Eastwood&Partners
CONSULTING ENGINEERS

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FLOOD RISK ASSESSMENT

NEW MILL ROAD
HOLMFIRTH

FOR

PROSPECT ESTATES

39141-002 **December 2015**

Eastwood & Partners, St Andrews House, 23 Kingfield Road, Sheffield, S11 9AS

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Job No. : 39141

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Approved :

pp P Richardson

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1.0 THE DEVELOPMENT & NATIONAL PLANNING POLICY GUIDANCE

1.1 Introduction

This Flood Risk Assessment has been prepared in accordance with current Planning Practice Guidance "Flood Risk and Coastal Change" on the instruction of Prospect Estates. Any other parties using the information in this report do so at their own risk, unless previously approved in writing.

The project comprises the proposed development of a 2.4 ha brownfield site for residential use.

1.2 Site Location & Description

The site is located 1.2 km to the north of Holmfirth and is centred on OS National Grid reference SE 148 093.

The site was last occupied by a car dealership with workshops and car parking. The site comprises a series of development plateau falling towards Berry Bank Lane. Historically, the site was used as a council refuse tip. The site is bounded by New Mill Road to the east, Berry Bank Lane to the west, tennis courts to the north and housing to the south.

The site will be developed for a care home and up to 56 houses with a new site off New Mill Road. A site layout and topographical survey are appended.

1.3 Environment Agency Flood Map for Planning

The Environment Agency's Flood Map for Planning shows the site to lie within Zone 1 (low flood risk).

1.4 Kirklees Metropolitan Borough Council - Strategic Flood Risk Assessment

In 2008 Kirklees Metropolitan Borough Council in association with Calderdale MBC and Wakefield MDC commissioned JBA Consulting to produce a Level 1 Strategic Flood Risk. The flood map, Figure A 2.1, shows the site to lie in Zone 1.

1.5 National Planning Policy Framework

National Planning Policy Framework (March 2012) sets out the principles for assessing the suitability of sites for development, in relation to flood risk, as part of the planning process.

1.5.1 Sequential Test

Initially a Sequential Test is applied to the allocation of land suitable for development. The test is required for any development proposed in Flood Zone 2 or 3 (and occasionally also in Flood Zone 1 where there are flood risks present which are not identified on the Environment Agency's' Flood Maps for Planning).

The aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding. Development should not be allocated or permitted if there are reasonably available sites, appropriate for the proposed development, in areas with a lower probability of flooding.

1.5.2 Climate Change

An issue emphasised in the Technical Guidance is the requirement to take account of potential climate change effects. New development is generally accepted as having a 100 year design life for flood risk purposes. The Environment Agency's report "Climate change allowances for planners" recommends a 30% increase in peak rainfall intensity is taken into account for design horizons up to 2115.

1.6 Application of the Sequential Test

The development lies within Zone 1 and this report does not identify any other potential sources of flooding. Therefore, sequential testing is not required.

2.0 FLOOD RISK

2.1 Potential Sources of Flooding

Flood zone maps are intended for general guidance on flood risk and it is also necessary to consider other, more detailed, sources in relation to local factors.

2.1.1 Fluvial

The nearest watercourse is the River Holme, 100 m to the west of the site. The site is elevated some 30 m relative to the river and flood risk from this source is negligible. There is a minor drain which runs westwards from Berry Bank Lane. This is assumed to be culverted under the former railway line and to flow into the River Holme.

2.1.2 Surface water

There is potential for surface water runoff to cross the site from higher land to the east. The Environment Agency surface water flood risk map shows a flood route along the existing site roads and across the lower-lying car park. The frequency of flooding is classed as moderate to high but the hazard rating for the more frequent events is low (depth < 300 mm and velocity < 0.25 m/s).

There are no localised low spots on or close to the site where surface water may accumulate and flood risk from this source is not significant.

2.1.3 Groundwater

Groundwater is a potential flood risk to areas which are low lying and on permeable ground or, occasionally, to areas of higher ground in the vicinity of springs. These conditions do not apply to this site and the risk of groundwater flooding is not significant.

2.1.4 Sewerage & Other Surface Water Features

The nearby sewers are owned and maintained by Yorkshire Water and there is no public record of any flood risk associated with these sewers.

The site is remote from other water infrastructure such as pumping stations and reservoirs.

2.2 Residual Flood Risk

The site is not at significant risk of flooding from any source. The principal flood risk to consider is to others, from surface water runoff as a result of developing the site. Surface water disposal is discussed in more detail in the Drainage Strategy section of this report.

2.3 General Flood Mitigation Measures

The proposed surface water drainage system is designed to current best practice and to the standards laid out in the publication "Sewers for Adoption (6th Edition)" and Building Regulations Part H 2002. In the event of surface water failure for rainfall in excess of the design standard, the site is laid out so that surface water runoff is directed away from houses, including those on neighbouring streets.

3.0 DRAINAGE STRATEGY

3.1 Existing Drainage

The Yorkshire Water sewer plan records a 225 mm public combined sewer and a 150 mm public surface water sewer in New Mill Road. The plan also records a 450 mm public combined sewer running next to the River Holme.

The topographical survey records evidence of positive drainage on the site. The car dealership and forecourt are assumed to have drained to the public combined sewer in New Mill Road. The workshops and car park are assumed to have drained to the River Holme. This may be confirmed by a drainage survey.

3.2 Consultations with Statutory Bodies

3.2.1 Yorkshire Water

Pre-planning advice has been received from Yorkshire Water; their reference R017167 dated 4 November 2015. The main points of their advice are summarised below.

- Foul effluent should discharge to the 450 mm public combined sewer recorded to the west of the site.
- The local Waste Water Treatment Works is Neiley. This treatment works may only have limited spare capacity available. Yorkshire Water will carry out an assessment of the impact of the proposed development.
- The local sewer network does not have capacity to accept any surface water from the proposed development.

In a follow-up enquiry Yorkshire Water have stated that a pumped connection to the 225 mm public combined sewer in New Mill Road would be acceptable subject to a pumping limit of 3 l/s (email from Chris Roberts to Linda Mee dated 23 November 2015).

3.2.2 Kirklees Metropolitan Borough Council

Kirklees Council are the Lead Local Flood Authority for the area. Pre-planning advice has been requested from the Flood Management and Drainage Team but no reply has been received to date.

3.3 Brownfield runoff

In the absence of a drainage survey, the brownfield runoff is calculated using the method detailed in the Institute of Hydrology's 124 report (IH124). The SOIL category is taken to be 5, representing developed, impermeable ground.

The table below shows runoff rates for varying return periods.

Brownfield runoff rates					
Hydrological Area	**Return period**				
	1 in 1 yr	**1 in 2.3 yr (Qbar)**	**1 in 30 yr**	**1 in 100 yr**	**1 in 100 yr + CC**
3	8.6 l/s/ha	10.6 l/s/ha	18.5 l/s/ha	22.1 l/s/ha	26.6 l/s/ha

These rates can be reviewed when a drainage survey is undertaken.

