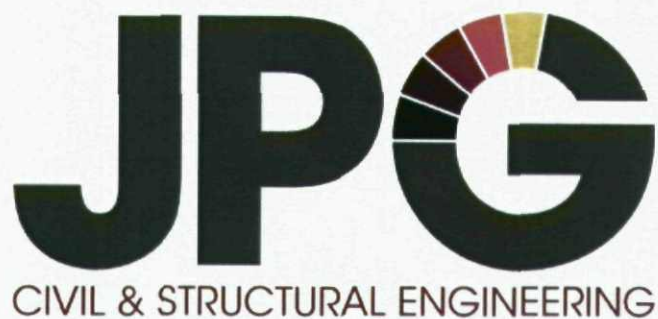




DRAINAGE & FLOOD RISK STATEMENT

**Proposed Office Building
for James Durrans & Sons Ltd
Saville Lane, Penistone**

Reference

AMF/4482.v2

Date

July 2012

Version

2

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CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

James Durrans & Sons Limited
Phoenix Works
Penistone
Sheffield
South Yorkshire
S36 9QU

This report has been prepared for the sole use and reliance of the above named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

VERSION	PURPOSE/DESCRIPTION	DATE
1	Final - For issue to Client	May 2012
2	Updated to suit on-site drainage investigation	July 2012



1.0 INTRODUCTION

JPG (Leeds) Limited (JPG) has been instructed on behalf of James Durrans & Sons Limited to prepare a Drainage and Flood Risk Statement to support a planning application for a proposed office development on land off Saville Lane, Penistone.

2.0 THE SITE

The site is located in Thurstone, approximately 2km to the west of Penistone. The approximate centre of the site is located at NGR 423174, 403378. A site location plan is provided in Appendix A.

The James Durrans & Sons Ltd works is located immediately to the south of the Manchester Road in Thurstone near Penistone.

The area of the site proposed for development is located just to the south of the main office and the factory building known as the Phoenix Works. The site includes existing buildings, roadways and car parks.

Entrance to the site is made from the Manchester Road on to Saville Lane, which initially falls at a steep gradient and then falls gently to the west. The entrance to the site is narrow, being only 4.3m wide, but the road width increases further west. The road is 5.6m wide between the mill building and the laboratory building.

The western part of the site is occupied by car parks, which are formed on two separate levels.

The higher level car park forms the north west corner of the site and has a tarmac surface. A sloping concrete driveway connects the higher to the lower level car park. An earth slope with a cover of mature trees separates the two car parks.

The lower car park has a rough gravel surface and forms much of the southern and eastern part of the site. The surface of the car park slopes gently down to the south and west. The southern boundary line of the site trends south west to north east, the boundary overlooks a further slope which falls towards the River Don, which is approximately 6m below.

The site is located on a south facing slope for which three terraces are present.

Saville Lane forms the highest terrace of the development site with an approximate level of 214m AOD.

The middle level of the site is approximately 3m lower at a level of 211m AOD and is occupied by a building and roadway. The building was an office and laboratory which is built into the slope, such that the roof is only just above the level of Saville Lane.



The base level terrace, which is used as a car park, is around 2.5m lower at a level of approximately 208.5 m AOD.

The eastern margin of the site is formed by a small paddock. This area is bound to the north, east and south by a dry stone wall. The western boundary is formed by the shower block building. The north boundary wall includes an area of partial collapse of stone. The paddock area has a grassed surface.

3.0 EXISTING PUBLIC SEWER NETWORK

Yorkshire Water have advised that a number of public sewers pass through the site. A copy of the Yorkshire Water public sewer plans is provided in Appendix B. A 3m stand-off distance is required at each side of each sewer centre-line, no buildings shall be constructed within the stand-off zone.

As the 225 diameter combined public sewers lies in close proximity to the new building it is proposed to divert the public sewer under a Section 185 diversion agreement with Yorkshire Water. The layout of the proposed sewer diversions is indicated on the drainage layout plan included in Appendix E.

