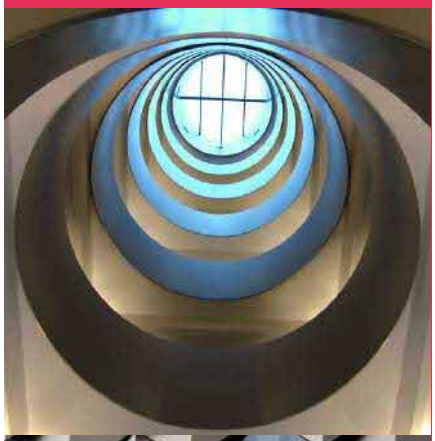

# Hempland Primary School

## Drainage Strategy &

## Flood Risk Summary

Curtins Ref: SRP1062-CUR-XX-XX-T-C-9211

Revision: P01

Issue Date: 13 July 2023

Client Name: ISG

Site Address: Hempland Primary School, Whitby Avenue, York

Curtins Consulting Limited
Ground Floor
Rose Wharf
78-80 East Street
Leeds
LS9 8EE
Tel: 0113 274 8509
Email: leeds@curtins.com
www.curtins.com

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| Rev | Description | Issued by | Checked | Date |
|---|---|---|---|---|
| P01 | Initial Issue | EF | LB | 13/07/23 |
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| Author | Signature | Date |
|---|---|---|
| **Elspeth Fraser**<br>Civil Engineer | [redacted] | 13/07/23 |

| Reviewed | Signature | Date |
|---|---|---|
| **Laura Barlow**<br>Principal Civil Engineer | [redacted] | 13/07/23 |

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# 1.0 Introduction

The purpose of this report is to provide a flood risk summary and a drainage feasibility and strategy for the proposed educational development on Hempland Primary School, York, in support of the planning application to construct a new school building and demolish the existing school buildings.

## 1.1 Appointment

Curtins have been commissioned by ISG to provide Civil Engineering Consultancy services for the Hempland Primary school.

## 1.2 Information Sources

This assessment is based on the information from following sources:

- Topography Survey by Greenhatch Group Ltd. Drawings references SRP1062-GRH-ZZ-ZZ-D-Y-0004-059
- Existing CCTV Drainage Survey by Sewer Surveys UK.
- Preliminary Flood Risk Assessment by Mott McDonald, dated December 2021. Report Ref: SRP1062-MMD-XX-XX-T-W-0001-064
- Phase 2 –Ground Investigation Report by Geotechnics, dated April 2022. Report ref: SRP1062-GEO-XX-XX-T-G-0002-058
- The National Planning Practice Guidance (NPPG) for Flood Risk and Coastal Change
- Building Regulations: Approved Document H
- Yorkshire Water Pre-planning Enquiry Response dated July 2023.
- City of York Council Sustainable Drainage Systems Guidance for Developers.

## 1.3 Limitations

This report is intended for the use of ISG only and should not be relied upon by any third party.

# 2.0 Project

## 2.1 Site Description

The proposed site is located on the grounds of the existing Hempland Primary School. The school address is: Hempland Primary School, Whitby Avenue, York, North Yorkshire, YO31 1ET. A site location plan is included in Figure 1 below.

Hempland Primary School lies at the edge of the Heworth, about 2 miles North-East of York city centre. The site is at OS Grid reference 462570, 453010 with access to the school off Applecroft Road on the East and the main access off Whitby Avenue to the North. The site is predominantly bounded by residential properties, with the Tang Hill Beck watercourse running at the bottom of the playfield in South-East. The school grounds are irregular in shape and have mostly flat topography around the existing building and then slope south towards Tang Hall Beck. The topographic survey can be found in Appendix A.

**Figure 1 Site Location Plan**

The existing school will be in use during the proposed construction therefore sequencing and separation will be a key consideration. Dust, noise, construction vibration and site logistics are to be considered by the Contractor during the construction of the proposed school.

### 2.1.1 Flood Risk

A Preliminary Flood Risk Assessment carried out by Mott McDonald, dated December 2021, shows that the majority of the site is located in Flood Zone 1 with a small portion of the southern boundary adjacent to the watercourse in Flood Zone 3. It is noted that according to the topographic survey that the watercourse is 0.45m lower than the lowest level of the sports pitch. As the majority of the site including the existing school building, proposed building and associated hard standing areas are shown to be wholly in Flood Zone 1 and outside the

influence of any other local flood risk elements, it is suitable for development. The site has been shown to be safe from all other identified flood risks for the lifetime of the development. A more detailed assessment of the Flood Risk can be found in Appendix C.

#### 2.1.2 Geo- Environmental & Geotechnical

The Geo-Environmental and Geotechnical Summary has been based upon Phase 2 –Ground Investigation Report by Geotechnics, dated April 2022. Report ref: SRP1062-GEO-XX-XX-T-G-0002-058 (Appendix E).

##### 2.1.6.1 Geology

The site is underlain by variable depths of Made Ground above firm Glaciolacustrine Clay extending to between 2m and 3m depth which in turn overlies firm becoming stiff Glacial Till.

##### 2.1.6.2 Ground Conditions

The natural soils below the site comprise mainly clay and silt and such materials will likely exhibit poor to negligible infiltration rates.

##### 2.1.6.3 Ground Water

Groundwater levels recorded at the site are variable with high groundwater levels recorded in CP03. The filter zones of all the standpipes include both the Glaciolacustrine Clay and Glacial Till and as no water-bearing granular layers were noted within these soils, it is unlikely that the high water levels represent perched water.

### 2.2 Project Description

The project is the proposed Hempland Primary School for ISG Ltd, with the end client being the Department for Education.

This project comprises:

- Construction of a new build stand-alone two storey school building which will provide teaching spaces and associated amenity areas
- Associated hard standing areas, comprising roads, car parking and footpaths (excluding Section 278 works)
- Phased demolition of existing school buildings

## 3.0 Existing Drainage

The public sewer map received from Yorkshire Water with the Pre-Planning Sewerage Enquiry response, attached within **Appendix D** shows the presence of a foul water sewer and a surface water sewer with Whitby

Avenue. There are also surface water and foul water sewers in Applecroft Road. It should be noted that both these roads are at a higher level than areas of the school site.

A below ground CCTV survey was carried out by Sewer Survey. The drawings from the CCTV survey have been presented within Appendix B of the report. The drawings indicate that the existing site is served by a foul water network which discharges to the foul sewer in Whitby Avenue and a surface water network which discharges to Tang Hall Beck to the south of the site.

The existing contributing impermeable areas of shown in the existing catchment areas plan in Appendix G and prove that 0.48ha of impermeable area from the school is currently connected to the watercourse. There is also a connection from the community centre to South-East of the school which contributes a further 0.018ha. The existing discharge rate from the school is calculated as 67.2l/s when using a brownfield rate of 140l/s/ha. If also taking into account the community centre the existing rate is 69.7l/s. From the CCTV survey it is not clear if the pipe if 225mm or 300mm as the drawing contradicts the survey. If the pipe is 225mm the pipe would have to have a gradient of 1 in 56 in order to achieve the existing flow rate of 69.7l/s using the Colebrook-White equation. If the pipe is 300mm the pipe could have a gradient of 1 in 250mm and still achieve 69.7l/s using the Colebrook-White equation. Given that the pipes upstream of MH22 have gradients of 1 in 53 and 1 in 20 and that the site levels all falling towards the watercourse it is likely that the existing pipe to the outfall does have a gradient of steeper than 1 in 56. A survey will be carried out to confirm the pipe size and gradient. In the meantime it is assumed that the existing discharge rate from the existing school site is 67.2l/s.

# 4.0 Drainage Strategy

## 4.1 Surface Water Drainage

### 4.1.1 Discharge of Surface Water

The National Planning Practice Guidance (NPPG) for Flood Risk and Coastal Change sets out the drainage hierarchy for all developments with the aim of any development to provide a system designed to the highest step first before continuing to the next lower step as required. The hierarchy, in order, is to drain via infiltration (into the ground); to a surface water body; to a surface water sewer or highway drainage system; to a combined sewer.

#### 2.1.6.4 Infiltration

Consideration is first given to discharge of surface water via infiltration into the ground. Infiltration has been discounted due to the presence of clay on site. A representative from City of York Council has attended site and confirmed that soakaway tests will not be required for planning as soakaways are not viable on the site. Confirmation from the City of York Council representative that soakaway tests are not required is in Appendix F.

#### 2.1.6.5 To a Surface Water Body

The nearest watercourse to the site is Tang Hall Beck. There is an existing connection to Tang Hall Beck which is utilised by the existing surface water network. It is therefore proposed to utilise the existing connection for the proposed surface water drainage.

### 4.1.2 Local Guidance & Drainage Strategy

The City of York Council Sustainable Drainage Systems Guidance for Developers states:

- '*If SuDS methods can be proven to be unsuitable then In accordance with City of York Councils City of York Councils Sustainable Drainage Systems Guidance for Developers (August 2018) and in agreement with the Environment Agency and the York Consortium of Internal Drainage Boards, peak run-off from Brownfield developments must be attenuated to 70% of the existing rate (based on 140 l/s/ha of proven by way of CCTV drainage survey connected impermeable areas during the 1 in 1 year event). Storage volume calculations, using computer modelling, must accommodate a 1:30 year storm with no surface flooding, along with no internal flooding of buildings or surface run-off from the site in a 1:100-year storm. Proposed areas within the model must also include an additional 30% allowance for climate change. The modelling must use a range of storm durations, with both summer and winter profiles, to find the worst-case volume required. Please note, the CCTV drainage survey must be carried out prior to determination of the application.*'

The existing connected impermeable area has been proven to be 0.48ha which equates to an existing brownfield discharge rate of 67.2l/s. The proposed discharge rate is 70% of the existing rate which is 47.0l/s. The proposal is to restrict the flow using a flow control device and provide relevant attenuation in a cellular storage structure.

The drainage design shown on drawing SRP1062-CUR-ZZ-ZZ-D-C-9201 Proposed Drainage Layout, has been tested for the above with an additional 30% climate change allowance for the 1 in 100 years + 30% climate change allowance event. Surface water calculations have been provided within Appendix H of report.

It has been assumed that an urban creep allowance will not be required due to the nature of the development and its proposed use. It is noted however that the City of York Council Sustainable Drainage Systems Guidance for Developers states that a 10% urban creep allowance should be applied. If the aloowance is applied then the attenuation storage will be increased from approximately 241.7m$^3$ to 287.3m$^3$. The calculations including the urban creep allowance are also in Appendix H of the report.

#### 4.1.3 SuDS Components and Water Quality

The following SuDS components have been used on this scheme:

- Rain gardens to collect runoff from the carpark and other areas of hardstanding.
- Flow Control device (Hydro-brake) to restrict discharge from site.
- Offline cellular storage structure to attenuate exceedance events runoff volumes.

The simple index approach in the CIRIA SuDS Manual (C753) has been used to demonstrate that there is sufficient water treatment. In accordance with Table 26.2 in the SuDS manual the car park will have the pollution indices shown in the table below.

| Land Use | Pollution hazard level | Total Suspended Solids | Metals | Hydrocarbons |
|---|---|---|---|---|
| Car park with infrequent use and low traffic roads | Low | 0.5 | 0.4 | 0.4 |

The majority of main car park areas including all parking spaces will drain to a rain garden, similar to a bioretention area in the SuDS manual. Disabled parking bays will be constructed with permeable paving. The mitigation indices for the SuDS components for discharge to surface waters are shown in the table overleaf, as

taken from the SuDS manual Table 26.3. Mitigation indices for proprietary products have been assumed based on a comparison to other SuDS features as shown in the table overleaf.

| SuDS | Total Suspended Solids | Metals | Hydrocarbons |
|---|---|---|---|
| Rain Garden | 0.8 | 0.8 | 0.8 |
| Permeable Paving | 0.7 | 0.6 | 0.7 |

Carpark: As the mitigation indices for the rain gardens/ permeable paving are greater than the pollution levels for each pollutant the proposed water treatment measures are suitable.

Access Road: Where possible the road is to drain to the rain gardens in which case the mitigation indices are greater than the pollution levels for each pollutant and the proposed water treatment measures are suitable. The area of access road in front of the proposed building is to drain to the permeable parking bays in which case the mitigation indices are greater than the pollution levels for each pollutant and the proposed water treatment measures are suitable.

In accordance with the CIRIA SuDS manual good pollution performance is required for all runoff events up to and including events that occur, on average, about once a year (1:1 year event). The duration to this event should be the relevant critical event for the bioretention system. The 1:1 year critical event for the bioretention features is the 15 minute summer event (see calculations in Appendix H). In this event the average storm intensity is 30.991mm/hr.

Rain Garden 1

An area of 296$m^2$ drains to rain garden 1, which with an intensity of 30.991mm/hr in the 1:1 year 15 minute summer event will produce a runoff volume of 2.3$m^3$. The rain garden has a depth of 0.2m and an area of 33.4$m^2$ resulting in a storage volume of approximately 6.68$m^3$. Therefore, in the critical 1:1 year event the runoff volume can be accommodated in the rain garden and sufficient treatment is provided. An overflow will be provided for higher return period events.

Rain Garden 2

An area of 738$m^2$ drains to rain garden 2, which with an intensity of 30.991mm/hr in the 1:1 year 15 minute summer event will produce a runoff volume of 5.71$m^3$. The rain garden has a depth of 0.2m and an area of 124$m^2$ resulting in a storage volume of approximately 24.8$m^3$. Therefore, in the critical 1:1 year event the runoff volume can be accommodated in the rain garden and sufficient treatment is provided. An overflow will be provided for higher return period events.

Rain Garden 3

An area of 151m$^2$ drains to rain garden 3, which with an intensity of 30.991mm/hr in the 1:1 year 15 minute summer event will produce a runoff volume of 1.17m$^3$. The rain garden has a depth of 0.2m and an area of 18m$^2$ resulting in a storage volume of approximately 3.6m$^3$. Therefore, in the critical 1:1 year event the runoff volume can be accommodated in the rain garden and sufficient treatment is provided. An overflow will be provided for higher return period events.

#### 4.1.4 Sports Pitch

A new grass sports pitch is proposed in the location where the existing school building is. An agronomy survey is being conducted to confirm the drainage requirements for the pitch. If drainage is required, the surface water from the pitch will discharge to the watercourse. It has been assumed at present that the pitch will be connected to the rest of the site surface water drainage and the pitch area has been included in the contributing areas with a cv value of 0.75. This is to be agreed with the LLFA and Internal Drainage Board. If required, the pitch drainage can have a separate network and connect to the site drainage after the flow control manhole unrestricted.

#### 4.1.5 Operation and Maintenance

An operation & maintenance manual has been prepared for the proposed drainage assets and has been presented within report as Appendix I.

#### 4.1.6 Consents Required

Consent from the Internal Drainage Board is required to discharge surface water into the watercourse in the form of a Section 23 application. The application is to be submitted after planning approval has been granted. The Internal Drainage have been consulted on the preliminary scheme and have provided the following recommendations:

- The pipe jetted out and a new survey done showing full connection from MH20 to the Outfall.
- Confirmation of pipe size to be provided due to discrepancy between CCTV survey and drawing (225mm vs 300mm).
- Confirmation of the maximum discharge rate that can go through a 225mm pipe at the specific fall. This pipe could be the existing flow restrictor for the school and the community centre at present.
- Photo of the existing outfall structure to be provided (Appendix K).
- Drawing showing existing impermeable area to be provided (Appendix G).
- Confirmation regarding the surface water discharge coming from the Community Centre. This enters at MH22 and needs to be taken into account in terms of pipe capacity.

#### 4.1.7 Construction Phasing

The first phase on construction includes construction of the proposed new building while the existing school building is retained for use. During this phase the existing and proposed buildings will be positively connected to the surface water drainage network. The attenuation tank and flow control are to be installed prior to connection of the proposed new building to ensure the discharge rate to the watercourse does not exceed the existing rate at any point during construction. In this interim phase the connected positively drained impermeable area is less than the impermeable area connected in the final state. In addition, climate change allowance does not need to be considered during the construction phase as it is a short term case. It is therefore considered that there is a low risk of flooding on site in the construction phase and the discharge rate to the watercourse will not exceed the existing rate.

