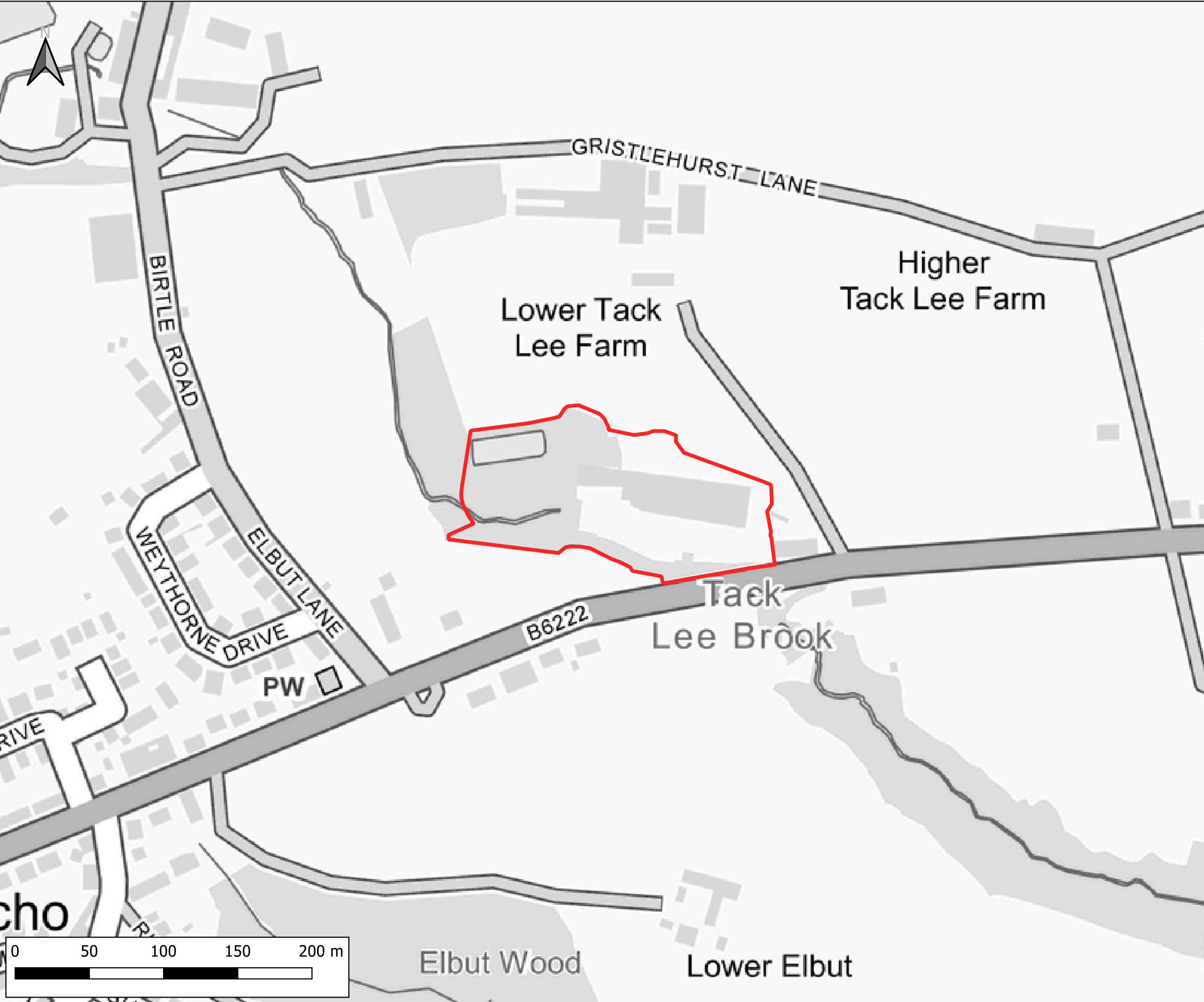


Appendix E Environment Agency Flood Maps



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

LEGEND

- Site Boundary
- Main Rivers
- Flood Defences
- Flood Storage Areas
- Areas Benefitting from Defences
- Flood Zone 1
- Flood Zone 2
- Flood Zone 3

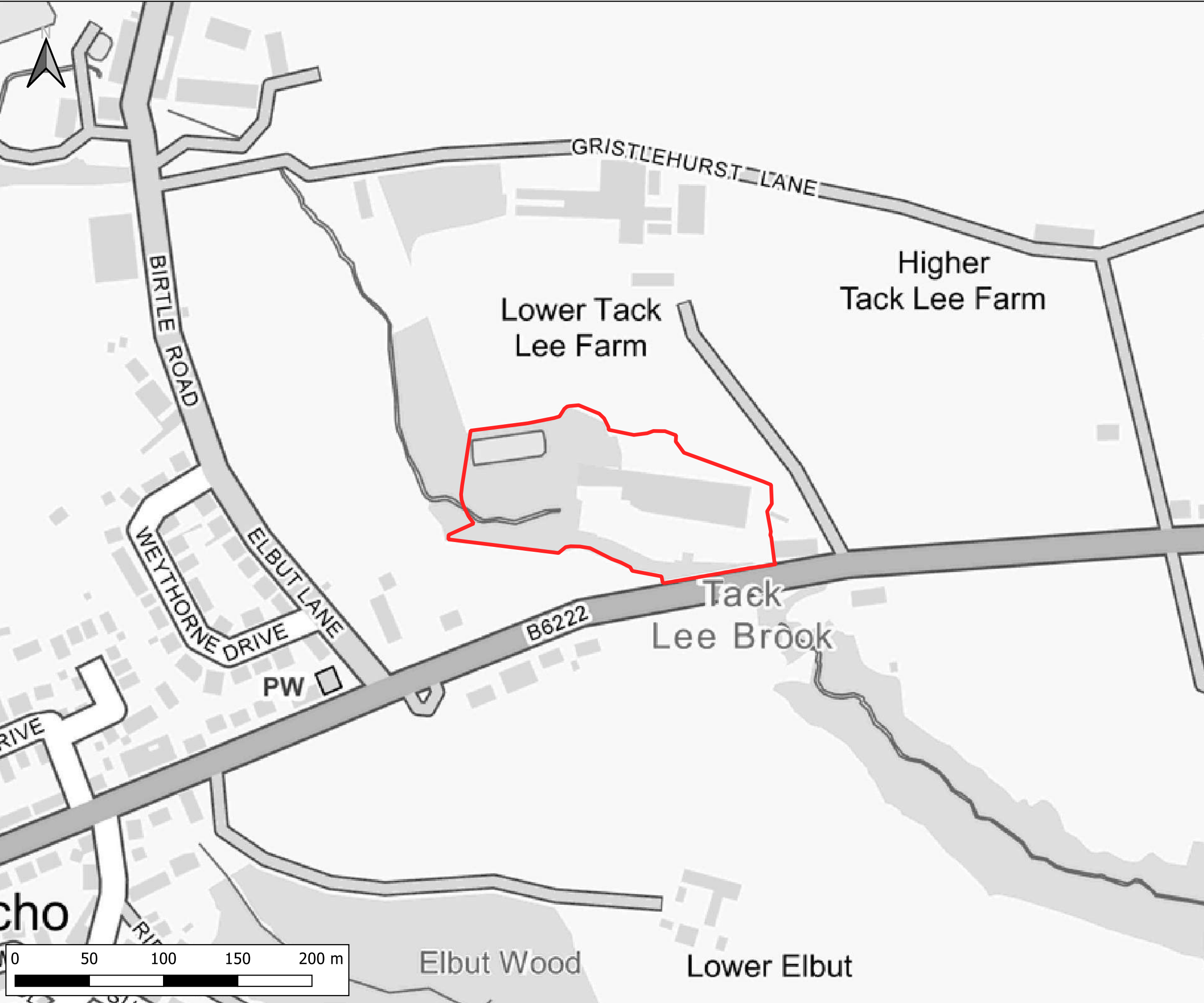
CLIENT:
HALL & CO PROPERTY

waterco
www.waterco.co.uk

SCHEME:
TACK LEA WORKS, HEYWOOD

PLOT TITLE:
EA Flood Map for Planning
Data accessed July 2022

PLOT STATUS: FINAL		DATE: 20-07-2022	
DRAWN: IH	CHECKED: JJ	APPROVED: AW	PLOT SCALE AT A3: 1:2500
PLOT NAME: 14708_EA_FMP			REVISION: -



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

LEGEND

Site Boundary

Flood Risk from Surface Water

High

Medium

Low

CLIENT:

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www.waterco.co.uk

SCHEME:

TACK LEA WORKS, HEYWOOD

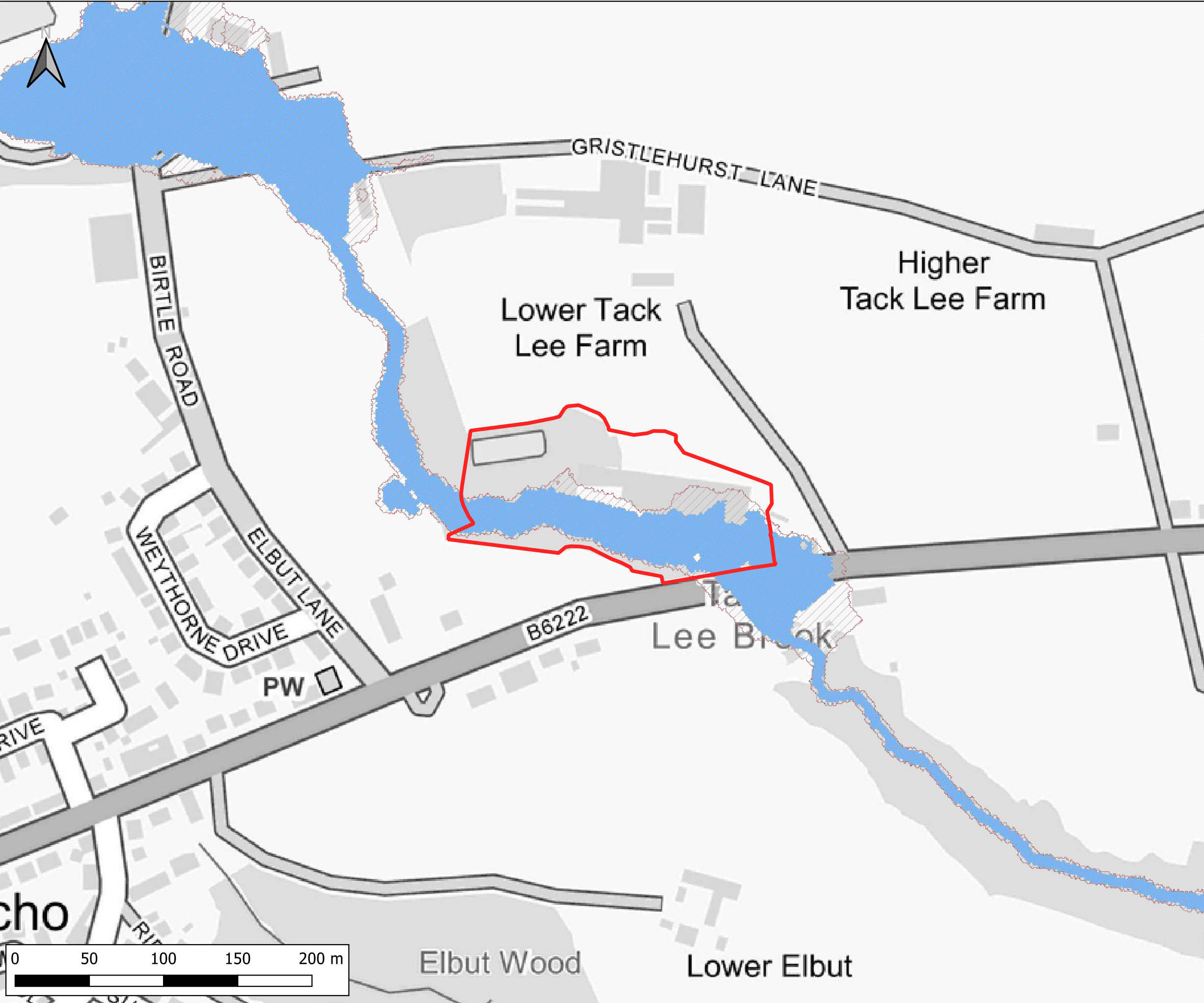
PLOT TITLE:

EA Flood Risk from Surface Water
Data accessed July 2022

PLOT STATUS:		DATE:	
FINAL		20-07-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
IH	JJ	AW	1:2500

PLOT NAME:	REVISION:
14708_EA_Flood_Risk_from_Surface_Water	-



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

LEGEND

- Site Boundary
- When river levels are normal
- When there is also flooding from rivers

CLIENT:

HALL & CO PROPERTY

www.waterco.co.uk

SCHEME:

TACK LEA WORKS, HEYWOOD

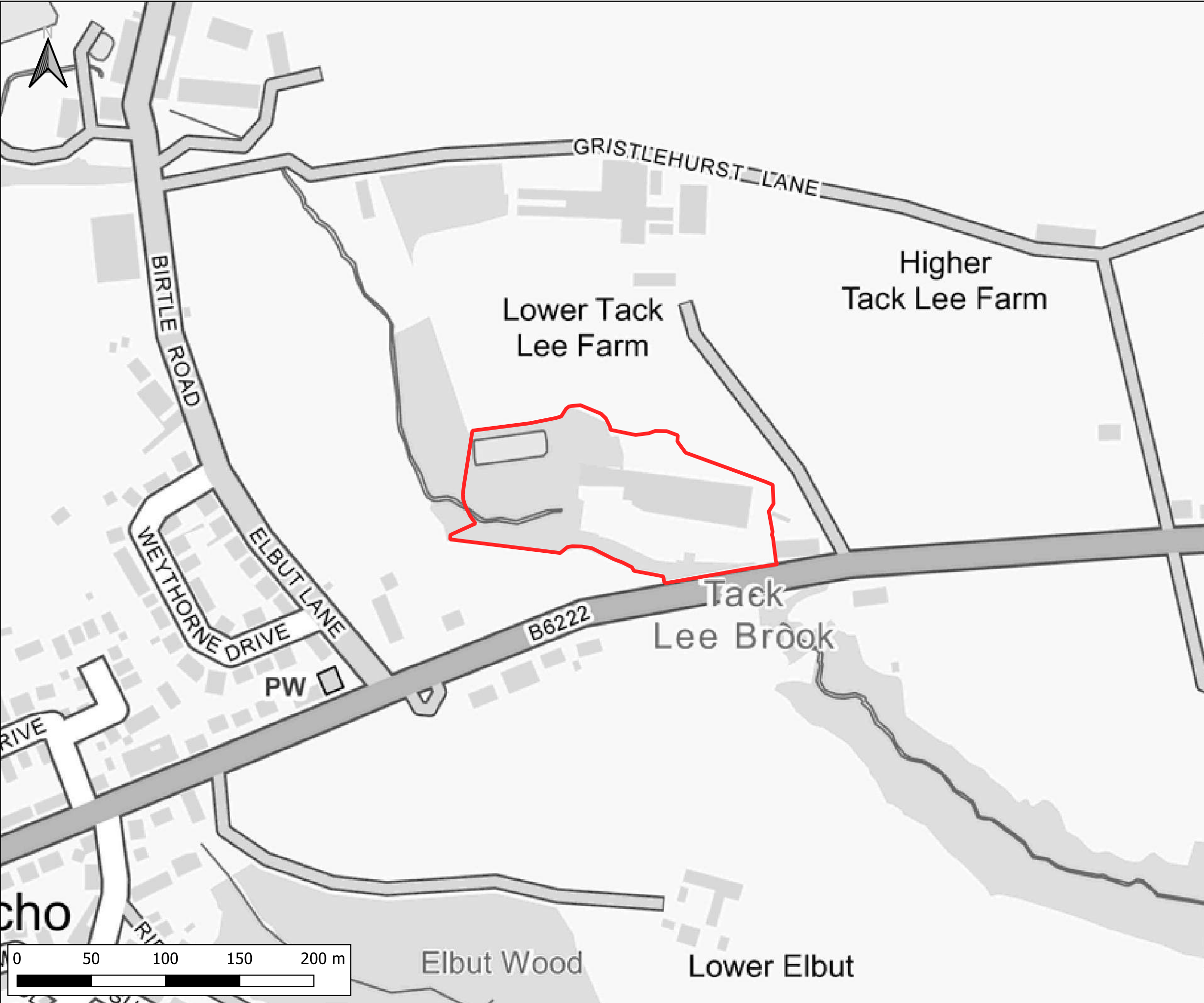
PLOT TITLE:

EA Flood Risk from Reservoirs
Data accessed July 2022

PLOT STATUS:		DATE:	
FINAL		20-07-2022	

DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
IH	JJ	AW	1:2500

PLOT NAME:	REVISION:
14708_EA_Flood_Risk_from_Reservoirs	-



Notes:

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

2) The Historic Flood Map is a GIS layer showing the maximum extent of individual Recorded Flood Outlines from river, the sea and groundwater springs that meet a set criteria. It shows areas of land that have previously been subject to flooding in England. This excludes flooding from surface water, except in areas where it is impossible to determine whether the source is fluvial or surface water but the dominant source is fluvial.

3) If an area is not covered by the Historic Flood Map it does not mean that the area has never flooded, only that the EA do not currently have records of flooding in this area that meet the criteria for inclusion.

4) The Historic Flood Map takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding. It will include flood extents that may have been affected by overtopping, breaches or blockages.

LEGEND

-  Site Boundary
-  Historic Flood Map



CLIENT:

HALL & CO PROPERTY



SCHEME:

TACK LEA WORKS, HEYWOOD

PLOT TITLE:

EA Historic Flood Risk
Data accessed July 2022

PLOT STATUS:

FINAL

DATE:

20-07-2022

DRAWN:

IH

CHECKED:

JJ

APPROVED:

AW

PLOT SCALE AT A3:

1:2500

PLOT NAME:

14708_EA_Historic_Flood_Risk

REVISION:

-

Appendix F LLFA Correspondence & SFRA / PFRA Mapping

Rory Clements

From: Josh Rigby
Sent: 15 November 2016 14:57
To: Rory Clements
Subject: FW: w10206 - Tack Lea Works, Heywood

Josh Rigby

T: 01824 702220 | **E:** Josh.Rigby@waterco.co.uk | **W:** www.waterco.co.uk



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Registered in Wales under company no. 3577754.

