Appendix C: Flood Risk Kirkhilland Moorland

Turley

Our ref: RCEF74462-001 LR Land off Kirkhill Avenue and Moorland Rise

8 Exchange Quay
Salford, Greater Manchester
M5 3EJ
T +44 161 786 8550

Date: 22 August 2019

Land off Kirkhill Avenue and Moorland Rise, Rossendale – Development Framework Area

Preliminary note on flood risk and surface water drainage

Background

RPS Consulting Services Ltd has been commissioned to update a previous technical note (RCEF26527-004 LR Draft Kirkhill and Moorland) to reflect current national planning policy, guidance and best practice in relation to flood risk and drainage at Land off Kirkhill Avenue and Moorland Rise, Rossendale.

Site Setting

National Grid Reference (NGR) – Kirkhill – 379295, 423351 – Moorland – 379491, 423002

Site area = approximately 7.7 hectares (Kirkhill 2.7 hectares and Moorland 5.0 hectares).

Hydrological Setting

The Environment Agency's online Flood Map for Planning (see Figure 1) indicates the site is wholly within Flood Zone 1 and therefore considered to be at a low risk of fluvial flooding. A small watercourse passes through the Kirkhill site in a north to south direction and passes into a culvert beneath Kirkhill Avenue.

Topography

A Topographic Survey was undertaken at the Kirkhill and Mooreland Rise sites by PM Surveys UK on 3rd November 2016. The Topographic Survey (included as Appendix A) indicates levels within the Kirkhill sites are shown to generally slope in a south easterly direction from a level of approximately 285 m AOD, located in the northwest of the site, to levels of approximately 275 m AOD located in the south east. The site is fairly narrow with a gradient of approximately 1 in 5. The area of Kirkhill Road located immediately north of the site lies at a level of approximately 290 m AOD.

The Moorland Rise site is very similar to Kirkhill at the northern end, with the highest point being around 285 m AOD to 275 m AOD with a gradient of 1 in 8. The southern end of the Moorland Rise site slopes from the east to the west, towards Moorland Rise. This highest point is approximately 285 m AOD and the lowest point is approximately 260 m AOD with a gradient of approximately 1 in 9.

Based on the slope across the existing sites it is likely that surface water would flow to the southwest towards Kirkhill Avenue and Moorland Rise respectively. Some of the water from Kirkhill site may pass into the smaller watercourse flowing through the site. It is, however, considered likely that the majority of surface water flows will continue down the hill and onto the roads entering the existing drainage system. Where drainage capacity is exceeded water is likely to surcharge the road and potentially cause flooding of properties on the southern side of the road.

Geology

Reference to British Geological Survey online mapping (1:50,000 scale) indicates the majority of the Kirkhill site and the northern area of the Moorland Rise site are underlain by superficial deposits of Diamicton (Glacial Till). The remainder of the Moorland Rise site appears to have no superficial geology.

Superficial geology along the southern boundary of the Kirkhill site (adjacent to Kirkhill Avenue) is shown to be underlain by bedrock deposits from the Marsden Formation which is described as a sedimentary mudstone and siltstone. The central area of the Kirkhill site is shown to be underlain by bedrock deposits of Holcombe Brook Grit which is described as a sedimentary sandstone. The northern area of the site (adjacent to Kirk Hill Road) is shown to be underlain by the Rossendale Formation which is described as sedimentary mudstone and siltstone.

Existing Sewers

United Utilities Asset Location Plans (included as Appendix B) indicate there are no public sewers within the boundary of the site. The Asset Location Plans indicate a number of surface water sewers located in Kirkhill Avenue:

- One 150 mm diameter surface water sewer is located at the western end of Kirkhill Avenue. This sewer is shown to flow to the south before turning east at Cedar Avenue. The sewer then immediately turns south beneath Rosewood Avenue where the diameter of the sewer increases to 225 mm. This sewer continues to trend in a southerly direction before discharging into a surface water sewer located beneath Hillside Road;

- A 150 mm diameter surface water sewer is shown to extend between properties No. 32 and No.40 Kirkhill Avenue. This sewer is shown to discharge into a 225 mm diameter surface water opposite No. 36 Kirkhill Avenue which trends in a southerly direction before discharging into a 750 mm diameter surface water sewer. This sewer flows in a westerly direction before discharging into the aforementioned surface water extending from the western end of Kirkhill Avenue;

- A 225 mm diameter surface water sewer is shown to extend between No.5 and No. 24 Kirkhill Avenue and appears to discharge into the culvert from the small watercourse passing beneath Kirkhill Avenue. The surface water network is shown to discharge into a short section of open channel to the east of the covered reservoir. This open channel is shown to flow into a 525 mm diameter private surface water sewer which flows to the west. This sewer discharges into a 600 mm diameter surface water beneath Walnut Avenue eventually discharging into the surface water sewer beneath Hillside Road.

Reference to United Utilities Asset Location Plans indicates a 939 diameter mm surface water is located beneath Moorland Rise in the vicinity of St Mary's Primary School. This sewer flows in a north westerly direction before turning south within a surface water sewer located between the School and residential properties located to the west of Moorland Rise. In addition, a 225 mm diameter surface water is shown to be present beneath the southern section of Moorland Rise. This sewer is shown to flow in a southerly direction before turning west and eventually discharging into the aforementioned 939 mm surface water sewer.

Surface Water Management

The Government's planning policy in relation to surface water management is set out within the National Planning Policy Framework (NPPF) and accompanying Planning Practice Guidance (PPG). This is supported by the Non-Statutory Technical Standards for Sustainable Drainage Systems, published by DEFRA in 2015 which states the following in relation to greenfield sites:

"For greenfield developments, the peak run-off rate from the development to any highway drain, sewer, or surface water body for the 1 in 1 year rainfall event and the 1 in 100 year rainfall event should never exceed the peak greenfield run-off rate for the same event".

The existing peak greenfield run-off rate for the 1 in 1 and 1 in 100 year rainfall events have been calculated using the Interim Code of Practice for Sustainable Drainage Systems (ICP SuDS) function in MicroDrainage. The existing greenfield run-off rates have been calculated based on a 1 ha area and this rate has subsequently been scaled based on several assumed proposed hardstanding areas, as shown in Table 1 below.

In order to restrict surface water run-off generated by the proposed development to the existing peak run-off rates, attenuation will be required on site for all events up to and including the 1 in 100 year plus 40% climate change event. At this stage, the amount of attenuation has been estimated using the Quick Storage Estimate function in MicroDrainage and the results of this are included in Table 1.

Table 1 Preliminary surface water attenuation requirements*

Assumed proposed impermeable area (%)	Assumed proposed impermeable area (ha)	1 in 1 year greenfield run-off rate (l/s)	Attenuation volume required to restrict surface water run-off to 1 in 1 year run-off rate (m^3)	1 in 100 year greenfield runoff rate (l/s)	Attenuation Volume required to restrict surface water run-off to 1 in 100 year run-off rate (m^3)
100	7.700	83.2	4531 - 7123	198.7	3097 - 5186
90	6.930	74.8	4079 - 6414	178.8	2788 - 4667
80	6.160	66.5	3626 - 5701	158.9	2478 - 4149
70	5.390	58.2	3172 - 4988	139.1	2168 - 3630
60	4.620	49.9	2719 - 4275	119.2	1858 - 3112
50	3.850	41.6	2265 - 3562	99.3	1549 - 2593
40	3.080	33.3	1812 - 2849	79.5	1239 - 2074

**the above estimations assume no infiltration based on a preliminary appraisal of the geology. Once infiltration rates are known pending further investigation, the volume of attenuation may be decreased.*

The PPG identifies that the discharge of surface water run-off should be as high up the following hierarchy of drainage options as reasonably practicable:

1. Into the ground (infiltration);
2. To a surface water body;
3. To a surface water sewer, highway drain, or another drainage system;
4. To a combined sewer.

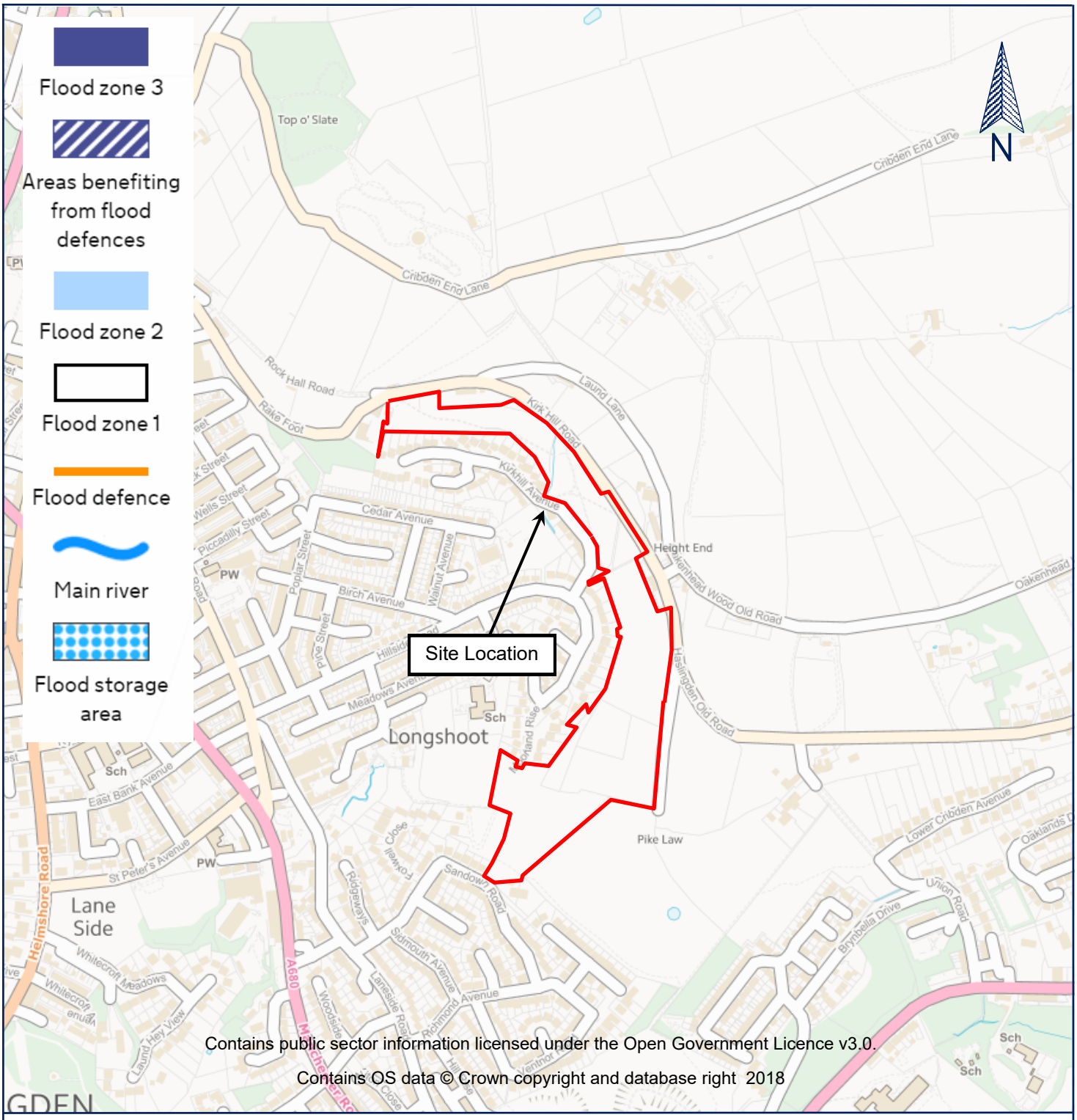
The published geology (described above) indicates that the use of infiltration drainage techniques may be limited due to the potentially cohesive nature of the underlying strata. Some infiltration may be achievable on the Moorland Rise site, however, further investigation (i.e infiltration testing in accordance with BRE365) will be required to confirm site specific infiltration rates.

The likely surface water management solution is to mimic the existing drainage pattern of the site by discharging surface water at a controlled rate. Based on the gradients across the site, it is likely that some surface water run-off from the Kirkhill site may pass to the existing on-site watercourse. However, the majority of surface water run-off from both sites will likely be required to drain into the United Utilities sewers located in Kirkhill Avenue and Moorland Rise respectively. Consultation will be required with United Utilities in order to establish the capacity of the public surface water sewer network to accept run-off from the site. At this stage, a pre-development enquiry has been submitted to United Utilities to confirm acceptable surface water pass forward flow rates into the public sewer network and RPS are currently awaiting a response.

The Lead Local Flood Authority is likely to require the use of SuDS attenuation techniques within the site in order to restrict surface water run-off. In addition to providing attenuation, the use of SuDS will provide ecological, amenity and visual benefits within the site. Based on the gradients across the site and taking into accounts is long, relatively narrow shape, it is likely that SuDS may be limited to shallow swale /pond features along contours which can be utilised for both attenuation and conveyance purposes. The use of swales should be considered within green corridors through the site. It should be noted that based on the gradients across

the site, additional area for attenuation is likely to be required over that of a flat site. This should be considered early in the master planning process.

Where such features are not feasible due to engineering constraints it is likely that hard engineered solutions (such as tanks or oversized pipes) will be required.

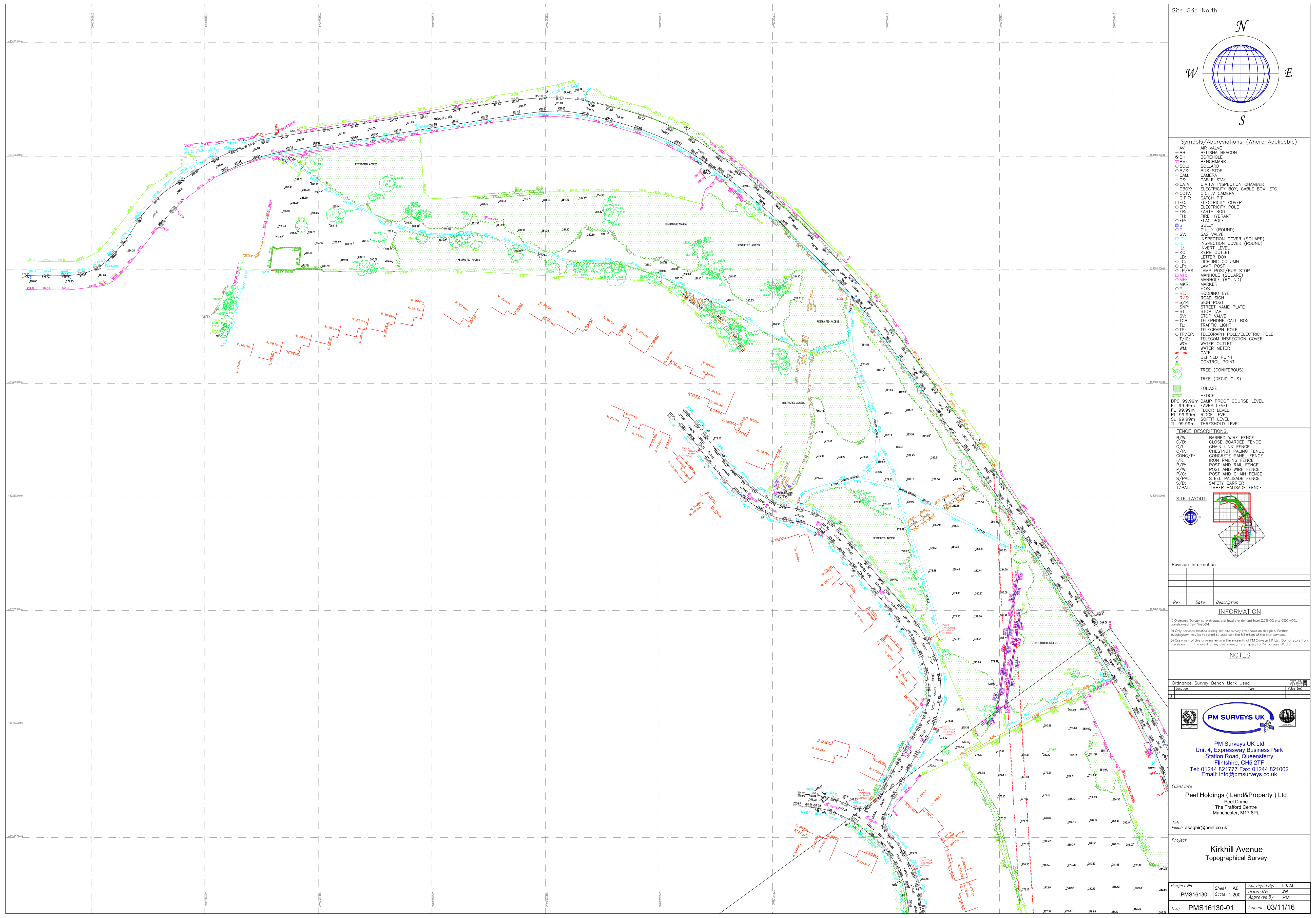


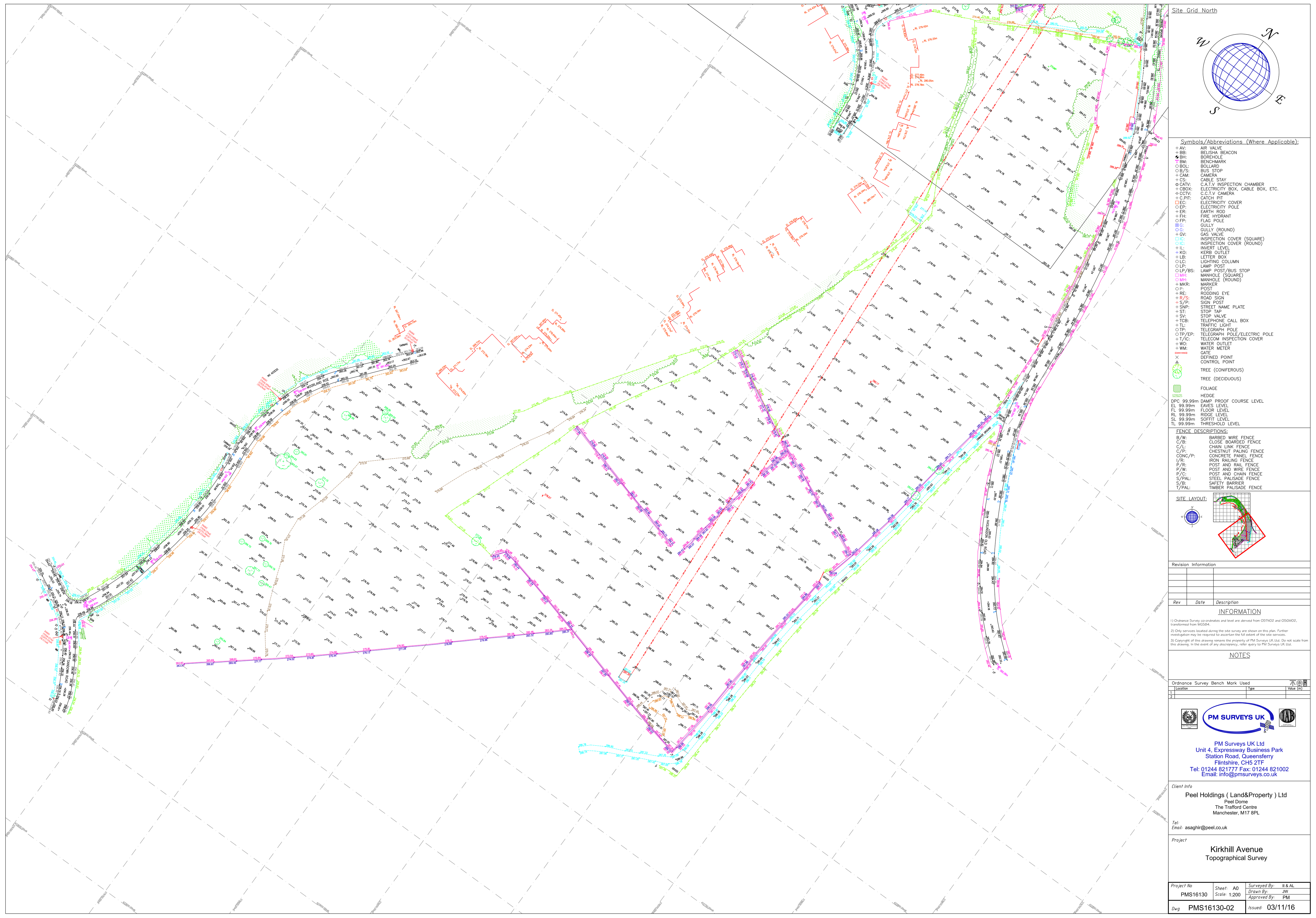
8, Exchange Quay, Manchester, M5 3EJ
T: +44 (0)161 786 8550 W: rpsgroup.com