### 4.2 Foul Water Drainage

Separate surface and foul network have been proposed. Proposed foul water from site is to discharge to the foul sewer in Whitby Avenue utilising the existing connection. Due to site levels a gravity connection is not possible and a pumping station is proposed south of the proposed carpark. There are proposed to be 420 pupils at the school and an estimate 40 staff, giving a total of 460. British Water flows and loads tables give a rate of 90L/person/day for schools, giving a total volume of 41,400 Litres for a 24 hour period and an average flow rate of approximately 2l/s across a 6 hour school day. However, an estimate of the discharge units based on the floor plans has been done and gives a peak flow rate of approximately 6l/s (Appendix J). It is considered that the average flow rate is likely to be no more than 1/6 of the peak flow rate and therefore an average flow rate of 1l/s across a 6 hour school day is assumed and an emergency storage volume of 21,600 Litres is proposed. The calculation will be reviewed once more detailed flow rates are received. It is expected that the school maintenance team will be able to respond to a pump failure within 12 hours and therefore the emergency storage volume will not be exceeded in the event of a failure but this can be provided for resilience.

As the new foul connection will be constructed while the existing school building is live the route of the rising main from the pumping station to the existing foul drainage connection point is routed around the existing buildings. Yorkshire Water have been consulted in a pre-planning sewerage enquiry and approved the foul discharge into the foul sewer in Whitby Avenue.

# 5.0 Appendices

**Appendix A Topography Survey**

**Appendix B CCTV Survey**

**Appendix C Flood Risk Assessment**

**Appendix D Preplanning Enquiry Response**

**Appendix E Phase 2 Site Investigation Report (Relevant Pages)**

**Appendix F Correspondence with LLFA**

**Appendix G Drainage Drawings**

**Appendix H Surface Water Calculations**

**Appendix I Drainage Operation & Maintenance Manual**

**Appendix J Foul Calculations**

**Appendix K Outfall Photo**

# Appendix A Topography Survey

462500E
462550E
462600E
462650E
462700E
462750E
453150N
453100N

N

## Station Information:

| Station | Easting (m) | Northing (m) | Level (m) |
|---|---|---|---|
| GH1 | 462481.0290 | 453038.6260 | 13.6540 |
| GH2 | 462551.5089 | 453065.4505 | 13.5070 |
| GH3 | 462618.7221 | 453091.7101 | 13.1890 |
| GH4 | 462691.1308 | 452927.3569 | 11.9112 |
| GH5 | 462712.8861 | 452895.8822 | 11.8974 |
| GH6 | 462712.6902 | 452850.6039 | 12.9743 |
| GH20 | 462571.1803 | 452998.2356 | 13.6360 |
| GH21 | 462612.9149 | 453006.6518 | 13.5542 |
| GH22 | 462615.5389 | 452941.2820 | 12.9296 |
| GH23 | 462577.1713 | 452942.0057 | 13.6193 |
| GH24 | 462535.3414 | 452941.7937 | 13.5973 |
| GH200 | 462513.9333 | 452975.8115 | 13.6363 |

*OS Note:*

*Some services may have been omitted due to parked vehicles. The Ordnance Survey tile is to be used as a guide only.*

*OS Buildings* *Surveyed Buildings*

*This survey has been orientated to the Ordnance Survey (O.S) National Grid OSGB36(15) via Global Navigational Satellite Systems (GNSS) and the O.S. Active Network (OS Net).*

*A true OSGB36 coordinate has been established near to the site centre via a transformation using the OSTN15GB & OSGM15GB transformation models.*
*The survey has been correlated to this point and a further one or more OSGB36 (15) points established to create a true O.S. bearing for angle orientation.*

*No scale factor has been applied to the survey therefore the coordinates shown are arbitrary & not true O.S. Coordinates which have a scale factor applied.*

*Please refer to Survey Station Table to enable establishment of the on-site grid and datum.*

## Legend:

Buildings; Wall; Kerb line; Line marking; Drop kerb; Centre line; Overhead Cable; Concrete edge; Tarmac edge; Grass verge; Canopy/Overhang; Verge; Station and Name; Station Level; Tree / Bush / Sapling; Area of Undergrowth; Woodland; R: Ridge Level; E: Eaves Level; F: Flat Roof Level; TWL: Top of Wall Level; Gate

Fence types: TW Interwoven; IR Iron Railings; WM Wire Mesh; PR Post & Rail; PW Post & Wire; CL Chain Link; WP Wooden Panels; CP Concrete Panels; SP Steel Palisade

| | | | | | |
|---|---|---|---|---|---|
| IC | Inspection chamber | Bo | Bollard | | |
| PInv | Pipe invert | IB | Illuminated bollard | | |
| Gy | Gully | Bin | Rubbish bin | | |
| Bg | Back gully | Vp | Vent pipe | | |
| Dp | Down pipe | Grl | Ground light | | |
| Pipe | Pipe above ground | Lbox | Letter box | | |
| MH | Manhole | Ldr | Ladder | | |
| WL | Water level | Sty | Stile | | |
| Fl | Flood light | IFL | Internal floor level | | |
| Lp | Lamp post | THL | Threshold level | | |
| Tp | Telegraph post | Sp | Sign post | | |
| Ep | Electricity post | TH | Trialhole | | |
| Tl | Traffic light | BH | Borehole | | |
| Bus | Bus stop | ELC | Electric | | |
| Sv | Stop valve | BT | British Telecom | | |
| St | Stop tap | C'box | Control box | | |
| Er | Earth rod | TT | Tactile | | |
| Wm | Water meter | BP | Brick paved | | |
| Gas | Gas valve | CPS | Concrete paving slab | | |
| Av | Air valve | CVR | Cover | | |
| ICU | Unidentified inspection | IC | Inspection chamber | | |
| Wo | Wash out | R/wall | Retaining wall | | |
| Re | Rodding eye | UTR | Unable to raise | | |
| BB | Belisha beacon | TCL | Tree canopy level | | |
| CTV | Cable tv | G: | Girth | | |
| Mkr | Marker post | MG | Multi girth | | |
| Gmkr | Gas marker post | Stmp | Tree Stump | | |
| So | Soffit | CL: | Cover level | | |
| | | IL: | Invert level | | |

| Rev | Date | Description | Drawn | Q. Ref. |
|---|---|---|---|---|


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24 Riverside Studios
Amethyst Road
Newcastle Business Park
Newcastle
NE4 7YL
t. (0191) 273 6391
newcastle@greenhatch-group.co.uk
www.greenhatch-group.co.uk

| Derby (Head Office) | St Albans | London |
|---|---|---|
| Rowan House<br>Duffield Road<br>Little Eaton<br>Derby<br>DE21 5DR<br>t. (0133) 283 0044 | Unit B, The Courtyard<br>Alban Park<br>St Albans<br>Hertfordshire<br>AL4 0LA<br>t. (0172) 785 4481 | 27 Cornwall Terrace Mews<br>Regents Park<br>London<br>NW1 5LL<br>t. (0207) 224 1806 |


CLIENT
**Mott MacDonald**

PROJECT
**Hempland Primary School**
**Whitby Avenue, Stockton Lane**
**York**

TITLE
**Topographical Survey**

| SCALE | DATE |
|---|---|
| A1@ 1: 500 | 9.11.21 |
| DRAWN | QUALITY REF |
| MT | GH12044 |

| | |
|---|---|
| Level datum | See Notes |
| Grid orientation | See Notes |
| Job number | 41967 |

Drawing No.: 41967_T
Rev.: 0

Comments
*This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.*

*All dimensions should be checked on site prior to design and construction.*

*Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.*

Notes:


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N

NOTES;

## UTILITY KEY

- ELECTRIC CABLE
- HV ELECTRIC CABLE
- EARTHING CABLE/STRAP
- ELECTRIC & COMMS CABLE
- TRAFFIC SIGNAL CABLE
- TELECOMS & COMMS CABLE
- TELECOMS CABLE
- CABLE TELEVISION
- COMMUNICATION CABLE
- WATER PIPE
- GAS PIPE
- FOUL DRAINAGE
- CONTAMINATED SURFACE DRAINAGE
- SURFACE DRAINAGE
- COMBINED DRAINAGE
- PUMPING MAIN
- FUEL PIPE
- LPG PIPE
- OFFSET FILL PIPE
- VENT PIPE
- GAUGE LINE
- HEATING PIPES
- UNIDENTIFIED SIGNAL
- UNIDENTIFIED GPR SIGNAL
- EMPTY DUCTS
- SERVICE DUCTS
- SURVEY BOUNDARY
- END OF TRACE

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| AC | ASBESTOS CEMENT | MW | MONITORING WELL |
| AR | ASSUMED ROUTE | OH | OVERHEAD |
| BB | BASE BEND | OSA | OFF SURVEY AREA |
| BD | BACKDROP | PE | POLYETHYLENE |
| BH | BOREHOLE | PL | PLASTIC |
| BR | BRICK | PO | POLE MOUNTED |
| CI | CAST IRON | PVC | POLYVINYL CHLORIDE |
| CL | COVER LEVEL | RE | RODDING EYE |
| CO | CONCRETE | RWP | RAIN WATER PIPE |
| CR | CABLE RISER | S/A | SOAKAWAY |
| CP | CATCHPIT | SI | SPUN IRON |
| DI | DUCTILE IRON | ST | STOP TAP |
| EL | ELECTRIC | S.T | STEEL |
| ED | EARTH DUCT | SV | SLUICE VALVE |
| EOSC | END OF TRENCH SCAR | SVP | SOIL VENT PIPE |
| EOT | END OF TRACE | TE | TRAPPED EXIT |
| ER | EARTHING ROD | TFR | TAKEN FROM RECORD |
| EP | ELECTRICITY POLE | TL | TRAFFIC LIGHT |
| FH | FIRE HYDRANT | TP | TELEGRAPH POLE |
| Gy | GULLY | TVCCTV | TELEVISION CCTV |
| GPR | GROUND PENETRATING RADAR | UTI | UNABLE TO GIVE |
| GRP | GLASS REINFORCED PLASTIC | UTL | UNABLE TO LIFT |
| GV | GAS VALVE | UTS | UNABLE TO SURVEY |
| HL | HIGH LEVEL | VC | VITRIFIED CLAY |
| HOR | HEAD OF RUN | VP | VENT PIPE |
| IC | INSPECTION CHAMBER | VR | VAPOUR RECOVERY |
| IL | INVERT LEVEL | WL | WATER LEVEL |
| LP | LAMP POST | WM | WATER METER |
| MH | MANHOLE | WO | WASH OUT VALVE |
| SWS | SURFACE WATER SEWER | | |
| FWS | FOUL WATER SEWER | | |
| CWS | COMBINED WATER SEWER | | |

## DISCLAIMER

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CLIENT
**Mott MacDonald**

PROJECT
**Hempland Primary School**
**Whitby Avenue, Stockton Lane**
**York**

TITLE
**Underground PAS 128 Utility Survey**

| SCALE | DATE |
|---|---|
| A1@ 1: 200 | 08-10.11.21 |
| DRAWN: SL/TP | QUALITY REF: 14517 |
| Level datum | |
| Grid orientation | |
| Job number | 41967 |
| Drawing No. 41967_UG_1 | Rev. 1 |

## PAS128 QUALITY LEVEL DESCRIPTION

- QL – A — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY MULTIPLE GEOPHYSICAL OR LOCATED WITHIN TRUE FITS AT MANY EXPO
- B1 — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY MULTIPLE GEOPHYSICAL TECHNIQUES USED
- B2 — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY ONE GEOPHYSICAL TECHNIQUES USED
- B3 — HORIZONTAL LOCATION ONLY OF THE UTILITY DETECTED BY ONE GEOPHYSICAL TECHNIQUES USED (NO DEPTH)
- B4 — A UTILITY SEGMENT WHICH IS SUSPECTED TO EXIST BUT HAS NOT BEEN DETECTED AND IS THEREFORE SHOWN AS AN ASSUMED ROUTE.
- QL – C — A SEGMENT OF UTILITY WHOSE LOCATION IS DERIVED FROM UTILITY RECORDS AND/OR STREET FURNITURE, TOPOGRAPHICAL FEATURES OR EVIDENCE OF PREVIOUS STREET WORKS.
- QL – D — A SEGMENT OF UTILITY WHOSE LOCATION CANNOT BE RECONSTRUCTED BY VISUAL SURVEY AND/OR THE UTILITY RECORDS, STREET FURNITURE, TOPOGRAPHICAL FEATURES AND HAS BEEN DERIVED SOLELY FROM RECORD PLANS

Comments
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Notes:

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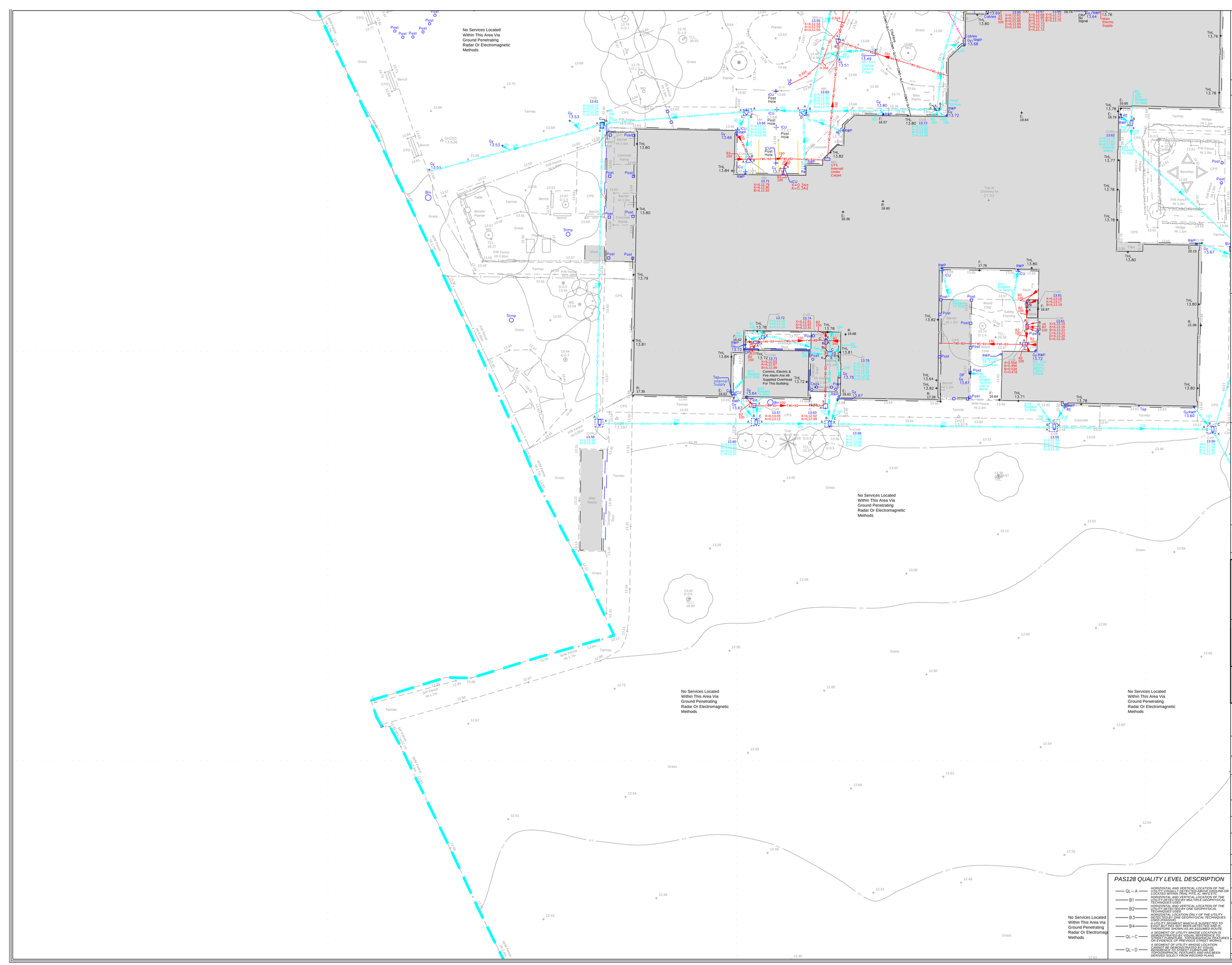
No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods
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Comms, Electric & Fire Alarm Are All Supplied Overhead For This Building
Top Internal Supply
Top External Supply
Cables
Signal
Main Electric Supply
Grass
Tarmac
Concrete
Bench
Barrier Ht 1.0m
Barrier Ht 1.2m
Concrete Ramp
Hedge Ht 1.5m
Hedge Ht 1.9m
P/R Fence Ht 1.0m
P/R Fence Ht 0.95m
S/P Fence Ht 1.1m
W/M Fence Ht 1.7m
W/M Fence Ht 2.4m
Bike Racks
Drainage Ditch
Wood Chip
Safety Flooring
Planters
Store
Shed
Table
Benches
Bush
Post
Bin
Stmp
Lp
Gy
RWP
ICU
MH
MG
CPS
CVR
DP
Cables
Gy / RWP
Signal
Top
Cables
Gy / RWP
Top
Gy/RWP
Top
Gy/RWP
Top
Gy/

