



Idmiston Parish Council

Flood Risk & Sewers Study

S14-169
May 2015

Revision 3

Prepared by :

**Southwest Environmental Limited
Centre Gate
Colston Avenue
Bristol
BS1 4TR**

On behalf of :

**Idmiston Parish Council
c/o Mrs Valerie Creswell
The Old Vicarage
High Street
Porton
SP4 0LH**



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1.0 Introduction

Southwest Environmental Limited have been engaged by Idmiston Parish Council to make a review of the flooding issues within the parish's administrative boundary. The review is to include surface water flooding, fluvial flooding, groundwater flooding and sewer flooding.

1.1 Scope

The Parish has three principal settlements Idmiston, Porton and Gomeldon, the majority of flooding problems are associated with Idmiston and Porton. To the west of Porton and Idmiston is the The Defence Science and Technology Laboratory (Dstl).

Locations of the settlements named above, and the southern administrative boundary can be observed on the flood plan in **Appendix 1**.

The aim of this report is to define flood risk within the parish, its sources, impacted areas and outline possible solutions to reduce risk. The report also aims to make an overview of sewers in the parish, although for reasons described within this will for the most part be described in a second revision of this report.

Idmiston Parish Council is also in the process of putting forward a number of land parcel allocations for inclusion in the local plan, the suitability of these sites for development and also their likely impacts on flood risk will be briefly described. A list of proposed allocated sites can be viewed in **Appendix 2**.

1.2 Prioritisation

In order to form a plan moving forward it is necessary to establish a process by which flood risk should be reduced. Prioritisation should be as follows:

1.2.1 Safety (Primary)

Of primary concern is safety of residents, workers and land users within the parish.

1.2.2 Economic (Secondary)

Of secondary concern would be damage to property resulting in economic losses to the owner, whether that be an individual, a business or a local / district authority. Also to be considered is the disruption of services via damage to, or interruption of infrastructure. Such as flow reduction in sewers owing to high water tables etc.

1.2.3 Amenity Loss (Tertiary)

Disruption in the use of amenities such as foot paths and playing fields would be of tertiary concern.

1.3 Area Geology

Geology has a strong influence on the behaviour of flood water within a given area. Idmiston Parish Council is situated predominantly on chalk, valley bottoms are filled with superficial (recent) deposits silts and clay.



Chalk has a porosity of around 40%, and has lots of space within its internal structure to *hold* water. However, if water is to flow through chalk it must travel along cracks or dissolution features within the rock. This gives rise to highly variable levels of achievable soak-away (infiltration) drainage.

It also accounts for high-levels of storm water runoff experienced. As for the most part chalk is relatively impermeable, and a heavy down pour will result in much of the received water running across the ground surface.

It should also be noted that chalk bedrock proper is frequently overlain by significant thicknesses of weathered chalk, this can be friable or putty like in consistency, and this consistency will affect infiltration rates.

Geological Maps are presented in **Appendix 3**.

1.4 Hydrology

The River Bourne runs approximately north south through the parish. The Bourne is a seasonal river that may well dry up during the summer months, with flow maintained below the surface.

Porton is unusual in that the flow of the Bourne may be supported by de-chlorinated mains potable water if the need arises. The inlet is situated on the land to the south of St Nicholas's Church of England Primary School.

1.5 Rainfall

Based on a 1971 – 2000 average taken from Hurn Weather Station October, November, December, January are wetter months typically experiencing over 80mm¹ of rainfall. It is important to note that in a particularly wet year, rainfalls can increase in the order of 300% as was the case for Southern England in 2007.

Rainfall intensity is also an important variable, within the Idmiston area intensity is likely to be in the order of 0.018 litres per second per square meter. This is a moderate intensity when compared with other UK values which range from 0.022 to 0.014.

Historic events have proven that rainfall can far exceed these calculated values. The intense thunderstorms that broke out during the afternoon and evening of the 18 July 1955 resulted in rainfalls of over 175 mm in south Dorset. The highest was a remarkable 279.4 mm at Martinstown, near Dorchester and this is the highest daily fall ever recorded in the UK.

2.0 Flood Risk

Flood risk can come from a number of sources, these are described below. An attempt has been made to describe both safety and economic loss impacts.

2.1 Fluvial

Fluvial (river) flooding is confined to areas adjacent to the River Bourne. A borne is a river typically in chalk areas which is heavily dependent on ground water levels for flow. In

¹ <http://www.metoffice.gov.uk/climate/uk/regional-climates/so>



summer months low rain fall, can result in the river level dropping below ground level. Flow is maintained in the fissured chalk below ground.

2.1.1 Risk Description

Flood water from fluvial sources can inundate properties and threaten resident's safety, and can cause damage to the building and building contents. In areas where the flood plain is relatively wide flood waters will typically have low velocity, however in other areas where the effective channel is narrowed, these velocities may increase.

Flood water with higher velocity is more dangerous to local inhabitants, persons, animals or objects as they may be swept away.

2.1.2 Affected Areas

The flood plain had remained largely undeveloped but some encroachment has occurred in Porton, adjacent to the recreation ground. Indeed recent flooding saw the properties fronting on to Winterslow Road flooded. Please see photos in **Appendix 5**.

2.1.3 Prioritisation

2.1.3.1 Safety

Porton - Is thought to be of Primary Concern with regards to residents dwellings in Flood Zone 3.

In more recent flooding events residential properties have been flooded in proximity to the river Bourne, it is important to recognise that no modelled flood depths have been generated for this stretch of the River Bourne.

2.1.3.2 Economic

Porton - Local residents & businesses may be impacted upon by loss or damage of possession, and damage to buildings. Vehicles may also be damaged. This is more likely in areas within flood Zones 2 & 3.

Flooding incidents at present are under reported owing to fear from occupiers that they may lose their insurance cover, and so we can assume recorded incidents to represent only a small percentage of actual figures.

Idmiston – There are properties on the western side of Church Road which are sited adjacent to the River Bourne whose curtilage extends in some cases in to Flood Zone 3. With increasing intensity of rainfall anticipated owing to global warming (20% - 30%) by 2112, risk to these properties will increase over the coming decades.