Client: Peel L&P Group Management Limited	Date: August 2019	Scale: NTS
Project: Land at Kirkhill Avenue and Moorland Rise	Figure: 01	Rev: 00
Title: Environment Agency Flood Map for Planning	Job Ref: RCEF74462	

Appendix A

Topographic Survey


Site Grid North
Symbols/Abbreviations (Where Applicable):
FENCE DESCRIPTIONS:
SITE LAYOUT
Revision Information
Rev Date Description
INFORMATION
NOTES
Ordnance Survey Bench Mark Used
PM SURVEYS UK
PM Surveys UK Ltd
Unit 4, Expressway Business Park
Station Road, Queensferry
Flintshire, CH5 2TF
Tel: 01244 821777 Fax: 01244 821002
Email: info@pmsurveys.co.uk
Client Info
Peel Holdings (Land&Property) Ltd
Peel Dome
The Trafford Centre
Manchester, M17 8PL
Tel:
Email: asaghir@peel.co.uk
Project
Kirkhill Avenue
Topographical Survey
Project No PMS16130
Sheet: A0
Scale: 1:200
Surveyed By: II & AL
Drawn By: JW
Approved By: PM
Dwg PMS16130-01
Issued: 03/11/16


Site Grid North
Symbols/Abbreviations (Where Applicable):
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SITE LAYOUT
Revision Information
Rev Date Description
INFORMATION
NOTES
Ordnance Survey Bench Mark Used
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PM Surveys UK Ltd
Unit 4, Expressway Business Park
Station Road, Queensferry
Flintshire, CH5 2TF
Tel: 01244 821777 Fax: 01244 821002
Email: info@pmsurveys.co.uk
Client Info
Peel Holdings (Land&Property) Ltd
Peel Dome
The Trafford Centre
Manchester, M17 8PL
Tel:
Email: asaghir@peel.co.uk
Project
Kirkhill Avenue
Topographical Survey
Project No PMS16130
Sheet: A0
Scale: 1:200
Surveyed By: II & AL
Drawn By: JW
Approved By: PM
Dwg PMS16130-02
Issued: 03/11/16

Appendix B

United Utilities Asset Location Plans

United Utilites Water PLC
Property Searches
Ground Floor Grasmere House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP
DX 715568 Warrington
Telephone 0870 751 0101
Fax Number 0870 7510102
Property.searches@uuplc.co.uk

Joshua Rigby
Unit 12 Watersedge Business Park
Modwen Road
Salford Quays

M5 3EZ

Your Ref:
Our Ref: 13/ 971266
Date: 11/10/2013

FAO: J RIGBY

Dear Sirs

Location: LAND AT KIRKHILL AVENUE & MOORLAND HASLINGDEN BB4 5NN

I acknowledge with thanks your request dated 10/10/13 for information on the location of our services.

Please find enclosed plans showing the approximate position of our apparatus known to be in the vicinity of this site.
I attach General Condition Information sheets, which details contact numbers for additional services (i.e. new supplies, connections, diversions) which we are unable to deal with at this office. In addition you should ensure they are made available to anyone carrying out any works which may affect our apparatus.

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

If you have any queries regarding this matter please telephone us on 0870 7510101.

Yours Faithfully,

Sue McManus
Operations Manager
Property Searches

TERMS AND CONDITIONS - WASTERWATER & 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) (UUW apparatus) of United Utilities Water PLC ("UUW").

TERMS AND CONDITIONS:

1. 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.

2. 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.

3. In particular, the position and depth of any UUW apparatus shown on the Map are approximate only. UUW strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUW apparatus. The exact location, positions and depths should be obtained by excavation trial holes.

4. 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.

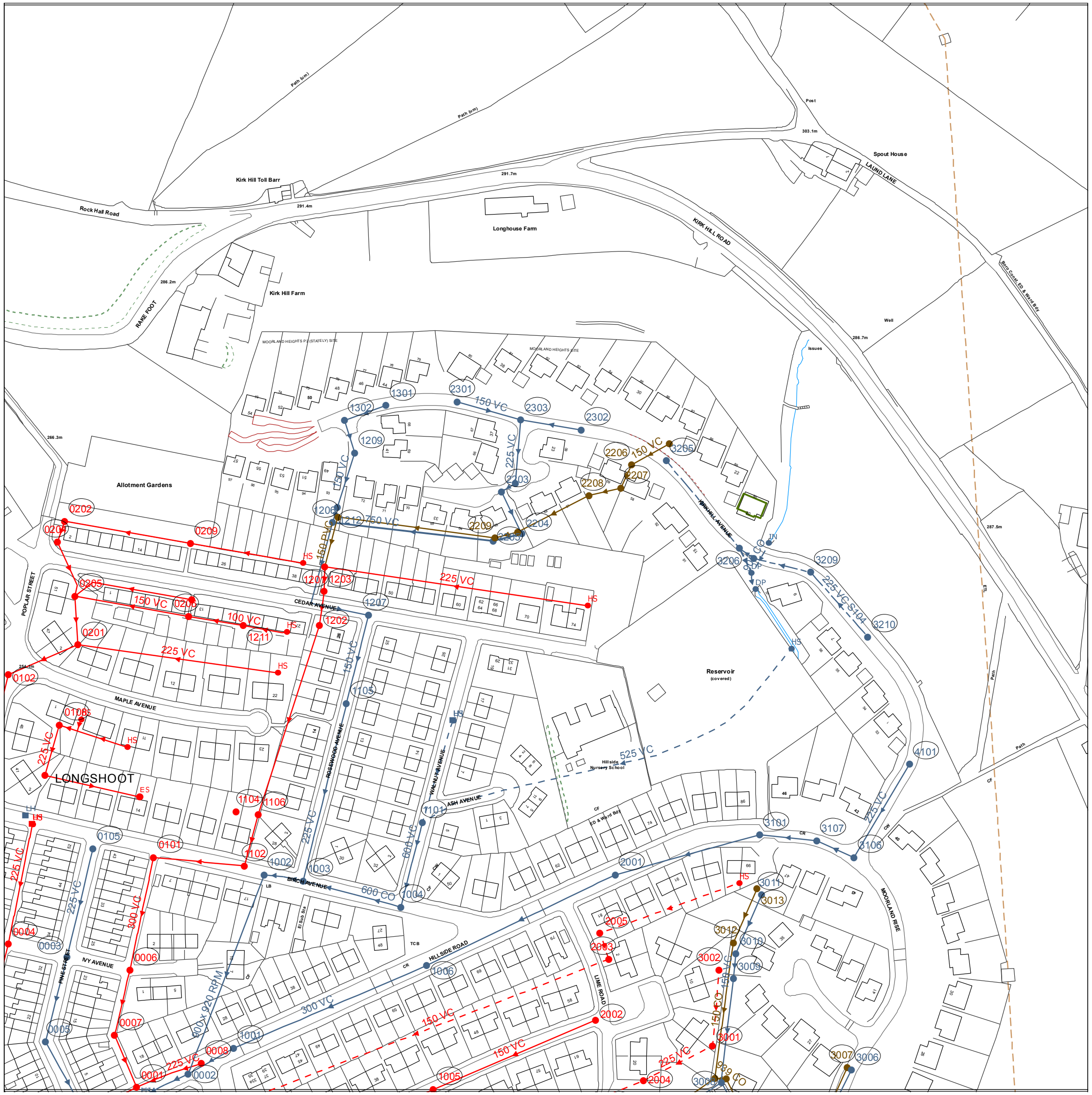
5. The position and depth of UUW apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.

6. 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 UUW apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.

7. No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUW apparatus by reason of the actual position and/or depths of UUW apparatus being different from those shown on the Map and any information supplied with it.

8. 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.

9. 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 UUW from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.



Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
0001	243.49	CO							
0002		SW	0	900	920	RE	RPM	12.08	3
0003	247.36	SW	245.01	225		CI	VC	40.26	0
0004	247.9	CO	245.45	225		CI	VC	48.51	0
0005	245.35	SW							
0006		CO	0	300		CI	VC	30.81	17
0007		CO							
0008	244.37	CO	242.37	225		CI	VC	15.81	6
0101	249.42	CO	247.47	300		CI	VC	53.15	0
0102	253.44	CO							
0105		SW	0	225		CI	VC	51.42	21
0107	250.96	CO							
0108		CO							
0201		CO	0	225		CI	VC	34.82	19
0202		CO	0	150		CI	VC	10.18	6
0203	259.51	CO	257.89	150		CI	VC	56.74	0
0204	258.72	CO							
0205	256.17	CO							
0206	258.72	CO	257.23	150		CI	VC	53.46	0
0209	260.43	CO	259.35	150		CI	VC	58.97	0
1001	245.21	SW	243.35	300		CI	VC	24.19	0
1002	249.6	SW							
1003	250.23	SW							
1004	253.06	SW							
1005	247.19	CO							
1006	252.16	SW	250.14	300		CI	VC	96.77	0
1101	255.19	SW	252.8	600		CI	VC	19.65	7
1102	249.42	CO	247.9	225		CI	VC	42.19	0
1104		CO							
1105		SW	0	225		CI	VC	84.4	50
1106		CO	0	225		CI	VC	24.5	9
1201	262.21	CO							
1202		CO							
1203		CO							
1205	265.5	FO							
1206	265.61	SW							
1207	261	SW							
1209		SW							
1211		CO		100		CI	VC	25.43	
1212		SW		150		CI	VC	7.34	
1301		SW		150		CI	VC	20.34	
1302		SW							
2001	258.76	SW	256.33	300		CI	VC	96.61	0
2002	253.46	CO	251.57	150		CI	VC	81.54	0
2003		CO		150			VC	190.91	
2004		CO							
2005		CO		150			VC	12.65	
2202		SW							
2203		SW							
2204		SW							
2205		SW							
2206		FO							
2207		FO							
2208		FO							
2209		FO							
2210		FO							
2301		SW		150		CI	VC	30.61	
2302		SW		150		CI	VC	28.24	
2303		SW							
3001		CO		225			VC	35.78	
3002		CO		225			VC	35.13	
3004	123.08	FO							
3005	122.89	FO							
3006	129.53	SW	127.85	939		CI	CO	35.78	0
3007	129.58	FO	0	939		CI	CO	34.01	17
3008	123	SW							
3009		SW	0	150		CI	VC	48.05	31
3010		SW		150		CI	VC	11.67	
3011		SW		150		CI	VC	29.63	
3012		FO							
3013		FO		150		CI	CO	27.21	
3101	264.13	SW							
3106		SW							
3107		SW							
3202		FO		150		CI	VC	19.88	
3205		SW		225		CI	VC	52.67	
3206		SW							
3207		SW							
3209		SW							
3210		SW		225		CI	VC	39.79	
4101		SW		225		CI	VC	50.18	
0009		SW	117.8	150		CI	VC	12.53	0
0010		CO	242.02	300		CI	VC	16.16	6
0109		CO	0	225		CI	VC	24.22	10
0110		CO	0	225		CI	VC	5.5	3
1000		SW	247.55	600		CI	CO	9.06	3
1008		SW	249.46	600		CI	VC	23.77	9
1103		CO	0	225		CI	VC	92.91	61
1107		SW	251.76	600		CI	CO	20.62	8
1204		CO	0	150		CI	VC	52.45	48
1210		CO		100		CI	VC	20.43	
2201		CO	0	225		CI	VC	122.33	60
3003		CO		150			VC	68.01	
3201		SW		525		CI	VC	193.91	
0103		SW							
0104		CO							
0111		CO							
1208		SW	0	150		CI	VC	27.12	11
2101		SW							
3208		SW		900		CI	CO	15.95	

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

- Manhole
- Manhole, Side Entry
- MainSewer, Public
- MainSewer, Private
- MainSewer, S104
- Rising Main, Public
- Rising Main, Private
- Rising Main, S104
- Highway Drain, Private

Foul Surface Combined

- WW Site Termination
- Air Valve
- Cascade
- Non Return Valve
- Extent of Survey
- Flow Meter
- Gulley
- Hatch Box
- Head of System
- Hydrobrake / Vortex
- Inlet
- Inspection Chamber
- Bifurcation
- Catchpit
- Contaminated Surface Water
- WW Pumping Station
- Sludge Pumping Station
- Sewer Overflow
- T Junction/Saddle
- LampHole
- OilInterceptor
- PenStock
- Pump
- RoddingEye
- Soakaway
- Summit
- Valve
- Valve Chamber
- Washout Chamber
- DropShaft
- WW Treatment Works
- Septic Tank
- Vent Column
- Network Storage Tank
- Orifice Plate
- Vortex Chamber
- Penstock Chamber
- Blind Manhole

Foul Surface Combined Overflow

- Screen Chamber
- Discharge Point
- Outfall

- Sludge Main, Public
- Sludge Main, Private
- Sludge Main, S104

ABANDONED PIPE

- MainSewer
- Rising Main
- Highway Drain
- Sludge Main

- Control Kiosk
- Unspecified

LEGEND

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	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

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

OS Sheet No: SD7923SW

Scale: 1: 1250 Date: 11/10/2013

100 Nodes

Sheet 1 of 1

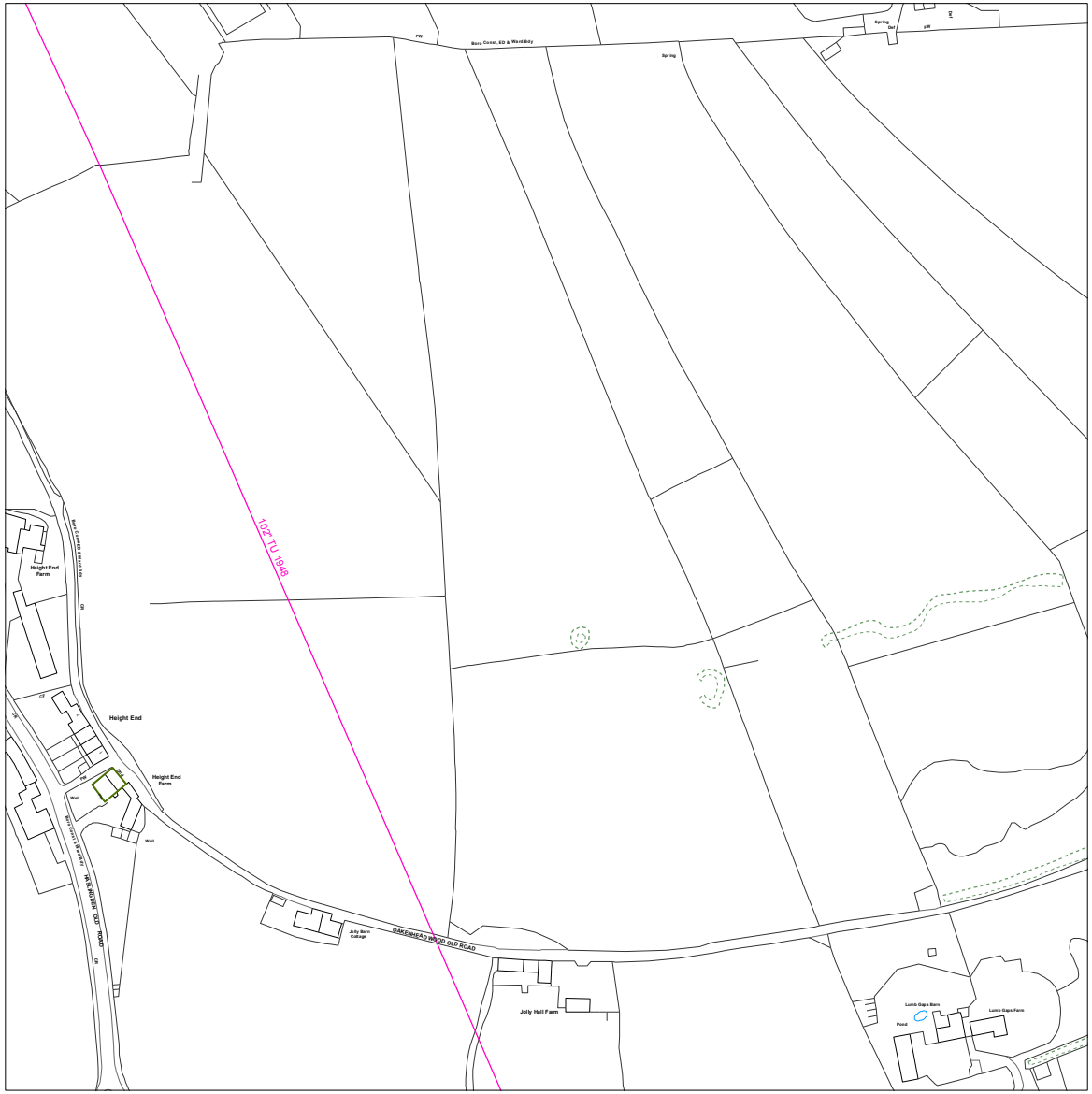
United Utilities

SEWER RECORDS

OS Sheet No: SD7923SW

Printed By: Nicola Morris

Scale: 1: 1250 Date: 11/10/2013



OS Sheet No: SD7923SE

Scale: 1: 1250 Date: 11/10/2013

Printed By: Nicola Morris

LEGEND

PIPE WORK

Live	Proposed	
		Trunk Main - PressurisedMain
		Raw Water Aqueduct - PressurisedMain
		Raw Water Aqueduct - GravityMain
		LDTM Raw Water Distribution - PressurisedMain
		LDTM Raw Water Distribution - GravityMain
		LDTM Treated Water Distribution - PressurisedMain
		LDTM Treated Water Distribution - GravityMain
		Private Pipe - LateralLine
		Distribution Main - PressurisedMain
		Comms Pipe - LateralLine
		Concessionary Service - LateralLine

ABANDONED PIPE

- Trunk Main
- Raw Water Aqueduct
- LDTM Raw Water Distribution
- LDTM Treated Water Distribution
- Private Pipe
- Distribution Main
- Comms Pipe
- Concessionary Service

