FLOOD SURVEY REPORT

ITCHENOR

An investigation of the existing drainage system in Itchenor has been carried out following the flooding experienced in the area during last November. At that time a length of about 150 metres of Itchenor Road immediately south of Chalkdock Lane was flooded to a maximum depth of ½ metre thereby effectively closing the road into Itchenor to all but landrovers, lorries and busses for a number of days. Minor flooding also occurred at other locations, but in view of the exceptional nature of the rainfall last November and the fact that no houses were flooded these other incidences are much less significant.

In general, according to residents of long-standing, the flood conditions were the worst for a long time and probably since 1961 and undoubtedly the main cause of the trouble is directly attributable to the lack of or inadequate maintenance of open and piped watercourses. Numerous responsible parties are involved and in the case of one particular landowner, apart from neglect of his watercourse, blockages have been created by failure to remove trees which have been felled and allowed to remain within the ditch. Ditches throughout the area are generally overgrown and badly silted and many culverts are partly blocked.

Being largely a problem of maintenance, a fully-fledged Flood Survey Scheme is unjustifiable, but a detailed examination of the area has been made and the following comments describe the existing drainage system and its conditions as well as recommendations relating to maintenance. Drawing No. F/11/6/1 summarises the main points of information.

(a) Itchenor Road.

During the flood period, the twin 15" diameter concrete culverts under Chalkdock Lane were clear and apparently handled the maximum flow without any flooding of the lane. The open channel between "Spinnakers" and "Little Ridge", though slightly overgrown, carried the flow well within banks. Downstream of this channel is an 18" diameter concrete culvert, and according to the occupier of "Little Ridge", the water level at it's highest stayed just below it's upstream soffit. Between this culvert and the small sewage treatment plant at the west edge of The Spinney private estate, there is a length of well-maintained open channel, followed by clean twin 24" diameter concrete culverts and then another length of well-maintained open channel, all of which carried the maximum flows with spare capacity available. There is a good fall over the length between Chalkdock Lane and the

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Sewage plant, and since the watercourse was adequate over that length, it is most likely that the Itchenor Road flooding is caused by conditions upstream of Chalkdock Lane.

Between Chalkdock Lane and the front of the house at 'Becketts', the channel is fairly clean, but upstream of here it deteriorates on the left side, while the right bank has been replaced by a brick retaining wall, which possibly reduced the original width. The left bank alongside 'Becketts' garage has eroded, partially exposing the footings. At the south end of the garden, there is an old culvert formed of small concrete box sections, which is partly silted. This has obviously caused trouble in the past, because a narrow trench has been dug to remove all the fill over the top of the boxes. The result is that there is still a considerable channel contraction, which has caused silting upstream over a long period.

Upstream of the old culvert is a short length of overgrown and badly silted channel along the edge of an open field and then between the field and Itchenor Road the watercourse runs between two gardens. This length is again overgrown and badly silted and obviously has received no maintenance for many years, possibly not since the houses were built. Over a short length the channel is constructed by a rough concrete wall supporting the toe of the left bank and there is also some wooden revetment opposite it. The owners of 'Stowfell' and 'Gulworth' say they do not know who owns the ditch.

Owing to the poor conditions of the ditch immediately downstream of Itchenor Road there is always water covering both ends of the culvert under the road. On 9th December, when there was very little flow, upstream and downstream water levels were virtually equal, being 505 mm above the top of each end of the concrete pipe, the water level at Itchenor Road being approximately 1 metre higher than at the upstream end of the chalkdock Lane culverts. The difference in invert levels is only about 50 mm, and from the evidence available, it does not appear that the channel bed ever fell from one culvert to the other at a uniform gradient.

The Itchenor Road culvert is a 21" diameter concrete pipe, the invert level having been selected without due regard to downstream conditions which has resulted in the downstream end of the culvert being at least half-silted, and the upstream end partially so.

(b) <u>Shipton Green.</u>

The pond beside 'Shipton Mead' was very high on Saturday 23rd November and covered a large part of the garden and also part of the garden of 'Westerlies' (ex 'The Hive') next door. This flooding stopped short of the houses and went down within 24 hours.

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The occupier of 'Shipton Mead', said that he thought the conditions were the worst since 1954, when they were possibly slightly worse.

(c) Ponding on Itchenor Road.

Surface water collected in low spots on the road, but apparently nowhere very seriously.

By the old pond just east of St. Nicholas's Church, two blocked road gullys on the south side of the road caused slight flooding, which was relieved by the digging of grips to the pond. The water level in the pond does not appear to have risen high enough to affect the road and the twin culverts discharged freely to the rife downstream.

Water also collected on Itchenor Road at the low spot on the corner opposite Itchenor Memorial Hall. This water was removed by digging out a grip to the nearby ditch which runs down to join a branch of the rife.