From: John Ashley [<mailto:John.Ashley@Rochdale.Gov.UK>]

Sent: 08 November 2016 18:24

To: Josh Rigby <Josh.Rigby@waterco.co.uk>

Subject: RE: w10206 - Tack Lea Works, Heywood

Hi Josh,

I have no record of anything in particular in this area. I know as a semi-rural location there may be something in the fields but the only issue appears towards the Bird in the Hand pub which is further along the road.

I am happy with Greenfield Run off at this stage. I look forward to receiving the details. Please can you include calcs but also details of the watercourse connection and capacity. I would also like you to ensure the culvert under Bury and Rochdale Road is viable as we are finding more issues with major road crossings. I would also advise that the watercourse is proved to a reasonable length or connection to a more significant watercourse downstream.

I ask this as we have found that developers have tried to connect into an issues rather than a watercourse as they haven't looked further that just off the site boundary.

Regards

John

John Ashley

Bridges & Structures Team Leader
Highways, Property & Strategic Housing



01706 924552
07976 059728
john.ashley@rochdale.gov.uk

Rochdale Borough Council
Floor 2, Number One Riverside
Smith Street, Rochdale, OL16 1XU

To access our services go to www.rochdale.gov.uk
For news and social media updates go to www.rochdale.gov.uk/news

From: Josh Rigby [<mailto:Josh.Rigby@waterco.co.uk>]
Sent: 07 November 2016 16:55
To: John Ashley
Subject: w10206 - Tack Lea Works, Heywood

**Proposed residential development of Tack Lea Works, Bury and Rochdale Old Road, Heywood, Bury, BL9 7UA.
(National Grid reference: 383947E 412054N).**

Dear John,

Thank you for taking the time to discuss my clients site this afternoon. As discussed we are preparing a flood risk assessment and drainage strategy for a the proposed residential development at the above address. The proposal is for 14 dwellings.

The current hardstanding area is 6662m² and it is proposed to reduce the area of hardstanding to 4765m². Existing and proposed development plans are attached.

Please could you advise if there will be any specific requirements for a Surface Water Drainage Strategy at the sites and if you have any records of historical flooding in this area? It is proposed to discharge surface water to the Culverted Tack Lee Brook at as close to the greenfield rate as feasible.

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

Kind Regards,

Josh Rigby

T: 01824 702220 | **E:** Josh.Rigby@waterco.co.uk | **W:** www.waterco.co.uk



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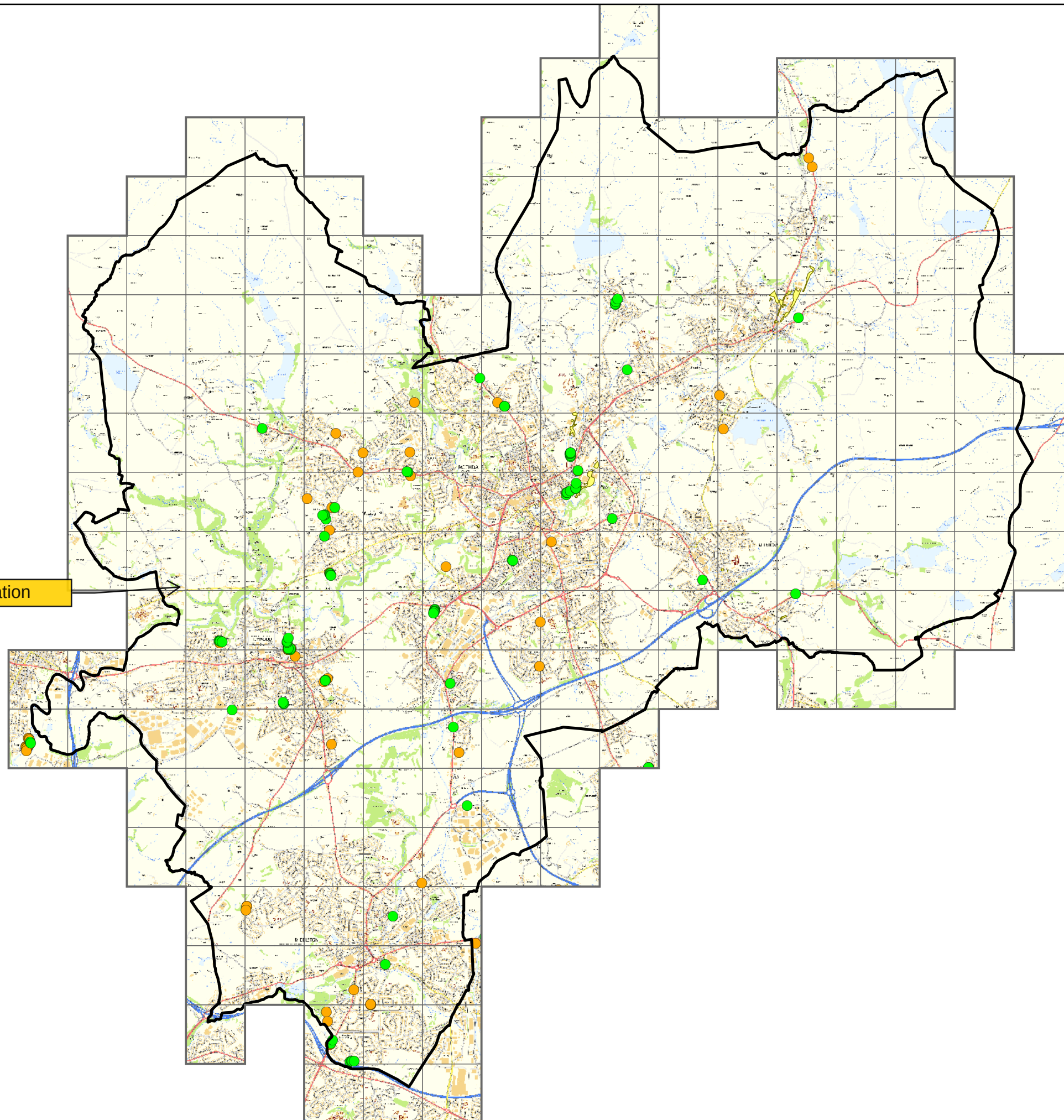
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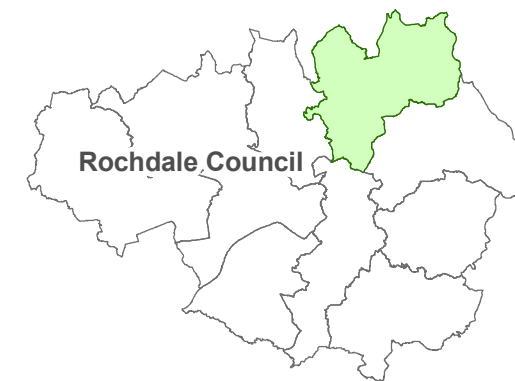
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Site Location



Location Plan



Legend

- Rochdale PFRA Study Area
- United Utilities Internal DG5
- United Utilities External DG5
- Environment Agency Flood Event Outlines

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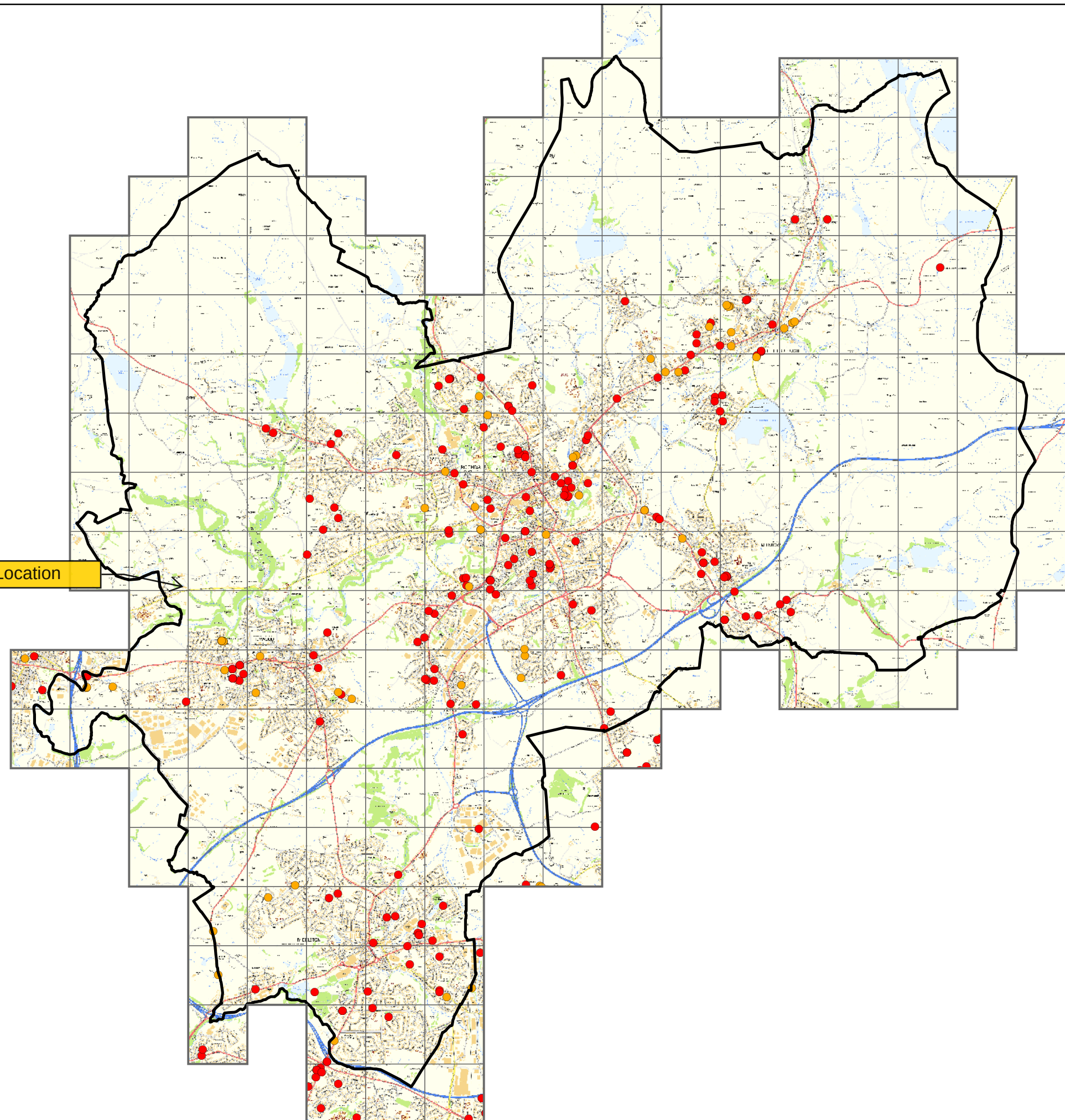
ROCHDALE MBC

PRELIMINARY FLOOD RISK ASSESSMENT

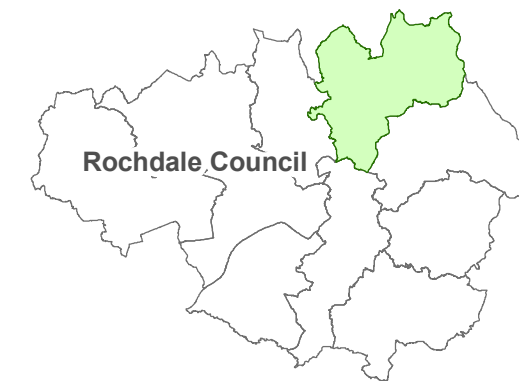
Local Historic Flood Map

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Drawing Number: Figure 4-1	



Location Plan



Legend

- Rochdale PFRA Study Area
- W.I.R.S. Incidents
- S.I.R.S. Incidents

Only incidents which have resulted in surface water flooding to properties, gardens/driveways and highways have been identified.

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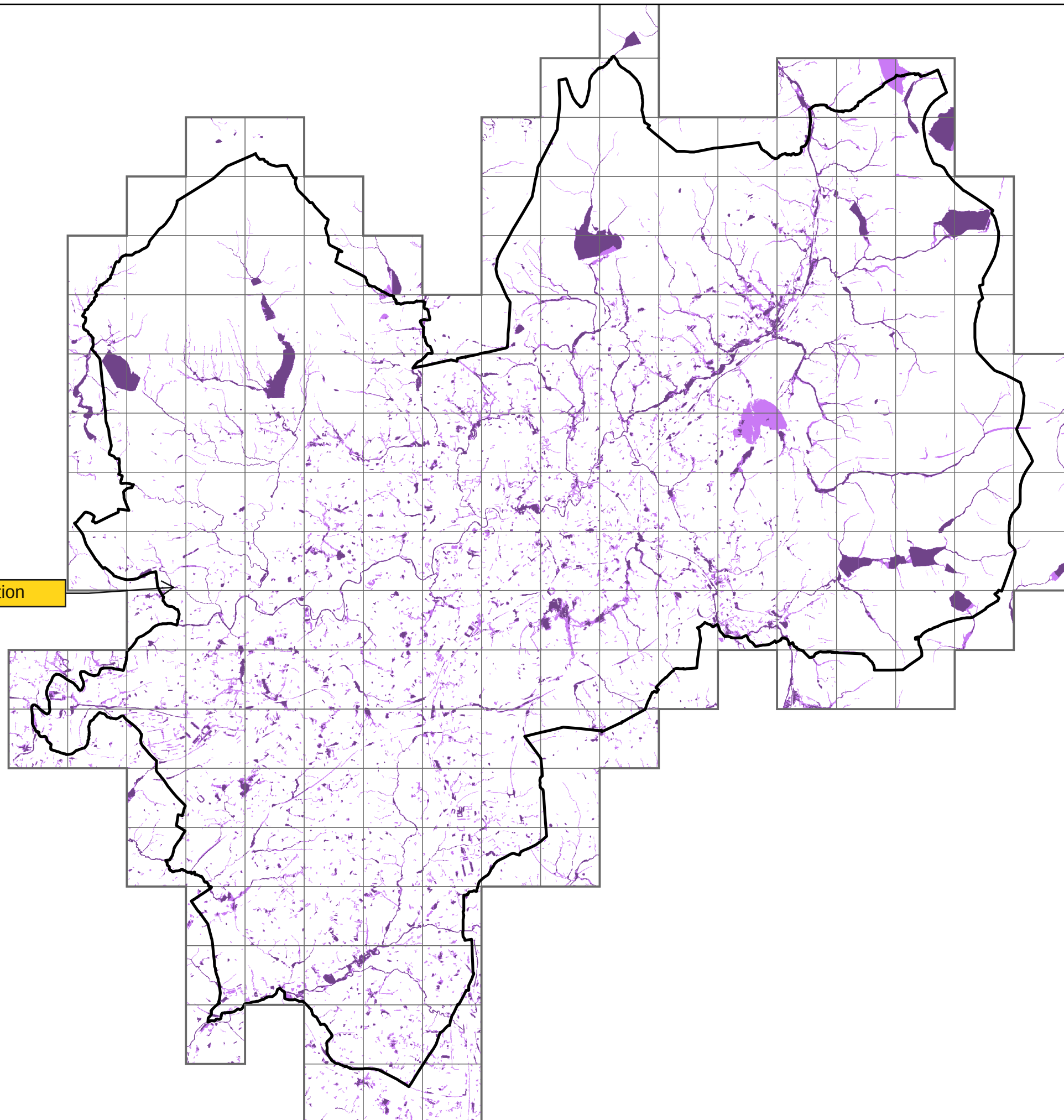


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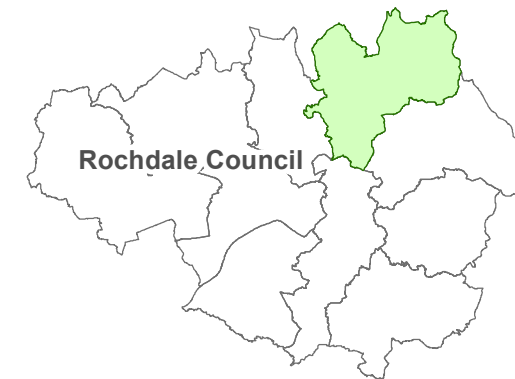
for
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PRELIMINARY FLOOD RISK ASSESSMENT
United Utilities S.I.R.S and W.I.R.S

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Location Plan



Legend

- Rochdale PFRA Study Area
- Surface Water 'Deep'
- Surface Water 'Shallow'

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ROCHDALE MBC PRELIMINARY FLOOD RISK ASSESSMENT Flood Map for Surface Water