NODES/ FURNITURE

Live	Proposed	
		End Cap
		CC Valve
		AC Valve
		Air Valve
		Sluice Valve
		Non Return Valve
		Pressure Management Valve
		Change of Characteristic
		Anode
		Chlorination Point
		De Chlorination Point
		Bore Hole
Inlet	Inlet	Inlet Point
		Bulk Supply Point
FH	FH	Fire Hydrant
H	H	Hydrant
PFH	PFH	Private Fire Hydrant
		Pump
		Site Termination
		Service Start
		Service End
PM	PM	Process Meter
		Stop Tap
		Monitor Location
SP	SP	Strainer Point
AP	AP	Access Point
HB	HB	Hatch Box
IP	IP	IP Point
RM		Route Marker
SPT	SPT	Sampling Station
LB	LB	Logger Box

PROPERTY TYPES

Live	Proposed	
		Condition Report
PB	PB	Pipe Bridges
PT	PT	Tunnels (non carrier)
		Pumping Station
		Water Treatment Works
		Private Treatment Works
VH	VH	Valve House
		Water Tower
SR	SR	Service Reservoir
SUPPLY RESERVOIR		Supply Reservoir
Inlet AP	Inlet AP	Abstraction Point
M	M	Domestic meter
CM	CM	Commercial meter
T	T	Telemetry Outstation

MATERIAL TYPES

AC ASBESTOS CEMENT	OT OTHERS
CI CAST IRON	PB LEAD
CU COPPER	PV uPVC
CO CONCRETE	SI SPUN IRON
DI DUCTILE IRON	ST STEEL
GI GALVANISED IRON	UN UNKNOWN
GR GREY IRON	PE POLYETHYLENE

LINING TYPES

CL CEMENT LINING	ERL EPOXY RESIN
TB TAR OR BITUMEN	

INSERTION TYPES

DD DIE DRAWN	MO MOLING
DR DIRECTIONAL DRILLING	PI PIPELINE
	SL SLIP LINED

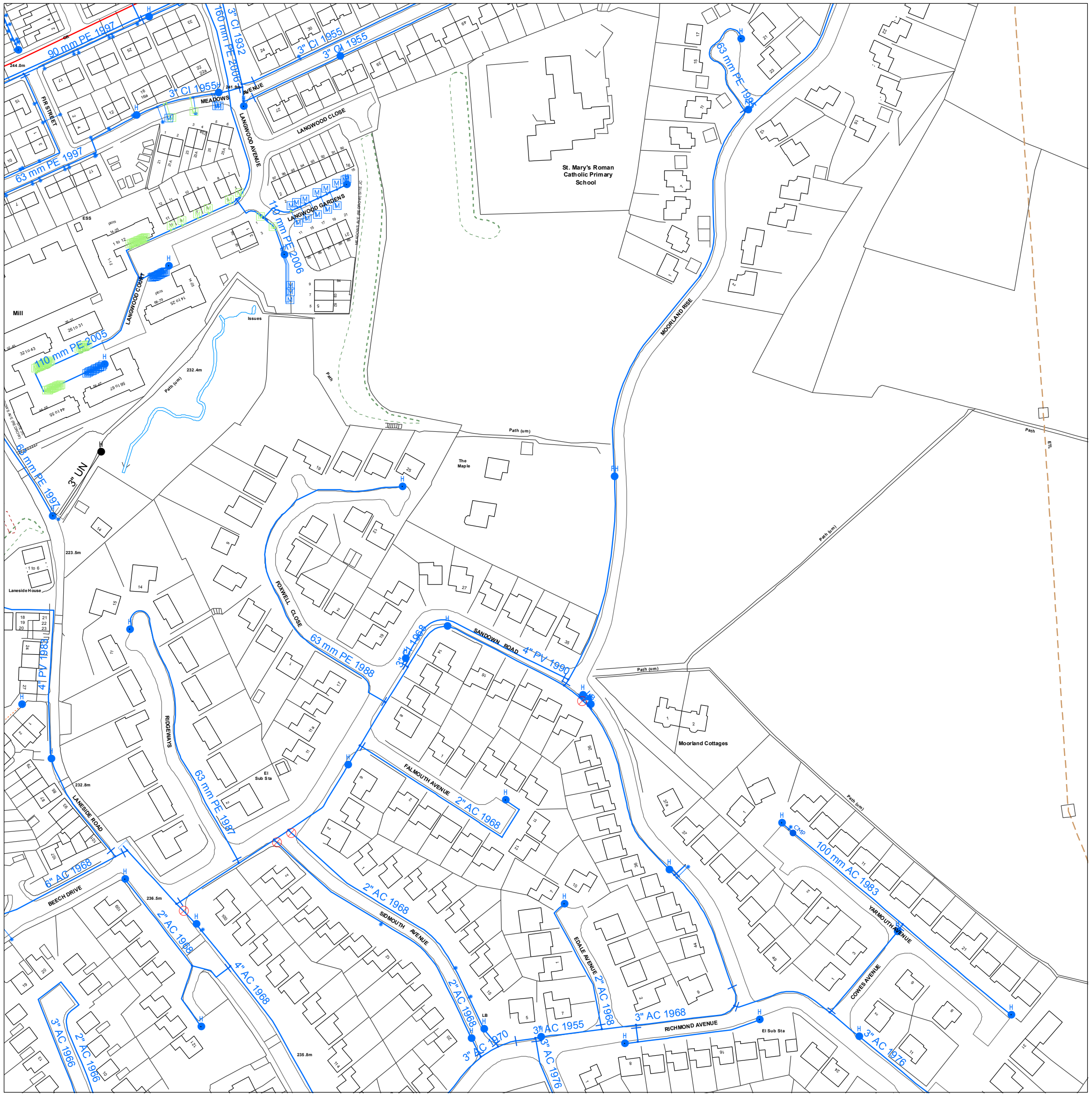
OS Sheet No: SD7923SE

Scale: 1: 1250

Date: 11/10/2013

United Utilities

WATER MAIN RECORDS



LEGEND

PIPE WORK

Live | Proposed

- Trunk Main - PressurisedMain
- Raw Water Aqueduct - PressurisedMain
- Raw Water Aqueduct - GravityMain
- LDTM Raw Water Distribution - PressurisedMain
- LDTM Raw Water Distribution - GravityMain
- LDTM Treated Water Distribution - PressurisedMain
- LDTM Treated Water Distribution - GravityMain
- Private Pipe - LateralLine
- Distribution Main - PressurisedMain
- Comms Pipe - LateralLine
- Concessionary Service - LateralLine

ABANDONED PIPE

- Trunk Main
- Raw Water Aqueduct
- LDTM Raw Water Distribution
- LDTM Treated Water Distribution
- Private Pipe
- Distribution Main
- Comms Pipe
- Concessionary Service

NODES/ FURNITURE

Live | Proposed

- End Cap
- CC Valve
- AC Valve
- Air Valve
- Sluice Valve
- Non Return Valve
- Pressure Management Valve
- Change of Characteristic
- Anode
- Chlorination Point
- De Chlorination Point
- Bore Hole
- Inlet Point
- Bulk Supply Point
- Fire Hydrant
- Hydrant
- Private Fire Hydrant
- Pump
- Site Termination
- Service Start
- Service End
- Process Meter
- Stop Tap
- Monitor Location
- Strainer Point
- Access Point
- Hatch Box
- IP Point
- Route Marker
- Sampling Station
- Logger Box

PROPERTY TYPES

Live | Proposed

- Condition Report
- Pipe Bridges
- Tunnels (non carrier)
- Pumping Station
- Water Treatment Works
- Private Treatment Works
- Valve House
- Water Tower
- Service Reservoir
- Supply Reservoir
- Abstraction Point
- Domestic meter
- Commercial meter
- Telemetry Outstation

MATERIAL TYPES

AC	ASBESTOS CEMENT	OT	OTHERS
CI	CAST IRON	PB	LEAD
CU	COPPER	PV	uPVC
CO	CONCRETE	SI	SPUN IRON
DI	DUCTILE IRON	ST	STEEL
GI	GALVANISED IRON	UN	UNKNOWN
GR	GREY IRON	PE	POLYETHYLENE

LINING TYPES

CL	CEMENT LINING	ERL	EPOXY RESIN
TB	TAR OR BITUMEN		

INSERTION TYPES

DD	DIE DRAWN	MO	MOLING
DR	DIRECTIONAL DRILLING	PI	PIPELINE
		SL	SLIP LINED

OS Sheet No: SD7922NW

Scale: 1: 1250

Date: 11/10/2013

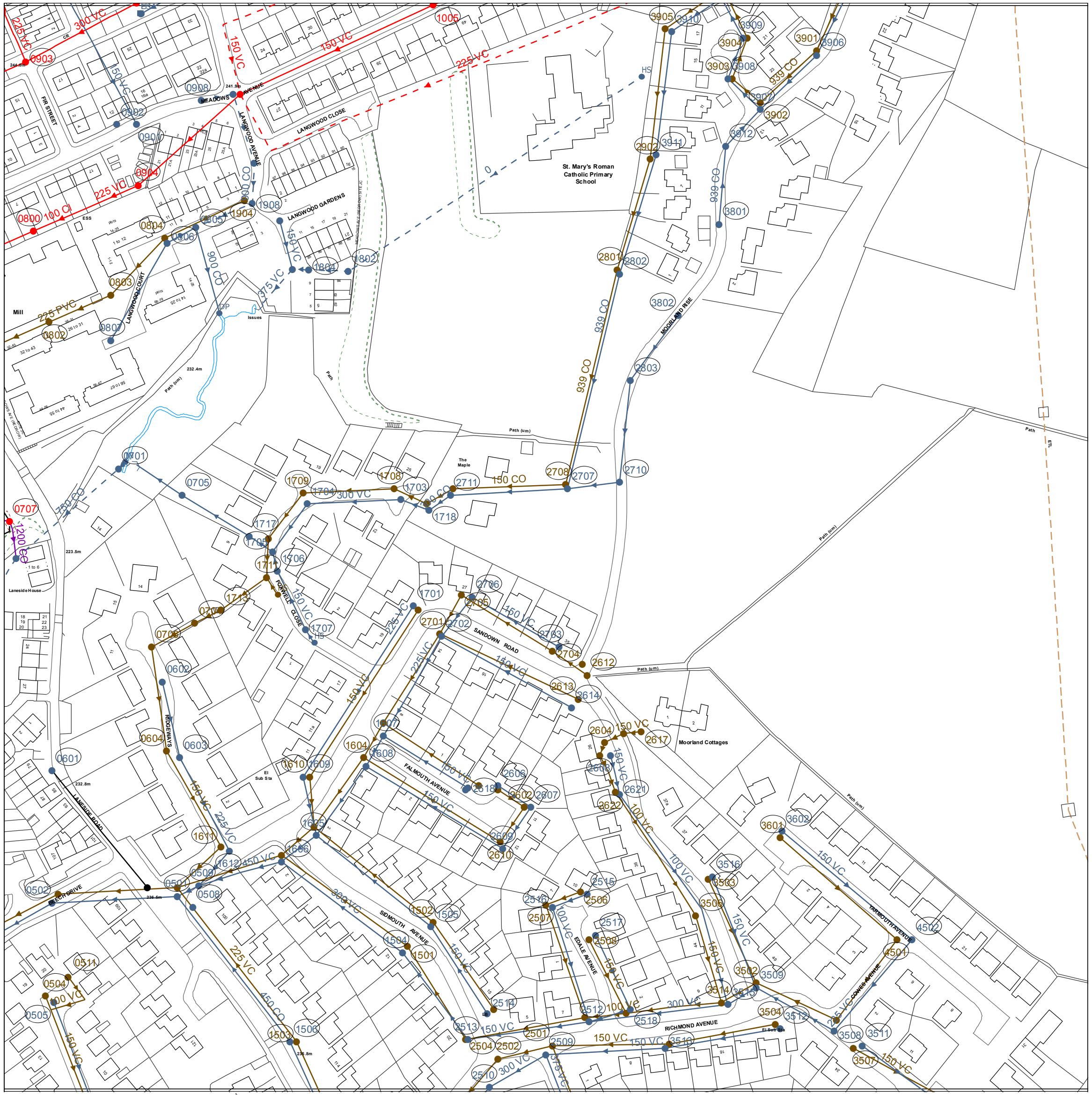
United Utilities

WATER MAIN RECORDS

OS Sheet No: SD7922NW

Printed By: Nicola Morris

Scale: 1: 1250 Date: 11/10/2013



Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
9709	231.01	SW							
0501	236.07	SW							
0502	231.54	SW							
0503	231.54	FO	228.42	225		CI	VC	41.59	0
0504	230.47	FO	227.84	150		CI	VC	71.87	51
0505	230.43	SW	228.05	150		CI	VC	64.26	0
0507	236.07	FO							
0508		SW							
0509	236.11	SW							
0511		FO							
0601	232.31	SW							
0602		SW	0	225		CI	VC	35.9	13
0603		SW							
0604		FO							
0701	227.5	SW	224.25	750		CI	CO	62.72	
0704	237.39	FO							
0705	232.57	SW							
0706		FO							
0707		CO	220.52	1200		CI	CO	17.44	8
0800		CO							
0802	234.71	FO							
0803	235.1	FO							
0804	236.18	FO							
0805	236.56	SW							
0806	236.14	SW							
0807	234.55	SW	232.83	300		CI	PVC	52.05	0
0901	240.28	SW							
0902	240.28	SW							
0903	244.09	CO							
0904	239.34	CO							
0908		SW		900			CO	14.84	
1501	243.29	FO							
1502	244.14	FO							
1503	236.42	FO							
1504	243.23	SW							
1505	244.05	SW							
1506	236.33	SW							
1601	242.49	FO							
1602	241.04	FO							
1603	245.99	FO							
1604	245.16	FO							
1605	242.42	SW							
1606	241.03	SW							
1607	245.97	SW							
1608	245.22	SW							
1609	243.65	SW							
1610	243.67	FO	240.77	150		CI	VC	23.09	9
1611		FO							
1612		SW							
1701		SW	0	225		CI	VC	94.03	32
1702		FO	0	150		CI	VC	91.81	32
1703	244.32	SW	241.95	300		CI	VC	43.05	0
1704	240.56	SW							
1705	240.55	SW							
1706	241.34	SW	236.64	150		CI	VC	9.22	3
1707	243.32	SW	241.84	150		CI	VC	29.97	0
1708	108.21	FO	107.07	150		CI	VC	42.05	0
1709	240.42	FO							
1710	240.47	FO							
1711	241.34	FO							
1713		FO							
1714	109.74	FO	108.66	150		CI	VC	16.55	0
1717	239.52	SW							
1718		SW							
1802	239.07	SW							
1803	237.42	SW							
1804	237.84	SW	235.05	400		CI	PVC	7.44	3
1901	242.04	CO	235.87	225		CI	VC	63.03	0
1904	238.86	FO	235.7	150		CI	PP	40.61	0
1905	238.13	SW	236.29	150		CI	VC	23.16	9
1906		SW							
1907		SW							
1908		SW							
2501	246.13	FO	241.84	150		CI	VC	25.71	0
2502	244.16	FO							
2503	248.81	FO							
2504	244	FO							
2505	244.86	FO	242.57	150		CI	VC	48.83	0
2506	250.82	FO	249.91	100		CI	VC	17.09	6
2507	250.21	FO							
2508	250.99	FO	248.85	150		CI	VC	38.01	0
2509	246.12	SW	241.86	300		CI	VC	30.02	0
2510	244.22	SW							
2511	250.46	FO							
2512	248.96	SW							
2513	243.98	SW							
2514	244.72	SW	242.57	150		CI	VC	47.71	0
2515	250.83	SW	249.95	100		CI	VC	17.09	0
2516	250.25	SW							
2517	250.99	SW	248.83	150		CI	VC	37.58	0
2518	250.52	SW							
2601	250.11	FO	249.63	150		CI	VC	14.42	0
2602	250.62	FO							
2603	257.5	FO	255.67	150		CI	VC	9.85	3
2604	256.31	FO							
2605	256.14	FO							
2606	250.18	SW	249.63	150		CI	VC	18.03	7
2607	250.72	SW							
2608	256.23	SW	254.18	150		CI	VC	9.22	3
2609	249.64	SW							
2610	249.59	FO							
2611	256.7	FO							
2612	256.7	FO	255.31	150		CI	VC	19.42	7
2613	256.38	FO	254.61	150		CI	VC	70.68	0
2614	256.35	SW	254.58	150		CI	VC	68.48	0
2615	249.18	FO	247.49	150		CI	VC	52.7	0
2616	249.07	SW	247.48	150		CI	VC	1.41	5
2617	257.45	FO	255.61	150		CI	VC	8.06	3
2618		SW							
2621	254.96	SW							
2622	254.97	FO							
2701	248.48	FO							
2702	248.55	SW							
2703	255.84	SW	254.06	150		CI	VC	46.14	0
2704	255.79	FO							
2705		FO							
2706		SW							
2707	118.14	SW							
2708	118.15	FO							
2709	110.88	FO							
2710	123.51	SW	0	939		CI	CO	24.19	18
2711		SW							
2801	119.81	FO							
2802	119.82	SW							
2803	122.8	SW							
2902	120.47	FO							
3501	252.56	FO	250.78	150		CI	VC	40.72	0
3502	253.6	FO							
3503	255.31	FO	252.96	150		CI	VC	52.8	0
3504	253.03	FO	252.13	150		CI	VC	49.82	0
3505	251.56	FO							
3506	254.04	FO							
3507	252.3	FO	250.36	150		CI	VC	45.65	0
3508	252.49	SW	250.81	225		CI	VC	20.59	8
3509	253.61	SW							
3511	252.28	SW	250.27	225		CI	VC	40.8	0
3512	253.04	SW	252.16	150		CI	VC	53.76	0
3513	251.61	SW							
3514		FO							
3515	253.33	SW							
3516	255.4	SW	252.98	150		CI	VC	54.78	0
3601	258.72	FO	256.06	150		CI	VC	71.59	0
3602	258.66	SW	256.06	150		CI	VC	78.1	0
3801		SW	0	939		CI	CO	36.12	6
3802	125.85	SW	124.05	939		CI	CO	37.2	0
3901	128.19	FO							
3902	126.47	FO							
3903	125.33	FO							
3904	124.54	FO							
3905	121.58	FO							

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
3906	128.19	SW							
3907	126.47	SW							
3908	125.38	SW							
3909	124.63	SW							
3910	121.95	SW							
3911	120.46	SW							
3912		SW	0	939		CI	CO	23.35	10
4501	254.93	FO							
4502	254.89	SW							
0906		SW	241.35	150		CI	VC	44.29	0
0907		CO	234.82	100		CI	CI	27.47	0
1507		SW	241	300		CI	VC	25	0
1613		SW	234.83	450		CI	CO	19.92	8
1614		SW	245.26	300		CI	VC	26.93	0
1712		FO	0	150		CI	VC	9.43	2
1716		SW	0	150		CI	VC	7.21	4
1902		CO							
2521		FO	248.01	150		CI	VC	10.05	4
2522		SW	244.15	150		CI	VC	28.28	0
2523		SW	248.14	150		CI	VC	10.44	4
2619		FO	253.77	100		CI	VC	9.49	3
2620		SW	253.74	100		CI	VC	9.22	3
2901		SW		0				162.21	
3517		SW	250.4	300		CI	VC	20.59	8
3518		FO	122.81	100		CI	VC	22.2	0
3519		SW	124.94	150		CI	VC	22.8	0
3603		FO	252.36	150		CI	VC	34.13	0
0510		FO							
0905		SW							
0506	235.24	SW							
0605		SW							
0708		CO							
0702		SW		900	750	RE	CO	4.04	