(d) Surface flows.

Mrs. Holford, the owner of 'Fosse Cottage', reported that water had flowed off Itchenor Road and down her drive at such a rate that it had come close to entering the house.

There were also one or two other reports of water flowing off private roads or land and threatening to enter houses. One particular case was No. 3 The Spinney, which is on a private estate road.

(e) Tidelocking of Rife.

The flow of water entering the rife downstream of Itchenor Road was apprently so large at its peak that it could not all be evacuated between tides through the tide flap in the floodbank round the Harbour.

It is reported that fresh water flooding covered the low-lying areas beside the rife (including gardens) to a depth of three or four feet in places for at least 24 hours. It is just possible that the tide flap was held slightly open and there was some tide effect, but the exceptional fresh flows backing up might well have been sufficient to cause the flooding.

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The immediate measures which should be taken to prevent or reduce flooding of the magnitude experienced in November, are set out below.

(i) Itchenor Road.

It has been said that the Itchenor Road flooding has only occurred since the development of 'The Spinney' Estate. It is considered, however, that this is only coincidental, since in November 1974 the ditches and culverts through 'The Spinney', were the best maintained in the whole area and carried the flow adequately. The trouble appears, therefore, to be caused mainly by conditions upstream of Chalkdock Lane.

The watercourse between Chalkdock Lane and Itchenor Road requires thoroughly clearing to remove vegetation, silt and debris and the already mentioned constrictions, with some slight channel widening in places to produce a smoother line. Ideally, the bed should fall straight between the inverts of the two culverts 140 metres apart, but it is possible that problems might be experienced if the ditch were deepened so far, especially at 'Becketts' garage and alongside the brick retaining wall lining the right bank opposite part of the 'Becketts' bank. Careful checks would have to be made before excavating, but the channel should be deepened as far as possible to reduce the tail-water level of the Itchenor Road culvert.

Basically, the channel length between the two roads is the responsibilty of the private owners, who obviously neglected it, but it should be borne in mind that this stream receives water from a considerable area upstream and that the Itchenor Road culvert appears to have been installed below the original bed level downstream.

If cleaned out completely and the tailwater level is lowered as far as possible, the 21"(?) diameter road culvert should be satisfactory. Because of the flat gradient downstream, regular cleaning of both the ditch and culvert will be essential.

Immediately upstream of the culvert are two short sections of open channel linked by what is said to be an 18" culvert under an access way. These all require clearing of silt.

The existing 4" land drain in fron of 'One Pear Tree' is inadequate and a new pipe should be laid diagonally across the road from the open ditch in front of 'Little Thatches'.

(ii) Shipton Green.

The high water levels in the pond by 'Shipton Mead' appear to have largely been caused by inadequate maintenance of the watercourse downstream. The flow must have been very considerably held back at 'Corner Cottage' at the upstream end of the 18" (?) diameter culvert, which has its downstream end at 'Thatched Cottage' by the

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ditches and culverts in the Shipton Green area are in need of clearance.

(iii) Ponding on Itchenor Road.

Road gullys and grips should be kept clear to prevent this happening

(iv) Surface Flows.

Intercepting drains or ditches should be provided to divert these flows.

(v) Tidelocking of Rife.

If very high fresh water flows are prevented from entering the sea by high tides keeping the flap valve shut, the water will inevitably back up over the low-lying land behind the floodbank.

It is vital, however, that regular checks are made on the condition of the flap to ensure that it closes securely and that sea water does not add to the fresh water problem. The size of the valve possibly needs to be reviewed to ensure that it is capable of evacuating the stored water completely between tides.

The rife is in a very overgrown condition for about 400 metres downstream of Itchenor Road, being filled with rushes or vegetation. This does not appear to have adversely affected the outflow from the road culverts, but the clogged channel may have lead to higher levels than necessary over the low-lying banks and to slower evacuation at low tide. The branch rife, which is an I.D.B. drain, is also in need of clearance, which apparently was last done about two or three years ago at least.

