



BRIZE NORTON NEIGHBOURHOOD PLAN

APPENDIX 06 DOCUMENT G

Version 5 - November 2022

CHARACTER ASSESSMENT

*"our village
our community
our future"*

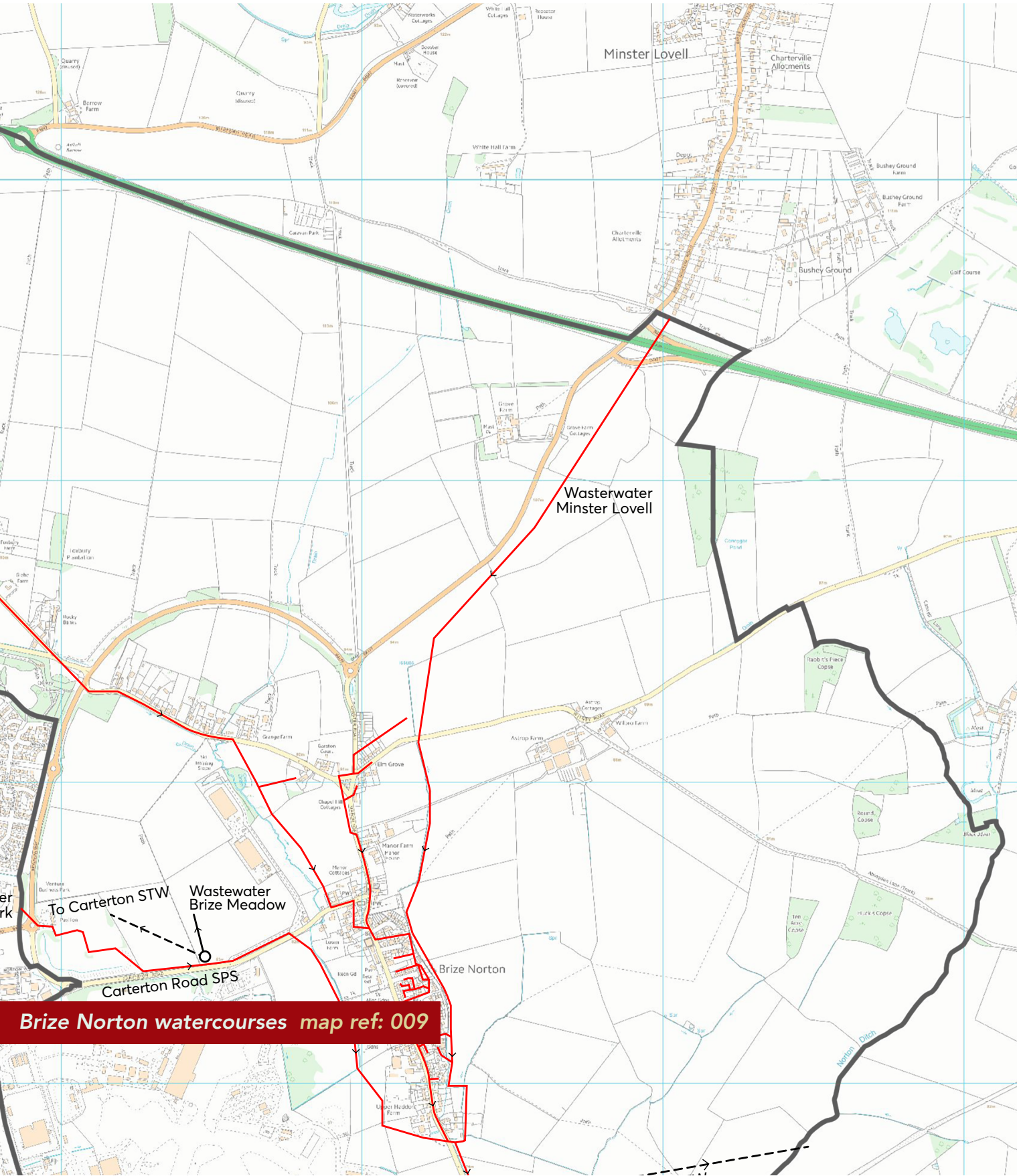
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DOCUMENT G Section 1 Surface Water

WATERCOURSE OVERVIEW



The village is bordered by gently falling countryside from the north west, north and north east towards the centre and south of the village. To the west of the village is the urban area of Carterton and RAF Brize Norton. Surface water enters the village from three sub-catchment areas as indicated on map ref 009.

Sub-catchment 1
This sub-catchment surface water emanates from West Oxfordshire Business Park, Northwood Crescent drainage ditch and Shilton Park, all of which are in east Carterton. The surface water enters the Parish on its western boundary. (WC1 and WC2)

Sub-catchment 2
This sub-catchment surface water emanates from the area to the north west and north of the Parish (WC3 and WC4)

Sub-catchment 3
This sub-catchment surface water emanates from the area to the north east of the Parish. (WC8)

The surface water from sub-catchment areas 1 and 2, plus a significant area of RAF Brize Norton, form a 'funnel shape' flow pattern which progressively combine in a southerly direction through the village, eventually forming a single exit point at the southern edge of the Parish at Marsh Haddon. From this location, the water course flows towards the town of Bampton.

Given the narrow confines of the southern edge of the village, flash flooding of roads and fields can occur during periods of prolonged or heavy rainfall.

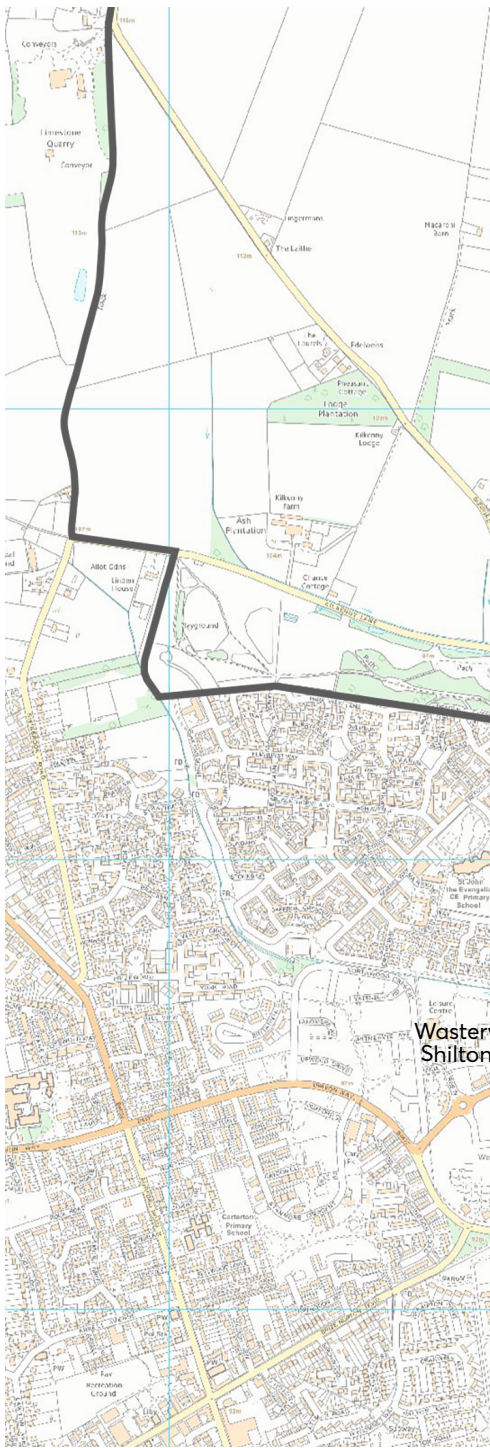
WATERCOURSE ROUTES
The surface water drainage comprises of roadside and field ditches and roadside drains. In some locations, the water course flows through underground pipes (culverts).

There are ten main watercourses flowing into, and through, the village and one exiting the village. These are indicated on the above Map as WC1 to WC11 inclusive.

1) WC1
This watercourse runs from West Oxfordshire Business Park area before entering an attenuation pond (known as Sustainable Drainage Systems - SuDS) which is situated on the west side of Norton Way in the Carterton boundary.

The water course then passes into a culvert under Carterton Road and exits into an open roadside ditch on the south side of Carterton Road in the Parish of Brize Norton. The watercourse continues along the south side of Carterton Road before turning south east, cutting through the north east corner of the RAF base. It exits the base and runs in a southerly direction on the west side of the field adjacent to the base, to a junction point in the south west corner of the field where it joins WC6.

2) WC2
Watercourses flow from North Carterton, tracking Northwood Crescent, and the Shilton Park development, both of which are



in Carterton. They pass through culverts under Monahan Way and Norton Way and enter the north west corner of a large SuDS on the east side of Norton Way in the Parish of Brize Norton to form WC2. WC2 flows around the west and south edge of the SuDS and enters a culvert in the south east corner. It then runs underground along the north side of Carterton Road before turning south, down the east side of the field adjacent to the RAF base. It continues southwards until it exits the culvert in the south east corner of the field where it joins WC5

N.B. 1) There is a 'relief water flow culvert' under Carterton Road which links WC1 and WC2, the water flow being controlled by a penstock valve on the south side of the road.

N.B. 2) There is a surcharge point on the east side of the field which allows excess water from WC2 culvert to enter WC5 open ditch.