WASTE WATER SYMBOLOGY

Foul / Surface / Combined / Overflow

Manhole; Manhole, Side Entry; Main Sewer, Public; Main Sewer, Private; Main Sewer, S104; Rising Main, Public; Rising Main, Private; Rising Main, S104; Highway Drain, Private

Foul / Surface / Combined

WW Site Termination; Air Valve; Cascade; Non Return Valve; Extent of Survey; Flow Meter; Gulley; Hatch Box; Head of System; Hydrobrake / Vortex; Inlet; Inspection Chamber; Bifurcation; Catchpit; Contaminated Surface Water; WW Pumping Station; Sludge Pumping Station; Sewer Overflow; T Junction/Saddle; LampHole; OilInterceptor; Penstock; Pump; RoddingEye; Soakaway; Summit; Valve; Valve Chamber; Washout Chamber; DropShaft; WW Treatment Works; Septic Tank; Vent Column; Network Storage Tank; Orifice Plate; Vortex Chamber; Penstock Chamber; Blind Manhole

Sludge Main, Public; Sludge Main, Private; Sludge Main, S104

ABANDONED PIPE

MainSewer; Rising Main; Highway Drain; Sludge Main

Foul / Surface / Combined / Overflow

Screen Chamber; Discharge Point; Outfall

Control Kiosk; Unspecified

LEGEND

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	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

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

OS Sheet No: SD7922NW

Scale: 1: 1250 Date: 11/10/2013

183 Nodes

Sheet 1 of 1

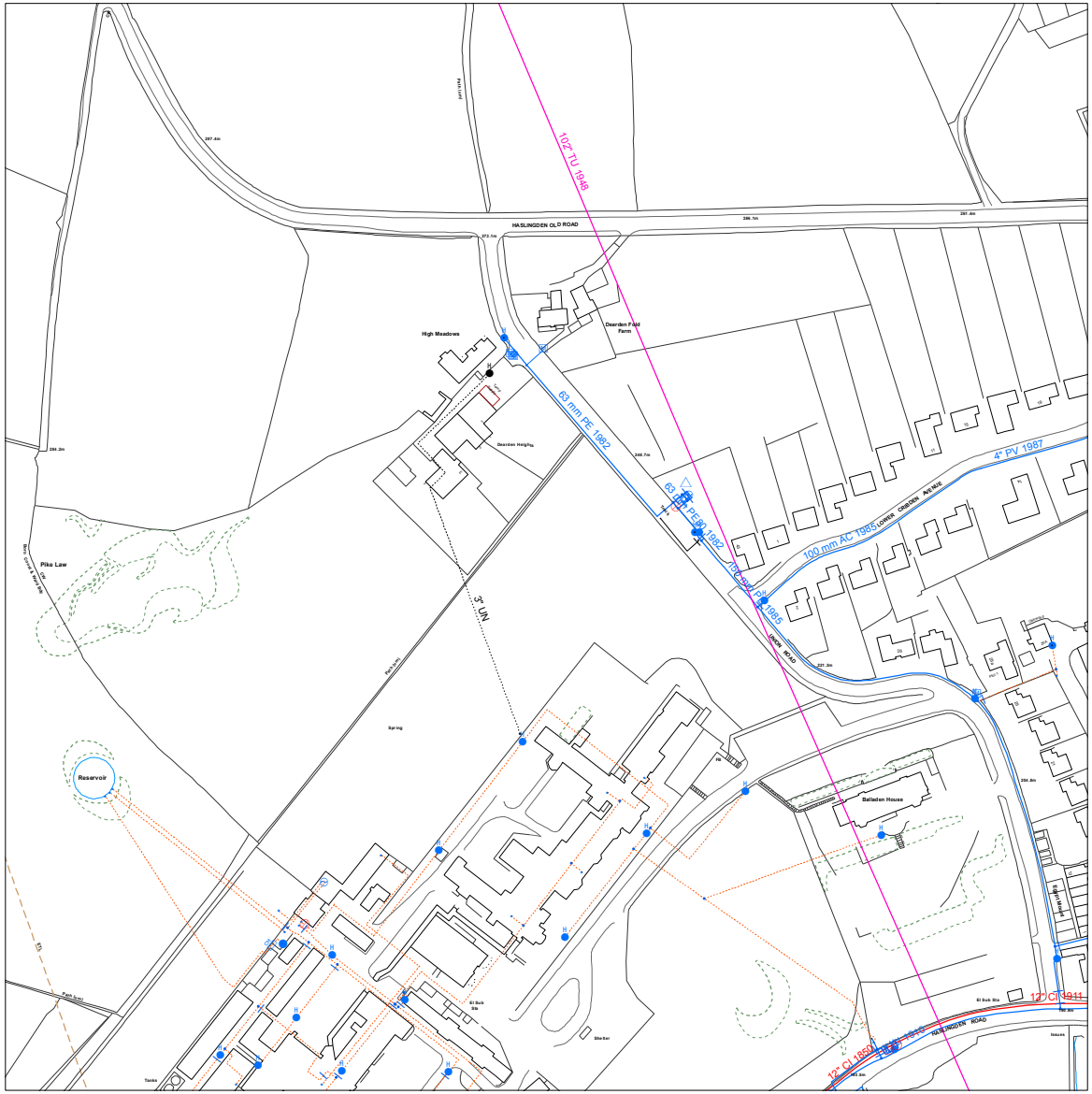
United Utilities

SEWER RECORDS

OS Sheet No: SD7922NW

Printed By: Nicola Morris

Scale: 1: 1250 Date: 11/10/2013



OS Sheet No: SD7922NE

Scale: 1: 1250 Date: 11/10/2013

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LEGEND

PIPE WORK

Live	Proposed	
		Trunk Main - PressurisedMain
		Raw Water Aqueduct - PressurisedMain
		Raw Water Aqueduct - GravityMain
		LDTM Raw Water Distribution - PressurisedMain
		LDTM Raw Water Distribution - GravityMain
		LDTM Treated Water Distribution - PressurisedMain
		LDTM Treated Water Distribution - GravityMain
		Private Pipe - LateralLine
		Distribution Main - PressurisedMain
		Comms Pipe - LateralLine
		Concessionary Service - LateralLine

ABANDONED PIPE

- Trunk Main
- Raw Water Aqueduct
- LDTM Raw Water Distribution
- LDTM Treated Water Distribution
- Private Pipe
- Distribution Main
- Comms Pipe
- Concessionary Service

NODES/ FURNITURE

Live	Proposed	
		End Cap
		CC Valve
		AC Valve
		Air Valve
		Sluice Valve
		Non Return Valve
		Pressure Management Valve
		Change of Characteristic
		Anode
		Chlorination Point
		De Chlorination Point
		Bore Hole
Inlet	Inlet	Inlet Point
		Bulk Supply Point
FH	FH	Fire Hydrant
H	H	Hydrant
PFH	PFH	Private Fire Hydrant
		Pump
		Site Termination
		Service Start
		Service End
PM	PM	Process Meter
		Stop Tap
		Monitor Location
SP	SP	Strainer Point
AP	AP	Access Point
HB	HB	Hatch Box
IP	IP	IP Point
RM		Route Marker
SPT	SPT	Sampling Station
LB	LB	Logger Box

PROPERTY TYPES

Live	Proposed	
		Condition Report
PB	PB	Pipe Bridges
PT	PT	Tunnels (non carrier)
		Pumping Station
		Water Treatment Works
		Private Treatment Works
VH	VH	Valve House
		Water Tower
SR	SR	Service Reservoir
		Supply Reservoir
Inlet AP	Inlet AP	Abstraction Point
M	M	Domestic meter
CM	CM	Commercial meter
T	T	Telemetry Outstation

MATERIAL TYPES

AC ASBESTOS CEMENT	OT OTHERS
CI CAST IRON	PB LEAD
CU COPPER	PV uPVC
CO CONCRETE	SI SPUN IRON
DI DUCTILE IRON	ST STEEL
GI GALVANISED IRON	UN UNKNOWN
GR GREY IRON	PE POLYETHYLENE

LINING TYPES

CL CEMENT LINING	ERL EPOXY RESIN
TB TAR OR BITUMEN	

INSERTION TYPES

DD DIE DRAWN	MO MOLING
DR DIRECTIONAL DRILLING	PI PIPELINE
	SL SLIP LINED

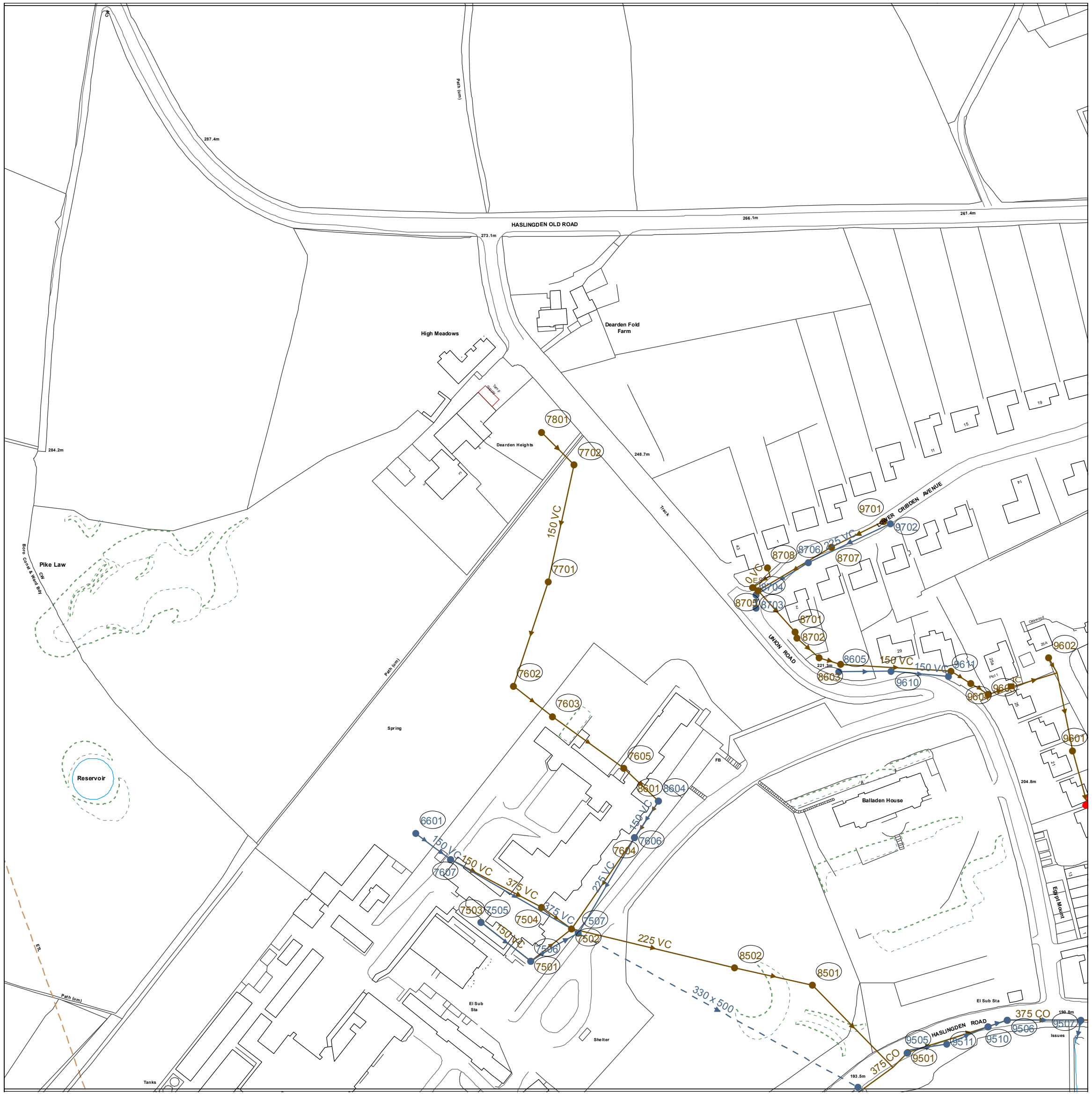
OS Sheet No: SD7922NE

Scale: 1: 1250

Date: 11/10/2013

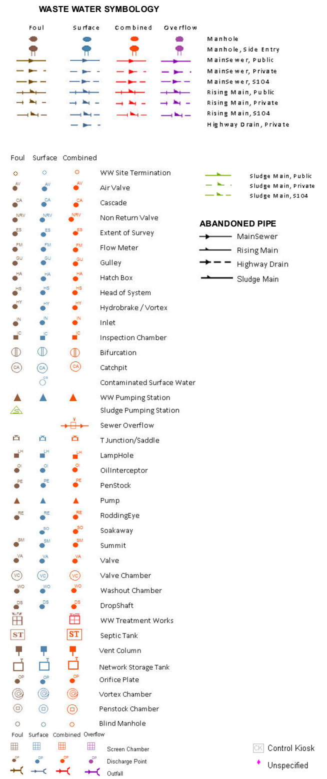
United Utilities

WATER MAIN RECORDS



Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad
6601	232.49	SW	229.82	225		CI	VC	10	4
7501	223.97	FO	221.55	150		CI	VC	24.21	0
7502	223.06	FO							
7503	226.45	FO	224.15	150		CI	VC	29.21	0
7504		FO							
7505	226.45	SW							
7506	223.97	SW							
7507	223.06	SW							
7601	228.6	FO							
7602	236.14	FO	234.88	150		CI	VC	22.8	9
7603	232.44	FO							
7604	223.14	FO							
7605		FO							
7606	223.14	SW							
7607	228.6	SW							
7701	242.13	FO	241.03	150		CI	VC	50.6	0
7702	250.59	FO	249.11	150		CI	VC	55.32	0
7801	255.49	FO	254.04	150		CI	VC	21.21	8
8501	202.1	FO	200.6	225		CI	VC	53.04	0
8502	209.48	FO							
8503	193.13	SW		300		CI	VC	65.86	
8601	223.37	FO	220.17	150		CI	VC	9.43	4
8602	223.77	FO	221.36	150		CI	VC	10.44	4
8603	221.75	FO							
8604	223.37	SW							
8605		SW		150		CI	VC	24.11	
8701	226.59	FO							
8702	226.5	FO	224.81	150		CI	VC	13.45	6
8703	230.38	SW							
8704	230.58	SW	229.45	225		CI	VC	6	0
8705	230.77	FO	229.44	150		CI	VC	25.5	0
8706		SW	0	225		CI	VC	28.3	25
8707		FO	0	150		CI	VC	39.45	29
8708		FO		0			VC	13.63	
9501	192.77	FO	189.44	300		CI	VC	19.92	0
9502	191.48	FO	188.62	375		CI	CO	32	0
9504	191.85	FO							
9505	192.54	SW							
9506	191.54	SW							
9507	190.62	SW							
9510	191.89	SW							
9511	192.24	SW							
9601	205.96	FO	0	150		CI	VC	44.64	68
9602	213.71	FO	211.67	150		CI	VC	8.06	3
9603	214.25	FO							
9604	212.98	FO	0	150		CI	VC	9.47	13
9605	211.78	FO							
9610		SW							
9611		SW							
9701	234.55	FO	232.34	150		CI	VC	26.83	0
9702	234.57	SW	232.48	225		CI	VC	42.05	0
6602		SW	228.28	150		CI	VC	10	4
7508		FO	0	375		CI	VC	23.71	10
7509		SW	222.2	100		CI	VC	12.53	5
7608		FO	219.94	225		CI	VC	10.82	4
9509		SW	0	300		CI	VC	17.26	9
9512		FO	189.11	375		CI	CO	18.97	0
9513		FO	0	375		CI	VC	35	27
9514		SW	186.68	910	1060	HO	MAR	5.1	2
9508		FO							
9606		FO							

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad



LEGEND

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	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

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

OS Sheet No: SD7922NE
Scale: 1: 1250 Date: 11/10/2013
61 Nodes
Sheet 1 of 1

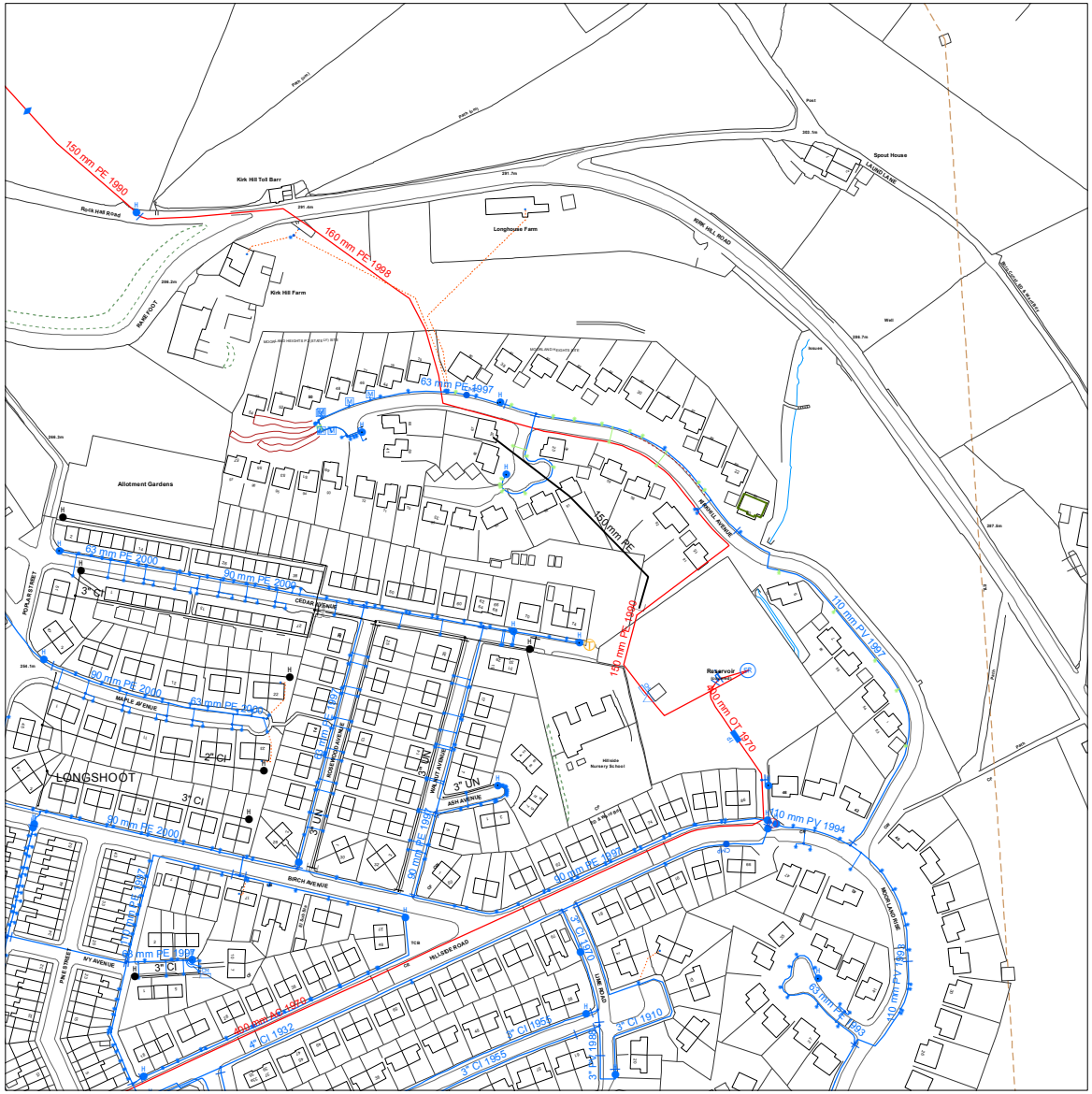
United Utilities

SEWER RECORDS

OS Sheet No: SD7922NE

Printed By: Nicola Morris

Scale: 1: 1250 Date: 11/10/2013



OS Sheet No: SD7923SW

Scale: 1: 1250 Date: 11/10/2013

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LEGEND

PIPE WORK

Live	Proposed	
		Trunk Main - PressurisedMain
		Raw Water Aqueduct - PressurisedMain
		Raw Water Aqueduct - GravityMain
		LDTM Raw Water Distribution - PressurisedMain
		LDTM Raw Water Distribution - GravityMain
		LDTM Treated Water Distribution - PressurisedMain
		LDTM Treated Water Distribution - GravityMain
		Private Pipe - LateralLine
		Distribution Main - PressurisedMain
		Comms Pipe - LateralLine
		Concessionary Service - LateralLine