3.4 Ground Conditions

A Phase 2 site investigation including trial pit excavation and borehole drilling was carried out by Eastwood & Partners; report 39141-001. The site is covered by made ground at depths of up to 9 m The made ground includes ashy gravel, clay and domestic rubbish. The natural ground is either sandstone bedrock or clay and weathered mudstone.

3.5 Drainage Hierarchy

Surface water disposal should be in accordance with the drainage hierarchy in Building Regulations Part H 2002 and Planning Practice Guidance "Reducing the causes and impacts of flooding", paragraph 080. Disposal via SuDS methods should be considered as the first option. Disposal to the public sewer should be considered only when SuDS methods and disposal to the watercourse are shown to be unsuitable.

3.5.1 Sustainable Drainage Systems (SuDS)

SuDS methods include water infiltration systems such as soakaways, basins and filter strips, together with swales, pervious pavements, detention basins, ponds and other wetland solutions. The various methods are considered in detail in The SuDS Manual (CIRIA C697).

Infiltration type SuDS such as soakaways will not be viable on the site due to the presence of impermeable natural ground or unconsolidated fill.

Other SuDS may be viable as part of the water quality treatment train.

3.5.2 Watercourse

The nearest watercourse which may accept surface water runoff from the site is the River Holme. There is thought to be an historic connection from the lower end of the site to this watercourse via a 300 mm surface water drain.

3.5.3 Public Sewer

There is a public surface water sewer and a public combined sewer in the vicinity. There may be an historic connection from the higher end of the site to either the surface water or the combined sewer.

3.6 Proposals for Surface Water Disposal

The final disposal strategy for surface water run-off requires detailed consideration and approval during the design phase of the project. The final design will need the approval of the relevant statutory bodies but will broadly follow these principles:-

- Following the drainage hierarchy of Building Regulations Part H 2002 and Planning Practice Guidance “Reducing the causes and impacts of flooding”, surface disposal will be to the River Holme.
- Discharge is proposed via an existing 300 mm surface water drain on the site which is thought to outfall to a tributary of the River Holme to the east of Pickwick Mill. The route and condition of this drain is not known and it should be surveyed to its outfall.
- The permitted discharge to the watercourse will be to the variable brownfield rate of 8.6 l/s/ha (the calculated 1 in 1 year catchment runoff) up to a maximum of 22.1 l/s/ha (the calculated 1 in 100 year catchment runoff). This is to be agreed with the statutory bodies.
- Due to the site topography surface water storage will be underground in tanks located in public open space and in box culverts/oversize sewer pipes located in adopted highways.
- The minimum underground storage capacity should be for a 1 in 100 year plus climate change event.

- The estimated storage volume for the variable brownfield rate, assuming 1.9 ha developed site area and 55% impermeability, is 350 m^3.
- It is proposed that the drainage infrastructure would be offered for adoption by Yorkshire Water. Adoption of the existing drain will be under a Section 102 agreement and requires that the drain and headwall are in good condition or are replaced.
- An indicative drainage layout drawing is appended.

3.7 Proposals for Foul Disposal

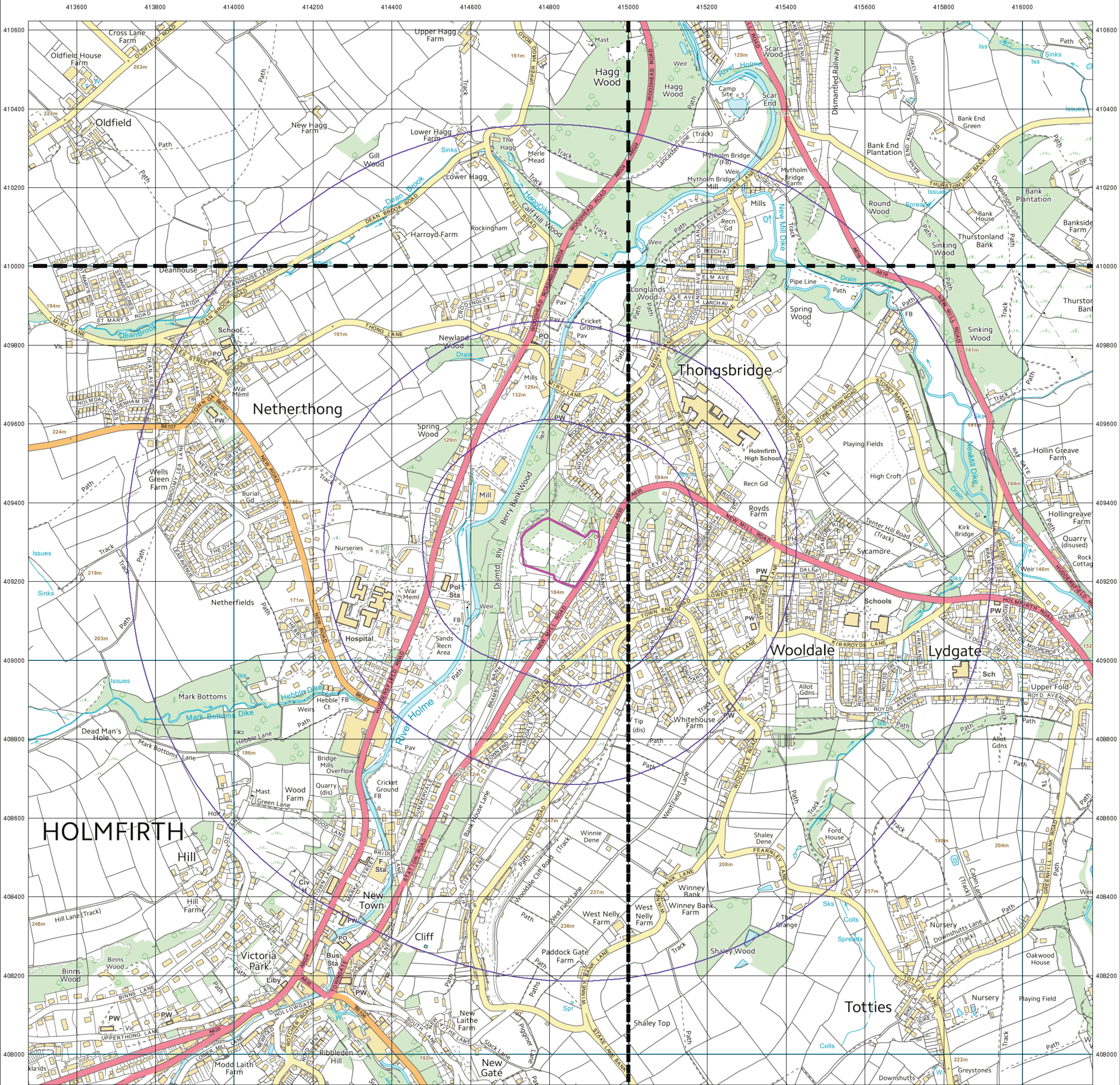
There is a possible gravity route to the public combined sewer next to the River Holme. This route crosses steep woodland. There is an alternative pumped route to the public combined sewer in New Mill Road. Currently, a pumped discharge is the preferred option and would be subject to a limiting pumping rate not exceeding 3 l/s.