N

NOTES;

## UTILITY KEY

- ELECTRIC CABLE
- HV ELECTRIC CABLE
- EARTHING CABLE/STRAP
- ELECTRIC & COMMS CABLE
- TRAFFIC SIGNAL CABLE
- TELECOMS & COMMS CABLE
- TELECOMS CABLE
- CABLE TELEVISION
- COMMUNICATION CABLE
- WATER PIPE
- GAS PIPE
- FOUL DRAINAGE
- CONTAMINATED SURFACE DRAINAGE
- SURFACE DRAINAGE
- COMBINED DRAINAGE
- PUMPING MAIN
- FUEL PIPE
- LPG PIPE
- OFFSET FILL PIPE
- VENT PIPE
- GAUGE LINE
- HEATING PIPES
- UNIDENTIFIED SIGNAL
- UNIDENTIFIED GPR SIGNAL
- EMPTY DUCTS
- SERVICE DUCTS
- SURVEY BOUNDARY
- END OF TRACE

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| AC | ASBESTOS CEMENT | MW | MONITORING WELL |
| AR | ASSUMED ROUTE | OH | OVERHEAD |
| BB | BASE BEND | OSA | OFF SURVEY AREA |
| BD | BACKDROP | PE | POLYETHYLENE |
| BH | BOREHOLE | PL | PLASTIC |
| BR | BRICK | PO | POST BOX |
| CI | CAST IRON | PVC | POLYVINYL CHLORIDE |
| CL | COVER LEVEL | RE | RODDING EYE |
| CO | CONCRETE | RWP | RAIN WATER PIPE |
| CR | CABLE RISER | SA | SOAKAWAY |
| CP | CATCHPIT | SI | SPUN IRON |
| DI | DUCTILE IRON | ST | STOP TAP |
| EB | ELECTRIC BOX | S,T | STEEL |
| ED | EMPTY DUCT | SV | SLUICE VALVE |
| EOSC | END OF TRENCH SCAR | SVP | SOIL VENT PIPE |
| EOT | END OF TRACE | TE | TRAPPED EXIT |
| ER | EARTHING ROD | TFR | TAKEN FROM RECORD |
| EP | ELECTRICITY POLE | TL | TRAFFIC LIGHT |
| FH | FIRE HYDRANT | TP | TELEGRAPH POLE |
| Gy | GULLY | TV/CCTV | UNABLE TO CCTV |
| GPR | GROUND PENETRATING RADAR | UTE | UNABLE TO EXIT |
| GRP | GLASS REINFORCED PLASTIC | UTL | UNABLE TO LIFT |
| GV | GAS VALVE | UTS | UNABLE TO SURVEY |
| HL | HIGH LEVEL | VC | VITRIFIED CLAY |
| HOR | HEAD OF RUN | VP | VENT PIPE |
| IC | INSPECTION CHAMBER | VR | VAPOUR RECOVERY |
| IL | INVERT LEVEL | WL | WATER LEVEL |
| LP | LAMP POST | WM | WATER METER |
| MH | MANHOLE | WO | WASH OUT VALVE |
| SWS | SURFACE WATER SEWER | | |
| FWS | FOUL WATER SEWER | | |
| CWS | COMBINED WATER SEWER | | |

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TITLE
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|---|---|
| A1@ 1: 200 | 08-10.11.21 |
| DRAWN | QUALITY REF |
| SL/TP | 14517 |
| Level datum | |
| Grid orientation | |
| Job number | 41967 |
| Drawing No. | Rev. |
| 41967_UG_3 | 1 |

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| Rev | Date | Description | Drawn | Ref. |
|---|---|---|---|---|
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CLIENT
**Mott MacDonald**

PROJECT
**Hempland Primary School Whitby Avenue, Stockton Lane York**

TITLE
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| SCALE | DATE |
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| A1@ 1: 200 | 08-10.11.21 |
| DRAWN: SL/TP | QUALITY REF: 14517 |

Level datum
Grid orientation
Job number: 41967

Drawing No.: 41967_UG_4 — Rev.: 1

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Notes:

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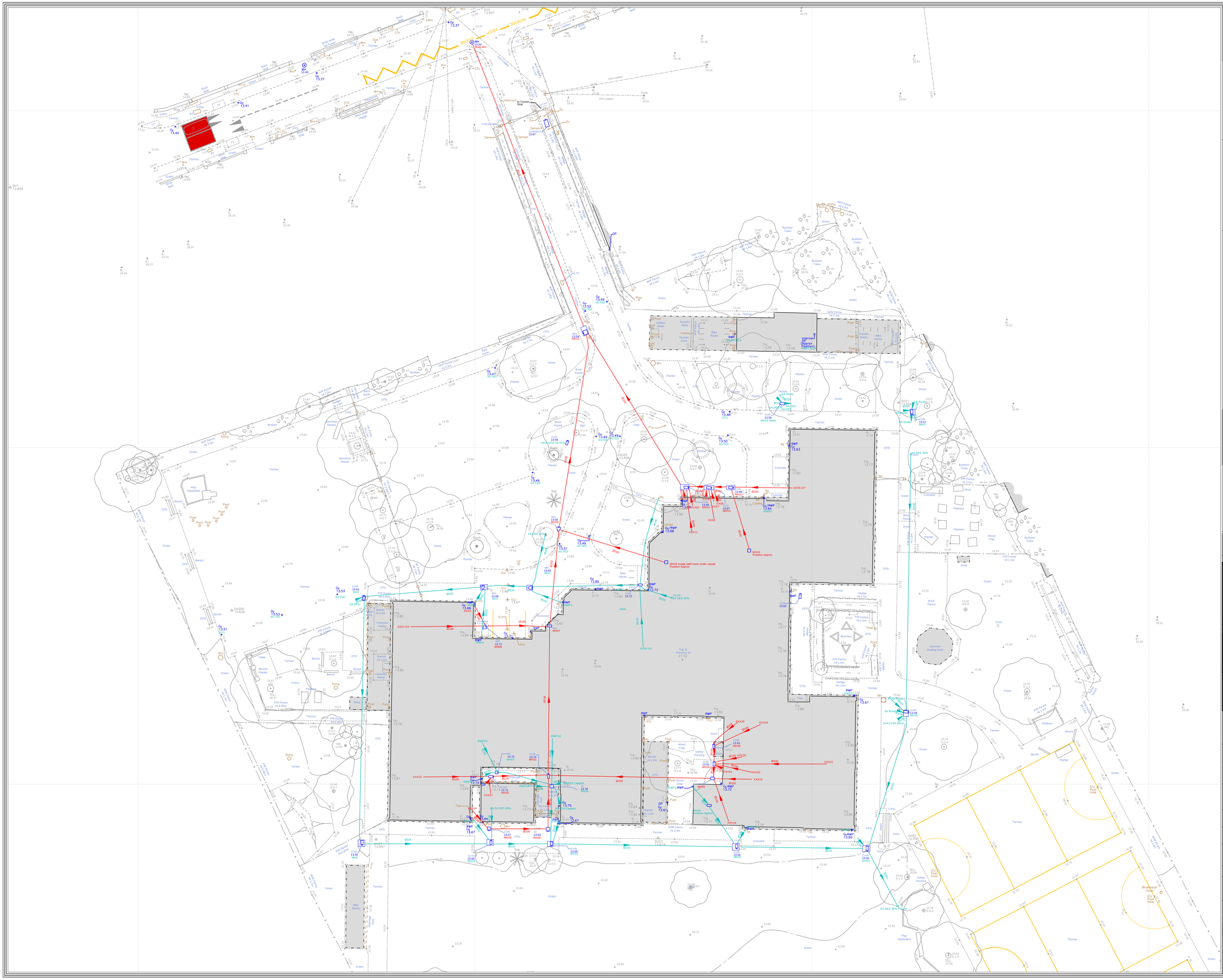
# Appendix B CCTV Survey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Tarmac
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Play Apparatus
Bench
Post
Shed
Ramp
Concrete Ramp
Safety Flooring
Wood Chip
Brick Paved
Covered Seating Area
Platform
Hedge Ht 1.5m
Hedge Ht 1.8m
PIR Fence Ht 1.0m
PIR Fence Ht 1.2m
PIR Fence Ht 1.5m
PIR Fence Ht 1.8m
PIR Fence Ht 2.0m
PIR Fence Ht 2.4m
WM Fence Ht 2.4m
Wall Fence Ht 1.5m
Wall Fence Ht 2.0m
Wall Fence Ht 2.4m
Wall Fence Ht 3.0m
Wall Fence Ht 3.5m
Wall Fence Ht 4.0m
Wall Fence Ht 4.5m
Wall Fence Ht 5.0m
Brick Wall Ht 1.8m
Brick Wall Ht 2.0m
Brick Wall Ht 2.4m
Brick Wall Ht 3.0m
Brick Wall Ht 3.5m
Brick Wall Ht 4.0m
Brick Wall Ht 4.5m
Brick Wall Ht 5.0m
Brick Wall Ht 5.5m
Brick Wall Ht 6.0m
Brick Wall Ht 6.5m
Brick Wall Ht 7.0m
Brick Wall Ht 7.5m
Brick Wall Ht

## CCTV KEY

- Surface Water
- Assumed Surface Water
- Foul Water
- Assumed Foul Water
- Combined Water
- Assumed Combined Water

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| B | Sewer broken at this point | NCA | No camera access |
| BJ | Broken joint | MH | Manhole |
| CC | Circumferential crack | OJ | Open joint medium |
| CCJ | Circumferential crack on joint | OBS | Obstruction (external pipe or cable) |
| CIPR | Cured in place repair | REM | General observation at this point with explanation |
| CIPP | Cured in place pipe | RFJ | Roots fine at joint |
| CM | Multiple cracks | RMJ | Roots mass at joint |
| CMJ | Cracks multiple on joint | RE | Rodding eye |
| CN | Connection | RT | Root top |
| CUD | Loss of vision (silt) | SW | Surface Water |
| CUW | Camera underwater | SA | Survey Abandoned |
| CUZ | Loss of vision (Camera under water) | UTL | Unable to locate |
| CW | Combined water | UTR | Unable to raise |
| CXD | Connection defective | UTS | Unable to survey |
| CXI | Connection intruding | WL | Water level |
| DC | Diameter of pipe changes | XP | Collapse to pipe |
| DEC | Settled deposits hard or compacted | | |
| DEE | Encrustation scale light | | |
| DEEJ | Encrustation light at joint | | |
| DEF | Debris foulings | | |
| DER | Debris rubble | | |
| DES | Debris silt | | |
| DEX | Otherwetted deposits | | |
| DEZ | Other attached deposits | | |
| FC | Fracture circumferential | | |
| FCJ | Fracture circumferential on joint | | |
| FL | Fracture longitudinal | | |
| FM, FMJ | Fracture multiple | | |
| FW | Foul water | | |
| GY | Gully | | |
| H | Hole | | |
| HJ | Hole at joint | | |
| HPWJ | High pressure water jetting | | |
| IR | Infiltration running | | |
| IS | Infiltration seeping | | |
| JD | Joint displaced medium | | |
| JN | Junction | | |
| JXD | Junction defective | | |
| LD | Line down | | |
| LL | Line left | | |
| LR | Line right | | |
| LU | Line up | | |

## DISCLAIMER

*Whilst every effort has been taken in the preparation of this drawing, the original land marks/apparatus configuration may have been altered since the survey/drawing was produced. The user shall make further enquiries and investigations to satisfy himself as to the accuracy of this drawing and position of the apparatus. The exact positions of the apparatus should be verified by the use of suitable detection devices and safe digging practices in accordance with HSG47, further advice on the location of apparatus should be recommended by the owner. No representation is made by Greenhatch Group, its agents or servants as to the accuracy, completeness, and sufficiency or otherwise of this drawing and the position of the apparatus.*

*All apparatus shall be treated as live unless proved otherwise by the owner. It is the users responsibility to ensure that the information on the location of apparatus is provided to all persons (either direct labour or contractors) working in proximity to the apparatus.*

| Rev | Date | Description | Drawn | Q. Ref. |
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- 3D Laser Scanning
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newcastle@greenhatch-group.co.uk
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CLIENT
**Mott MacDonald**

PROJECT
**Hempland Primary School Whitby Avenue, Stockton Lane York**

TITLE
**CCTV Survey**

| SCALE | DATE |
|---|---|
| A1@ 1: 250 | 20.01.22 |
| DRAWN: AB | QUALITY REF: PR |
| Level datum | |
| Grid orientation | |
| Job number | 41967 |
| Drawing No. 41967_CCTV | Rev. 0 |

Comments
*This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.*

*All dimensions should be checked on site prior to design and construction.*

*Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.*

Notes:

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462500E
462550E
462600E
462650E
462700E
462750E
453150N
453100N

N

## Station Information:

| Station | Easting (m) | Northing (m) | Level (m) |
|---|---|---|---|
| GH1 | 462481.0290 | 453038.6260 | 13.6540 |
| GH2 | 462551.5089 | 453065.4505 | 13.5070 |
| GH3 | 462618.7221 | 453091.7101 | 13.1890 |
| GH4 | 462691.1308 | 452927.3569 | 11.9112 |
| GH5 | 462712.8861 | 452895.8822 | 11.8974 |
| GH6 | 462712.6902 | 452850.6039 | 12.9743 |
| GH20 | 462571.1803 | 452998.2356 | 13.6360 |
| GH21 | 462612.9149 | 453006.6518 | 13.5542 |
| GH22 | 462615.5389 | 452941.2820 | 12.9296 |
| GH23 | 462577.1713 | 452942.0057 | 13.6193 |
| GH24 | 462535.3414 | 452941.7937 | 13.5973 |
| GH200 | 462513.9333 | 452975.8115 | 13.6363 |

*OS Note:*

*Some services may have been omitted due to parked vehicles. The Ordnance Survey tile is to be used as a guide only.*

*OS Buildings* *Surveyed Buildings*

*This survey has been orientated to the Ordnance Survey (O.S) National Grid OSGB36(15) via Global Navigational Satellite Systems (GNSS) and the O.S. Active Network (OS Net).*

*A true OSGB36 coordinate has been established near to the site centre via a transformation using the OSTN15GB & OSGM15GB transformation models.*
*The survey has been correlated to this point and a further one or more OSGB36 (15) points established to create a true O.S. bearing for angle orientation.*

*No scale factor has been applied to the survey therefore the coordinates shown are arbitrary & not true O.S. Coordinates which have a scale factor applied.*

*Please refer to Survey Station Table to enable establishment of the on-site grid and datum.*

## Legend:

Buildings; Wall; Kerb line; Line marking; Drop kerb; Centre line; Overhead Cable; Concrete edge; Tarmac edge; Grass verge; Canopy/Overhang; Verge; Station and Name; Station Level; Tree / Bush / Sapling; Area of Undergrowth; Woodland; R: Ridge Level; E: Eaves Level; F: Flat Roof Level; TWL: Top of Wall Level; Gate

Fence types: TW Interwoven; IR Iron Railings; WM Wire Mesh; PR Post & Rail; PW Post & Wire; CL Chain Link; WP Wooden Panels; CP Concrete Panels; SP Steel Palisade

| | | | | | |
|---|---|---|---|---|---|
| IC | Inspection chamber | Bo | Bollard | | |
| PInv | Pipe invert | IB | Illuminated bollard | | |
| Gy | Gully | Bin | Rubbish bin | | |
| Bg | Back gully | Vp | Vent pipe | | |
| Dp | Down pipe | Grl | Ground light | | |
| Pipe | Pipe above ground | Lbox | Letter box | | |
| MH | Manhole | Ldr | Ladder | | |
| WL | Water level | Sty | Stile | | |
| Fl | Flood light | IFL | Internal floor level | | |
| Lp | Lamp post | THL | Threshold level | | |
| Tp | Telegraph post | Sp | Sign post | | |
| Ep | Electricity post | TH | Trialhole | | |
| Tl | Traffic light | BH | Borehole | | |
| Bus | Bus stop | ELC | Electric | | |
| Sv | Stop valve | BT | British Telecom | | |
| St | Stop tap | C'box | Control box | | |
| Er | Earth rod | TT | Tactile | | |
| Wm | Water meter | BP | Brick paved | | |
| Gas | Gas valve | CPS | Concrete paving slab | | |
| Av | Air valve | CVR | Cover | | |
| ICU | Unidentified inspection | IC | Inspection chamber | | |
| Wo | Wash out | R/wall | Retaining wall | | |
| Re | Rodding eye | UTR | Unable to raise | | |
| BB | Belisha beacon | TCL | Tree canopy level | | |
| CTV | Cable tv | G: | Girth | | |
| Mkr | Marker post | MG | Multi girth | | |
| Gmkr | Gas marker post | Stmp | Tree Stump | | |
| So | Soffit | CL: | Cover level | | |
| | | IL: | Invert level | | |

| Rev | Date | Description | Drawn | Q. Ref. |
|---|---|---|---|---|


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CLIENT
**Mott MacDonald**

PROJECT
**Hempland Primary School**
**Whitby Avenue, Stockton Lane**
**York**

TITLE
**Topographical Survey**

| SCALE | DATE |
|---|---|
| A1@ 1: 500 | 9.11.21 |
| DRAWN | QUALITY REF |
| MT | GH12044 |

| | |
|---|---|
| Level datum | See Notes |
| Grid orientation | See Notes |
| Job number | 41967 |

