



Client:
Leeds & Yorkshire Housing Association

Carried out for:
Newstead Road/Laxton Road, Barnsley

Drainage Assessment

Project No: 04.13010

Date: September 2013

Issue Status	Draft/ 01 or Final/ A	Initial & date	Draft/ 01 or Final/ A	Initial & date		Initial & date
Report Author:	Draft/01	RP 10.09.13				
Checked:	Draft/01	MR 10.09.13				
Approved:	Draft/01	MR 10.09.13				

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1.0 INTRODUCTION

1.1 Reason for the Report

Adept Consulting Engineers Ltd has been requested by Acanthus WSM Architects to prepare a Drainage Assessment for the proposed development at Newstead Road/Laxton Road, Barnsley.

1.2 Objectives

The aim of this report is to present the findings of the drainage survey carried out on site along with correspondence with Yorkshire Water. The objectives are as follows;

- Undertake a site visit to establish a better understanding of the existing site.
- A site survey to find and survey the condition of the existing drainage crossing and adjacent to the site.
- Specific regulatory body/service providers requirements/recommendations; Including where appropriate but not limited to Yorkshire Water, Environment Agency, Land Drainage Authority, Internal Drainage Board.
- An assessment to determine if drainage found in the survey may be used for foul drainage, surface water drainage or both for our site proposals.
- Any further assessment and recommendations/solutions for foul and/or surface water drainage for our site proposals if necessary.

1.3 Drainage Survey

A drainage survey was carried out by GP Drains on 21st August 2013 which concluded the following;

Foul water from the existing site drains to the north east of the site and drains into the existing Yorkshire Water sewer on the corner of the allotments. If this drain is to be re-used then the drain will need repair works carrying out.

Surface water from the existing site drains southerly through a petrol interceptor into the 525mm diameter sewer in Lindhurst Road. If this drain is to be re-used the drain will need cleaning and it you may want to consider removing the interceptor as it would not be required for the future development.

1.4 Regulatory body/service providers requirements/recommendations

Following a review of the site a pre-development enquiry was sent to Yorkshire Water, a copy of their response is appended to this report, which concluded the following:

Foul Water Drainage

Foul water from the site should discharge to the 225mm diameter foul sewer to the south of the site. This is notes as being at the point that the sewer crosses Laxton Road but we see no problem in connecting further upstream if this is beneficial.

Alternatively, the existing outfall could be used but this may limit what could be adopted and would require a new drain crossing the allotments to the north east of the site. The existing drainage is very shallow and an outfall to this system may lead to a requirement for pumping.

Surface Water Drainage

In accordance with Yorkshire Waters requirements we have investigated the use of sustainable drainage systems, i.e. soakaways and/or permeable pavements. A site investigation has been carried out for the site by Solmek which concluded that the use of soakaways would not be practical. Soakaway tests carried out as part of the site investigation indicated infiltration rates of between 10^{-6} and 10^{-7} m/s.

We have discussed the scheme with Yorkshire Water who have advised that as a last resort then curtilage surface water may discharge to the 225mm diameter public surface water sewer recorded in the highways adjacent to the site.

In a similar manner to the foul drainage, it would be possible to re-use the existing drainage connection from the site. This is currently private and discussions with Yorkshire Water would have to be entered into to determine if this could be adopted. Following the private to public sewer transfer in 2011 both the foul and surface water sewers may already be adopted but this would need confirming with the water authority.

To meet the requirements of Yorkshire Water we have applied a 30% reduction in flows from the existing site. The impermeable area of the existing site, which we have proved was positively drained, measured approximately 2340sq.m which when taking account of the 30% reduction gives an allowable surface water discharge from the site of 22.8 litres/second. Surface water run-off will need to be attenuated underground and discharged at this restricted rate.