3) WC3

This watercourse runs from the south side of Burford Road (west of Monahan Way), down to the north side of Kilkenny Lane and then in a south easterly direction to Monahan Way. From here, it enters a culvert under Monahan Way and then flows along the south side of Burford Road (east of Monahan Way) to a point opposite The Masons Arms public house. At this location, WC3 divides and flows into the village pond where it joins WC4. WC3 also flows to the south side of the village pond where it joins WC5.

N.B. 1) There are a series of attenuation ponds on the north side of the Country Park (south of Kilkenny Lane) which form a water holding area to allow for a slowed natural dissipation of water into the soil.

N.B. 2) This watercourse can also receive pumped water from the Burford Road quarry settlement tanks.

4) WC4

This watercourse initially collects surface water from a section of the southern side of the A40 (the northern edge of the Parish boundary) and then flows in a southerly direction passing through culverts under Ting Tang Lane, Monahan Way and Burford Road and then into the village pond opposite The Masons Arms in Burford Road. At the exit of the pond, WC4 joins WC3 to form WC5.

5) WC5

WC5 continues in a southerly direction on the east side of the RAF Tactical Medical Wing and then into a culvert on the north side of Carterton Road. It exits the culvert on the south side of Carterton Road and flows along a road ditch in a westerly direction for a short distance before turning south where it continues to run down an open ditch parallel to the culvert WC2, on the east side of the fields to the south east corner. At this location, it joins WC2.

6) WC6

The junction point of WC2 and WC5 forms WC6 which runs in an open field ditch along the south side of the field mentioned above to the south west corner where it joins WC1.

7) WC7

The junction point of WC1 and WC6 forms WC7 which immediately enters twin 900mm culverts flowing in a south westerly direction under the RAF base directly adjacent to the aviation fuel tanks. It exits the east side of the RAF base further south where it enters an open field ditch.

N.B. It is at this location where pollution of the water course has been identified as aviation fuel. The Defence Infrastructure Organisation (DIO) and the Environment Agency (EA) are aware of this and have taken some precautions to restrict the pollution from traveling further along the water course. [1] WC7 continues for a short distance in a southerly direction and re-enters the RAF base in an open ditch before flowing into a twin culvert which passes directly under the east end of the runway. WC7 exits the culvert on the south side of the runway and continues into a 'lagoon' which is classified as an 'oil and heavy metal trap'.

From here, WC7 flows in a south easterly direction through both an open ditch and a culvert (which comes into use at times of peak flows) and they join with WC8 in an open ditch on the west side of Station Road adjacent to the driveway to Marsh Haddon Farm.

N.B. 1) There are vast concrete areas which form the Aircraft Servicing Platforms (ASP) plus the new aircraft hanger which serves the A400M aircraft. The surface water from these areas flow into an underground attenuation system and onto WC7.

The MOD have confirmed that the discharge from these additional impermeable areas within the base into WC7, would not exceed the pre-development run off-rates and attenuation systems include a flow control and an inlet shut-off valve. [2]

N.B. 2) Some surface water from Viscount Court Industrial estate flows into the open ditch where it leaves the lagoon.

N.B. 3) Viscount Court wastewater is not connected into the general sewerage system. It has its own filtration plant and treated water is discharged into the open ditch WC 7

8) WC8

This watercourse runs from the south side of the A40 in the vicinity of the B4477 (Brize Norton Road). It runs in a south westerly direction parallel with the B4477 but turns south before the roundabout on this road. It continues south passing through culverts under Witney Road and the access road to Astrop Farm. It carries on southwards down the east side of the village through an open ditch in the adjacent fields, eventually exiting adjacent to the east side of Station Road by Thatcher's Place.

It continues southwards for a very short distance before turning east (point A) and going back into the adjacent fields, then turning south west behind the Wastewater pumping station (point B), through a culvert under the old railway line and then through a culvert to the west side of Station Road where it enters an open ditch. This ditch continues southwards where, after a short distance, it joins with WC7.

N.B. At point A, there is an overflow watercourse which continues southwards adjacent to Station Road. At the south side of the Wastewater pumping station it turns eastwards into the fields to join WC8 at point B.

9) WC9

The junction point of WC7 and WC8 forms WC9 which continues down the west side of Station Road southwards for a short distance where it joins with WC10.

10) WC10

This watercourse flows from the area adjacent to Caswell House which is in the Parish of Curbridge. It enters the Parish on its eastern boundary and thereafter, flowing in a south westerly direction, forms the eastern boundary of the Parish. This watercourse is known as Norton Ditch. It eventually flows through a culvert to the west side of Station Road and joins WC9.

11) WC11

The junction point of WC9 and WC10 forms WC11 which continues in a south westerly direction but still forming the Parish Boundary.

After a short distance, the Parish Boundary turns westwards but WC11 continues southwards into the Parish of Bampton, eventually joining Shill Brook River which flows from the west side of Carterton, and then onto Bampton.

N.B. The watercourse, from where it exits the culvert on the south side of the access road to Astrop Farm, to where it joins Shill Brook in Bampton, is known as Highmoor Brook. (WC8, WC9 and WC11)

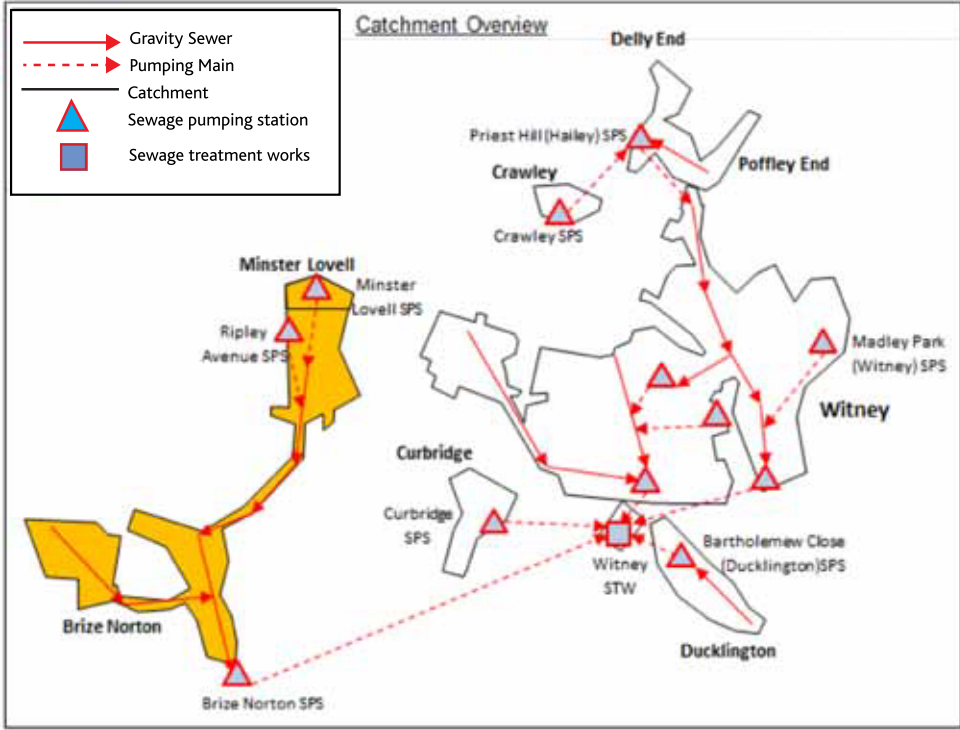
WASTEWATER SEWERS INTO THE PARISH

The management of Wastewater and sewers are the responsibility of Thames Water Utilities Ltd. (TW)

Wastewater enters the village in two locations thus: -

- 1) The first Wastewater flow emanates from the Industrial Estate known as West Oxfordshire Business Park which is located on the west side of Norton Road and the housing development known as Shilton Park, both of which are in Carterton. This Wastewater flow enters the Parish Boundary under the playing fields which are located on the corner of Norton Way and Carterton Road. This flow is gravity fed.
- 2) The second Wastewater flow emanates from the village of Minster Lovell and enters the Parish Boundary on the east side of the B4477, Brize Norton Road. There are two sewerage pumping stations (SPS) in Minster Lovell which pump the Wastewater southwards towards the A40 and thereafter, the flow is gravity fed into the Parish.

Witney sewerage catchment, indicating principal assets



The Brize Norton sub-catchment is highlighted orange. The red lines indicate the extent of the foul water catchment and the blue triangles show the location of the pumping stations within the catchment.

The Wastewater from source 1) flows along the north side of Carterton Road, crosses the road to the south side and runs down the east side of the field adjacent to the RAF base, adjacent to the surface water culvert (WC2) to a point in the south east corner. From here, it passes through the fields which border the west side of the village, eventually ending up at a junction point at the village boundary in Station Road.

The Wastewater from source 2) flows down the east side of Brize Norton Road for a short distance before turning south and down the fields on the east side of the village. Unbelievably, behind Honeyham Close, the sewer turns 90 degrees eastwards for a short distance before tuning 90 degrees southwards behind the first 9 houses on the east of Station Road. It then turns 90 degrees westwards for a short distance ending up at a junction point just south of the junction point detailed above.

WASTEWATER SEWERS SERVING THE VILLAGE

There is a sewer system which serves the village of Brize Norton as indicated in map ref 010. The system predominately runs down Manor Road and Station Road with sewers connections from Witney Road, Minster Road and Carterton Road.

The Wastewater from the Burford Road area, passes through the fields on the east side of the RAF Tactical Medical Wing adjacent to WC5 and joins the village system in Carterton Road.