2.1.3.3 Amenity Loss

Porton - The Recreational Area and Childrens Playground are situated with Flood Zone 3, it is thought that risk level to individuals is acceptable, but there is amenity loss for a significant percentage in a given year owing to water-logging and flooding.



2.1.4 Response

2.1.4.1 Safety

Porton - A low cost management method for the reduction of risk would be to form a neighbourhood group, with an appointed flood warden. All residents within flood zone 3 should have a flood plan, and should subscribe to the Environment Agency Flood Alert Text Messaging System. It is also possible to subscribe to weather warning alerts via email through the Met Office, which may warn of intense rain events, which will result in sudden variations in river levels. Evacuation routes should be established, as should safe refuge (perhaps village hall or similar) with basic supplies provisioned for adequate numbers of displaced residents.

Concerned residents could fund their own flood defence schemes or form a co-operatives for a group scheme, so as to achieve economies of scale. A typical scheme may involve the construction of a bund or wall to prevent ingress, land areas to the interior of this bund should be installed with a sump to remove water should it overtop defences. Crest heights for this bund should be specified in line with 1:1000 year modelled scenario flood levels.

All new planning applications within Flood Zones 2 & 3 should be accompanied by a Flood Warning and Evacuation Plan.

2.1.4.2 Economic

In order to reduce future economic impacts developments should be able to withstand flood events.

Porton & Idmiston - All new planning applications within Flood Risk Zones 2 & 3 (whether partially or wholly) should be accompanied by a site specific flood risk assessment, the Environment Agency should be included as statutory consultees for all such applications.

Site specific flood risk assessments should specify finished floor levels relative to modelled flood heights.

Any extensions or redevelopments to existing sites within flood Zone 2 & 3 should be accompanied by a flood risk assessment.

2.1.4.2 Amenity

A land raising scheme in the recreation ground may prove applicable, and perhaps profitable. Use of suitable sub-soil wastes imported under a relevant environmental permit could raise ground levels above typical flood levels, extending usage through winter months. It is likely that this work would fund itself owing to revenues generated from soil imports. This would however detract from the flood storage volume of the flood plain, and so this would have to be carefully considered. Consultations with the Environment Agency recommended.

2.1.5 Allocated Sites

None of the allocated sites fall within Flood Zones 2 & 3. We can therefore expect low risk of fluvial flooding at these sites. The main concern associated with these development sites is with surface water run-off which should be analysed in depth at the planning stage.



2.2 Surface Water

Surface Water flooding has been identified in both Porton and Idmiston. In both cases the main source of flood water is from the valleys that run east west situated to the East of the settlements.

In both of the afore mention catchments rain water run-off from farm land is funnelled down the valleys in to the settlements, the water is typically heavily loaded with sediments, and causes rapid siltation of soak away drainage situated along the roadside to the east of Porton and Idmiston.

A plan showing areas prone to surface water flooding can be observed in **Appendix 2**.

2.2.1 Risk Description

Surface Water run-off typically has a high velocity, as such is can carry large volumes of sediment. High velocity water is particularly dangerous to pedestrians, and fast flowing water that is perceived to be relatively shallow can still present high levels of risk to personal safety.

2.2.2 Affected Areas

Porton – Water flows westward down Winterslow Road. Water is noted as emanating from gateways from fields, and flow along the southern road edge, as it is slightly lower than the northern road edge.

There are approximately 15no. soak-away type drains dug in to the verge, however it was observed that these require maintenance and were not working effectively. At the conference between Winterslow Road and the western settlement boundary, there were observed to be 2 no. road gulleys. The gulleys on the southern side of Winterslow Road were brim full with soil and stones.

There are surface water ponding issues in the centre of the village. Particularly adjacent to the village store and medical centre, where a large pond forms during periods of heavy rain.

It was observed that Byford Gardens (Porton) has a dedicated surface water sewer system, which feeds in to the River Bourne. This surface water sewer remains un-adopted and outlets were observed to be heavily silted.

Idmiston – Idmiston has similar problems to Porton, in that surface water is produced in the catchment to the west of the settlement, this then flows westward down the hill towards the railway arch, and on to Church Road.

At the eastern end of Church Road is situated the defence science and technology laboratories (Dstl). It is unclear as to the surface water arrangements for the site, even a partial discharge of surface water in the Idmiston catchment would represent a significant addition to water input. The Dstl site is largely covered with buildings and impermeable surfaces such as concrete and tarmac therefore run off percentages are likely to be very high.



2.2.3 Prioritisation

2.2.3.1 Safety

Porton - Of primary concern should be safety of residents. The catchment is relatively small which would reduce risks of dangerous surface water flooding, but heavy rain could none the less create conditions where there would be risk to road users and adjacent residents, particularly if on foot.

Surface water ponding occurs in the village centre and this poses a risk to residents safety, a flooded road and walk ways hides trip hazards or potential dislodged drain covers, and increases risk to pedestrians who may rely on these routes for access to local facilities, especially the medical centre.

Idmiston - Of primary concern should be safety of residents. The catchment is relatively small which would reduce risks of dangerous flood, but heavy rain could none the less create conditions where there would be a risk to road users and adjacent residents, particularly if on foot.

2.2.3.2 Economic

Porton – Highway Surface Water Drains were noted to be in a poor state of maintenance at the time of site visit, particularly on Winterslow Road to the East of the Railway Line. Again drains were heavily silted in Porton Village Centre.

Idmiston - It is likely that over the years that residents have adapted to the run-of which flows down Church Road, attempts have been made to block ingress of surface water via alterations to properties. To this end flood boards, small bunds and sand bags were observed to be in use.

It was noted that residents on the southern side of Church Road, have built small bunds in their drive entrances to prevent inflow of surface waters from the road. For the most part the bunds are ramped tarmac or concrete structures approximately 10 – 15 cm above the road level.

2.2.4 Response

2.2.4.1 Safety

Porton – Highways Surface Water Drains were noted to be in a poor state of maintenance at the time of site visit, particularly on Winterslow Road to the East of the Railway Line. Again drains were heavily silted were observed to be heavily silted in the village centre. Regular clearing of these drains is essential in order to keep risks from surface water flooding low.