4.0 DEVELOPMENT PROPOSALS

It is proposed to redevelop the site with a four-storey split level office building. A proposed site layout plan is presented in Appendix C.

- Humphreys Teal Partnership Architects, Saville Lane, Penistone, Proposed Site Plan. Job No. 1078, Drg No. 02, Rev C, Dated March 2012 for James Durrans & Sons Limited.

5.0 FLOOD RISK ASSESSMENT

Publicly available information on flooding obtained from the Environment Agency (EA) website database is provided in Appendix D.

The site is indicated to fall within Flood Zone 1 which comprises land assessed as having less than a 1:1000 annual probability of river or sea flooding.

A full Flood Risk Assessment is not required as the development site is located in Flood Zone 1 and less than 1Ha in area.



6.0 SURFACE WATER DRAINAGE

It is proposed to discharge surface water drainage to the existing site drainage system. To allow for the future effects of climate change it is proposed that the existing surface water discharge rate will be reduced by 30%.

A survey of the existing site drainage system has been carried out which identifies the site benefits from two surface water drains which outfall to the River Don on the southern boundary.

It is proposed to utilise these drain connections for the discharge of surface water from the development site.

Calculation of Existing Drainage

Existing Building/Roadways/Car parks

Existing Impermeable area 0.120 Ha

$$0.12 \times (2.78 \times 50) = 16.6 \text{ l/s}$$

Reduce by 30% for the future effects of climate change

$$16.6 \times 0.7 = 11.6 \text{ l/s}$$

Based on the above the total allowable discharge to the existing sewer network will be 11.6 l/s.

Surface water attenuation will be required due to the restricted discharge rate; this would be provided within the car park areas in the form of oversized pipes or a cellular storage type system. Approximate volumes of attenuation are provided below; these will be subject to the final drainage design;

Storage Design Parameters

Restricted discharge rate = 11.6 l/s

Proposed Impermeable area = 0.253 Ha

M5-60 = 18.8

Ratio R = 0.36

Attenuation Volumes

$$1:30 \text{ Year Return Period} = 40 \text{ m}^3$$

$$1:100 \text{ Year Return Period (+20\% cc)} = 77 \text{ m}^3$$



The proposed on site drainage system shall be designed in accordance with the requirements of Sewers for Adoption and shall demonstrate that:

- No surcharge of pipes occurs in the 1 in 2 year rainfall event.
- No surface flooding occurs in 1 in 30 year rainfall event.
- No flooding to buildings and adjacent properties occurs in 1 in 100 year rainfall event (including an allowance of 20% for the effects of future climate change), as defined in NPPF Technical Guidance.

All surface water drainage from the proposed car parking area will be passed through a bypass separator designed in accordance with Pollution Prevention Guideline document PPG3.

A copy of the proposed drainage layout plan is provided in Appendix E.

7.0 FOUL WATER

It is proposed to discharge foul water drainage to the existing sewers utilising the existing outfalls.

A full site drainage survey will be undertaken to confirm the layout of the existing drainage system prior to commencement of the detailed drainage scheme.

8.0 CONCLUSIONS

This assessment has looked at the drainage implications in support of proposed office development on land off Saville Lane, Penistone.

The site lies within Flood Zone 1 and is therefore at low risk of flooding from river or sea.

A full Flood Risk Assessment is not required as the development site is located in Flood Zone 1 and is less than 1 Ha.

The 225 diameter combined public sewers crossing the site will be diverted under a Section 185 diversion agreement with Yorkshire Water, to provide a 3m stand-off distance each side of each sewer centre-line, no buildings shall be constructed within the stand-off zone.



