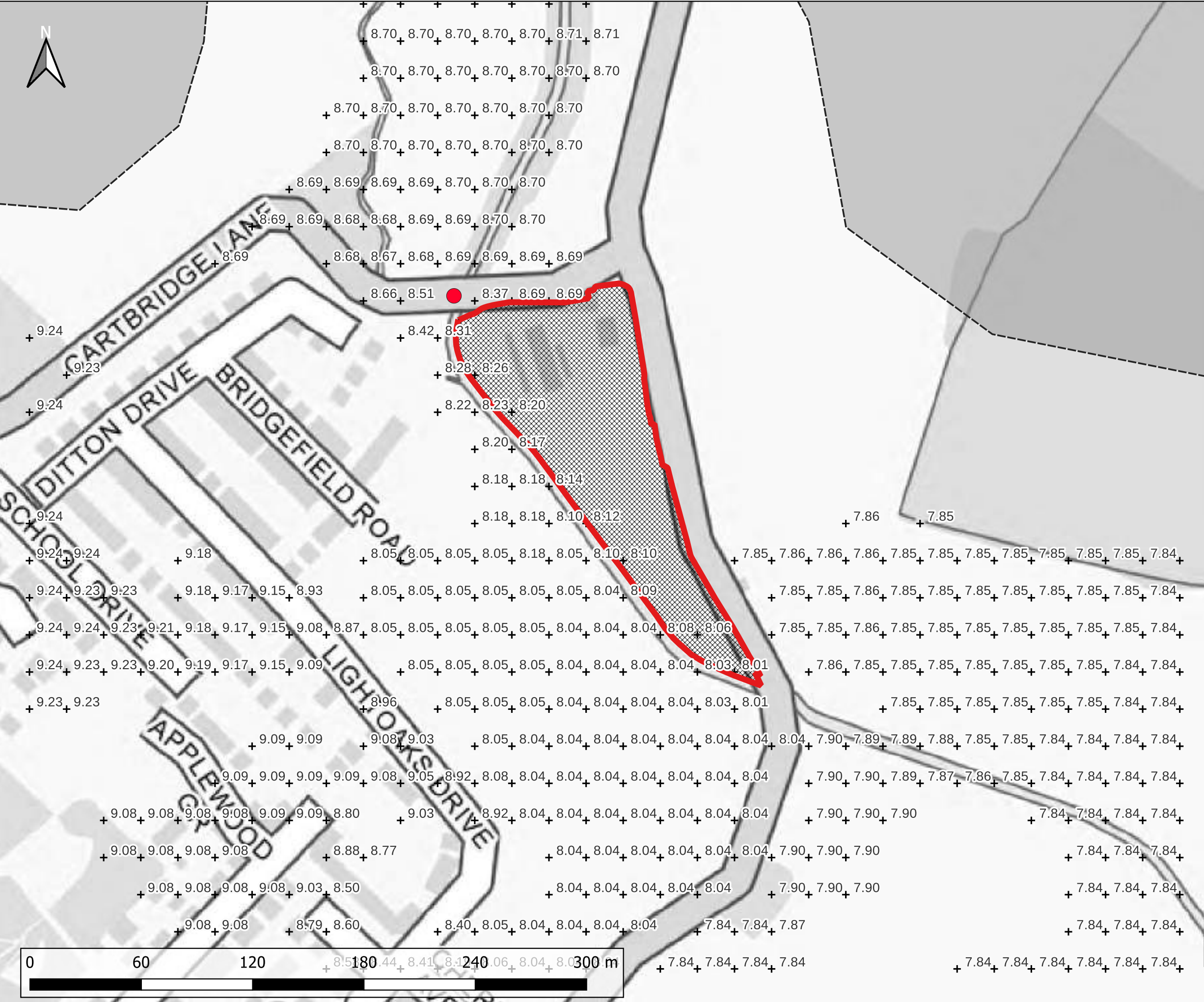
PLOT TITLE:

Maximum Water Level
1% AEP + 44% CC Fluvial Event
Proposed Development (DEV)

PLOT STATUS:		DATE:	
FINAL		16-11-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:2000

PLOT NAME:	14506-Neth_Q100CC44_DEVSITE_NC_015_h_Max_P	REVISION:
		-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- Blockage 1
- 2D Model Extent
- Development Platform
- Water Level (m AOD)

Maximum Flood Depth (m)

- <= 0.3m
- 0.3m - 0.6m
- 0.6m - 1.2m
- 1.2m - 2.4m
- > 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

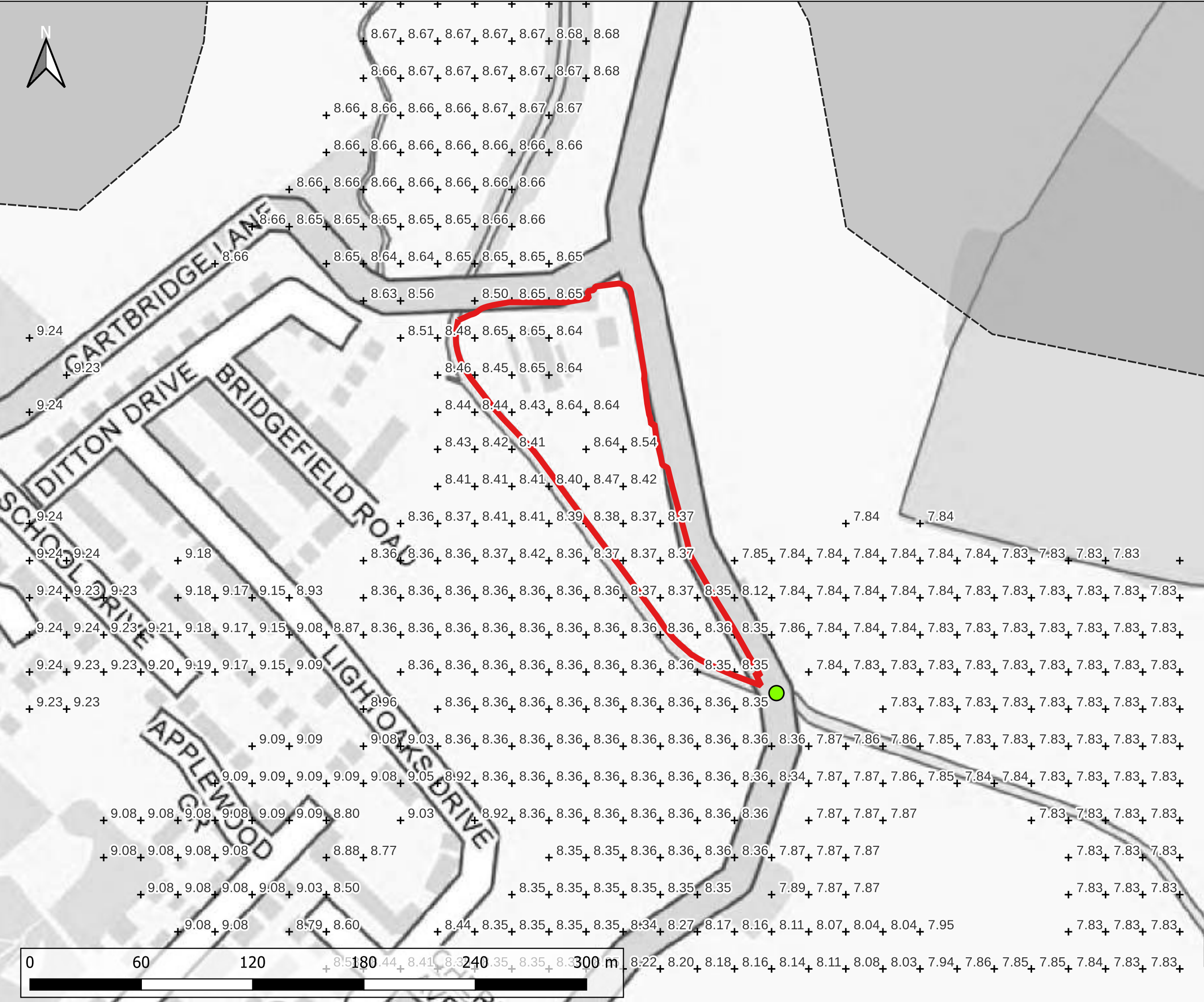
PLOT TITLE:

