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WITHAM URBAN DISTRICT

REPORT

OF THE

Medical Officer of Health

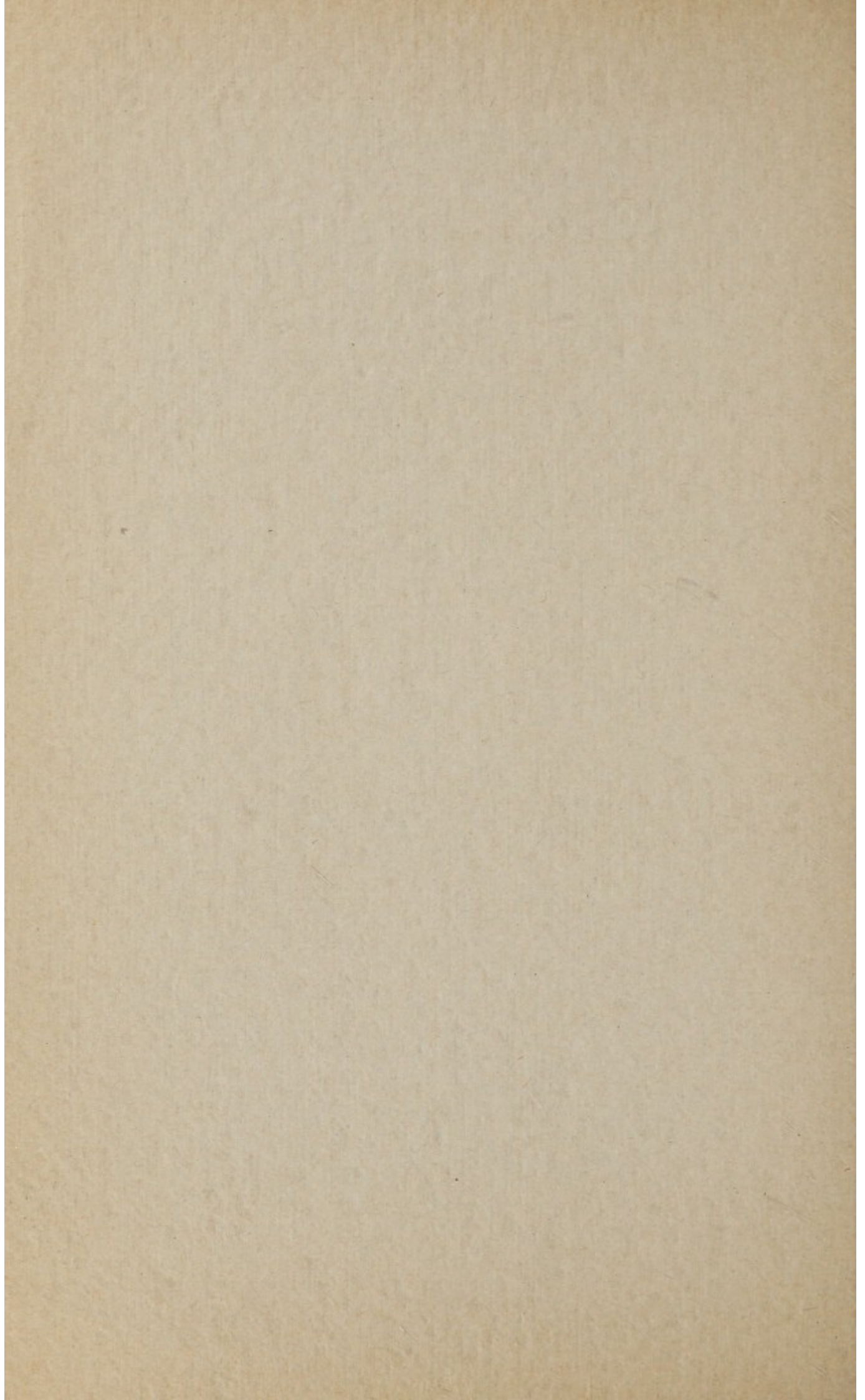
W. J. MOFFAT
M.B., Ch.B., D.P.H.

FOR THE YEAR 1947

TOGETHER WITH THE

REPORT OF THE

CHIEF SANITARY INSPECTOR



Witham Urban District Council

PUBLIC HEALTH COMMITTEE.

W. W. Burrows, Esq., J.P. (*Chairman*).

D. J. Maidment, Esq., J.P. (*ex-officio*).

A. J. Goodrich, Esq., J.P.

S. J. Soar, Esq.

N. L. Dickson, Esq.

S. C. Giggins, Esq.

S. R. Nutley, Esq.

J. Ager, Esq.

PUBLIC HEALTH OFFICERS.

Medical Officer of Health:

W. J. Moffat, M.B., Ch.B., D.P.H.

Chief Sanitary Inspector & Inspector of Meat & Other Foods:

E. H. C. Wadhams, M.R.San.I., M.S.I.A.

Additcnal Sanitary Inspector:

H. Field, M.S.I.A., Certificate Meat & Other Foods.

Clerical Assistant:

J. Banks, (Resigned May, 1947).

R. G. Chapman, (Appointed July, 1947).

Public Health Offices,
Town Hall, Braintree.

August, 1948.

Mr. Chairman, Madam and Gentlemen,

I have the honour to present for your consideration my Annual Report for the year 1947 on the health and sanitary conditions in the Witham Urban District.

In the absence of any statistics as to the general sickness rate it is not possible to be precise in regard to the general health of the District during the year. There is, however, no evidence that this was below the level of previous years, and a further fall in the death rate, together with the same low rate of infant mortality as prevailed last year support this view. It would seem that the peak birth rate for the post war period in this District was reached in 1946.