Since the initial site visit the outfall, believed to carry water from Porton centre to the River Bourne has been cleared by Wiltshire Highways.

Wiltshire Highways have now engaged a contractor to carry out a detailed survey of the surface water drains. Whilst these results are still not available, early indications are that part of the system has partially collapsed and is in need of replacing.



Admission – Wiltshire Highways have engaged a contractor to carry out a detailed survey of the surface water drains, at the time of writing results have not been made available.

2.2.5 Allocated Sites

The Nation Planning Policy Technical Guide, expects run-off levels from new development to be limited to 2 litres per second, or to match predevelopment levels. More recent developments have relied on soak-away drainage for surface water using system such as "Aquacell". It is thought that a more intuitive approach may be considered involving the use of brown roofs, and permeable landscaping / trafficable surfaces.

All surface water calculation should be passed off by planning authorities before planning permission is granted. Attenuation requirements should be specified in line with CIRIA C697 (The SUDs Manual).

All sites with the exception of G1 & PC1 have the potential to create run-off which may affect sites down gradient. Sites G1 & PC1 may suffer from water ponding, depending on proposed topography.

All sites are thought to be sited on chalk, and soak away drainage is not thought practicable. All new developments should be specified with green roofs, rain water harvesting and permeable surfacing, with a run-off co-efficient no greater than 0.35.

Additional site out flow should be dealt with by discharge in to an attenuation tank and subsequently to a dedicated surface water sewer. These could tie in to existing highway drainage.

2.3 Ground Water

The level of ground water fluctuates according the amounts of rain that falls in a given area. Ground water typically forms a subdued reflection of the ground surface, and as such in hilly area has a slope and will flow, if geology will support flow.

High ground water levels can causes a myriad of problems and exacerbate all forms of flooding. "Saturated" ground can increase surface water flooding, it can supplement river inputs, and it can cause flooding in its own right, for example flooding of a cellar.

2.3.1 Risk Description

Changes in ground water levels will exacerbate other flooding issues. Without a monitoring program it is be difficult to qualify risk. Ground water flooding is likely to occur after prolonged period of wet weather, and is typically occurs over greater time spans than other types of flooding. Signs of ground flooding may become apparent days after heavy rain fall events, as impacts will be buffered by low flow rates experienced within un-fissured chalk.

The distinction between surface water flooding and groundwater flooding is rarely clear. Increased infiltration and a rise in the water table may result in more water flowing into rivers which may then be more likely to break their banks. A rise in the water table during periods of higher than normal rainfall may mean that land drainage networks, such as storm sewers, don't work properly if groundwater is flowing into them underground. This may affect their ability to get rid of surface water which then causes flooding.



2.3.2 Affected Areas

Ground water flooding will likely effect lower lying areas, although water under pressure may emerge at any location where a fissure intersects with the ground surface.

2.3.3 Response

Groundwater flooding is often more difficult to prevent than surface water flooding; it is not as simple as building flood defences to prevent river water spilling over its banks. There are some areas where groundwater flooding has been dealt with by installing pumps to remove groundwater and so lower the water table but these only have a localised effect, and there is still the problem of having somewhere to discharge the water.

2.3.3.1 Safety

Inundation of basements etc. is likely to be low risk, provided they do not contain sleeping accommodation.

2.3.3.2 Economic

If it is financially viable to do so, or perhaps at request of insurance companies, steps may need to be taken to protect properties, particularly basements & cellars from ground water flooding.

For a basement which is frequently flooded that is used for storage or as a living area, it may be possible to 'tank' the basement. This involves sealing the basement with a water-proof membrane. The Environment Agency in England and Wales has issued a pamphlet² which explains these and other measures that can be taken. Given that the areas prone to groundwater flooding are normally also prone to surface water flooding, the above measures discussed for surface water flooding are also relevant.

2.3.4 Allocated Sites

Allocated sites assumed to be low risk from ground water flooding.

3.0 Sewers

3.1 Foul Sewer

The foul sewer system originates north of Idmiston Parish Council, northward up the Bourne Valley in the vicinity of Newton Toney. Owing to a slight upward gradient; it is pumped so as to connect with the Idmiston System, and then again on to Porton. From Porton the sewer relies on gravity flow, until it reaches Hurdcott Pumping Station.

Sewer plans for the parish were provided by Wessex Water via Idmiston Parish Council. They show that main sewers run down gradient from north east to south west. Sewers flow to Hurdcott Pumping Station. Various spurs run in to this main sewer from residential areas. On plans (Appendix 1) viewed all mapped sewers were foul sewers, with no surface water sewers marked within the parish boundary.

² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/297421/flho0911bugi-e-e.pdf



It is thought that the main sewer has not been upgraded since its installation likely sometime before 1960. The diameter of the main sewer is marked as 300mm on provided plans. Judged on a qualitative basis this would seem small, however the maximum supported flow of a pipe is determined by other factors such as gradient and roughness, and so a determination of maximum flow cannot be made without further information.

Based solely on the diameter of the sewer and the number of properties that discharge in to it, SWEL would be strongly advised not to discharge surface water in to the foul sewer.

Informal discussions with Wessex Water have revealed the following:

- Pumping Stations that serve Idmiston and Newton Toney were originally designed to operate for 3 to 4 hours per day. They currently run 24 hours a day.
- Vacuum Tankers are regularly seen adjacent to the bridge in Porton, whether this is for maintenance purposes or to deal with surplus out-flow is unclear.
- There has been subsidence in several areas of the parish which has led to reductions in system efficiency, this saw the main sewer subside at the point at which it crosses the river Bourne adjacent to Parkland Way. This section no longer flows under gravity and requires pumping, as the subsidence has had a negative impact on its gradient.

As described in 3.2 there is a distinct lack of surface water sewers within the Parish. This will no doubt exacerbate potential capacity problems within the existing foul water sewer system. For example; the estate at Parklands Way was built in the 1970's and consisted of simple bungalows. According to best practice in the 1970's, each dwelling was provided with a soak away to accommodate surface run off. Over the years, these dwellings have been extended which will have resulted in a proportional increase of impermeable surfaces. A question remains as the nature of arrangements made to deal with this extra run off, and there is potential for it to have been fed in to foul sewer systems by way of convenience.