Maximum Water Level
1% AEP + 44% CC Fluvial Event
Proposed Development (DEV) 33% Blockage of
Cartbridge Lane (BL1)

PLOT STATUS:		FINAL		DATE:	16-11-2022
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DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:	
AQ	LW	AP	1:2000	

PLOT NAME:		14506-		REVISION:
Neth_Q100CC44_DEVSITE_BL1_015_h_Max_P				-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- Blockage 2
- 2D Model Extent
- Water Level (m AOD)

Maximum Flood Depth (m)

- <= 0.3m
- 0.3m - 0.6m
- 0.6m - 1.2m
- 1.2m - 2.4m
- > 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

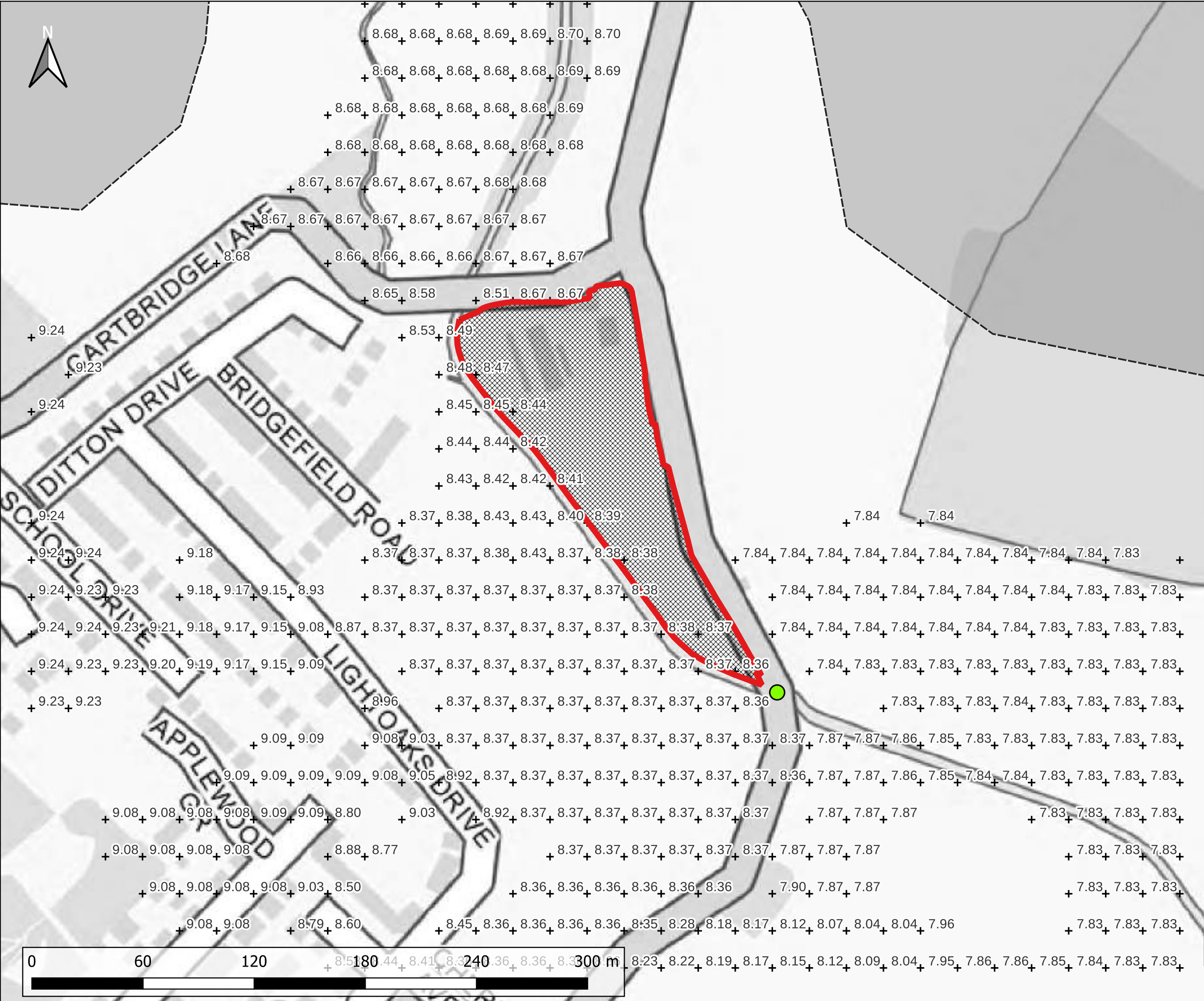
PLOT TITLE:

Maximum Water Level
1% AEP + 44% CC Fluvial Event
Existing Scenario (EXG) 33% Blockage of
Greensbridge Lane (BL2)

PLOT STATUS:		DATE:	
FINAL		16-11-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:2000

PLOT NAME:	14506- Neth_Q100CC44_EXG_BL2_015_h_Max_P	REVISION:
		-



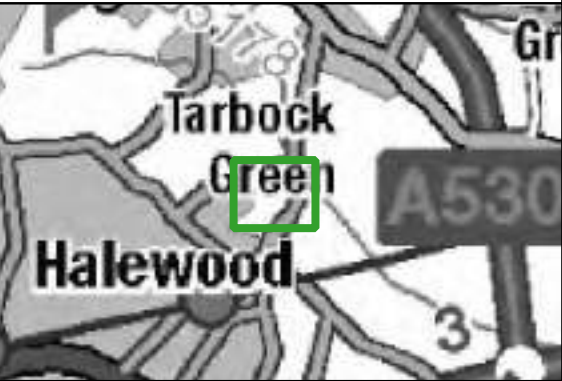
Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

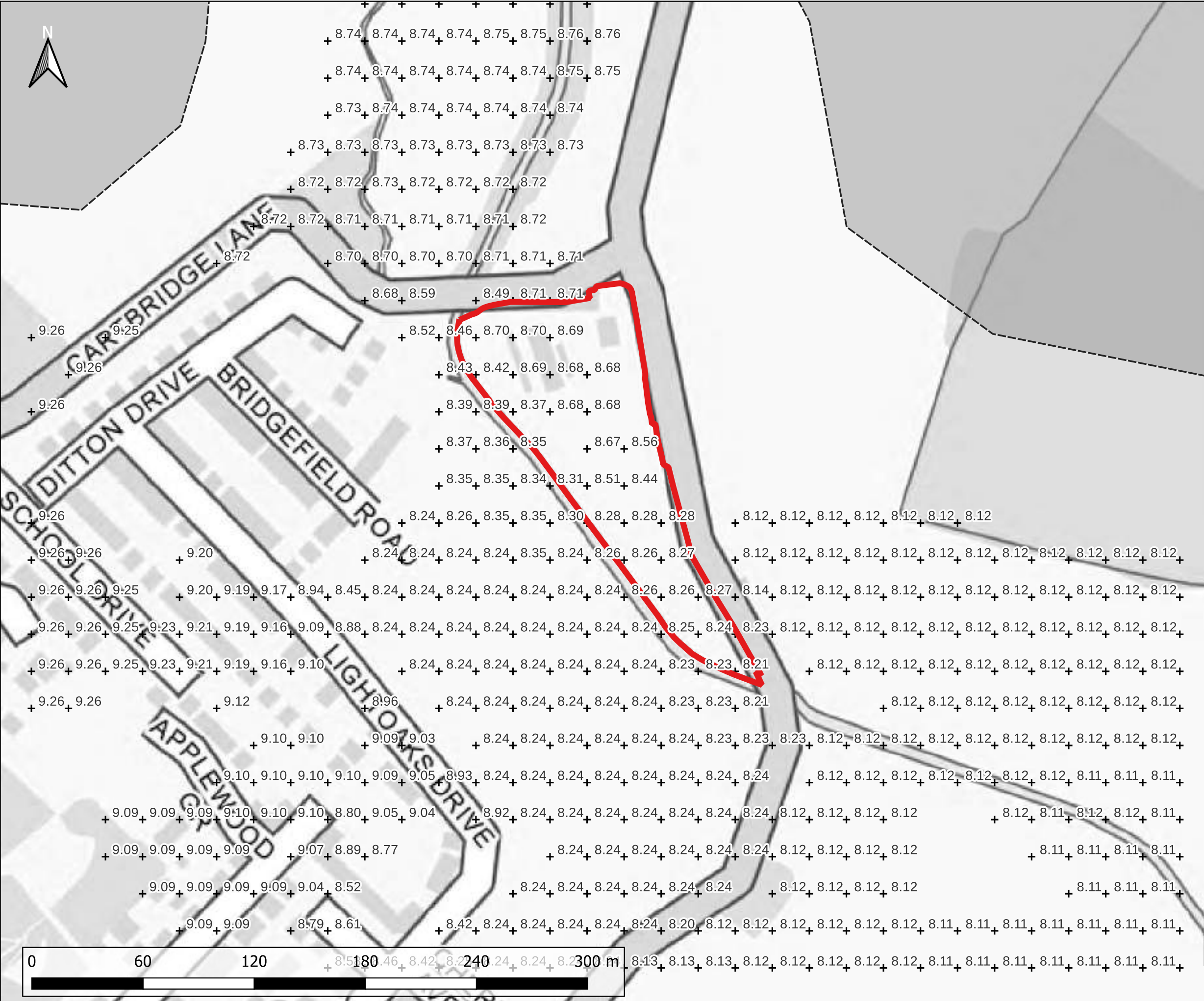
- Site Boundary
- Blockage 2
- 2D Model Extent
- Development Platform
- Water Level (m AOD)