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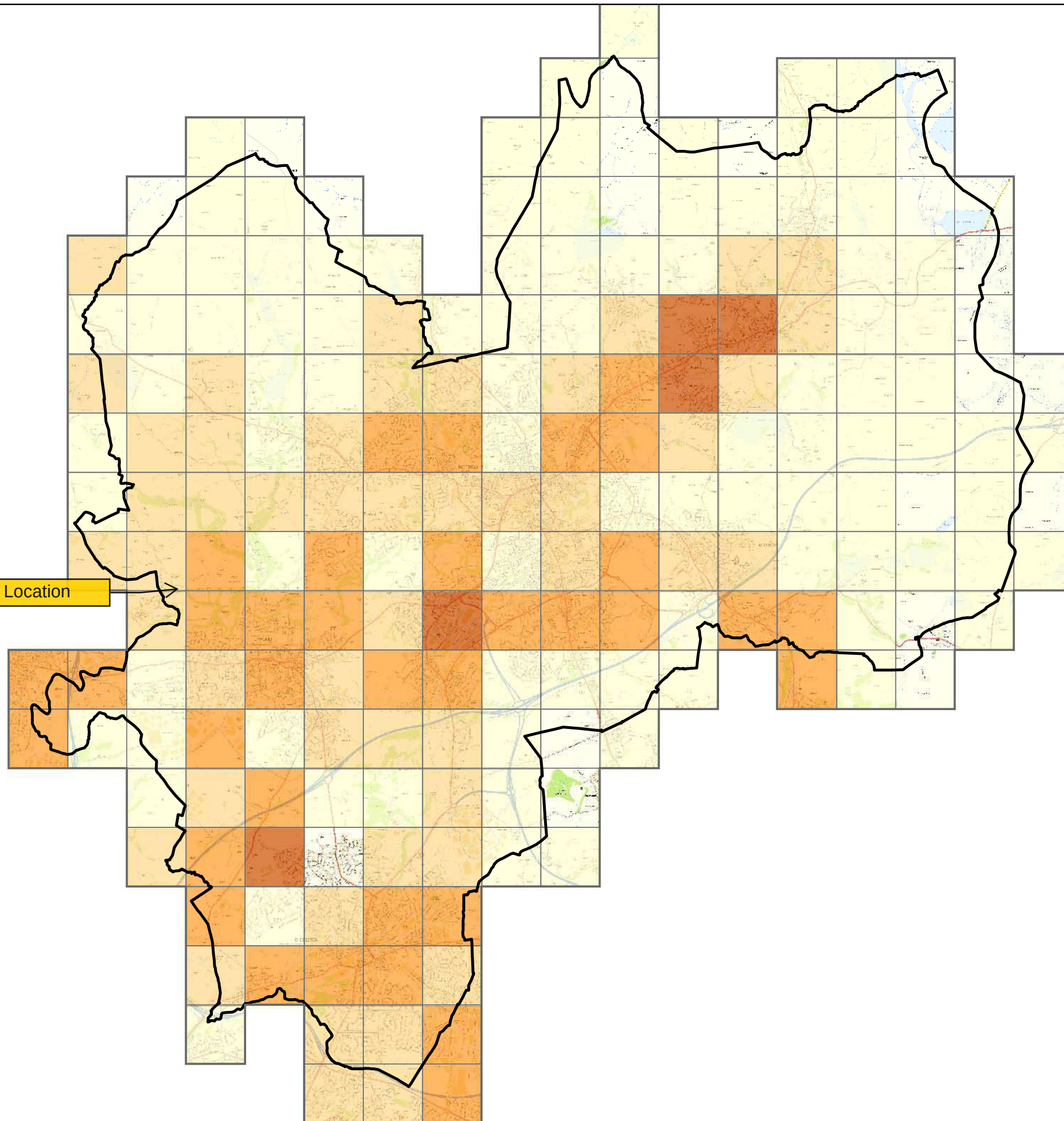
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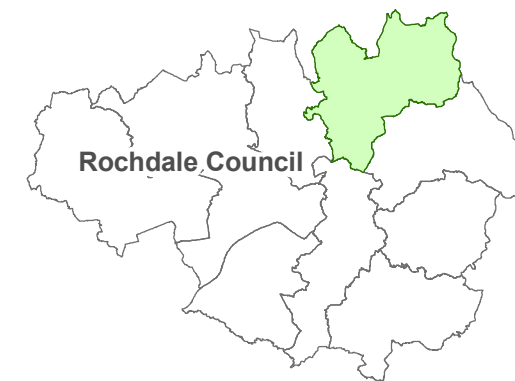
Drawing Number: Figure 5-1



Site Location



Location Plan



Legend

 Rochdale PFRA Study Area

RISK

-  $\geq 75\%$
-  $\geq 50\% < 75\%$
-  $\geq 25\% < 50\%$
-  $< 25\%$

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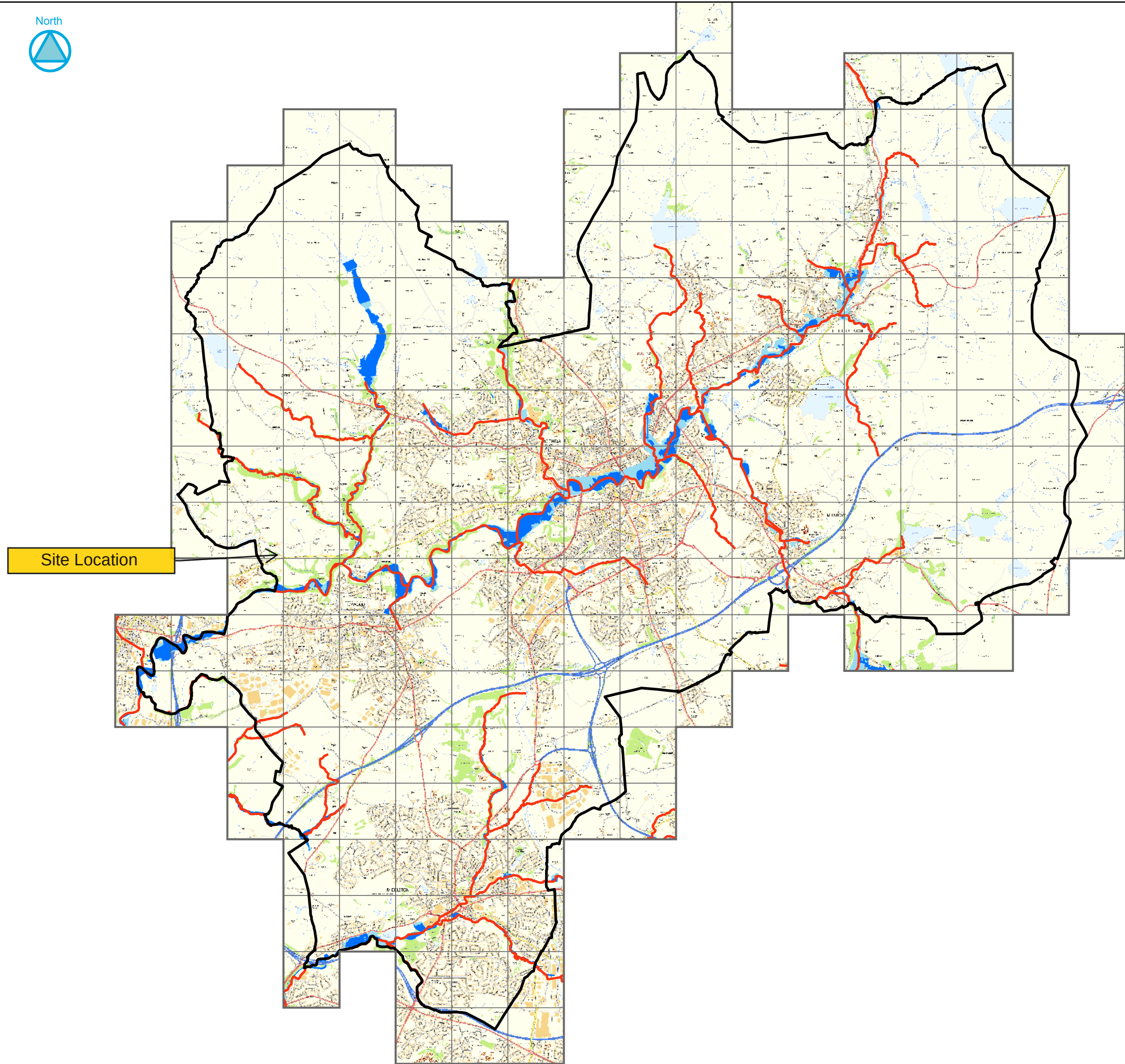


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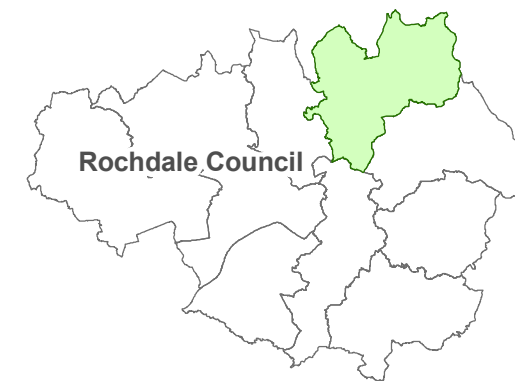
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PRELIMINARY FLOOD RISK ASSESSMENT
Areas Susceptible to Groundwater Flooding

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Location Plan



Legend

- Rochdale PFRA Study Area
- Main Rivers
- Flood Zone 3
- Flood Zone 2

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PRELIMINARY FLOOD RISK ASSESSMENT

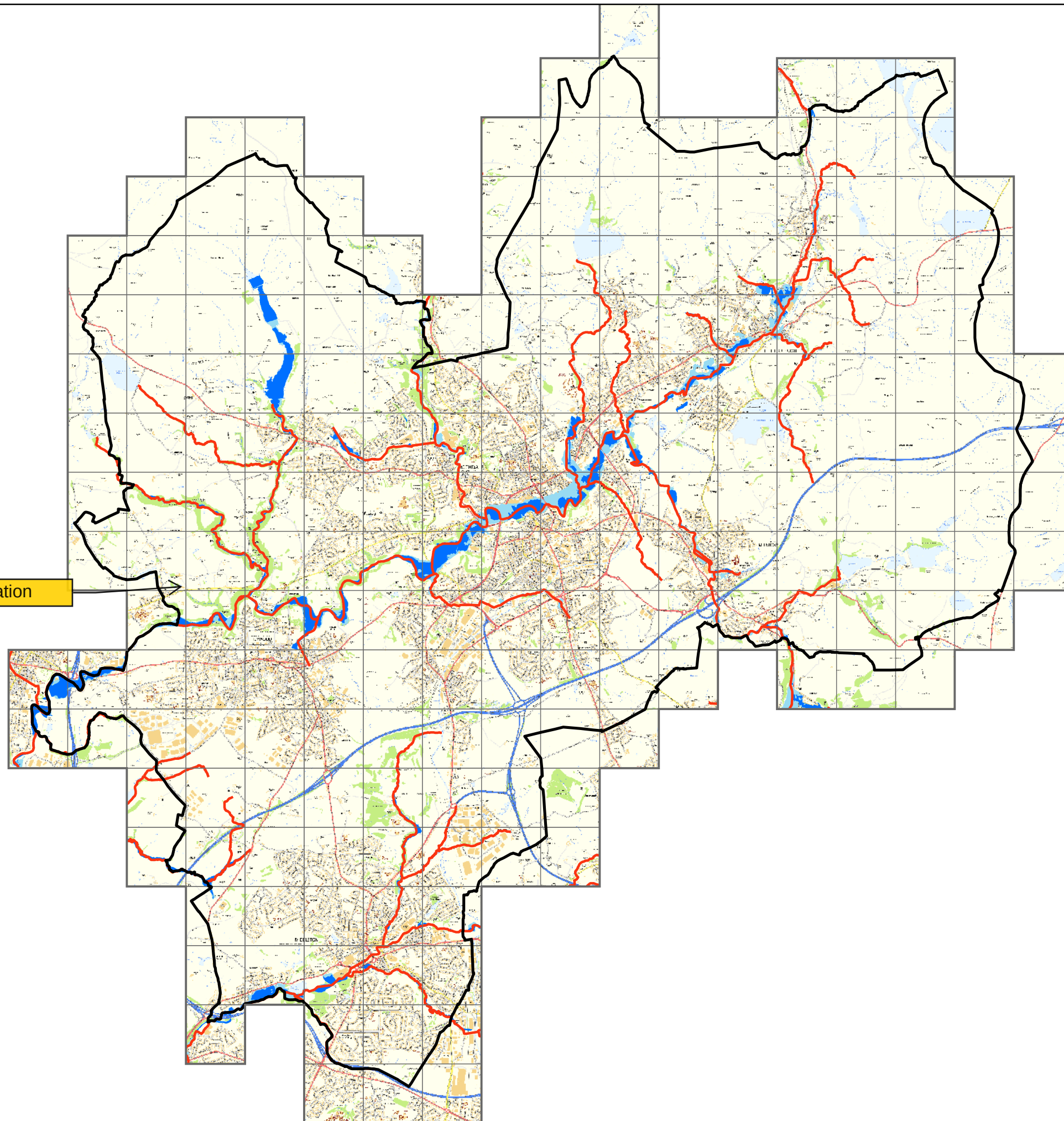
Flood Map

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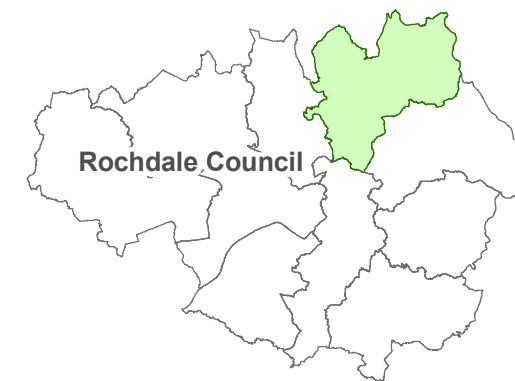
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Status: FINAL	
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Site Location



Location Plan



Legend

- Rochdale PFRA Study Area
- Main Rivers
- Flood Zone 3
- Flood Zone 2

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Flood Map

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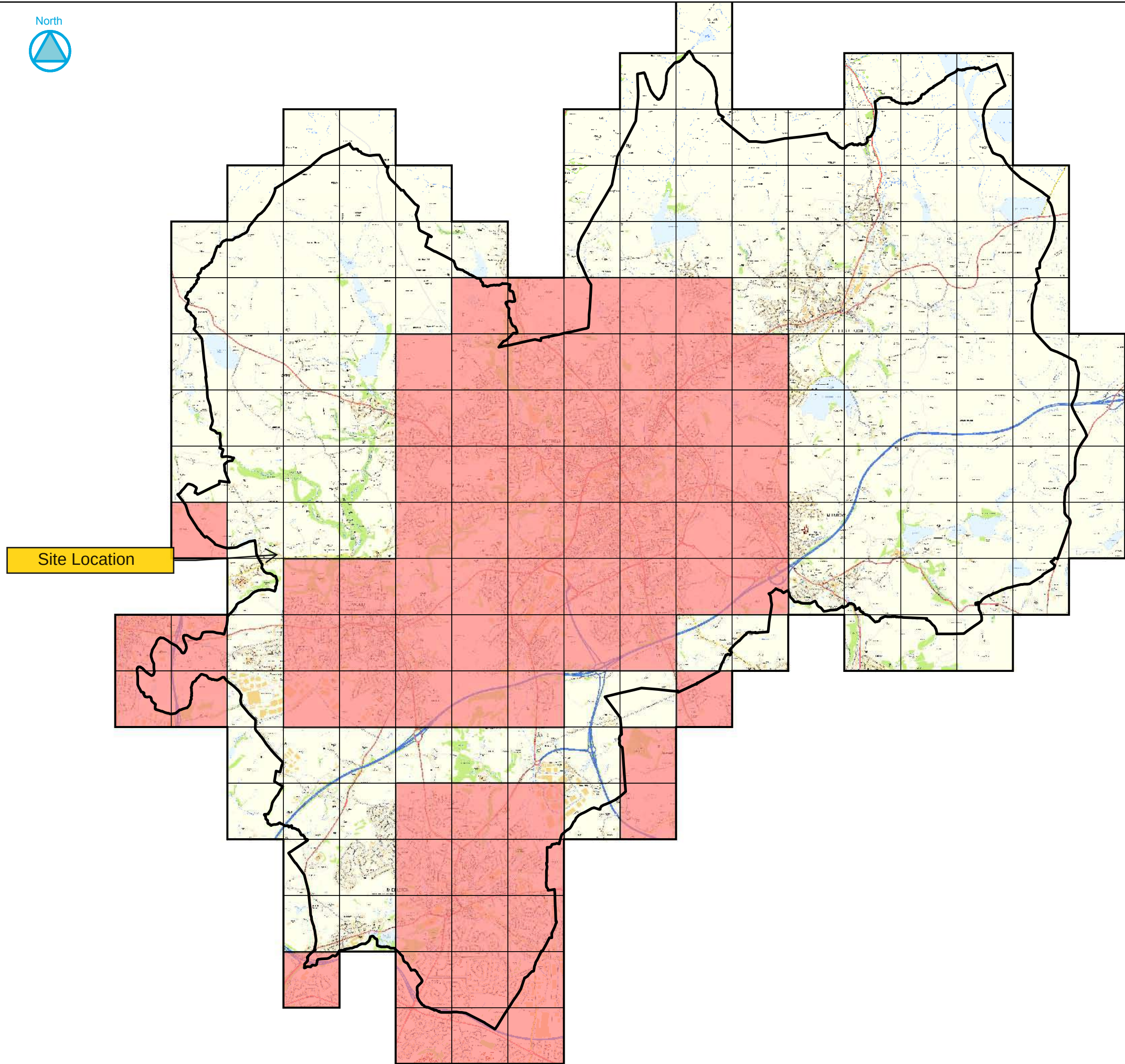
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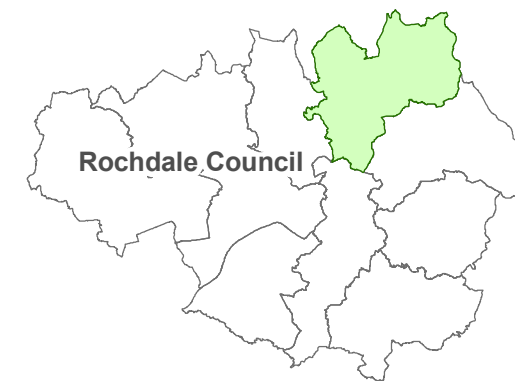
Drawing Number: Figure 5-4

Scale:

Not to scale



Location Plan



Legend

-  Rochdale PFRA Study Area
-  Areas above Flood Risk Threshold Clusters

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PRELIMINARY FLOOD RISK ASSESSMENT
Areas above Flood Risk Threshold Clusters

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Drawing Number: Figure 6-3	



ECONOMY DIRECTORATE

PLANNING AND DEVELOPMENT

Daniela Ripa
Interim Head of Planning Services

Number One Riverside, Smith Street,
Rochdale, OL16 1XU

Enquiries to: Michael Atkinson-Smith

Web: www.rochdale.gov.uk

Email: michael.atkinson-smith@rochdale.gov.uk

Direct Line: 01706 925976

Reference: PREAPP/00032/22

Date: 9th June 2022

Paul Nellist
Asteer Planning LLP
Minshulls House
14 Cateaton Street
Manchester
M3 1SQ

BY EMAIL ONLY

Dear Paul,

Reference No:	PREAPP/00032/22
Proposal:	Proposed residential development
Location:	Tack Lea Works, Bury and Rochdale Old Road, Heywood

I write in reference to your request for pre-application advice for the proposed residential development of the above referenced site comprising a mix of 1, 2, 3 & 4 bedroom dwellings (44 dwellings in total).