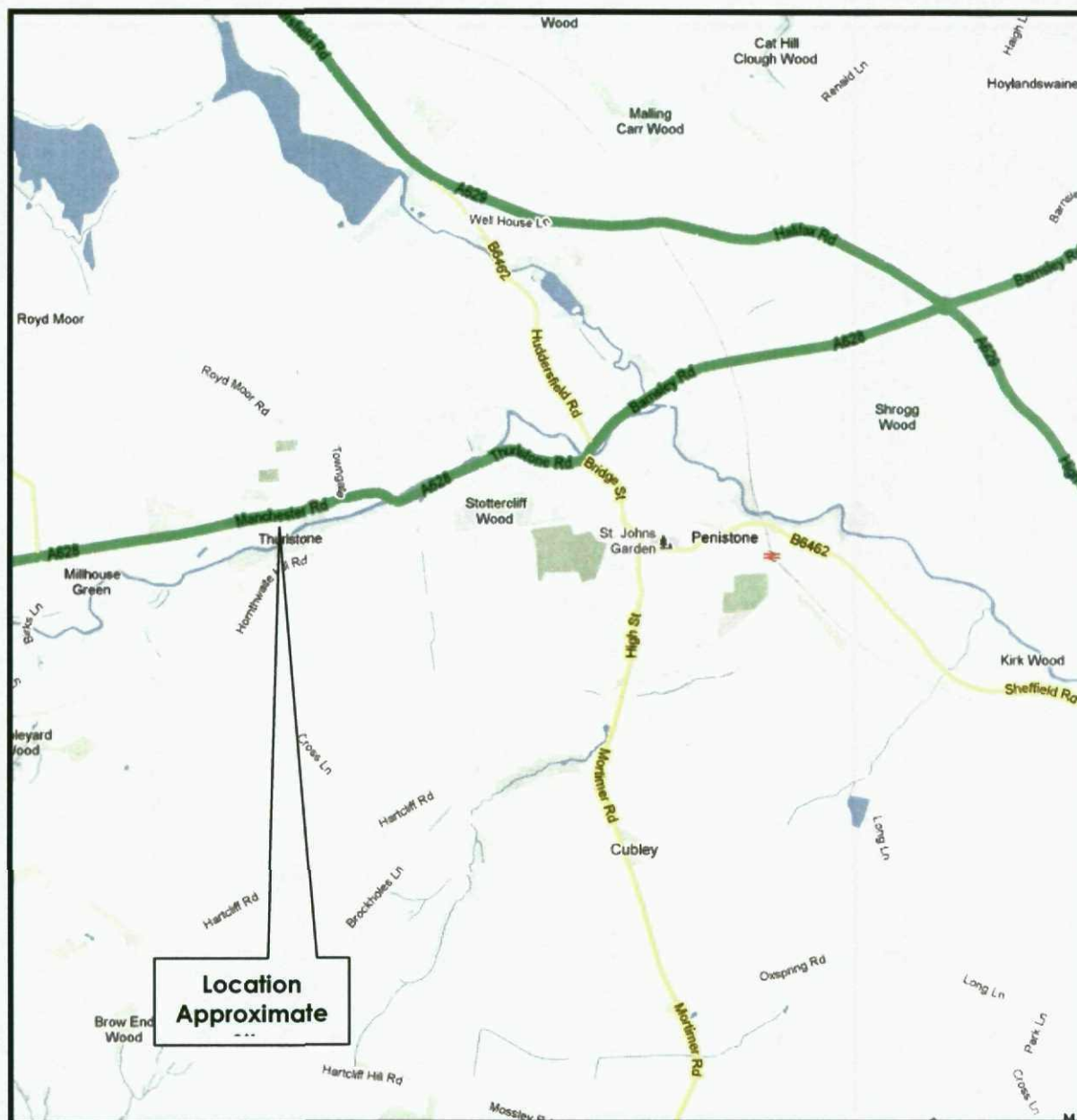
Surface water drainage will discharge to the existing site drainage system ultimately discharging to the River Don on the southern boundary. To allow for the future effects of climate change the existing surface water discharge rate will be reduced by 30%.