ABANDONED PIPE

- Trunk Main
- Raw Water Aqueduct
- LDTM Raw Water Distribution
- LDTM Treated Water Distribution
- Private Pipe
- Distribution Main
- Comms Pipe
- Concessionary Service

NODES/ FURNITURE

Live	Proposed	
		End Cap
		CC Valve
		AC Valve
		Air Valve
		Sluice Valve
		Non Return Valve
		Pressure Management Valve
		Change of Characteristic
		Anode
		Chlorination Point
		De Chlorination Point
		Bore Hole
Inlet	Inlet	Inlet Point
		Bulk Supply Point
FH	FH	Fire Hydrant
H	H	Hydrant
PFH	PFH	Private Fire Hydrant
		Pump
		Site Termination
		Service Start
		Service End
PM	PM	Process Meter
		Stop Tap
		Monitor Location
SP	SP	Strainer Point
AP	AP	Access Point
HB	HB	Hatch Box
IP	IP	IP Point
RM		Route Marker
SPT	SPT	Sampling Station
LB	LB	Logger Box

PROPERTY TYPES

Live	Proposed	
		Condition Report
PB	PB	Pipe Bridges
PT	PT	Tunnels (non carrier)
		Pumping Station
		Water Treatment Works
		Private Treatment Works
VH	VH	Valve House
		Water Tower
SR	SR	Service Reservoir
SUPPLY RESERVOIR		Supply Reservoir
Inlet AP	Inlet AP	Abstraction Point
M	M	Domestic meter
CM		Commercial meter
T	T	Telemetry Outstation

MATERIAL TYPES

AC ASBESTOS CEMENT	OT OTHERS
CI CAST IRON	PB LEAD
CU COPPER	PV uPVC
CO CONCRETE	SI SPUN IRON
DI DUCTILE IRON	ST STEEL
GI GALVANISED IRON	UN UNKNOWN
GR GREY IRON	PE POLYETHYLENE

LINING TYPES

CL CEMENT LINING	ERL EPOXY RESIN
TB TAR OR BITUMEN	

INSERTION TYPES

DD DIE DRAWN	MO MOLING
DR DIRECTIONAL DRILLING	PI PIPELINE
	SL SLIP LINED

OS Sheet No: SD7923SW

Scale: 1: 1250

Date: 11/10/2013

United Utilities

WATER MAIN RECORDS

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad

Refno	Cover	Func	Invert	Size.x	Size.y	Shape	Matl	Length	Grad

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gulley
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
Contaminated Surface Water
WW Pumping Station
Sludge Pumping Station
Sewer Overflow
T Junction/Saddle
LampHole
OilInterceptor
PenStock
Pump
RoddingEye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works
Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole
Foul Surface Combined Overflow
Screen Chamber
Discharge Point
Outfall
Control Kiosk
Unspecified

Sludge Main, Public
Sludge Main, Private
Sludge Main, S104

ABANDONED PIPE

MainSewer
Rising Main
Highway Drain
Sludge Main

LEGEND

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	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

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

OS Sheet No: SD7923SE
Scale: 1: 1250 Date: 11/10/2013
0 Nodes
Sheet 1 of 1

United Utilities

SEWER RECORDS

Printed By: Nicola Morris

OS Sheet No: SD7923SE

Scale: 1: 1250 Date: 11/10/2013

Conditions and information regarding wastewater network

These general conditions and precautions apply to the wastewater network of United Utilities.

Please ensure that a copy of these conditions is passed to your representative and contractor on site.

1. United Utilities provides the approximate locations of its sewers according to its records. These records are not necessarily accurate or complete nor do they normally show the positions of every sewer culvert or drain, private connections from properties to the public sewers or the particulars of any private system. No person or company shall be relieved from liability for any damage caused by reason of the actual positions and/or depths being different from those indicated. The records do indicate the position of the nearest known public sewer from which the likely length of private connections can be estimated together with the need for any off site drainage rights or easements.

2. Special requirements relative to our sewers may be indicated. United Utilities employees or its contractors will visit any site at reasonable notice to assist in the location of its underground sewers and advise any precautions that may be required to obviate any damage. To arrange a visit or for further information regarding new supplies, connections, diversions, costing, or any notification required under these General Conditions, please call us on **0845 746 2200**.

3. Where public sewers are within a site which is to be developed and do not take any drainage from outside the area, they are from an operational viewpoint redundant. The developer must identify all redundant sewers affected by the development and apply to United Utilities in writing for these sewers to be formally closed. The developer shall bear all related costs of the physical abandonment work.

4. Public sewers within the site that are still live outside the area will be subject to a “Restricted Building zone”. This would normally be a surface area equivalent to the depth of the sewer measured from the centre line of the sewer on either side. No construction will be permitted within that zone. The developer should also note that deep and wide rooted trees must not be planted in close proximity to live sewers. Access to public sewers must be maintained at all times and no interference to manholes will be permitted during construction work.

5. Where there is a public sewer along the line of a proposed development/building, arrangements shall be made by the developer at his cost to divert the sewer around the development. Where this is not possible and as a last resort, a “Building Over Agreement” will need to be completed under section 18 of the Building Act 1984. The developer shall design building foundations to ensure that no additional loading is transferred to the sewer and submit such details both to the Local Authority’s Building Control Officer and to United Utilities for approval/acceptance. United Utilities on a rechargeable basis would normally undertake all aspects of design work associated with the diversion of any part of the operational wastewater network. For further advice please call asset protection on **01925 678 306**

6. Where there is a non-main river watercourse/culvert passing through the site, the landowner has the responsibility of a riparian owner for the watercourse/culvert and is responsible for the maintenance of the fabric of the culvert and for all works involved in maintaining the unrestricted flow through it. Building over the watercourse/culvert is not recommended. The developer must contact the local authority before any works are carried out on the watercourse/culvert. Where it is necessary to discharge surface water from the site into the watercourse/culvert the developer shall make an assessment of the available capacity of the watercourse/culvert (based on a 1 in 50 year event) and ensure that the additional flow to be discharged into the watercourse/culvert will not cause any flooding. In appropriate cases, flooding may be prevented by on-site storage. The developer shall submit the relevant details required to substantiate his development proposals. Details of any outfall proposed shall also be submitted to the Environment Agency, PO Box 12, Richard Fairclough House, Knutsford Road, Warrington, Cheshire, WA4 1HT for their approval.

7. Where there is a main river watercourse/culvert passing through the site, the developer shall submit all proposals affecting the river to the Environment Agency at the address stated in paragraph 6 for approval/acceptance.

8. Your attention is drawn also to the following:

• Private drains or sewers which may be within the site. On 1 October 2011 all privately owned sewers and lateral drains which communicate with (that is drain to) an existing public sewer as at 1 July 2011 will become the responsibility of the sewerage undertaker. This includes private sewers upstream of pumping stations that have yet to transfer, but excludes lengths of sewer or drain that are the subject of an on-going appeal or which have been excluded from transfer as a result of an appeal or which are on or under land opted-out by a Crown body. The transfer specifically excludes sewers and lateral drains owned by a railway undertaker. Sewers upstream of such assets, however, are transferred. Such assets may not be recorded on the public sewer record currently as it was not a requirement to keep records of previously private sewers and drains.

• Applications to make connections to the public sewer. The developer must write to United Utilities requesting an application form that must be duly completed and returned. No works on the public sewer shall be carried out until a letter of consent is received from United Utilities.

• Sewers for adoption.
If an agreement for the adoption of sewers under Section 104 of the Water Industry Act 1991 is being contemplated, a submission in accordance with “Sewers for Adoption”, Seventh Edition, published by the Water Research Centre (2001) Plc, Henley Road, Medmenham, PO Box 16, Marlow, Buckinghamshire, SL7 2HD will be required, taking into consideration any departures from the general guide stipulated by United Utilities.

• Further consultation with United Utilities.
Developers wishing to seek advice or clarification regarding sewer record information provided should contact United Utilities to arrange an appointment. A consultation fee may be charged, details of which will be made available at the time of making an appointment.

9. Combined sewers, foul sewers, surface water sewers, and pumped mains. These are shown separately in a range of colours or markings to distinguish them on our drawings, which are extracts from the statutory regional sewer map. A legend and key is provided on each extract for general use, although not all types of sewer will be shown on every extract.

Combined sewers shown coloured red carries both surface water and foul sewage, especially in areas where there is no separate surface water sewerage system.

Foul sewers coloured brown may also carry surface water and there may be no separate surface water system indicated in the immediate area. Both combined and foul sewers carry wastewater to our treatment works before it can safely be returned to the environment.

Surface water sewers coloured blue on our drawings are intended only to carry uncontaminated surface water (e.g. rainfall from roofs, etc) and they usually discharge into local watercourses. It is important for the protection of the environment and water quality that only uncontaminated surface water is connected to the surface water sewers. Improper connections to surface water sewers from sink wastes, washing machines and other domestic use of water can cause significant pollution of watercourses.

Pumped mains, rising mains and sludge mains will all be subject to pumping pressures and are neither suitable nor available for making new connections.

Highway drains, when included, show as blue and black dashed lines. Highway drains are not assets belonging to United Utilities and are the responsibility of local authorities.

10. For information regarding future proposals for construction of company apparatus please write to United Utilities, PO Box 453, Warrington, WA5 3QN.

11. For information regarding easements, deeds, grants or wayleaves please write to United Utilities Property Solutions, Coniston Buildings, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington WA5 3UU (**Tel: 01925 731 365**).

United Utilities Water PLC
Haweswater House, Lingley Mere Business Park,
Lingley Green Avenue, Great Sankey, Warrington WA5 3LP
www.unitedutilities.com
Registered in England and Wales Registered Number 2366678

Conditions and information regarding water distribution apparatus

These general conditions and precautions apply to the water distribution system of United Utilities.

Please ensure that a copy of these conditions is passed to your representative and contractor on site.

1. United Utilities provides approximate locations of its water mains or apparatus according to its records. These records are not necessarily accurate or complete nor do they normally show the positions of private service pipes from the mains to properties. Where service pipes are shown, a blue broken line indicates their approximate position. No person or company shall be relieved from liability for any damage caused by reason of the actual positions and/or depths being different from those indicated.

2. Special requirements relative to our apparatus may be indicated. United Utilities employees will visit any site at reasonable notice to assist in the location of its underground water apparatus and advise any precautions that may be required to obviate any damage. To arrange a visit or for further information regarding new supplies, connections, diversions, costing, future proposals for construction of company apparatus or any notification required under these General Conditions, please telephone us on **0845 746 2200** or write to United Utilities, PO Box 453, Warrington, WA5 3QN.

3. In order to achieve safe working conditions adjacent to any water apparatus the following should be observed;

(a) All water apparatus should be located by hand digging prior to the use of mechanical excavation.

(b) During construction work where heavy plant may have to cross the line of a water main, and the main is not under a carriageway of adequate standard of construction, crossing points should be suitably reinforced with sleepers, steel plates or a specially constructed reinforced concrete raft as necessary. These crossing points should be clearly indicated and crossing the line of the water main at other places should be prevented. United Utilities employees will advise on the type of reinforcement necessary. This is particularly important on agricultural or open land, where tilling or erosion may have significantly reduced the original cover.

(c) No explosive should be used within 32 metres of any United Utilities apparatus without prior consultation with United Utilities.

(d) Where it is proposed to carry out piling within 15 metres of any water main United Utilities should be consulted so that the affected main may be surveyed.

4. During any excavation, it is important that measures should be taken to ensure continued support for any water main:

(a) Where excavation of trenches adjacent to any water main is likely to affect its support, the main must be supported to the satisfaction of United Utilities.

(b) Where a trench is excavated crossing or parallel to the line of a water main, the backfill should be adequately compacted to prevent any settlement which could subsequently cause damage to the main. In special cases it may be necessary to provide permanent support to a main which has been exposed over the length of the excavation before back-filling and reinstatement is carried out. No back-filled concrete should contact the main.

5. No other apparatus should be laid over and along the line of a water main irrespective of clearance. A minimum clearance of 450 millimetres should be allowed between any plant being installed and an existing main, to facilitate maintenance and repair, whether the adjacent plant is parallel to or crossing the main. No manhole, chamber, or other obstruction should be built over or around a water main.

6. Where a water main is coated with special wrapping and the wrapping is damaged, even to a minor extent, United Utilities must be notified, and the excavation must be left open for ready access so that repairs can be made. In case of any material damage to the main itself causing leakage, or weakening of the mechanical strength of the pipe, the person or body responsible should immediately notify United Utilities in order that the necessary remedial work can be carried out. The full cost of the necessary remedial work will be charged to the person or body responsible for the damage.

7. If you propose to change existing levels over water mains you will need to inform us. We will need specific locations to be identified together with precise details as to the scale of the proposed changes to existing ground levels. Changes to existing levels may require the diversion of our apparatus at your cost. However, in certain circumstances we may wish to leave our apparatus where it is. On these occasions you will usually be required to protect our apparatus by means of a concrete raft and either raise or lower any surface boxes affected.

8. Under no circumstances should our surface boxes be either buried or left in a situation where they are raised above finished ground levels. You should re-use and re-set any surface boxes affected by your works into the new surface so that they align over the water apparatus below. You will be responsible for the cost of repairing any damage to our apparatus as a result of your works.

9. Where proposals involve resurfacing, you must notify United Utilities if your excavation will be greater than 750mm in the highway and 300mm in a footpath, verge or other location.

10. For information regarding easements, deeds, grants, licences or wayleaves, please write to United Utilities Property Solutions, Coniston Buildings, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington WA5 3UU
(**Tel 01925 731 365**).

Tree planting restrictions over water mains

a) Poplar and willow trees have extensive root systems and should not be planted within 10 metres of any water main.

b) The following trees and those of a similar size, whether they are deciduous or evergreen, should not be be planted within six metres of any water main:
• Ash, beech, birch, elm, horse chestnut, lime, oak, sycamore;
• Apple trees and pear trees;
• Most conifers.

c) United Utilities requires access to the route of its mains at all times to inspect for leaks and carry out surveys.
We recommend that no shrubs or bushes which might obstruct or interfere with our access should be planted within one metre of the centre line of any water main.

d) There may be instances when both United Utilities and the landowner will wish to plant shrubs or bushes close to the water main for screening or other purposes. The following shallow rooting shrubs would be suitable for this purpose:
• Blackthorn, broom, cotoneaster, elder;
• Hazel, laurel, privet, quickthorn, snowberry;
• Most ornamental flowering shrubs.

e) In areas where soft fruit is grown, blackcurrant, raspberries and gooseberries may be planted close to the main, provided that a path is left clear for inspection access and surveys. United Utilities can give additional advice where required in particular circumstances.

United Utilities Water PLC
Haweswater House, Lingley Mere Business Park,
Lingley Green Avenue, Great Sankey, Warrington WA5 3LP
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Appendix D: Kirkhill Avenue Landscape Appraisal

Turley

LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

RANDALL THORP
CHARTERED LANDSCAPE ARCHITECTS

Land At Kirkhill Ave, Haslingden Rossendale

Landscape Appraisal

August 2019

Prepared for:

Peel L&P
REALISING POSSIBILITY

T:
E: mail@randallthorp.co.uk
www.randallthorp.co.uk

Project/ doc reference	555C 2
Author	CAW
Checker	CAW
Format check	XX
QM Status	checked
Product Status	Confidential client issue
Check date	2018-08-18

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Diagrams

Figures

1. Introduction

1.1. Randall Thorp LLP has been commissioned by Turley, on behalf of Peel Holdings (Land & Property) Ltd, to produce a Landscape Appraisal as part of Peel Holdings engagement in the Rossendale Local Development Framework. The proposals include for the change in Urban Boundaries of an area of Land at Kirkhill Ave, Haslingden. For the purposes of this Landscape Appraisal, this land will be referred to as “the site”.

1.2. The Landscape Appraisal has been prepared for Peel Holdings in support of work being undertaken to assess the development potential of Land at Kirkhill Ave, Haslingden to meet the housing needs of the Borough.

1.3. The Appraisal provides some essential landscape baseline information about the site and a basic assessment of the landscape and visual impacts on the site and the surroundings were the land to be developed.

1.4. The Landscape Appraisal also responds to the evidence base for the emerging local plan – Landscape Study 2015 prepared by a landscape consultant on behalf of Rossendale Borough Council.

2. Methodology

Guidance

2.1. The Landscape Appraisal has been prepared in accordance with 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA), Third Edition, 2013; Landscape Institute and the Institute of Environmental Management and Assessment. These guidelines explain that it is necessary to tailor LVIA's and Landscape Appraisals to the specific nature of the proposals, and that a prescriptive approach should not be applied.

Approach

2.2. The principle objectives of the Landscape Appraisal are:

- To describe and evaluate the existing landscape character and components likely to be affected by the proposals (baseline description);
- To identify visual receptors with views of the proposals (baseline description);
- To identify and describe the sensitivity of these receptors and identify any potential effects of the proposals;

Baseline Studies

2.3. The baseline study identifies the landscape character and components of the site and surrounding landscape, and receptors with potential views of the development within the study area shown on Figure 1.1. The study area covers the extent of land where the site could either be partially or fully seen based on topography. Vegetation and built elements will prevent views of the site from a number of locations within the study area.