This response is based on the following list of submitted plans, documents and supporting information:

- Location Plan REF. A645_P_001
- Proposed Site Plan ref. A645_SK_10D
- Tack Lea Works Pre-Application Submission dated April 2022 by Ollier Smurthwaite Architects

EIA Screening Opinion

The proposed development would be categorised as an urban development project that would not exceed the applicable threshold and criteria in Part 10 of Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations). The site is also not within a 'Sensitive Area' as defined by the Regulations. On this basis, a formal request for an EIA Screening Opinion is not required.



Development Plan / Principle of Development

The comments provided are made in light of the Development Plan for Rochdale. This consists of the Rochdale Core Strategy (CS), adopted 2016, and saved Unitary Development Plan (UDP) policies. A list of the relevant policies contained within the Development Plan is appended to this letter.

Other material considerations include, amongst other things, Supplementary Planning Documents (SPDs), Development Plan Documents (DPDs), the Greater Manchester Joint Minerals Plan, the National Planning Policy Framework (NPPF), the National Planning Practice Guidance (NPPG) and the draft Places for Everyone plan (PFE).

Green Belt

The site lies within the Green Belt, as designated under the provisions of Policy G/D/2 of the Rochdale Unitary Development Plan and the accompanying Proposals Map. The site is also allocated as a major existing developed site in the Green Belt as per the provisions of saved policy D/5 of the UDP – the policy does relate specifically to ‘limited infilling’ and was adopted in order to ensure that employment sites then in continuing use (*circa* 2006) could benefit from continued development and remain in use for those purposes throughout the plan period. The proposal at hand relates to the wholesale redevelopment of the site for residential purposes and therefore strictly falls outside of the scope of the policy.

In the intervening period, the Council has adopted the Rochdale Core Strategy (CS). CS Policy G4 sets out that the Council will continue to protect from development *inter alia* areas of Green Belt forming the Pennine rural fringe to the north of the borough, where its primary role is to prevent encroachment into the countryside. Development is restricted to those limited types of development which are deemed not to be inappropriate by national planning policies unless very special circumstances can be demonstrated.

Paragraph 149 of the National Planning Policy Framework (the Framework) sets out that LPAs should regard the construction of new buildings as inappropriate in Green Belt, subject to identified exceptions, including the limited infilling or the partial or complete redevelopment of previously developed sites, whether redundant or in continuing use, which would not have a greater impact on the openness of the Green Belt than the existing development.

It is noted that the buildings that were previously on site have now been demolished, but given that planning permission 17/00359/FUL remains extant by virtue of having been commenced, the presence of the former buildings on site would be a material consideration in the determination of any application. It is also noted that the proposed development, whilst providing a greater number of dwellings than the previously approved scheme, would have a smaller footprint, floor area and extent of hardstanding. On this basis, it is considered that a case could be made in support of the principle of development overall for the scheme proposed, but this must be robustly set out within the required Planning Statement.



Flexible workspace & Café / Farm Shop / Retail Use

A Retail Impact Assessment and Sequential Test would be required for any retail use in accordance with adopted Rochdale Core Strategy policy E1. However, it is not considered that this would be an appropriate facility to be provided on site, primarily as a result of the incompatibility with residential uses in this location and highways, access and parking impacts. A small-scale flexible workspace with ancillary café could potentially be complimentary to the development but I have concerns that the nature and location of the site would not lend itself particularly well to such a use and it is likely that patronage would be low, whilst the use would also attract ongoing maintenance liabilities and operational costs. As with a retail use, parking and access issues are likely to be problematic.

The nearby Pavilion Bistro on Birtle Road appears to work relatively well in its location and serves the residents of the close-by development at Birtle Brook. However, it also acts a meeting point for leisure activities, is on a walking route and benefits from ample parking, which the unit proposed on-site would all benefit less from. Notably, there is a vacant unit at Birtle Brook which does not ever appear to have been occupied, despite the popularity of that development. I would therefore suggest re-considering this element of the proposals.

Historic Environment

In accordance with the requirements of Section 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990, it is noted that the Birtle Conservation Area is situated approximately 170m to the north-west of the nearest edge of the application site. The conservation area focuses on the former Bleach Works, now redeveloped into Birtle Brook Village, and includes a number of other historic terraces of cottages and the Pack Horse Inn Public House. An extension to the conservation area was previously tabled by the Authority, which would have included the application site, but was never progressed.

In light of the separation distance, the nature of the intervening topography and the extent of mature vegetative screening afforded by the surrounding woodland it is not considered that the development would impact on the character or significance of the Birtle Conservation Area.

The overall design ethos of the scheme which attempts to reflect the identity of the former dye works is welcomed.

Please also see Archaeology section below.

Design, Layout & Visual Appearance

The Government recently published (July 2021) changes to the National Planning Policy Framework (NPPF) of which places a stronger emphasis on design. This shift towards best practice in design is strongly in line with current national objectives to create beautiful places, as has been a central focus in the July 2021 NPPF update as accompanied by the National Design Guide and National Model Design Code, together with the Building for a Healthy Life



design guide/code. Together, these documents represent material considerations in the determination of any planning application, and the broad requirements are largely reflected within Policies DM1 and P3 of the Council's adopted Core Strategy, which require development proposals to demonstrate high quality design.

Layout

The National Design Guide establishes the layout of development proposals as a key component of well-designed places, where well-designed new development is integrated into its wider surroundings physically, visually and socially; demonstrating an understanding of the existing patterns of built form. Building for a Healthy Life states that the use of positive characteristics such as street types, landscape character, urban grain, plot shapes and sizes, building forms and materials being used to reflect local character are features which contribute to well-designed places, which would largely accord with the contents of the National Model Design Code.

Broadly, the high level approach to layout in the scheme is considered to be acceptable, but there are various issues that have been identified that would need to be addressed:

- Despite some variation in parking layout, overall the development would appear to have potential to be dominated by parked cars, which would undermine the positive design characteristics of the development and the dwellings themselves.
- There doesn't appear to be room for all of the parking areas in the north west corner of the site to be accessed safely and conveniently;
- The main carriageway through the site would need to be constructed to an adoptable standard and this is not indicated at present.
- The two dwellings in the immediate centre of the site would appear to be confused in terms of fronts and backs, and the garden spaces are not ideally laid out. Of notable concern is the height of the boundary treatment that would be required for privacy around the easternmost of the central two dwellings - a stone wall could be somewhat visually attractive but it would still be a dominant feature and would present a significant safety issue in terms of visibility for vehicles using this proposed private driveway area.
- The Council normally expects that any private driveways serving more than 5 dwellings should be adopted.
- Some of the proposed parking spaces throughout the site appear to be directly in front of where windows or doors would be expected to be positioned.
- The visitor parking spaces immediately adjacent to the site entrance present both a highway safety issue and an issue in respect of visual appearance of the development.



Dwelling Design

The National Design Guide references the scale, appearance materiality and detailing of buildings as key components for well-designed places, and states that well-designed places are based on a sound understanding of the features of the site and the surrounding context. The Building for a Healthy Life guidance document encourages the use of positive characteristics such as street types, landscape character, urban grain, plot shapes and sizes, building forms and materials to reflect local character.

Well-designed homes and buildings are functional, accessible and sustainable. They provide internal environments and associated external spaces that support the health and well-being of their users and all who experience them.

Broadly the design ethos for the dwellings themselves is considered to be satisfactory and well-reasoned. Please note the forthcoming changes to the Buildings Regulations, however, which will influence the final design details of the dwellings. This is referred to further the Climate Change Adaptation section below.

Private amenity spaces should be of a sufficient size to serve the style and type of property that they form a part of. The appropriate size, shape and position for an external amenity space can be defined by considering how the associated building sits in the wider context, including access to public and open spaces and how the amenity space will be used, what for, and by whom. I have particular concern about the amount of tree cover of some of the private garden areas – where trees block light to gardens or dwellings, there is commonly pressure to remove them as they can have a negative impact on living standards and amenity. I believe that this is one of the key barriers to achieving the desired number of units on site and should be carefully addressed and considered in any application for planning permission.

Well-designed shared amenity spaces should feel safe and secure for their users, where all of the residents who share them can access them easily. To this end, the proposed communal garden would likely be better located in a more central position within the site. Similarly, the required Local Area for Play would benefit from being in a more accessible and overlooked location as otherwise it has the potential to be underutilised, a receptor for antisocial behavior and a maintenance liability.

Boundary treatments will be an important consideration and ideally should fit in with the overall design ethos of the development, rather than being an afterthought. Please provide these details at initial application stage.

I would encourage the use of 3D visuals in any future application for planning permission and the inclusion within the application of as much detail as possible in relation to the finer details such as materials which will be crucial to the overall design and appearance of the development. A detailed Design and Access Statement should be submitted which justifies the design approach to the proposed development.



Residential Amenity Standards

The site largely stands in isolation from other residential properties, with the exception of the shared boundary with no. 65 Bury and Rochdale Old Road.

Core Strategy Policy DM1 requires, amongst other things, that development proposals are compatible with surrounding land uses and that they do not adversely affect the amenity of residents. The development should be laid out such that it will accord with the standards set out in the Council's 'Guidelines and Standards for Residential Development' SPD, to ensure that satisfactory intervening distances can be achieved between proposed and existing dwellings in the interest of light/outlook/privacy. These standards should also be applied across the site between the new dwellings. A notable issue has been identified in respect of the size and length of the rear gardens right in the centre of the site, whereby the minimum required distance of 10.5m where the garden is overlooked from the rear does not appear to have been achieved.

Highways, Access & Parking

Any planning application must be accompanied by a Transport Statement (TS) drafted in line with current standards.

The site is not in a sustainable location and reliance on a car for access is likely to be high which must be reflected in the traffic generation figures used in the TS. Bury and Rochdale Old Road is a busy classified road and an appropriate visibility splay will be required at the proposed access point. As with the previously approved application, the Highways Authority is likely to request the introduction of waiting restrictions around the junction to ensure any proposed visibility splay is maintained.

There are a number of highway issues associated with the proposed layout. For a development of this size the Council would normally require the access roads to be adopted via a s38 agreement and the main access road does not appear to be to an adoptable standard. The lack of footways to both sides of the carriageway and lack of an appropriate turning heads are the main concerns. Any submitted highway layout must deliver safe management of the highway network and be practical in terms of future highway maintenance responsibilities for the Council. Appropriate access and turning facilities must be provided within the design especially for refuse collection.

In addition there are shown to be twelve dwellings being served from a private driveway to the rear of the 'retail' unit; the maximum number of dwellings that would normally be permitted to be served by an unadopted access is five and the Highway Authority is therefore unlikely to support this element of the proposed layout. Private waste, servicing and maintenance arrangements are a potential tool available to overcome this issue so that the design approach is not undermined, but this must be fully addressed as part of any application for planning permission and further enhanced discussions including representatives from the Highways Authority alongside your transport consultant may be advisable at an early stage.



Concerns have been raised about the visitor parking spaces and their proximity to the junction of the proposed access and Bury and Rochdale Old Road. The visibility between vehicles entering the development and vehicles reversing in or out of these parking spaces is poor and likely to increase potential conflict and impact on road safety.

The proposed retail/community hub raises a number of issues including customer parking and servicing requirements. Servicing or customer parking from Bury and Rochdale Old Road would not be supported because of the previously mentioned visibility requirements from the new access. These issues would need to be addressed in any subsequent planning application and TS.

As the site is in a semi-rural location car use will be high which must be reflected in the parking provision.

All driveways and parking spaces must be SuDS compliant

As previously mentioned it is a requirement that all service vehicles should be able to enter the site and have an appropriate turning facility, in addition we would expect that bin storage areas are within the required maximum distance for collection from the adopted highway.

Any impact on road safety must be addressed within any subsequent TS.

Biodiversity Net Gain & Ecological Impacts

The site lies adjacent to, and partially within, the Grade A Tack Lee & Gristlehurst Woods Site of Biological Importance, an area of woodland on the banks of the River Roch and its tributaries which supports a variety of woodland communities. Further from the site, the SBI forms part of an important corridor of Ancient Woodland including Ashworth Valley, Naden Brook and Elbut Wood.

The Greater Manchester Ecology Unit note that the principle of development on site has been established and that former buildings on the site have now been demolished and the site at least partially cleared.

This site has been subject to relatively recent surveys and assessments for Ecology and Trees associated with permission 17/00359/FUL, and subsequent applications for the discharge of relevant conditions. The habitats recorded during the previous ecology survey included semi-natural broad-leaved woodland, dense scrub, scattered broad-leaved trees, ruderal herb and standing open water - of particular note are the two ponds within the boundaries of the site.

However, some of these surveys are now a little dated, and the layout of the proposed development has changed. It is therefore a requirement that updated ecology and arboriculture surveys are provided to inform any new application.



It is important to note that whilst local policy requires no net loss of biodiversity, the revised NPPF requires enhancement, regardless of the requirements of the Environment Act 2021. Any application should therefore include an ecological mitigation and enhancement plan that demonstrates net gain with the net gain assessment using the Defra metric (currently version 3). For the avoidance of doubt, it would be expected that Biodiversity Net Gain would be delivered within the site rather than off-site.

The Environment Agency has identified constraints on this site that fall within their remit. The Environment Agency now operates a chargeable service for planning advice and we would advise that you contact them to discuss. Alternatively, you are welcome to contact them directly at SPPlanning.RFH@environment-agency.gov.uk should you wish to request a free preliminary opinion.

Natural England is a statutory consultee for planning applications which might affect internationally and nationally designated nature conservation sites (Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites), for development affecting significant areas of best and most versatile agricultural land and for development requiring Environmental Impact Assessment.

Natural England is not a statutory consultee at the pre-application stage and therefore is unable to provide advice free of charge. However, where a development proposal may result in significant environmental impacts or significant opportunities for environmental gain Natural England has introduced a Discretionary Advice Service (DAS) on a cost recovery basis so that they can work with applicants, developers, and consultants to take appropriate account of environmental considerations at an early stage of the process to improve the quality of applications before they are submitted. Please visit the GOV.uk [website](#) for more information and a downloadable request form [here](#).

Drainage and Flood Risk

The application site is located within Flood Zone 1 and the site measures in excess of 1 Hectare. Accordingly, the application should be accompanied by an outline drainage strategy/SUDs assessment and a Flood Risk Assessment is required.

Rainfall runoff should be attenuated such that any rainfall discharges from the developed site are not increased. Greenfield runoff rate of 5 l/s/ha shall be applied, unless an assessment conclusively demonstrates greenfield runoff to be greater than this. The minimum practical flow control value that can be applied using a vortex flow control is 5 l/s so that the outlet diameter of the flow control does not block. A 50% reduction in the brownfield run off rate is expected.



In respect of surface water drainage proposals, the site should be drained in the most sustainable method in accordance with the hierarchy set out within the National Planning Practice Guidance. Additional advice on Sustainable Urban Drainage for major development is available on the council's website, and guidance is provided by United Utilities on their respective website.

Any new hardstanding areas will lead to surface water runoff. Before planning to discharge surface water to public sewer, it will be necessary to demonstrate that infiltration is not feasible by carrying out permeability tests on site in accordance with BRE 365 Guidance. Permeable paving is one of the optimal methods of reducing the runoff.

The capacity of SuDS must provide effective drainage for the development, taking account of the likely impacts of climate change and the likely changes in impermeable area within the site over the lifetime of the development.

New climate change allowances were published on 10 May 2022. You will need to ensure the new allowances are incorporated into the flood risk assessment and sustainable drainage design.

A detailed Drainage Plan has not been submitted with your request for advice but the Council's Drainage and Flooding Engineer will provide detailed comments during the application process once the design and layout has been finalised.

For the building, a foul water discharge consent agreement from United Utilities will be required. Early engagement with United Utilities is recommended.

An editable Word version of the required NW SuDS Pro-forma (Version 5) and supporting guidance note are appended to this letter.

Rochdale Core Strategy policy G8 and saved UDP policies EM/7 and EM/8 are relevant.

Ground Contamination and Coal Mining

The application should be accompanied by at least a Phase I Site Investigation or Preliminary Risk Assessment to provide an initial assessment of potential land contamination within/adjacent to the site. If an initial assessment identifies a need for further intrusive investigations or remediation strategy to be required, which is likely, these would be required as part of pre-commencement conditions on any permission unless provided as part of the main application.

The site does not lie within the Development High Risk Area for Coal mining. A Coal Mining Risk Assessment is therefore not required.



Energy Demand/Climate Change Adaptation

Core Strategy Policy G1 sets out measures to address climate change and emissions, whilst Policy G2 requires that new development adheres to the energy hierarchy. The development should be designed in order to meet the requirements of these policies and an Energy Statement should be submitted with the application setting out the detail of how the development complies with the policy base. Where it is possible for developments to achieve higher standards than required by building regulations and contribute actively towards targets for a net zero carbon future will be considered a strong positive in the planning balance of any such application.

Please note that the Government has made changes to the Building Regulations which will influence current and future housing design. Announced in December 2021, the uplift to Part L (Conservation of Fuel and Power) and F (Ventilation) of the Building Regulations and the new Parts O (Overheating) and S (Infrastructure for charging electric vehicles) comes into effect on 15 June 2022. The changes to Part L are a steppingstone to the introduction of the Future Homes Standard in 2025, which is an important contribution to the Government's target to meet net zero emissions by 2050.

Please also note that the transitional arrangements for the regulations (the means by which older regulations can be applied) apply on a building-by-building basis, not site wide. Therefore, any building that has not been started by June 2023 will need to comply with the new regulations. This should be considered as part of the total project development and phasing plan.

Air Quality

CS Policy G9 seeks to reduce all forms of pollution and contamination in the borough by amongst other things, focusing on measures that reduce air pollution in Air Quality Management Areas. The site itself does not lie within an Air Quality Management Area but an Air Quality Assessment should be scoped and prepared in line with IAQM guidance which focusses on the impact of the additional traffic generated on B6222 Bury and Rochdale Old Road, sections of which are part of the Local Air Quality Management Area, together with any sensitive receptors (dwellings, schools, health facilities etc.) located around the site.