Progress in the building of new houses during the year was not such that much impression could be made on the very great demand for housing accommodation which at present exists in the District. The demand arises both from families who are now compelled to share houses, generally with relatives, and from those who, for want of better, have to remain in occupation of properties which are well below present day standards.

Proposals have been made under the Greater London Plan that the town of Witham should ultimately expand to a population of four or five times that of the existing one. The Ministry of Town and Country Planning have indicated that part, at least, of the increase in population shall take place. Before any considerable increase takes place, the Council will have to ensure that there is available an adequate supply of main water and that sufficient sewers and sewage disposal plant are provided.

The laying of the new water main from the South Essex Waterworks Company's trunk main at Wickham Bishops was commenced during the year. It is anticipated that this supply will be available within the District in 1948. This source, together with the two existing sources, should provide for about twice the existing population, but the full implementation of the scheme for expansion will necessitate the Council seeking further water supplies from outside the District, as there are no alternative worthwhile sources in their area.

As in 1946, the Council's two sources of supply proved incapable of providing sufficient water for the increasing demand and the deficit was obtained from the Braintree Rural District Council's mains.

The sewerage system in the town of Witham again showed that the need for improvement had not decreased. The existing main sewers which were laid many years ago were not very well designed and in consequence are constantly in need of attention. When the details of the proposed expansion are finally decided upon and it is known in what localities new development is to take place, one of the first tasks will be the modernisation of the system of sewerage and sewage disposal as far as the town of Witham is concerned.

During the year, several meetings were held between representatives of the food handling industry in the Urban District and the Council's Public Health Officers in order to discuss the problem of food and drink infections and how best the two bodies could co-operate in combating the potential dangers to health that exist in this trade.

I am grateful for this opportunity of expressing my appreciation of the help and support always given by the members of the Council and of the ever ready co-operation from the Council's Officers during the year 1947.

I am, Mr. Chairman, Madam and Gentlemen,

Your obedient Servant,

W. J. MOFFAT.

GENERAL STATISTICS.

Area (in acres) 7,329.

Population (estimated mid-year) 8,144.

Number of inhabited houses according to rate books 2,306.

Rateable value (March 1948) £42,886.

Sum represented by a penny rate £162 2s. 3d.

Social Conditions. No appreciable change has taken place since 1939. The area has two minor industrial centres in the town of Witham and the garden village of Silver End. The remainder of the area is almost entirely agricultural.

There was no unemployment problem during 1947.

VITAL STATISTICS.

Extracts from the vital statistics of the District for the years 1938 to 1947 inclusive will be found on page 5. For want of an Area Comparability Factor for the District for recent years, a true comparison between the local and the national death rates is not possible. It would appear that there has been little change in the distribution of the local population in the past few years, and that the local death rate is equally favourable compared with that of England and Wales as it was in the pre-war years.

On page 6 will be found a table setting out the Causes of Death of residents of the District during the year 1947, from information supplied by the Registrar General.

The nett deaths of "Residents" whether occurring within or without the Urban District were distributed in age groups as shown below:

All Ages	Under 1 year	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 35	35 and under 45	45 and under 55	55 and under 65	65 and under 75	75 and upwards
78	5	—	—	2	2	1	4	7	10	18	29

TABLE I.

EXTRACTS FROM VITAL STATISTICS FOR 1947 AND PREVIOUS YEARS.

Year.	Population estimated mid-year.	BIRTHS			DEATHS										Natural Increase (Excess of Births over Deaths)
		NETT			Total Number Registered in District	TRANSFERABLE		NETT				At all ages		Rate England & Wales	
		Number	Rate	Rate England & Wales		of non-residents registered in District	of residents not registered in District	Number	Rate per 1,000 net births	Rate England & Wales	Number	Rate			
1938	7,243	104	14.4	15.1	52	13	19	5	48	53	58	8.0	11.6	46	
1939	(a)7,293 (b)7,491	103	14.1	14.8	76	23	39	5	49.5	50	87	11.6	12.1	16	
1940	7,707	102	13.2	14.1	68	10	26	4	39.2	57	84	10.9	14.4	18	
1941	7,929	121	15.6	13.9	67	7	20	3	24.8	60	80	10.1	13.5	41	
1942	7,781	124	15.9	15.6	52	11	26	3	24.2	51	67	8.6	12.3	57	
1943	7,949	114	14.3	16.2	53	10	28	2	17.5	49	71	8.9	13.0	43	
1944	7,735	128	16.6	17.7	61	14	27	8	63.5	45	74	9.6	12.7	54	
1945	7,619	145	19	15.9	71	18	28	10	68.9	46	81	10.6	12.6	64	
1946	7,960	170	21.5	19.1	66	6	25	6	35.3	43	85	10.7	11.5	85	
1947	8,144	149	18.3	20.5	57	7	28	5	33.6	41	78	9.6	12	71	

(a) for calculation of Birth Rates.

(b) for calculation of Death Rates and notifiable disease.

o Provisional.

x Rate per 1,000 'related' births.

CAUSES OF DEATH.

The Table below was compiled from figures supplied by the Registrar-General and the classification is given under the new abridged list of causes of death as used in England and Wales contained in the Manual of the International List of Causes of Death.