Drawing No.: 41967_T
Rev.: 0

Comments
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Notes:


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NOTES;

## UTILITY KEY

- ELECTRIC CABLE
- HV ELECTRIC CABLE
- EARTHING CABLE/STRAP
- ELECTRIC & COMMS CABLE
- TRAFFIC SIGNAL CABLE
- TELECOMS & COMMS CABLE
- TELECOMS CABLE
- CABLE TELEVISION
- COMMUNICATION CABLE
- WATER PIPE
- GAS PIPE
- FOUL DRAINAGE
- CONTAMINATED SURFACE DRAINAGE
- SURFACE DRAINAGE
- COMBINED DRAINAGE
- PUMPING MAIN
- FUEL PIPE
- LPG PIPE
- OFFSET FILL PIPE
- VENT PIPE
- GAUGE LINE
- HEATING PIPES
- UNIDENTIFIED SIGNAL
- UNIDENTIFIED GPR SIGNAL
- EMPTY DUCTS
- SERVICE DUCTS
- SURVEY BOUNDARY
- END OF TRACE

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| AC | ASBESTOS CEMENT | MW | MONITORING WELL |
| AR | ASSUMED ROUTE | OH | OVERHEAD |
| BB | BASE BEND | OSA | OFF SURVEY AREA |
| BD | BACKDROP | PE | POLYETHYLENE |
| BH | BOREHOLE | PL | PLASTIC |
| BR | BRICK | PO | POLE MOUNTED |
| CI | CAST IRON | PVC | POLYVINYL CHLORIDE |
| CL | COVER LEVEL | RE | RODDING EYE |
| CO | CONCRETE | RWP | RAIN WATER PIPE |
| CR | CABLE RISER | S/A | SOAKAWAY |
| CP | CATCHPIT | SI | SPUN IRON |
| DI | DUCTILE IRON | ST | STOP TAP |
| EL | ELECTRIC | S.T | STEEL |
| ED | EARTH DUCT | SV | SLUICE VALVE |
| EOSC | END OF TRENCH SCAR | SVP | SOIL VENT PIPE |
| EOT | END OF TRACE | TE | TRAPPED EXIT |
| ER | EARTHING ROD | TFR | TAKEN FROM RECORD |
| EP | ELECTRICITY POLE | TL | TRAFFIC LIGHT |
| FH | FIRE HYDRANT | TP | TELEGRAPH POLE |
| Gy | GULLY | TVCCTV | TELEVISION CCTV |
| GPR | GROUND PENETRATING RADAR | UTI | UNABLE TO GIVE |
| GRP | GLASS REINFORCED PLASTIC | UTL | UNABLE TO LIFT |
| GV | GAS VALVE | UTS | UNABLE TO SURVEY |
| HL | HIGH LEVEL | VC | VITRIFIED CLAY |
| HOR | HEAD OF RUN | VP | VENT PIPE |
| IC | INSPECTION CHAMBER | VR | VAPOUR RECOVERY |
| IL | INVERT LEVEL | WL | WATER LEVEL |
| LP | LAMP POST | WM | WATER METER |
| MH | MANHOLE | WO | WASH OUT VALVE |
| SWS | SURFACE WATER SEWER | | |
| FWS | FOUL WATER SEWER | | |
| CWS | COMBINED WATER SEWER | | |

## DISCLAIMER

*THE UTILITY SURVEY HAS BEEN CARRIED OUT IN ACCORDANCE WITH A PAS 128 ,2014 M^ SPECIFICATION.*
*ELECTRO-MAGNETIC TECHNIQUES AND/OR GROUND PENETRATING RADAR HAVE BEEN USED TO TRACE THE POSITION OF UNDERGROUND UTILITIES. THE RESULTS ARE NOT INFALLIBLE AND TRIAL EXCAVATIONS SHOULD BE CARRIED OUT TO CONFIRM SERVICE IDENTIFICATION, POSITIONS AND PARTICULARLY DEPTHS, WHERE THESE ARE CRITICAL. ALTHOUGH ALL REASONABLE EFFORT HAS BEEN MADE IN SEARCHING AVAILABLE RECORD DRAWINGS, THE COMPLETENESS OF THE UNDERGROUND SERVICES INFORMATION CANNOT BE GUARANTEED. THE METHOD OF SURVEY DOES NOT DIFFERENTIATE BETWEEN LIVE AND DEAD SERVICES AND AS SUCH ALL SERVICES SHOULD BE TREATED AS LIVE.*
*WHERE SERVICES ARE NON-METALLIC POSITIONS MAY BE TAKEN FROM RECORDS,TRENCH SCARS & SURFACE DETAIL.*
*WHERE QUOTED, DEPTH ESTIMATIONS ARE GENERALLY TO THE CENTRE OF THE SERVICE. DEPTHS TO GRAVITY SEWERS AND DRAINS ARE GENERALLY TO INVERT LEVELS UNLESS OTHERWISE STATED.*
*PIPE SIZES WHICH CANNOT BE OBTAINED BY VISUAL SURVEY ARE TAKEN FROM RECORD DRAWINGS OR MARKER PLATES WHERE AVAILABLE.*
*WHERE GROUND PENETRATING RADAR HAS BEEN USED IT WILL PRIMARILY HAVE BEEN TO IDENTIFY UNDERGROUND UTILITIES.*
*IF POSSIBLE WE WILL ALSO IDENTIFY UNDERGROUND STRUCTURES/ TANKS ETC BUT CANNOT GUARANTEE TO HAVE LOCATED ALL SUCH ITEMS*
*THE USE OF RADAR CAN BE LIMITED BOTH BY SURFACE CONDITIONS AND ALSO BY SOIL TYPE. DEPTH ESTIMATES WOULD NOT NORMALLY BE PROVIDED FOR SERVICES LOCATED WITH GPR.*

| Rev | Date | Description | Drawn | Q. Ref. |
|---|---|---|---|---|
| 1 | 02.02.2022 | Updated drainage | AS | AS |


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CLIENT
**Mott MacDonald**

PROJECT
**Hempland Primary School**
**Whitby Avenue, Stockton Lane**
**York**

TITLE
**Underground PAS 128 Utility Survey**

| SCALE | DATE |
|---|---|
| A1@ 1: 200 | 08-10.11.21 |
| DRAWN: SL/TP | QUALITY REF: 14517 |
| Level datum | |
| Grid orientation | |
| Job number | 41967 |
| Drawing No. 41967_UG_1 | Rev. 1 |

## PAS128 QUALITY LEVEL DESCRIPTION

- QL – A — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY MULTIPLE GEOPHYSICAL OR LOCATED WITHIN TRUE FITS AT MANY EXPO
- B1 — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY MULTIPLE GEOPHYSICAL TECHNIQUES USED
- B2 — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY ONE GEOPHYSICAL TECHNIQUES USED
- B3 — HORIZONTAL LOCATION ONLY OF THE UTILITY DETECTED BY ONE GEOPHYSICAL TECHNIQUES USED (NO DEPTH)
- B4 — A UTILITY SEGMENT WHICH IS SUSPECTED TO EXIST BUT HAS NOT BEEN DETECTED AND IS THEREFORE SHOWN AS AN ASSUMED ROUTE.
- QL – C — A SEGMENT OF UTILITY WHOSE LOCATION IS DERIVED FROM UTILITY RECORDS AND/OR STREET FURNITURE, TOPOGRAPHICAL FEATURES OR EVIDENCE OF PREVIOUS STREET WORKS.
- QL – D — A SEGMENT OF UTILITY WHOSE LOCATION CANNOT BE RECONSTRUCTED BY VISUAL SURVEY AND/OR THE UTILITY RECORDS, STREET FURNITURE, TOPOGRAPHICAL FEATURES AND HAS BEEN DERIVED SOLELY FROM RECORD PLANS

Comments
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Notes:

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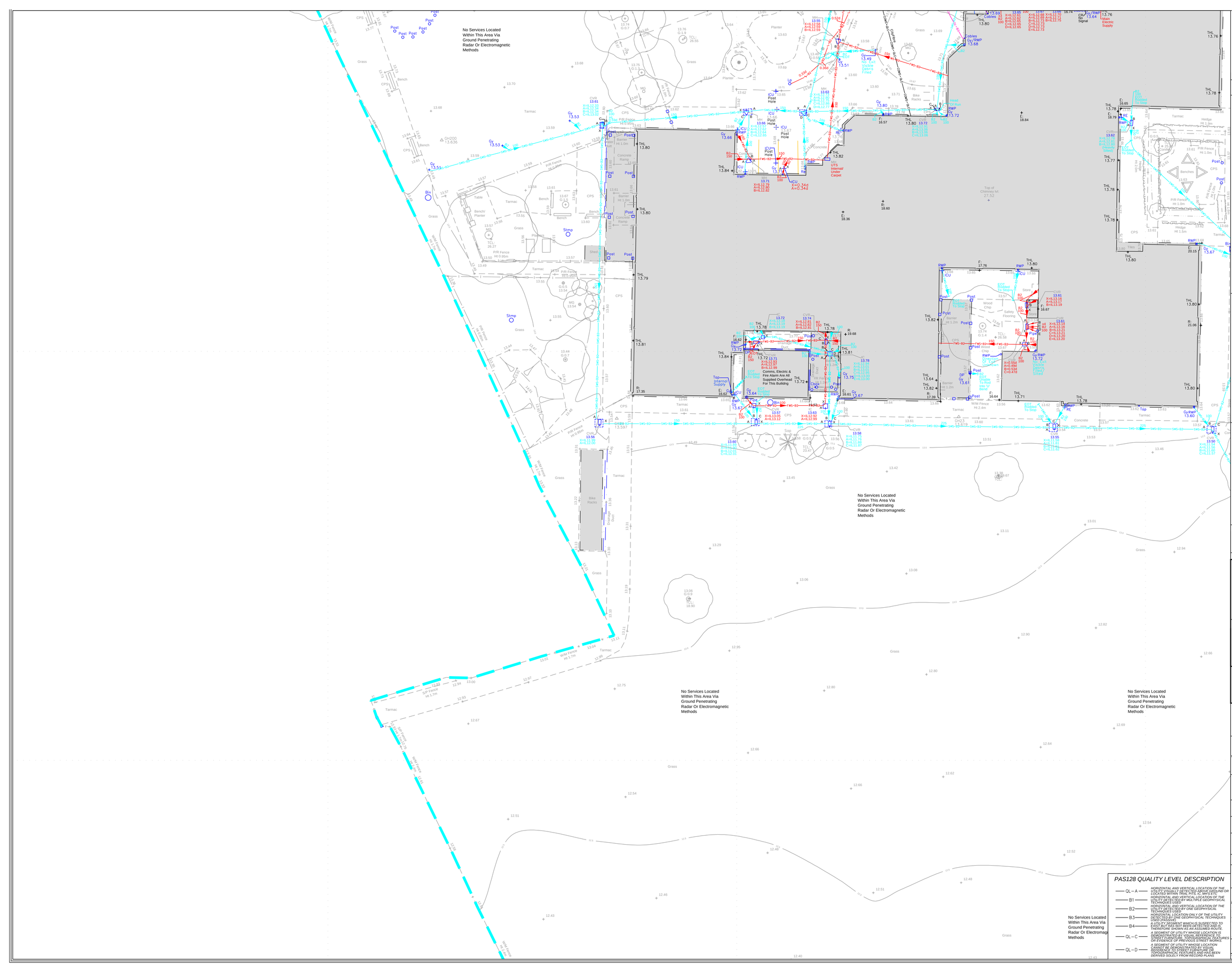
No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods
No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods
No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods
No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods
No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods
Comms, Electric & Fire Alarm Are All Supplied Overhead For This Building
Top Internal Supply
Top External Supply
Cables
Signal
Main Electric Supply
Grass
Tarmac
Concrete
Bench
Barrier Ht 1.0m
Barrier Ht 1.2m
Concrete Ramp
Hedge Ht 1.5m
Hedge Ht 1.9m
P/R Fence Ht 1.0m
P/R Fence Ht 0.95m
S/P Fence Ht 1.1m
W/M Fence Ht 1.7m
W/M Fence Ht 2.4m
Bike Racks
Drainage Ditch
Wood Chip
Safety Flooring
Planters
Store
Shed
Table
Benches
Bush
Post
Bin
Stmp
Lp
Gy
RWP
ICU
MH
MG
CPS
CVR
DP
Cables
Gy / RWP
Signal
Top
Cables
Gy / RWP
Top
Gy/RWP
Top
Gy/RWP
Top
Gy/

N

NOTES;

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- SURVEY BOUNDARY
- END OF TRACE

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| AC | ASBESTOS CEMENT | MW | MONITORING WELL |
| AR | ASSUMED ROUTE | OH | OVERHEAD |
| BB | BASE BEND | OSA | OFF SURVEY AREA |
| BD | BACKDROP | PE | POLYETHYLENE |
| BH | BOREHOLE | PL | PLASTIC |
| BR | BRICK | PO | POST BOX |
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| FH | FIRE HYDRANT | TP | TELEGRAPH POLE |
| Gy | GULLY | TV/CCTV | UNABLE TO CCTV |
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| GRP | GLASS REINFORCED PLASTIC | UTL | UNABLE TO LIFT |
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| LP | LAMP POST | WM | WATER METER |
| MH | MANHOLE | WO | WASH OUT VALVE |
| SWS | SURFACE WATER SEWER | | |
| FWS | FOUL WATER SEWER | | |
| CWS | COMBINED WATER SEWER | | |

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| Rev | Date | Description | Drawn | Q. Rvd |
|---|---|---|---|---|
| 1 | 02.02.2022 | Updated drainage | AS | AS |


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CLIENT
**Mott MacDonald**

PROJECT
**Hempland Primary School**
**Whitby Avenue, Stockton Lane**
**York**

TITLE
**Underground PAS 128 Utility Survey**

| SCALE | DATE |
|---|---|
| A1@ 1: 200 | 08-10.11.21 |
| DRAWN | QUALITY REF |
| SL/TP | 14517 |
| Level datum | |
| Grid orientation | |
| Job number | 41967 |
| Drawing No. | Rev. |
| 41967_UG_3 | 1 |

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Notes:

## PAS128 QUALITY LEVEL DESCRIPTION

- QL – A — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY VISUALLY DETECTED ABOVE GROUND OR LOCATED WITHIN TRIAL PITS, IC, MH'S ETC
- B1 — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY MULTIPLE GEOPHYSICAL TECHNIQUES USED
- B2 — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY ONE GEOPHYSICAL TECHNIQUES USED
- B3 — HORIZONTAL LOCATION ONLY OF THE UTILITY DETECTED BY ONE GEOPHYSICAL TECHNIQUES USED (PASSIVE)
- B4 — *A UTILITY SEGMENT WHICH IS SUSPECTED TO EXIST BUT NOT DETECTED BY SURVEY AND THEREFORE SHOWN AS AN ASSUMED ROUTE.*
- QL – C — *A SEGMENT OF UTILITY WHOSE LOCATION IS DEMONSTRATED BY VISUAL REFERENCE TO STREET FURNITURE, TOPOGRAPHICAL FEATURES OR EVIDENCE OF PREVIOUS STREET WORKS.*
- QL – D — *A SEGMENT OF UTILITY WHOSE LOCATION IS DEMONSTRATED BY VISUAL REFERENCE TO STREET FURNITURE OR TOPOGRAPHICAL FEATURES AND HAS BEEN DERIVED SOLELY FROM RECORD PLANS*

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No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods

No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods

No Services Located Within This Area Via Ground Penetrating Radar Or Electromagnetic Methods

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N

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- UNIDENTIFIED GPR SIGNAL
- EMPTY DUCTS
- SERVICE DUCTS
- SURVEY BOUNDARY
- END OF TRACE