It would be expected that EV charging infrastructure would be included in any parking provision that may be provided on site. In line with the GM Clean Air Plan and GM 2040 Transport Strategy, electric charge points should be provided at all dwellings with a driveway or allocated parking space(s).

A Dust Management Plan as part of a wider Construction and Environmental Management Plan would be required by condition of any planning permission, unless submitted with the application at the outset.



Designing out Crime

A Crime Impact Statement (CIS) is a validation requirement and legislative requirement for major residential development.

The Crime Impact Statement should:

- Be prepared by a suitably qualified and experienced professional that is able to offer impartial and objective crime prevention advice, i.e. a professional individual/organisation independent of the design process.
- Highlight all relevant crime and disorder issues currently experienced in the neighbourhood in which the development site is located, and any crime and disorder issues that the proposed development may generate or attract.
- Consider the crime and disorder issues, and include a review of how these issues might affect future both users of the development and the local community, and identify design solutions that will reduce the development's and the local community's vulnerability to crime and disorder, and promote a safe and secure development.

Please remember that the design process is iterative and therefore the CIS should inform the design as well as critique it. The CIS can then be submitted as part of the planning application, indicating that the proposed development has been designed to avoid/reduce the adverse effects of crime and disorder and enabling the planning process to run more smoothly.

Archaeology

The Greater Manchester Archaeological Advisory Service (GMAAS) has provided a detailed consultation response which is appended to this letter, the contents of which should be carefully noted.

Planning Obligations and Section 106 Requirements

The Core Strategy requires, at a minimum for proposals of this scale, developer contributions in relation to Affordable Housing, Public Open Space (POS), formal sports provision and primary & secondary education provision. Please note that all developer contributions are index linked.

Affordable Housing

The Council's affordable housing requirements are set out in the Affordable Housing SPD. Where on-site provision is proposed, a total of 15% of total site capacity should be provided at an affordable level (discount of 50% against the average market cost of the dwellings on



the site). Where an off-site commuted sum payment is proposed, this should equate to 7.5% of the Gross Development Value.

Affordable Housing Quota Contribution	x Financial contribution/ Discount	= Developers contribution / discount
(15% of total site capacity)	(50% average open market value)	(7.5% contribution of the total scheme value)

It would be expected that affordable housing would be provided on site, in accordance with the above formula.

Public Open Space/Outdoor Sports Provision

The Council's Public Open Space requirements are set out in the Provision of Recreational Open Space in New Housing SPD. The open space standard is 2.1 hectares per 1000 population; this is split between 1.1 hectares of Outdoor Sports Provision and 1.0 hectares of Local Open Space. The occupancy rate used in the calculation (see page 11 of the SPD) is 1 person per bedroom. In the case of residential developments of between 100 bedrooms to 399 bedrooms expected that there would be on-site POS provision, including a Local Area for Play (LAP). Detail of the design of the facility and future management arrangements would be required as part of any application for planning permission.

A contribution towards off-site formal sports provision is expected. This would be spent on improvements to outdoor sports provision within the local area to be of benefit to the residents of the new development.

POS and outdoor sports commuted sum figures are calculated in accordance with the latest table of charges.

Education

The need to provide contributions towards education provision has arisen as a result of schools within the Borough reaching capacity; there is significant pressure for school places in the local area and both primary and secondary education contributions will be required for such a residential development within the area.

Government guidelines state that the amount of money that is required through developer contributions for education provision needs to reflect the current cost of providing school places.

Calculating the Contribution:

XX units x 0.25 (primary yield factor) x £12,817.74 = £ XXXX

XX units x 0.1 (secondary yield factor) x £16,022.17 = £ XXXX



Education contribution per pupil costs are index linked and updated on the 1st January each year in line with inflation. Any deviation from this requirement would need to be justified by detailed evidence. If the argument for not complying with this requirement is based around site viability then this would need to be accompanied a detailed viability assessment.

Viability

The Council is mindful of the need to ensure that financial planning obligations do not undermine the viability and deliverability of any scheme, having regard to site specific requirements, whilst ensuring that the impacts of the development are adequately mitigated. As such, the developer may wish to provide a viability appraisal at application stage, which may demonstrate the ability of the scheme to provide the contributions. Should a viability appraisal be submitted, the Council requires an independent review of such appraisals, with the cost to be met by the applicant.

Public and Stakeholder Consultation

The Council has an adopted Statement of Community Involvement that we would encourage developers to consider when preparing engagement plans. We encourage developers to seek to engage with local residents and, where appropriate, undertake consultation with ward councillors. The application site is located within the Norden ward.

The method of consultation undertaken by yourselves, detail of where any consultation event was held and details of how the development has been presented to the local community should be outlined within a Statement of Community Involvement to be submitted with any application for planning permission. This statement should also include details of the feedback received, including if any amendments have been made as a result of comments received.



Conclusion

I note that the principle of residential development on site has been established by virtue of the extant planning permission ref. 17/00359/FUL and also note that the scheme has been designed to result in a reduction in volume, floorspace and hardstanding over that permission. That being said, the significant increase in unit numbers appears to have presented issues in respect of amenity standards, quality of private & shared outdoor amenity areas and a dominance of parking to the fronts of buildings within the development. Therefore, whilst the overall design ethos is largely supported, whether such numbers can be made to work within the constraints of the site is debatable. From an urban design perspective, I am minded to suggest that a re-jig losing a minimum of 6-8 units rather than 1 or 2 might start to lead you towards a layout that works more favourably. This is so that the LAP can be brought into the heart of the site and merged with the desired communal garden area, parking provision can be better incorporated so it is not dominant, access and servicing can be adequately accommodated and individual dwellings will not be unfavorably situated as a result of trying to fit in things around them. In addition, the orientation of the private garden areas, and the impacts of existing trees, needs to be given much greater consideration. Furthermore, there is also a clear opportunity here to incorporate SuDS features into the landscaping which I would like to see explored further.

Planning Performance Agreements

Central government encourages the use of Planning Performance Agreements (PPA). A PPA is an agreement between the Local Planning Authority and an applicant to provide a project management framework for handling a major planning application. The agreement sets out the standard of service and target decision programme that can be expected. In recognition of the additional burden of work and activity which the agreed programme is likely to require of the LPA, an additional fee contribution will be required and agreed between the LPA and the applicant prior to the submission of the planning application. Please let me know if you wish to discuss this further.



Validation Requirements

In the event that a formal planning application is submitted, the following list of supporting information would be required:

- Compliance with National Information Requirements
- Compliance with the Council's adopted Local List.
- Air Quality Assessment
- Arboricultural Impact Assessment
- Archaeological Desk Based Assessment
- Biodiversity Statement
- Construction Management Plan (can be conditioned in the alternative)
- Crime Impact Statement
- Design & Access Statement
- Energy and Climate Change Adaptation Statement
- Flood Risk Assessment and Outline Drainage Strategy including completed NW SuDS pro-forma Version 5
- Heads of Terms for Section 106 agreement
- Phase I Ecology Survey
- Phase I Site Investigation Report/PRA and Phase II Ground Investigation & Remediation Strategy (the latter pair can be conditioned in the alternative)
- Planning Statement
- Statement of Community Involvement (can be included in Planning Statement)
- Transport Statement

Please note that any advice provided above is an informal opinion of the author only and is made without prejudice to any formal determination which may be given in the event of an application being submitted. In particular, it does not constitute a formal decision of the Council with regard to any future planning applications, which will be subject to wider consultation and publicity, and provides no guarantee of a future decision.

Yours sincerely,



Michael Atkinson-Smith
Senior Planning Officer
Planning & Development



Appendix 1 – Relevant Policies

In addition to the requirements of the National Planning Policy Framework, any application for the proposed use of the site would be subject to an assessment against the following list of key policies contained within the Rochdale Core Strategy:

SP3/H The Strategy for Heywood

SD1	Delivering sustainable development
DM1	General development requirements
DM2	Delivering planning contributions and infrastructure
SO2	Creating successful and healthy communities
C1	Delivering the right amount of housing in the right places
C3	Delivering the right type of housing
C6	Improving health and well being
C7	Delivering education facilities
C8	Improving community, sport, leisure and cultural facilities
SO3	Improving design, image and quality of place
P1	Improving image
P2	Protecting and enhancing character, landscape and heritage
P3	Improving design of new development
SO4	Promoting a greener environment
G4	Protecting Green Belt
G6	Enhancing green infrastructure
G7	Increasing the value of biodiversity and geodiversity
G8	Managing water resources and flood risk
G9	Reducing the impact of pollution
SO5	Improving accessibility and delivering sustainable transport
T2	Improving accessibility

The following saved policies from the Rochdale Unitary Development Plan (UPD) are also relevant:

G/D/2	Green Belt
D/5(v)	Infilling at Major Existing Developed Sites in the Green Belt
EM/7	Development and Flood Risk
EM/8	Protection of Surface and Ground Water
NE/2	Designated Sites of Ecological and Geological/Geomorphological Importance

Additional Core Strategy and saved UDP policies may also be relevant depending upon the details of any submitted proposal.



Supplementary Planning Documents:

- Guidelines and Standards for Residential Development (June 2016)
- Residential Design Guide (September 2007)
- Biodiversity and Development (January 2008; Updated February 2017)
- Provision of Recreational Open Space in New Housing (March 2008; Updated January 2017)
- Climate Change Adaption (June 2012)



Appendix G Hydrology Calculations

Revitalised FSR/FEH rainfall runoff method

Spreadsheet application report

User name Bethan Lloyd Jones
Company name Waterco Consultants
Project name w10206-Tack Lea Works,

Catchment name Tack Lea Brook
Catchment easting 383800
Catchment northing 412050
Catchment area 1.25

Date/time modelled 14-Nov-2016 10:43
Version 1.4

Summary of model setup

Design rainfall parameters

Return period (yr) 100
Duration (hr) 1.7
Timestep (hr) 0.1
Season Winter

Loss model parameters

C_{max} (mm) 421
C_{ini} (mm) 136
α factor 0.83

Routing model parameters

T_p (hr) 0.78
U_p 0.65
U_k 0.8

Baseflow model parameters

BL (hr) 25.8
BR 1.77
BF₀ (m³/s) 0.1

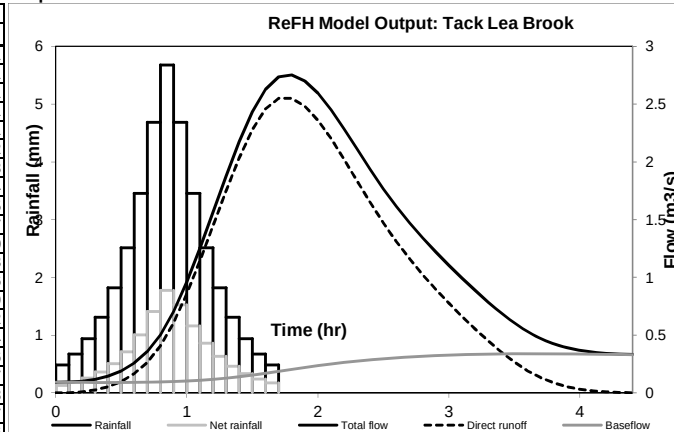
Summary of results

FEH DDF rainfall (mm) 54.1
Design rainfall (mm) 37.4
Peak rainfall (mm) 5.7
Peak flow (m³/s) 2.8

Results

Series	Design Rainfall	Net rainfall	Direct runoff	Baseflow	Total flow
Unit	mm	mm	m ³ /s	m ³ /s	m ³ /s
0.0	0.5	0.1	0.0	0.1	0.1
0.1	0.7	0.2	0.0	0.1	0.1
0.2	0.9	0.3	0.0	0.1	0.1
0.3	1.3	0.4	0.0	0.1	0.1
0.4	1.8	0.5	0.1	0.1	0.1
0.5	2.5	0.7	0.1	0.1	0.2
0.6	3.5	1.0	0.2	0.1	0.3
0.7	4.7	1.4	0.3	0.1	0.4
0.8	5.7	1.8	0.4	0.1	0.5
0.9	4.7	1.5	0.6	0.1	0.7
1.0	3.5	1.2	0.9	0.1	1.0
1.1	2.5	0.9	1.1	0.1	1.3
1.2	1.8	0.6	1.4	0.1	1.6
1.3	1.3	0.5	1.7	0.1	1.9
1.4	0.9	0.3	2.0	0.1	2.2
1.5	0.7	0.2	2.3	0.2	2.4
1.6	0.5	0.2	2.5	0.2	2.6
1.7	0.0	0.0	2.5	0.2	2.7
1.8	0.0	0.0	2.6	0.2	2.8
1.9	0.0	0.0	2.5	0.2	2.7
2.0	0.0	0.0	2.4	0.2	2.6
2.1	0.0	0.0	2.2	0.3	2.5
2.2	0.0	0.0	2.0	0.3	2.3
2.3	0.0	0.0	1.8	0.3	2.1
2.4	0.0	0.0	1.6	0.3	1.9
2.5	0.0	0.0	1.5	0.3	1.8
2.6	0.0	0.0	1.3	0.3	1.6
2.7	0.0	0.0	1.2	0.3	1.5
2.8	0.0	0.0	1.0	0.3	1.3
2.9	0.0	0.0	0.9	0.3	1.2
3.0	0.0	0.0	0.8	0.3	1.1
3.1	0.0	0.0	0.7	0.3	1.0
3.2	0.0	0.0	0.6	0.3	0.9
3.3	0.0	0.0	0.4	0.3	0.8
3.4	0.0	0.0	0.4	0.3	0.7
3.5	0.0	0.0	0.3	0.3	0.6
3.6	0.0	0.0	0.2	0.3	0.5
3.7	0.0	0.0	0.1	0.3	0.5
3.8	0.0	0.0	0.1	0.3	0.4
3.9	0.0	0.0	0.1	0.3	0.4
4.0	0.0	0.0	0.0	0.3	0.4
4.1	0.0	0.0	0.0	0.3	0.4
4.2	0.0	0.0	0.0	0.3	0.3
4.3	0.0	0.0	0.0	0.3	0.3
4.4	0.0	0.0	0.0	0.3	0.3
Total (mm)	37.4	11.7	11.7	3.0	14.7

Graph



Audit comments

Model run with ReFH dll version 1.4.0005

Catchment

Catchment descriptors imported from file
 Catchment descriptor file = 'w10206-161114-CDs.csv'
 Catchment descriptor file exported from CD ROM version 3
 Catchment descriptor file exported on 14-Nov-2016 10:39
 BFIHOST value of 0.601 used
 PROPWET value of 0.57 used
 SAAR value of 1153 used
 DPLBAR value of 1.05 used
 DPSBAR value of 95.7 used
 URBEXT value of 0.019 used
 C value of -0.026 used
 D1 value of 0.34746 used
 D2 value of 0.42122 used
 D3 value of 0.40917 used
 E value of 0.30345 used
 F value of 2.47363 used

Rainfall

Recommended season is Winter, as URBEXT < 0.125
 ReFH design standard Seasonal Correction Factor of 0.72 applied
 ReFH design standard Areal Reduction Factor of 0.96 applied

Loss Model

C_{max} derived from catchment descriptors
 ReFH design standard C_{in} used

Revitalised FSR/FEH rainfall runoff method

Spreadsheet application report

ReFH design standard α factor used

Routing Model

T_p derived from catchment descriptors

ReFH design standard used for U_p

ReFH design standard used for U_k

Baseflow Model

BL derived from catchment descriptors

BR derived from catchment descriptors

ReFH design standard BF_0 used

Revitalised FSR/FEH rainfall runoff method

Spreadsheet application report

User name	Bethan Lloyd Jones	Catchment name	Tack Lea Brook	Date/time modelled	14-Nov-2016 10:44
Company name	Waterco Consultants	Catchment easting	383800	Version	1.4
Project name	w10206-Tack Lea Works,	Catchment northing	412050		
		Catchment area	1.25		

Summary of model setup

Design rainfall parameters		Loss model parameters		Routing model parameters		Baseflow model parameters	
Return period (yr)	1000	C_{max} (mm)	421	T_p (hr)	0.78	BL (hr)	25.8
Duration (hr)	1.7	C_{ini} (mm)	136	U_p	0.65	BR	1.77
Timestep (hr)	0.1	α factor	0.7	U_k	0.8	BF₀ (m³/s)	0.1
Season	Winter						

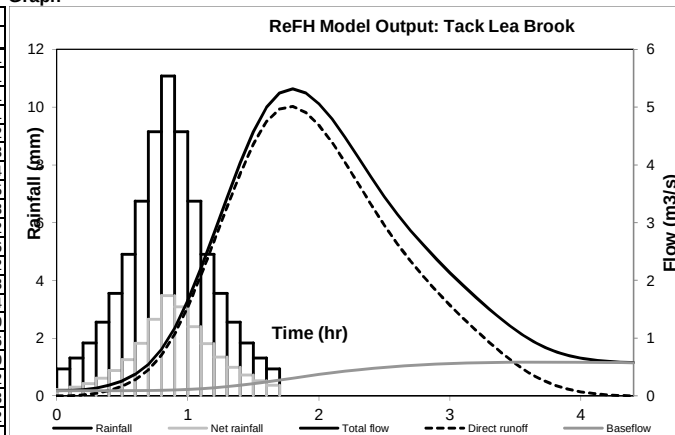
Summary of results

FEH DDF rainfall (mm)	105.5	Peak rainfall (mm)	11.1
Design rainfall (mm)	73	Peak flow (m³/s)	5.3