Cause of Death	Male	Female	
Typhoid and paratyphoid fevers	—	—	
Cerebro-spinal fever	—	—	
Scarlet fever	—	—	
Whooping cough	—	—	
Diphtheria	—	1	
Tuberculosis of respiratory system	—	—	
Other forms of tuberculosis	—	—	
Syphilitic disease	—	—	
Influenza	2	—	
Measles	—	—	
Acute poliomyelitis and polio-encephalitis	1	—	
Acute infectious encephalitis	—	—	
Cancer of buccal cavity & oesophagus (M) uterus (F)	1	—	
Cancer of stomach and duodenum	1	1	
Cancer of breast	—	2	
Cancer of all other sites	4	4	
Diabetes	—	—	
Intra-cranial vascular lesions	2	5	
Heart disease	8	10	
Other diseases of circulatory system	2	1	
Bronchitis	3	5	
Pneumonia	1	2	
Other respiratory diseases	—	—	
Ulcer of stomach and duodenum	—	—	
Diarrhoea under 2 years	—	—	
Appendicitis	—	—	
Other digestive diseases	1	—	
Nephritis	1	2	
Puerperal and post abortive sepsis	—	—	
Other maternal causes	—	—	
Premature birth	1	—	
Congenital malformation, birth injury, infantile disease	2	1	
Suicide	1	1	
Road traffic accidents	1	1	
Other violent causes	2	—	
All other causes	4	4	
All causes	...	38	40

Details of births, still births and deaths of infants under one year of age in the District are given below for the year ending December, 1947.

Live Births	Male	Female
Total	81	68
Legitimate	74	66
Illegitimate	7	2
Birth rate per 1,000 of the estimated resident population 18.3		

Still Births	Male	Female
Total	3	3
Legitimate	3	3
Illegitimate	—	—
Rate per 1,000 total (live and still births) 19.7		

Deaths of Infants under 1 year of age

	Male	Female
Total	4	1
Legitimate	4	1
Illegitimate	—	—

Death Rate of Infants under one year of age.

All Infants per 1,000 Live Births 33.6

Legitimate Infants per 1,000 legitimate Live Births 35.7

Illegitimate Infants per 1,000 illegitimate Live Births —

GENERAL PROVISION OF HEALTH SERVICES.

Public Health Officers.

For List see page 1.

The Medical Officer of Health is also Medical Officer of Health for the Urban District of Braintree and Bocking and for the Rural Districts of Braintree and Dunmow, and Assistant Medical Officer for the Essex County Council.

Office accommodation is provided for him, by arrangements made by the Braintree and Dunmow (United) Sanitary Districts Committee, at the Braintree and Bocking Urban District Council Offices in the Town Hall, Braintree.

The appointment of an Additional Sanitary Inspector who took up his duties early in 1947, afforded much needed relief to the Council's Sanitary Inspector. The latter, in addition to his routine duties, which included a considerable amount of meat inspection, had charge of the Council's Refuse Collection service and their two Sewage Disposal Works. As well as

having to undertake these duties, during the interim of three months between the departure of one and the coming of another Surveyor, the Sanitary Inspector had been assisting in the work of the Surveyor's Department.

Laboratory Facilities.

The bacteriological laboratory which serves the needs of the Witham Urban District is that at Black Notley Hospital in the adjoining Braintree Rural District. This service is, by arrangement of the Ministry of Health, under the control of the County Medical Officer.

The Essex County Council have made arrangements with the Counties Public Health Laboratories, 66 Victoria Street, London, S.W.1., whereby the latter undertake for the County District Councils the bacteriological and chemical analyses of water, the chemical analyses of sewage effluents and the bacteriological examination of milk and ice cream, and the examination of other foods for pathogenic bacteria.

The examination of milk samples from the Urban District is made under similar arrangements to the above at the Essex Institute of Agriculture at Writtle, near Chelmsford. Chemical examination of foodstuffs is undertaken by the Public Analyst for the Essex County Council.

Ambulance Facilities.

The Urban District Council continues to operate their own ambulance for the use of patients in the Urban District and in the surrounding area. This ambulance is only available for cases of general sickness and accident.

For the transport of cases of infectious disease use was made of the Ambulance of the Maldon Joint Hospital Board or of ambulances from nearby Infectious Diseases Hospitals.

The ambulance service has proved to be adequate for the demands made upon it.

Co-ordination of ambulance services in the Urban District and in adjoining Districts has been arranged by the Essex County Council.

Nursing in the Home.

The Essex County Nursing Association undertake this service satisfactorily in the District.

Treatment Centres and Clinics.

These are provided by the Essex County Council. Maternity and Child Welfare Centres are held both at Witham and Silver End, while clinics at Braintree serve the inhabitants of the Witham Urban District for such other services as Tuberculosis, Dental Treatment, Orthopaedic and Ophthalmic services. Clinics at Chelmsford or Colchester are available also for Mental Treatment and Venereal Disease.

Day Nursery.

The Essex County Council provide a day nursery for some 30 children at Brookcote, Chipping Hill, Witham. This was opened during the war because of the demand for it on behalf of mothers engaged in industry. The demand has not decreased since the end of the war.

Hospitals.

The Urban District is served by the general hospitals at Colchester, Chelmsford and Braintree and the Essex County Council Hospital, Black Notley.

Maternity cases are accommodated at the Bungalow, Collingwood Road, Witham, St. John's Hospital, Chelmsford, or the Maternity Block at the William Julien Courtauld Hospital, Braintree.

Cases of infectious disease from the Urban District are admitted to Maldon Joint Hospital Board's Isolation Hospital at Heybridge, Maldon. On occasions, patients from the Urban District have been admitted to the Infectious Diseases Hospitals at Chelmsford and Colchester.

St. Michael's Hospital, Braintree, is the Institution of the Social Welfare Department of the Essex County Council which accommodates the majority of the cases of chronic sickness and senility from the Urban District when in-patient treatment is required.

SANITARY CIRCUMSTANCES OF THE AREA.

Water.

A description of the existing sources of the main piped water supply of the Witham Urban District was given in my Annual Report for 1946.

The public water supply for the District was satisfactory in both quality and quantity during the year with the qualification that the pressure in the Powers Hall End area was not quite adequate for a small agricultural demand there. The supplementary supply, first obtained in 1946, from the South Essex Water Company by way of the Braintree Rural District Council's mains had again to be used to make up for the deficiencies between the quantity supplied by the combined sources of Bradwell Springs and the Council's Braintree Road Waterworks, and the increasing demand.