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| AC | ASBESTOS CEMENT | MW | MONITORING WELL |
| AR | ASSUMED ROUTE | OH | OVERHEAD |
| BB | BASE BEND | OSA | OFF SURVEY AREA |
| BD | BACKDROP | PE | POLYETHYLENE |
| BH | BOREHOLE | PL | PLASTIC |
| BR | BRICK | PP | POLYPROPYLENE |
| CI | CAST IRON | PVC | POLYVINYL CHLORIDE |
| CL | COVER LEVEL | RE | RODDING EYE |
| CO | CONCRETE | RWP | RAIN WATER PIPE |
| CR | CABLE RISER | SA | SOAKAWAY |
| CP | CATCHPIT | SI | SPUN IRON |
| DI | DUCTILE IRON | ST | STOP TAP |
| EG | EARTHED | ST | STEEL |
| ED | EMPTY DUCT | SV | SLUICE VALVE |
| EOSC | END OF TRENCH SCAR | SVP | SOIL VENT PIPE |
| EOT | END OF TRACE | TE | TRAPPED EXIT |
| ER | EARTHING ROD | TFR | TAKEN FROM RECORD |
| EP | ELECTRICITY POLE | TL | TRAFFIC LIGHT |
| FH | FIRE HYDRANT | TP | TELEGRAPH POLE |
| Gy | GULLY | TVCCTV | TELEVISION CCTV |
| GPR | GROUND PENETRATING RADAR | UTE | UNABLE TO ENTER |
| GRP | GLASS REINFORCED PLASTIC | UTL | UNABLE TO LIFT |
| GV | GAS VALVE | UTS | UNABLE TO SURVEY |
| HL | HIGH LEVEL | VC | VITRIFIED CLAY |
| HOR | HEAD OF RUN | VP | VENT PIPE |
| IC | INSPECTION CHAMBER | VR | VAPOUR RECOVERY |
| IL | INVERT LEVEL | WL | WATER LEVEL |
| LP | LAMP POST | WM | WATER METER |
| MH | MANHOLE | WO | WASH OUT VALVE |
| SWS | SURFACE WATER SEWER | | |
| FWS | FOUL WATER SEWER | | |
| CWS | COMBINED WATER SEWER | | |

## DISCLAIMER

*THE UTILITY SURVEY HAS BEEN CARRIED OUT IN ACCORDANCE WITH A PAS 128 ,2014 M^ SPECIFICATION.*
*ELECTRO-MAGNETIC TECHNIQUES AND/OR GROUND PENETRATING RADAR HAVE BEEN USED TO TRACE THE POSITION OF UNDERGROUND PIPES.*
*THE RESULTS ARE NOT INFALLIBLE AND TRIAL EXCAVATIONS SHOULD BE CARRIED OUT TO CONFIRM SERVICE IDENTIFICATION, POSITIONS AND PARTICULARLY DEPTHS, WHERE THESE ARE CRITICAL, ALTHOUGH ALL REASONABLE EFFORT HAS BEEN MADE IN SEARCHING AVAILABLE RECORD DRAWINGS, THE COMPLETENESS OF THE UNDERGROUND SERVICES INFORMATION CANNOT BE GUARANTEED. THE METHOD OF SURVEY DOES NOT ALWAYS ALLOW FOR THE DETECTION OF SERVICES AS SUCH*
*ALL SERVICES SHOULD BE TREATED AS LIVE.*
*WHERE SERVICES ARE NON-METALLIC POSITIONS MAY BE TAKEN FROM RECORDS,TRENCH SCARS & SURFACE DETAIL.*
*WHERE QUOTED, DEPTH ESTIMATIONS ARE GENERALLY TO THE CENTRE OF THE SERVICE. DEPTHS TO GRAVITY SEWERS AND DRAINS ARE GENERALLY TO INVERT LEVELS UNLESS OTHERWISE STATED.*
*PIPE SIZES WHICH CANNOT BE OBTAINED BY VISUAL SURVEY ARE TAKEN FROM RECORD DRAWINGS OR MARKER PLATES WHERE AVAILABLE.*
*WHERE GROUND PENETRATING RADAR HAS BEEN USED IT WILL PRIMARILY HAVE BEEN TO IDENTIFY UNDERGROUND UTILITIES*
*IF POSSIBLE WE WILL ALSO IDENTIFY UNDERGROUND STRUCTURES/ TANKS ETC. BUT CANNOT GUARANTEE TO HAVE LOCATED ALL SUCH ITEMS*
*THE USE OF RADAR CAN BE LIMITED BOTH BY SURFACE CONDITIONS AND BY SOIL TYPES. DEPTH PENETRATION COULD NOT NORMALLY BE PROVIDED FOR SERVICES LOCATED WITH GPR.*

| Rev | Date | Description | Drawn | Ref. |
|---|---|---|---|---|
| 1 | 02.02.2022 | Updated drainage | AS | AS |


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- Topographical Surveys
- Site Engineering
- Utility / CCTV Surveys
- Measured Building Surveys
- 3D Laser Scanning
- Revit & BIM Models

24 Riverside Studios
Amethyst Road
Newcastle Business Park
Newcastle
NE4 7YL
t. (0191) 273 6391
newcastle@greenhatch-group.co.uk
www.greenhatch-group.co.uk

Derby (Head Office): Rowan House, Duffield Road, Little Eaton, Derby, DE21 5DR, t. (0133) 283 0044
St Albans: Unit B, The Courtyard, Alban Park, St Albans, Hertfordshire, AL4 0LA, t. (0172) 785 4481
London: 27 Cornwall Terrace Mews, Regents Park, London, NW1 5LL, t. (0207) 224 1806


CLIENT
**Mott MacDonald**

PROJECT
**Hempland Primary School Whitby Avenue, Stockton Lane York**

TITLE
**Underground PAS 128 Utility Survey**

| SCALE | DATE |
|---|---|
| A1@ 1: 200 | 08-10.11.21 |
| DRAWN: SL/TP | QUALITY REF: 14517 |

Level datum
Grid orientation
Job number: 41967

Drawing No.: 41967_UG_4 — Rev.: 1

## PAS128 QUALITY LEVEL DESCRIPTION

- QL – A — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY VISUALLY DETECTED ABOVE GROUND OR LOCATED WITHIN TRIAL PITS, IC, MH'S ETC
- B1 — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY MULTIPLE GEOPHYSICAL TECHNIQUES USED
- B2 — HORIZONTAL AND VERTICAL LOCATION OF THE UTILITY DETECTED BY ONE GEOPHYSICAL TECHNIQUE USED
- B3 — HORIZONTAL LOCATION ONLY OF THE UTILITY DETECTED BY ONE GEOPHYSICAL TECHNIQUES USED (PASSIVE)
- B4 — A SEGMENT OF UTILITY WHICH IS SUSPECTED TO EXIST BUT HAS NOT BEEN DETECTED AND IS THEREFORE SHOWN AS AN ASSUMED ROUTE.
- QL – C — A SEGMENT OF UTILITY WHOSE LOCATION IS DEMONSTRATED BY VISUAL REFERENCE TO STREET FURNITURE OR OTHER SURFACE FEATURES OR EVIDENCE OF PREVIOUS STREET WORKS.
- QL – D — A SEGMENT OF UTILITY WHOSE LOCATION CANNOT BE DEMONSTRATED BY VISUAL REFERENCE TO STREET FURNITURE OR OTHER SURFACE FEATURES AND HAS BEEN DERIVED SOLELY FROM RECORD PLANS

Comments
*This plan should only be used for its original purpose. Greenhatch Group accepts no responsibility for this plan if supplied to any party other than the original client.*
*All dimensions should be checked on site prior to design and construction.*
*Drainage information (where applicable) has been visually inspected from the surface and therefore should be treated as approximate only.*

Notes:

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# CCTV Drainage Survey

Hempland Primary School, York.

CCTV DRAINAGE SURVEY REPORT

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

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|---|---|---|
| HEMPLAND PRIMARY SCHOOL | | 18/01/2022 |

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**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Project Information

| Project Name | Project Number | Project Date |
|---|---|---|
| HEMPLAND PRIMARY SCHOOL | | 18/01/2022 |

## Client

**Company:** Greenhatch Group
**Contact:** Adam Sneddon
**Department:** Utilities Manager
**Street:** Rowan House, Duffield Road
**Town or City:** Little Eaton, Derby
**Post Code:** DE21 5DR
**Phone:** 01332 830044
**Email:** utilities@greenhatch-group.co.uk

## Site

**Contact:** Adam Sneddon
**Department:** Utilities Manager
**Street:** Hempland Primary School
**Town or City:** York
**Phone:** 01332 830044
**Email:** utilities@greenhatch-group.co.uk

## Contractor

**Company:** Sewer Surveys UK Ltd
**Contact:** Andrew Froggatt/ Simon Bennett
**Department:** Directors
**Street:** 14B Orgreave Close
**Town or City:** Sheffield
**Post Code:** S13 9NP
**Phone:** 0114 251 3481
**Mobile:** 07837 768649/07808 220160
**Email:** info@sewesurveysuk.co.uk

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 1X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 18/01/22 | 10:07 | GREENHATCH | No Rain Or Snow | No | MH 1X |

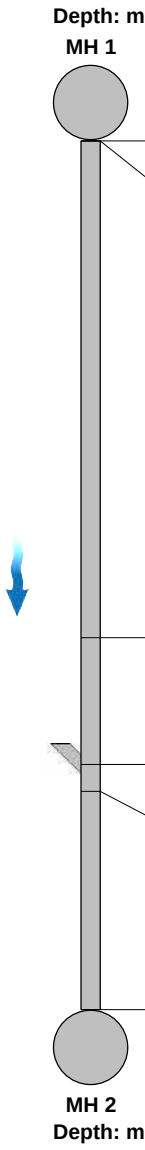
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 1 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 19.42 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 19.42 m | **Downstream Node:** | MH 2 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:169**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 1 | 00:00:03 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:05 | | |
| 11.11 | GP | General photograph taken at this point | 00:01:15 | MH 1X_2022-01-18 | |
| 13.95 | JN | Junction at 2 o'clock, 100mm dia | 00:01:36 | | |
| 14.54 | DER | Settled deposits, coarse, 10% cross-sectional area loss | 00:01:41 | | 3 |
| 19.42 | MHF | Finish node, manhole, reference: MH 2 | 00:02:06 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 2.0 | 200.0 | 2.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - MH 1X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 1 | Downstream | MH 1X | GREENHATCH | 21/755 |

MH 1X_2022-01-18 094241_2.jpg, 00:01:15, 11.11 m
General photograph taken at this point

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 3X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 2 | 1 | 18/01/22 | 10:02 | GREENHATCH | No Rain Or Snow | No | MH 3X |

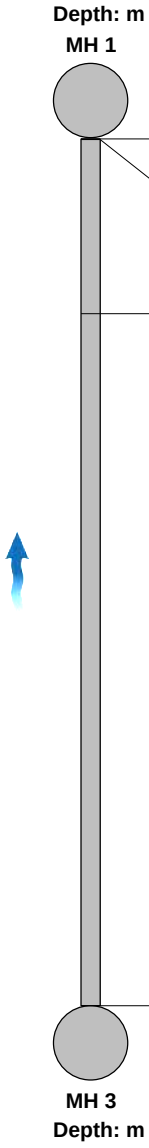
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 3 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 7.57 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 7.57 m | **Downstream Node:** | MH 1 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:66**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 1 | 00:00:00 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:04 | | |
| 1.53 | RFJ | Roots, fine at joint | 00:00:22 | | 2 |
| 7.57 | MHF | Finish node, manhole, reference: MH 3 | 00:00:46 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 1.0 | 0.7 | 1.0 | 2.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - RWP 1X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 3 | 1 | 18/01/22 | 10:14 | GREENHATCH | No Rain Or Snow | No | RWP 1X |

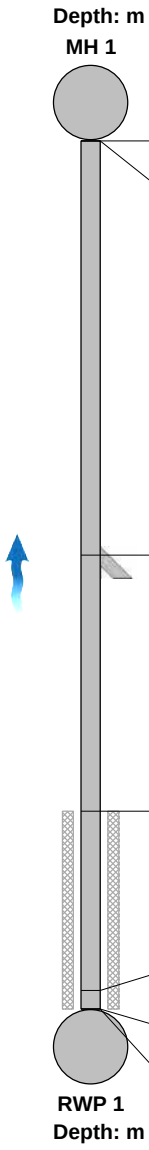
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RWP 1 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 16.08 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 16.08 m | **Downstream Node:** | MH 1 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:140**




| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 1 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 7.68 | | JN | Junction at 9 o'clock, 100mm dia | 00:00:55 | | |
| 12.41 | S01 | DES | Settled deposits, fine, 10% cross-sectional area loss, start | 00:01:19 | | |
| 15.73 | | LU | Line deviates up | 00:01:37 | | |
| 16.08 | F01 | DES | Settled deposits, fine, 10% cross-sectional area loss, finish | 00:01:41 | | 3 |
| 16.08 | | OCF | Finish node, other special chamber, reference: RWP 1: RWP | 00:01:43 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 2.0 | 0.5 | 8.0 | 3.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - RWP 2X

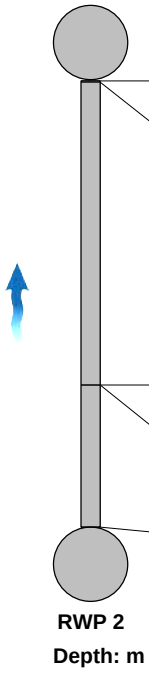
| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 4 | 1 | 18/01/22 | 10:19 | GREENHATCH | No Rain Or Snow | No | RWP 2X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RWP 2 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 2.95 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 2.95 m | **Downstream Node:** | MH 1 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**




| Scale: 1:50 Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 1 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 2.01 | DEX | Settled deposits, other, 5% cross-sectional area loss: LEAVES | 00:00:22 | | 3 |
| 2.01 | JDL | Joint displaced, large | 00:00:22 | | 1 / 4 |
| 2.95 | OCF | Finish node, other special chamber, reference: RWP 2: RWP | 00:00:30 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 1 | 2.0 | 0.7 | 2.0 | 1.0 | 2 | 7.0 | 2.4 | 7.0 | 4.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 4X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 5 | 1 | 18/01/22 | 10:33 | GREENHATCH | No Rain Or Snow | No | MH 4X |

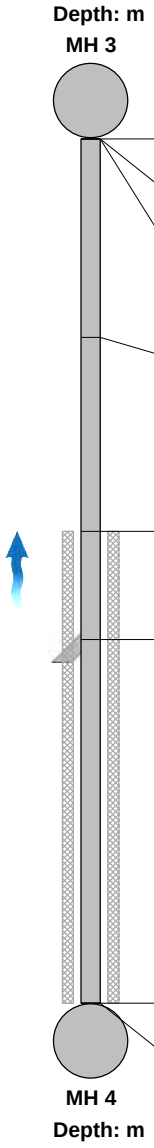
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 4 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 17.96 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 17.96 m | **Downstream Node:** | MH 3 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:157**




| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 3 | 00:00:02 | | |
| 0.01 | | DER | Settled deposits, coarse, 10% cross-sectional area loss | 00:00:08 | | 3 |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 4.13 | | DER | Settled deposits, coarse, 10% cross-sectional area loss | 00:00:41 | | 3 |
| 8.16 | S01 | DER | Settled deposits, coarse, 10% cross-sectional area loss, start | 00:01:08 | | |
| 10.40 | | CN | Connection other than junction at 2 o'clock, 100mm dia | 00:01:23 | | |
| 17.95 | | MHF | Finish node, manhole, reference: MH 4 | 00:02:06 | | |
| 17.96 | F01 | DER | Settled deposits, coarse, 10% cross-sectional area loss, finish | 00:02:05 | | 3 |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 3 | 2.0 | 1.3 | 24.0 | 3.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 5X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 6 | 1 | 18/01/22 | 10:43 | GREENHATCH | No Rain Or Snow | No | MH 5X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 5 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 8.16 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 8.16 m | **Downstream Node:** | MH 3 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:71**

| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 3 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.01 | | DES | Settled deposits, fine, 10% cross-sectional area loss | 00:00:09 | | 3 |
| 7.45 | | CN | Connection other than junction at 2 o'clock, 100mm dia | 00:00:49 | | |
| 7.45 | S01 | DER | Settled deposits, coarse, 20% cross-sectional area loss, start | 00:00:49 | MH 5X_2022-01-18 | |
| 8.16 | | DEE | Attached deposits, encrustation from 4 o'clock to 8 o'clock, 25% cross-sectional area loss | 00:01:23 | MH 5X_2022-01-18 | 4 |
| 8.16 | F01 | DER | Settled deposits, coarse, 20% cross-sectional area loss, finish | 00:01:26 | | 4 |
| 8.16 | | SA | Survey abandoned: ENCRUSTATION | 00:01:27 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 3 | 5.0 | 1.6 | 12.0 | 4.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - MH 5X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 6 | Upstream | MH 5X | GREENHATCH | 21/755 |