Results

Series	Design Rainfall	Net rainfall	Direct runoff	Baseflow	Total flow
Unit	mm	mm	m ³ /s	m ³ /s	m ³ /s
0.0	0.9	0.2	0.0	0.1	0.1
0.1	1.3	0.3	0.0	0.1	0.1
0.2	1.8	0.4	0.0	0.1	0.1
0.3	2.6	0.6	0.0	0.1	0.1
0.4	3.5	0.9	0.1	0.1	0.2
0.5	4.9	1.3	0.2	0.1	0.3
0.6	6.7	1.8	0.3	0.1	0.4
0.7	9.1	2.6	0.5	0.1	0.5
0.8	11.1	3.5	0.7	0.1	0.8
0.9	9.1	3.1	1.1	0.1	1.2
1.0	6.7	2.4	1.5	0.1	1.6
1.1	4.9	1.8	2.1	0.1	2.2
1.2	3.5	1.3	2.7	0.1	2.8
1.3	2.6	1.0	3.3	0.2	3.4
1.4	1.8	0.7	3.9	0.2	4.0
1.5	1.3	0.5	4.4	0.2	4.6
1.6	0.9	0.4	4.8	0.2	5.0
1.7	0.0	0.0	5.0	0.3	5.2
1.8	0.0	0.0	5.0	0.3	5.3
1.9	0.0	0.0	4.9	0.3	5.2
2.0	0.0	0.0	4.7	0.4	5.1
2.1	0.0	0.0	4.4	0.4	4.8
2.2	0.0	0.0	4.0	0.4	4.5
2.3	0.0	0.0	3.7	0.5	4.1
2.4	0.0	0.0	3.3	0.5	3.8
2.5	0.0	0.0	3.0	0.5	3.5
2.6	0.0	0.0	2.6	0.5	3.1
2.7	0.0	0.0	2.3	0.5	2.9
2.8	0.0	0.0	2.1	0.5	2.6
2.9	0.0	0.0	1.8	0.6	2.4
3.0	0.0	0.0	1.6	0.6	2.1
3.1	0.0	0.0	1.3	0.6	1.9
3.2	0.0	0.0	1.1	0.6	1.7
3.3	0.0	0.0	0.9	0.6	1.5
3.4	0.0	0.0	0.7	0.6	1.3
3.5	0.0	0.0	0.6	0.6	1.1
3.6	0.0	0.0	0.4	0.6	1.0
3.7	0.0	0.0	0.3	0.6	0.9
3.8	0.0	0.0	0.2	0.6	0.8
3.9	0.0	0.0	0.1	0.6	0.7
4.0	0.0	0.0	0.1	0.6	0.7
4.1	0.0	0.0	0.0	0.6	0.6
4.2	0.0	0.0	0.0	0.6	0.6
4.3	0.0	0.0	0.0	0.6	0.6
4.4	0.0	0.0	0.0	0.6	0.6
Total (mm)	73.0	22.9	22.9	4.7	27.7

Graph



Audit comments

Model run with ReFH dll version 1.4.0005

Catchment

Catchment descriptors imported from file
 Catchment descriptor file = 'w10206-161114-CDs.csv'
 Catchment descriptor file exported from CD ROM version 3
 Catchment descriptor file exported on 14-Nov-2016 10:39
 BFIHOST value of 0.601 used
 PROPWET value of 0.57 used
 SAAR value of 1153 used
 DPLBAR value of 1.05 used
 DPSBAR value of 95.7 used
 URBEXT value of 0.019 used
 C value of -0.026 used
 D1 value of 0.34746 used
 D2 value of 0.42122 used
 D3 value of 0.40917 used
 E value of 0.30345 used
 F value of 2.47363 used

Rainfall

Recommended season is Winter, as URBEXT < 0.125
 ReFH design standard Seasonal Correction Factor of 0.72 applied
 ReFH design standard Areal Reduction Factor of 0.96 applied

Loss Model

C_{max} derived from catchment descriptors
 ReFH design standard C_{in} used

Revitalised FSR/FEH rainfall runoff method

Spreadsheet application report

ReFH design standard α factor used

Routing Model

T_p derived from catchment descriptors

ReFH design standard used for U_p

ReFH design standard used for U_k

Baseflow Model

BL derived from catchment descriptors

BR derived from catchment descriptors

ReFH design standard BF_0 used

 Eden Court, Lon Parcwr, Ruthin, 01824 702220	Calculation	ref: w10206
		prefix: Pipe Capacity
Scheme: Tack Lea Works	page no: 1	
Section: Full Bore Discharge	dated: 14-11-16	
Calculation based on Colebrook White equation.		
<u>Full bore Velocity / Discharge</u>		
<u>Input data:</u>		
Diameter (mm)	1050.0	
Gradient (1 in ...)	15.00	(m/m) 0.066667
Coeff Ks (mm)	0.60	
<u>Output details:</u>		
Full bore Velocity (m/s)	8.918	
Full bore Discharge (L/s)	7721.87	
<u>Pipe losses (m)</u>		
0.5 V2 / 2g	2.027	
V2 / 2g	4.053	
1.5 V2 / 2g	6.080	

Appendix H MicroDrainage Storage Estimates

Waterco Ltd					Page 1
Eden Court		14708 - Tack Lea Works			
Lon Parcwr Business Park		1 in 100 Year + 45% CC			
Denbighshire LL15 1NJ		Attenuation Storage-Northern			
Date 01/09/2022		Designed by RM			
File Northern Extent Attenua...		Checked by AW			
XP Solutions		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period (+45%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	9.274	0.474	3.3	77.2	O K
30 min Summer	9.451	0.651	3.3	106.1	O K
60 min Summer	9.648	0.848	3.3	138.2	O K
120 min Summer	9.750	0.950	3.3	154.9	Flood Risk
180 min Summer	9.799	0.999	3.3	162.9	Flood Risk
240 min Summer	9.825	1.025	3.3	167.0	Flood Risk
360 min Summer	9.839	1.039	3.3	169.3	Flood Risk
480 min Summer	9.830	1.030	3.3	167.8	Flood Risk
600 min Summer	9.818	1.018	3.3	165.9	Flood Risk
720 min Summer	9.804	1.004	3.3	163.7	Flood Risk
960 min Summer	9.777	0.977	3.3	159.2	Flood Risk
1440 min Summer	9.720	0.920	3.3	149.9	Flood Risk
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
15 min Summer	133.128	0.0	79.3	16	
30 min Summer	92.718	0.0	110.5	31	
60 min Summer	61.618	0.0	146.9	62	
120 min Summer	36.233	0.0	172.7	122	
180 min Summer	26.585	0.0	190.1	180	
240 min Summer	21.358	0.0	203.7	240	
360 min Summer	15.709	0.0	224.7	360	
480 min Summer	12.634	0.0	241.0	436	
600 min Summer	10.675	0.0	254.5	494	
720 min Summer	9.306	0.0	266.3	556	
960 min Summer	7.504	0.0	286.3	690	
1440 min Summer	5.555	0.0	317.8	966	
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Waterco Ltd					Page 2
Eden Court		14708 - Tack Lea Works			
Lon Parcwr Business Park		1 in 100 Year + 45% CC			
Denbighshire LL15 1NJ		Attenuation Storage-Northern			
Date 01/09/2022		Designed by RM			
File Northern Extent Attenua...		Checked by AW			
XP Solutions		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period (+45%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
2160 min Summer	9.645	0.845	3.3	137.7	O K
2880 min Summer	9.568	0.768	3.3	125.2	O K
4320 min Summer	9.388	0.588	3.3	95.9	O K
5760 min Summer	9.255	0.455	3.3	74.2	O K
7200 min Summer	9.156	0.356	3.3	58.1	O K
8640 min Summer	9.085	0.285	3.3	46.4	O K
10080 min Summer	9.034	0.234	3.2	38.2	O K
15 min Winter	9.332	0.532	3.3	86.6	O K
30 min Winter	9.533	0.733	3.3	119.4	O K
60 min Winter	9.754	0.954	3.3	155.5	Flood Risk
120 min Winter	9.874	1.074	3.3	175.1	Flood Risk
180 min Winter	9.935	1.135	3.3	185.0	Flood Risk
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
2160 min Summer	4.163	0.0	357.3	1388	
2880 min Summer	3.413	0.0	390.6	1816	
4320 min Summer	2.593	0.0	445.2	2548	
5760 min Summer	2.145	0.0	491.1	3240	
7200 min Summer	1.856	0.0	531.1	3960	
8640 min Summer	1.655	0.0	568.2	4664	
10080 min Summer	1.506	0.0	603.3	5344	
15 min Winter	133.128	0.0	88.8	16	
30 min Winter	92.718	0.0	123.6	31	
60 min Winter	61.618	0.0	164.5	62	
120 min Winter	36.233	0.0	193.5	120	
180 min Winter	26.585	0.0	213.0	178	
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Waterco Ltd					Page 3	
Eden Court		14708 - Tack Lea Works				
Lon Parcwr Business Park		1 in 100 Year + 45% CC				
Denbighshire LL15 1NJ		Attenuation Storage-Northern				
Date 01/09/2022		Designed by RM				
File Northern Extent Attenua...		Checked by AW				
XP Solutions		Source Control 2020.1.3				
<u>Summary of Results for 100 year Return Period (+45%)</u>						
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status	
240 min Winter	9.969	1.169	3.3	190.5	Flood Risk	
360 min Winter	9.997	1.197	3.3	195.1	Flood Risk	
480 min Winter	9.995	1.195	3.3	194.7	Flood Risk	
600 min Winter	9.978	1.178	3.3	192.0	Flood Risk	
720 min Winter	9.959	1.159	3.3	188.8	Flood Risk	
960 min Winter	9.923	1.123	3.3	183.0	Flood Risk	
1440 min Winter	9.837	1.037	3.3	169.0	Flood Risk	
2160 min Winter	9.713	0.913	3.3	148.9	Flood Risk	
2880 min Winter	9.584	0.784	3.3	127.8	O K	
4320 min Winter	9.290	0.490	3.3	79.9	O K	
5760 min Winter	9.113	0.313	3.3	51.0	O K	
7200 min Winter	9.010	0.210	3.1	34.3	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)		
240 min Winter	21.358	0.0	228.2	234		
360 min Winter	15.709	0.0	251.8	348		
480 min Winter	12.634	0.0	269.9	456		
600 min Winter	10.675	0.0	285.1	558		
720 min Winter	9.306	0.0	298.3	582		
960 min Winter	7.504	0.0	320.7	732		
1440 min Winter	5.555	0.0	355.8	1050		
2160 min Winter	4.163	0.0	400.2	1512		
2880 min Winter	3.413	0.0	437.5	1960		
4320 min Winter	2.593	0.0	498.7	2640		
5760 min Winter	2.145	0.0	550.2	3336		
7200 min Winter	1.856	0.0	594.9	3960		
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Waterco Ltd				Page 4	
Eden Court		14708 - Tack Lea Works			
Lon Parcwr Business Park		1 in 100 Year + 45% CC			
Denbighshire LL15 1NJ		Attenuation Storage-Northern			
Date 01/09/2022		Designed by RM			
File Northern Extent Attenua...		Checked by AW			
XP Solutions		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period (+45%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
8640 min Winter	8.952	0.152	2.9	24.9	O K
10080 min Winter	8.918	0.118	2.8	19.3	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
8640 min Winter	1.655	0.0	636.3	4592	
10080 min Winter	1.506	0.0	675.7	5248	
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Waterco Ltd		Page 5
Eden Court	14708 - Tack Lea Works	
Lon Parcwr Business Park	1 in 100 Year + 45% CC	
Denbighshire LL15 1NJ	Attenuation Storage-Northern	
Date 01/09/2022	Designed by RM	
File Northern Extent Attenua...	Checked by AW	
XP Solutions		Source Control 2020.1.3

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 383940 412053 SD 83940 12053
Data Type	Point
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+45

Time Area Diagram

Total Area (ha) 0.318

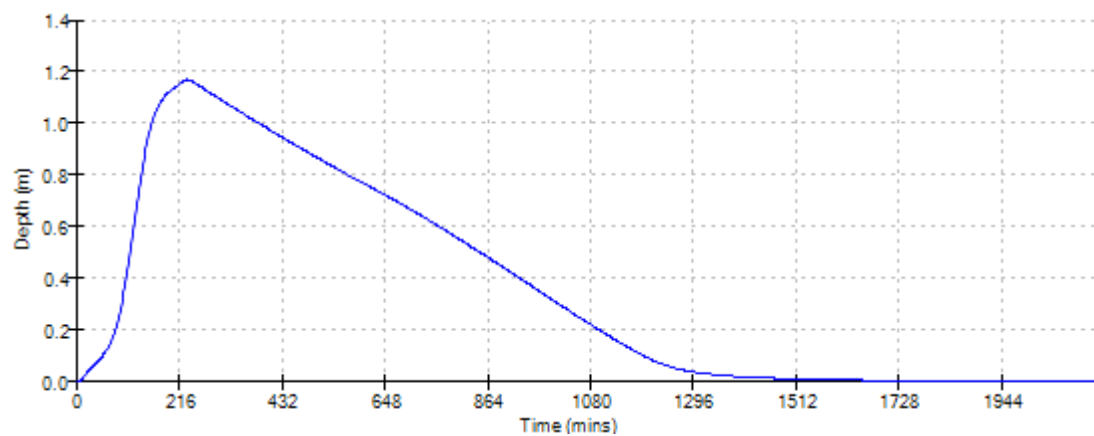
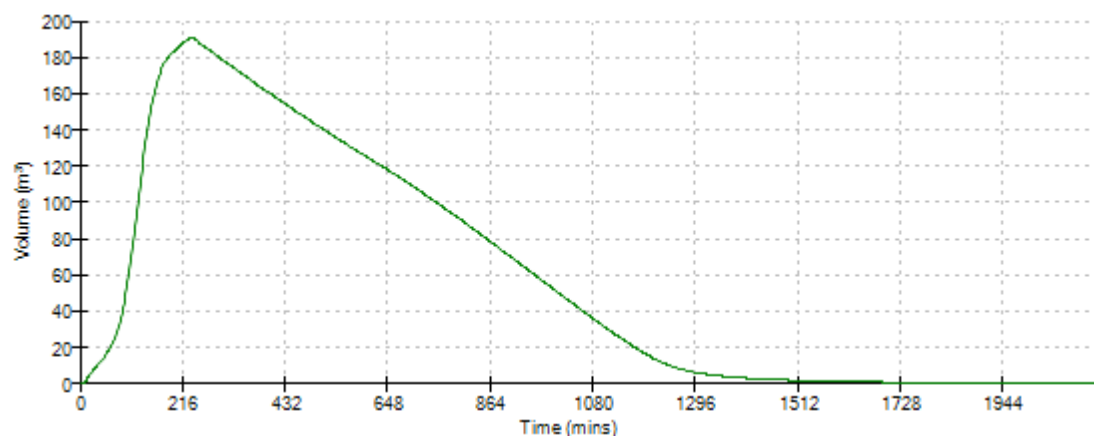
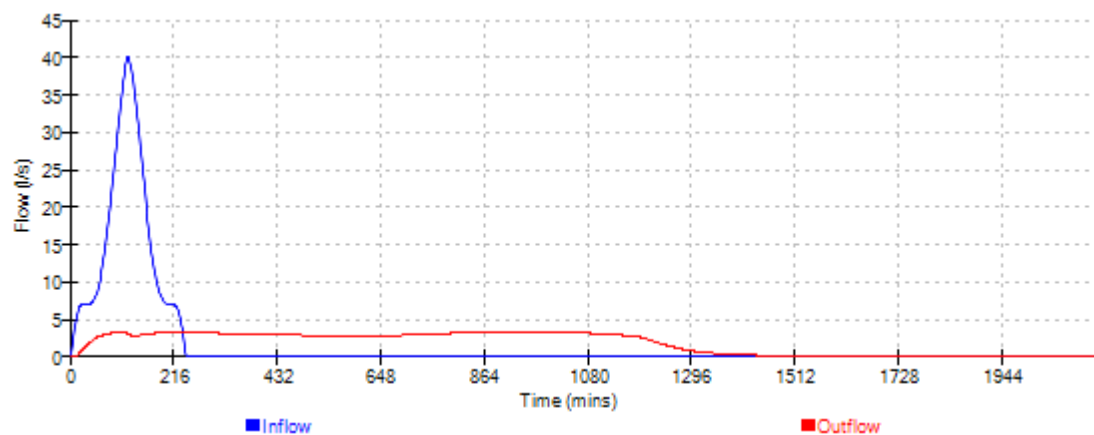
Time (mins)	Area
From:	To: (ha)
0	1 0.318