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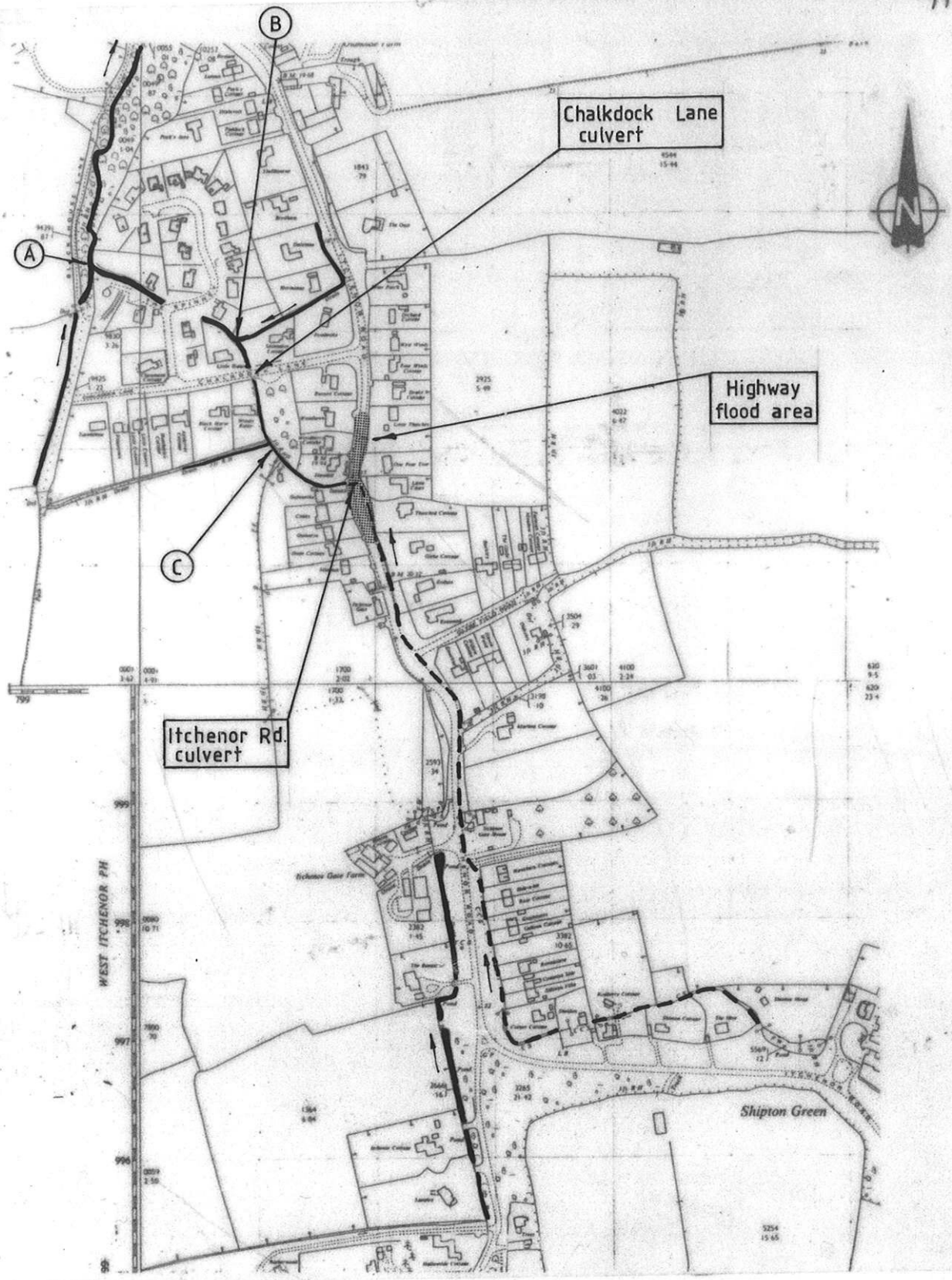
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Scale	Drawn	Date	DRG. No.
VERT. 1 : 100 HORIZ. 1 : 1500	D.R	OCT 80	A4R 2129

SUSSEX RIVER & WATER DIVISION
Palmer, Brighton, BN1 9PY.
WATER ACT 1973 SECTION 24(5)
LAND DRAINAGE SURVEY
PROBLEM No. 53/6 - ITCHENOR
LONGITUDINAL SECTION

SOUTHERN WATER AUTHORITY

BED LEVEL	RIGHT BANK	LEFT BANK	CHAINAGE	▽ O.D.
			20	
2·13	2·89	2·53 2·89	37	
2·60	3·28	3·40	82	
2·80	3·76	3·80	110	
3·05	4·46	4·02	146	
3·27	4·49	4·19	167	
3·56			176	
3·60			181	
3·64	4·78	4·48	184	
3·70	4·81	4·73	207	
3·77	4·87	4·86	215	
4·07	5·31		274	
4·08	5·34	5·61	284	
4·24	5·72	5·87	309	
3·80	5·45	5·64	358	
3·78			366	
3·88	5·82	5·34	380	



SOUTHERN WATER AUTHORITY

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WATER ACT 1973. SECTION 24.(5.)
LAND DRAINAGE SURVEY.
PROBLEM Nº 53/6 – ITCHENOR.
SU 7900 – 8000 – SZ 8099.

Scale	Drawn	Date	DRG. No.
1/5000.	P.J.M.	30/4/80.	A4 R.2024.

REPRODUCED FROM OR BASED UPON THE ORDNANCE SURVEY MAP WITH THE SANCTION OF THE CONTROLLER OF H.M. STATIONERY OFFICE.

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