Maximum Flood Depth (m)

- <= 0.3m
- 0.3m - 0.6m
- 0.6m - 1.2m
- 1.2m - 2.4m
- > 2.4m



CLIENT: BBE Developments Ltd			
 www.waterco.co.uk			
SCHEME: Former Merseyside Dogs Home, East Halewood			
PLOT TITLE: Maximum Water Level 1% AEP + 44% CC Fluvial Event Proposed Development (DEV) 33% Blockage of Greensbridge Lane (BL2)			
PLOT STATUS: FINAL			DATE: 16-11-2022
DRAWN: AQ	CHECKED: LW	APPROVED: AP	PLOT SCALE AT A3: 1:2000
PLOT NAME: 14506- Neth_Q100CC44_DEVSITE_BL2_015_h_Max_P			REVISION: -



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

2D Model Extent

Water Level (m AOD)

Maximum Flood Depth (m)

<= 0.3m

0.3m - 0.6m

0.6m - 1.2m

1.2m - 2.4m

> 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

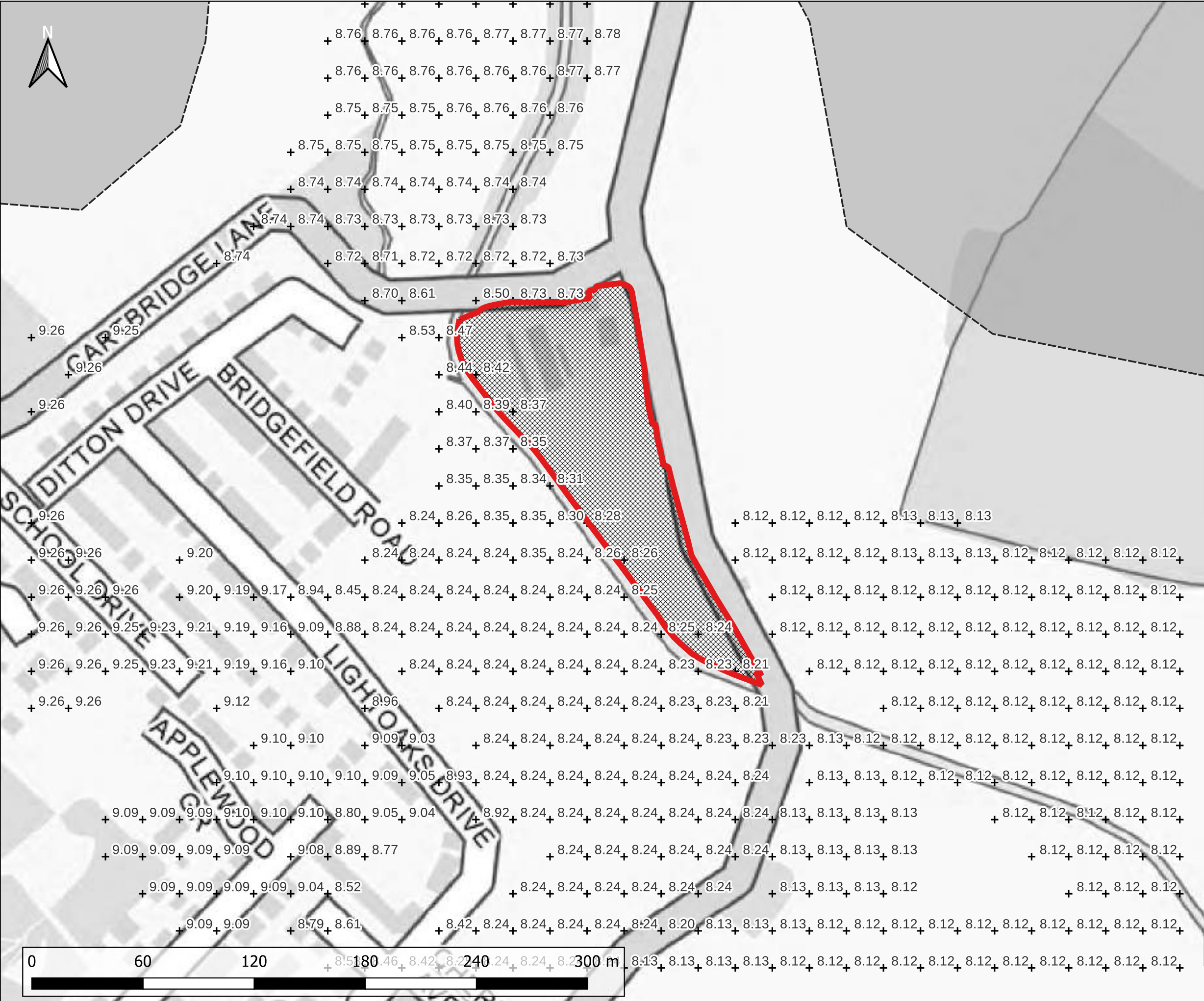
PLOT TITLE:

Maximum Water Level
0.1% AEP Fluvial Event
Existing Scenario (EXG)

PLOT STATUS:		DATE:	
FINAL		16-11-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:2000

PLOT NAME:	REVISION:
14506-Neth_Q1000_EXG_NC_015_h_Max_P	-



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

- Site Boundary
- 2D Model Extent
- Development Platform
- Water Level (m AOD)

Maximum Flood Depth (m)

- <= 0.3m
- 0.3m - 0.6m
- 0.6m - 1.2m
- 1.2m - 2.4m
- > 2.4m

CLIENT:

BBE Developments Ltd

www.waterco.co.uk

SCHEME:

Former Merseyside Dogs Home, East Halewood

PLOT TITLE:

Maximum Water Level
0.1% AEP Fluvial Event
Proposed Development (DEV)

PLOT STATUS:		DATE:	
FINAL		16-11-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AQ	LW	AP	1:2000

PLOT NAME:	14506-	REVISION:
Neth_Q1000_DEVSITE_NC_015_h_Max_P		-

Appendix G United Utilities Sewer Plan

Waterco

Waterco
Eden Court,,
Ruthin, Denbighshire
LL15 1NJ

FAO:

How to contact us:

United Utilities Water Limited
Property Searches
Haweswater House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone: 0370 7510101

E-mail: propertysearches@uuplc.co.uk

Your Ref: 14506-Former Merseyside Dogs Home
Our Ref: UUPS-ORD-465778
Date: 21/02/2023

Dear Sirs

Location: Former Merseyside Dogs Home Former Dogs Home Greensbridge Lane, Halewood, L35 1QH

I acknowledge with thanks your request dated 21/02/2023 for information on the location of our services.