MH 5X_2022-01-18 103616_2.jpg, 00:00:49, 7.45 m
Settled deposits, coarse, 20% cross-sectional area loss, start

MH 5X_2022-01-18 103616_3.jpg, 00:01:23, 8.16 m
Attached deposits, encrustation from 4 o'clock to 8 o'clock, 25% cross-sectional area loss

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - RWP 3X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 7 | 1 | 18/01/22 | 10:49 | GREENHATCH | No Rain Or Snow | No | RWP 3X |

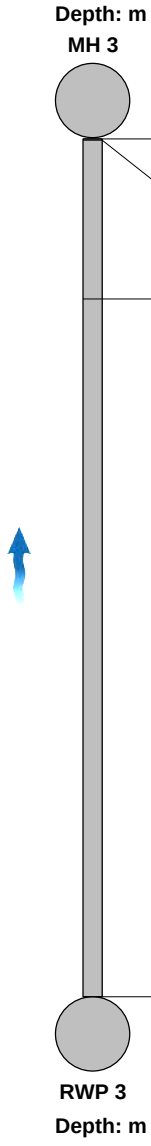
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RWP 3 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 5.67 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 5.67 m | **Downstream Node:** | MH 3 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 3 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:02 | | |
| 1.06 | DES | Settled deposits, fine, 5% cross-sectional area loss | 00:00:14 | | 3 |
| 5.67 | OCF | Finish node, other special chamber, reference: RWP 3: RWP | 00:01:16 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 2.0 | 0.4 | 2.0 | 3.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - RWP 4X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 8 | 1 | 18/01/22 | 10:53 | GREENHATCH | No Rain Or Snow | No | RWP 4X |

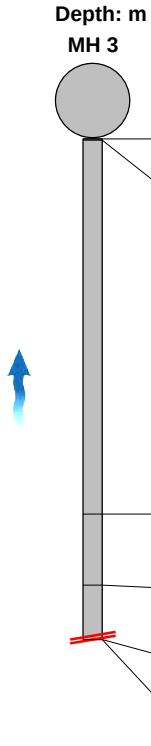
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RWP 4 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 3.31 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 3.31 m | **Downstream Node:** | MH 3 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 3 | 00:00:03 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 2.48 | DER | Settled deposits, coarse, 5% cross-sectional area loss | 00:00:28 | | 3 |
| 2.95 | DER | Settled deposits, coarse, 10% cross-sectional area loss | 00:00:35 | | 3 |
| 3.31 | DER | Settled deposits, coarse, 30% cross-sectional area loss | 00:00:53 | RWP 4X_2022-01-18 | 4 |
| 3.31 | SA | Survey abandoned: DEBRIS | 00:00:53 | RWP 4X_2022-01-18 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 3 | 5.0 | 2.7 | 9.0 | 4.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - RWP 4X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 8 | Upstream | RWP 4X | GREENHATCH | 21/755 |

RWP 4X_2022-01-18 104658_2.jpg, 00:00:53, 3.31 m
Settled deposits, coarse, 30% cross-sectional area loss

RWP 4X_2022-01-18 104658_3.jpg, 00:00:53, 3.31 m
Survey abandoned, DEBRIS

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 6X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 9 | 1 | 18/01/22 | 11:45 | GREENHATCH | No Rain Or Snow | No | MH 6X |

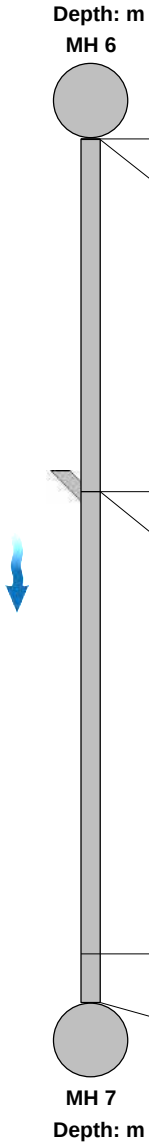
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 6 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 10.40 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 10.40 m | **Downstream Node:** | MH 7 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:91**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 6 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 4.25 | OJ | Open joint, 10mm displacement, 1 - 1.5 x pipe wall thickness | 00:00:34 | | 1 |
| 4.25 | JN | Junction at 2 o'clock, 100mm dia | 00:00:34 | | |
| 9.81 | WL | Water level, 20% of the vertical dimension | 00:00:59 | | |
| 10.40 | MHF | Finish node, manhole, reference: MH 7 | 00:01:20 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 1 | 1.0 | 0.1 | 1.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 1X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 10 | 1 | 18/01/22 | 11:37 | GREENHATCH | No Rain Or Snow | No | XXX 1X |

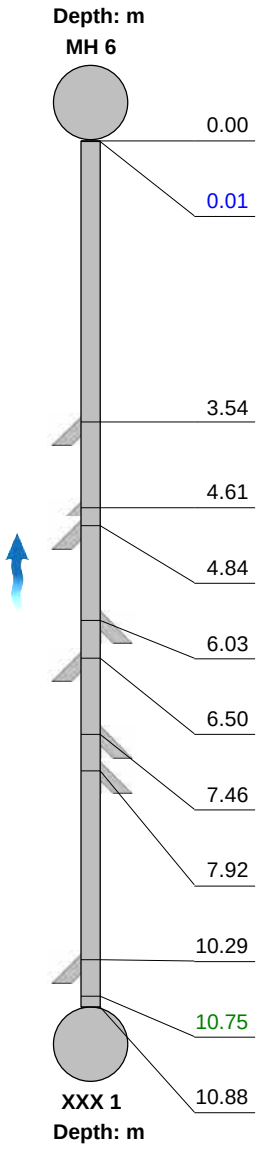
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 1 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 10.88 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 10.88 m | **Downstream Node:** | MH 6 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:95**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 6 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 3.54 | JN | Junction at 3 o'clock, 100mm dia | 00:01:05 | | |
| 4.61 | JN | Junction at 3 o'clock, 100mm dia | 00:01:14 | | |
| 4.84 | JN | Junction at 3 o'clock, 100mm dia | 00:01:18 | | |
| 6.03 | JN | Junction at 9 o'clock, 100mm dia | 00:01:26 | | |
| 6.50 | JN | Junction at 3 o'clock, 100mm dia | 00:01:35 | | |
| 7.46 | JN | Junction at 9 o'clock, 100mm dia | 00:01:40 | | |
| 7.92 | JN | Junction at 9 o'clock, 100mm dia | 00:01:44 | | |
| 10.29 | JN | Junction at 3 o'clock, 100mm dia | 00:01:55 | | |
| 10.75 | LU | Line deviates up | 00:02:01 | | |
| 10.88 | OCF | Finish node, other special chamber, reference: XXX 1: TOILET | 00:02:15 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 2X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 11 | 1 | 18/01/22 | 11:43 | GREENHATCH | No Rain Or Snow | No | XXX 2X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 2 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 3.78 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 3.78 m | **Downstream Node:** | MH 6 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**

| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 6 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:02 | | |
| 1.41 | LR | Line deviates right | 00:00:20 | | |
| 2.83 | LR | Line deviates right | 00:00:26 | | |
| 3.43 | LL | Line deviates left | 00:00:32 | | |
| 3.78 | GYF | Finish node, gully, reference: XXX 2 | 00:00:40 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - GY 1X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 12 | 1 | 18/01/22 | 11:59 | GREENHATCH | No Rain Or Snow | No | GY 1X |

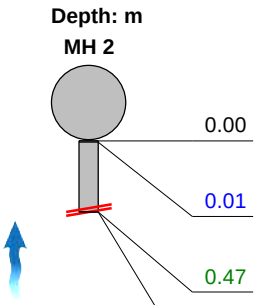
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | GY 1 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.47 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.47 m | **Downstream Node:** | MH 2 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 2 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | GY 1X_2022-01-18 | |
| 0.47 | DES | Settled deposits, fine, 30% cross-sectional area loss | 00:00:40 | | 4 |
| 0.47 | SA | Survey abandoned: SILT | 00:00:41 | GY 1X_2022-01-18 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 5.0 | 10.6 | 5.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - GY 1X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 12 | Upstream | GY 1X | GREENHATCH | 21/755 |

GY 1X_2022-01-18 115549_2.jpg, 00:00:03, 0.01 m
Water level, 5% of the vertical dimension

GY 1X_2022-01-18 115549_3.jpg, 00:00:41, 0.47 m
Survey abandoned, SILT

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 2X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 13 | 1 | 18/01/22 | 12:01 | GREENHATCH | No Rain Or Snow | No | MH 2X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 2 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 14.78 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 14.78 m | **Downstream Node:** | MH 8 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale:** 1:129

| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 2 | 00:00:00 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:04 | | |
| 1.41 | S01 | DES | Settled deposits, fine, 15% cross-sectional area loss, start | 00:00:21 | | |
| 7.21 | | WL | Water level, 50% of the vertical dimension | 00:00:50 | | |
| 10.05 | | RF | Roots, fine | 00:01:07 | | 2 |
| 14.78 | | RM | Roots, mass, 50% cross-sectional area loss | 00:01:47 | MH 2X_2022-01-18 | 5 |
| 14.78 | F01 | DES | Settled deposits, fine, 15% cross-sectional area loss, finish | 00:01:53 | | 3 |
| 14.78 | | SA | Survey abandoned: ROOTS | 00:01:54 | MH 2X_2022-01-18 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 3 | 15.0 | 3.0 | 44.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - MH 2X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 13 | Downstream | MH 2X | GREENHATCH | 21/755 |

MH 2X_2022-01-18 115613_2.jpg, 00:01:47, 14.78 m
Roots, mass, 50% cross-sectional area loss

MH 2X_2022-01-18 115613_3.jpg, 00:01:54, 14.78 m
Survey abandoned, ROOTS

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*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - RE 1X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 14 | 1 | 18/01/22 | 13:14 | GREENHATCH | No Rain Or Snow | No | RE 1X |

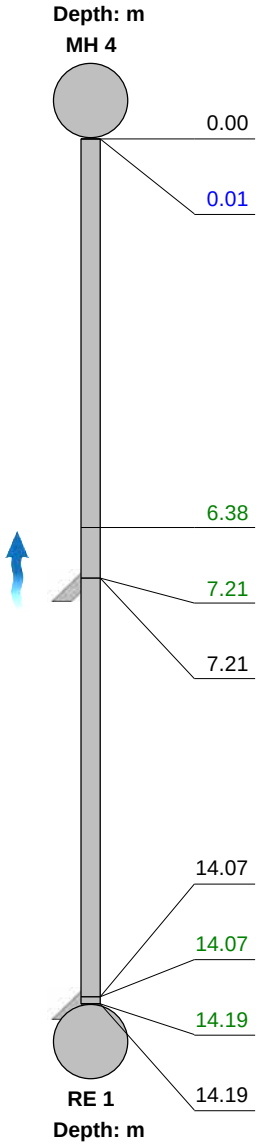
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RE 1 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 14.19 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 14.19 m | **Downstream Node:** | MH 4 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Polyvinyl chloride |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:124**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 4 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:02 | | |
| 6.38 | DES | Settled deposits, fine, 5% cross-sectional area loss | 00:00:43 | | 3 |
| 7.21 | LR | Line deviates right | 00:00:48 | | |
| 7.21 | JN | Junction at 3 o'clock, 100mm dia | 00:00:49 | | |
| 14.07 | JN | Junction at 3 o'clock, 100mm dia | 00:01:18 | | |
| 14.07 | DES | Settled deposits, fine, 30% cross-sectional area loss | 00:01:18 | RE 1X_2022-01-18 | 4 |
| 14.19 | LU | Line deviates up | 00:01:32 | | |
| 14.19 | REF | Finish node, rodding eye, reference: RE 1 | 00:01:33 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 2 | 5.0 | 0.5 | 7.0 | 4.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - RE 1X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 14 | Upstream | RE 1X | GREENHATCH | 21/755 |

RE 1X_2022-01-18 122833_2.jpg, 00:01:18, 14.07 m
Settled deposits, fine, 30% cross-sectional area loss

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 3X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 15 | 1 | 18/01/22 | 13:04 | GREENHATCH | No Rain Or Snow | No | XXX 3X |

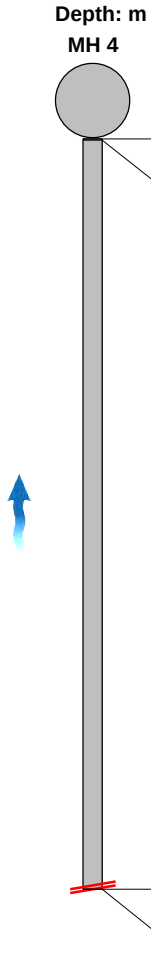
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 3 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 4.96 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 4.96 m | **Downstream Node:** | MH 4 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Polyvinyl chloride |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 4 | 00:00:03 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:05 | | |
| 4.96 | DES | Settled deposits, fine, 30% cross-sectional area loss | 00:01:01 | XXX 3X_2022-01-18 | 4 |
| 4.96 | SA | Survey abandoned: SILT | 00:01:09 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 5.0 | 1.0 | 5.0 | 4.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - XXX 3X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 15 | Upstream | XXX 3X | GREENHATCH | 21/755 |

XXX 3X_2022-01-18 122949_2.jpg, 00:01:01, 4.96 m
Settled deposits, fine, 30% cross-sectional area loss

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 4X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 16 | 1 | 18/01/22 | 13:10 | GREENHATCH | No Rain Or Snow | No | XXX 4X |

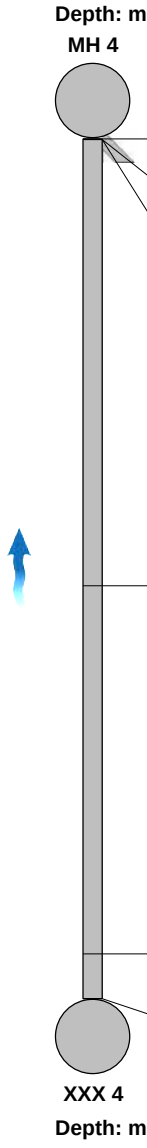
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 4 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 9.10 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 9.10 m | **Downstream Node:** | MH 4 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Polyvinyl chloride |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:80**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 4 | 00:00:03 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:04 | | |
| 0.01 | JN | Junction at 10 o'clock, 100mm dia | 00:00:09 | | |
| 4.73 | DES | Settled deposits, fine, 40% cross-sectional area loss | 00:00:45 | XXX 4X_2022-01-18 | 4 |
| 8.63 | LU | Line deviates up | 00:01:12 | | |
| 9.10 | GYF | Finish node, gully, reference: XXX 4 | 00:01:17 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 5.0 | 1.1 | 5.0 | 4.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - XXX 4X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 16 | Upstream | XXX 4X | GREENHATCH | 21/755 |

XXX 4X_2022-01-18 123014_2.jpg, 00:00:45, 4.73 m
Settled deposits, fine, 40% cross-sectional area loss

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 7X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 17 | 1 | 18/01/22 | 14:33 | GREENHATCH | No Rain Or Snow | No | MH 7X |

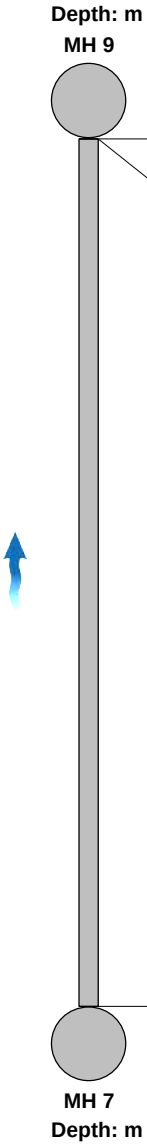
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 7 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 15.95 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 15.95 m | **Downstream Node:** | MH 9 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:139**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 9 | 00:00:03 | | |
| 0.01 | WL | Water level, 15% of the vertical dimension | 00:00:04 | | |
| 15.95 | MHF | Finish node, manhole, reference: MH 7 | 00:01:38 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 10X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 18 | 1 | 18/01/22 | 14:39 | GREENHATCH | No Rain Or Snow | No | MH 10X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 10 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 16.32 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 16.32 m | **Downstream Node:** | MH 9 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:142**

| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| Depth: m<br>MH 9 | | | | | | |
| 0.00 | | MH | Start node, manhole, reference: MH 9 | 00:00:02 | | |
| 0.00 | | WL | Water level, 5% of the vertical dimension | 00:00:02 | | |
| 9.58 | | DEG | Attached deposits, grease from 9 o'clock to 3 o'clock, 5% cross-sectional area loss | 00:00:45 | | 3 |
| 11.70 | S01 | DEG | Attached deposits, grease from 9 o'clock to 3 o'clock, 5% cross-sectional area loss, start | 00:00:55 | | |
| 16.32 | F01 | DEG | Attached deposits, grease from 9 o'clock to 3 o'clock, 5% cross-sectional area loss, finish | 00:01:21 | | 3 |
| 16.32 | | MHF | Finish node, manhole, reference: MH 10 | 00:01:22 | | |
| MH 10<br>Depth: m | | | | | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 2 | 4.0 | 1.5 | 24.0 | 3.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 9X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 19 | 1 | 18/01/22 | 14:50 | GREENHATCH | No Rain Or Snow | No | MH 9X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 9 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 32.27 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 32.27 m | **Downstream Node:** | MH 11 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:281**

| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 9 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 12.30 | GP | General photograph taken at this point | 00:00:57 | MH 9X_2022-01-18 | |
| 25.23 | GP | General photograph taken at this point | 00:01:41 | MH 9X_2022-01-18 | |
| 30.57 | LL | Line deviates left | 00:02:09 | | |
| 32.27 | MHF | Finish node, manhole, reference: MH 11 | 00:02:19 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| STR No. Def | STR Peak | STR Mean | STR Total | STR Grade | SER No. Def | SER Peak | SER Mean | SER Total | SER Grade |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - MH 9X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 19 | Downstream | MH 9X | GREENHATCH | 21/755 |