Samples of the raw water from each source of the main piped supply are taken periodically for bacteriological examination and more frequent samples of treated water going into supply are taken for the same purpose. In each case, two samples of raw water were sent for bacteriological examination during the year together with eleven samples of treated water from the Braintree Road supply, seven from the Bradwell Springs supply, and five from the mixed supplies. Chemical examinations are also asked for regularly. There were eight such samples taken during 1947.

Reports on the complete analyses of the raw water from Bradwell Springs and that from Braintree Road Waterworks will be found on pages 12 and 13 respectively.

The waters are not generally liable to have any plumbosolvent action. On occasions recently, the reaction of the water from Bradwell Springs has been slightly on the acid side of neutrality.

No action was required during the year in respect of any form of contamination.

Of the 2,306 separate dwellings in the Urban District, all but 139 have a piped main water supply laid on inside the house. The population thus supplied is estimated at 7,595 persons. In addition, main piped water supplies are available by means of standpipes to a further forty houses with an estimated population of one hundred and forty persons. The remaining properties rely for their water supply on shallow wells and springs. The scheme for the extension of the water

main to the further end of Maldon Road should be completed in 1948 and will result in the elimination of sources of water supply of doubtful quality in that area.

Considerable progress had been made by the end of the year in the laying of the new main from the South Essex Water Company's trunk main at Wickham Bishops to the Council's water tower in Cressing Road. At that period, 1,400 yards of nine inch water main had been laid.

During the year the following extensions to existing water mains were laid:—

Braxted Road, 370 yards of 3 inch main.

London Road, 65 yards of 3 inch main.

Glebe Crescent, 645 yards of 3 inch main.

Water Consumption.

The Surveyor has supplied the following figures relating to water consumption in the Urban District during 1947:—

Total amount obtained during the year from:—

1. Braintree Road Waterworks, 26,935,000 gallons.
2. Bradwell Springs Supply to Silver End village, 36,500,000 gallons.
Bradwell Springs Supply to remainder of district, 47,189,000 gallons.
3. Braintree Rural District Council main, 15,152,000 gallons.

These figures represent, for the whole of the Urban District, a daily consumption of 42.33 gallons per head of the population for all purposes. The rate of consumption for trade purposes, apart from Silver End of which exact particulars cannot be obtained, is on the average 12.32 gallons per head per day. It is probable that the rate for Silver End is at least as high as that for the remainder of the District. The overall rate for domestic consumption is, at times, approaching thirty gallons per day.

WATER ANALYSES.

Sample from Bradwell Spring Supply.

Date of Sample 9.12.47.

Chemical Results in Parts per Million.

Appearance. Bright with a very few particles of mineral debris.

Colour	... ..	...	Nil
Odour	... ..	...	Nil
Electric Conductivity at 20°C			710
Chlorine in Chlorides		...	30
Hardness	Total	...	380
	Temporary	...	275
	Permanent	...	105

Metals Absent

Fluorine 0.1

Turbidity (Silica Scale) Less than 5

Reaction pH on the acid side
of neutrality 6.9

Total Solids dried at 180°C 475

Alkalinity as Ca CO₃ 275

Free Carbon Dioxide 50

Nitrogen in Nitrates 3.8

Nitrogen in Nitrates Absent

Free Ammonia 0.010

Albuminoid Ammonia 0.012

Oxygen absorbed in 4 hrs.
at 27°C 0.05

Bacteriological Results.

Number of Colonies developing on Agar per ml. in	1 day at 37°C	2 days at 37°C	3 days at 20°C
	0	0	—

Presumptive Coliform Reaction

Present in —

Absent from 100 ml.

Bact. Coli.

Present in —

Absent from 100 ml.

Report.

This sample is practically clear and bright in appearance, neutral in reaction and free from metals although, as the reaction is on the acid side of neutrality and the water has a high content of free carbon dioxide, a corrosive tendency towards metals may be expected. It is very hard in character, though not to an excessive degree, contains no excess of salinity or mineral constituents in solution and is of very satisfactory organic quality and bacterial purity.

These results are consistent with a pure and wholesome water suitable for public supply purposes.

G. J. LAWS,
The Counties Public Health Laboratories.

Sample from Braintree Road Waterworks.

Date of Sample 31.12.47.

Chemical Results in Parts per Million.

Appearance. Bright with a few particles of mineral debris.			
Colour	...	...	Nil
Odour	...	...	Nil
Electric Conductivity at 20°C			1950
Chlorine in Chlorides	...		460
Hardness	Total	...	45
	Temporary	...	45
	Permanent	...	0
Metals	Iron	...	0.08
	Other Metals		Absent
Fluorine	...	...	3.5
Turbidity (Silica Scale)	Less than		5
Reaction pH.	Faint alkaline		8.3
Total Solids dried at 180°C			1300
Alkalinity as Ca CO ₃	...		295
Free Carbon Dioxide	...		Absent
Nitrogen in Nitrates	...		0.0
Nitrogen in Nitrates	Less than		0.01
Free Ammonia	...		1.0
Albuminoid Ammonia	...		0.010
Oxygen absorbed in 4 hrs.			
at 27°C	...	...	0.15

Bacteriological Results.

Number of Colonies developing on Agar per ml. in ...	1 day at 37°C	2 days at 37°C	3 days at 20°C
...	0	0	—

Presumptive Coliform Reaction

Present in —	Absent from 100 ml.
Bact. Coli. Present in —	Absent from 100 ml.

Report.

This sample is practically clear and bright in appearance, faintly alkaline in reaction and free from metals apart from a negligible trace of iron. The water is soft in character and its content of salinity and mineral constituents in solution, although high, is not excessive. It is of satisfactory organic quality and bacterial purity, from which aspects the water is considered wholesome in character and suitable for public supply purposes.