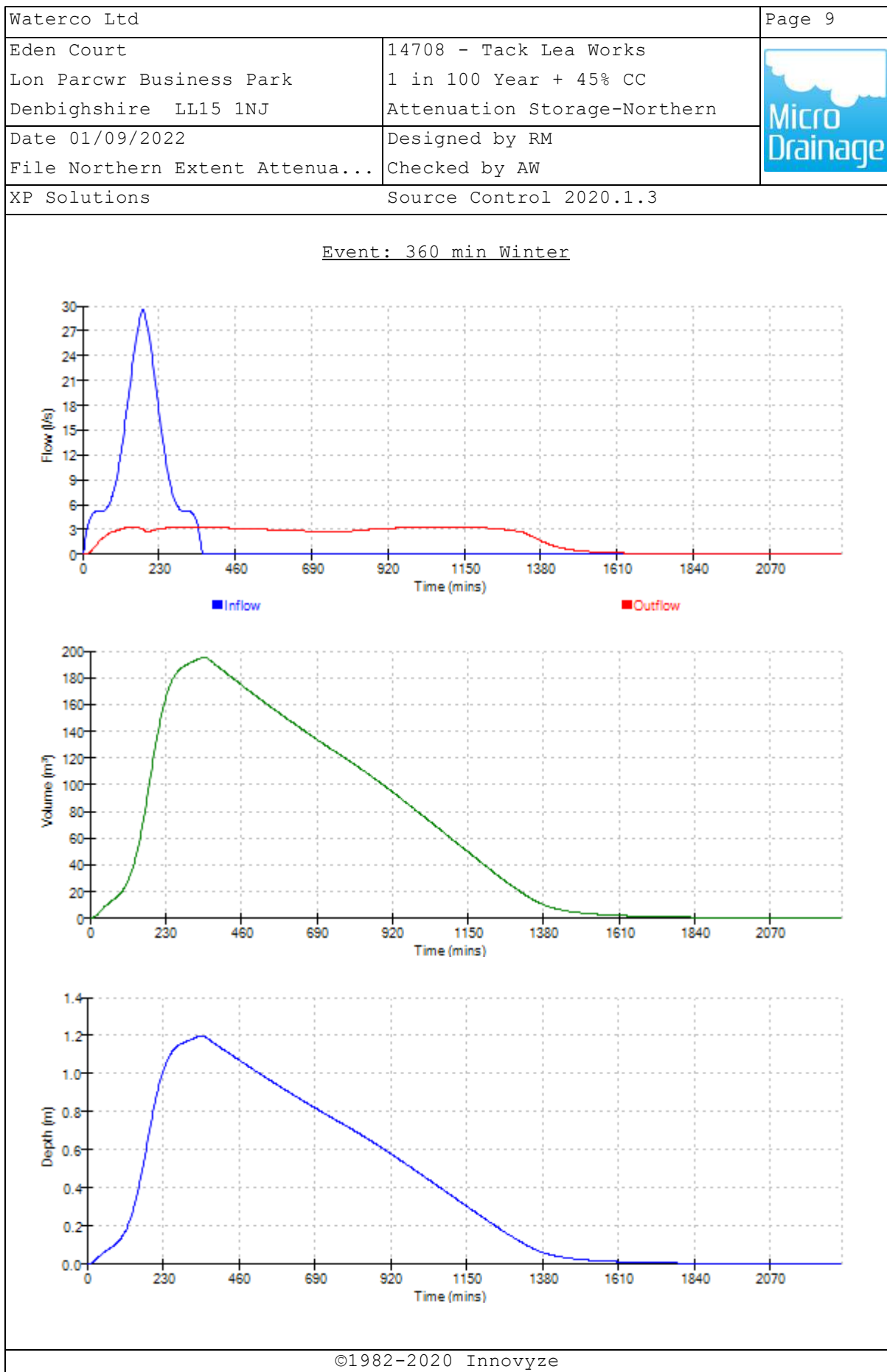
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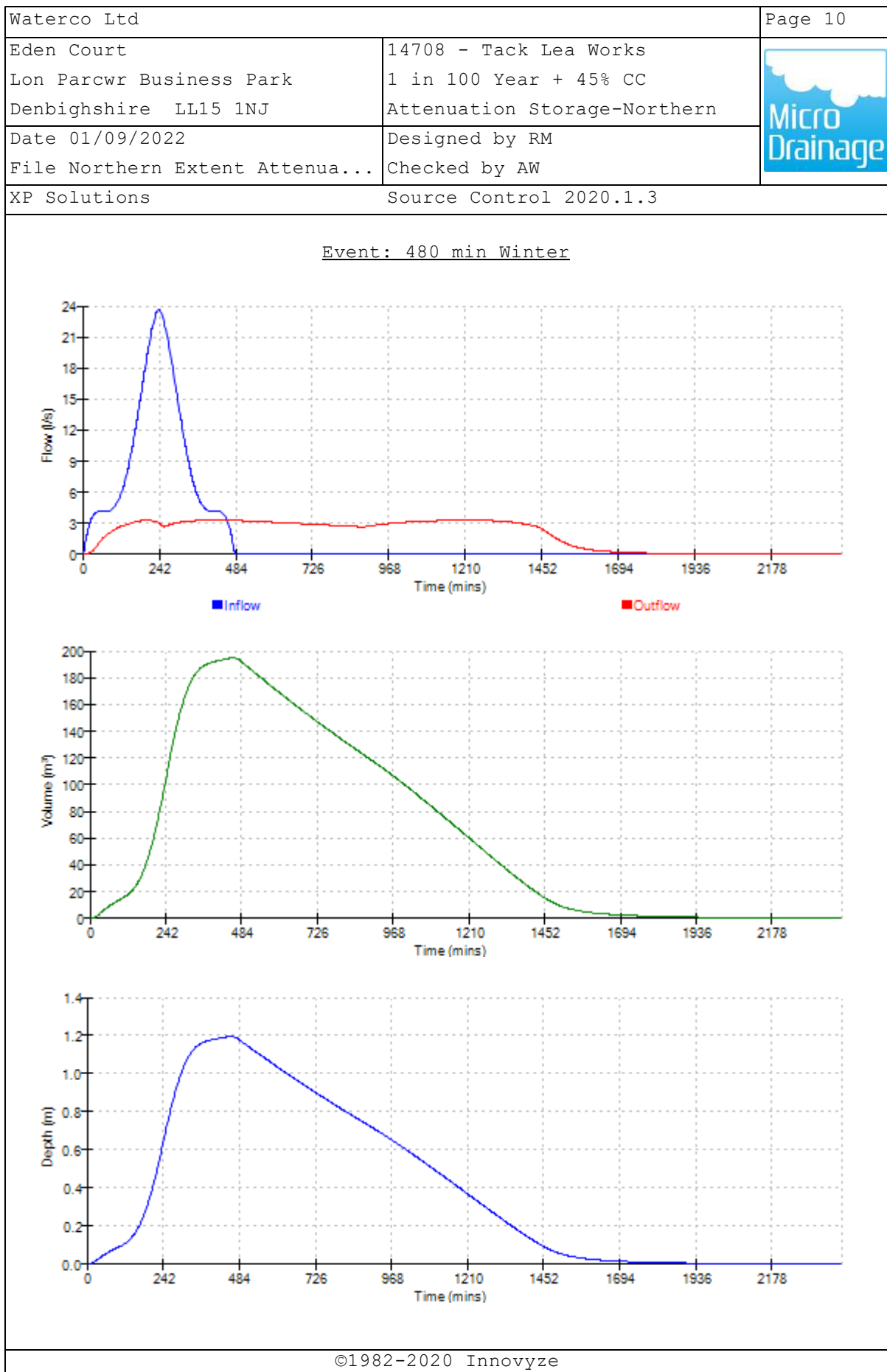
Waterco Ltd		Page 6																							
Eden Court	14708 - Tack Lea Works																								
Lon Parcwr Business Park	1 in 100 Year + 45% CC																								
Denbighshire LL15 1NJ	Attenuation Storage-Northern																								
Date 01/09/2022	Designed by RM																								
File Northern Extent Attenua...	Checked by AW																								
XP Solutions	Source Control 2020.1.3																								
Model Details Storage is Online Cover Level (m) 10.000 Tank or Pond Structure Invert Level (m) 8.800 <table><thead><tr><th>Depth (m)</th><th>Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th></tr></thead><tbody><tr><td>0.000</td><td>163.0</td><td>1.200</td><td>163.0</td></tr></tbody></table> Hydro-Brake® Optimum Outflow Control Unit Reference MD-SHE-0083-3300-1200-3300 Design Head (m) 1.200 Design Flow (l/s) 3.3 Flush-Flo™ Calculated Objective Minimise upstream storage Application Surface Sump Available Yes Diameter (mm) 83 Invert Level (m) 8.795 Minimum Outlet Pipe Diameter (mm) 100 Suggested Manhole Diameter (mm) 1200 <table><thead><tr><th>Control Points</th><th>Head (m)</th><th>Flow (l/s)</th></tr></thead><tbody><tr><td>Design Point (Calculated)</td><td>1.200</td><td>3.3</td></tr><tr><td>Flush-Flo™</td><td>0.363</td><td>3.3</td></tr><tr><td>Kick-Flo®</td><td>0.741</td><td>2.6</td></tr><tr><td>Mean Flow over Head Range</td><td>-</td><td>2.9</td></tr></tbody></table> The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage			Depth (m)	Area (m²)	Depth (m)	Area (m²)	0.000	163.0	1.200	163.0	Control Points	Head (m)	Flow (l/s)	Design Point (Calculated)	1.200	3.3	Flush-Flo™	0.363	3.3	Kick-Flo®	0.741	2.6	Mean Flow over Head Range	-	2.9
Depth (m)	Area (m²)	Depth (m)	Area (m²)																						
0.000	163.0	1.200	163.0																						
Control Points	Head (m)	Flow (l/s)																							
Design Point (Calculated)	1.200	3.3																							
Flush-Flo™	0.363	3.3																							
Kick-Flo®	0.741	2.6																							
Mean Flow over Head Range	-	2.9																							
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Eden Court	14708 - Tack Lea Works	
Lon Parcwr Business Park	1 in 100 Year + 45% CC	
Denbighshire LL15 1NJ	Attenuation Storage-Northern	
Date 01/09/2022	Designed by RM	
File Northern Extent Attenua...	Checked by AW	
XP Solutions	Source Control 2020.1.3	