For the pumped option, storage will be required in the event of pump failure. This can be provided in oversize sewer pipes or manholes.

4.0 CONCLUSIONS

1. The site is in Zone 1 and is not at significant risk of flooding from any source.
2. Residual flood risk can be mitigated by measures including flood routing.
3. Surface water disposal will be to the watercourse.
4. The discharge restriction is to be approved by the statutory bodies and will be limited to the variable brownfield rate.
5. Surface water attenuation storage will be provided underground in oversize sewer pipes and will be offered for adoption.
6. Foul effluent will be pumped to the combined sewer.
7. The level of risk and safeguards available are considered appropriate to this class of development.

APPENDICES



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Envirocheck®

VectorMap Local

Published 2015

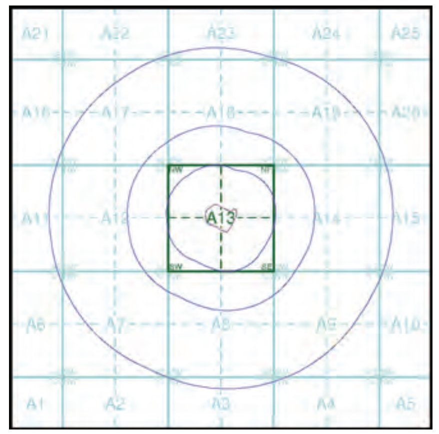
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SE11SW 2015 Variable	SE11SE 2015 Variable
SE10NW 2015 Variable	SE10NE 2015 Variable

Historical Map - Slice A



N

Order Details

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Customer Ref: 39141/PR/AJK
National Grid Reference: 414830, 409280
Slice: A
Site Area (Ha): 2.26
Search Buffer (m): 1000

Site Details

New Mill Road, HOLMFIRTH, HD9 7LN

Landmark® Information Group

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

NEW MILL ROAD, HOLMFIRTH

LAND WITHIN THE APPLICANTS OWNERSHIP OFFERED AS ON-SITE PUBLIC OPEN SPACE, ACCESSED VIA THE EXISTING PUBLIC FOOTPATH, HIGHLIGHTED BLUE / PART IN THE APPLICANTS OWNERSHIP.

PUBLIC FOOTPATH

NORTH

SET RISE SUMMER DAYLIGHT

SET RISE WINTER DAYLIGHT

EXISTING WOODED EMBANKMENT RETAINED IN THE MAJORITY, LIMITED TREE CUTTING BACK AND RETAINING WALLS, TO SUIT THE PROPOSALS. NEW TIMBER POST AND RAIL FENCES OR CLOSE BOARDED FENCES TO THE TOP OF THE EMBANKMENT, ALL AS SHOWN.

EXISTING ACCESS TO THE ADJACENT TENNIS CLUB, RETAIL UNITS AND BERRY BANK LANE.

EXISTING WOODED EMBANKMENT RETAINED IN THE MAJORITY, LIMITED TREE CUTTING BACK AND RETAINING WALLS, TO SUIT THE PROPOSALS. NEW TIMBER POST AND RAIL FENCES OR CLOSE BOARDED FENCES TO COMPLETE THE RETAINED WOODLAND BETWEEN AREAS OF NEW DEVELOPMENT, ALL AS SHOWN.

EXISTING WOODED EMBANKMENT RETAINED IN THE MAJORITY, LIMITED TREE CUTTING BACK AND RETAINING WALLS, TO SUIT THE PROPOSALS. NEW TIMBER POST AND RAIL FENCES OR CLOSE BOARDED FENCES TO THE TOP OF THE EMBANKMENT. NEW TREE PLANTING TO FULLY SCREEN THE SITE FORM THE ADJACENT PROPERTY, ALL AS SHOWN.

EXISTING STONE BOUNDARY WALLS (AND OTHERS) TO BE RETAINED WHERE POSSIBLE.

EXISTING WOODED EMBANKMENT RETAINED IN THE MAJORITY, LIMITED TREE CUTTING BACK AND RETAINING WALLS, TO SUIT THE PROPOSALS. NEW TIMBER POST AND RAIL FENCES OR CLOSE BOARDED FENCES TO THE TOP OF THE EMBANKMENT. NEW TREE PLANTING TO COMPLETE THE RETAINED WOODLAND BETWEEN THE AREAS OF NEW DEVELOPMENT, ALL AS SHOWN.

EXISTING EXIT FROM BERRY BACK LANE RETAINED.

NEW SITE ACCESS TO ON- SITE AFFORDABLE UNITS (PLOTS 1 TO 7) VIA DRIVE UNDER ARCHWAYS WITH APARTMENTS OVER TO REAR PARKING COURT.

NEW SITE ACCESS

0 10 20 30 40 50m

SCALE 1:500 @ A1

1 STOREY
2 STOREY
2.5 STOREY
3 STOREY

KEY

HOUSE TYPE A - 1 BED APARTMENT @ 516 SQ FT

HOUSE TYPE B - 2 BED 2 STOREY, TERRACE HOUSE @ 796 SQ FT

HOUSE TYPE C - 3 BED, 2 STOREY SEMI- DETACHED HOUSE @ 906 SQ FT

HOUSE TYPE D - 4 BED, 2 STOREY, SEMI - DETACHED HOUSE @ 1108 SQ FT

HOUSE TYPE E - 4 BED, 2.5 / 3 STOREY, SEMI - DETACHED TOWN HOUSE @ 1097 SQ FT

HOUSE TYPE F - 4 BED, 2.5 / 3 STOREY, SEMI - DETACHED, TOWNHOUSE @ 1300 SQ FT

HOUSE TYPE E - 4 BED, 2.5/3 STOREY, SEMI- DETACHED, TOWNHOUSE @ 1097 SQ FT

HOUSE TYPE G - 3 / 4 BED, 2 STOREY DETACHED HOUSE @ 1117 SQ FT

HOUSE TYPE D - 4 BED, 2 STOREY, DETACHED HOUSE @ 1279 SQ FT

HOUSE TYPE J - 4/5 BED, 2 STOREY, DETACHED HOUSE @ 1506 SQ FT

CDM 2015

AREA	PERCIEVED SIGNIFICANT RESIDUAL RISKS THAT ARE EITHER / OR ANY COMBINATION OF THE FOLLOWING : NOT OBVIOUS ■ UNUSUAL ■ DIFFICULT TO MANAGE
CONSTRUCTION	
USE	
MAINTENANCE	
DECOMISSION	

ADDITIONAL COMMENTS DENOTED ON DWG AREA AS (CDM)

DO NOT SCALE

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING. ALL DIMENSIONSTO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS AND ANY DISCREPENCIES REPORTED TO THE ARCHITECT / ENGINEER / CONTRACTOR

ALL INFORMATION ON THIS DRAWING IS SUBJECT TO A FULL AND COMPREHENSIVE TOPOGRAPHICAL SURVEY AND CONFIRMATION OF RELEVENT TITLE.