Foul water drainage will discharge to the existing sewers utilising the existing outfalls.

Andrew Fairburn
For and behalf of JPG (Leeds) Limited
July 2012



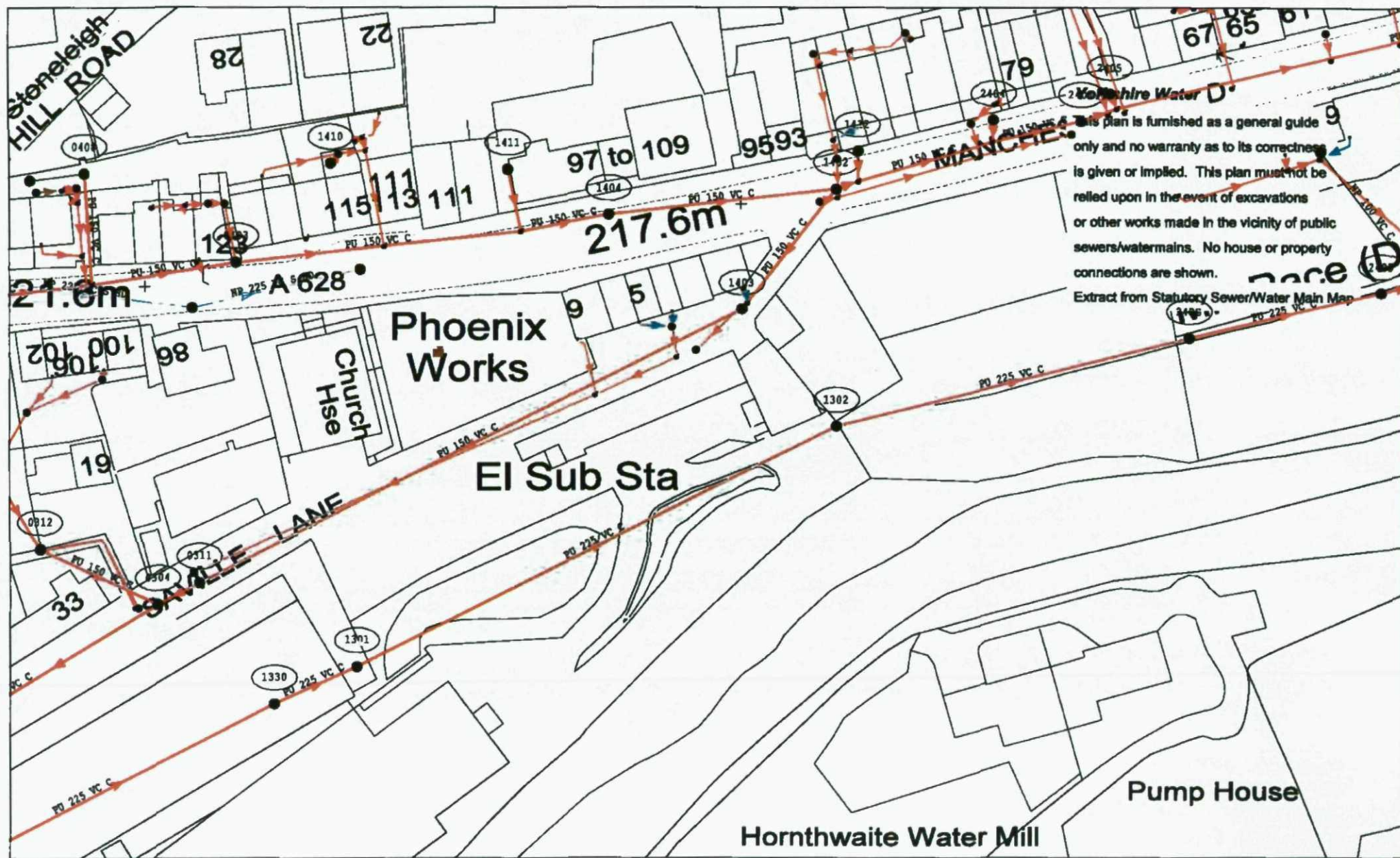
Appendix A Proposed Site Location



James Durrans & Sons, Saville Lane, Penistone



Appendix B Public Sewer Plan



Date Requested : 23/05/2012, 10:30:24

Date Generated : 23/05/2012, 10:30:56

Scale : 1:750

The position and depth of any YW apparatus shown on this map are approximate only.