3.2 Surface Water Sewers

Surface water sewers were identified within Porton (Byford Gardens), but have not been adopted by Wessex Water. These discharge directly in to the River Bourne.

Surface water from highways is either dealt with by soak-away drainage systems, or unmapped sewer systems. Conditions of these sewers are varied as was illustrated by the dilapidated state of the Byford Gardens outlet at the time of initial survey.

Any aged sewers are likely to be constructed with brittle pipe work, either slat glaze or concrete which is susceptible to the action of tree roots. It is likely that most of the drains are in excess of 40 years of age, and thusly will have been degraded by tree root actions, subsidence or siltation. Tree roots often grow within sewer pipes which can reduce levels of supported flow, and accelerate siltation post clearing.

Under Section 47 (Highway created by dedication may become maintainable at public expense) or Section 38 (Power of highway authorities to adopt by agreement) of the Highways Act 1980, a highway authority may adopt or agree to adopt in the future the drainage associated with a highway. Under Section 115 (Use of highway drains as sewers and vice versa) of the Water Industry Act 1991, the highway authority may agree that a



highway drain may be used to drain rainwater from buildings. This power is however discretionary.

Wiltshire Highways have now engaged a contractor (Atkins) to carry out a detailed survey of the surface water drains.

Wiltshire Highways have made noticeable efforts (January 2015) in the improvement of the Byford Gardens Surface Water Outfall (**Appendix 5**). Wiltshire Highways have verbally advised that repairs to a collapsed surface water drains adjacent the Village Shop (High Street) will have to be undertaken at some point in the near future.

Despite this absence of formal data Parish Council representative have worked hard to produce a plan of surface water drains with the Porton area. The plans are based on sketch maps provided by highway maintenance teams and have been used to produce the plan now included in **Appendix 1**. Further secondary has been used to establish that the surface water drainage pipe (circled red photograph 5, Appendix 5) running across the High Street in Porton has collapsed. The majority of surface water drainage pipes are around 200mm.

Regular vacuum tanker visits have noted in the vicinity of the Porton High Street during March and April.

4.0 Conclusions

4.1 Existing Flood Risk

Existing Flood Risk to personal safety and property can be managed. To aid in future planning decisions however, it would be very useful to have modelled flood data (J-Flow or similar) to aid in the design of development within Flood Zone 2 and 3. With such data it would be possible to derive flood levels, which could then be used to determine finished floor levels, or likely flood depths in proposed developments, thus reducing risks to occupants.

4.2 Allocated Sites

All of the chosen allocated sites are sited within Flood Zone 1 (Least Risk).

It is very important that surface water management at these sites is carefully considered. There is good guidance available on a National and Local Level, and this should be followed to the letter. Failure to do so would create great risks from surface water flooding for down gradient properties. Please see 2.2.5.

4.3 Foul & Surface Sewer Systems

The Foul Sewer Systems are well mapped in terms of location, but they are unlabelled in terms of type (i.e. foul or combined). Owing to the lack of reported sewer flooding incidents they are likely adequately sized, although maximum supported flows should be established ahead of any developments totalling more than 5 houses. Wessex Water would be responsible for the establishing adequacy of the system. All proposed development should submit pre-development capacity enquires ahead of grant of planning.

At present there is virtually nothing known of the type, extent and condition of surface water sewers. It was hoped that a revised report including findings from Wiltshire Highways survey



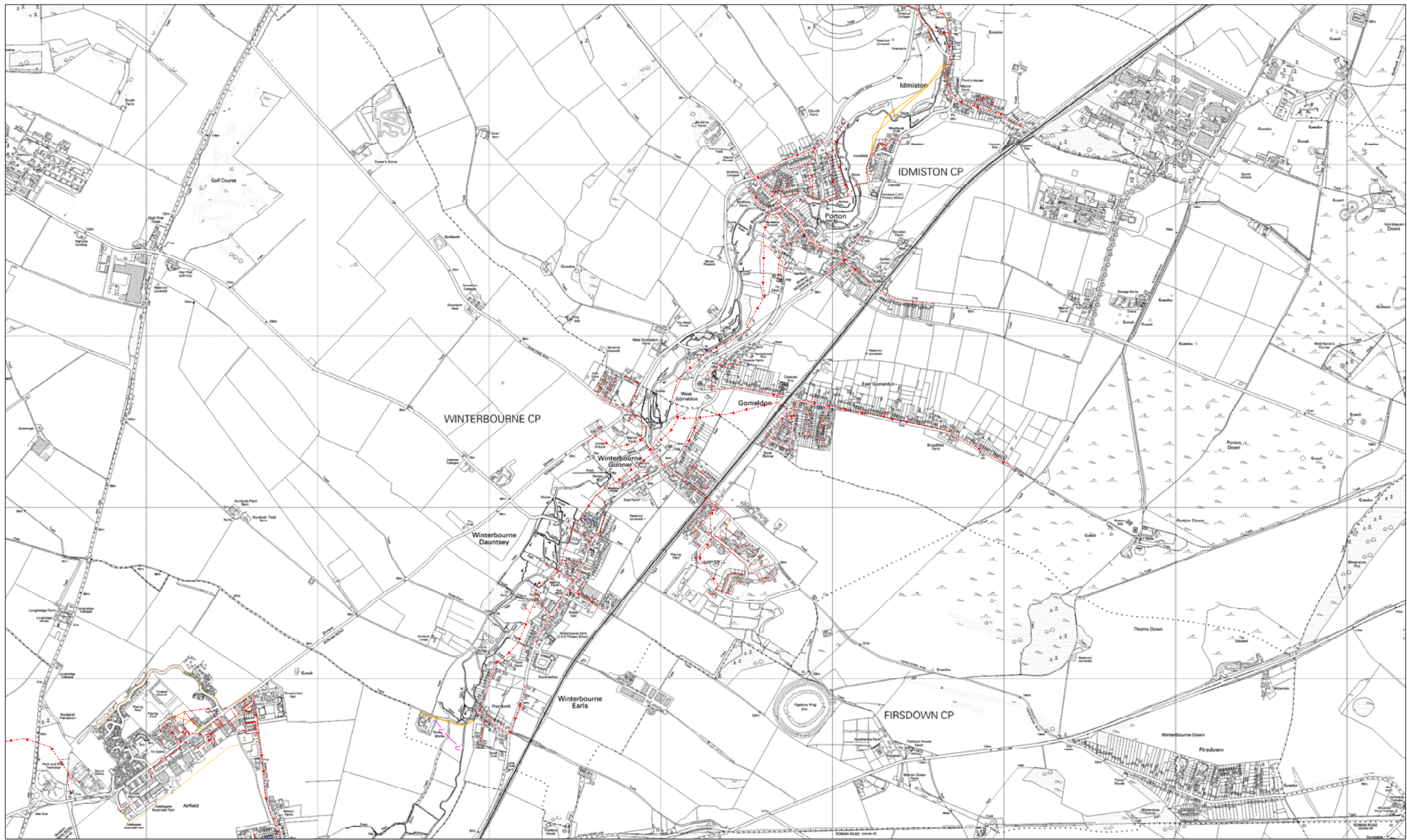
will shed more light on this area, but despite a survey being carried out by Atkins, the results have not been made available.