ADDITIONAL NOTES

ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE BUILDING REGULATIONS AND THE REQUIREMENTS OF THE LOCAL AUTHORITY

NOTES

THIS DRAWING IS BASED ON DIGITAL SURVEY AND ORDNANCE SURVEY INFORMATION. IT IS SUBJECT TO CONFIRMATION OF BOUNDARIES / RIGHTS OF WAY / EASEMENTS AND CONSULTATION WITH THE LOCAL AUTHORITY, DESIGN TEAM AND PUBLIC UTILITIES, ETC.

HOUSE / APARTMENT DESIGNS (AND SQUARE FOOTAGE CALCULATION(S)) IS SUBJECT TO A DETAILED CAD DESIGN.

BOUNDARY TREATMENTS

- 1800mm HIGH STONE WALL WITH FEATURE PIERS AND CLOSE BOARDED TIMBER INFILL PANELS
- 1800mm HIGH TIMBER CLOSE BOARDED FENCE
- 1200mm HIGH RAILINGS
- 1000mm HIGH TIMBER POST & RAIL FENCE
- RETAINING WALLS
- GATE POSTS/ PIERS
- BOUNDARY

GROUND TREATMENTS

- EXISTING BUILDINGS
- EXISTING BUILDINGS TO BE DEMOLISHED
- BRINDLE SETTS TO ACCESSWAY
- TARMAC TO ESTATE ROAD, PAVEMENTS / FOOTPATH AND DRIVES - UNLESS OTHERWISE STATED
- TURFED AREAS - ALL REAR GARDENS TO BE TURF
- PAVING SLABS TO PATHS & PATIOS
- LOW LEVEL SHRUBS TO INCLUDE SPECIES SUCH AS BOX, COTONEASTER, EUONYMUS, BERBERIS & MAHONIA, INTERSPERSED WITH LARGER SHRUB PLANTING TO INCLUDE SPECIES SUCH AS HAWTHORN, BLACKTHORN, CHERRY, CORNUS & ELDER

GENERAL KEY

- PEDESTRAIN & VEHICULAR ENTRANCE/S
- GATE
- SIDE WINDOW TO HABITABLE ROOMS (LOUNGE, DINING, KITCHEN, BEDROOM, ETC.)
- PROPOSED TREES TO INCLUDE SPECIES SUCH AS SILVERBIRCH, MOUNTAIN ASH & NATIVE CHERRY
- EXISTING TREES / SHURBS / HEDGES TO BE REMOVED
- EXISTING TREES / SHURBS / HEDGES TO BE RETAINED

REV	DESCRIPTION	DRWN	CHKD	DATE
A	CLIENT UPDATES	JC	-	11-15

LOROC

CLIENT: PROSPECT ESATES

PROJECT: NEW MILL ROAD, HOLMFIRTH

TITLE: SITE PLAN

SCALE	1/500 @ A1	DATE	11/15
DRAWING NO.	1447-102	REVISION	A
DRAWN BY	JC	CHECKED BY	-

PURPOSE OF ISSUE

(•) PLANNING ( ) BUILDING REGS ( ) TENDER
( ) APPROVAL ( ) COMMENT ( ) CONSTRUCTION

LOROC ARCHITECTS
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NEW MILL ROAD, HOLMFIRTH

CDM 2015

AREA	PERCIEVED SIGNIFICANT RESIDUAL RISKS THAT ARE EITHER / OR ANY COMBINATION OF THE FOLLOWING : NOT OBVIOUS ■ UNUSUAL ■ DIFFICULT TO MANAGE
CONSTRUCTION	
USE	
MAINTENANCE	
DECOMISSION	

ADDITIONAL COMMENTS DENOTED ON DWG AREA AS (CDM)

DO NOT SCALE

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ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE BUILDING REGULATIONS AND THE REQUIREMENTS OF THE LOCAL AUTHORITY

REV	DESCRIPTION	DRWN	CHKD	DATE

LOROC

CLIENT: PROSPECT ESATES

PROJECT: NEW MILL ROAD, HOLMFIRTH

TITLE: SURVEY

SCALE	1/500 @ A1	DATE	11/15
DRAWING NO.	1447-102	REVISION	-
DRAWN BY	-	CHECKED BY	-

PURPOSE OF ISSUE

(●) PLANNING ( ) BUILDING REGS ( ) TENDER
( ) APPROVAL ( ) COMMENT ( ) CONSTRUCTION

LOROC ARCHITECTS
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LEEDS, LS1 2PW
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Environment Agency

Enter a postcode or place name: Holmfirth, Kirklees Go

Other topics for this area... Flood Map for Planning (Rivers and Sea)

Flood Map for Planning (Rivers and Sea)