However, at the north end of Station Road, the sewer turns eastwards behind the houses on the south side of Daubigny Mead, then southwards down the eastern boundary of the village to Chichester Place before turning westwards back into Station Road.

The sewer now runs southwards down Station Road where it eventually joins the Wastewater sewer from source 1) and onto the junction with the Wastewater sewer from source 2).

N.B. The Wastewater from CheStationut Close does not feed into the village system, it enters into the Wastewater system in the field to the east which emanates from source 2).

The combined Wastewater systems from source 1), source 2) and the village, runs southwards on the east side of Station Road and onto the sewerage pumping station (SPS) which is situated just south of the village boundary.

Wastewater also feeds into this system on the south side of the SPS which emanates from the RAF dog pound which is based on the west side Station Road.

From the Brize Norton SPS, sewerage is pumped via a rising main to the sewerage treatment works (STW) at Witney as indicated on the schematic on page 1.

N.B. This pumping station was designed and constructed in the mid 1990's to allow for 800 additional homes to support the additional housing being built in Shilton Park. Although the original plan for Shilton Park was for 800 homes, it now exceeds 1,700.

It was acknowledged by Thames Water that the Brize Norton SPS did not have enough capacity to meet the current requirements.

In a written reply to the local MP (David Cameron) dated 10/06/2008, Thames Water stated that the Brize Norton SPS needed upgrading and a second rising main was required to carry foul sewerage to Witney.

Although new pumps have now been installed to the SPS, the second rising main has not.

In 2018, TW had to use tankers on five separate occasions to pump out the SPS. However, in 2019, TW had to use tankers 24/7 for approximately two months, including Christmas Day and Boxing Day, to maintain for safe levels of wastewater in the south of the village. Unfortunately, on several occasions, householders in this area had effluent surcharging back into their toilets. This situation has also occurred in 2020/1 with the same results to householders.

All three sewerage routes have experienced problems causing manholes to surcharge in Station Road and in the fields to the west and east of the village. Households have been restricted in the use of toilets and sinks due to the incapacity of the Wastewater drainage systems. [1]

DOCUMENT G Section 2 Wastewater

With the commencement of the Bloor Homes development (700 homes), planning approval for 125 homes in Minster Lovell and possible additional planning applications in the village, there are fresh concerns regarding the capacity of Brize Norton SPS.

Due to the serious threat of flooding and wastewater surcharging, the Bampton and District Flood Prevention Group has been formed. They meet biannually to discuss the management of surface water, wastewater and flood prevention with extra meetings called if required. The standing members of this group comprise of Principal Engineers from OCC, WODC and EA, plus Parish representatives from Aston, Cote, Alvescot, Bampton, Black Bourton, Brize Norton and Clanfield. Following the 2019 floods, the group wrote to our local MP, Robert Courts, requesting support to broker a meeting with the relevant parties to pursue the requirement for the installation of the second rising main to Witney SPS. [2]

N.B. 1) Although the Brize Meadow development will eventually discharge its wastewater via a new pumping station on the north side of Carterton Road to the Carterton STW, the new pumping station will not be operational by first occupation.

In 2017, TW agreed that 28 homes could be connected into the existing system. This was increased to 90 occupations and finally, in 2019, it was decided by TW that Bloor Homes can temporarily connect as many houses on the Brize Meadow development as they require into the existing system. However, once 150 occupations has been reached (December 2020) TW are required to tanker any excess wastewater to Witney STW until such time as the new pumping station is operational which is forecast to be June 2021. This is over one year after the original completion date by which time, there will be an estimated 240 occupations. [3]

N.B. 2) Viscount Court wastewater is not connected into the general sewerage system. It has its own filtration plant and treated water is discharged into the open ditch WC 7

N.B. 3) Based on the inadequacy of the Brize Norton SPS, BNPC expect any new development to deliver a betterment of the existing wastewater sewerage system.

References: -
[1] Appendix 06 Document G Section 5, Flooding Report
[2] Appendix 06 Document G Section 7, Letter from Bampton and District Flood Prevention Group
[3] Appendix 06 Document G, Section 8, Letter from TW to Mr King dated 13/05/2019

DOCUMENT G Section 3 Flooding

FLOODING

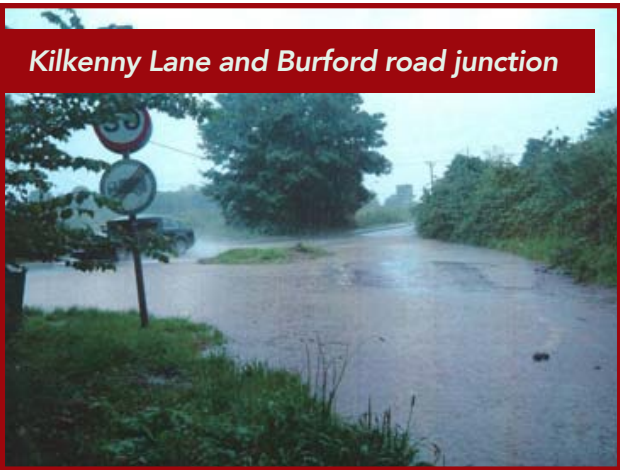
Since the year 2000 there has been a significant increase in the number of flooding incidents in Brize Norton. This appeared to have corresponded with the large-scale development of Shilton Park in Carterton with its 1700 dwellings and extensive retail area.

The Parish relies on water drainage from a series of field ditches, culverts and a Victorian system of road drainage. Wastewater relies on a sewerage system which is gravity fed into a sewerage pumping station that is considered to be insufficient to meet current requirements.

The first flooding event of note occurred in January 2003 when houses suffered notable damage from surface water and sewerage. In 2006 there were no fewer than four flooding occurrences and another three in 2007, the worst being in July of that year. These occurrences have continued to occur even though remedial work has since been carried out.

MAJOR FLOOD EVENT JULY 2007

Brize Norton suffered a major flood on 20th July 2007 that resulted in the Parish church and 56 houses flooding of which 32 claimed Flood Damage Grants. Although this occurrence was exacerbated by the extreme rainfall experienced on that day, May and June had been unusually wet with rainfall up to 195% of the long-term average creating unprecedented levels of water flowing through Brize Norton’s drainage sub-catchment areas which emanate from the west (Northwood Crescent, Carterton), the north-west and north of Brize Norton and the north-east (Highmoor Brook).



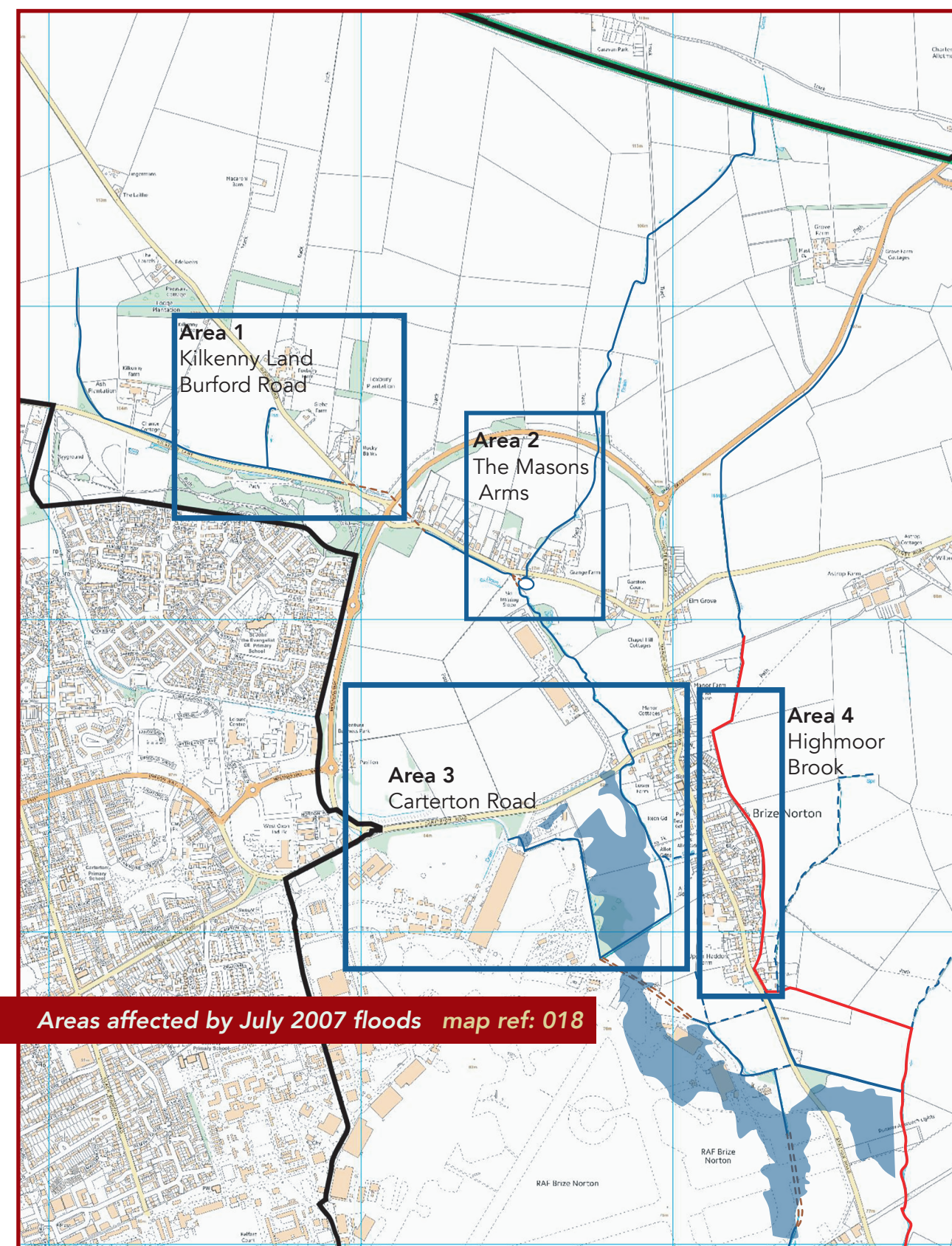
The four areas that suffered flood damage to properties were [1]: -