Secondary information gleaned from discussions held between Parish Council representatives and those responsible for highway maintenance paint a picture of an aging system which is likely undersized, and in need of repair in one confirmed location. Any further loading of the system will need to be carefully considered on a quantitative basis. In the absence of any formal data or maps it raises the question of how stakeholders are to make an informed decision with regards to the provisioning of drainage for new development.



APPENDIX 1

Plans



Location: Bourne Valley Sewer Network Overview

Drawing Number: 1 of 1

Scale: 1:10000

Date Printed: 20/08/2014



WASTE NETWORK LEGEND

Colours generally indicate the use of the sewer/line
 e.g. Red Foul
 Dark Blue Surface
 Magenta Combined/Dual Use
 Light Green Highway Green
 Mid Green Overflow
 Styles of line are shown on the key in sample/typical colours

BOUNDARIES
 Section 104 Site

- STRUCTURES**
- Manhole - Foul
 - Manhole - Surface
 - Manhole - Combined
 - Outlet
 - Inlet
 - Lampglass
 - Bifurcation - Foul
 - Bifurcation - Surface
 - Bifurcation - Combined
 - Combined Sewage Overflow
 - Pumping Station - Surface
 - Pumping Station - Foul/Combined
 - Gully
 - Vent Column
 - Rolling Eye
 - Catchpot
 - Flushing Chamber
 - Scavenger
 - Non Return Valve
 - Air Valve
 - Washout
 - Hatch Box
 - Other

- PUBLIC SEWERS**
- Foul Sewer
 - Surface Water Sewer
 - Combined Sewer
 - Rising Main
 - Siphon
 - Overflow
 - Use Unknown
- OTHER STRUCTURES**
- Attenuation Tank
 - Storage Tank
 - Chamber
 - Tunnel
 - Interceptor

- NON-PUBLIC SEWERS & PIPELINES**
- Private Sewer/Drain
 - Highway Drain
 - Covered Watercourse
 - Abandoned Sewer
 - Status Unknown
 - Section 104 - Foul
 - Section 104 - Surface
 - Section 104 - Combined
 - Private Rising Main
 - Effluent Disposal Main

Information in this plan is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies.

Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown.

In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located.

If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. Building over or near Wessex Water's apparatus is not normally permitted.

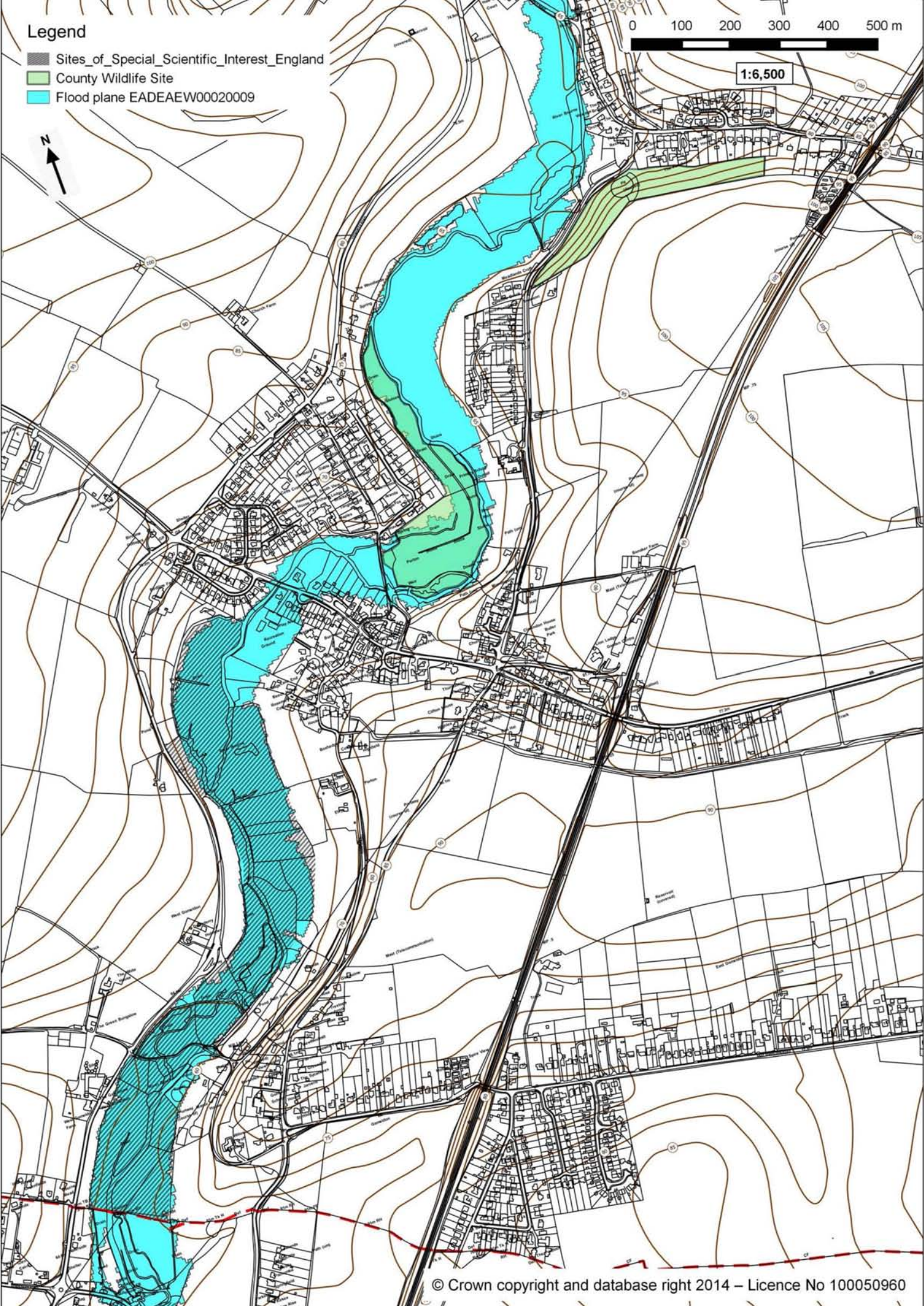
Reproduced from the Ordnance Survey Map with the permission of the Controller of Her Majesty's Stationery Office. Crown copyright reserved. Licence No. 100019039.

