

South Holland IDB

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A brief history of South Holland Internal Drainage Board

The history of land drainage in the Fens and Marsh of South Holland in Lincolnshire is an ancient one: there was an intensive Roman British occupation in the Fens South of Whaplode and Holbeach where the land level, today ranging between + 2.15 metres and 3.05 metres O.D.N., must then have been much higher relative to the Spring tide level. Towards the end of the 4th. Century A.D. there was a period of subsidence with consequent flooding, and it is not until the 11th. Century that the Domesday Book reveals that a narrow strip perhaps two miles wide on either side of the main road from Long Sutton to Spalding had been re-occupied and cultivated. It was bounded on the North by the so-called Roman Bank, beyond which lay the salt marshes and the sea, and on the South by a line of banks which protected it against the fresh water floods from the Rivers Welland and Nene. The settlers in this narrow strip soon began to follow their time honoured practice of inning or embarking land: banks were built to recover land both from the salt marshes, where there had been a thriving salt making industry - dating back to pre-Roman times and from the Fen. The basic pattern was founded on the individual parish: no village trusted its neighbour to keep their banks safe, so that the inhabitants of each, built lateral banks known as headings to join their Fen bank to the Roman Bank and then constructed a River or drain running from the southern end of the parish to the Roman Bank and thence into the sea.

The lowest land lay at the southern end and parishioners expended much effort in attempts to conduct the flood waters from the Fen through the higher silt land and thence to the sea. In the Fen there was much activity in building fresh banks to reclaim land, but the overall picture was not a happy one as Miss Kirkus explains:-

Though it is true to say that there was little appreciation of scenery, and little description, before the 18th. Century, yet it is possible to piece together a picture of these Fenny Wastes and Surrounded Grounds, half land, half water, in medieval and early modern times. Medieval chroniclers catalogue death by

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drowning; and monastic histories describe inundations and frequent disagreements between neighbours about the maintenance of dikes. On 11th and 12th October 1216, King John journeyed from Lynn to Swineshead by way of Wisbech, and all but lost his life when crossing the Well Stream. In October 1250 the sea flooded various parts of the English coast, including Holland and much damage was done. Three years later Holland was again flooded. In 1287 a strong East wind brought further salt water floods to the district. Much of Boston was under water, many men and cattle perished, and the priory of Spalding suffered losses. Yet it must not be thought that Holland in the middle ages was all swamp. The compotus rolls of Crowland Abbey for 1258-59 show crops and stock at Dowdike, Whaplode, Langtoft and Baston which presuppose good fertile land.

In 1427 the sorry state of the fens not only in Lincolnshire but in England generally - the great inundation of waters - was brought to the notice of Parliament; and in 1532 an Act recorded the damage done by the outrageous flowing surges and course of the sea, in and upon marsh grounds and other low places and by landwaters and other outrageous Springs, in and upon Meadows, Pastures, and other low Grounds adjoining to Rivers, Flouds, and other watercourses. But Acts of parliament by themselves do not stop floods, and nearly forty years later jurymen in a Court of Sewers held in Wyberton bewailed tymes of out raygyn downfall of watery yeres. Later in the century Camden stressed both the fruitfulness and the marshiness of Lincolnshire. The county, he said, was rich in pastures and watered with frequent rivers; in Holland the ground shook with every footstep, while lower Holland was enveloped in torrents and had marshes scarcely passable by the inhabitants. Early in the 17th Century Michael Drayton described Holland, with "her unwholesome ayre, and more unwholesome soyle, as a foule and woosie Marsh". Neptune, he said,

"every day doth powerfully invade
The vast and queachy soyle
From the wrathfulle Tydes the foming Surges swepe
And turneth all to sea, which was but lately Shore."

Speed stressed the fogs, recording that "The Ayre upon the east and south part of Lincolnshire is both thicke and foggy, by reason of the Fennes and unsolute grounds, but therewithal very moderate and pleasing..... the east and south is Fenny and brackish. Fynes Moryson, who died in 1630, found Lincolnshire rich in Corne and Pastures, and added The great Washes of Holland, when the sea flowes, are covered with water, but when it ebbes, the ground is discovered to be passed, but not without danger, and with a good guide. Dugdale, too, remembered the fogs, reporting the air being for the most part cloudy, gross, and full of rotten harrs; the water putrid and muddy, yea, full of loathsome vermin; the earth spungy and boggy, and the fire noisome, by the stink of smoaky hassocks.

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Fuller recorded the brakishness of the water and the grossnesse of the ayre of Holland, saying it was recompenced by the goodness of earth, abounding with deries and pasture.

It is against this background that the birth of Drainage Boards must be viewed: their forebears were the Commissioners of Sewers who first appear in this district in the middle of the 13th. Century: a jury would be summoned, a Court held, and the jurors would "present" with fine impartiality that the Queen's Majesty, the monastery of Crowland, Lord Wentworthe frontagers and local land owners had allowed e.g. the headings (of Gedney) and the outring of their town to decay and required them to be made kept and exalted to their proper height and breadth.