G. J. LAWS,

The Counties Public Health Laboratories.

Drainage and Sewerage.

A survey of existing property in the Urban District in regard to the provision of house drainage was completed in the autumn of 1947. The results of this survey are tabulated below:—

	Drainage to					
	Sewer 2068	Septic Tanks	Cesspools	Ditches via Cesspool	Direct to Ditches	No Drainage
Houses with W.C.'s and Sinks	—	5	26	9	—	—
W.C.'s and Gulley Drain. No Sinks	7	—	—	—	—	—
Pailclosets, Gulley Drains and Sinks	—	—	92	30	38	—
Pailclosets and Sinks	—	—	—	—	—	2
Pailclosets and Gulley Drains only	—	—	—	—	8	—
Privies and Gulley Drains only*	—	—	—	—	6	—
Pailclosets, no sinks or drains	—	—	—	—	—	13
Privies, no sinks or drains*	—	—	—	—	—	2
TOTAL	2075	5	118	39	52	17

*Property already condemned under the Housing Act.

Of the two hundred and thirty one properties not at present connected to the sewer, existing schemes provide for the serving of some seventy two houses. Prospective future development of the District along the lines at present suggested should allow for the sewerage of another forty eight houses. The remaining one hundred and eleven properties consist of agricultural properties and other isolated dwellings throughout the Urban District together with the Rivenhall End area, for which no proposals have so far been formulated.

The surcharging of main sewers in Witham town again occurred during periods of heavy rain. This was only to be expected and will continue until the existing sewerage system is redesigned to conform to modern standards.

The working of the three Sewage Disposal Works in the District during the year is commented upon separately below.

Extensions to the main sewers were made as follows during 1947:—

Glebe Crescent, 283 yards of 6 inch main.

Glebe Crescent, 238 yards of 9 inch main.

In the same period there were forty seven new connections made to the main sewers, all of which were on the Witham system.

Witham Sewage Works.

In addition to the overloading to which these works are subject, an additional handicap to their satisfactory functioning was imposed when trade waste containing excessive amounts of zinc and iron sulphates gained access to the Works. The discharge of this trade waste was continuous, with intermittent periods of abnormally heavy dosage. The Council sought the assistance of the Counties Public Health Laboratories in its negotiations with the Company concerned. Before the end of the year an agreement had been reached between the Council and the Company whereby the latter undertook to instal a treatment plant at the factory and to regulate the rate of admission of trade waste to the sewer. It is anticipated that it will be some months before effect can be given to the Company's undertaking, during which time the detrimental effect of this trade waste on the sewage disposal plant must continue in part.

Despite the trouble caused at the Works by the trade waste the results of samples of the effluent from these Works were reasonably good. The results of the analysis of these samples are given below:—

Samples taken by	Total	Satisfactory	Border Line	Unsatisfactory
Southend Waterworks Co	32	28	0	4
Essex County Council	4	2	2	—
Witham U.D.C.	6	4	2	—

Silver End Sewage Works.

These works were on the whole satisfactory during the year, although two out of the eight samples of the effluent taken by the Essex County Council were reported as being unsatisfactory. Both of these unsatisfactory samples were taken early in the year when the Works had been, for a time, completely frozen up. Five other samples taken by the Urban Council and the Southend Water Works Company were all reported upon as satisfactory.

Rivenhall Sewage Works.

There was an increased flow to these works during the year when the disused airfield became occupied by the Polish Resettlement Corps. The flow was well within the designed capacity of the Works. Three samples taken by the Essex County Council gave results well within the prescribed standards.

Rivers and Streams.

There are now no constant sources of pollution of rivers and streams in the Urban District, but on three occasions representations had to be made to local factories because of the occasional discharge from their premises of oil and other waste into the River Brain.

Public Cleansing.

The regular collection of refuse and salvage was maintained without interruption throughout the year.

Negotiations for the extension of the Guithavon Valley tip on the north side of the railway viaduct were continued during the year. Advantage was taken of the need to fill in the stagnant pond at the Rickstone's Road Cemetery by using the site for controlled tipping for a period of three months. A further two months controlled tipping was successfully undertaken on the site of a demolished house.

The collection of house refuse and salvage is under the control of the Chief Sanitary Inspector, in whose report will be found details of the working of the scheme during the year.

Street Cleaning and gulley emptying are the responsibility of the Council's Surveyor.

Sanitary Inspection of the Area.

With the appointment of an additional Sanitary Inspector to the staff it was possible to widen the scope of the work done under this heading. Follow up work in particular could be undertaken in much greater detail, but perhaps the greatest benefit was obtained in the inspection and supervision of food handling premises.

An analysis of visits and inspections made by the Council's staff is given in the report of the Chief Sanitary Inspector.

Shops.

Attention was concentrated particularly on shops whose main business was food handling. Several improvements were in hand at the end of the year.

Tents, Vans and Sheds.

There is only one site regularly used, and that only in the winter months for the accommodation of moveable dwellings in the district.

A considerable movement of caravans takes place in and through the District in the summer months when there is a seasonal demand for casual agricultural labour. The Council's powers of control in these cases are very limited, as the stay of these nomads is of short duration in any one locality.

Vermin Infestation.

The District appears to be reasonably free from infestations. Cases are only brought to light upon complaint as no routine inspections are made.

Two cases were discovered in 1947. These were only minor infestations, and they were successfully dealt with by spraying the premises with a five per cent solution of D.D.T. There was no recurrence of the trouble.

Factories.

Details of the inspections made during the year to premises in the Urban District under the Factories Act, 1937 are given in the table on page 19.

Although there are large numbers of outworkers employed by one local factory the premises were in no case unsuitable.

Schools.