Legend

- Sites_of_Special_Scientific_Interest_England
- County Wildlife Site
- Flood plane EADEAEW00020009

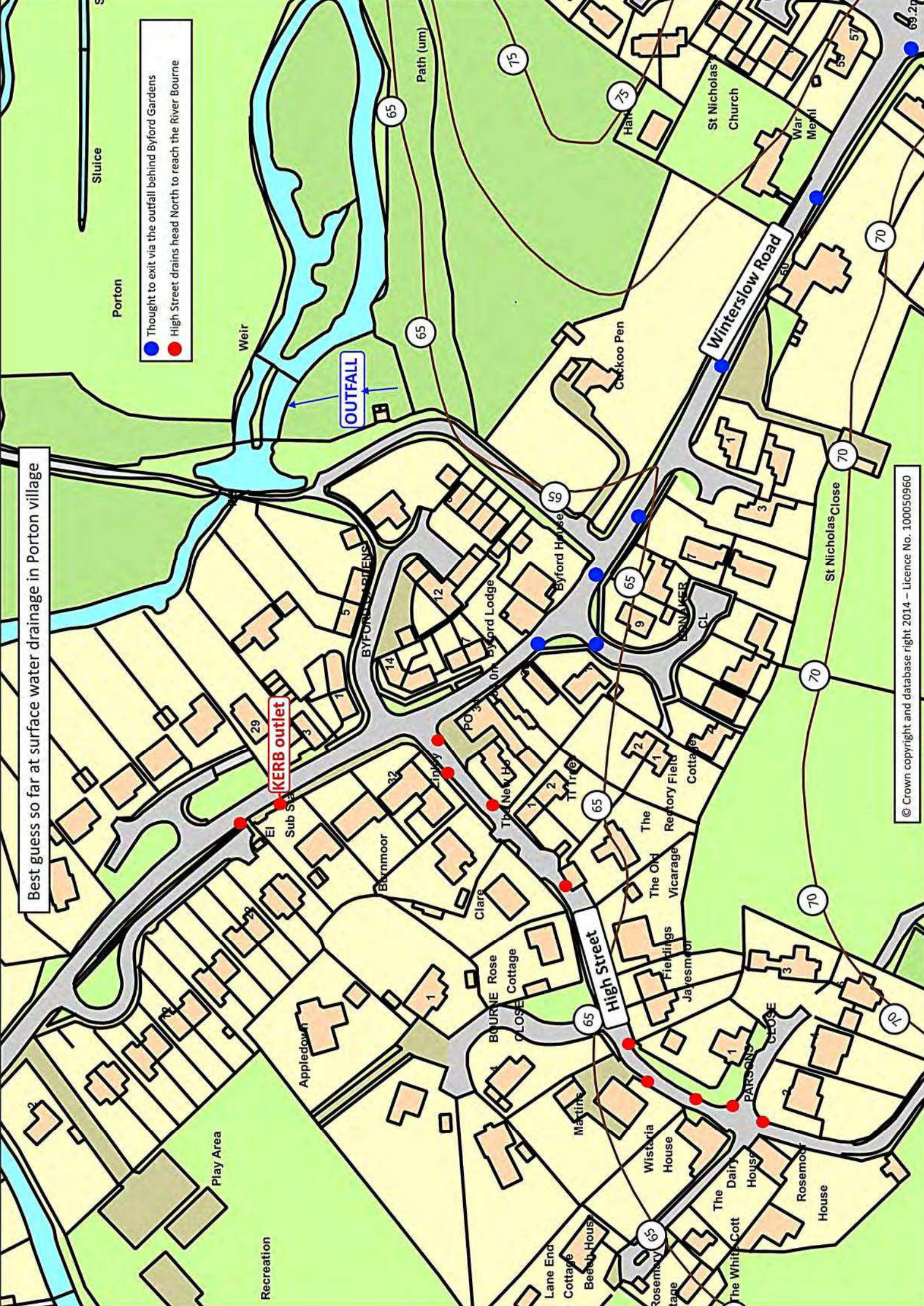
0 100 200 300 400 500 m

1:6,500



Best guess so far at surface water drainage in Porton village

- Thought to exit via the outfall behind Byford Gardens
- High Street drains head North to reach the River Bourne





APPENDIX 2

Allocated Sites

The 14 sites selected as being the "least worst" by attendees at the public meeting on 06th September 2014