The drainage strategy and discharge from the site will need to be agreed with the local authority and Yorkshire Water in due course

1.5 Flood Risk

The site is located in floodzone 1, i.e. at little or no risk of fluvial flooding. As the site measures less than 1 Hectare we do not anticipate the need for a flood risk assessment on the site to be carried out to support a planning application

2.0 CONCLUSIONS AND RECOMMENDATIONS

2.1 Conclusions

The assessment of the site has concluded the following;

Foul water can discharge to the 225mm diameter foul sewer south of the site at a point where it crosses Laxton Road. Alternatively, we would suggest looking investigating re-using the existing drain or an alternative point closer to the site.

Surface water can discharge to any of the sewers running in the highway adjacent to the site. Alternatively, the existing outfall could be re-used. Flow should be restricted to 22.8l/s.

The site is not in an area of flood risk and a flood risk assessment for the site is not expected to be required.

2.2 Recommendations

The completion of this assessment recommends that following should be carried out:

- Consideration needs to be given to the proposed foul outfall as this will drain outside of the site boundary in land not dedicated as highway. If this is council land then permission needs to be sought and an easement granted for any drains/sewers crossing private land. There is often a charge for this.
- The surface water drainage principles need to be agreed with Yorkshire Water and the local authority.



YorkshireWater

27 AUG 2013

Adept Consulting Engineers Ltd
Park Square House
Park Square
Pudsey
Leeds
LS28 7RG

For the Attention of Niall Park

Your Ref: 04.13010
Our Ref: F011311

Yorkshire Water Services
Developer Services
Sewerage Technical Team
PO BOX 52
Bradford
BD3 7AY

Tel: 0845 120 8482
Fax: (01274) 372 834

Email:
Technical.Sewerage@yorkshirewater.co.uk

For telephone enquiries ring:

Kashif Khan on (0845)120 8482

22nd August 2013

Dear Sir,

Newstead/Laxton Road, Athersley - Pre-Planning Sewerage Enquiry on P165126

Thank you for your enquiry received 8th August 2013. Our charge of £67.00 (plus VAT) will be added to your account with us, reference ACE092. 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. The following comments reflect our view, with regard to the public sewer network only, based on a 'desk top' study of the site:

Development of the site should take place with separate systems for foul and surface water drainage. The separate system should extend to the public sewer.

Foul water domestic waste should discharge to the 225 mm diameter public foul sewer recorded crossing Laxton Road, at a point approximately 30 metres from the site.

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.

Where appropriate, soakaways, swales and infiltration trenches (SUDS) may be adopted as part of the public sewer network. Further information may be seen in the DEFRA publication 'Interim Code of Practice for Sustainable Drainage Systems' (ISBN 0-86017-904-4). If the developer is considering adoption of SUDS they should contact our Developer Services Team on 0845 120 84 82.

The local public sewer network does not have capacity to accept any additional discharge of surface water from the proposal site. The developer is advised to contact the Environment Agency/local Land Drainage Authority with a view to establishing a suitable watercourse (if any nearby) for discharge.

As a last resort and subject to providing evidence as to why the other methods of surface water disposal have been discounted, curtilage surface water may discharge to the 225 mm diameter public surface water sewer recorded in the highways adjacent to the site.

Curtilage surface water discharges to the public sewer will be restricted to the level of run-off - i.e.

same rate of discharge - to that from the existing use of the site minus a 30% reduction in the existing discharge. Any discharge of surface water from the site should discharge to similar points of connection to that of the existing use of the site. You will need to demonstrate positive drainage, based on a 1 in 1 year storm, to the public sewer to Yorkshire Water by means of investigation and calculation carried out at your expense.

To do this, Yorkshire Water requires to see existing and proposed drainage layouts with pipe sizes, gradients and connection points, measured impermeable areas of the present and proposed use of the site, along with the calculations that show the existing and proposed discharge rate from the site to the public sewer.

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.

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 0845 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.