All seven of the schools in the Urban District are provided with main supplies, and all but one are connected to the main sewer. The exception is a voluntary school in the rural part of the District which it is hoped will be able to connect to the sewer soon. In this case, informal representations by the Council to the Managers resulted in some necessary repairs being made to the existing sanitary accommodation.

Rodent Control.

During the first six months of the year 1947, the Ministry of Food N.S. 12 Scheme for Rodent Control continued in operation in the Urban District. The results of the operation of this scheme were highly successful as a result of the early intimations of infestation and their energetic follow-up. On the completion of the scheme in June, the District was almost free of rodent infestation.

Unfortunately, now that a return has had to be made to the system of re-charging domestic occupiers, there is a tendency for a greater time lag to develop between the observation of infestation and the reporting of these to the Council.

Factories Act, 1937

I. INSPECTION for purposes of provisions as to health (including inspections made by Sanitary Inspectors).

Premises	Number on Register	Number of		
		Inspections	Written Notices	Occupiers Prosecuted
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	8	8	2	—
(ii) Factories not included in (i) in which Section 7 is enforced by the Local Authority	41	43	6	—
(iii) Other premises in which Section 7 is enforced by the Local Authority (excluding out-workers premises)	2	2	—	—
	51	53	8	—

II. Cases in which DEFECTS were found

Particulars	Number of case in which defects were found				Number of cases in which prosecutions were instituted
	Found	Remedied	Referred		
			To H.M. Inspector	By H.M. Inspector	
Want of cleanliness (S.1)	2	1	—	—	—
Overcrowding (S.2)	—	—	—	—	—
Unreasonable temperature (S.3)	—	—	—	—	—
Inadequate ventilation (S.4)	—	—	—	—	—
Ineffective drainage of floors (S.6)	—	—	—	—	—
Sanitary conveniences (S.7)					
(a) insufficient	—	—	—	—	—
(b) unsuitable or defective	6	6	—	—	—
(c) not separate for sexes	—	—	—	—	—
Other offences (not including offences relating to Outwork)	—	—	—	—	—
Totals ...	8	7	—	—	—

HOUSING.

The available housing accommodation in the District was increased by the completion during the year of a further eighteen traditional houses on the Council's site at Glebe Crescent, Witham, and nineteen prefabricated types, also in Witham. In the same period a further fourteen houses had been completed by private enterprise.

Of the houses still standing, but already dealt with under the Housing Acts by Demolition Order or by being contained in confirmed clearance areas, two became unoccupied during the year when the tenants were rehoused. Because of their gross disrepair no reoccupation took place. There were a total of thirty three condemned properties still in occupation at the end of the year, and those were housing thirty six separate families. Seven of these houses were overcrowded according to the standards of the Housing Act 1936.

Closing orders, in respect of basement rooms in a terrace of otherwise reasonably satisfactory houses were in the course of being made by the Council, the owner agreeing, in the case of numbers 5-15 Guithavon Street. These rooms are generally used as kitchens and possess water taps, sinks and sink drains. The reasons for making the order are that, in addition to being damp and lacking sufficient light and ventilation, these basement rooms are liable to flooding by a back flow of sewage and surface water in times of heavy rain.

Over and above the houses already dealt with under the Housing Acts there still exist a considerable number of properties in the Urban District which fall well below present day standards of fitness. In the majority of such cases the particular properties were due for representation and consideration by the Council when the outbreak of war caused a postponement of all such work.

In the District the waiting list for Council Houses at the end of 1947 contained the names of two hundred and sixty five applicants, after the list had been revised and checked. Included in the list were some, but not all, of the occupants of condemned or otherwise insanitary houses. An appreciation of the possible future demand may be obtained if the above figures are read in conjunction with the present marriage rate of 8.97 per 1,000 population for this area (equivalent to some seventy two marriages annually). The number of houses which become vacant each year is rarely in double figures. The result is that the present demand for housing accommodation in the District will be only met by the erection of a

further three hundred and twenty houses. That goal is still regrettably, in the more remote future.

There were twenty eight Council Houses under construction at the end of 1947. A further twelve were being erected by private enterprise, two of which were for agricultural workers. The Council had proposals for the erection of sixty five houses for agricultural workers in various parts of the District including Powers Hall Road, Maldon Road, Blunts Hall Road, Rivenhall Oak, Boars Tye Road and Western Road and it is anticipated that construction of some will have commenced in 1948.

It has not been possible in present conditions and with available resources to attempt anything like a systematic housing inspection of the District. The endeavour has been to ensure the execution of all essential repairs to dwelling houses when necessary.

INSPECTION AND SUPERVISION OF FOOD.

Owing to the increase in Staff it has been possible to give to this aspect of Public Health more attention than has previously been the case, and more in keeping with its increasing importance at the present time.

Representatives of all concerns in the District engaged in food handling were invited to one of three similar meetings held in the Council Chamber, where a talk by the Council's Public Health Officers was given and followed by a discussion on the problems of food and drink infections. Out of 72 firms invited to one or other of these meetings all but 17 attended, and of these 17, the majority were the smaller concerns.

The addresses given to these meetings sketched the nature of food borne infections, outlining their bacteriological origin and emphasising the need for care in the preparation and handling of food at all times. The subsequent discussions revealed an increasing appreciation in the members of the industry of the need for constant observation of the rules of personal hygiene, but stressed the difficulties of attaining the ideal as regards premises and equipment, because of present day shortages of materials. It was possible in some instances to advise traders how to obtain supplies of scarce materials.

The main purpose of the meetings was, however, to introduce a campaign to raise the level of hygiene in the food handling premises in the District, with the co-operation of the traders themselves. This campaign was just getting under way by the end of the year, by which time it could be said that preliminary results were encouraging.

Food Poisoning.

There were seven cases of food poisoning notified in the Urban District in 1947. In four of these it is reasonably certain that the offending foodstuffs were consumed outside the District and the information was passed on to the areas concerned.