UPN: Undefined

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Originator: Z FAYYAZ, Appraisals, 01274 892645



Appendix C Proposed Site Layout Plan



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ALL DIMENSIONS SHOULD BE CHECKED ON SITE BEFORE WORK COMMENCES

ALL STRUCTURAL WORKS / HIGHWAYS IMPROVEMENTS TO BE IN ACCORDANCE WITH STRUCTURAL ENGINEERS DETAILS AND SPECIFICATION

REFER TO JPG DRAINAGE DESIGN AND SPECIFICATION FOR PROPOSED DRAINAGE SCHEME

REFER TO FDA LANDSCAPE SITE MASTERPLAN FOR PROPOSED SITE LANDSCAPING SCHEME

REFER TO BOUNDARY TREATMENTS PLAN FOR INFORMATION BOUNDARY FINISHES INFORMATION



15.03.12	Site plan submitted to Planning with Health, Environment, Planning, and Highways.	OK
15.04.12	Planning permission granted. Planning conditions issued.	OK
20.05.12	Site Plan updated with all relevant information.	OK

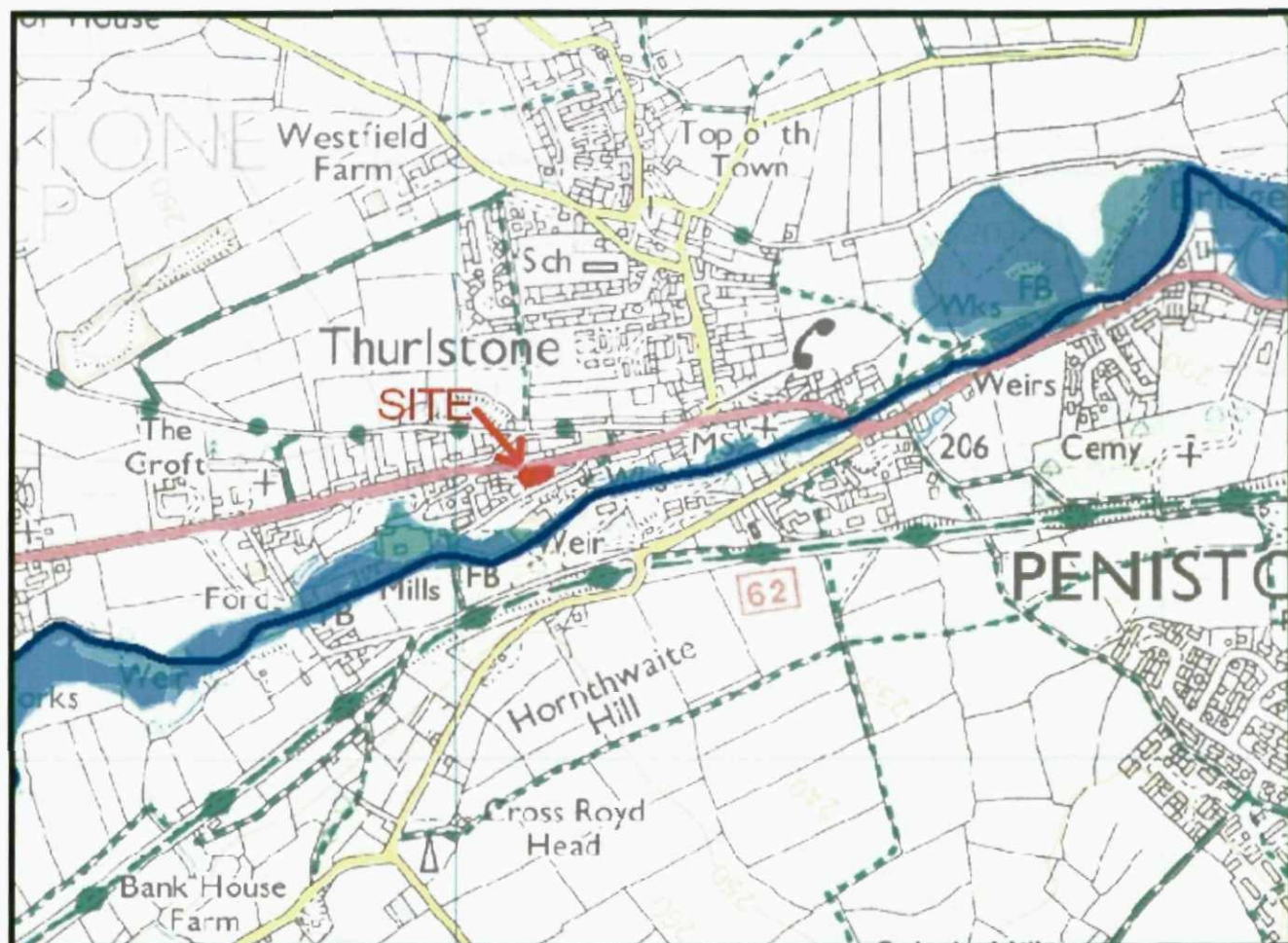
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James Durrans & Sons Ltd.