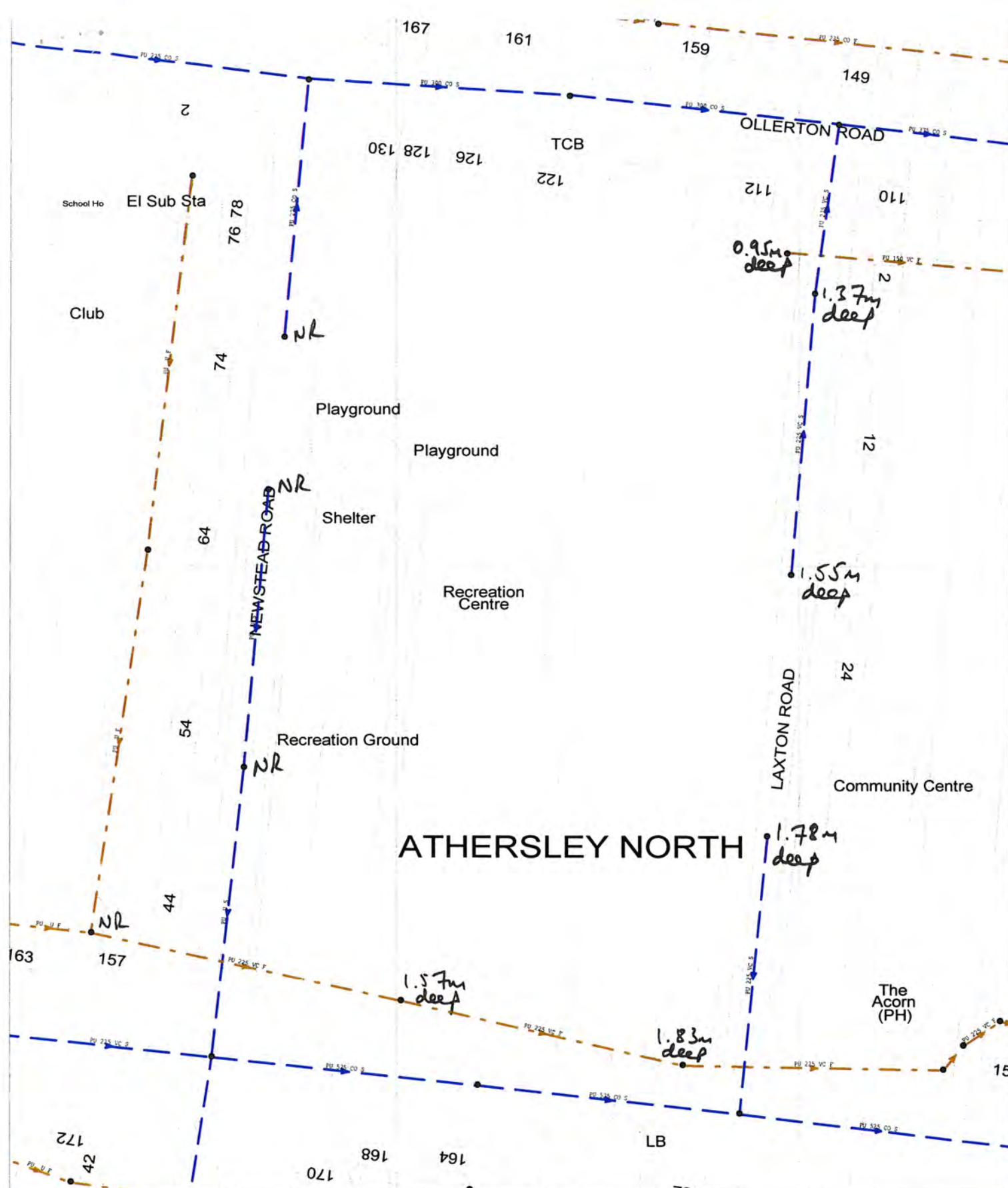
Any new connection to an existing public sewer will require the prior approval of Yorkshire Water. You may obtain an application form from our website (www.yorkshirewater.com) or by telephoning 0845 120 84 82.

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. 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 faithfully



Developer Services Team



434406 : 409747

Map Name : SE3409NW

Yorkshire Water,

PO Box 500,

Halifax Road,

Bradford BD6 2LZ

Contact Name :

K KHAN

Contact Tel :



YorkshireWater

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Title

Notes

NR: No recorded depth.