The remainder were all members of one household, who had consumed salt beef. This salt beef had been obtained from a shop, where an assistant was suffering from a boil on the neck. The beef, after purchase, had been kept in a brine bath in the shop for two or three days before delivery to the house. A culture of staphylococcus pyogenes was obtained from the stools of the patients and from the boil on the neck of the shop assistant, but, of the suspected beef, none could be recovered for bacteriological examination.

Milk Supply.

The following premises in the Urban District are registered for the production and/or sale of milk.

Tuberculin Tested Producers	3
Accredited Producers	5
Undesignated Producers	1
Pasteurising Establishments	1
Milk Shops	4

Inspections are made regularly by the staff at the above premises, acting in concert with the Inspectors of the Essex County Council in the case of producers of designated milks.

Both authorities take regular samples of milk from premises and dealers in the Urban District. A summary of the samples taken and of the results obtained during the year is given below.

Samples taken by the Essex County Council—

Milk	Results		
	Satisfactory	Unsatisfactory	Total
Tuberculin Tested	6	4	10
Accredited	11	1	12
Pasteurised	21	1	22

Samples taken by Witham Urban District Council.

Milk	Results		
	Satisfactory	Unsatisfactory	Total
Tuberculin Tested	6	—	6
Accredited	13	—	13
Pasteurised	11	—	11
Ordinary	15	1	16
Total	83	7	90

Meat.

During the year slaughtering continued at the Ministry of Food Slaughterhouse in Witham. The Council's Inspectors undertake the work of meat inspection at this slaughterhouse. Particulars of the meat inspected and of that condemned are given in the table below:—

Carcases Inspected and Ccndemned.

	Cattle excluding		Sheep and			Goats
	Cows	Cows	Calves	Lambs	Pigs	
Number killed	1162	414	1245	3397	195	2
Number Inspected	1162	414	1245	3365	195	2
<u>All Diseases except Tuberculosis</u>						
Whole carcases condemned	3	11	6	14	2	—
Carcases of which some part or organ was condemned	448	116	8	73	12	—
Percentage affected	42.2	28.2	1.12	2.56	7.18	—
<u>Tuberculosis only</u>						
Whole carcases condemned	6	22	—	—	4	—
Carcases of which some part or organ was condemned	116	151	2	—	8	—
Percentage affected	10.5	41.7	0.16	—	6.15	—

Compared with 1946, there was a decrease of some twenty per cent in the amount of slaughtering done at the Witham Slaughterhouse in 1947. Even so, the work of meat inspections continues to make considerable demands on the Inspectors' time, including attendance at the Slaughterhouse in the evenings, at week ends and in holiday periods. In the circumstances the standard of close on one hundred per cent inspections of all carcasses slaughtered is a very good one.

Following on discussions regarding structural improvements between Ministry of Food Officials and the Council's Officers in 1946, further meetings took place in 1947, and some of the suggestions have been put into effect, but lack of space on the present site is the main limiting factor which prevents the development here of the ideal of a central abattoir for the District.

Ice Cream.

Under Section 158 of the Essex County Council Act 1933, three manufacturers of ice cream, who were also vendors, were registered with the Urban District Council in 1947. In addition, six vendors of ice cream manufactured elsewhere were also registered.

With the coming into force of the Ice Cream (Heat Treatment) Regulations of 1947 in May, one manufacturer ceased to produce. Another gave up making ice cream later when a sample of the product was reported upon as being of unsatisfactory bacterial quality. The third manufacturer employed only the "cold mix" method. In this case a first sample was placed in the Ministry of Health's Provisional Grade IV, but a second, taken after the premises had been visited and advice given as to the methods used, was placed in Grade II.

Three samples from vendors were also taken during the season. Two of these were in Grade III and the other in Grade II.

Bakehouses.

In common with other food preparing premises, the bakehouses in the Urban District have been regularly inspected. Generally, conditions have been found to be reasonably satisfactory.

Other Foods.

Routine visits have been paid to shops in which food is exposed for sale. Food condemned in shops, generally upon complaint from the shopkeeper totalled just over 13 cwt. Of this total about $2\frac{3}{4}$ cwt. was composed of various tinned foods, and $5\frac{1}{2}$ cwt. a consignment of flaked oats. Details of the

condemnations during the year will be found in the report of the Chief Sanitary Inspector.

PREVALENCE AND CONTROL OVER INFECTIOUS DISEASES.

There was no undue prevalence of any of the common communicable diseases in the District during the year. Particulars of cases other than Tuberculosis, notified in the District during the year are given in the table on page 26.

Poliomyelitis.

There was only one confirmed case of this disease in the District during the period of the country-wide epidemic. Medical assistance was not sought until paralysis was well developed and the patient died some hours after admission to hospital, of paralysis of the diaphragm.

There was no history of contact with any known case of the disease, but a younger brother had a mild illness some ten days previously which may have been an abortive attack of the disease.

Diphtheria.

The two notified cases of diphtheria, one of which proved fatal, were in adults. Neither had been immunised. There was an interval of five months between the two cases.

Particulars are given below of children in the District under fifteen years of age on 31st December, 1947 who had been immunised against diphtheria under the schemes operating in the District by the Essex County Council and the Child Welfare Authority and the Urban District Council.

Number of children who had completed a full course of Immunisation at any time up to 31st December, 1947

Age at 31.12.47 i.e. born in year	Under 1 1947	1 1946	2 1945	3 1944	4 1943	5—9 1938-42	10—15 1933-37	Total under 15
Number immunised	—	59	69	77	99	417	473	1194
Estimated mid-year Child population 1947	660			1100			1760	

In addition to the above children, there have been, in recent years, particularly in the 0-4 years age group, an increasing number of children who are immunised by general practitioners in the District. It has not been possible to obtain particulars of the numbers of children thus dealt with.