Please find enclosed plans showing the approximate position of United Utilities' apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read United Utilities' access statement before you start work to check how it will affect our network. <http://www.unitedutilities.com/work-near-asset.aspx>.

I trust the above meets with your requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please [contact us](#).

Yours Faithfully,



Karen McCormack
Property Searches Manager

TERMS AND CONDITIONS - WASTEWATER AND WATER DISTRIBUTION PLANS

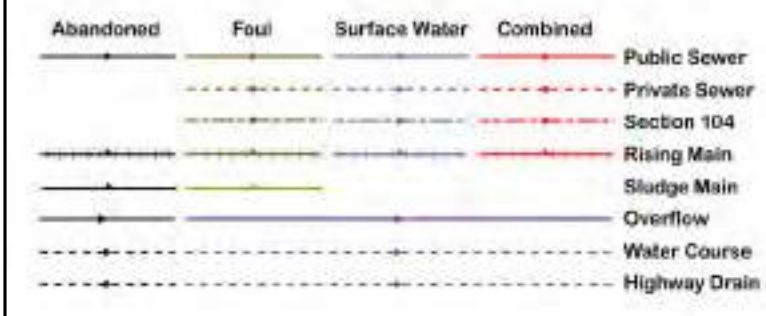
These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

- This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
- This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
- In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
- The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
- The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
- This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
- No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
- If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
- This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

[illegible]

LEGEND



All point assets follow the standard colour convention:

red - combined	blue - surface water
brown - foul	purple - overflow

- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Control Kiosk
- Change of Characteristic

MANHOLE FUNCTION

- | | |
|----|---------------|
| FO | Foul |
| SW | Surface Water |
| CO | Combined |
| OV | Overflow |

SEWER SHAPE

- | | | | |
|----|-------------|----|-------------|
| CI | Circular | TR | Trapezoidal |
| EG | Egg | AR | Arch |
| Ov | Oval | BA | Barrel |
| FT | Flat Top | HD | HorseShoe |
| RE | Rectangular | UN | Unspecified |
| SQ | Square | | |

SEWER MATERIAL

- | | |
|-----|---------------------------|
| AC | Asbestos Cement |
| BR | Brick |
| PE | Polyethylene |
| RP | Reinforced Plastic Matrix |
| CO | Concrete |
| CSB | Concrete Segment Bolted |
| CSU | Concrete Segment Unbolted |
| CC | Concrete Box Culverted |
| PSC | Plastic / Steel Composite |
| GRC | Glass Reinforced Plastic |
| DI | Ductile Iron |
| PVC | Polyvinyl Chloride |
| CI | Cast Iron |
| SI | Spun Iron |
| ST | Steel |
| VC | Vertified Clay |
| PP | Polypropylene |
| PF | Pitch Fibre |
| MAC | Masonry, Coursed |
| MAR | Masonry, Random |
| U | Unspecified |

Address or Site Reference:

Former Merseyside Dogs Home Former Dogs Home
Greensbridge Lane,
Halewood,
L35 1QH

OS sheet Number: SJ4586SE
Scale: 1:1250 Date: 21/02/2023
Nodes: 175
Sheet: 1 of 4

Printed by: Property Searches

**SEWER
RECORDS**

 **United
Utilities**
Water for the North West



The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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Abandoned

Foul

Surface Water

Combined

Public Sewer

Private Sewer

Section 104

Rising Main

Sludge Main

Overflow

Water Course

Highway Drain

All point assets follow the standard colour convention:

red - combined

blue - surface water

brown - foul

purple - overflow

Manhole

Head of Survey

Extent of System

Rodding Eye

Inlet

Discharge Point

Vortex

Penstock

Washout Chamber

Valve

Air Valve

Non Return Valve

Soakaway

Gully

Cascade

Flow Meter

Hatch Box

Oil Interceptor

Summit

Drop Shaft

Orifice Plate

Side Entry Manhole

Outfall

Screen Chamber

Inspection Chamber

Bifurcation Chamber

Lamp Hole

T Junction / Saddle

Catchpot

Valve Chamber

Vent Column

Valve Chamber

Penstock Chamber

Non Return Valve

Network Storage Tank

Sewer Overflow

Ww Treatment Works

Ww Pumping Station

Septic Tank

Control Kiosk

Change of Characteristic

MANHOLE FUNCTION

FO Foul

SW Surface Water

CO Combined

OY Overflow

SEWER SHAPE

CI Circular

TR Trapezoidal

EG Egg

AR Arch

OY Oval

BA Barrel

FT Flat Top

HD Horse Shoe

RE Rectangular

UN Unspecified

SQ Square

SEWER MATERIAL

AC Asbestos Cement

BR Brick

PE Polyethylene

RP Reinforced Plastic Matrix

CO Concrete

CSB Concrete Segment Bolted

CSU Concrete Segment Unbolted

CC Concrete Box Culverted

PSC Plastic / Steel Composite

GRC Glass Reinforced Plastic

DI Ductile Iron

PVC Polyvinyl Chloride

CI Cast Iron

SI Spun Iron

ST Steel

VC Vitreous Clay

PP Polypropylene

PF Pitch Fibre

MAC Masonry, Coursed

MAR Masonry, Random

U Unspecified

Address or Site Reference:

Former Merseyside Dogs Home

Former Dogs Home

Greensbridge Lane,

Halewood,

L35 1QH

OS sheet

Number:

Scale: 1:1250

Date: 21/02/2023

Nodes: 401

Sheet: 2 of 4

Printed by: Property Searches

SEWER RECORDS

United Utilities

Water for the North West

LEGEND

Abandoned
Foul
Surface Water
Combined

All point assets follow the standard colour convention:

red - combined brown - foul	blue - surface water purple - overflow
---	--

● Manhole ● Head of System ● Extent of Survey ● Rodding Eye ● Inlet ● Discharge Point ● Vortex ● Penstock ● Washout Chamber ● Valve ● Air Valve ● Non Return Valve ● Soakaway ● Gully ● Cascade ● Flow Meter ● Hatch Box ● Oil Interceptor ● Summit ● Drop Shaft ● Orifice Plate	● Side Entry Manhole ● Outfall ● Screen Chamber ● Inspection Chamber ● Bifurcation Chamber ● Lamp Hole ● T Junction / Saddle ● Catchpit ● Valve Chamber ● Vent Column ● Vortex Chamber ● Penstock Chamber ● Network Storage Tank ● Sewer Overflow ● Ww Treatment Works ● Ww Pumping Station ● Septic Tank ● Control Kiosk ● Change of Characteristic
---	---