Partial Key

Foul Sewer = F

Combined Sewer = C

Surface Water Sewer = SW

Trade Sewer = TD

Partially Separate = PS

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 : 22/08/2013, 14:13:07

Date Gen : 22/08/2013, 14:13:27

Source : Sewer Network Enquiry

UPN: Undefined

Originator: K KHAN, New Development - Waste Water,

G.P. DRAIN SURVEYS

CLEANING, JETTING, RE-LINING, REPAIRS & SURVEYS

BARN 1 MARSH FARM
MARSH LANE
SOUTHOWRAM
HALIFAX
HX3 9NR

TELEFAX: 01422 368177
MOBILE: 07973 834690

Our Ref : GMP/lhg/1795

Your Ref : Richard Parker

21st August 2013

Adept Consulting Engineers Ltd
Park Square House
Park Square
Pudsey
Leeds
LS28 7RG

For the attention of : Mr Richard Parker.

C.C.T.V. DRAINAGE SURVEY REPORT.

Laxton Road Athersley Barnsley

Manhole	Invert	Pipe Size	Material	Service
1	1510mm	4"	Clay	Combined
2	850mm	4" & 6"	Clay	Combined
2A	1420mm	6"	Clay	Combined
3	1750mm	6" 9" & 12"	Clay	Surface Water
4	1860mm	12"	Clay	Surface Water
5	1830mm invert of drain into the 2 chamber bypass interceptor 2700mm invert of interceptor			
SEWER A	1500mm	6" & 9"	Clay	Surface Water
SEWER B	1650mm	6" & 9"	Clay	Surface Water
SEWER C	2540mm	12" & 21"	Clay & concrete	Surface Water
SEWER D	1630mm	6" & 9"	Clay	Surface Water

M/H1 – B1

00.0 – Start scan

02.9 – Blind branch 9.0'clock

20.5 – Radial crack & root intrusion

23.5 – End survey at M/H2

Conclusion

If this drainage run is to be re-used as an outfall we would recommend that the radial crack and root intrusion be structurally patch-line repaired.

Proprietor: G.M. PYLE

Consultant: Eur. Ing., J.B. PYLE, B.Eng., C.Eng.
FICE., FIStructE., MCIArb., MBAE., ARICS., FConsE.

M/H2 – B1

00.0 – Start scan

00.6 – Longitudinal crack

10.5 – Enter a Manhole situated in the locked up allotments

60.5 to 62.3 – Silt and debris within the drain (caused by surcharge from M/H2A because this drain has not been in use)

62.3 – End survey in or very close to M/H2A

Conclusion

We recommend that the longitudinal crack be structurally patch-line repaired if this drain is to be used as an outfall for the proposed development.

M/H3 – B1

00.0 – Start scan

00.0 to 12.4 – Silt & debris within the drain

09.8 – Blind branch 1.0'clock

24.4 – End survey at M/H4

Conclusion

We would recommend that this drainage run be high-pressure water jet/vac cleaned if this drain is to be used as an outfall for the proposed development.