MH 9X_2022-01-18 144736_2.jpg, 00:00:57, 12.30 m
General photograph taken at this point

MH 9X_2022-01-18 144736_3.jpg, 00:01:41, 25.23 m
General photograph taken at this point

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*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 12X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 20 | 1 | 18/01/22 | 15:12 | GREENHATCH | No Rain Or Snow | No | MH 12X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 12 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 2.36 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 2.36 m | **Downstream Node:** | MH 13 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**

| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| Depth: m<br>MH 12 | | | | | |
| 0.00 | MH | Start node, manhole, reference: MH 12 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:02 | | |
| 2.36 | MHF | Finish node, manhole, reference: MH 13 | 00:00:27 | | |
| MH 13<br>Depth: m | | | | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 13X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 21 | 1 | 18/01/22 | 15:13 | GREENHATCH | No Rain Or Snow | No | MH 13X |

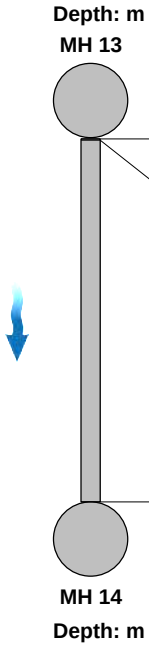
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 13 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 2.40 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 2.40 m | **Downstream Node:** | MH 14 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 13 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 2.40 | MHF | Finish node, manhole, reference: MH 14 | 00:00:20 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 14X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 22 | 1 | 18/01/22 | 15:14 | GREENHATCH | No Rain Or Snow | No | MH 14X |

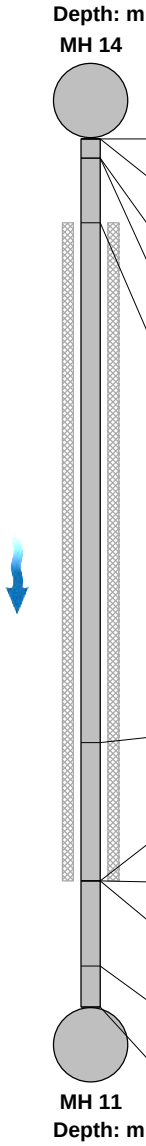
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 14 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 30.44 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 30.44 m | **Downstream Node:** | MH 11 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:265**




| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 14 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.70 | | LR | Line deviates right | 00:00:12 | | |
| 0.70 | | WL | Water level, 60% of the vertical dimension | 00:00:12 | | |
| 2.95 | S01 | CUW | Loss of vision, camera under water, start | 00:00:26 | | |
| 21.17 | | REM | General remark: PIPE DIPPED | 00:02:06 | | |
| 26.02 | | DEE | Attached deposits, encrustation from 4 o'clock to 8 o'clock, 10% cross-sectional area loss | 00:02:35 | | 3 |
| 26.02 | | WL | Water level, 10% of the vertical dimension | 00:02:36 | | |
| 26.02 | F01 | CUW | Loss of vision, camera under water, finish | 00:02:37 | | |
| 29.01 | | LL | Line deviates left | 00:03:01 | | |
| 30.44 | | MHF | Finish node, manhole, reference: MH 11 | 00:03:08 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 2.0 | 0.1 | 2.0 | 3.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 5X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 23 | 1 | 18/01/22 | 15:23 | GREENHATCH | No Rain Or Snow | No | XXX 5X |

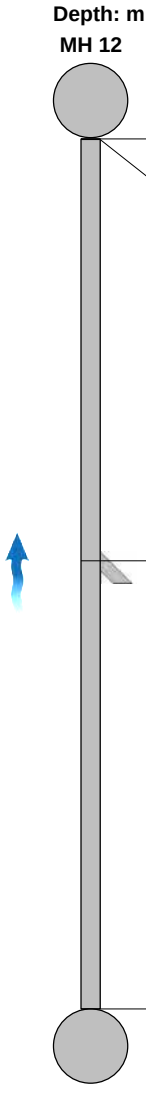
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 5 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 8.51 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 8.51 m | **Downstream Node:** | MH 12 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale:** 1:74




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 12 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 4.13 | JN | Junction at 9 o'clock, 100mm dia | 00:00:34 | | |
| 8.51 | GYF | Finish node, gully, reference: XXX 5 | 00:00:55 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - MH 15X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 24 | 1 | 18/01/22 | 15:26 | GREENHATCH | No Rain Or Snow | No | MH 15X |

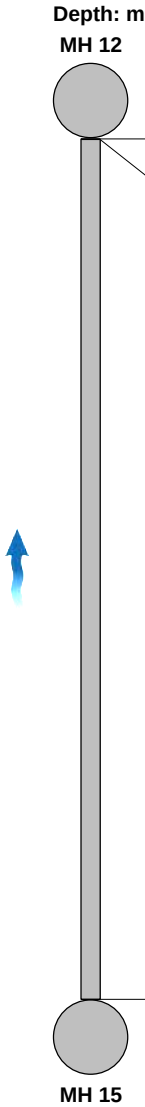
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 15 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 9.22 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 9.22 m | **Downstream Node:** | MH 12 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale:** 1:81




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 12 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 9.22 | MHF | Finish node, manhole, reference: MH 15 | 00:00:52 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 6X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 25 | 1 | 18/01/22 | 15:31 | GREENHATCH | No Rain Or Snow | No | XXX 6X |

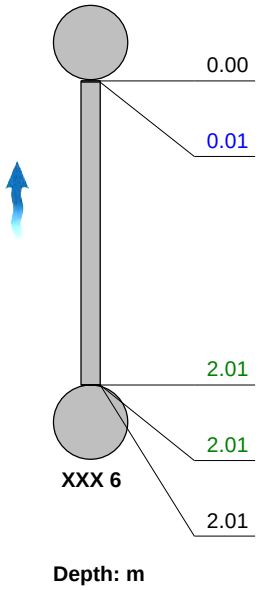
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 6 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 2.01 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 2.01 m | **Downstream Node:** | MH 13 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 13 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:02 | | |
| 2.01 | DES | Settled deposits, fine, 10% cross-sectional area loss | 00:00:27 | | 3 |
| 2.01 | LU | Line deviates up | 00:00:42 | | |
| 2.01 | OCF | Finish node, other special chamber, reference: XXX 6: SVP | 00:00:43 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 2.0 | 1.0 | 2.0 | 3.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 7X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 26 | 1 | 18/01/22 | 15:33 | GREENHATCH | No Rain Or Snow | No | XXX 7X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 7 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 1.77 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 1.77 m | **Downstream Node:** | MH 13 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**

| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| Depth: m<br>MH 13 | | | | | |
| 0.00 | MH | Start node, manhole, reference: MH 13 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 1.77 | LU | Line deviates up | 00:00:21 | | |
| 1.77 | OCF | Finish node, other special chamber, reference: XXX 7: TOILET | 00:00:23 | | |
| XXX 7<br>Depth: m | | | | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 8X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 27 | 1 | 18/01/22 | 15:35 | GREENHATCH | No Rain Or Snow | No | XXX 8X |

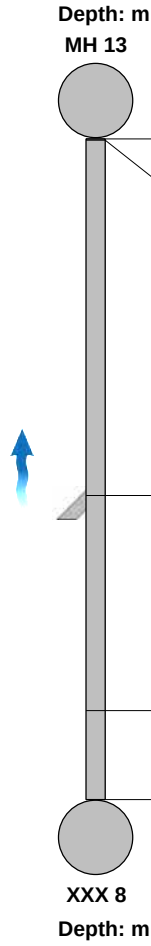
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 8 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 4.37 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 4.37 m | **Downstream Node:** | MH 13 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 13 | 00:00:00 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:01 | | |
| 2.36 | JN | Junction at 3 o'clock, 100mm dia | 00:00:21 | | |
| 3.78 | LU | Line deviates up | 00:00:31 | | |
| 4.37 | OCF | Finish node, other special chamber, reference: XXX 8: TOILET | 00:00:36 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 9X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 28 | 1 | 18/01/22 | 15:38 | GREENHATCH | No Rain Or Snow | No | XXX 9X |

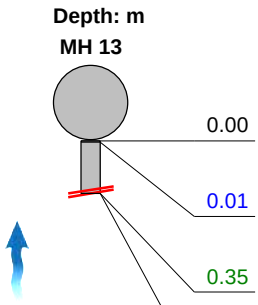
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 9 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.35 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.35 m | **Downstream Node:** | MH 13 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 13 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.35 | RM | Roots, mass, 40% cross-sectional area loss | 00:00:40 | | 5 |
| 0.35 | SA | Survey abandoned: ROOTS | 00:00:42 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 10.0 | 28.6 | 10.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 10X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 29 | 1 | 18/01/22 | 15:48 | GREENHATCH | No Rain Or Snow | No | XXX 10X |

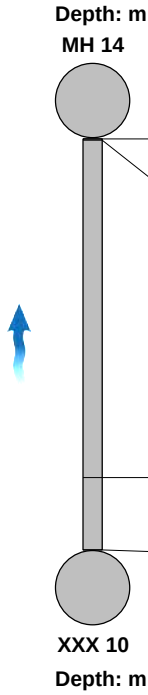
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 10 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 2.72 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 2.72 m | **Downstream Node:** | MH 14 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 14 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 2.24 | LU | Line deviates up | 00:00:27 | | |
| 2.72 | OCF | Finish node, other special chamber, reference: XXX 10: TOILET | 00:00:32 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 0 | 0.0 | 0.0 | 0.0 | 1.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 11X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 30 | 1 | 18/01/22 | 15:50 | GREENHATCH | No Rain Or Snow | No | XXX 11X |

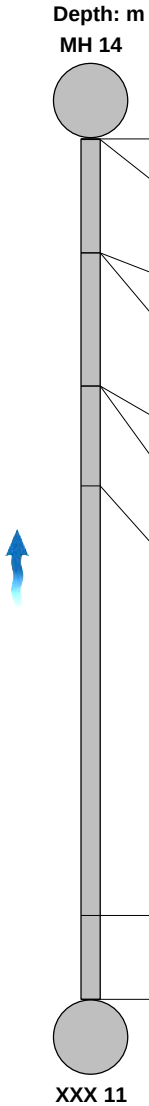
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 11 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 6.15 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 6.15 m | **Downstream Node:** | MH 14 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:54**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 14 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.82 | RF | Roots, fine | 00:00:18 | | 2 |
| 0.82 | JDL | Joint displaced, large | 00:00:19 | | 1 / 4 |
| 1.77 | RFJ | Roots, fine at joint | 00:00:26 | | 2 |
| 1.77 | FCJ | Fracture, circumferential at joint from 8 o'clock to 12 o'clock | 00:00:27 | XXX 11X_2022-01-18 | 3 / 2 |
| 2.48 | LR | Line deviates right | 00:00:36 | | |
| 5.55 | LU | Line deviates up | 00:00:54 | | |
| 6.15 | OCF | Finish node, other special chamber, reference: XXX 11: TOILET | 00:00:58 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 2 | 40.0 | 23.7 | 42.0 | 3.0 | 4 | 6.0 | 4.5 | 8.0 | 4.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - XXX 11X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 30 | Upstream | XXX 11X | GREENHATCH | 21/755 |

XXX 11X_2022-01-18 154139_2.jpg, 00:00:27, 1.77 m
Fracture, circumferential at joint from 8 o'clock to 12 o'clock

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*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 18/01/2022 - XXX 12X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 31 | 1 | 18/01/22 | 15:53 | GREENHATCH | No Rain Or Snow | No | XXX 12X |

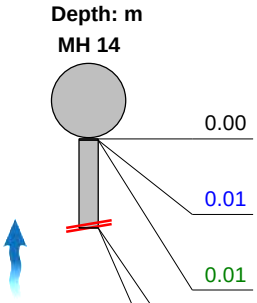
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | XXX 12 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.59 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.59 m | **Downstream Node:** | MH 14 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Foul | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 14 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.01 | RF | Roots, fine | 00:00:08 | | 2 |
| 0.59 | RM | Roots, mass, 30% cross-sectional area loss | 00:00:21 | XXX 12X_2022-01-18 | 5 |
| 0.59 | SA | Survey abandoned: ROOTS | 00:00:26 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 2 | 10.0 | 18.6 | 11.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 18/01/2022 - XXX 12X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 31 | Upstream | XXX 12X | GREENHATCH | 21/755 |

XXX 12X_2022-01-18 154203_2.jpg, 00:00:21, 0.59 m
Roots, mass, 30% cross-sectional area loss

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*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - RWP 5X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 32 | 1 | 19/01/22 | 9:42 | GREENHATCH | No Rain Or Snow | No | RWP 5X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RWP 5 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.35 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.35 m | **Downstream Node:** | MH 16 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**

| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 16 | 00:00:03 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:04 | | |
| 0.23 | S01 | DES | Settled deposits, fine, 30% cross-sectional area loss, start | 00:00:17 | | |
| 0.35 | | DES | Settled deposits, fine, 40% cross-sectional area loss | 00:00:28 | RWP 5X_2022-01-19 | 4 |
| 0.35 | | C | Remark: ***** Combined ***** | | | |
| 0.35 | | C | Remark: Inspection from the other side | | | |
| 0.35 | | C | Remark: Uninspected Length: 0.0 | | | |
| 0.35 | | C | Remark: Inspection from the other side | | | |
| 0.35 | | C | Remark: ***** Combined ***** | | | |
| 0.35 | | SA | Survey abandoned: SILT | 00:00:30 | RWP 5X_2022-01-19 | |
| 0.35 | F01 | DES | Settled deposits, fine, 30% cross-sectional area loss, finish | 00:00:36 | | 4 |

Depth: m

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 2 | 5.0 | 28.6 | 10.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - RWP 5X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 32 | Upstream | RWP 5X | GREENHATCH | 21/755 |

RWP 5X_2022-01-19 093540_2.jpg, 00:00:28, 0.35 m
Settled deposits, fine, 40% cross-sectional area loss

RWP 5X_2022-01-19 093540_3.jpg, 00:00:30, 0.35 m
Survey abandoned, SILT

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*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - GY 2X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 33 | 1 | 19/01/22 | 9:44 | GREENHATCH | No Rain Or Snow | No | GY 2X |

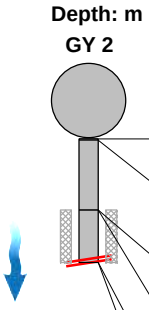
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | GY 2 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.82 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.82 m | **Downstream Node:** | MH 16 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: GY 2 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.47 | S01 | DES | Settled deposits, fine, 30% cross-sectional area loss, start | 00:00:14 | | |
| 0.47 | | RF | Roots, fine | 00:00:15 | GY 2X_2022-01-19 | 2 |
| 0.82 | F01 | DES | Settled deposits, fine, 30% cross-sectional area loss, finish | 00:00:32 | GY 2X_2022-01-19 | 4 |
| 0.82 | | SA | Survey abandoned: SILT ND ROOTS | 00:00:33 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 2 | 6.0 | 7.3 | 6.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - GY 2X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 33 | Downstream | GY 2X | GREENHATCH | 21/755 |

GY 2X_2022-01-19 093914_2.jpg, 00:00:15, 0.47 m
Roots, fine

GY 2X_2022-01-19 093914_3.jpg, 00:00:32, 0.82 m
Settled deposits, fine, 30% cross-sectional area loss, finish