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OY	Overflow

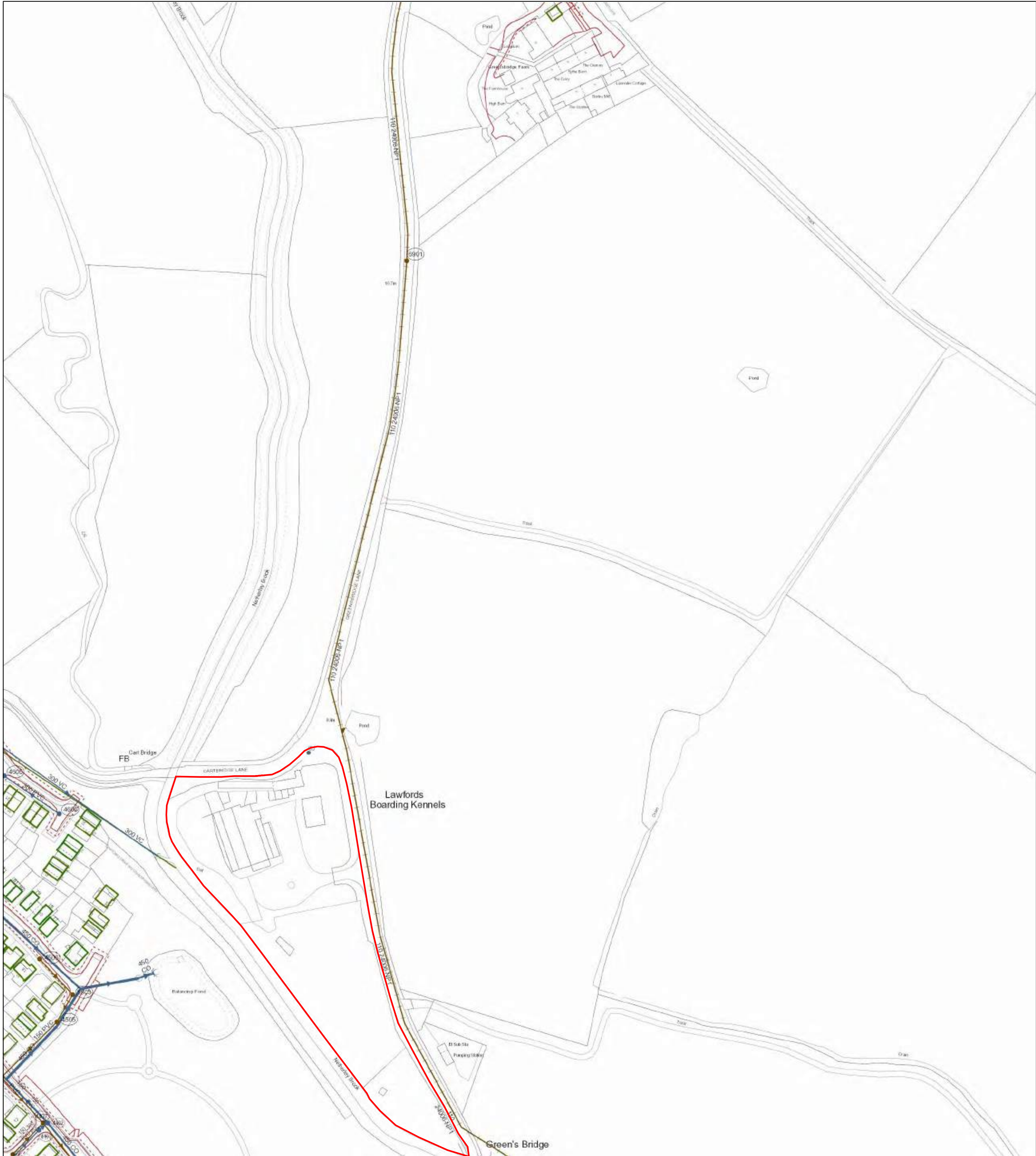
SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic / Steel Composite
GRG	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vertified Clay
PP	Polyspropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

OS sheet SJ4586SW
Number:
Scale: 1:1250 **Date:** 21/02/2023
Nodes: 97
Sheet: 2 of 4
Printed by: Property Searches

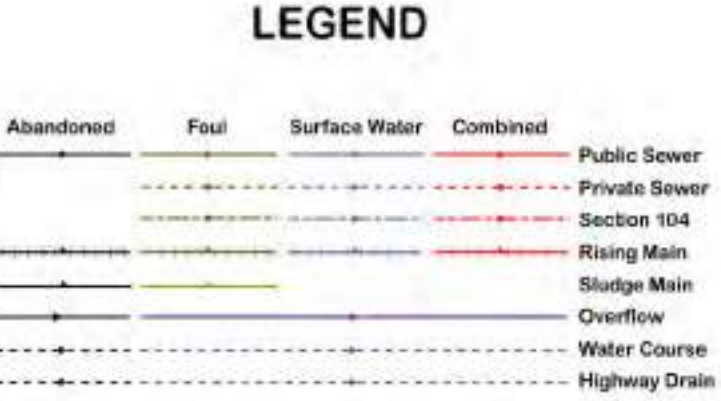


The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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Reho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
4406	8.76	FO	6.12	150			PVC	34.00388	1 in 136
4406	8.76	FO	6.12	150			PVC	34.00388	1 in 136
5503	8.62	FO	6.94	150			PVC	17.37533	1 in 145
5503	8.62	FO	6.94	150			PVC	17.37533	1 in 145
5503	8.62	FO	6.94	150			PVC	17.37533	1 in 145
5503	8.62	FO	6.94	150			PVC	17.37533	1 in 145
4505	8.63	FO	6.42	150			PVC	43.30878	1 in 144
4505	8.63	FO	6.42	150			PVC	43.30878	1 in 144
4505	8.63	FO	6.42	150			PVC	43.30878	1 in 144
4505	8.63	FO	6.42	150			PVC	43.30878	1 in 144
4407	8.85	FO	5.87	150			PVC	33.273	1 in 158
4407	8.85	FO	5.87	150			PVC	33.273	1 in 158
4407	8.85	FO	5.87	150			PVC	33.273	1 in 158
4407	8.85	FO	5.87	150			PVC	33.273	1 in 158
4605	9.09	SW	7.18	450			CO	39.37052	1 in 394
4605	9.09	SW	7.18	450			CO	39.37052	1 in 394
4403	8.88	SW	7.01	300			PVC	6.455664	1 in 34
4403	8.88	SW	7.01	300			PVC	6.455664	1 in 34
4403	8.88	SW	7.01	300			PVC	6.455664	1 in 34
4403	8.88	SW	7.01	300			PVC	6.455664	1 in 34
4506	8.5	FO	6.76	150			PVC	26.70188	1 in 121
4506	8.5	FO	6.76	150			PVC	26.70188	1 in 121
4506	8.5	FO	6.76	150			PVC	26.70188	1 in 121
4506	8.5	FO	6.76	150			PVC	26.70188	1 in 121
4402	8.86	SW	6.82	450			CO	33.26025	1 in 333
4402	8.86	SW	6.82	450			CO	33.26025	1 in 333
4402	8.86	SW	6.82	450			CO	33.26025	1 in 333
4402	8.86	SW	6.82	450			CO	33.26025	1 in 333
4503	8.96	SW	6.92	450			CO	77.87617	1 in 389
4503	8.96	SW	6.92	450			CO	77.87617	1 in 389
4404	8.95	SW	7.08	300			PVC	22.99566	1 in 316
4404	8.95	SW	7.08	300			PVC	22.99566	1 in 316
4501	8.78	SW	6.72	450			CO	64.82004	1 in 381
4501	8.78	SW	6.72	450			CO	64.82004	1 in 381
5401	8.78	SW	6.96	450			CO	53.41724	1 in 382
5401	8.78	SW	6.96	450			CO	53.41724	1 in 382
4606	9.12	SW	7.42	300			PVC	36.69215	1 in 408
4606	9.12	SW	7.42	300			PVC	36.69215	1 in 408
4406	8.93	FO	6.05	150			PVC	23.99664	1 in 133
4406	8.93	FO	6.05	150			PVC	23.99664	1 in 133
4406	8.93	FO	6.05	150			PVC	23.99664	1 in 133
4406	8.93	FO	6.05	150			PVC	23.99664	1 in 133