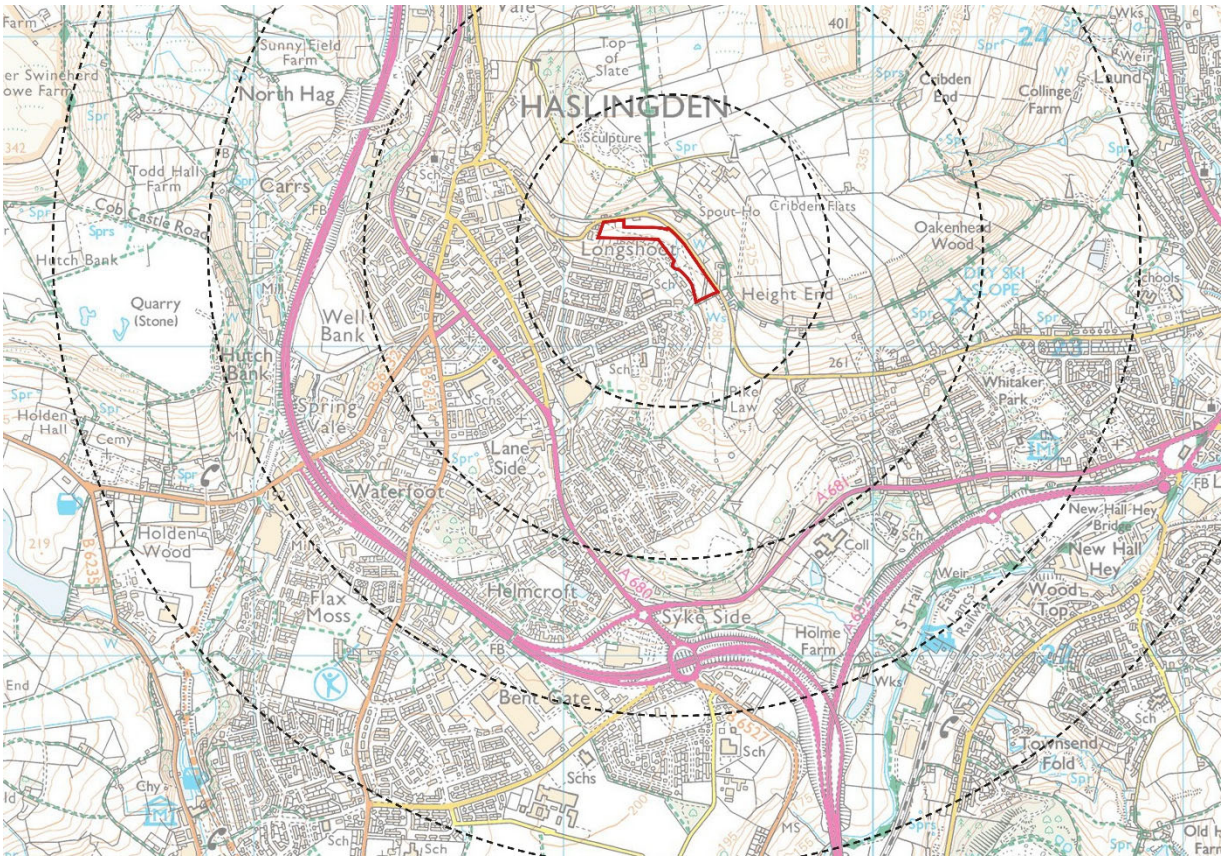


Figure 1.1

2.4. Baseline information of the landscape has been gathered through a combination of desk studies and field surveys.

2.5. The following documents have been reviewed as part of the desk study:

- National Planning Policy Framework (February 2019)
- Core Strategy DPD The Way Forward (Adopted November 2011)
- Local Plan Proposals Map (Adopted April 1995, updated November 2011)
- Emerging Local Plan Submission version (March 2019)
- National Landscape Character Area 36: South Pennines (2014)
- Lancashire Landscape Character Assessment (December 2000)

2.6. Field work was undertaken in August 2015 to gain a first-hand understanding of the landscape within and around the site, its component parts and subdivisions, as well as the contribution currently made by different areas in terms of landscape quality and character, value, green infrastructure functions and accessibility. The field work also established the visual baseline to identify the range of views of the site, and whether there are any public viewpoints which are important in terms of appreciating the character of the site. The site was revisited in August 2019 to ensure there were no significant changes to the baseline condition.

2.7. Viewpoints considered representative of potentially sensitive receptors situated within the

study area at varying distances and directions have been identified. Views from public viewpoints, such as Public Rights of Way (PRoW) and roads in the vicinity, as well as private viewpoints at residential properties have been considered.

Photography Methodology

2.8. Photographs have been taken from publicly accessible locations with a digital SLR type camera (Olympus E420) with a 25mm pancake fixed lens. This produces individual photographs with an approximate horizontal field of view of 40 degrees which are similar to those taken with a standard 35mm film camera and a 50mm fixed focal length lens. Individual photographs are then joined as panoramas to obtain fields of view which are as representative as possible of the views obtained from the particular viewpoint. Technical Guidance set out within the Landscape Institute Advice Note 01/11 (2011) - Photography and photomontage in landscape and visual impact assessment, has been followed, although tripod mounting and levelling to horizontal and vertical axes has not been employed, and any grid references (where given), are approximate.

Scheme Description

2.9. The principle elements of the scheme are described in section 6.

Assessment of Effects

2.10. In line with published guidance, the assessment is based on consideration of the sensitivity of landscape character, landscape features, and views/viewers to the type of development being proposed, (i.e. – residential development) and on the magnitude of change likely to occur. The sensitivity and magnitude are then considered together, and conclusions drawn on the likely effects on the landscape or on people's visual amenity.

2.11. The assessment primarily considers daytime effects because the site is located adjacent to existing settlement and principle viewpoints are from PRoW's used in the daylight hours.

2.12. For each landscape and visual receptor a wide range of considerations are drawn together as indicated by Tables 1 and 2 below.

Diagram 1: Considerations contributing to establishing the significance of landscape effects.

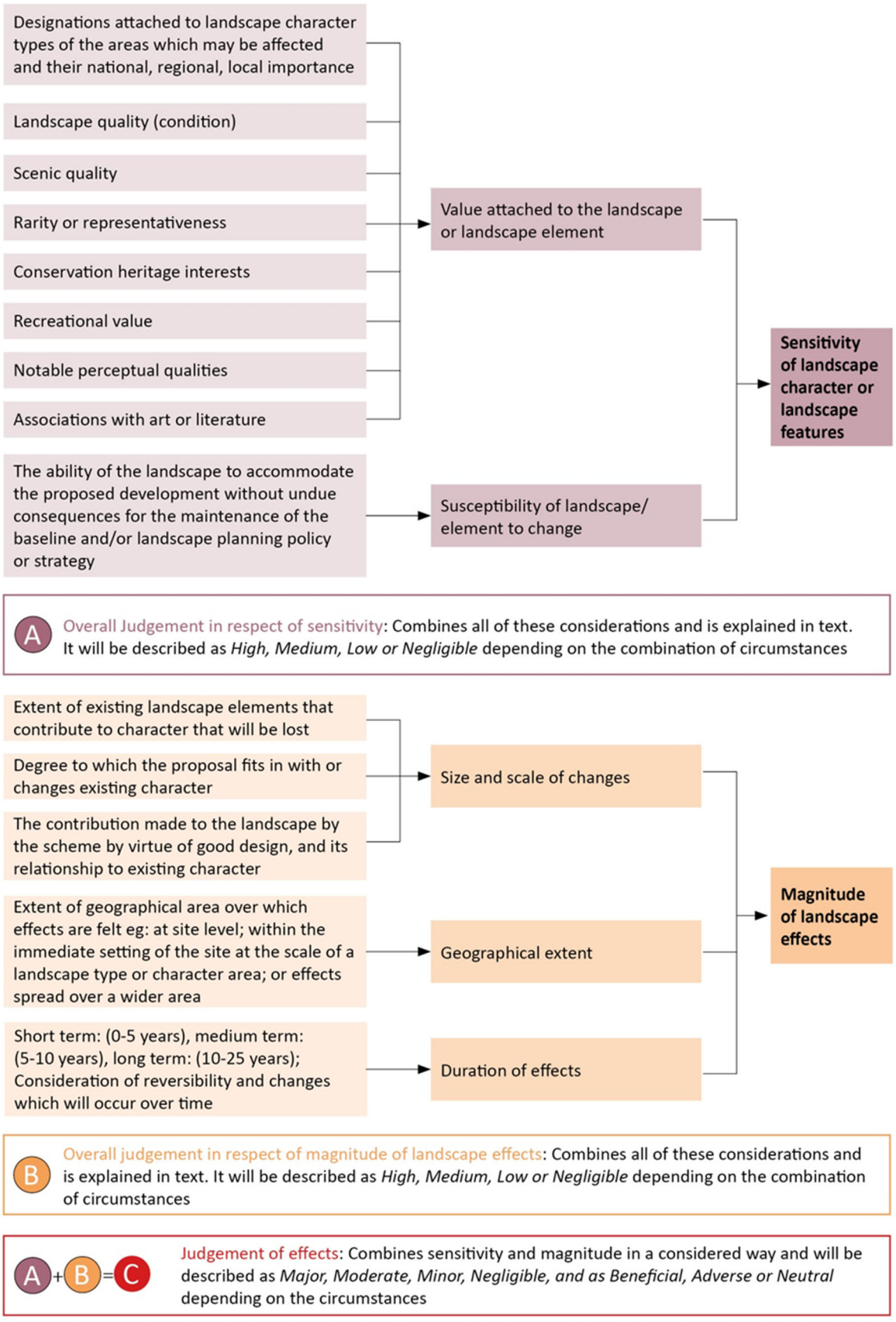
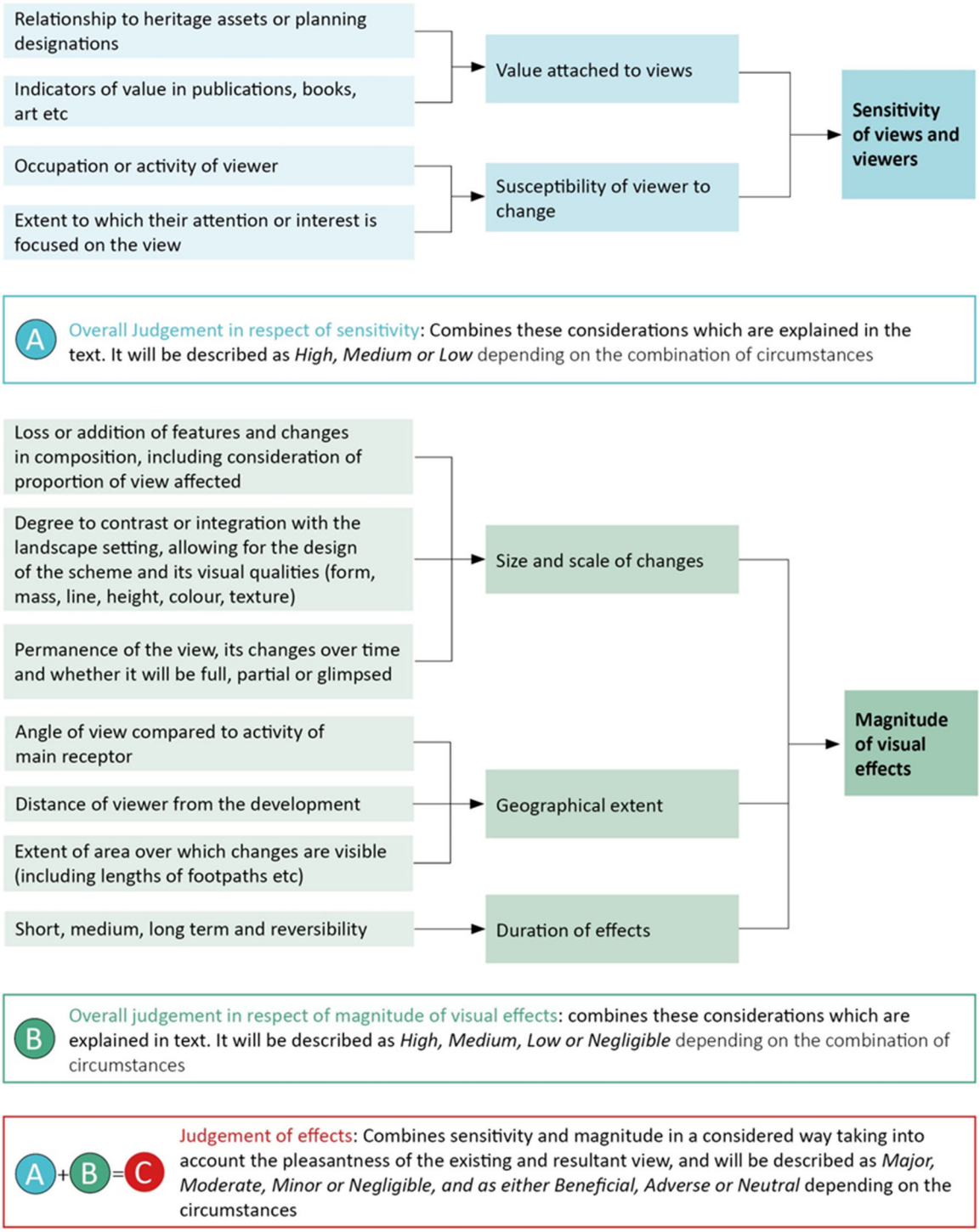


Diagram 2: Considerations contributing to establishing the significance of visual effects.



Mitigation

2.13. Landscape mitigation is most effective if considered as an integral part of the site layout and design in order to avoid, reduce or offset any adverse effects on the landscape or wider environment. Landscape mitigation is part of an iterative process of project planning.

2.14. Avoidance of impact through site planning and design has been the preferred and primary mitigation strategy for the avoidance of adverse landscape and visual effects.

2.15. Where landscape features cannot be avoided and will be lost, compensation in the form of replacement or creation of other appropriate substitute features are proposed as deemed appropriate.

Assumptions and Limitations

2.16. For the purpose of this landscape and visual assessment, the assessment has been based on the assumption that the site would be developed for housing.

2.17. A computer generated Zone of Theoretical Visibility has not been undertaken. The visibility of the site has been determined by a study of the existing topographical baseline and field work, with site observations taking into account the existing terrain, vegetation and intervening development. The prediction of visibility of the development is based on a maximum of 2.5/3.0 storey house judged against the heights of existing buildings in the landscape.

3. Legislative, Planning and Policy Framework

3.1. The review below highlights the key elements of policy which provide the landscape and design framework for the proposed development and which have provided the context for the Landscape Appraisal.

National planning policy

a. The National Planning Policy Framework (February 2019) promotes a presumption in favour of sustainable development for both plan-making and decision-taking (Paragraph 11).

b. Section 12 of the NPPF, Achieving Well-Designed Places, states (paragraph 124) that *"good design is a key aspect of sustainable development, creates better places to live and work and helps make development acceptable to communities"*. Paragraph 127 states, *"Planning policies and decisions should ensure that developments:*

a. *will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
b. *are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;*
c. *are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities)*
d. *establish or maintain a strong sense of place, using the arrangements of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;"*

c. Section 15 of the NPPF, Conserving and Enhancing the Natural Environment, (paragraph 170) sets out how planning policies and decisions should contribute to and enhance the natural and local environment by:

d. *Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
e. *Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of best and most versatile agricultural land, and of trees and woodland;*

National designations

3.2. There are no national statutory landscape designations within the site boundary or immediate landscape setting.

Planning Practice Guidance

3.3. The Planning Practice Guidance (PPG) was published on 6th March 2014 to supplement the

NPPF. The PPG reiterates the sentiment that 'good design is indivisible from good planning' and that design qualities, amongst other things, play a fundamental role in delivering successful developments. Local character and landscape setting is recognised within the guidance as one of the many issues to consider when assessing the impact of new design on the physical environment.

Local Planning Policy

3.4. The Current Local Plan comprises the Core Strategy, Proposals Map and Saved Policies. The Rossendale Core Strategy Development Plan Document was adopted in November 2011 and sets out the current policies relating development and land uses.

3.5. On 24th February 2016 Rossendale Borough Council took the decision to withdraw the Site Allocation and Development Management Policies Plan - Lives and Landscapes. Although this document is no longer part of the evidence base to inform planning decisions this appraisal has considered the receptors and conclusions made in this assessment as the evidence to the Emerging Local Plan.

Core Strategy DPD The Way Forward, (Adopted November 2011)

3.6. Policy 1: General Development Locations and Principles states that: "*Proposals outside the urban boundary will be determined in accordance with the relevant national and local planning guidance." and "A review of the existing Green Belt boundaries will be undertaken as part of the Site Allocation DPD. The review will be limited to small scale changes and cartographic corrections that do not adversely impact on the proposed Green Belt*".

3.7. Figure 1.2 shows the site in the context of the Core Strategy DPD planning policies and designations.

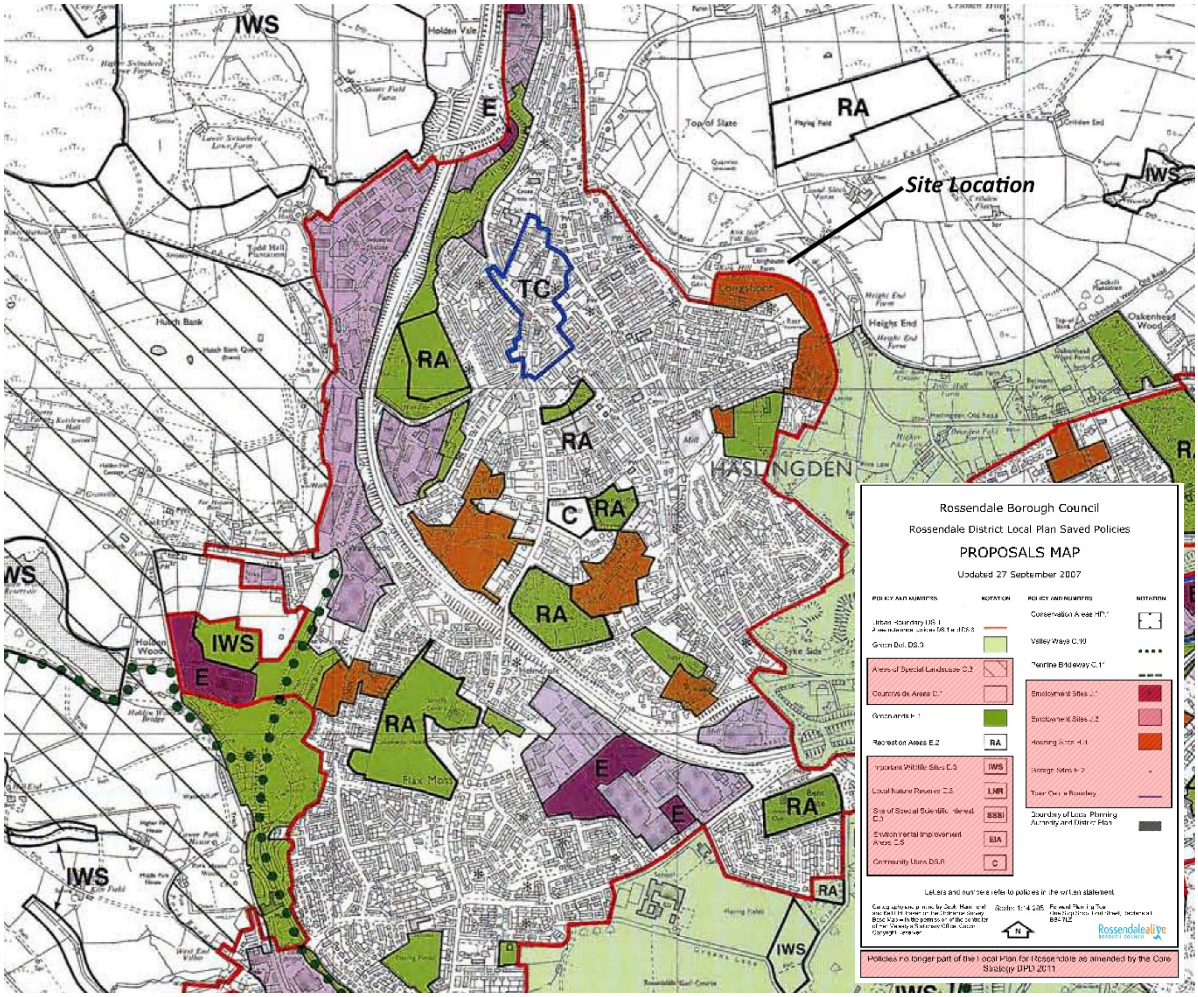


Figure 1.2

3.8. The site is designated as Open Countryside under Policy 1, however this policy has since been withdrawn.

> *"The Council will seek to enhance the quality and sustainability of places and individual developments by taking into account the following criteria when preparing LDF and considering individual planning applications:*

- Make best use of under-used, vacant and derelict land and buildings
- Complement and enhance the surrounding area(s) of development through the use of inclusive design and locally distinctive materials which enhances the character and heritage of Rossendale
- Minimise negative impacts upon existing infrastructure capacities by considering its capacity levels and plans for future upgrades and expansion
- Taking a precautionary approach to flood risk
- The need to ensure that mineral resources are not needlessly sterilised by new development
- Maximise energy efficiency and demonstrate effective use of low carbon technologies
- Maximise access by public transport, walking and cycling in a manner that promotes safe

inclusive communities and promote co location of services and facilities
- Enhance and protect the countryside, geodiversity and biodiversity resources including habitats and species
- Wherever possible, improve the amount of, links to and the quality of the local network of open spaces and green infrastructure
- Contributes to maintaining and creating sustainable and inclusive communities

3.9. Other policies of relevance to the proposals include:

3.10. Policy 2 – Meeting Rossendale's Housing Requirement: Achieving the net housing requirements.

3.11. Policy 17 – Rossendale's Green Infrastructure: *promote the protection, enhancement and where appropriate the expansion of the Green Infrastructure network.*

3.12. Policy 18 – Biodiversity, Geodiversity and Landscape Conservation: *avoid any harmful impacts of development on all aspects of Rossendale's natural environment.*

3.13. Policy 23 – Promoting High Quality Designed Spaces: ensure Rossendale's places and buildings are attractive, safe and easy to use.