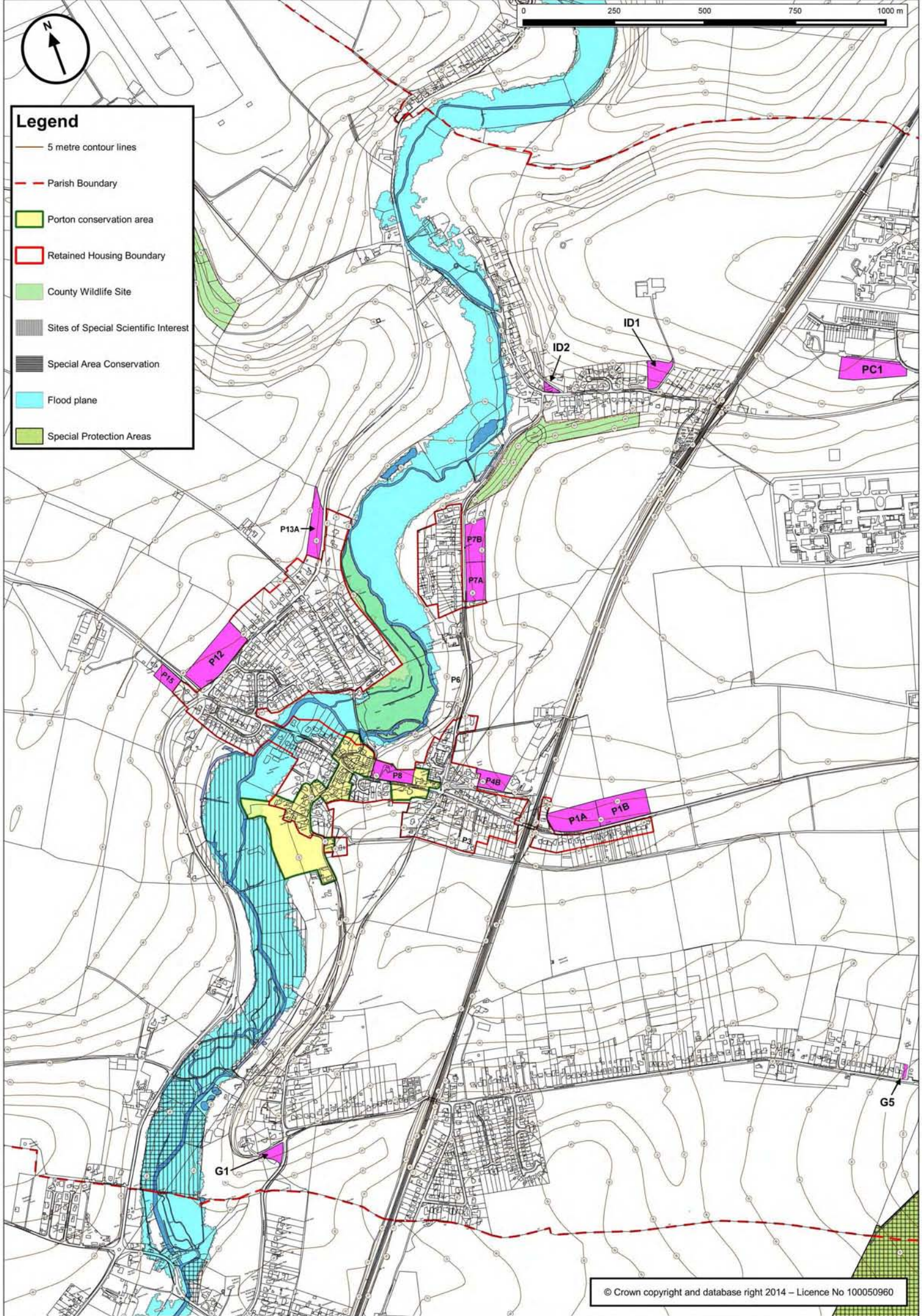
Site No.	Site Ref	Site Name	Site Size	Capacity	Availability	Yes	No
1	P1A	Land on north side of Winterslow Rd, east of rail bridge, Porton.	0.88 ha	10 dwellings	0-5 years	X	
2	P1B	As above.	1.02 ha	10 dwellings	0-5 years	X	
3	P4B	Land off Buller Park, Idmiston Road, Porton.	0.39 ha	5 dwellings	0-5 years	X	
4	P7A	Land opposite Horefield Estate, Idmiston Road, Porton.	0.57 ha	10 dwellings	0-5 years	X	
5	P7B	As above.	0.62 ha	10 dwellings	0-5 years	X	
6	P8	Garden & grounds of Cuckoo Pen, Winterslow Road, Porton.	0.47 ha	4 dwellings	5-10 years	X	
7	P15	Land off Porton Road, Porton	0.27 ha	4 dwellings	0-5 years	X	
8	ID1	Land off Church Road, Idmiston.	0.40 ha	2 dwellings	0-5 years	X	
9	G5	Land at St Judes, East Gomeldon Rd, East Gomeldon	0.03 ha	1 dwelling	0-5 years	X	
10	P12	Land between Porton Road & Beech End, Tidworth Road, Porton.	1.35 ha	10 dwellings	0-5 years- possibly	X	
11	P13A	Church Farm, Tidworth Road, Porton.	0.55 ha	5 dwellings	0-5 years possibly	X	
12	ID2	Land opp All Saints Church, Church Road, Idmiston.	0.18 ha	1 dwelling	Unlikely- policy issues	X	
13	PC1	Southway, Porton Camp.	0.94 ha	15 dwellings	Unlikely- ownership	X	
14	G1	Land off Gomeldon Road, West Gomeldon.	0.19 ha	1 dwelling	Unlikely- policy issues	X	



0 250 500 750 1000 m

Legend

- 5 metre contour lines
- Parish Boundary
- Porton conservation area
- Retained Housing Boundary
- County Wildlife Site
- Sites of Special Scientific Interest
- Special Area Conservation
- Flood plane
- Special Protection Areas





APPENDIX 2

Geology

Surface Geology



Superficial deposits

- ALLUVIUM - CLAY, SAND AND GRAVEL
- HEAD - GRAVEL
- HEAD - CLAY, SILT, SAND AND GRAVEL
- HEAD, 1 - GRAVEL
- HEAD, 1 - CLAY, SILT, SAND AND GRAVEL
- RIVER TERRACE DEPOSITS, 4 - SAND AND GRAVEL