Reho	Cover	Func	Invert	Size x	Size y	Shape	Matl	Length	Grad
4406	8.76	FO	6.12	150			PVC	34.00388	1 in 136
4406	8.76	FO	6.12	150			PVC	34.00388	1 in 136
5503	8.62	FO	6.94	150			PVC	17.37533	1 in 145
5503	8.62	FO	6.94	150			PVC	17.37533	1 in 145
5503	8.62	FO	6.94	150			PVC	17.37533	1 in 145
5503	8.62	FO	6.94	150			PVC	17.37533	1 in 145
4505	8.63	FO	6.42	150			PVC	43.30878	1 in 144
4505	8.63	FO	6.42	150			PVC	43.30878	1 in 144
4505	8.63	FO	6.42	150			PVC	43.30878	1 in 144
4505	8.63	FO	6.42	150			PVC	43.30878	1 in 144
4407	8.85	FO	5.87	150			PVC	33.273	1 in 158
4407	8.85	FO	5.87	150			PVC	33.273	1 in 158
4407	8.85	FO	5.87	150			PVC	33.273	1 in 158
4407	8.85	FO	5.87	150			PVC	33.273	1 in 158
4605	9.09	SW	7.18	450			CO	39.37052	1 in 394
4605	9.09	SW	7.18	450			CO	39.37052	1 in 394
4403	8.88	SW	7.01	300			PVC	6.455664	1 in 34
4403	8.88	SW	7.01	300			PVC	6.455664	1 in 34
4403	8.88	SW	7.01	300			PVC	6.455664	1 in 34
4403	8.88	SW	7.01	300			PVC	6.455664	1 in 34
4506	8.5	FO	6.76	150			PVC	26.70188	1 in 121
4506	8.5	FO	6.76	150			PVC	26.70188	1 in 121
4506	8.5	FO	6.76	150			PVC	26.70188	1 in 121
4506	8.5	FO	6.76	150			PVC	26.70188	1 in 121
4402	8.86	SW	6.82	450			CO	33.26025	1 in 333
4402	8.86	SW	6.82	450			CO	33.26025	1 in 333
4402	8.86	SW	6.82	450			CO	33.26025	1 in 333
4402	8.86	SW	6.82	450			CO	33.26025	1 in 333
4503	8.96	SW	6.92	450			CO	77.87617	1 in 389
4503	8.96	SW	6.92	450			CO	77.87617	1 in 389
4404	8.95	SW	7.08	300			PVC	22.99566	1 in 316
4404	8.95	SW	7.08	300			PVC	22.99566	1 in 316
4501	8.78	SW	6.72	450			CO	64.82004	1 in 381
4501	8.78	SW	6.72	450			CO	64.82004	1 in 381
5401	8.78	SW	6.96	450			CO	53.41724	1 in 382
5401	8.78	SW	6.96	450			CO	53.41724	1 in 382
4606	9.12	SW	7.42	300			PVC	36.69215	1 in 408
4606	9.12	SW	7.42	300			PVC	36.69215	1 in 408
4406	8.93	FO	6.05	150			PVC	23.99664	1 in 133
4406	8.93	FO	6.05	150			PVC	23.99664	1 in 133
4406	8.93	FO	6.05	150			PVC	23.99664	1 in 133
4406	8.93	FO	6.05	150			PVC	23.99664	1 in 133



All point assets follow the standard colour convention:
red - combined
blue - surface water
brown - foul
purple - overflow

- Manhole
- Head of System
- Extent of Survey
- Rodding Eye
- Inlet
- Discharge Point
- Vortex
- Penstock
- Washout Chamber
- Valve
- Air Valve
- Non Return Valve
- Soakaway
- Gully
- Cascade
- Flow Meter
- Hatch Box
- Oil Interceptor
- Summit
- Drop Shaft
- Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- Inspection Chamber
- Bifurcation Chamber
- Lamp Hole
- T Junction / Saddle
- Catchpit
- Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- Network Storage Tank
- Sewer Overflow
- Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- Control Kiosk
- Change of Characteristic

MANHOLE FUNCTION
FO Foul
SW Surface Water
CO Combined
OV Overflow

SEWER SHAPE
CI Circular
EG Egg
OV Oval
FT Flat Top
RE Rectangular
SQ Square
TR Trapezoidal
AR Arch
BA Barrel
HD HorseShoe
UN Unspecified

SEWER MATERIAL
AG Asbestos Cement
BR Brick
PE Polyethylene
RP Reinforced Plastic Matrix
CO Concrete
CSB Concrete Segment Bolted
CSU Concrete Segment Unbolted
CC Concrete Box Culverted
PSC Plastic / Steel Composite
GRC Glass Reinforced Plastic
DI Ductile Iron
PVC Polyvinyl Chloride
CI Cast Iron
SI Spun Iron
ST Steel
VC Vitified Clay
PP Polypropylene
PF Pitch Fibre
MAC Masonry, Coursed
MAR Masonry, Random
U Unspecified

Address or Site Reference:

Former Merseyside Dogs Home Former Dogs Home
Greensbridge Lane,
Halewood,
L35 1QH