Area 1 Kilkenny Lane/Rocky Banks - 6 properties of which 6 claimed FDG

Area 2 Masons Arms/Manor Road - 2 properties of which 2 claimed FDG

Area 3 Carterton Road - 9 properties of which 7 claimed FDG

Area 4 Station Road - 39 properties of which 17 claimed FDG



Brize Norton and Bampton prepared their own report in August 2007. [2] In 2009, West Oxfordshire District Council (WODC) were awarded a Flood Defence Grant in Aid scheme funded by the Environment Agency (EA) to identify the causes of this flooding. The report was prepared by the WODC engineering team collating information from external agencies, town and parish councils and individual property owners along with potential mitigating solutions. WODC's report was published in May 2008 [1]

Four areas were assessed and reported as follows:

Kilkenny Lane and Rocky Banks (Area 1). Flooding at this location was partly attributed to overland flow from surrounding land and inadequate drainage. The Kilkenny Lane area experiences regular flooding.

The Masons Arms (Area 2). Flooding in this area is due to overland flow from surrounding farmland and flooding from a drain which serves land to the north of the Masons arms to the A40. At the Masons Arms, the land drain enters a culvert flowing under property which surcharges and floods surrounding land.

Carterton Road (Area 3). This area includes properties to the west of the Bampton Road (N.B. this should read Station Road) which suffered flooding as a result of backing up of the unnamed land drain which enters the RAF Brize Norton base via 2 x 900mm diameter culverts. During times of flood these culverts become surcharged flooding surrounding land including these properties.

Station Road (Area 4). The properties east of Station Road, were affected by flooding from the Highmoor Brook. The channel at this location is narrow with a shallow bed and it flows in close proximity to houses on Station Road and adjacent cul-de-sacs. A number of the properties have driveway accesses which cross the Highmoor Brook and restrict flow further, increasing flood risk.

REMEDIAL ACTIONS

Since the WODC 2008 report, the following remedial action have been taken:

Area 1: Extensive work to create settling ponds in the Kilkenny Lane Country Park to protect Rocky Banks and the Burford Road area.

Area 3: The culvert under Carterton Road has been enlarged and the watercourse re-routed. Road drainage in Chapel Hill and the junction with Station Road and Carterton Road replaced. Major engineering project to change the route of the watercourse from Northwood Crescent into the Thames Water balancing pond on the corner of Carterton Road/Norton Way. This is to protect Carterton Road, RAF Brize Norton and the southern end of the village. Pipes cleared in culverted section of the watercourse under RAF Brize Norton to protect RAF assets and southern end of the village.

Area 4: Clearing out the existing watercourse (known locally as Highmoor Brook) parallel to the Thames Water pumping station and through the adjacent copse.

Despite the flood mitigation works carried out in relation to the development of Shilton Park, an additional £207,000.00 had to be spent to achieve the above measures.

There were three new balancing ponds proposed at Rocky Banks, Masons Arms and the north of Monahan Way. However, these have been delayed until 2019 with only the Masons Arms and north of Monahan Way ponds being constructed as part of the S106 agreement with Bloor Homes Ltd

(Brize Meadow development). The Rocky Banks balancing pond has been removed from the flood elevation scheme but an additional one is being constructed on the north side of the entrance road to Astrop Farm from Manor Road (again part of the S106 agreement with Bloor Homes).

However, surface water flooding is still occurring during periods of intense and/or prolonged rainfall which has a direct impact of the wastewater sewerage system. The sewerage pumping station (SPS) at the southern end of the village was inadequate because on two consecutive periods, during December 2012 and January 2013 and again during December 2013 to January 2014, the pumps failed causing sewerage to flood into private properties, local streets, footpaths and fields. The flooding was so bad in December of 2012 that the Elder Bank Hall had to be opened so that residents could use the washing and toilet facilities.

Road tankers were in continuous use, 24 hours a day, between the 23 December 2013 through to 22 January 2014. (See image below).

In 2018, TW had to use tankers on five separate occasions to pump out the SPS. However, in 2019, TW had to use tankers 24/7 for approximately two months, including Christmas Day and Boxing Day, to maintain for safe levels of wastewater in the south of the village. Unfortunately, on several occasions, householders in the south of the village had effluent surcharging back into their toilets.

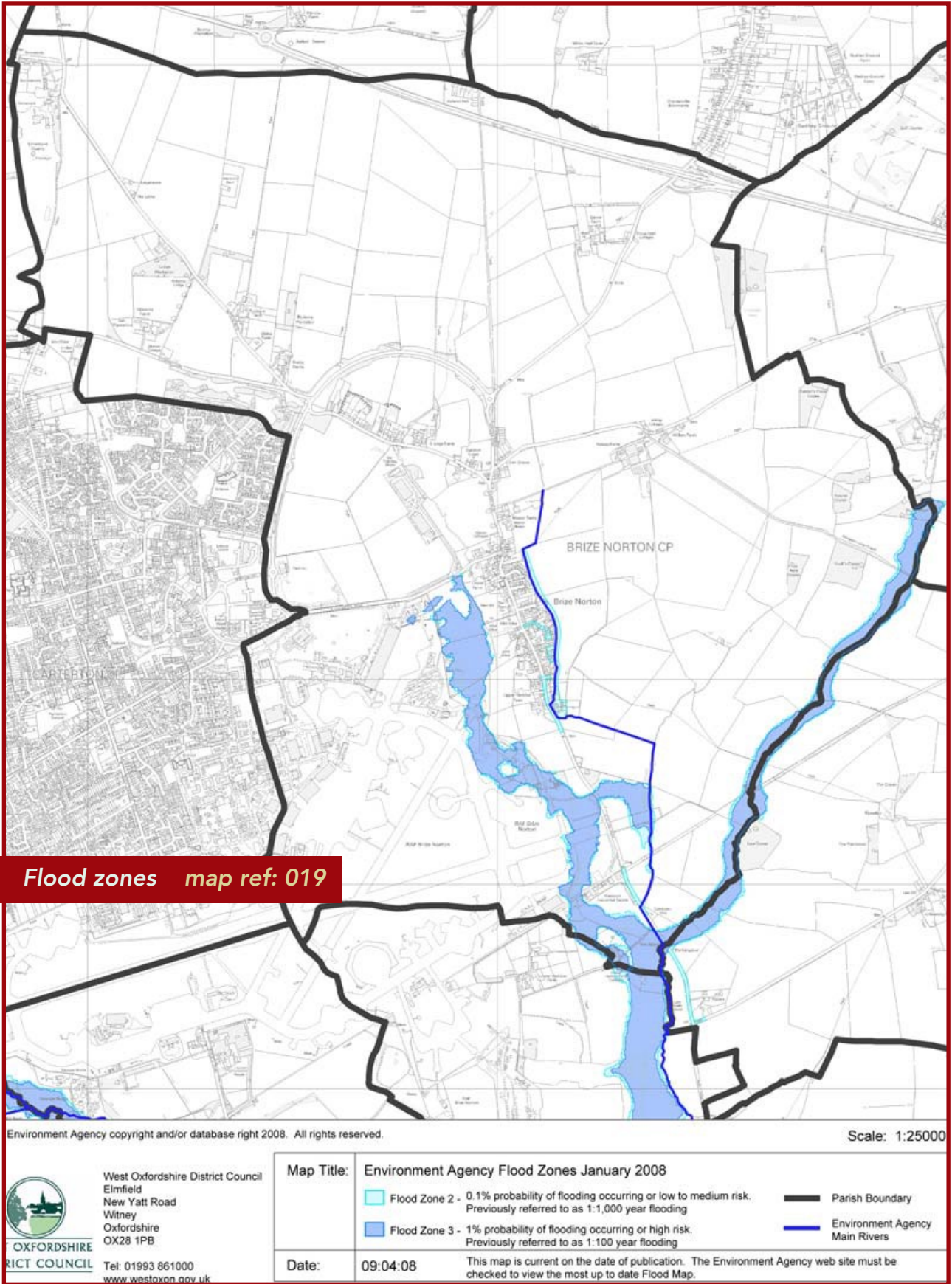
Exactly the same situation occurred in 2020/1 due to the fact hat TW has made no investment in resolving this situation which has been ongoing since the commencement of the construction of Shilton Park, Carterton in 2000. [3]

Thames Water has carried out numerous studies to fully understand the capacity of the wastewater system. It was recommended that additional pumps should be installed in the SPS and a second rising main was required between the SPS and Witney Sewerage Treatment Works (STW). Although the additional pumps have been installed, the second rising main has not. Whilst this has alleviated some of the problems in normal operating conditions, surcharging of wastewater manhole covers still occurs in periods of heavy rainfall which adds significantly to the street and watercourse flooding.