Project No: S14-169

Southwest Environmental Limited

Bedrock Geology



Bedrock geology

- [CULVER CHALK FORMATION - CHALK](#)
- [NEWHAVEN CHALK FORMATION - CHALK](#)
- [STOCKBRIDGE ROCK MEMBER - LIMESTONE](#)
- [SEAFORD CHALK FORMATION - CHALK](#)

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APPENDIX 4

Surface Water Plans

Risk of Surface Water Flooding

Porton

- High
- Medium
- Low
- Very Low



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Risk of Surface Water Flooding

Idmiston

- High
- Medium
- Low
- Very Low



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Risk of Surface Water Flooding

Gomeldon

- High
- Medium
- Low
- Very Low



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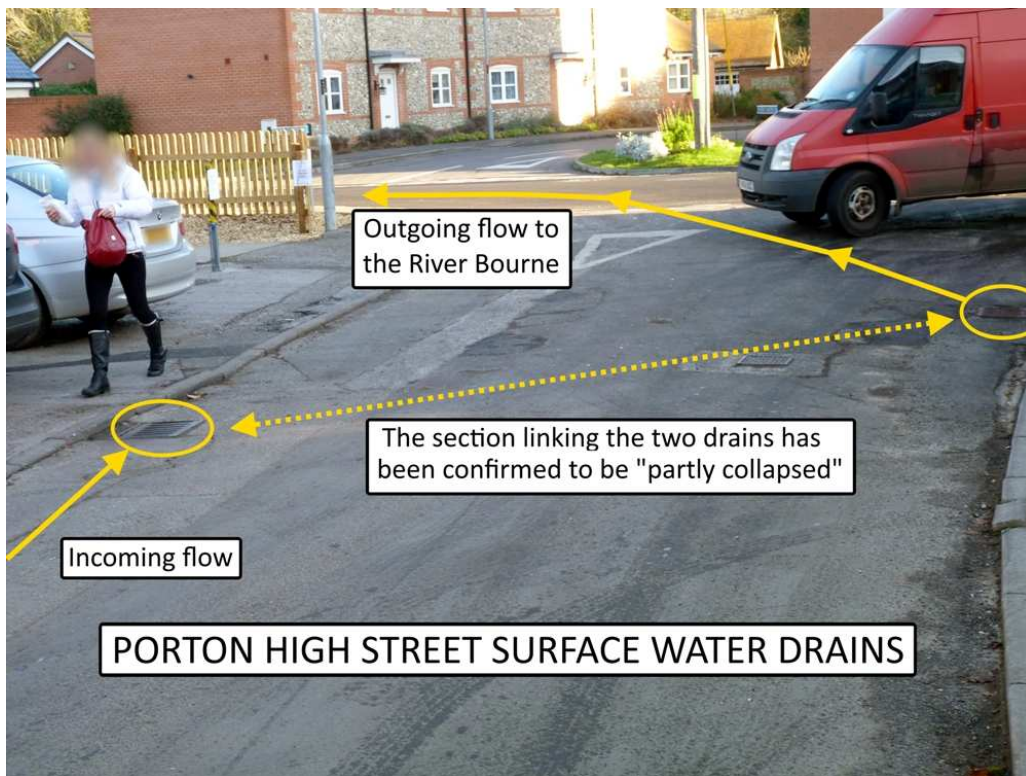


APPENDIX 5

Photographs



1 -Flooding of the Recreation Ground



2—High Street looking towards Byford Gardens

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3—River Bourne adj. Church Lane



4—Water Levels rear Byford Gardens

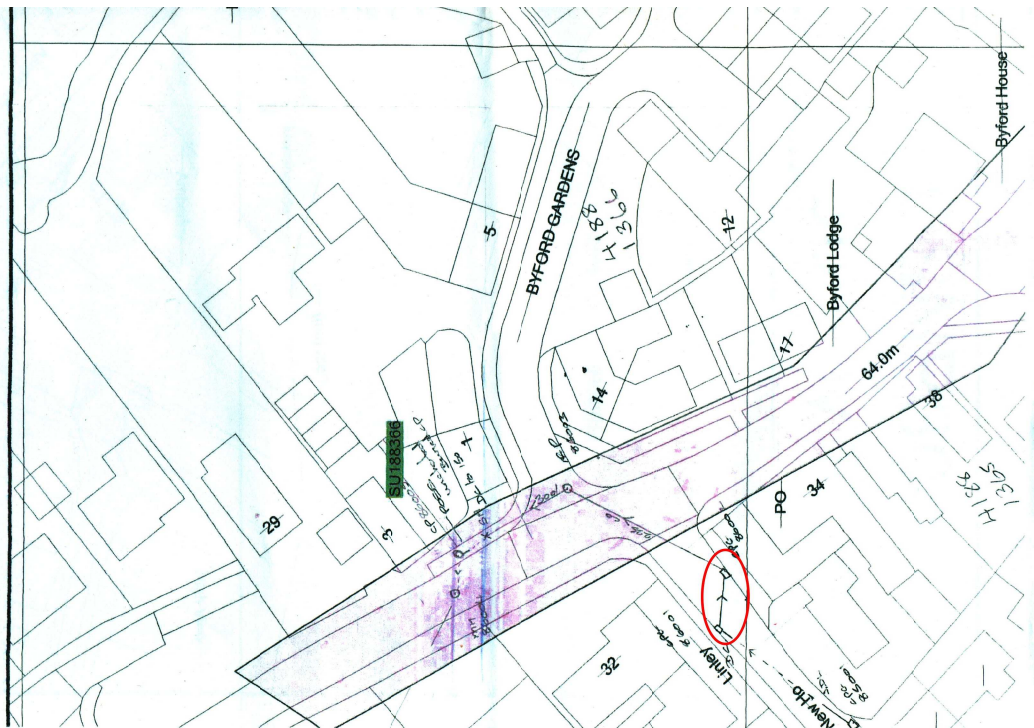
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5— Frequent cleaning of drains and gullies may suggest siltation problems with drains in Porton High Street.



6— Sketch used in the production of surface water plan now included within Appendix 1.

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