Meanwhile the 17th Century saw the start not only of the great reclamations of the Black Sluice district by the Earl of Lindsey, of Deeping Fen by Thomas Lovell and the Great Level by the Earl of Bedford but also of major reclamations of Marsh from the sea. Crown grants in the 17th. Century were made to Adventurers who enclosed land as early as 1632 in Tydd St Mary Parish with Vermuyden among their numbers, followed by the enclosure of Long Sutton, Lutton, Gedney, Whaplode, Holbeach and Moulton Marsh in 1660 to a total of 10,115 hectares. Here as elsewhere the Adventurers were quick to claim completion of their work and to take possession of their allotment but a petition of the Peregrine Bertie of the day shows that the Civil Wars and the hostility of the local inhabitants had led to setbacks. Thus in 1696 he deposed that his grandfather was granted 1,095 hectares of Marshland in Gedney, Fleet and Holbeach who did at very greate charge and expense imbank from the Sea a certaine Marsh called Gedney Marsh which he enjoyed for a small time until the beginning of the late Troubles in England (the Civil War) about the year 1640 when the inhabitants of the said Towne of Gedney did in a Riottoes manner throw downe the said Banks and laid all the said Marsh open to the Sea and a fresh bank had to be built in 1669/70. In all probability lack of drainage meant that the enclosed land was mainly grazed. In the Fen progress had been slow, in 1779 nearly the whole area from Sutton St Edmund to Cowbit was an unreclaimed Fen, as was part of Deeping Fen, the East and West Fens North of Boston and a vast area lying west of the River Witham in the direction of Lincoln. The condition of the Fen in South Holland is well illustrated by the extracts from the Court of Sewers records. They show how engines to be wrought by wind were planned to pump the water and how such plans were frustrated by the age old jealousies of neighbours and the unwillingness of the ratepayers to finance improvements.

For the Fens of South Holland the turning point came with the passing of the South Holland Drainage Act 1793: the promoters abandoned their efforts to persuade water to flow uphill with the uncertain aid of wind-engines and adopted the same scheme as the Black Sluice Commissioners by cutting a new main

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drain, the South Holland Main Drain, 22.5 kilometres long, from Cowbit in the West to Sutton Bridge in the East along the line of the low ground to connect with Derehams Drain and discharge into the River Nene at Peters Point upstream of Sutton Bridge. The construction of the Main Drain was followed by the cutting of many miles of feeder drain running North and South into it, with a major subsidiary, the Little South Holland, running West to East to drain the Northern fens of Weston, Moulton, Whaplode, Holbeach, Fleet and Gedney. Owing to the poor condition of the outfall of the River Nene the system did not function adequately. The new outfall cut was completed in 1832; the South Holland trustees contributed £7,000 and were given the right to lower or renew their outfall in consequence of which they constructed a new sluice in 1852 based on Edward Millington's recommendations. It had a total waterway of 9.5 metres with a cill level of -1.93 metres O.D.N.- 1.50 metres lower than the 1795 sluice. Some 13,760 hectares of land drained through the new sluice and during flood conditions the water level rose to about + 1.12 metres O.D.N. at tide locked periods.



In 1937 this sluice was replaced by a new one with a cill level of -3.05 metres O.D.N. and a waterway of 7.92 metres. The new sluice cost £39,690 and for the first time in this country well point de-watering equipment was used to overcome the difficulties encountered with the silty sub-soil conditions at this depth. Drainage was still by gravity and what was at best Summer grazing and a Winter haven for wild duck and geese had become, with the impetus added by two World Wars, first class grazing and finally largely arable land - a change which brought a call for an improved system of drainage.

In the meantime, reclamation from the sea continued unabated until more than 18,210 hectares of first rate land were added to the district - land which was rapidly ploughed up and again called for an improved system of drainage. The first step was towards a unified and formal structure for the district.

Five Internal Drainage Boards were set up under the Land Drainage Act 1930: in the early 1940's they formed a pool which, although changes were made over the years, remained in operation up to the 1st. August 1974, when they were

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amalgamated to form the present South Holland Internal Drainage Board. The Pool enabled Staff to be shared, Office and Workshop accommodation with plant and labour became interchangeable throughout the area on a rechargeable basis when the need arose. The local community has prospered as a result of improved land drainage standards and its prosperity is directly dependant on the efficiency of the evolved system to convey the surplus run-off to the Wash.