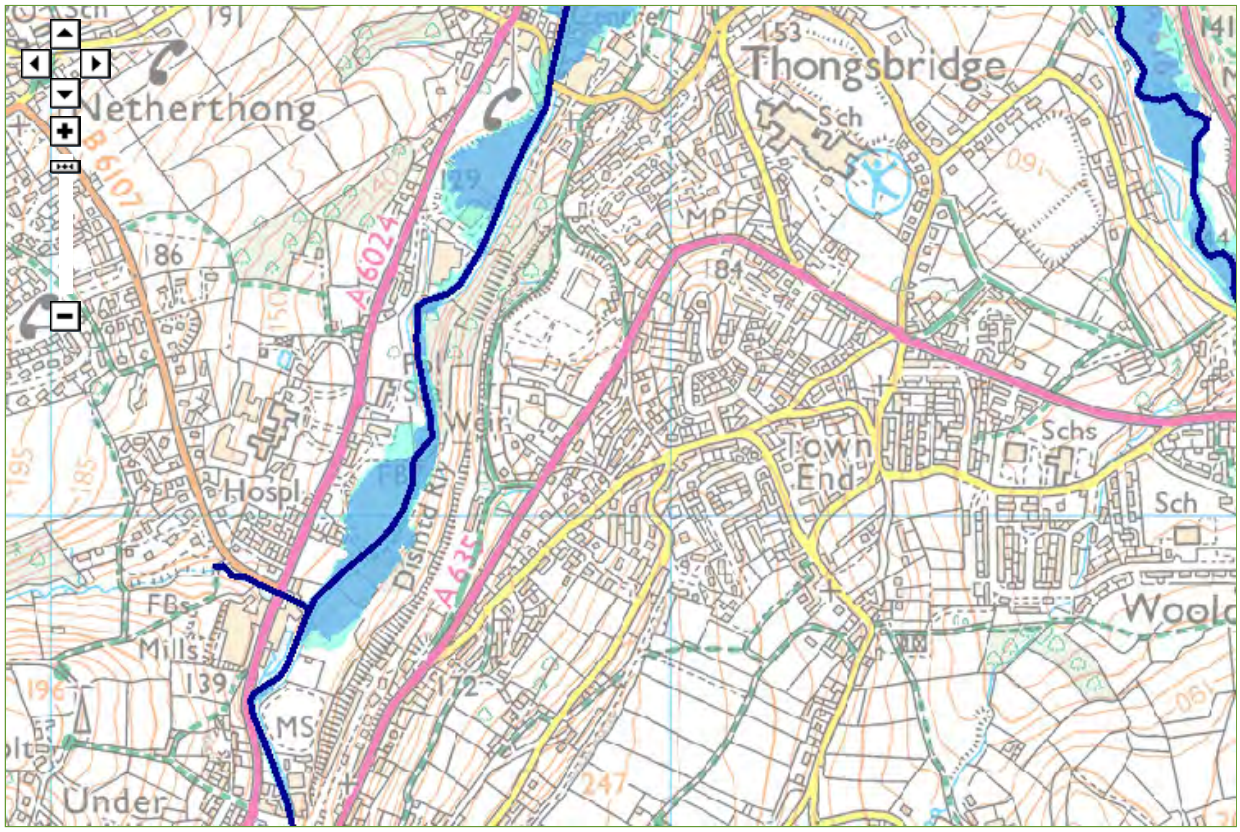
Map legend

Click on the map to see what Flood Zone (National Planning Policy Guidance definitions) the proposed development is in.

- Flood Map for Planning (Rivers and Sea)
  - Flood Zone 3
  - Flood Zone 2
  - Flood defences (Not all may be shown*)
  - Areas benefiting from flood defences (Not all may be shown*)
- Main River Line
  - Main River Line
- Other national environmental organisations
  - Natural Resources Wales Area of responsibility
  - Scottish Environment Protection Agency Area of responsibility

Holmfirth, Kirklees at scale 1:10,000

Other maps | Data search | Text only version



More about flooding:

Understanding the Flood Map for Planning (Rivers and Sea)

A more detailed explanation to help you understand the flood map shown above.

Current flood warnings

We provide flood warnings online 24 hours a day. Find out the current flood warning status in your local area.

* **Legend Information:** Flood defences and the areas benefiting from them are gradually being added through updates. Please contact your local environment agency office for further details.

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Environment Agency

Enter a postcode or place name: **Other topics for this area...**

Go | Risk of Flooding from Surface Water | View other Interactive Maps

Risk of Flooding from Surface Water

Want to help us improve this information? Click here.

Surface water flooding happens when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead.

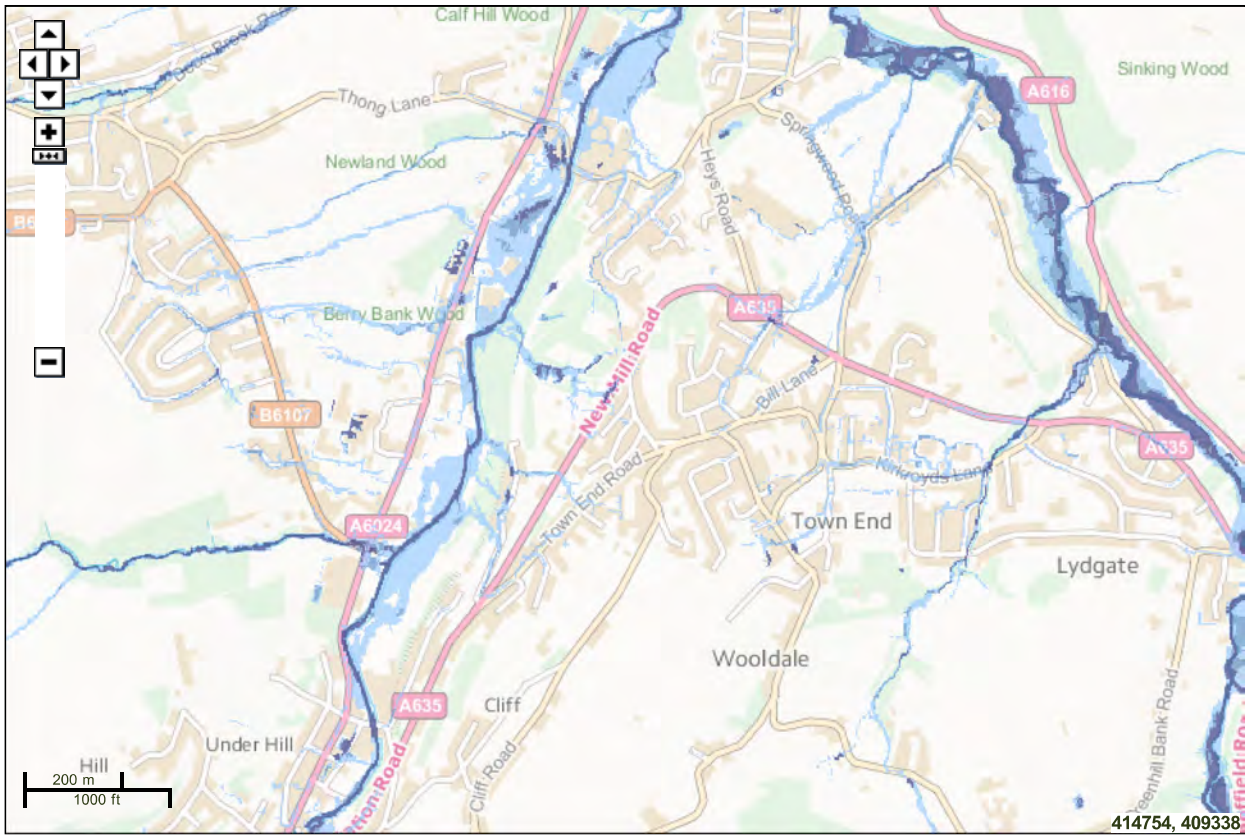
The shading on the map shows the risk of flooding from surface water in this particular area.

Click on the map for a more detailed explanation.

Map of X: 414,923; Y: 409,160 at scale 1:10,000 **Data search**

Map legend

- Risk of Flooding from Surface Water
  - High
  - Medium
  - Low
  - Very Low
- Other national environmental organisations
  - Natural Resources Wales Area of responsibility
  - Scottish Environment Protection Agency Area of responsibility