FLOOD ZONES IN BRIZE NORTON

As can be seen in map ref 020, some of the built-up areas in the village are either in a Zone 2, or adjacent to a Zone 3 flood zone.



Explanation of Flood Zones

Flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences. They are shown on the Environment Agency’s Flood Maps for Planning (Rivers and Sea) which are available on the EA’s web site.

Zone 1, Low probability.

Land having a less than 1 in 1,000 annual probability of river or sea flooding which is shown as ‘clear’ on the flood map.

Zone 2, Medium probability.

Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding or land having between 1 in 200 and 1 in 1,000 annual probability of sea flooding which is shown as ‘light blue’ on the flood map.

Zone 3a, High probability.

Land having a 1 in 100 or greater annual probability of river flooding or land having 1 in 200 or greater probability of sea flooding which is shown as ‘dark blue’ on the flood map.

Zone 3b, The Functional Floodplain.

This zone comprises of land where water has to flow or be stored in times of flood is not separately distinguished from Zone 3a on the flood map.

Due to the serious nature of the threat of potential flooding in the future, the Bampton and District Flood Prevention Group has been formed. They meet biannually to discuss the management of surface water, wastewater and flood prevention with extra meetings called if required. The standing members of this group comprise of Principal Engineers from OCC, WODC and EA plus Parish representatives from Aston, Cote, Alvescot, Bampton, Black Bourton, Brize Norton and Clanfield.

References: -
[1] WODC Parish Flood Report (Brize Norton) May 2008
<https://www.westoxon.gov.uk/media/134576/brize-norton-flood-report.pdf>
[2] Appendix 06 Document G Section 7 Bampton Flood Report August 2007
[3] Appendix 06 Document G Section 9 BNPC Flooding Report Jan 2021

DOCUMENT G Section 4

WORKS REQUIRED IN ASSOCIATION WITH BRIZE MEADOW

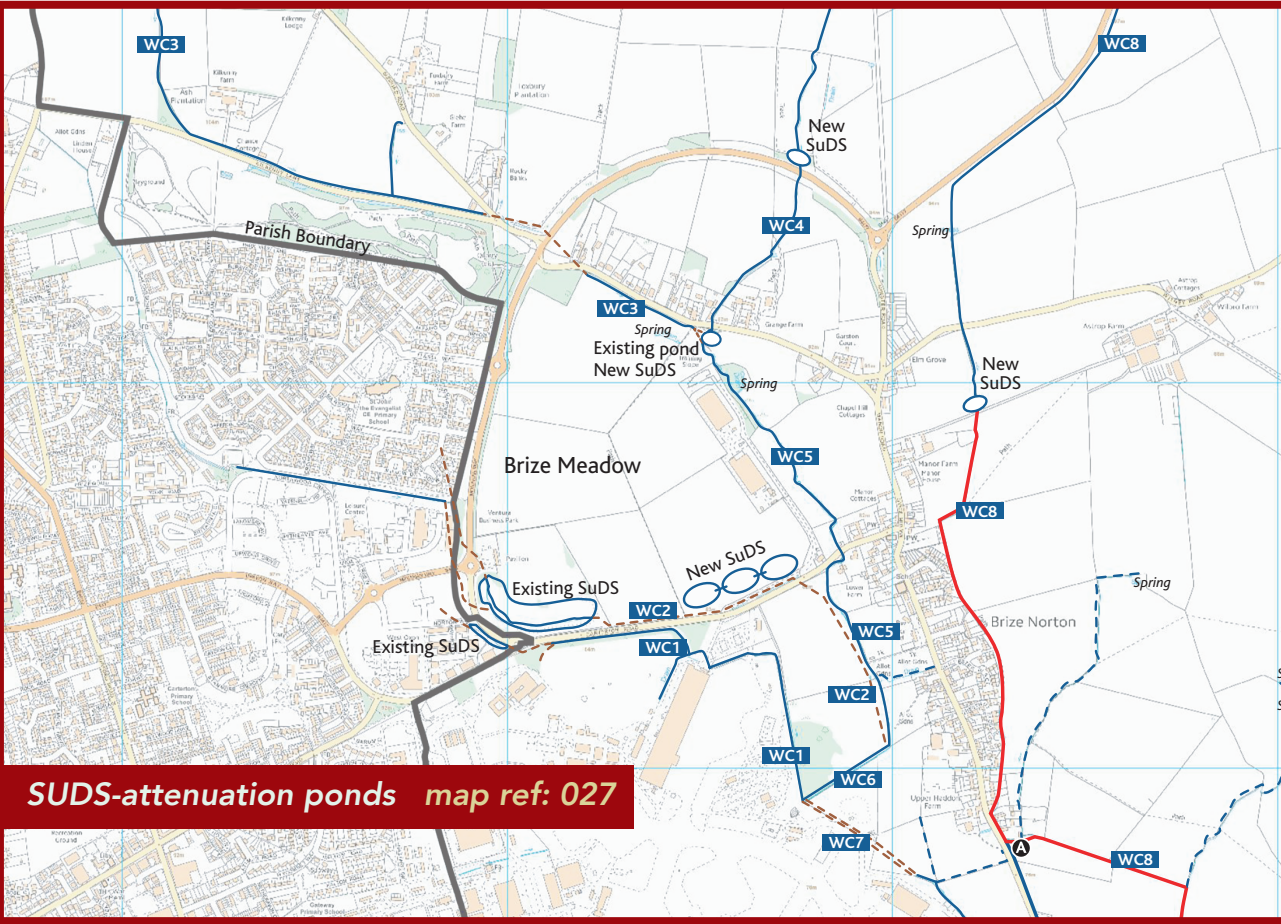
SURFACE WATER

Due to the lack of extra capacity for additional surface water run-off caused by the new development, Bloor Homes Ltd are required to provide a betterment to the surface water flows by reducing the them to 80% of the original greenfield run-off rates.

The mitigation measures to be put into place before commencement and during the new development are as follows: -

- 1) Three off-site attenuation ponds (SuDS) to be constructed as follows: -
 - a. One to the north of Monahan Way to intercept WC4
 - b. One to be formed opposite The Masons Arms, Burford Road to intercept WC3 and WC4
 - c. One to be formed on the north side of the access road to Astrop Farm to intercept WC8.
- 2) Three on-site attenuation ponds (SuDS) to be constructed in the ‘green buffer zone’ at the south eastern edge of the development, north of Carterton Road. The controlled output from these three SuDS will flow into the culvert WC2 on the north side of Carterton Road.

These six SuDS are indicated on the map below;



- 3) Upgrade the current culvert (WC2) from the north end of the field on the south side of Carterton Road to the south east corner of the field where it discharges into an open ditch (WC6), from 150mm up to 525mm diameter as detailed on the map on the next page.

DOCUMENT G Section 5

REPORT ON FLOODING IN BRIZE NORTON, AND FAILURE BY OXFORDSHIRE COUNTY COUNCIL, WEST OXFORDSHIRE DISTRICT COUNCIL, THE ENVIRONMENT AGENCY AND THAMES WATER IN THEIR DUTY OF CARE TO PROTECT PROPERTY IN BRIZE NORTON AND BAMPTON

13 August 2007

- A. The Brett Report - Flooding and Drainage report for Brize Norton and NE Carterton Dated June 2003 Project Ref 13673.
- B. West Oxfordshire Local Plan 2011

1. The aim of this paper is to detail the occurrences of flooding and to highlight failures in planning and in the maintenance of roads and watercourses.
2. An important point to bear in mind throughout this report is that in the latest flooding the first reported instances of flooding occurred in the village at 9 AM on Friday 20 July. By this time property and roads were already flooding. At this time there was still a further 10 hours of heavy rainfall which resulted in roads becoming impassable and further flooding to properties.

- A total of 56 (fifty six) properties suffered from flood damage within the village of Brize Norton. This figure represents 16.4% of the housing stock. Flooded properties are detailed at Annex A.
- The New Link Road to Carterton was impassable in two places.
- The Carterton Road and Station Road became impassable.
- Royal Air Force Brize Norton suffered very severe flooding
- The Town of Bampton suffered severe flooding
- This paper will contain recommendations to lessen or prevent further flooding to Brize Norton Village; it is considered the recommendations will also be of benefit to Royal Air Force Brize Norton and Bampton.

3. Although the rain on the 20 July 2007 was excessive it served to highlight, again, those areas where drainage regularly fails. The areas of failure have caused roads and properties to become flooded on numerous occasions. The drainage system in the area has failed on the following dates:

January 2003 First major flooding Event properties in Brize Norton and RAF Brize Norton flooded.
July 2006
August 2006
October 2006
November 2006
January 2007
May 2007 Major Flooding as January 2003
July 2007 Major event Drainage system failed by 0900 20 July

4. It should be noted that the intensity and frequency of flooding has increased in line with the continuing development in the Carterton North East Development (Shilton Park)

5. The Brett Report
Following the extensive flooding in the area West Oxford District Council (WODC) instructed Peter Brett Associates, Consulting Engineers, to look at flooding and drainage issues in the Brize Norton and North East Carterton area. Reference A refers. There are many very relevant statements in the report where action was required to prevent flooding; Work has been carried out following the publication of this report, with little success, and no notable improvement to reduce the effect and extent of flooding. Although couched in polite terms the report was explicit in condemning the calculations for green field run-off rates and the effectiveness of the major balancing pond that was installed as a major part of the drainage for the new development (Shilton Park). The green field run-off via an existing water course has been a major factor in the cause of flooding in both the Country Park/Kilkenny Lane and Carterton Road area.
The statement that the major balancing pond which has been designed for a 1 in a 100 year event would not be as effective for lesser events, this has now been proven to not be effective for major or lesser events, this area needs revisiting.