OS sheet Number: SJ4586NE
Scale: 1:1250 Date: 21/02/2023
Nodes: 41
Sheet: 3 of 4

Printed by: Property Searches



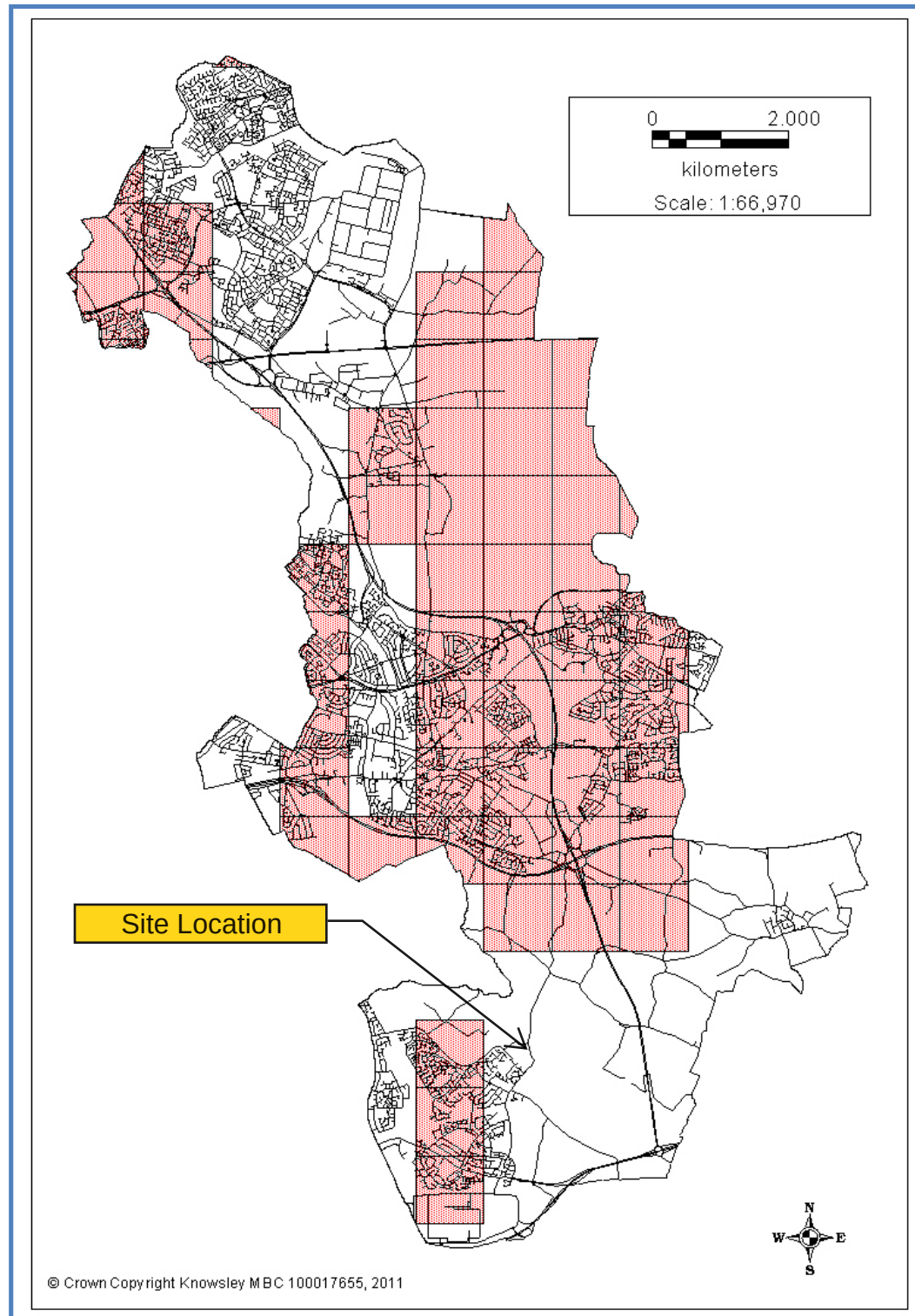
The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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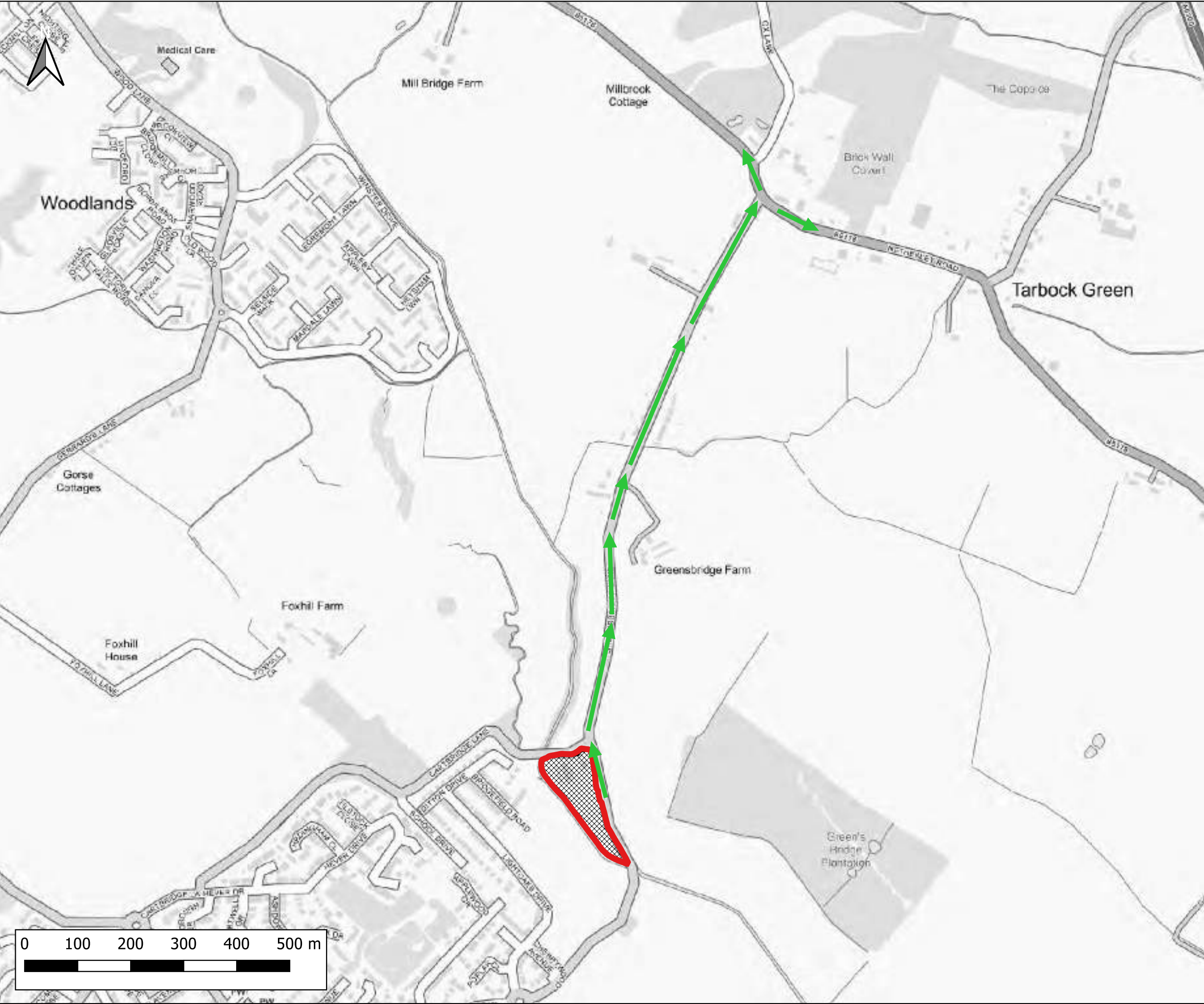
Reho	Cover	Func	Invert	Size x	Size y	Shape	Mat	Length	Grad
0414	SW	FO	100	13.81593	100	PVC	13.81593		
0414	SW	FO	100	13.81593	100	PVC	13.81593		
2502	8.81	FO	600	600	600	CO	78.70044	600	
2502	8.81	FO	600	600	600	CO	88.65111	600	
1512	9.85	SW	8.46	225	225	VC	13.05798	1 in 109	
1512	9.85	SW	8.46	225	225	VC	13.05798	1 in 109	
0403	11.3	SW	10.09	225	225	PVC	26.31986	1 in 132	
0403	11.3	SW	10.09	225	225	PVC	26.31986	1 in 132	
3501	9.34	SW	7.25	225	225	PVC	28.47356	1 in 82	
3501	9.34	SW	7.25	225	225	PVC	28.47356	1 in 82	
2511	9.04	SW	6.79	300	300	VC	16.2009	1 in 126	
3403	8.45	FO	6.99	150	150	PVC	13.90009	1 in 126	
3403	8.45	FO	6.99	150	150	PVC	13.90009	1 in 126	
4407	8.85	FO	5.87	150	150	PVC	33.273	1 in 158	
4407	8.85	FO	5.87	150	150	PVC	33.273	1 in 158	
4407	8.85	FO	5.87	150	150	PVC	33.273	1 in 158	
4407	8.85	FO	5.87	150	150	PVC	33.273	1 in 158	
4504	9.05	FO	6.58	150	150	PVC	40.75566	1 in 153	
4504	9.05	FO	6.58	150	150	PVC	40.75566	1 in 153	
1401	9.7	SW	7.79	450	450	CO	42.59443	1 in 304	
1407	9.71	SW	7.4	450	450	CO	14.09338	1 in 56	
1407	9.71	SW	7.4	450	450	CO	14.09338	1 in 56	
4505	8.63	FO	6.42	150	150	PVC	43.30878	1 in 144	
4505	8.63	FO	6.42	150	150	PVC	43.30878	1 in 144	
4505	8.63	FO	6.42	150	150	PVC	43.30878	1 in 144	
4505	8.63	FO	6.42	150	150	PVC	43.30878	1 in 144	
2413	8.9	SW	6.18	600	600	CO	46.01915	1 in 480	
2413	8.9	SW	6.18	600	600	CO	46.01915	1 in 480	
2409	9.76	FO	6.47	300	300	VC	33.67855	1 in 421	
4401	9.33	FO	7.8	150	150	PVC	23.82613	1 in 149	
0412	FO	FO	100	100	100	PVC	6.358388	100	
0412	FO	FO	100	100	100	PVC	6.358388	100	
3401	FO	FO	0	600	600	CO	120.4137	1 in 137	
3401	FO	FO	0	600	600	CO	120.4137	1 in 137	
3504	9.3	FO	7.02	150	150	VC	21.9181	1 in 137	
2411	8.51	FO	6.52	150	150	VC	20.62039	1 in 53	
2411	8.51	FO	6.52	150	150	VC	20.62039	1 in 53	
2504	8.76	SW	5.85	1800	1800	CO	194.118	1 in 9708	
2504	8.76	SW	5.85	1800	1800	CO	194.118	1 in 9708	
2509	8.37	FO	6.38	150	150	VC	40.82446	1 in 215	
2509	8.37	FO	6.38	150	150	VC	40.82446	1 in 215	
1410	9.7	FO	7.09	225	225	VC	17.16218	1 in 75	
1410	9.7	FO	7.09	225	225	VC	17.16218	1 in 75	
4608	9.16	FO	7.44	150	150	PVC	62.02014	1 in 148	
4601	8.44	SW	6.34	1000	1000	CO	5.894893	1 in 61	
0408	10.18	SW	8.85	225	225	VC	23.95979	1 in 61	
0408	10.18	SW	8.85	225	225	VC	23.95979	1 in 61	
2402	9.74	FO	6.8	300	300	VC	36.93039	1 in 264	
2402	9.74	FO	6.8	300	300	VC	36.93039	1 in 264	
2516	9.05	SW	7.04	600	600	VC	56.11401	1 in 73	
2516	9.05	SW	7.04	600	600	VC	56.11401	1 in 73	
2512	8.75	SW	5.81	600	600	CO	5.065143	1 in 72	
2512	8.75	SW	5.81	600	600	CO	5.065143	1 in 72	
3404	8.83	FO	6.88	150	150	VC	12.19171	1 in 55	
3404	8.83	FO	6.88	150	150	VC	12.19171	1 in 55	
2407	9.73	SW	6.33	600	600	CO	53.07987	1 in 442	
2405	8.48	SW	6.93	225	225	VC	24.77801	1 in 29	
2405	8.48	SW	6.93	225	225	VC	24.77801	1 in 29	
1403	9.7	SW	7.64	450	450	CO	26.24912	1 in 109	
1403	9.7	SW	7.64	450	450	CO	26.24912	1 in 109	
1509	8.94	SW	7.25	300	300	VC	4.847567	1 in 61	
1509	8.94	SW	7.25	300	300	VC	4.847567	1 in 61	
2514	SW	SW	600	600	600	CO	3.437634	600	
2510	8.81	FO	6.88	300	300	VC	36.8909	1 in 168	
2510	8.81	FO	6.88	300	300	VC	36.8909	1 in 168	
1507	9.88	FO	6.05	225	225	VC	16.05553	1 in 85	
1507	9.88	FO	6.05	225	225	VC	16.05553	1 in 85	
1506	9.73	SW	6.34	375	375	CO	25.59224	1 in 151	
1506	9.73	SW	6.34	375	375	CO	25.59224	1 in 151	
2507	8.9	SW	6.87	300	300	VC	29.10112	1 in 364	
2506	8.55	SW	6.87	300	300	VC	29.10112	1 in 364	
2506	8.55	SW	6.87	300	300	VC	29.10112	1 in 364	