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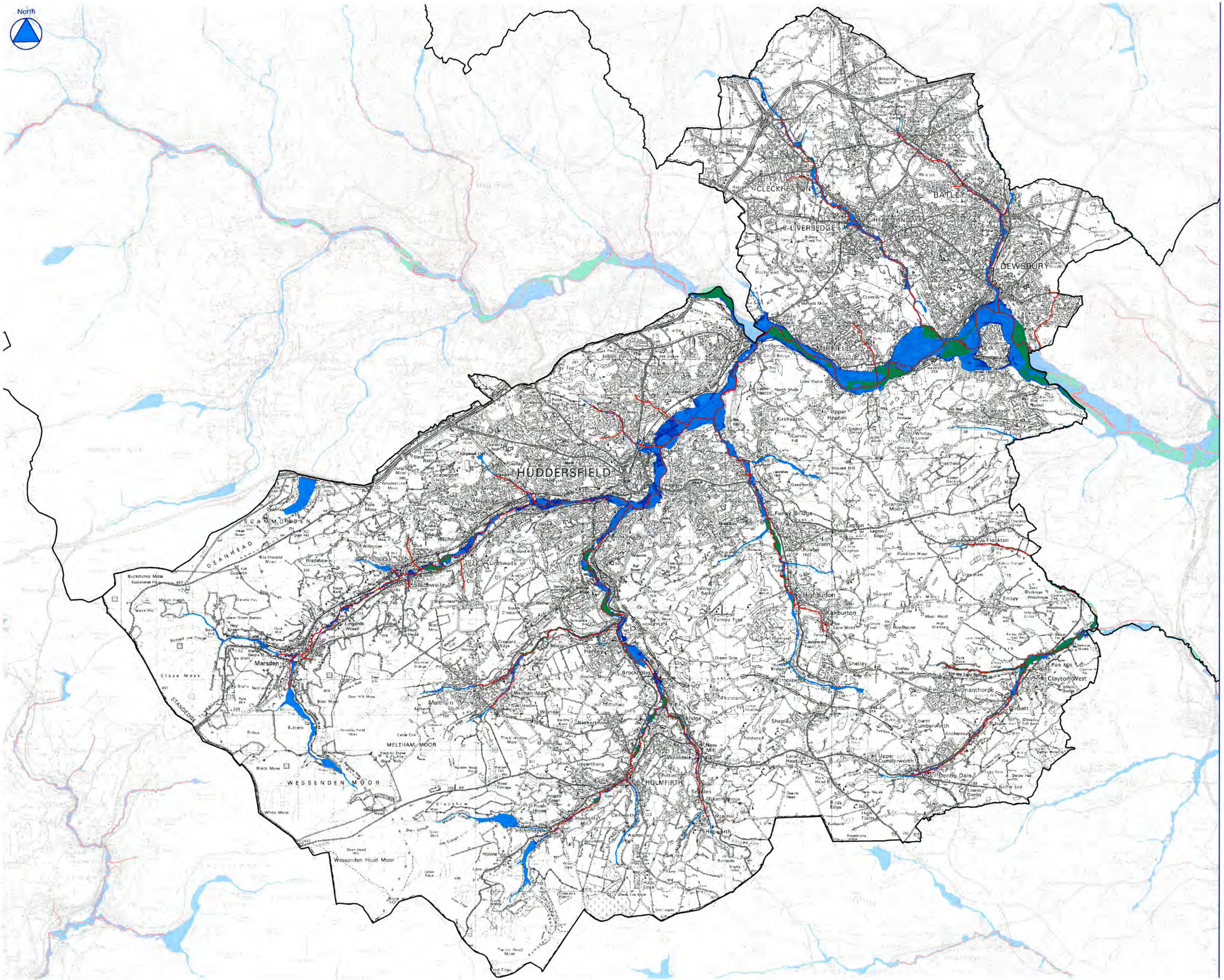
Author: The Environment Agency | enquiries@environment-agency.gov.uk
Last updated: 22 October 2015



Location Plan

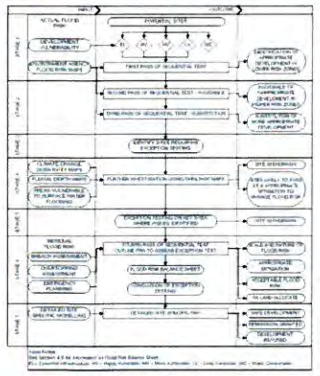
Legend

- Calderdale MBC Boundary
- Kirklees MBC Boundary
- Wakefield MDC Boundary
- Main River Centrelines
- NFCDD
- EA ABDs (version 1 13)
- SFRA Flood Zone 3b (Functional Floodplain, in SFRA only)
- EA Flood Zone 3a (version 3.8)
- EA Flood Zone 2 (version 3 8)

How to use the SFRA Maps

The flood zones are based on version 3.8 of the Environment Agency's Flood Maps. Therefore they refer to the probability of flooding from rivers, the sea and tidal sources (where appropriate) and ignore the presence of existing defences, because these can be breached.

This key map should be used for the facilitating the of the Sequential Test by planners and developers according to PPS 25, as discussed in Section 4.5 of the SFRA Report. This Map should also be used within Stage One of the Sequential Test Sieving Process illustrated below and discussed within Section 4.5 of the SFRA Report.



Flood Zone Descriptions

Flood Zone 1

PPS 25 considers areas within Flood Zone 1 to be at low risk to flooding. The annual probability of flooding within this zone is less than 0.1% or can be easily defined as areas within the District/Borough Council area located outside either Flood Zone 2 or 3.

Generally there is no constraint to development, in terms of flood risk, within Flood Zone 1 although, to stay in line with Environment Agency Standing Advice, any development over 1 ha should be accompanied by a site-specific Flood Risk Assessment.

Areas Vulnerable to Surface Water Flooding Map should also be consulted for allocations within this zone. Localised drainage arrangements should be discussed and consideration of drainage needs to ensure that development will be safe and there will be no increase in flood risk elsewhere.

Flood Zone 2

The annual probability of fluvial flooding within this zone is between 0.1% and 1% (or between 0.5% and 0.1% for tidal flooding). In general, Flood Zone 2 is considered suitable for most development except highly vulnerable land uses where the Exception Test is required, such as police stations, fire stations and ambulance stations.

A Flood Risk Assessment will be required for all development in this zone. The Flood Risk Assessment will need to assess the current level of flood risk as well as the level of flood risk following development. Development plans for the site will need to demonstrate that flood risk can be effectively and safely managed without increasing flood risk elsewhere.

Flood Zone 3

PPS 25 considers areas within Flood Zone 3 to be at high risk of flooding. PPS 25 defines High Risk Flood Zone 3 as two sub-zones 3a and 3b, which correspond to:

- Flood Zone 3a: High Probability
- Flood Zone 3b: The Functional Floodplain

Developers should primarily focus on lower risk Flood Zones in preference to Flood Zone 3. Any proposals for development within Flood Zone 3 should have gone through the Sequential Test and Exceptions Test where required. The site will also require developers to undertake a detailed Flood Risk Assessment.

Rev		Date	Drawn	Checked	Approved

jba consulting

The Brew House
Wilderspool Park
Greenall's Avenue
Warrington
WA4 6HL
United Kingdom

[illegible]

KIRKLEES METROPOLITAN BOROUGH COUNCIL

CALDER VALLEY
STRATEGIC FLOOD RISK ASSESSMENT
PPS 25 FLOOD ZONE MAPS

Scale: 0 250 500 1,000 Miles	Drawn	C Isherwood	November '08
	Checked	J Cooper	November '08
	Approved	J Cooper	November '08

Digital File Name: A 2-1 Kirklees Flood Flood Map.mxd

Drawing Number	Sheet No	Status	Rev
Figure A 2-1	1 of 1	FINAL	1

Original in A0

YorkshireWater

Yorkshire Water Services
Developer Services
Sewerage Technical Team
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Bradford
BD3 7AY

Tel: 0345 120 8482
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For telephone enquiries ring:
Chris Roberts on 0345 120 8482

Ms L Mee
Eastwood & Partners LTD
23 Kingfield Road
St Andrew's House
S11 9AS

Your Ref: 39141
Our Ref: R017167

4th November 2015

Dear Sir,

New Mill Road, Holmfirth - Pre-Planning Sewerage Enquiry on P918727

Thank you for your recent enquiry. Our charge of £150.00 (plus VAT) will be added to your account with us, reference EPL039. You will receive an invoice for your account in due course.