WODC as the local planning authority have not grasped the fact that the building of a housing complex as large in area and with the abnormally high density of the housing in Shilton Park will create a drainage problem. The major fact that they have not grasped is that the water from this estate and the total catchments area will all eventually end up in a very small drainage ditch which does not have the capacity and was never intended to carry the amount of water experienced with even moderate to heavy rainfall.

6. Royal Air Force Brize Norton

- a. In common with the village of Brize Norton the RAF have suffered on 3 notable occasions when buildings on the airfield have been flooded. The water from the catchments area mentioned in Para 5 is piped underground in two areas of the base. In both cases the system is through a twin 90cm pipe system. These piped areas, or the failure of, have caused flooding both on the airfield and also to the village of Brize Norton. It is suggested that the capacity of these pipes is insufficient for the amount of water that is now passed through the base from the catchments area. The Brett Report Ref A details figures of a long standing agreement between the EA and the Ministry of Defence of the maximum rate of flow that is to pass through the base. Is this figure now being exceeded?
- b. Plans are well advanced for large scale developments on the airfield. An Aircraft Servicing Pan is to be constructed which will involve the laying of a very large area of concrete. Also planned is the building of an aircraft servicing hangar and associated buildings. The RAF has provided briefings on ongoing work on the station, at these meetings it has been stated that work is going ahead after consultation with the EA. An engineering solution will be incorporated to cater for up to a 1 in a 100 year event. Brize Norton Parish Council, after the experience of the Shilton Park fiasco, understandably have no confidence in an EA provided solution. In the planning for the hangar the water will be discharged to the same undersized ditch above the twin 90cm pipes that cannot cope with the present volume of water.

7. Thames Water

- There are two areas of concern under this heading
- a The large balancing pond at the junction of Carterton Road and Norton Way. Ref A states that the balancing pond is designed for a 1 in a 100 year event, it may not be as effective for lesser events. Can improvements be made in this area, as it does not appear to give any protection?
 - b Mains sewerage overflowing in moderate to heavy rainfall. It is understood that Thames Water are near to completing and engineering study to resolve this ongoing problem of an overloaded system.

8. Environment Agency

The role of the EA, apart from advising WODC during initial planning projects is unclear. In an EA letter (EA Ref C44/4(13)&C44/4(14)/5499/5259/5445 Dated 24 June 1997) to the Chief Planning & Leisure Services Officer WODC. The following statement was made concerning land drainage Quote-: *The outline surface water drainage arrangements have been discussed and accepted in broad terms. Of major concern on this development are the maximum discharge quantities and the distribution of flows. A certain amount of culverting is also being considered which will be subject to consent under the Land Drainage Act 1991.* Unquote.

It would appear that run-off problems were notified to WODC at least as early as 1997. The EA are requested to examine the suggestion of creating a “dyke” as outlined in Para 11 sub Para vii.

9. Failures by Local Government OCC AND WODC

OCC

- a. OCC Have failed to carry out sufficient cleansing of the road drainage systems/gulleys throughout the village.
- b. Collapsed drains at the junction of Kilkenny Lane/Burford Road have not been repaired. Investigation is required to the drainage ditch that currently runs adjacent to Kilkenny Lane. There are several “passing places” for cars in this narrow lane. These have small pipes to carry the water under and become blocked. It is suggested that these “passing places” are moved to the Country Park side of the road and the culvert areas removed allowing a free flowing ditch to function more efficiently.
- c The new link road built for the development in NE Carterton was designed for a 1 in a 100 year event. It failed the test of 20 July 2007 in 2 locations, mainly due to run-off from other roads and natural run-off from ground. Drainage in this area needs a re-appraisal as these problems manifest in less major events

WODC

It is considered by Brize Norton Parish Council that WODC have failed in their duty of care to the Parishioners of Brize Norton

- a As the local planning authority WODC have many responsibilities to the population of West Oxfordshire. In the planning for the large housing complex and industrial site collectively know as the North East Carterton development have failed according to their own West Oxfordshire Local Plan. (Ref B) Under this plan Policy

NE8 – Flood Risk. Quote.

New development or intensification of existing development will not be permitted within areas at risk from flooding which is likely to;

- i. *impede the flow of water*
- ii. *Result in the net loss of flood plain storage; or*
- iii. *Increase the flood risk elsewhere.*

Within areas at risk of flooding an appropriate Flood Risk Assessment must be undertaken when preparing development proposals.
Unquote.

If a comprehensive flood risk assessment was undertaken it would appear that it was flawed. It became necessary for WODC to have an independent report prepared in 2003 to further investigate failing drainage systems in the area. The drainage failed and caused severe flooding in January 2003 to Brize Norton Village and RAF Brize Norton.

The independent report (Ref A) comprehensively detailed many weak areas in the drainage system. Some work has been undertaken since the publication of this report. WODC have failed to take responsibility for the green field run-off from the Country Park and the area adjacent to the large balancing pond serving the new Carterton enclave. Problems directly related to these areas have caused the flooding of properties at the Rocky Banks and Carterton Road areas.

b Drainage Ditches

It must be highlighted again drainage that has 4 major sources all eventually funnels through a small ditch before going underground at RAF Brize Norton. The small drainage ditches do not have the capacity to carry the additional flow now being experienced from the Shilton Park and Industrial area. Ditches throughout Brize Norton are as they were when used for purely agricultural purposes; some are just spring fed streams. WODC are empowered to ensure these ditches are correctly maintained and indeed issued a letter to riparian owners during 2004 reminding riparian owners of there responsibilities, no follow up action was taken and the ditches remain unkempt and by the proliferation of growth in the ditches obviously silted up. It must be emphasised that the current ditches are too small to cope with the volumes of water in even minor events. The East Brize ditch now renamed Highmoor Brook (and now the responsibility of the EA) also a problem since the building of Chichester Place and CheStationut Close. Roads from these developments drain directly to the ditch. This ditch now regularly over flows and contributes to the flooding on Station Road at the southern end of the village.

11. Recommendations

- a A further thorough survey is required to study the problems of drainage in the Brize Norton and North East Carterton development.
- b A radical plan is required to move the water quickly away from the areas prone to flooding.
 - (i) Area of Kilkenny Lane/Burford Road. It is suggested a large balancing pond is required in this area.
 - (ii) Area of Large balancing pond and smaller balancing ponds at the head of the Carterton Road. A system is required to cope with the green field run-off from this area. See Ref B.
 - (iii) Lower end of Carterton Road. This area floods regularly with greenfield run-off being the primary cause. Para ii refers.
 - (iv) Inadequate sized ditch from lower end of Carterton Road to point where water runs into a culvert under RAF Brize Norton.
 - (v) A thorough investigation required is required into the areas where water runs through culverts within RAF Brize Norton, The capacity of the twin 90cm pipes definitely appears inadequate for the flow. In addition a new build will discharge water above the inlet to the twin pipes. Overspill in this area already floods into fields and eventually to the back of houses and onto Station Road and contributes to the flooding in the Southern end of the village.
 - (vi) Culvert stream under RAF Brize Norton runway and Security Fence line. These areas also need investigation and are the primary cause of flooding on Station Road in the vicinity of the airfield. This area becomes impassable to normal cars.
 - (vii) Carry out a feasibility study to move water across/under Station Road to the Highmoor Brook in fields to the East of Station Road. It is suggested that a section of the Highmoor Brook could be turned into a dyke; it would be possible to move water quickly to this area. This could then serve two purposes allow water to be diverted from the section of piped stream under the runway at Brize Norton and also act as a balancing pond to slow down the flow of water to Bampton. A study was carried out several years ago by the predecessors of the EA who stated there was a significant drop in land levels to the Brook. Indeed water flows naturally in the direction to achieve the aims of this suggestion.
 - (viii) Thorough investigation of drainage from 93 to 113 Station Road. The current system inadequate.

CONCLUSIONS

Poor initial planning for the North East Carterton development and a failure of the multi agency approach to create and maintain a sustainable drainage system has adversely affected the quality of life for the Parishioners of Brize Norton and Bampton and caused considerable damage to Private and Ministry of Defence property.

Flooding in the area is now an ongoing problem. Urgent action is required to prevent further occurrences of damage to property.

All addressees are requested to examine closely their respective areas of responsibility and forward their comments and solutions to the problems as outlined in this report. Will all addressees please also note that Brize Norton Parish Council do not accept “Global Warming” or “Climate change” as an excuse for the regular flooding that is now occurring in this area.