Event: 240 min Winter







Waterco Ltd					Page 1
Eden Court		14708 - Track Lea Works			
Lon Parcwr Business Park		1 in 100 Year + 45% CC			
Denbighshire LL15 1NJ		Remainder-Attenuation Storage			
Date 01/09/2022		Designed by RM			
File Remainder of the Site A...		Checked by AW			
XP Solutions		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period (+45%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer	9.394	0.394	1.6	39.4	O K
30 min Summer	9.542	0.542	1.6	54.2	O K
60 min Summer	9.705	0.705	1.6	70.5	Flood Risk
120 min Summer	9.790	0.790	1.6	79.0	Flood Risk
180 min Summer	9.830	0.830	1.6	83.0	Flood Risk
240 min Summer	9.852	0.852	1.6	85.2	Flood Risk
360 min Summer	9.864	0.864	1.6	86.4	Flood Risk
480 min Summer	9.857	0.857	1.6	85.7	Flood Risk
600 min Summer	9.848	0.848	1.6	84.8	Flood Risk
720 min Summer	9.837	0.837	1.6	83.7	Flood Risk
960 min Summer	9.816	0.816	1.6	81.6	Flood Risk
1440 min Summer	9.772	0.772	1.6	77.2	Flood Risk
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
15 min Summer	133.128	0.0	40.4	16	
30 min Summer	92.718	0.0	56.3	31	
60 min Summer	61.618	0.0	74.8	62	
120 min Summer	36.233	0.0	88.0	122	
180 min Summer	26.585	0.0	96.9	180	
240 min Summer	21.358	0.0	103.7	240	
360 min Summer	15.709	0.0	114.5	360	
480 min Summer	12.634	0.0	122.8	430	
600 min Summer	10.675	0.0	129.7	492	
720 min Summer	9.306	0.0	135.6	556	
960 min Summer	7.504	0.0	145.8	684	
1440 min Summer	5.555	0.0	161.9	966	
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Waterco Ltd					Page 2
Eden Court		14708 - Track Lea Works			
Lon Parcwr Business Park		1 in 100 Year + 45% CC			
Denbighshire LL15 1NJ		Remainder-Attenuation Storage			
Date 01/09/2022		Designed by RM			
File Remainder of the Site A...		Checked by AW			
XP Solutions		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period (+45%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
2160 min Summer	9.715	0.715	1.6	71.5	Flood Risk
2880 min Summer	9.661	0.661	1.6	66.1	O K
4320 min Summer	9.540	0.540	1.6	54.0	O K
5760 min Summer	9.412	0.412	1.6	41.2	O K
7200 min Summer	9.322	0.322	1.6	32.2	O K
8640 min Summer	9.256	0.256	1.6	25.6	O K
10080 min Summer	9.208	0.208	1.6	20.8	O K
15 min Winter	9.442	0.442	1.6	44.2	O K
30 min Winter	9.609	0.609	1.6	60.9	O K
60 min Winter	9.793	0.793	1.6	79.3	Flood Risk
120 min Winter	9.893	0.893	1.6	89.3	Flood Risk
180 min Winter	9.944	0.944	1.7	94.4	Flood Risk
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
2160 min Summer	4.163	0.0	182.0	1384	
2880 min Summer	3.413	0.0	199.0	1812	
4320 min Summer	2.593	0.0	226.8	2636	
5760 min Summer	2.145	0.0	250.2	3296	
7200 min Summer	1.856	0.0	270.6	3968	
8640 min Summer	1.655	0.0	289.4	4672	
10080 min Summer	1.506	0.0	307.3	5352	
15 min Winter	133.128	0.0	45.2	16	
30 min Winter	92.718	0.0	63.0	31	
60 min Winter	61.618	0.0	83.8	62	
120 min Winter	36.233	0.0	98.6	120	
180 min Winter	26.585	0.0	108.5	178	
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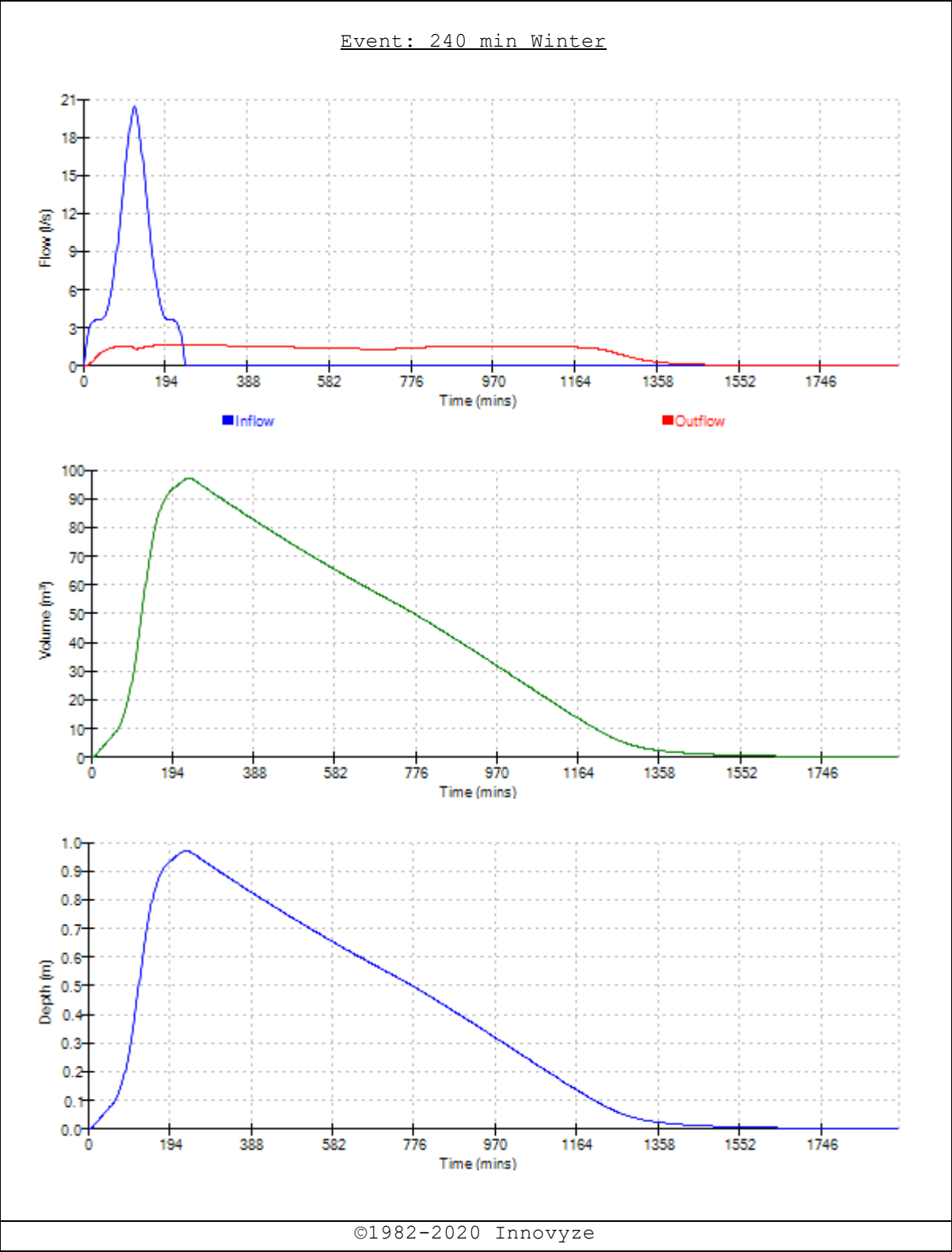
Waterco Ltd					Page 3
Eden Court		14708 - Track Lea Works			
Lon Parcwr Business Park		1 in 100 Year + 45% CC			
Denbighshire LL15 1NJ		Remainder-Attenuation Storage			
Date 01/09/2022		Designed by RM			
File Remainder of the Site A...		Checked by AW			
XP Solutions		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period (+45%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
240 min Winter	9.972	0.972	1.7	97.2	Flood Risk
360 min Winter	9.996	0.996	1.7	99.6	Flood Risk
480 min Winter	9.995	0.995	1.7	99.5	Flood Risk
600 min Winter	9.982	0.982	1.7	98.2	Flood Risk
720 min Winter	9.967	0.967	1.7	96.7	Flood Risk
960 min Winter	9.939	0.939	1.7	93.9	Flood Risk
1440 min Winter	9.872	0.872	1.6	87.2	Flood Risk
2160 min Winter	9.778	0.778	1.6	77.8	Flood Risk
2880 min Winter	9.686	0.686	1.6	68.6	O K
4320 min Winter	9.459	0.459	1.6	45.9	O K
5760 min Winter	9.290	0.290	1.6	29.0	O K
7200 min Winter	9.190	0.190	1.6	19.0	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
240 min Winter	21.358	0.0	116.2	234	
360 min Winter	15.709	0.0	128.2	348	
480 min Winter	12.634	0.0	137.5	456	
600 min Winter	10.675	0.0	145.2	554	
720 min Winter	9.306	0.0	151.9	578	
960 min Winter	7.504	0.0	163.3	732	
1440 min Winter	5.555	0.0	181.4	1040	
2160 min Winter	4.163	0.0	203.9	1496	
2880 min Winter	3.413	0.0	222.9	1956	
4320 min Winter	2.593	0.0	254.0	2724	
5760 min Winter	2.145	0.0	280.3	3400	
7200 min Winter	1.856	0.0	303.1	4032	
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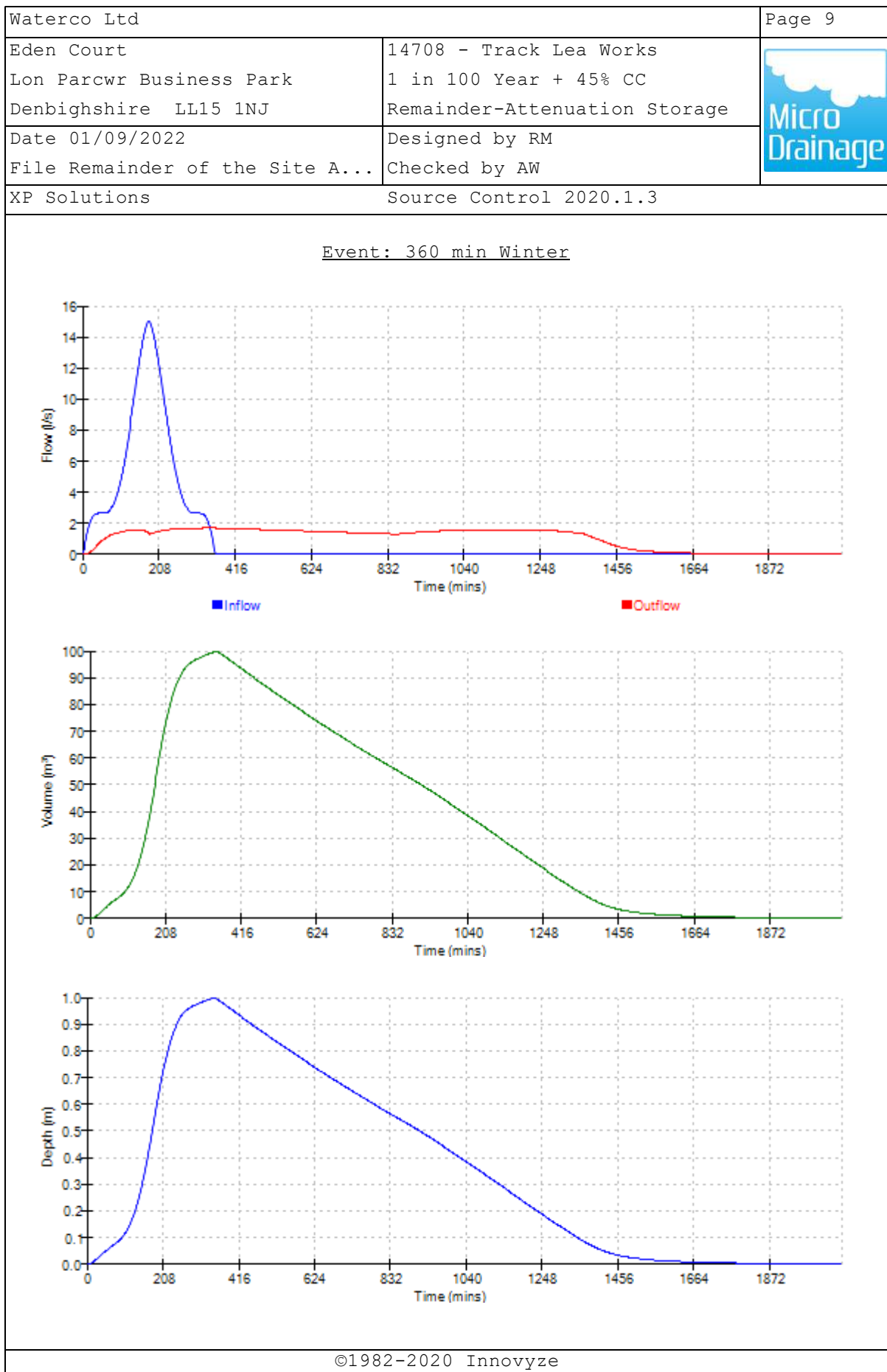
Waterco Ltd					Page 4
Eden Court		14708 - Track Lea Works			
Lon Parcwr Business Park		1 in 100 Year + 45% CC			
Denbighshire LL15 1NJ		Remainder-Attenuation Storage			
Date 01/09/2022		Designed by RM			
File Remainder of the Site A...		Checked by AW			
XP Solutions		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period (+45%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
8640 min Winter	9.134	0.134	1.5	13.4	O K
10080 min Winter	9.102	0.102	1.4	10.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
8640 min Winter	1.655	0.0	324.2	4664	
10080 min Winter	1.506	0.0	344.2	5336	
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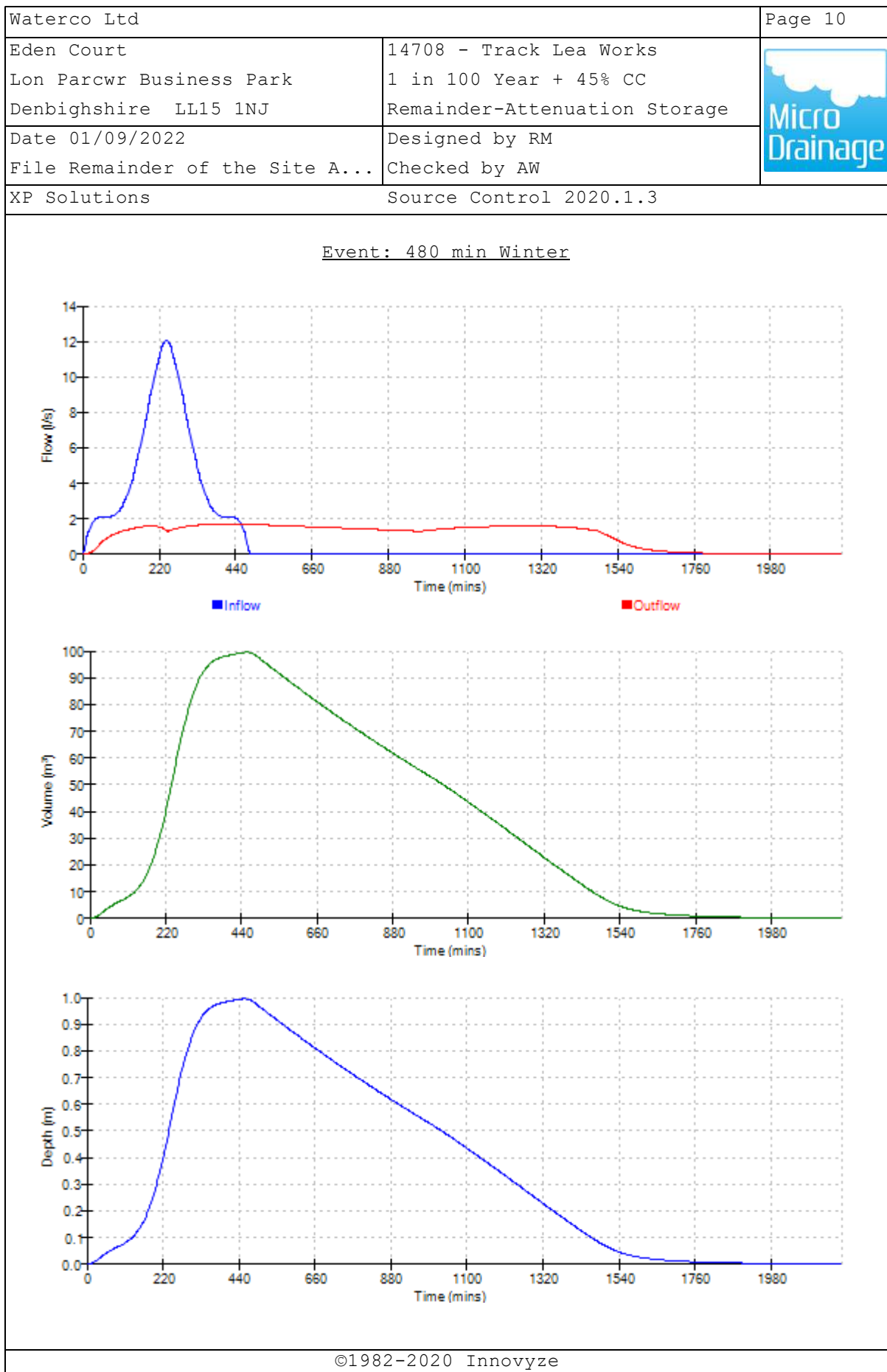
Waterco Ltd		Page 5																														
Eden Court	14708 - Track Lea Works																															
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XP Solutions		Source Control 2020.1.3																														
<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FEH</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> </tr> <tr> <td>FEH Rainfall Version</td> <td>2013</td> </tr> <tr> <td>Site Location</td> <td>GB 383940 412053 SD 83940 12053</td> </tr> <tr> <td>Data Type</td> <td>Point</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> </tr> <tr> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Climate Change %</td> <td>+45</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.162 <table> <tr> <th>Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To: (ha)</th> </tr> <tr> <td>0</td> <td>1 0.162</td> </tr> </table>			Rainfall Model	FEH	Return Period (years)	100	FEH Rainfall Version	2013	Site Location	GB 383940 412053 SD 83940 12053	Data Type	Point	Summer Storms	Yes	Winter Storms	Yes	Cv (Summer)	0.750	Cv (Winter)	0.840	Shortest Storm (mins)	15	Longest Storm (mins)	10080	Climate Change %	+45	Time (mins)	Area	From:	To: (ha)	0	1 0.162
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Model Details Storage is Online Cover Level (m) 10.000 Tank or Pond Structure Invert Level (m) 9.000 <table><thead><tr><th>Depth (m)</th><th>Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th></tr></thead><tbody><tr><td>0.000</td><td>100.0</td><td>1.000</td><td>100.0</td></tr></tbody></table> Hydro-Brake® Optimum Outflow Control Unit Reference MD-SHE-0062-1700-1000-1700 Design Head (m) 1.000 Design Flow (l/s) 1.7 Flush-Flo™ Calculated Objective Minimise upstream storage Application Surface Sump Available Yes Diameter (mm) 62 Invert Level (m) 8.995 Minimum Outlet Pipe Diameter (mm) 75 Suggested Manhole Diameter (mm) 1200 <table><thead><tr><th>Control Points</th><th>Head (m)</th><th>Flow (l/s)</th></tr></thead><tbody><tr><td>Design Point (Calculated)</td><td>1.000</td><td>1.7</td></tr><tr><td>Flush-Flo™</td><td>0.270</td><td>1.6</td></tr><tr><td>Kick-Flo®</td><td>0.549</td><td>1.3</td></tr><tr><td>Mean Flow over Head Range</td><td>-</td><td>1.4</td></tr></tbody></table> The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage			Depth (m)	Area (m²)	Depth (m)	Area (m²)	0.000	100.0	1.000	100.0	Control Points	Head (m)	Flow (l/s)	Design Point (Calculated)	1.000	1.7	Flush-Flo™	0.270	1.6	Kick-Flo®	0.549	1.3	Mean Flow over Head Range	-	1.4
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©1982-2020 Innovyze																									

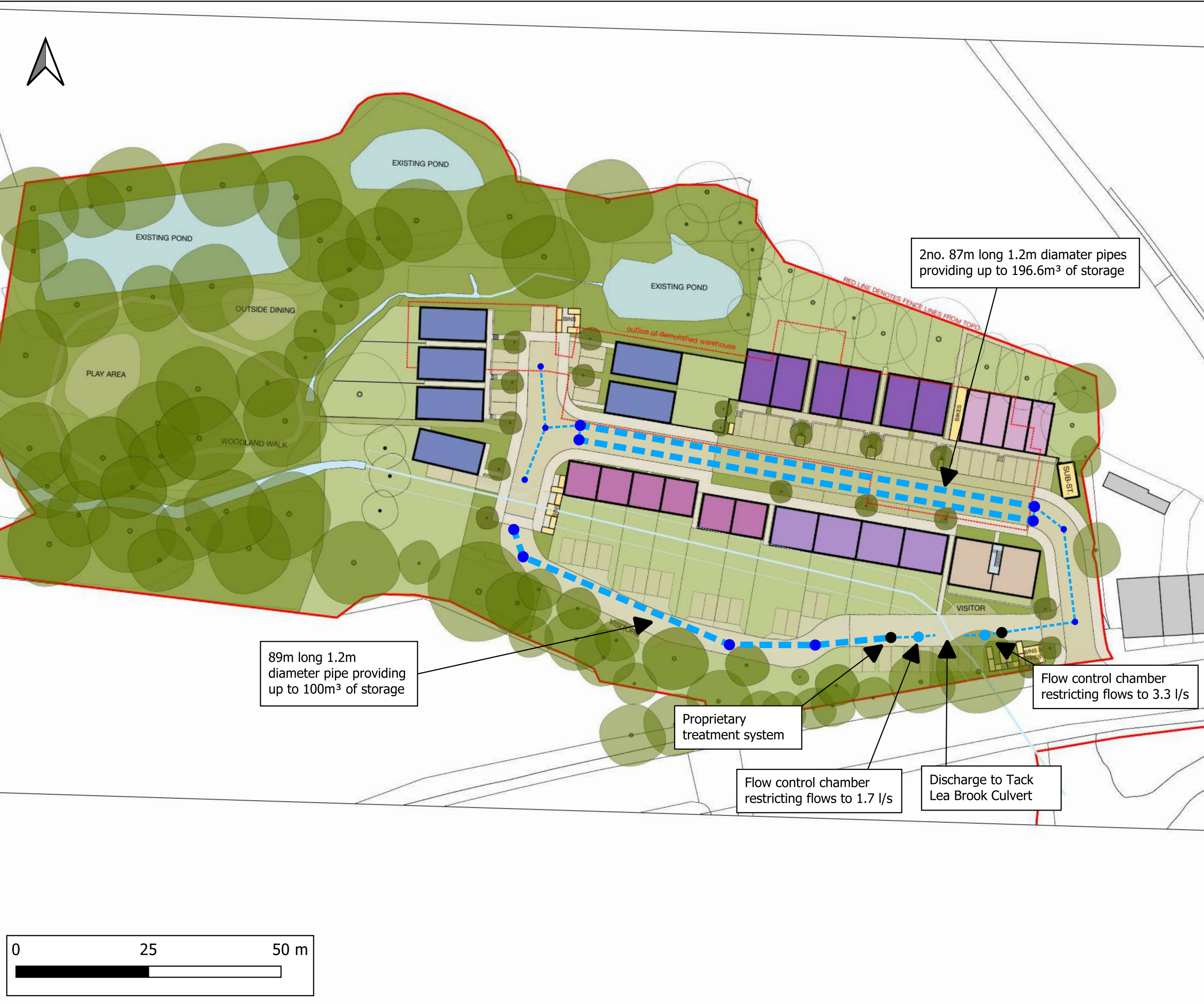
Waterco Ltd		Page 8
Eden Court Lon Parcwr Business Park Denbighshire LL15 1NJ	14708 - Track Lea Works	
	1 in 100 Year + 45% CC Remainder-Attenuation Storage	
Date 01/09/2022	Designed by RM	
File Remainder of the Site A...	Checked by AW	
XP Solutions	Source Control 2020.1.3	







Appendix I Concept Drainage Sketch



Notes:
1) This sketch has not been subject to formal checks or approvals. Its validity and use must therefore be limited to discussion and information purposes only.
2) Unless otherwise noted the risks associated with this proposal are not considered to be extra ordinary and within the remit of an experienced and competent contractor.
3) All dimensions in millimetres and all levels in metres above ordnance datum unless shown otherwise.
4) This drawing is an ammendment of the 'Proposed Site Plan' by 'Ollier Smurthwaite Architects'. This drawing provides a concept only and is not intended for detailed design.

LEGEND

- Proposed Surface Water Drain
- Proposed Oversized Pipe
- Proposed Flow Control Chamber
- Proposed Surface Water Inspection Chamber
- Proposed Proprietary Treatment System

CLIENT:			
HALL & CO PROPERTY			
 www.waterco.co.uk			
SCHEME:			
TACK LEA WORKS, HEYWOOD			
PLOT TITLE:			
Concept Drainage Sketch			
PLOT STATUS:			DATE:
SKETCH			07-09-2022
DRAWN:	CHECKED:	APPROVED:	PLOT SCALE AT A3:
IH	AW	NJ	1:700
PLOT NAME:			REVISION:
14708_Concept_Drainage_Sketch			-

Appendix J Concept Designers Risk Assessment

Project: Tack Lea Works, Heywood
Client: Hall & Co Property
Report Reference: 14708-FRA&Drainage Strategy-01

Project No: 14708

Prepared by: Jordan Jones
Checked by: Aled Williams
Reviewed by: Nigel Jones

Date: 29/07/2022
Date: 05/08/2022
Date:

Requirement:

The Construction (Design and Management) Regulations 2015 (CDM 2015) place an obligation on the Designer to take all reasonable steps to provide, with the design, sufficient information about the design, construction or maintenance of the structure, to adequately assist the client, other designers and contractors to comply with their duties under CDM. The Designer has undertaken this assessment to identify any extra-ordinary risks, or those that would not be expected on this particular project by an experienced and competent Contractor. The aim is to avoid needless paperwork and bureaucracy and ensure the assessment is project specific, relevant and proportionate to the risk.

DRA Summary

Each of the following risk areas has been considered using the question below. Is a risk present which is considered to be **extra-ordinary or unexpected** in this instance?

If **YES** - A detailed risk assessment is required at design stage

If **UNKNOWN** - Insufficient information has been provided at concept design stage and the risks are unknown. Further consideration must be given at design stage(s)

If **NO** - No further action is required.

Hazard Ref.	Risk Areas	YES, UNKNOWN or NO	Comments
1	Ground Conditions	Yes	High groundwater table encountered in ground investigation
2	Hazardous Environment	Yes	Elevated levels of TPH and mercury encountered in groundwater
3	Existing Working Environment	No	
4	Existing Services	Unknown	Potential for existng servies on site associated with previous site use
5	Proximity to Other Structure(s)	Unknown	
6	Near Waterbody / flood risk	Yes	Tack Lea Brook is culverted through the site. Ponds also located on site
7	Proximity to Other Activities	Unknown	Agricultural land surrounds the site
8	Sequence of Construction	Unknown	
9	Access	Unknown	Site is accessed via B6222
10	Interfaces	Unknown	
11	Confined Space Working	Unknown	To be determined at the detailed design stage
12	Maintenance Considerations	Unknown	
13	Working at Height	Unknown	
14	Steep Slopes	Unknown	Site slopes steeply in nothern extent
15	Demolition / Refurbishment / Repair	Yes	Demolition of existitng buildings on site
16	Welfare	Unknown	
17	Occupational Health	Unknown	
18	Environmental Issues	Unknown	
19	Other Significant Hazards not Identified Above	Unknown	
20	Residual Risk to Future Users	Unknown	Elevated levels of TPH and mercury encountered in groundwater