Please find enclosed a complimentary extract from the Statutory Sewer Map which indicates the recorded position of the public sewers. Please note that as of October 2011 and the private to public sewer transfer, there are many uncharted Yorkshire Water assets currently not shown on our records. The following comments reflect our view, with regard to the public sewer network only, based on a 'desk top' study of the site and are valid for a maximum period of twelve months.

Existing Infrastructure

The local Waste Water Treatment Works (WWTW) is Neiley. It is understood that this WWTW may only have limited spare capacity, if any, available. We have contacted the respective treatment team for more information regarding the impact of proposed development and will contact you when an assessment has been made.

(Please note:- due to the change in legislation on 01/10/2011 there may be public sewers within the site boundary which is not recorded on the Statutory Sewer Map the presence of which should be taken into account in the design of the scheme)

Foul Water

Development of the site should take place with separate systems for foul and surface water drainage. The separate systems should extend to the points of discharge to be agreed.

Foul water domestic waste should discharge to the 450 mm diameter public foul sewer recorded to the west of the site.

Surface Water

The developer's attention is drawn to Requirement H3 of the Building Regulations 2000. This establishes a preferred hierarchy for surface water disposal. Consideration should firstly be given to discharge to soakaway, infiltration system and watercourse in that priority order.

Sustainable Drainage Systems (SuDS), for example the use of soakaways and/or permeable hardstanding etc, may be a suitable solution for surface water disposal appropriate in this situation. You are advised to seek comments on the suitability of SuDS in this instance from the appropriate authorities.

As the proposal site is currently undeveloped no surface water is known to have previously discharged to the public sewer network

As such, the local public sewer network does not have capacity to accept any surface water from the proposed site. If SuDS are not viable, the developer is advised to contact the Environment Agency/local Land Drainage Authority with a view to establishing a suitable watercourse for discharge.

It is understood that a watercourse is located to the west of the site. This appears to be the obvious place for surface water disposal (if SuDS are not viable).

Please note further restrictions on surface water disposal from the site may be imposed by other parties. You are strongly advised to seek advice/comments from the Environment Agency/Land Drainage Authority, with regard to surface water disposal from the site.

It is understood that that the River Holme is located to the west of the site. This appears to be the obvious place for surface water disposal (if SuDS are not viable).

Other Observations

Any new connection to an existing public sewer will require the prior approval of Yorkshire Water. You may obtain an application form from our website (www.yorkshirewater.com) or by telephoning 0345 120 84 82.

Prospectively adoptable sewers and pumping stations must be designed and constructed in accordance with the WRc publication "Sewers for Adoption - a design and construction guide for developers" 6th Edition as supplemented by Yorkshire Water's requirements, pursuant to an agreement under Section 104 of the Water Industry Act 1991. An application to enter into a Section 104 agreement must be made in writing prior to any works commencing on site. Please contact our Developer Services Team (telephone 0345 120 84 82) for further information.

The public sewer network is for domestic sewage purposes. This generally means foul water for domestic purposes and, where a suitable surface water or combined sewer is available, surface water from the roofs of buildings together with surface water from paved areas of land appurtenant to those buildings. Land and highway drainage have no right of connection to the public sewer network. No land drainage to be connected/discharged to public sewer.

As a last resort, highway drainage may be accepted under certain circumstances. If it can be demonstrated, through satisfactory evidence, that SUDS are not a viable option, there are no watercourses or highway drains available and if capacity is available within the public sewer network, highway drainage discharges to the public sewer network may be permitted. In this event, the developer may be required to enter into a formal agreement with Yorkshire Water Services under Section 115 Water Industry Act 1991 to discharge non-domestic flows into the public sewer network.

All the above comments are based upon the information and records available at the present time. The information contained in this letter together with that shown on any extract from the Statutory Sewer Map that may be enclosed is believed to be correct and is supplied in good faith.

YorkshireWater

Please note that capacity in the public sewer network is not reserved for specific future development. It is used up on a 'first come, first served' basis. You should visit the site and establish the line and level of any public sewers affecting your proposals before the commencement of any design work.

Yours sincerely

Chris Roberts
Sewerage Technician
Developer Services

Linda Mee

From: Chris.Roberts@yorkshirewater.co.uk on behalf of Technical_Sewerage@yorkshirewater.co.uk
Sent: 23 November 2015 14:09
To: Linda Mee
Subject: New Mill Road, Holmfirth [Filed 30 Nov 2015 09:52]
Attachments: image001.png; newmill.pdf; 39141 New Mill Road, Holmfirth overlay.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Linda,

We could look at allowing your site to discharge your foul to the 225 mm combined sewer in New Mill Road. If sewage pumping is required foul water discharge must not exceed 3 (three) litres per second. The developer should also note that the site drainage details submitted have not been approved for the purposes of adoption. If the developer wishes to have the sewers included in a sewer adoption agreement with Yorkshire Water (under Sections 104 of the Water Industry Act 1991), they should contact our Developer Services Team (tel 0345 120 84 82, Fax 01274 303 047) at the earliest opportunity. Sewers intended for adoption should be designed and constructed in accordance with the WRc publication 'Sewers for Adoption - a design and construction guide for developers' 6th Edition, as supplemented by Yorkshire Water's requirements.

In regards to the sewerage treatment works they have no confirmed they can accept extra demand created by your development.

Regards

Chris Roberts
Sewerage Technical Team

Linda Mee <Linda.Mee@eastwoodandpartners.com> on 10/11/2015 15:47:13

To: technical.sewerage@yorkshirewater.co.uk,
cc:
Subject: New Mill Road, Holmfirth

FAO Chris Roberts

Our ref 39141

Your ref R0171167

Chris

New Mill Road, Holmfirth

Please find attached a proposed site layout superimposed on the sewer plan. We have doubts about the viability of a foul connection to the 450 mm public combined sewer to the west of the site. The route passes through steep, dense woodland (Berry Bank Wood). The gradient is as steep as 1 in
1.5 between the disused railway and the River Holme. Would YW considered this as a viable requisition route or should we consider instead a pumped connection to the 225 mm public combined sewer in New Mill Road? We would be pleased to receive your advice.

On a separate note, when should we expect to hear from the WWTW regarding their assessment of foul capacity?