Emerging Local Plan

3.14. A new Emerging Local Plan has been drafted and submitted to the Planning Inspectorate.

3.15. Rossendale Borough Council submitted the Emerging Local Plan for examination in March 2019. The Emerging Local Plan will provide a statutory planning framework to 2034. It will contain an overall strategy for development and policies on the scale and distribution of development. It will allocate sites needed to accommodate new development and areas to be protected or enhanced.

Emerging Local Plan Policies Map Submission Version

3.16. An extract from the Policies Map is shown in Figure 1.3. The site is designated as Housing Site Allocation, H74. The site has no landscape designations.

Emerging Local Plan Submission Version (March 2019)

3.17. Policy HS2: Housing Site Allocations states that:

"The following sites, shown on the adopted Policies Map, have been allocated for housing development. Applicants will be expected to prepare Masterplans for the sites of 50 dwellings or over in order to provide a comprehensive approach to development."

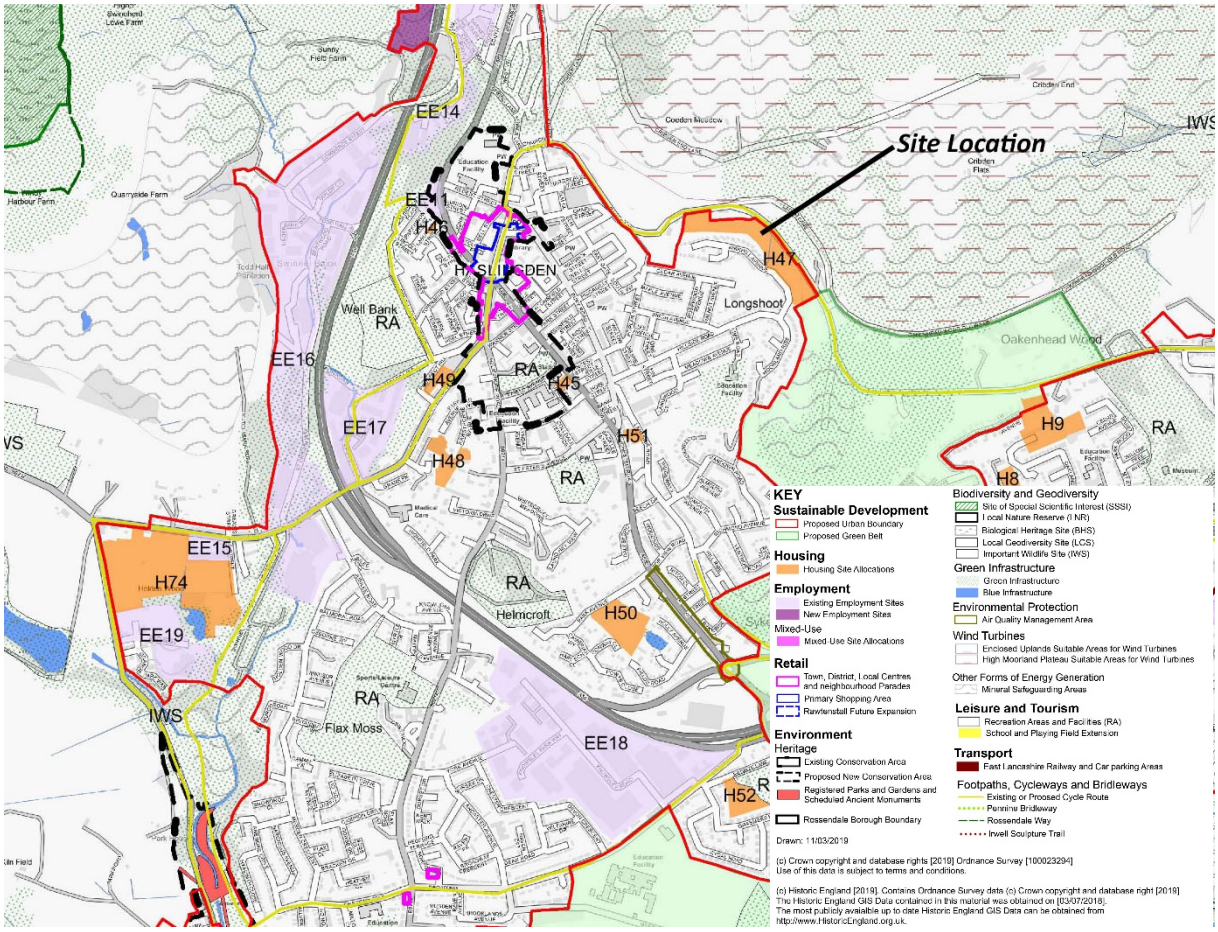

Site Location
EE14
EE11
H46
HASLINGDEN
H47
Longshoot
Oakenhead Wood
Well Bank
RA
EE16
H49
RA
H45
EE17
H51
H9
RA
H48
RA
H8
EE15
H74
RA
Helmcroft
H50
EE19
RA
Flax Moss
IWS
EE18
H52
KEY
Sustainable Development
Proposed Urban Boundary
Proposed Green Belt
Housing
Housing Site Allocations
Employment
Existing Employment Sites
New Employment Sites
Mixed-Use
Mixed Use Site Allocations
Retail
Town, District, Local Centres and neighbourhood Parades
Primary Shopping Area
Rawtenstall Future Expansion
Environment
Heritage
Existing Conservation Area
Proposed New Conservation Area
Registered Parks and Gardens and Scheduled Ancient Monuments
Rossendale Borough Boundary
Drawn: 11/03/2019
Biodiversity and Geodiversity
Site of Special Scientific Interest (SSSI)
Local Nature Reserve (LNR)
Biological Heritage Site (BHS)
Local Geodiversity Site (LCS)
Important Wildlife Site (IWS)
Green Infrastructure
Green Infrastructure
Blue Infrastructure
Environmental Protection
Air Quality Management Area
Wind Turbines
Enclosed Uplands Suitable Areas for Wind Turbines
High Moorland Plateau Suitable Areas for Wind Turbines
Other Forms of Energy Generation
Mineral Safeguarding Areas
Leisure and Tourism
Recreation Areas and Facilities (RA)
School and Playing Field Extension
Transport
East Lancashire Railway and Car parking Areas
Footpaths, Cycleways and Bridleways
Existing or Proposed Cycle Route
Pennine Bridleway
Rossendale Way
Irwell Sculpture Trail
(c) Crown copyright and database rights [2019] Ordnance Survey [100023294]
Use of this data is subject to terms and conditions.
(c) Historic England [2019]. Contains Ordnance Survey data (c) Crown copyright and database right [2019]
The Historic England GIS Data contained in this material was obtained on [03/07/2018].
The most publicly available up to date Historic England GIS Data can be obtained from
http://www.HistoricEngland.org.uk.

Figure 1.3

4. Baseline Landscape Conditions

Landscape Character Context

National Landscape Character Context

4.1. The vicinity of the site is identified by Natural England as falling within National Landscape Character Area 36 – South Pennines. Its pertinent key characteristics are identified as comprising:

- *Large-scale, open, sweeping landscape with high flat-topped hills providing extensive views, cut into by narrow valleys with wooded sides;*
- *Mosaics of moorland vegetation on the plateaux, including blanket bog and heathland, supporting internationally important habitats and assemblages of upland birds, invertebrates and breeding waders;*
- *Enclosed upland pastures and hay meadows enclosed by dry stone walls on the hillsides, and narrow valleys with dense grit stone settlements in the valleys with steep slopes often densely wooded, providing strong contrast with open moorlands;*
- *Many reservoirs on the moors, supplying drinking water to the adjacent towns, wintering and breeding habitats for birds and high quality recreation experiences;*
- *Medieval villages and small holdings on higher shelves of land above the valleys, with small fields and a dense network of lanes and paths;*
- *Local stone buildings, with stone flags on roofs, bring a high degree of homogeneity to the towns, villages, hamlets and farmsteads;*
- *Rich time depth, from prehistoric features such as carved rocks, to medieval boundary stones, old mineral extraction sites and more recently, mills, factories, and non-conformist chapels;*
- *Historic packhorse routes traversing the moorlands, with more recent road, rail and canal routes located along valleys;*
- *Prominent feature, including Stoodley Pike, Darwen Jubilee Tower, Rivington Pike, wind farms and communication masts, visible from afar;*

4.2. The National Character Areas provide a general overview of character and is not detailed enough to provide an accurate description of the character of the landscape within the context of the site.

Local Landscape Character Context

Lancashire Landscape Character Assessment (2000)

4.3. The Lancashire Landscape Character Assessment (2000) has divided the National Landscape Character Types within the Lancashire area into geographically smaller Landscape Character Areas. The site is identified as lying within Landscape Character Area 8 –Settled Valley.

4.4. The character area is described as "*the narrow, high sided valleys of the river Irwell and it's tributary streams*", its key characteristics are:

- *Along the valley floor the urban settlements between Rawtenstall and Bacup, which originated at river crossing points; have now merged to form a dense ribbon of urban and industrial development;.*
- *The textile mills, with their distinctive chimneys, dominate the urban skyline and are a hall mark of this South Pennine landscape;*
- *Grit stone terraces form characteristic features of the hillsides and valley floor;*
- *North facing slopes usually remain free of development and there are frequently views towards woodlands, the patchwork of in-bye pastures and moorland edge;*
- *Broadleaved woodlands cling to the steep slopes and fill the steep valley side cloughs, reinforcing the sense of enclosure within the valleys, although the Irwell Valley has relatively little woodland;*
- *The settled valley contains a remarkable legacy relating to our industrial heritage, which itself marks remnants of pre-industrial settlement and land use;*
- *Urban areas, which were confined by topography tended to grow along the bottoms of the valleys and have tight knit urban centres. They are dominated by large textile mill buildings with terraces of stone cottages with their characteristic contrasting stonework and pointing running along the lower valley sides;*

4.5. The Lancashire Landscape Character Assessment describes the area along the valley floor as urban settlement. The surrounding housing and industry within the vicinity of the site is in keeping with the description of the character area. A lack of existing landscape features means the site has a low value within the wider landscape character area.

Description of the Site and its Surroundings

4.6. Figure 1.4 shows the site in its landscape context and surrounding public rights of way. Figure 1.5 shows the site features and Figure 1.6 includes photographs A-C which illustrate the character and features within the site.

Site Location and Boundaries

4.7. The site consists of one broadly crescent shaped area of grassland and mature vegetation. The boundaries are currently defined by Kirk Hill Road to the north and east, and Kirkhill Avenue and residential properties to the south and west. A mixture of mature trees and timber fencing forms the boundaries to the site adjacent to the residential areas.

4.8. The site comprises an area of managed public open space, crossed by numerous paths and board walks. The site is fairly enclosed in the north section by native tree planting.

Landform and Drainage

4.9. The site slopes steeply up to Kirk Hill Road from the rear of the properties on Kirk Hill Ave, rising over 10m to form a steep embankment.

Vegetation

4.10. The site is heavily planted in the north west section with clusters of native young trees.

Public Rights of Way

4.11. There are no Public Rights of Way (PRoW) within the site although a network of informal footpath traverses the site in all directions. PRoW's within the surroundings of the site are shown on Figure 1.4 and are described below.

4.12. PRoW FP133, FP136, FP137 & FP139 are located to the north east of the site and generally run in an east to west direction. These routes are generally flanked by dry stone walls and isolated trees and provide an elevated view across the surrounding landscape. PRoW 139 forms part of a longer route known as the Shoe Trail.

4.13. PRoW FP140 is located to the east along the south eastern boundary of the site and provides a connection from PRoW FP139 down the hill to the residential area of Kirk Hill Ave. The route is flanked by intermittent tree and woodland planting as well as post and wire fencing.

4.14. PRoW FP320 and 323 run in a north to south direction and provide long distance views from the wider landscape to the east of the site. PRoW FP323 follows an access track from Kirk Hill Road, which is flanked by a dry stone wall up to the top of Pike Law. PRoW FP320 follows a vegetated field boundary from Kirk Hill Road up to the Shoe Trail and PRoW FP139.

4.15. PRoW 328a runs in a north to south direction from Helmshore up to Beetle Hill and Holcombe Moor beyond. Travelling north from Beetle Hill down the PRoW the footpath is flanked on both sides by dry stone wall. The PRoW descends steeply and provides long distance views across the Valley towards Haslingden.

Views, Visibility and Visual Character

Visual Context and Views from the Site

4.16. Photographs of the site are included on Figure 1.6 and the photograph locations are shown on Figure 1.5.

4.17. Due to the topography of the land and the clusters of trees within the site there are limited long distance views to north from within the site. Gaps in the vegetation along Kirk Hill Road allow filtered views towards the agricultural land and adjacent farm buildings, however this land is on a steep incline and there are few views beyond this.

4.18. To the west, views are screened somewhat by the vegetation within the site and along the west boundary. Gaps in the vegetation along PRoW FP140 allow filtered views towards Pike Law and the adjacent side of the valley.

4.19. To the east the topography of the land and dense vegetation limits the views out of the site. There are short range views possible to Kirk Hill Farm and the agricultural land beyond.

4.20. To the south, views are foreshortened and dominated by the properties on Kirkhill Ave which have clear views of the site. The town of Haslingden can be viewed in the distance when looking south from the upper northern boundary of the site, again in places these views are screened by the clusters of native young trees scattered throughout the site.

Visual Receptors and Views of the Site

4.21. Figure 1.6 identifies the photographic survey viewpoints and visual receptors which are the publicly accessible areas and private dwellings from which there are views of the site. The photographs are grouped into sequences of views from linear receptors (footpaths and roads) to provide an overall impression of the character and visibility of the receptor.

4.22. Figures 1.8 – 1.13 provide a photographic study of the site and its context.

4.23. The main visual receptors are:

1. **Users of PRoW FP133, FP136, FP137 & FP139 to the north of the site**. There are no views of the main body of the site from these routes due to the existing topography and the intervening vegetation and tree clusters within the site. However, there are views of the eastern part of the site that is exposed on higher ground beneath the overhead electricity lines. As the route moves east there are glimpses through the existing vegetation towards the site if developed, although the land within the site is not visible. (Photos 1 - 4)

2. **Users of PRoW FP140 to the south east boundary of the site**. There are glimpsed views of the site from this south east boundary through the intervening vegetation and mature tree clusters. As the route continues south west the land falls steeply towards Kirkhill Ave preventing any views of the site from this part of the route. (Photo 5)

3. **Users of PRoW FP323 & FP320 to the south east of the site**. The site is generally not visible from the PRoW FP320 due to the topography of the land, the steep incline to this footpath and the ridge of the adjacent hill prevent the viewer being about to see into the site. However the roofscape of the properties to the south of the site along Kirkhill Ave are visible over the brow of the hill. The site is generally well screened from the PRoW FP323 to the south east of the site. The footpath is flanked on this western side with a dry stone wall as the path rises up to Pike Law preventing any clear views. Further north towards Kirk Hill Road the footpath is flank by a post and wire fence a large proportion of the site is screened from the east by intervening mature vegetation and the tree clusters; however a gap in the vegetation allows views into the west section of the site. (Photos 6, 7)

4. **Users of PRoW FP328a the far south west of the site**. There are views from this elevated footpath on the far side of the valley to the south west of the site. Existing properties, industrial units and a mast dominant the view, the eastern part of the site that is exposed on higher ground beneath the overhead electricity lines is visible. The footpath descends steeply towards Haslingden and this view is experienced for a short section of a longer

route. (Photos 8)

5. **Motorists using Kirk Hill Road to the north of the site**. The intervening mature trees and vegetation along the northern boundary of the site are a dominant feature on this road and views into the site are generally screeneed. Motorists travelling on this road may experience some glimpse views of the site, although due to the average speeds along this stretch of road, any view would be fleeting and not the primary focus of the user.

6. **Motorists using Cribden End Lane to the north of the site.** Users of Cribden End Lane travelling west will have views of the site due to the elevated position of the road in comparison to the landscape to the south. These views are framed by the undulating landform within the existing fields, and the existing properties along Kirkhill Ave.

7. **Private residents of 2 storey properties on Kirkhill Ave to the south of the site**. Due to the elevated position of the site to the north of these properties there are views of the site from the upper and lower storeys.

8. **Private residents of the 2 storey properties Oakenhead Wood Old Road and Union Road to the east of the site**. The private residents of some properties to the east have views of the site from their upper storeys. These views are partially filtered by the existing landform and vegetation within the agricultural landscape.

4.24. Potential views from properties would generally be from upper floors and representative images are therefore generally not possible.

5. Key Issues and Potential Landscape Effects

5.1. A review of the baseline descriptions suggests that issues of most importance or relevance for the development will include:

- Effects on landscape features and character of the landscape;
- Effects on views from the public footpaths around the site;
- Effects on views from the roads that surround the site;
- Effects on views from private properties which surround the site;

5.2. Purely private views are of relevance when judging the land use impact of a proposal. However there is no 'right to a view', and thus the change to a view is not of itself of concern to the planning system unless there is a material impact upon residential amenity as a result of the proposed development.

6. Description of the Scheme and Mitigation

6.1. The scheme proposes a development of around 50 houses with access from Kirkhill Ave.

6.2. The proposals include the strengthening and enhancement of existing field boundaries, screen planting the northern boundary adjacent to Kirk Hill Road and screen planting to the southern boundary at the rear of the properties that front on to Kirkhill Ave. Native species are proposed to be planted inside the fenceline along the boundaries. This would improve biodiversity and the ecological value of the site as well as mitigating the visual effect.