project
**Saville Lane
Penistone**

drawing title
Proposed Site Plan

date **March 2012**
status **Planning Issue**
scale **1:200 @ A1**
drawn **DW** checked **NT**
job no **4072**





Appendix E JPG Drainage Layout Drawing 4482-D1(T2)

DO NOT SCALE

NOTES

NOTES

1. REFER TO ARCHITECT AND/OR ROOFING CONTRACTORS FOR ALL ABOVE GROUND DRAINAGE. ALL INTERNAL DRAINAGE TO ARCHITECTS DETAILS.
2. ALL MANHOLE COVER LEVELS ARE APPROXIMATE AND SHOULD BE ADJUSTED TO SUIT THE ARCHITECTS FINISHED LEVEL SCHEME.
3. THE LINE OF THE EXISTING PUBLIC SEWER SHOWN ON PLAN ARE TAKEN FROM YORKSHIRE WATER PUBLIC SEWER RECORDS. THE CONTRACTOR SHALL MAKE ALLOWANCE FOR LOCATING AND RECORDING THE LINE AND LEVEL OF THE SEWER ONCE ON SITE.
4. ANY EXISTING DRAINS/SEWERS LOCATED ON SITE WHICH ARE NOT IDENTIFIED ON THE ENGINEERS DRAWING SHALL BE REPORTED TO THE ENGINEER.

EXISTING PHOENIX WORKS

ANY EXISTING SURFACE WATER CONNECTIONS ENCOUNTERED FROM PHOENIX WORKS TO BE CONNECTED INTO NEW S.W. DRAIN

EXISTING ROAD GULLIES ENCOUNTERED WITHIN CLOUDED AREA TO BE CONNECTED TO EXISTING 150mm COMBINED PUBLIC SEWER. ALLOW FOR 30mm NEW GULLIES & CONNECTIONS

PROVIDE NEW 300mm PERFORATED PIPE ALONG LINE OF EXISTING MILL RACE. MAKE ALLOWANCE FOR:
-REMOVAL OF EXISTING 1.0m DIA PIPE & TRENCH BACKFILL (CIRCA 2.5m DEEP, 3.0m WIDE)
-INSTALLATION OF NEW 300mm PIPE IN GRAVEL BED & SURROUND (0.6m DEEP, 3.0m WIDE)
-BACKFILL WITH 40mm DOWN GRADED HARDCORE (2.0m DEEP, 3.0m WIDE)