Regards

Linda Mee

(Senior Engineer)

My normal working week is Monday to Thursday

Eastwood & Partners

Eastwood & Partners (Consulting Engineers) Ltd

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Email: mail@eastwoodandpartners.com Fax. 0114 2554330

(See attached file: image001.png)(See attached file: newmill.pdf)(See attached file: 39141 New Mill Road, Holmfirth overlay.pdf)

414723 : 409270	Map Name: SE1409SE	Title	Partial Key
Yorkshire Water, PO Box 500, Halifax Road, Bradford BD6 2LZ	Contact Name: YorMap Advisor C ROBERTS, Contact Tel: 87 2582	Notes	Foul Sewer = F; Combined Sewer = C; Surface Water Sewer = SW; Trade Sewer = TD; Partially Separate = PS

YorkshireWater

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This plan is furnished as a general guide only and no warranty as to its correctness is given or implied. This plan must not be relied upon in the event of excavations or other works made in the vicinity of public sewers. No house or property connections are shown.

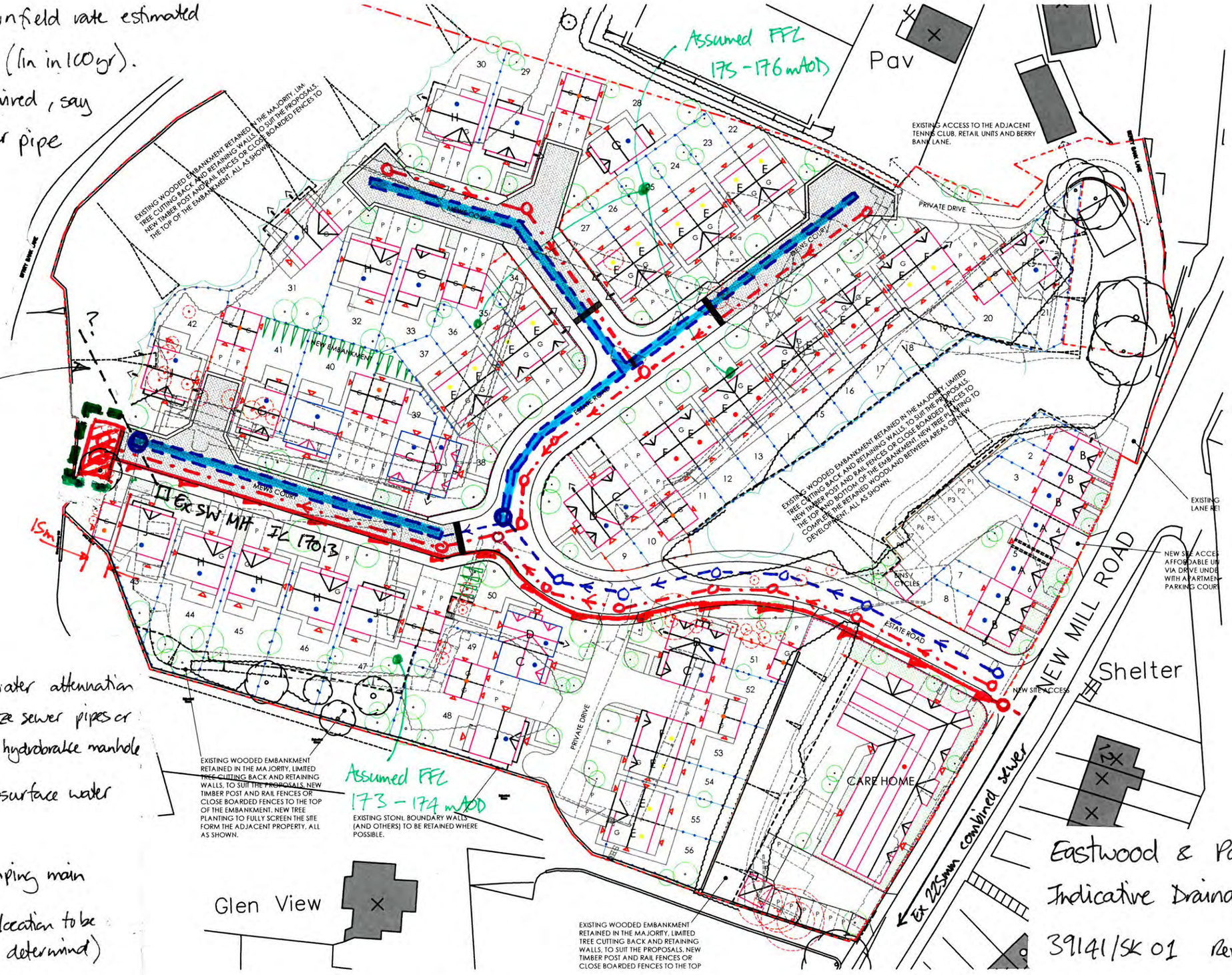
Date Req: 04/11/2015, 17:39:09
Date Gen: 04/11/2015, 17:39:44
Source: Sewer Network Enquiry

UPN: Undefined Originator: C ROBERTS, YorMap, 87 2582

SuDS Type	SuDS Technique	Description	Suitable	Comments
Source Control	Green roof	Vegetated roof that reduces runoff volume and rate	No	Expected planning requirement for traditional pitched roofs to match neighbouring housing
	Rainwater harvesting/ Water butt	Rainwater is stored and re-used	Yes/No	Individual storage tank capacity unlikely to meet volume required. Water butts could be used for garden watering.
	Permeable paving	Paving which allows inflow of rainwater into underlying construction/soil	Yes	Could offer limited infiltration and water treatment within the underlying construction material.
Infiltration	Soakaway	Pit or trench which stores and disposes of water to the ground	No	Impermeable ground/unconsolidated fill
	Filter Drain	Trench which conveys and/or disposes of water to the ground.	No	Impermeable ground/unconsolidated fill
	Infiltration Basin	Shallow basin which stores and disposes of water to the ground	No	Impermeable ground/unconsolidated fill
Conveyance	Swale	Shallow vegetated depression which conducts and retains water	No	Unconsolidated fill
Detention	Subsurface storage	Traditional underground pipes or tank storage, or modular systems	Yes	-
	Detention Basin	Normally dry but may have small permanent water pools at the inlet and outlet. They can function as POS	No	Unconsolidated fill
	Pond	Permanent body of water	No	Unconsolidated fill
	Wetland	Permanent body of shallow water or marsh	No	Unconsolidated fill

Surface water discharge to watercourse via existing drain. Brownfield rate estimated to be 22 l/s/ha (1in in 100yr).
350m³ storage required, say
200m x 1500ø sewer pipe
+ 2No flow control manholes

Assumed route of existing 300 mm surface water drain. Connection from site chased downstream. Drain route & condition to be surveyed to outfall.



Key

- Proposed surface water attenuation storage in oversize sewer pipes or box culverts + hydrobrake manhole
- Proposed foul & surface water sewers
- Proposed foul pumping main
- Pumping station (location to be determined)
- Retaining wall

Eastwood & Partners
Indicative Drainage Layout
39141/SK 01 Rev A

1 Dec 2015