2408	9.15	SW	6.21	600	600	CO	12.62401	1 in 421	
2408	9.15	SW	6.21	600	600	CO	12.62401	1 in 421	
3405	8.38	FO	6.86	150	150	PVC	12.07574	1 in 86	
3405	8.38	FO	6.86	150	150	PVC	12.07574	1 in 86	
5503	8.62	FO	6.54	150	150	PVC	17.37533	1 in 145	
5503	8.62	FO	6.54	150	150	PVC	17.37533	1 in 145	
5503	8.62	FO	6.54	150	150	PVC	17.37533	1 in 145	
2801	10.35	SW	6.83	1000	1000	CO	159.1623	1 in 1768	
3502	9.4	SW	7.28	300	300	PVC	38.45967	1 in 110	
3502	9.4	SW	7.28	300	300	PVC	38.45967	1 in 110	
1510	8.96	SW	7.17	300	300	VC	24.83472	1 in 83	
1510	8.96	SW	7.17	300	300	VC	24.83472	1 in 83	
1801	10.62	SW	6.77	1000	1000	CO	155.1533	1 in 1193	
2801	SW	SW	0	1600	1600	CO	41.95046	1 in 363	
1409	9.45	FO	7.31	225	225	VC	20.5927	1 in 84	
1409	9.45	FO	7.31	225	225	VC	20.5927	1 in 84	
4405	8.97	FO	6.28	150	150	PVC	23.82893	1 in 148	
4405	8.97	FO	6.28	150	150	PVC	23.82893	1 in 148	
1505	FO	FO	0	525	525	CO	41.83357	1 in 301	
1411	9.74	FO	7.01	300	300	VC	45.14947	1 in 301	
3503	8.9	SW	6.95	450	450	CO	32.66185	1 in 363	
2508	8.42	SW	600	600	600	CO	32.64004	600	
2508	8.42	SW	600	600	600	CO	32.64004	600	
0501	FO	FO	0	300	300	VC	92.93652	1 in 86	
2518	9.01	FO	6.61	300	300	VC	46.3372	1 in 86	
2518	9.01	FO	6.61	300	300	VC	46.3372	1 in 86	
4003	9.15	SW	6.86	450	450	VC	53.5374	1 in 207	
1508	9.74	FO	7.86	225	225	VC	27.94856	1 in 93	
1508	9.74	FO	7.86	225	225	VC	27.94856	1 in 93	
1502	9.65	SW	0	1500	1500	CO	31.09114	1 in 126	
2403	9.67	SW	7.82	225	225	VC	22.55451	1 in 126	
2403	9.67	SW	7.82	225	225	VC	22.55451	1 in 126	
4406	8.76	FO	6.12	150	150	PVC	34.00388	1 in 136	
4406	8.76	FO	6.12	150	150	PVC	34.00388	1 in 136	
1501	9.71	FO	6.34	525	525	CO	27.66352	1 in 102	
3505	9.08	FO	6.86	150	150	UN	43.4053	1 in 155	
3505	9.08	FO	6.86	150	150	UN	43.4053	1 in 155	
0701	FO	FO	0	300	300	VC	69.31045	1 in 155	
0401	VC	VC	150	150	150	PVC	8.524455	150	
0401	VC	VC	150	150	150	PVC	8.524455	150	
4506	8.5	FO	6.76	150	150	PVC	26.70188	1 in 121	
4506	8.5	FO	6.76	150	150	PVC	26.70188	1 in 121	
4506	8.5	FO	6.76	150	150	PVC	26.70188	1 in 121	
4506	8.5	FO	6.76	150	150	PVC	26.70188	1 in 121	
0410	FO	FO	100	100	100	PVC	5.872449	100	
0410	FO	FO	100	100	100	PVC	5.872449	100	
1504	FO	FO	0	525	525	CO	52.16752	1 in 381	
1504	FO	FO	0	525	525	CO	52.16752	1 in 381	
4501	8.78	SW	6.72	450	450	CO	64.82064	1 in 97	
2401	9.71	SW	7.53	600	600	CO	47.42729	1 in 97	
2401	9.71	SW	7.53	600	600	CO	47.42729	1 in 97	
4605	9.09	SW	7.18	450	450	CO	39.70502	1 in 394	
4605	9.09	SW	7.18	450	450	CO	39.70502	1 in 394	
2505	9.08	SW	7.41	300	300	VC	50.26246	1 in 314	
2505	9.08	SW	7.41	300	300	VC	50.26246	1 in 314	
0503	10.22	FO	0	525	525	CO	56.6163	1 in 84	
0503	10.22	FO	0	525	525	CO	56.6163	1 in 84	
1408	9.53	FO	7.56	225	225	VC	20.93041	1 in 84	
1408	9.53	FO	7.56	225	225	VC	20.93041	1 in 84	
3402	SW	SW	7.11	225	225	CO	17.42721	1 in 97	
1601	SW	SW	0	1600	1600	CO	44.60922	1 in 97	
1503	SW	SW	0	1500	1500	CO	36.96148	1 in 310	
2412	9.26	FO	6.66	300	300	VC	15.49569	1 in 310	
2412	9.26	FO	6.66	300	300	VC	15.49569	1 in 310	
4004	9.21	SW	7.08	450	450	CO			

Appendix H PFRA ‘Areas Susceptible to Groundwater Flooding’ Map

Figure 5-1 – Areas Susceptible to Ground Water Flooding



Appendix I Safe Access / Egress Plan



Notes:
1) All dimensions are in metres and all levels in metres above Ordnance Datum unless stated otherwise

LEGEND

Site Boundary

Maximum flood depth (m)

	<= 0.3m
	0.3m - 0.6m
	0.6m - 1.2m
	1.2m - 2.4m
	> 2.4m

CLIENT:			
BBE Developments Ltd			
www.waterco.co.uk			
SCHEME:			
Former Merseyside Dogs Home			
PLOT TITLE:			
Safe Access / Egress Route 0.1% AEP Event			
PLOT STATUS:			DATE:
FINAL			06-02-2023
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
AM	AW	MW	1:7000
PLOT NAME:			REVISION:
14506_Safe_Access_Egress			-