6.3. The properties would vary in size and type and be designed to be in keeping with local architectural style and be sinuous with the surroundings. The development and associated infrastructure would be designed as such to follow the existing topography of the land and take advantage of views across Haslingden.

6.4. The development would be a natural extension of the built form up to Kirk Hill Road and is influenced by adjacent urbanising features such as housing and electricity pylons.

6.5. Areas of public open space of the appropriate size would be positioned under the overhead power lines to ensure efficient use of the undevelopable space.

7. Preliminary Assessment of Potential Landscape Effects

Landscape Features

Conclusions in respect of sensitivity of landscape features

7.1. The site is dominated by young native clusters of trees and a wetland habitat. The site is currently used a public open space but has no formal designation as such. There are no landscape features of outstanding national or regional value. The overall condition of the site appears to be medium; there is an area of board walks and numerous paths throughout the site.

7.2. The site would be able to accommodate the development with some changes to the landscape baseline and existing woodland tree clusters, the overall sensitivity of the landscape features on the site is therefore considered to be medium.

Conclusions in respect of magnitude of change and preliminary assessment of potential effects on the landscape features

7.3. There are no important landscape features within the site, and proposed tree planting along the site boundaries as part of the mitigation strategy would compensate for any trees lost within the site.

7.4. The effects of the loss of tree clusters would be moderate but there would be an overall increase in vegetation and biodiversity of the site with the proposed planting in the gardens of the development. Effects on landscape features would be moderate - minor.

Landscape character

Conclusions in respect of sensitivity of landscape character

7.5. The landscape is consistent with the 'Settled Valley' character area and development would not result in a change from the baseline with appropriate mitigation.

7.6. The value of the site itself is considered to be medium due to the landscape features creating a landscape of medium quality; it has some recreational value but very little value in terms of scenic quality or rarity.

7.7. The overall sensitivity of the wider landscape character area to change is considered to be medium due to the presence of a variety of landscape features and PRoW's which give the wider landscape some recreational value and scenic quality. However, the landscape features within the site are not considered to be rare. The site is able to accommodate the proposed development without any change to the landscape baseline, "Settled Valley", and therefore the landscape character of the site has a low sensitivity.

Conclusions in respect of magnitude of change and preliminary assessment of the potential effects on the landscape character

7.8. There would be no loss of landscape elements that contribute to the character of the landscape, and the nature of the scheme would be in keeping with the existing residential development and built form to the south of the site. The residential development would change the appearance within the site due to the nature of the built form, which would be felt at the local level. In addition to trees and garden planting within the development the introduction of mitigation planting along the site boundaries would enhance the landscape and have a beneficial effect.

8. Preliminary Assessment of Potential Visual Effects

Conclusions in respect of sensitivity of the views

8.1. The landscape of the site is viewed by users of the public footpath network for whom the appreciation of the landscape may be their focus. The users of PRoW's are therefore considered to be of high sensitivity.

8.2. The transient views for motorists, cyclists and users of highways footpaths using local roads, including Kirk Hill Road and Cribden End Lane are considered to have medium sensitivity to change as the views may be considered important to maintain general visual amenity.

8.3. Residents of private dwellings who currently have an open view of the site will be expected to have a high level of sensitivity to any changes within the site. However, since Landscape Appraisal is not primarily concerned with private views (which are assessed in terms of residential amenity), the assessment of changes to these viewpoints will be of less significance than any changes to public views.

Preliminary assessment of the potential effects on the visual receptors

8.4. The site is visible from parts of a number of PRoW's within the study area from varying distances and elevations. The surrounding PRoW network has the highest sensitivity to change. The proposed development on the site would be expected to result in some notable visual changes for these visual receptors.

8.5. Users of the PRoW FP133, FP136, FP137 & FP139 would experience a change in view, the existing roofline of the properties along Kirkhill Ave are visible above the mature vegetation; development of the site would change the roof line and bring this closer to the viewer. However the view would remain that of an urban edge and would not be discordant with the wider panorama. The magnitude of change is considered to be minor and potential effects of the proposed development would be of limited importance. Mitigation planting is proposed and on maturity of this vegetation the effects will reduce.

8.6. Users of PRoW FP140 would experience the biggest change in the view due to its close proximity to the site; however the view would be screened by the existing vegetation along the west boundary of this PRoW. The north eastern corner of the site is also proposed to be an area of public open space and so any proposed development would be set back from this footpath. To the south of the site is the residential area of Haslingden and the properties that front onto Kirkhill Ave, views gained from the PRoW would be experienced in the context of this urban boundary and edge. The magnitude of change is considered to be moderate - and potential effects of the proposed development would be of limited importance.

8.7. Users of PRoW's FP320 & FP323 would experience a change in the view due to the location on higher ground and the close proximity to the site. The views would be screened by the

existing vegetation along the south west boundary of the site however gaps in the planting along this boundary would allow glimpses through to the site. The north eastern corner of the site is proposed to be an area of public open space and so the built form will be set back from this boundary closer to the existing properties along Kirkhill Ave. The magnitude of change is considered to be minor.

8.8. From PRoW FP328a the view is from a distance of over 4km away and is of a complex nature, including the existing built form of Haslingden and associated industrial buildings. The magnitude of change is considered to be minor - negligible and would only be experienced for a short section of a much longer route along the footpath that falls steeply down into the valley. These visual effects would be further reduced upon maturity of the proposed vegetation within the site.

8.9. Short sections of Kirk Hill Road would have open views towards the site. However due to the meandering nature of the road, the landscape is not the primary focus of the user. Views are possible from Cribden End Lane towards the site; however the elevated position of this road means the view will change to that of roofs to houses which is not discordant with the existing view experienced. The north east corner of the site is also exposed but the proposals include for an area of Public Open Space here. Views from Kirkhill Ave and Union Road would be glimpses and fleeting. The magnitude of change is considered to be minor and potential effects of the proposed development would be of limited importance. Mitigation planting is proposed to the southern and southern boundary of the site and on maturity of this vegetation the effects will reduce.

8.10. The residents of Kirkhill Ave have clear views of the site, but this is not discordant with the surrounding locality of these properties and the town of Haslingden beyond. The magnitude of change is considered to be moderate to minor. The proposed planting along the site boundaries would reduce the effects particularly from the ground floor once they reach maturity. Residents at Oakenhead Wood Road and Union Road may experience filtered views towards the site, the magnitude of change is considered to be minor – negligible and would reduce over time as the boundary vegetation matures.

9. Response to the Evidence Base

9.1. The landscape character is an urban edge and wraps around the existing settlement area and urban boundary of Haslingden. As such inclusion of the site within the urban boundary would not have a significant adverse effect on the landscape character. Mature trees and Kirk Hill Road form the northern boundary of the site providing a logical new Green Belt boundary.

9.2. In response to the evidence base (Landscape Study 2015) it is considered that with appropriate mitigation the site could be considered suitable for development and as such has been designated for housing allocation in the emerging local plan. Although the site rises up the valley, the northern boundary and Kirk Hill Road is a logical extension of the urban edge and would round off the built form of Haslingden.

9.3. The assessment considers that this section of the site is not typical of the “Settled Valley” and is more appropriately described as “Enclosed Upland” however this is not correct. The site has a strong association with the adjacent housing development and largely influenced by urbanising features such as the overhead power lines, pylons and masts within the local vicinity. Within the site itself the possible long range views are that of dense housing development and Haslingden beyond, this would be discordant with the characteristics experienced within the “Enclosed Upland” character type.

10. Summary of Conclusions

Potential Landscape Effects

10.1. The Landscape Appraisal considers that the effects on landscape features or landscape character as a result of the proposed development are not significant, with a beneficial effect on landscape features through the introduction of trees, garden planting and mitigation planting along the site boundaries. Although some clusters of native trees will be removed this loss can be compensated for with proposed tree and shrub planting within the site and as part of screen planting to the site boundaries.

Potential Visual Effects:

10.2. The Landscape Appraisal concludes that:

- The potential effects on views from the PRoW network within the study area are not significant in the context of the surrounding landscape and would be reduced upon maturity of the mitigation planting;
- The potential effects on views from the users travelling along Cribden End Lane are not significant in the context of the overall landscape and would be reduced upon maturity of the mitigation planting;
- The potential effects on views from Kill Hill Road are not significant and are of limited importance;
- The potential effects on views from private properties on Kirkhill Ave are the biggest change as a result of the proposals and are considered to be moderate. Although the effects on views from the ground floor of this receptor would be reduce upon maturity of the proposed screen planting;
- The potential effects on views from private properties to the east of the site are not significant and would be reduced upon maturity of the boundary planting;

Potential new long term defensible Green Belt:

10.3. The site is not designated as Green Belt. The landscape is urban edge that hugs the existing housing development of Haslingden and is strongly influenced by the surrounding features. As such inclusion of the whole site within housing allocation would not have a significantly adverse effect on character.

10.4. Kirk Hill Road and vegetation to the northern boundary of the site would provide a physical boundary to the Open Countryside, and would result in a rounding off of the urban edge in line with the requirements set out in NPPF.

LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

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Scale 1:10,000

North

0m 100 200 300 400 500m 1000m

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KEY:

Site Boundary

Public Right of Way

Peel L&P
REALISING POSSIBILITY

Land at Kirkhill Avenue & Moorland Rise, Haslingden, Rossendale

Landscape Appraisal

Figure 1.4

PROW and features within the Study Area

Drwg No: 555C-38
Drawn by: HB/AG
Rev by: xx
QM Status: unchecked
Scale: 1: 10,000 @ A3

Date: 16.08.19
Checker: CW
Rev checker: xxx
Product Status: Internal RT Review

Scale NTS

North

LANDSCAPE ARCHITECTURE
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KEY:

Site Boundary

Photograph Locations

Peel L&P
REALISING POSSIBILITY

Land at Kirkhill Avenue & Moorland Rise, Haslingden, Rossendale

Landscape Appraisal

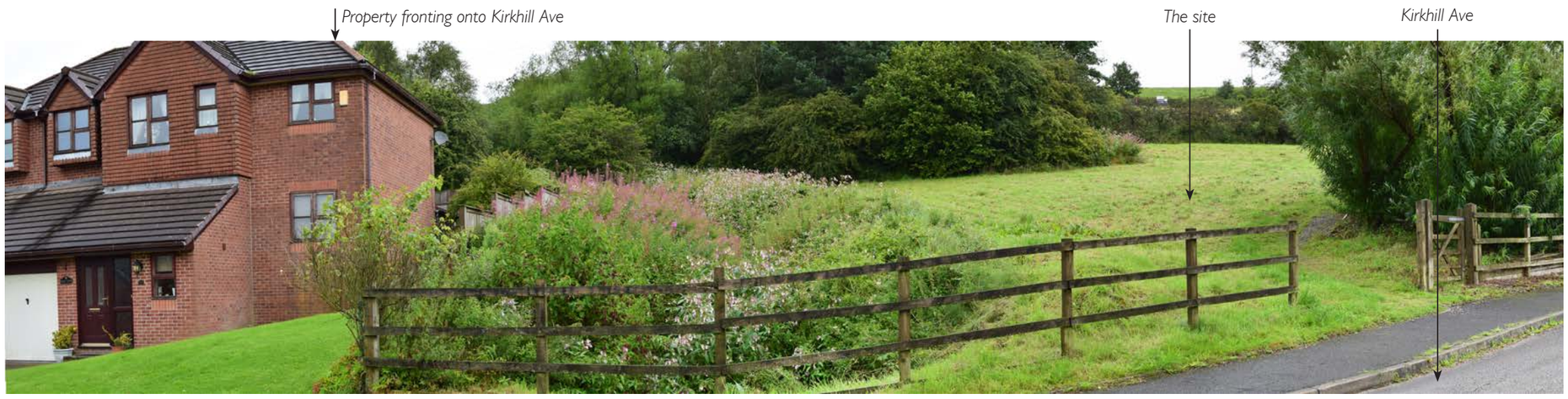
Figure 1.5

Site Features Plan

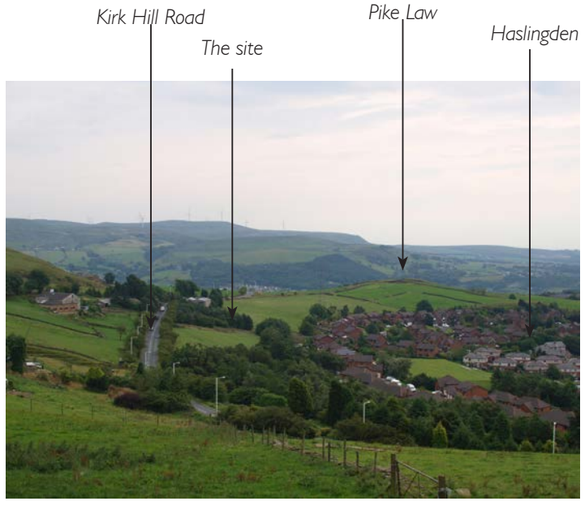
Drwg No: 555C-39
Drawn by: HB/AG
Rev by: xx
QM Status: unchecked
Scale: NTS @ A3

Date: 16.08.19
Checker: CW
Rev checker: xxx
Product Status: Internal RT Review

Viewpoint A - View from Kirkhill Ave, looking north



Viewpoint B - View from Kirkhill Ave, looking east



Viewpoint C - View from the PRoW FP133 to the north of the site, looking south east towards the site & Pike Law

LANDSCAPE ARCHITECTURE
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Peel L&P
REALISING POSSIBILITY

Land at Kirkhill Avenue & Moorland Rise, Haslingden, Rossendale

Landscape Appraisal

Figure 1.6

Site Photographs A-C

Drwg No: 555C-40
Drawn by: HB/AG
Rev by: xx
QM Status: unchecked
Scale: NTS

Date: 16.08.19
Checker: CW
Rev checker: xxx
Product Status: Internal RT Review

LANDSCAPE ARCHITECTURE
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KEY:

- Site Boundary
- Photograph Location
- Public Right of Way
- Public Visual Receptor
- Private Visual Receptor

Public Visual Receptors:

1. PRoW FP133, FP136, FP137, FP139 (Photos 1-4)
2. PRoW FP140 (Photo 5)
3. PRoW FP320 & FP323 (Photo 6 & 7)
4. PRoW FP328a (Photo 8)
5. Kirk Hill Road
6. Cribden End Lane

Private Visual Receptors:

7. 2 storey properties on Kirkhill Avenue.
8. 2 storey properties on Oakenhead Wood Old Road, & Union Road.

Peel L&P
REALISING POSSIBILITY

Land at Kirkhill Avenue & Moorland Rise, Haslingden, Rossendale

Landscape Appraisal

Figure 1.7

Viewpoint Location Plan

Drwg No: 555C-41
Drawn by: AG
Rev by: xx
QM Status: unchecked
Scale: 1: 10,000 @ A3

Date: 16.08.19
Checker: CW
Rev checker: xxx
Product Status: Internal RT Review

Photo 1 - View from PRoW FP133 & 136, looking east towards the site

Photo 2 - View from PRoW FP139 & 137, looking south east towards the site

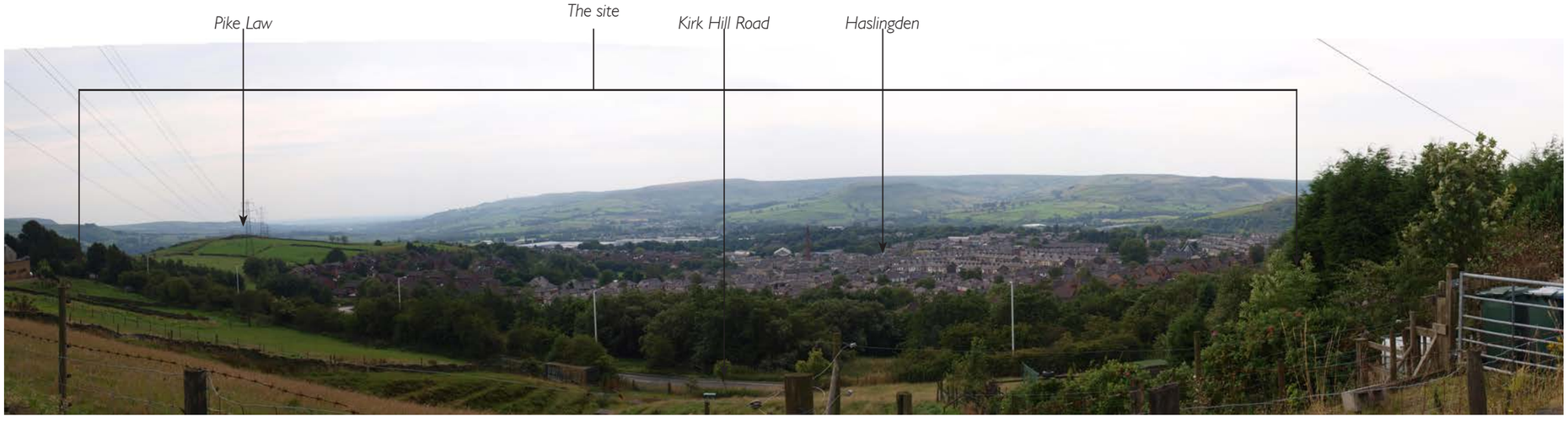

Photo 3 - View from PRoW 139 north of the site, looking south towards the site & Haslingden

LANDSCAPE ARCHITECTURE
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Peel L&P
REALISING POSSIBILITY

Land at Kirkhill Avenue & Moorland Rise, Haslingden, Rossendale

Landscape Appraisal

Figure 1.8

Photographic Survey

Drwg No: 555C-42
Drawn by: AG
Rev by: xxx
QM Status: unchecked
Scale: NTS

Date: 20.08.19
Checker: CW
Rev checker: xxx
Product Status: Internal RT Review

Photo 7 - View from PRoW PF320 looking south east towards Pike Law & the site

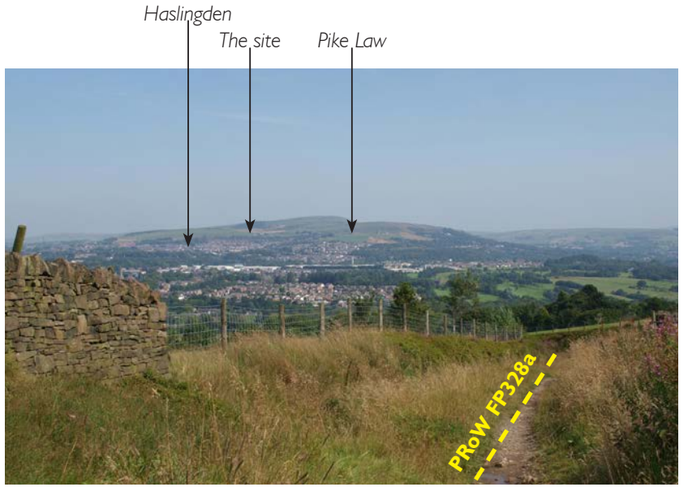

Photo 8 - View from PRoW FP328a, looking north towards the site

LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

RANDALL THORP

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Peel L&P
REALISING POSSIBILITY

Land at Kirkhill Avenue & Moorland Rise, Haslingden, Rossendale

Landscape Appraisal

Figure 1.9

Photographic Survey

Drwg No: 555C-43
Drawn by: AG
Rev by: xxx
QM Status: unchecked
Scale: NTS

Date: 20.08.19
Checker: CW
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Product Status: Internal RT Review