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - RWP 6X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 34 | 1 | 19/01/22 | 9:46 | GREENHATCH | No Rain Or Snow | No | RWP 6X |

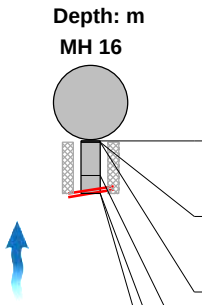
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RWP 6 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.35 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.35 m | **Downstream Node:** | MH 16 |
| **Surface Type:** | | **Joint Length:** | 1.00 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 16 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:02 | | |
| 0.01 | S01 | RF | Roots, fine, start | 00:00:07 | | |
| 0.23 | | RM | Roots, mass, 30% cross-sectional area loss | 00:00:21 | RWP 6X_2022-01-19 | 5 |
| 0.35 | F01 | RF | Roots, fine, finish | 00:00:33 | | 2 |
| 0.35 | | SA | Survey abandoned: ROOTS | 00:00:34 | RWP 6X_2022-01-19 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 2 | 11.0 | 47.8 | 11.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - RWP 6X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 34 | Upstream | RWP 6X | GREENHATCH | 21/755 |

RWP 6X_2022-01-19 093942_2.jpg, 00:00:21, 0.23 m
Roots, mass, 30% cross-sectional area loss

RWP 6X_2022-01-19 093942_3.jpg, 00:00:34, 0.35 m
Survey abandoned, ROOTS

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*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - MH 16X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 35 | 1 | 19/01/22 | 9:50 | GREENHATCH | No Rain Or Snow | No | MH 16X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 16 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.35 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.35 m | **Downstream Node:** | MH 17 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**

| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 16 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.01 | S01 | DES | Settled deposits, fine, 50% cross-sectional area loss, start | 00:00:04 | | |
| 0.35 | F01 | DES | Settled deposits, fine, 50% cross-sectional area loss, finish | 00:00:20 | MH 16X_2022-01-19 | 4 |
| 0.35 | | SA | Survey abandoned: SILT | 00:00:21 | MH 16X_2022-01-19 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 8.0 | 22.9 | 8.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - MH 16X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 35 | Downstream | MH 16X | GREENHATCH | 21/755 |

MH 16X_2022-01-19 094007_2.jpg, 00:00:20, 0.35 m
Settled deposits, fine, 50% cross-sectional area loss, finish

MH 16X_2022-01-19 094007_3.jpg, 00:00:21, 0.35 m
Survey abandoned, SILT

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*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - MH 16X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 36 | 1 | 19/01/22 | 10:01 | GREENHATCH | No Rain Or Snow | No | MH 16X |

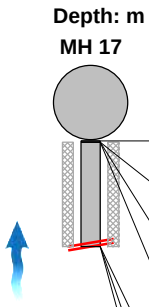
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 16 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.70 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.70 m | **Downstream Node:** | MH 17 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 17 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.01 | S01 | DES | Settled deposits, fine, 20% cross-sectional area loss, start | 00:00:07 | | |
| 0.01 | | RF | Roots, fine | 00:00:08 | | 2 |
| 0.70 | | RM | Roots, mass, 25% cross-sectional area loss | 00:00:24 | MH 16X_2022-01-19 | 5 |
| 0.70 | F01 | DES | Settled deposits, fine, 20% cross-sectional area loss, finish | 00:00:30 | | 4 |
| 0.70 | | SA | Survey abandoned: MASS ROOT | 00:00:31 | MH 16X_2022-01-19 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 3 | 10.0 | 22.9 | 16.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - MH 16X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 36 | Upstream | MH 16X | GREENHATCH | 21/755 |

MH 16X_2022-01-19 095941_2.jpg, 00:00:24, 0.70 m
Roots, mass, 25% cross-sectional area loss

MH 16X_2022-01-19 095941_3.jpg, 00:00:31, 0.70 m
Survey abandoned, MASS ROOT

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - RWP 7X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 37 | 1 | 19/01/22 | 10:05 | GREENHATCH | No Rain Or Snow | No | RWP 7X |

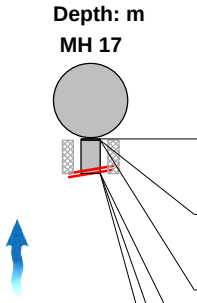
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RWP 7 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.23 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.23 m | **Downstream Node:** | MH 17 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 17 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.01 | S01 | RM | Roots, mass, 40% cross-sectional area loss, start | 00:00:03 | | |
| 0.23 | | LL | Line deviates left | 00:00:20 | | |
| 0.23 | F01 | RM | Roots, mass, 40% cross-sectional area loss, finish | 00:00:22 | RWP 7X_2022-01-19 | 5 |
| 0.23 | | SA | Survey abandoned: ROOTS | 00:00:22 | RWP 7X_2022-01-19 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 10.0 | 43.5 | 10.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - RWP 7X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 37 | Upstream | RWP 7X | GREENHATCH | 21/755 |

RWP 7X_2022-01-19 100004_2.jpg, 00:00:22, 0.23 m
Roots, mass, 40% cross-sectional area loss, finish

RWP 7X_2022-01-19 100004_3.jpg, 00:00:22, 0.23 m
Survey abandoned, ROOTS

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - MH 17X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 38 | 1 | 19/01/22 | 10:06 | GREENHATCH | No Rain Or Snow | No | MH 17X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 17 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.59 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.59 m | **Downstream Node:** | MH 18 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**

| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 17 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.01 | S01 | RF | Roots, fine, start | 00:00:11 | | |
| 0.59 | | RM | Roots, mass, 70% cross-sectional area loss | 00:00:22 | MH 17X_2022-01-19 | 5 |
| 0.59 | F01 | RF | Roots, fine, finish | 00:00:27 | | 2 |
| 0.59 | | SA | Survey abandoned: ROOT MASS | 00:00:29 | MH 17X_2022-01-19 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 2 | 15.0 | 27.1 | 16.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - MH 17X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 38 | Downstream | MH 17X | GREENHATCH | 21/755 |

MH 17X_2022-01-19 100027_2.jpg, 00:00:22, 0.59 m
Roots, mass, 70% cross-sectional area loss

MH 17X_2022-01-19 100027_3.jpg, 00:00:29, 0.59 m
Survey abandoned, ROOT MASS

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - MH 17X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 39 | 1 | 19/01/22 | 11:27 | GREENHATCH | No Rain Or Snow | No | MH 17X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 17 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 38.05 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 38.05 m | **Downstream Node:** | MH 18 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:331**

| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 18 | 00:00:02 | | |
| 0.01 | | WL | Water level, 5% of the vertical dimension | 00:00:02 | | |
| 2.01 | | WL | Water level, 10% of the vertical dimension | 00:00:20 | | |
| 2.01 | | SB | Surface damage, internal blister from 9 o'clock to 3 o'clock | 00:00:20 | | |
| 6.86 | | RF | Roots, fine | 00:00:42 | | 2 |
| 6.86 | | FC | Fracture, circumferential from 10 o'clock to 2 o'clock | 00:00:43 | MH 17X_2022-01-19 | 3 / 2 |
| 7.68 | S01 | RF | Roots, fine, start | 00:00:52 | | |
| 15.96 | | GP | General photograph taken at this point | 00:01:25 | MH 17X_2022-01-19 | |
| 34.82 | | GP | General photograph taken at this point | 00:02:44 | MH 17X_2022-01-19 | |
| 37.55 | | WL | Water level, 30% of the vertical dimension | 00:02:57 | | |
| 37.92 | | DES | Settled deposits, fine, 10% cross-sectional area loss | 00:03:03 | | 3 |
| 38.05 | | DES | Settled deposits, fine, 40% cross-sectional area loss | 00:03:12 | MH 17X_2022-01-19 | 4 |
| 38.05 | F01 | RF | Roots, fine, finish | 00:03:15 | | 2 |
| 38.05 | | SA | Survey abandoned: SILT | 00:03:19 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 1 | 40.0 | 5.8 | 40.0 | 3.0 | 5 | 6.0 | 5.8 | 40.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - MH 17X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 39 | Upstream | MH 17X | GREENHATCH | 21/755 |

MH 17X_2022-01-19 112028_2.jpg, 00:00:43, 6.86 m
Fracture, circumferential from 10 o'clock to 2 o'clock

MH 17X_2022-01-19 112028_3.jpg, 00:01:25, 15.96 m
General photograph taken at this point

MH 17X_2022-01-19 112028_4.jpg, 00:02:44, 34.82 m
General photograph taken at this point

MH 17X_2022-01-19 112028_5.jpg, 00:03:12, 38.05 m
Settled deposits, fine, 40% cross-sectional area loss

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - MH 19X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 40 | 1 | 19/01/22 | 11:36 | GREENHATCH | No Rain Or Snow | No | MH 19X |

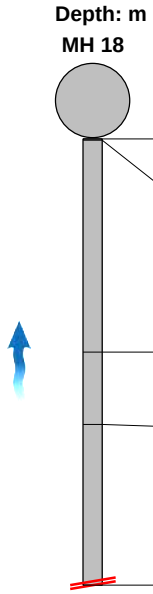
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | MH 19 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 2.95 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 2.95 m | **Downstream Node:** | MH 18 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 18 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 1.41 | RM | Roots, mass, 20% cross-sectional area loss | 00:00:15 | | 5 |
| 1.89 | RM | Roots, mass, 50% cross-sectional area loss | 00:00:20 | MH 19X_2022-01-19 | 5 |
| 2.95 | SA | Survey abandoned: MASS ROOT | 00:00:31 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 2 | 15.0 | 13.2 | 25.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - MH 19X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 40 | Upstream | MH 19X | GREENHATCH | 21/755 |

MH 19X_2022-01-19 112051_2.jpg, 00:00:20, 1.89 m
Roots, mass, 50% cross-sectional area loss

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - RWP 8X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 41 | 1 | 19/01/22 | 11:39 | GREENHATCH | No Rain Or Snow | No | RWP 8X |

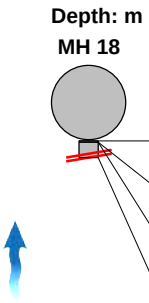
| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Upstream | **Upstream Node:** | RWP 8 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 0.11 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 0.11 m | **Downstream Node:** | MH 18 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 100 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:50**




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 0.00 | MH | Start node, manhole, reference: MH 18 | 00:00:02 | | |
| 0.01 | WL | Water level, 5% of the vertical dimension | 00:00:03 | | |
| 0.01 | RM | Roots, mass, 40% cross-sectional area loss | 00:00:07 | RWP 8X_2022-01-19 | 5 |
| 0.11 | SA | Survey abandoned: MASS ROOT | 00:00:21 | RWP 8X_2022-01-19 | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| **STR No. Def** | **STR Peak** | **STR Mean** | **STR Total** | **STR Grade** | **SER No. Def** | **SER Peak** | **SER Mean** | **SER Total** | **SER Grade** |
| 0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | 10.0 | 1000.0 | 10.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - RWP 8X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 41 | Upstream | RWP 8X | GREENHATCH | 21/755 |

RWP 8X_2022-01-19 112134_2.jpg, 00:00:07, 0.01 m
Roots, mass, 40% cross-sectional area loss

RWP 8X_2022-01-19 112134_3.jpg, 00:00:21, 0.11 m
Survey abandoned, MASS ROOT

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - MH 18X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 42 | 1 | 19/01/22 | 11:43 | GREENHATCH | No Rain Or Snow | No | MH 18X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

| | | | | | |
|---|---|---|---|---|---|
| **Town or Village:** | York | **Inspection Direction:** | Downstream | **Upstream Node:** | MH 18 |
| **Road:** | Hempland Primary School | **Inspected Length:** | 22.47 m | **Upstream Pipe Depth:** | |
| **Location:** | Property or buildings | **Total Length:** | 22.47 m | **Downstream Node:** | MH 20 |
| **Surface Type:** | | **Joint Length:** | 1.20 m | **Downstream Pipe Depth:** | |

| | | | |
|---|---|---|---|
| **Use:** | Surface water | **Pipe Shape:** | Circular |
| **Type of Pipe:** | Gravity drain/sewer | **Dia/Height:** | 150 mm |
| **Year Constructed:** | | **Material:** | Vitrified clay |
| **Flow Control:** | No flow control | **Lining Type:** | No Lining |
| **Inspection Purpose:** | Sample condition survey | **Lining Material:** | No Lining |

**Comments:**
**Recommendations:**

**Scale: 1:192**

| Position [m] | | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|---|
| 0.00 | | MH | Start node, manhole, reference: MH 18 | 00:00:02 | | |
| 0.01 | | WL | Water level, 10% of the vertical dimension | 00:00:03 | | |
| 0.82 | S01 | DES | Settled deposits, fine, 10% cross-sectional area loss, start | 00:00:13 | | |
| 0.82 | | DER | Settled deposits, coarse, 20% cross-sectional area loss | 00:00:14 | MH 18X_2022-01-19 | 4 |
| 2.83 | | RFJ | Roots, fine at joint | 00:00:33 | | 2 |
| 5.79 | F01 | DES | Settled deposits, fine, 10% cross-sectional area loss, finish | 00:00:48 | | 3 |
| 7.89 | | MCCO | Pipe material changes to concrete at this point | 00:00:59 | | |
| 10.64 | | DER | Settled deposits, coarse, 10% cross-sectional area loss | 00:01:13 | MH 18X_2022-01-19 | 3 |
| 14.31 | | JDL | Joint displaced, large | 00:01:31 | MH 18X_2022-01-19 | 1 / 4 |
| 15.37 | | FCJ | Fracture, circumferential at joint from 6 o'clock to 9 o'clock | 00:01:42 | MH 18X_2022-01-19 | 3 / 2 |
| 15.37 | | MCVC | Pipe material changes to vitrified clay at this point | 00:01:42 | | |
| 18.83 | | DES | Settled deposits, fine, 30% cross-sectional area loss | 00:02:03 | | 4 |
| 18.83 | | RF | Roots, fine | 00:02:04 | | 2 |
| 19.68 | S02 | DES | Settled deposits, fine, 20% cross-sectional area loss, start | 00:02:09 | | |
| 21.62 | | JDL | Joint displaced, large | 00:02:20 | | 1 / 4 |

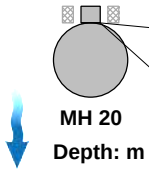
**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Inspection - 19/01/2022 - MH 18X

| Section | Inspection | Date | Time | Client`s Job Ref | Weather | Pre Cleaned | PLR |
|---|---|---|---|---|---|---|---|
| 42 | 1 | 19/01/22 | 11:43 | GREENHATCH | No Rain Or Snow | No | MH 18X |

| Operator | Vehicle | Camera | Preset Length | Criticality Grade | Alternative ID |
|---|---|---|---|---|---|
| KB | RY15 THK | Prod | Not Specified | Category C | Not Specified |

Scale: 1:192




| Position [m] | Code | Observation | MPEG | Photo | Grade |
|---|---|---|---|---|---|
| 22.47 F02 | DES | Settled deposits, fine, 20% cross-sectional area loss, finish | 00:02:27 | | 4 |
| 22.47 | MHF | Finish node, manhole, reference: MH 20 | 00:02:28 | | |

| Construction Features | | | | | Miscellaneous Features | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Structural Defects | | | | | Service & Operational Observations | | | | |
| STR No. Def | STR Peak | STR Mean | STR Total | STR Grade | SER No. Def | SER Peak | SER Mean | SER Total | SER Grade |
| 3 | 40.0 | 53.7 | 44.0 | 3.0 | 10 | 10.0 | 61.0 | 50.0 | 5.0 |

**Sewer Surveys UK Ltd**
*14B Orgreave Close, Sheffield*
*Tel. 0114 251 3481*
*info@sewesurveysuk.co.uk*

# Section Pictures - 19/01/2022 - MH 18X

| Section | Inspection Direction | PLR | Client`s Job Ref | Contractor`s Job Ref |
|---|---|---|---|---|
| 42 | Downstream | MH 18X | GREENHATCH | 21/755 |

MH 18X_2022-01-19 112159_2.jpg, 00:00:14, 0.82 m
Settled deposits, coarse, 20% cross-sectional area loss

MH 18X_2022-01-19 112159_3.jpg, 00:01:13, 10.64 m
Settled deposits, coarse, 10% cross-sectional area loss

MH 18X_2022-01-19 112159_4.jpg, 00:01:31, 14.31 m
Joint displaced, large

MH 18X_2022-01-19 112159_5.jpg, 00:01:42, 15.37 m
Fracture, circumferential at joint from 6 o'clock to 9 o'clock