Distribution:-
Rt Hon David Cameron
Clllr Jim Couchman OCC
Richard Dudding Director Environment/Planning OCC

Chief Executive WODC
Cath James WODC

RAF Brize Norton The Commanding Officer Gp Capt M Brecht

RAF Brize Norton OC Station Services Squadron Sqn Ldr B Gleave

Environment Agency (Thames Region)
Planning and Liaison (West Area), Isis House, Howbery Park, Wallingford OX10 8Bbd

Thames Water The Directors Office PO Box 436, Swindon SN38 1TU

The Chair Bampton Parish Council

Area	Properties/Roads Flooded	Responsibility
Rocky Banks area	6 properties flooded Junction of Burford Road and new relief road flooded and impassable to all vehicles.	1. Kilkenny Lane and Burford Road flooded. Excessive run-off from Country Park responsibility of WODC. See ref:-A. 2. Flooded roads due to run off from adjacent land/Country Park and collapsed /insufficient road gulleys/drains. This is a Regular and ongoing occurrence in the area. Responsibility Oxfordshire County Council (OCC)
Masons Arms area	2 properties and road flooded	1. Some works were carried out in this area. Only a small improvement noted. This area should be subject of a further study by OCC/WODC
Manor Rd	3 Properties Flooded. Road flooded	Manor Road flooded due to blocked gulleys
Carterton Rd	6 Properties Flooded (Including Church) Carterton Road flooded. N.B.for TW. One of these properties was flooded by sewerage backing-up though downstairs shower unit.	This area is an ongoing problem which was highlighted in Ref A. There appears to be a conflict of interest between all agencies into the drainage from the Shilton Park housing and the industrial estate. The Carterton Road floods in times of moderate to heavy rain and some properties have been flooded now for the third time. It would appear that the calculations for green field run-off have been under-estimated resulting in over loading the existing drainage system. Action required by WODC, OCC, Thames Water (TW) the Environment Agency (EA) and the developers of the industrial units. The small balancing ponds are completely inadequate for the volume of water transiting this area.
Station Rd	9 Properties Flooded	Properties affected ranged from number 7 to number 113 Station Road. Problems from three areas. A. RAF Brize Norton Twin 90 cm pipes where stream goes underground onto RAF Brize Norton could not cope with volume of water. Water from this area overflowed into fields to east of airfield and affected properties and also flowed through gardens then onto Station Road this frequently occurs during moderate to heavy rainfall. B. The Highmoor Brook over flowed into Station Road. C. The Sewerage pipelines throughout Station Road and to the east of the village overflowed. TW

Daubigny Mead	5 Properties flooded	Highmoor Brook overflowed. EA
Squires Close	4 Properties flooded	Highmoor Brook overflowed EA 1 property flooded by overflowing from manhole cover (grey water) TW
The Fosseway	2 Properties flooded	Flooded by water flowing down road. Insufficient gulleys built into road, regular occurrence. Investigation required. OCC
Chichester Close	14 Properties flooded	Properties flooded by overflowing Highmoor Brook. EA
CheStationut Close	4 Properties flooded	Properties flooded by overflowing Highmoor Brook. EA
Leys Court	1 Property flooded	

DOCUMENT G Section 6

(Used as part of evidence base to WODC regarding Bloor Homes Development)

Brize Norton Village, Drainage Catchments

Current Status. January 2014

A REPORT PREPARED FOR BRIZE NORTON PARISH COUNCIL

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- 4 Conclusions

1 Introduction

This summary report has been compiled to provide a concise statement concerning the drainage catchments, both surface water and Wastewater systems that impact Brize Norton Village and demonstrates that to reduce the current levels of flooding experienced in the village (both surface and foul) a more holistic and sustainable approach that considers the whole catchment must be adopted.

2 Surface Water Drainage

The attached plan “Brize Norton Village – Surface Water Drainage Catchments” shows that Brize Norton Parish is drained by three main catchments that converge into Norton Ditch south of the village. The three main catchments that affect the village are, from west to east:

- The Northwood Crescent Drainage Catchment, labelled 1 on the attached plan.
- The Central Brize Norton Drainage Catchment, labelled 2 on the attached plan.
- The Highmoor Brook Drainage Catchment, labelled 3 on the attached plan.

It is a matter of record and is clearly shown that each of these catchments have been heavily modified to accommodate the developments of RAF Brize Norton, Carterton and the village itself. The scale of these modifications and the impact on the village are summarised in the following paragraphs.

2.1 Northwood Crescent Drainage Catchment

This catchment starts in the allotments to the north of Carterton, drains the entire Shilton Park Estate, the bulk of the fields on which the proposed “East Carterton Development” may be located and a significant part of the eastern half of RAF Brize Norton. This is the most heavily modified of the three drainage catchments that impact Brize Norton Village and as a result of these modifications Station Road is effectively the watershed between the Northwood Crescent Drainage Catchment and the Highmoor Brook Drainage Catchment.

Inspection of the attached Surface Water Drainage Plan shows:

- The upper reaches of the catchment have been urbanised by the Shilton Park Estate (previously called the North East Carterton Development). To mitigate against this urbanisation a significant set of attenuation and off-line storage ponds have been constructed south of the sports ground and do largely perform the duty for which they were designed.

- Downstream of the attenuation ponds the Northwood Crescent Ditch is culverted for significant stretches (dashed lines on the plan).

It is a matter of record that properties to the west of Station Road flood during periods of intense and/or prolonged rainfall. This is considered to be because:

- The culverted sections are undersized for their current duty. They were almost certainly sized for the appropriate duty when originally constructed, but since then catchment performance has changed and so have current design codes and practices
- There is insufficient resilience in this section of the drainage system to accommodate any partial blockages that may occur at the head end of any one of three culverted sections.

Based on these observations it is clear that any developments upstream of the culverted sections need to be designed so that there is a significant reduction in current surface water flow, not just the normal standard of restricting surface water flows to the current design flows.

2.2 Central Brize Norton Drainage Catchment

This catchment has its headwaters in Stonelands on the Burford Road and the A40 road drainage system just north of Grove Farm. The catchment has been significantly modified by the drainage systems installed along Kilkenny Lane as part of the Shilton Park Development and by the A40.

The catchment converges into the Northwood Crescent Drainage Catchment at the bridge under the Carterton Road and then flows into the culverted sections around the RAF base as described in section 2.1 above.

Flows from this catchment therefore exacerbate the problems to the west of Station Road as described above and therefore any developments in this catchment will also need to be designed such that there is a significant reduction in current surface water flow, not just the normal standard of restricting surface water flows to the current design flows.

2.3 Highmoor Brook Drainage Catchment

This catchment drains the flatter lands east of the village around Astrop Farm. Inspection of the attached plan shows that this drainage system has been significantly modified to accommodate the relatively new housing east of Station Road.

Again, it is a matter of record that properties to the east of Station Road flood during periods of intense and/or prolonged rainfall, which clearly demonstrates that the modified drainage courses to the east and south of the village are undersized for their current duty. Whilst increasing the capacity of the current system around the east and southern side of Brize Norton may reduce the flood risk to the village, it will likely transfer the problem further downstream and therefore as with the other catchments the solution is to reduce surface water run-off upstream of Brize Norton.

2.4 Conclusions on Surface Water Drainage

It is clear from the summaries above that the modifications to the drainage catchments around Brize Norton are no longer adequate for the surface water flows generated during periods of intense and/or prolonged rainfall upstream of the village. Therefore the normal practice of designing a new development with residential cells restricted to the 1 in 1 year undeveloped green-field run-off and to provide surface water attenuation up to the 1 in 100 year plus 30% storm event is inadequate to prevent the flooding that regularly occurs in Brize Norton Village.

The Flood Risk Assessments and Drainage Strategies for developments upstream of Brize Norton cannot be limited to the piecemeal review of each individual development. They must be modelled and assessed in the context of the whole catchment (all three sub catchments) and then surface water restrictions and attenuation features need to be designed and installed such that the downstream constraints (modified drains and/or culverts) can safely accommodate the 1 in 100 year event plus 30% for climate change, with sufficient resilience in the event of a partial blockage. Without this holistic and sustainable approach to surface water management there will be no decrease in the incidence of flooding as experienced in Brize Norton Village over the last decade.

3 Wastewater Drainage

The Wastewater drainage catchment area from Brize Norton Village, with the principal sewer network is illustrated on the attached plan "Brize Norton – Foul Drainage Catchments" and it shows that sewage from all of Brize Norton Village, all of Shilton Park (CNED), the industrial park with the Community Centre and Broadshires Medical Centre and the bulk of Minster Lovell, drain southwards through the village to the Thames Water sewage pumping station (SPS) at the southern end of the village. This SPS also drains the new RAF dog pound at the eastern end of the base.

It is a matter of record that this SPS is inadequate for its current duty. This is evidenced by the fact that:

- Thames Water and WODC have imposed a Grampian Condition on all future developments in the sewerage catchment areas. This means that no new connections are permitted until the SPS is upgraded such that it provides sufficient capacity for the combination of the existing and future developments.
- The Brize Norton SPS has failed in two consecutive years December 2012 – January 2013 and again this year from 21/12/2013 to 22/01/2014. In both these periods the pumps failed causing sewage flooding onto private properties, local streets, footpaths and fields. The recent failure occurred after Thames Water carried out significant maintenance works in the first quarter of 2013. The fact that the recent round of maintenance works has failed within the first year clearly demonstrates that the SPS is not fit for its current purpose, let alone for any additional loads from new developments.

The details of the recent SPS failure can be summarised as follows:

- The pumps failed initially on 21/12/2013, before the significant rainfall that caused the county wide flooding over Christmas, and again on 23/12/2013.
- Overtanking from the pumping station commenced on 23/12/2013 and continued 24 hours per day until 22/01/2014.
- After the heavy rainfall on 24/12/2013 manholes in the field east of the village and in Station Road, surcharged and overflowed in an uncontrolled manner across the fields and down the road. At one time at least ten drains were surcharging untreated sewage either directly into the Highmoor Brook or to drains that feed the Brook and in one field there were three manholes discharging and forming a lake of effluent up to 12 inches deep across the Brize Norton to Lew footpath



- On 24/12/2013 the village hall was made available for village residents to use for washing and toilet facilities as household drains were "backing up".