M/H4 – B1

00.0 – Start scan

00.0 to 20.1 – Silt & debris within the drain

06.1 – Blind branch 1.0'clock

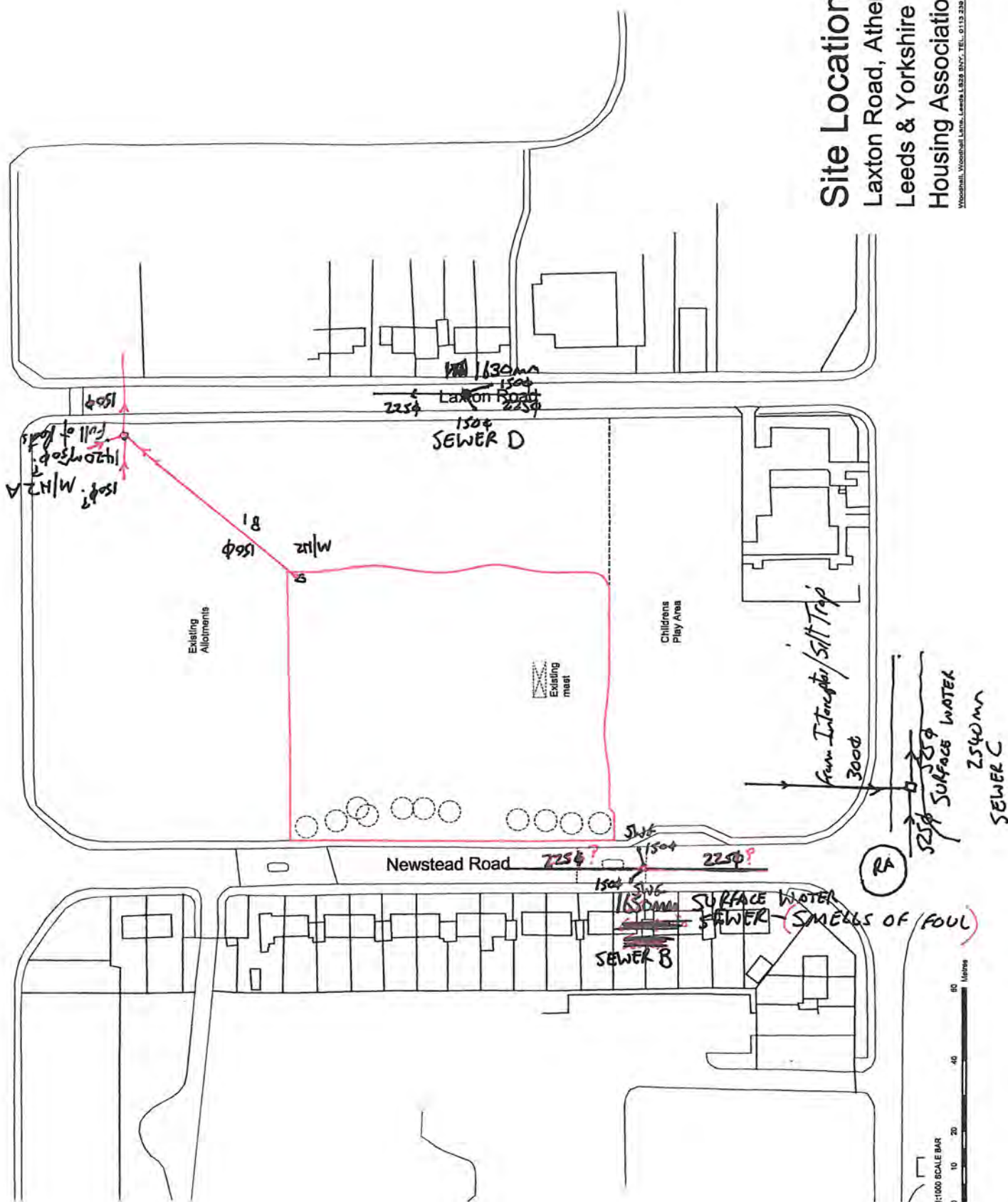
23.1 – Blind branch 1.0'clock

38.6 – End survey at M/H5 a two chamber bypass interceptor

Conclusion

We would recommend that this drainage run be high-pressure water jet/vac cleaned if this drain is to be used as an outfall for the proposed development. Unfortunately because the Outfall drain from the bypass interceptor was a sealed unit we were unable to survey the Outfall; however from what we have seen so far on the site we do not anticipate there being any faults on the Outfall drain. We therefore recommend no further action.

END OF SURVEY



Site Location
Laxton Road, Athersley
Leeds & Yorkshire
Housing Association

 Leeds & Yorkshire PROPERTY CARE CENTRE	Drinking Water		plumbing	
	☒ preliminary	☐	☐ tender	
	☐ information	☐	☐ construction	
	☐ completion	☐	☐ records held	
	☐ approval	☐		
	Enslin	11:00 @ A3		
Date	May 2013			
Drawn/Checked	JDK/JRW			
Depth	2791.01.001			

Acanthus
WSM
Architects

OUTFALL END
IN A GAP
FURTHER
DOWNSTREAM

No access
to allotment
150φ
SITUATED IN LOCKED ALLOTMENTS