Since the 1930's, improvements have been carried out under capital works schemes grant-aided by the Ministry of Agriculture, Fisheries and Food and more recently the Department of the Environment, Food and Rural Affairs. Originally the whole of the area drained by gravity but pumping has been introduced so that today a total of 21,620 hectares - more than half of the district - are pumped. All of the Board's sixteen stations are equipped with electrically operated pumps but at the majority of sites gravity outfalls are still available to cope with power failure or breakdown. Pumping and improved drainage started in the richer marsh area with the provision of a new common outfall for the Lawyers and Andersons districts in 1949: this was followed by the construction of the Fleet Haven Pumping Station in 1958/59 at a cost of £21,793 plus £28,000 for drain works and the Dawsmere Pumping Station at an overall cost of £33,868.

In the same year the Lutton Leam Outfall Sluice and an inner sluice were reconstructed and the cost, with associated drain works was £142,000. In the old South Welland district a new sluice was built on the Holbeach River in 1955 and the Lords Drain Pumping Station was commissioned in 1962.

So far as the Fen was concerned the great need to fill the nations depleted larder during the last war resulted in a considerable area of low lying grassland being put under the plough: a better standard of drainage was demanded and the Main Drain Improvement Scheme which was designed in 1942, featured extensive deepening and widening operations in the Main Drain and Little Holland. Ten new open span bridges replaced old brick structures made obsolete by the improved channel design: a considerable length of feeder drains were improved and the catchment was expanded to about 16,390 hectares.

Even with these improvements it was found that the whole of the Fleet Fen area amounting to some 2,582 hectares was embarrassed by the water level in the Main Drain during flood periods. A State-Aided Scheme costing £104,500 was completed in 1971 which featured a new pumping station at the confluence of the Main Drain and the Fleet River: it introduced submersible pumping units into the field of land drainage and despite initial doubts they have proved most successful since they became operational in March 1968. In the same year the district experienced an extremely severe rainfall during the early hours of 11 July over 125 mm of rain fell in the Gedney Hill area and most of the Board's district received more than 75 mm. Since 1958 the South Holland district had suffered

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from flooding in varying degrees on six occasions and the seriousness of the 1968 conditions made it clear that works of considerable magnitude were required to bring the drainage up to modern standards.

As a first step, the Board decided to divert the run-off from the Urban District of Spalding into the adjacent Coronation Channel which forms part of the River Welland. A new pumping station costing £32,492 was commissioned in November 1970: it caters primarily for the run-off from the town but 405 hectares of adjacent Fen gain relief when the pumps are not overloaded by urban discharge.



For the remainder of the district, internal pumping of low lying land by means of five new pumping stations and ancillary drain works finally emerged as the most cost efficient solution to a difficult problem. The proposals provided a standard of 1.4 cumecs/1,000 hectares and a 0.90 metre freeboard to the general low land of each pumped catchment. The Main Drain was examined to ascertain the effect of increased flows during tide locked and free discharge periods. The outfall sluice was found to be adequate to deal with the pumped discharge without causing embarrassment to areas in the lower reaches which continued to rely on gravitational outfall.

The supply of all the pump and ancillary equipment was provided by British Pleuger Submersible Pumps Ltd. at a fixed price tender of £80,081. Civil engineering works for two stations ie Wisemans and Little Holland were let out to tender, with J L Kier Ltd. securing the contract with a figure of £69,735. The construction of the three other stations Sutton St James, Peartree Hill and Donningtons was undertaken by Board's direct labour. Together with the ancillary drain works and the construction of two new road bridges the grant-aided scheme cost nearly half a million pounds. This included the cost of diverting 1,940 hectares of the former Holland Elloe Internal Drainage Board to the South Holland Main Drain.

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Since 1974 the Board has constructed six new pumping stations and has continued to carry out capital improvements annually to the present day. In July 2003 Lawyers pumping station was commissioned, which replaced the existing 1949 sluice.

And so the work of the Board continues: it is the lineal descendant of the Holland Elloe Court of Sewers with 500 years and more of history behind it: the spade, the scythe and engine wrought by wind have given way to the hydraulic excavator, chemical and mechanical weed control and the modern pumping station, but the problems and those who solve them remain the same. The aid and interests of Central Government continues, be it in the person of the Lord Chancellor who used to appoint the Commissioners of Sewers or in modern times of the Department of the Environment, Food and Rural Affairs, who oversee and help to finance the Board's work: Local Land drainage has always depended - and still depends - on the public spirit and detailed knowledge of the Board members: those who guard the banks and ring the bells in times of flood still watch over the Fens. The great inundation of waters of 1427 was repeated in 1947, watery years came all too often and the rage of the salt water was much in evidence in 1953 and 1978.

Great strides forward have been made: the system of drainage based on individual liability to repair a particular stretch of drain gave way to the small Board centred on a particular drain or outfall: the coming of expensive machinery and modern methods has resulted in their amalgamation into an organisation big enough to employ the professional staff and own the machinery and equipment essential to efficient drainage but without losing the intimate contact with the land which is at the heart of good drainage.

Written by:

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Written during 1984