This picture shows the manhole by the Brize Norton to Lew footpath, east of the village on 25/12/2013. It clearly shows toilet paper, raw sewage and similar waste products. These were widespread in the lake across the field and footpath. The manhole was still surcharged with effluent flowing into the field, but it had clearly been worse earlier in the day.

The problems described above have been a recurring problem for more than ten years and there is still no sign that Thames Water are planning to improve the pumping system or replace the rising main. It was first muted by Thames Water that work would be carried out during AMP4 to upgrade the SPS and install a new rising main; we are now nearing the end of AMP5 and still no action has been taken by Thames Water.

On top of not implementing necessary upgrade works, Thames Water have not been held to account by either WODC or the Environment Agency for the frequent pollution events their inadequate sewerage system causes. This is despite the Regulatory Position Statement on Groundwater Surcharge Sewers (Released by the Environment Agency in October 2012) and the associated need for water companies to produce Infiltration Reduction Plans. Thames Water was asked for their Infiltration Reduction Plan for Brize Norton in December 2012 and it has still not been published.

It is clear from the above that no further development in the Brize Norton Foul Drainage Catchment can be permitted until an upgraded sewerage system, that is fit for purpose, is implemented, commissioned and fully tested.

4 Conclusions

This short summary demonstrates:

- a) The natural surface water drainage catchments around Brize Norton Village have been heavily modified with the development of RAF Brize Norton and Carterton. These modifications although carried out to acceptable standards at the time of construction are no longer adequate for the current situation. New developments within these catchments must therefore be designed to a higher standard than normal practice to ensure that previous modifications are brought into line with current performance standards without causing adverse impact to villages and dwellings further downstream of Brize Norton.
- b) The foul drainage catchment that serves Brize Norton is under capacity and not fit for purpose. The Grampian Condition imposed by Thames Water and WODC must be rigorously enforced until it is upgraded and is proven to be fit for purpose.

DOCUMENT G Section 7

FROM CHAIRMAN BAMPTON AND DISTRICT FLOOD PREVENTION GROUP

Tinca Tinca
Brize Norton
Oxon OX18 3PT

29 January 2019

Mr Robert Courts MP

THAMES WATER INFRASTRUCTURE SEWER PUMPING STATION BRIZE NORTON

Dear Robert

Situation

- 1. At the water day at the WODC Offices on the 4th October 2018, in addition to the Windrush pollution mention was made of the Thames Water (TW) foul sewerage lines, in particular, the area of Shilton Park, Minster Lovell and Brize Norton was highlighted as a problem area. Foul water from these three areas all flow through the Sewerage Pumping Station (SPS) located at the southern end of Brize Norton village. This SPS and the associated foul lines have been a major contributory factor in flooding in the village of Brize Norton.

Background

- 2. The SPS in Brize Norton was constructed in the mid 90's. Large urban development in Carterton and Minster Lovell has compounded the situation. The problem was the subject of many meetings between Brize Norton and TW from 2002 onwards.

The Shilton Park development was originally for 800 Dwellings with associated school and shops. This area now numbers in excess of 1,800 houses, additional housing in Minster Lovell exacerbated the problem. It is suggested that the current TW foul lines and SPS infrastructure falls far short of the actual requirement.

Thames Water

- 3. It has been acknowledged by TW that the Brize Norton SPS does not have the sufficient capacity to meet the current requirement. In a written reply to David Cameron MP dated 10 June 2008 TW stated that the Brize Norton SPS needed upgrading, new pumps, and a second rising main was required to carry foul sewerage to Witney.

New pumps were fitted on the 22nd of September 2014. The second rising main has not been installed. During 2018 Tankering operations were needed on five separate occasions as the pumping station was over capacity. Maintenance work has been carried out by TW to remove blockages to the foul lines.


Current Development Housing

There are currently three major developments either in the planning stage or approved.

(a) WODC REFERENCE 14/0091/OP 700 homes, school and industrial area currently being built out within Brize Norton Parish. Work has started on this development. This development requires a SPS to pump foul waste to the Carterton Sewerage Treatment Works Black Bourton via a rising main. The SPS for the development has not yet been constructed. It would appear that the developer has reached agreement with TW to construct the SPS. As an interim measure the developer has agreed with TW that the first 30 homes to be built only will pass foul waste to the Brize Norton SPS. It is doubted whether TW will construct the SPS to serve this development in the given time.. Of major concern is the very great risk of "developer creep" and more and more of the 700 houses will be connected to the, already overloaded, Brize Norton SPS.

(b) WODC REFERENCE 17/01859/OUT.

This application is for 126 houses in Minster Lovell. The application has been approved. This development will again cause further overloading to the foul lines and SPS in Brize Norton. TW in their response as a consultee suggested a Grampian Order be imposed on this development.



David Cameron MP

House Of Commons
LONDON
SW1A 0AA

Customer Relations

Your ref DC/hpiO
Our ref 506133
Name Michelle O'Malley
Phone 0845 6410046
Fax 01793 424291
Email Customer.Feedback@thameswater.co.uk

10 June 2008

Flooding in Blampton area

Dear Mr Cameron

Thank you for your letter of 20 May 2008.

We are working very closely with residents, West Oxfordshire DC and the RAF to resolve all the flooding issues in local villages. Through this close working partnership we are making progress.

We have undertaken a sewer flooding study and the recommended solution is for an upgrade to the sewage pumping station and the installation of a second rising main, as well as other improvement work on the sewer network itself. We are currently putting together our draft business plan for the period 2010 - 2015, which will be submitted to Ofwat in August, and plan to seek funding for work in this area.

However, whether we are able to proceed will depend on the level of funding we receive from Ofwat to address sewer flooding, and the need to address more severe flooding elsewhere in our region. As you would expect us to, and as we are required to under the regulatory regime, we prioritise our investment to tackle flooding. We look at three key factors - the severity of flooding, the likelihood of further flooding, and the unit cost per property. This ensures we help those people hardest hit first, and invest the funds we have for the greatest possible overall benefit.

Jenny Elliott, our Customer Coordinator, will maintain regular liaison with the Parish Council and West Oxfordshire DC to keep residents updated on our progress and timescales. Our next meeting is with the working group at RAF Brize Norton on the 10 July 2008.

In regards to the balancing pond, we are awaiting delivery of a penstock, which controls the flow, for the work to be carried out at the balancing pond and this work will be completed by the end of June 2008.

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I www.thameswater.co.uk

Thames Water Utilities Ltd
Registered in England and Wales
No. 2350951. Registered office
Cheney Court, Vandon Road,
Reading, Berks RG2 8DB

Visit www.thameswater.co.uk to use our on-line forms or to find out about paperless billing

(c) WODC REFERENCE 17/011594/FUL.

Application for 41 houses in southern end of built up area of Brize Norton Village. These houses will be constructed at the end of the foul line from Shilton Park. The inevitable consequence of building at this location, based on past experience, will be properties will be unable to flush toilets empty sinks and possible risk of sewerage flooding to properties.

4. CONCLUSION

The area outlined in para 1 is poorly served by Thames Water. Infrastructure has not been developed and improved in line with the recent and current pace of new build housing and commercial developments. (This from a company with a £29 billion turnover)

Questions must also be raised with the local planning authority, who, when advised by TW, as a statutory consultee, to impose a Grampian order on a site because of insufficient infrastructure\z still approve the site for development.

4. ASSISTANCE REQUESTED

This group would appreciate your assistance in brokering a meeting between yourself, TW, WODC, OCC and Parish representatives from Aston/Coate, Alvescot, Bampton, Black Bourton, Brize Norton and Clanfield. It is hoped that as a result of the proposed meeting a positive way ahead may be found.

Keith A Glazier
Chairman
Bampton and District Flood Prevention Group

DOCUMENT G Section 8

LETTER TO MR KING FROM THAMES WATER



Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

13th May 2019

Dear Mr. King

In your response to your query regarding Bloor Homes' development on the **Land East of Carterton, West Oxfordshire**:

Thames Water can accept a total of 1 l/s from the new Bloor Homes development into the Brize Norton catchment, which discharges to Witney Sewage Treatment Works (STW), prior to the new pumping station being in operation. The new pumping station will discharge flow from the Bloor Homes development site into the Carterton STW catchment.

An initial allowance for 28 homes was agreed in 2017 with Bloor Homes and Thames Water based on the respective delivery programmes. Based on flow calculations using the population method as set out in the European standard BS EN 752, the calculated peak flow rate from 28 homes would be 0.24 l/s.

The current programme shows that Bloor Homes may have completed 90 homes by the time the new pumping station is operational. Based on the same calculation method outlined above, the peak flow rate from 90 homes would be 0.76 l/s, which is below the 1 l/s limit.

However, in any event Thames Water Developer Services project team constructing the new pumping station will liaise closely with Bloor Homes and the Thames Water Operations team to review flow entering the Brize Norton catchment.

As it stands, Thames Water are looking to start on site with the construction of the associated Rising Main and the Pumping Station in Autumn 2019, with target completion in Spring 2020. These dates are estimated, and are subject to the completion of further design and ground investigation works.

If you require any further information, please do not hesitate to contact me directly.

Yours sincerely,

Catherine Sneyd

Project Manager

Developer Services Major Projects

Thames Water