MANHOLE
CL 208.000
SL TBC
DEPTH=3.0m

NEW PRECAST CONCRETE HEADWALL UNIT

PERMISSIBLE CAR PARK CONSTRUCTION

6m EASEMENT ZONE TO DIVERTED PUBLIC SEWER HATCHED THUS

EXISTING PUBLIC SEWER MANHOLE TO BE ABANDONED TO BE LOCATED ON SITE AND INVERT LEVEL & POSITION REPORTED TO THE ENGINEER

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

LAND-DRAIN TO REAR OF RETAINING WALL

ALL EXISTING DRAINS HATCHED THUS TO BE ABANDONED. ABANDONED DRAINS TO BE GROUTED OUT WHERE UNDER THE BUILDING OF NEW RETAINING WALL FOUNDATIONS. OTHER DRAINS TO BE GROUTED OR GRUBBED OUT

NEW 150mm JUNCTION CONNECTION TO DIVERTED 225mm COMBINED SEWER

SURFACE WATER ATTENUATION TANK TO BE A CORRUGATED STEEL PIPE BY TUBESIDER OF SIMILAR 1.6m DIA x 30m LONG
CL VARIES (208.300-208.500)
SL VARIES (207.300-207.270)
IL VARIES (205.700-205.670)

MANHOLE-FITTED WITH A FLOW CONTROL TO GIVE A RESTRICTED DISCHARGE OF 11.6 l/s WITH A HEAD OF 1.7m (1.8m DIA P.C. RINGS). FLOW CONTROL PROVIDED WITH BYPASS DOOR
CL 208.400,
SL 208.310(450), 208.010(150)
SL(TBC) 287.350
IL 205.680

MANHOLE
CL 208.000
SL TBC
DEPTH=2.0m

MANHOLE
CL 208.250
SL TBC
DEPTH=2.5m

MANHOLE
CL 211.850
SL TBC
DEPTH=3.0m

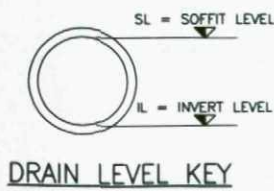
MANHOLE
CL 212.250
SL TBC
DEPTH=3.0m

MANHOLE
CL 212.500
SL 211.450

MANHOLE
CL 212.500
SL 211.450

MANHOLE
CL 212.500
SL 211.450

- KEY:**
- 403340N
 - PROPOSED FOUL DRAIN
 - PROPOSED SURFACE WATER DRAIN
 - PROPOSED DIVERTED COMBINED PUBLIC SEWER
 - PIPE HATCHED THUS ON PLAN TO HAVE 150mm CONCRETE SURROUND
 - PROPOSED FOUL MANHOLE
 - PROPOSED SURFACE WATER MANHOLE
 - PIPE SOFFIT LEVEL AT MANHOLE
 - PIPE INVERT LEVEL AT MANHOLE
 - PROPOSED ROAD GULLY
 - PROPOSED RAINWATER PIPE
 - PROPOSED RODDING EYE



DRAINAGE LAYOUT KEY

TENDER ISSUE

T2	REV	DESCRIPTION	DATE	BY
T1	T2	DIVERTED SEWER EASEMENT ADDED	12.07.12	AMF
	T1	TENDER ISSUE	06.07.12	AMF

Job Title
JAMES DURRAN & SONS
SAVILLE LANE
PENISTONE

Drawing Title
DRAINAGE LAYOUT

Architect
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Checked	Date	Scale	Drawn	Drawn
	06.07.12	1:200	A1	AMF
Drawing No	4482-D1			T2



Appendix D Environment Agency Flood Map