Notifiable Diseases (other than Tuberculosis) notified in 1947

Notifiable Disease	Number of Cases Notified														Cases admitted to Hospital	Total number of Deaths			
	At ages—years																		
	At all Ages	Under 1 year	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 and over						
Whooping Cough ...	5	1	1	2	1	1	1	1	2	1	1	1	1	1	1	1	1		
Ac. Pneumonia ...	5	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1		
Erysipelas ...	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Scarlet Fever ...	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Ac. Poliomyelitis ...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Measles ...	51	2	2	5	3	9	30	30	1	1	1	1	1	1	1	1	1		
Diphtheria ...	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Dysentery ...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Encephalitis lethargica	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Cerebro-spinal fever	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Puerperal Pyrexia ...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Infective Hepatitis ...	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Totals ...	87	3	4	8	3	6	34	3	3	9	6	5	3	6	9	5	3	6	5

Measles.

Following on the comparatively large number of notifications in 1946 there were again a considerable number of cases in 1947. Virtually all of the 1946 cases lived in, or in the immediate vicinity of, the town of Witham, whereas the 1947 cases were confined to Silver End village. The cases in each year were largely confined to the younger children who attend school in their own particular localities.

Infective Hepatitis.

There were eight cases notified in 1947, all of which were from the Witham town area. Silver End village which had twelve of the seventeen notified cases in 1946 was free from disease in 1947.

Of the 1947 cases, one followed another in the same family, there being four months between the respective dates of onset. Another case developed the disease some two weeks after contact with another patient suffering from jaundice.

Scarlet Fever.

All four cases were mild in character. Removal to hospital was effected in one instance where conditions for nursing at home were unsatisfactory.

Puerperal Pyrexia.

The one case notified had been confined at home. Pyrexia developed four days later and she was removed to hospital. There she developed a scarlet fever rash. It was subsequently discovered that she had been visited before and after confinement by a relative suffering from erysipelas.

Non-notifiable Diseases.

Chicken pox was more than usually prevalent in the earlier part of the year among the school children. Otherwise there was very little of the common communicable but not notifiable diseases.

Food Poisoning.

This is commented upon in the section on Inspection and Supervision of Food.

Tuberculosis.

Particulars of the new cases of tuberculosis reported during the year and of deaths from the disease in the District are set out in the table below.

Age periods (Years)	New Cases				Deaths			
	Pulmonary		Non- Pulmonary		Pulmonary		Non- Pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0—1	—	—	—	—	—	—	—	—
1—5	—	—	—	—	—	—	—	—
5—10	—	—	—	—	—	—	—	—
10—15	—	—	1	—	—	—	—	—
15—20	—	1	—	—	—	—	—	—
20—25	—	1	—	—	—	—	—	—
25—35	2	5	—	—	1	—	—	—
35—45	2	3	—	1	1	—	—	—
45—55	—	—	—	—	—	—	—	—
55—65	1	—	—	—	—	—	—	—
65 and upwards	1	—	—	—	—	—	—	—
Totals	6	10	1	1	2	—	—	—
	16		2		2		—	

The two deaths were of persons not normally resident in the District.

At the end of the year there were 61 cases on the Tuberculosis Register of the District. These were as follows:

Males		Females	
Pulmonary	Non pulmonary	Pulmonary	Non-pulmonary
25	8	22	6

The Council take into consideration the circumstances of families in whom there are cases of Tuberculosis and, within their resources, endeavour to provide housing accommodation when existing housing conditions are prejudicial to the health of members of such families.

On the death or removal to hospital of an 'open' case of tuberculosis, the Council offer disinfection of premises and bedding. No charge is made for this service.

Annual Report of Chief Sanitary Inspector for the Year 1947

Public Health Department,
Council Offices, Witham.

To the Chairman and Members of the Urban District Council
of Witham.

Mr. Chairman, Madam and Gentlemen,

I have pleasure in presenting to you my Annual Report for 1947, my second complete year of office under your Council.

Though national economic conditions continued to limit the amount of work done, particularly housing repair and demolition, the sanitary condition of the Urban District remained generally satisfactory. The appointment of an Additional Sanitary Inspector was of especial value, in allowing full attention to be paid to each aspect of the work, and in reducing very considerably the amount of overtime work previously necessary. Also, the replacement of the junior assistant by a trained and experienced clerk has enabled a more accurate and detailed system of office records to be established.

The year was not marred like 1946 by any outbreak of epidemic disease, but the hygiene consciousness aroused by the food poisoning outbreak of that year was fostered, particularly among the food handling trades, and many improvements were achieved. The sanitary services of refuse and sewage disposal were maintained efficiently, though the emission of trade waste from a local factory to the Council's sewers had an adverse effect upon the disposal plant and involved considerable additional work.

As in 1946, the condition of working class dwelling houses was again the most unsatisfactory feature. The control of building and scarcity of certain materials, coupled with the Ministry of Health direction that no extensive reconditioning should be done, though necessary for the advancement of new

house building, meant further postponement of long overdue schemes of repair or demolition. The occupation of houses condemned before the war is still unfortunately unavoidable.

The supervision and control of food and water supplies was maintained. Meat inspection decreased by 20% owing to the scarcity of livestock, though the number of animals slaughtered and inspected remained considerably higher than in 1938. The standard of milk production in the area remains exceptionally high.

During the year the rodent control N.S. 12 scheme was completed and the District could then be said to be almost free from rodent infestation. It is to be regretted that the free service provided to domestic occupiers under the scheme could not be continued.

The period of high costs, shortages and other post-war difficulties is not yet over; indeed, the cost of the essential services maintained by the Council rose again during the year; but some progress has been made. It is regrettable, I think, that the control of milk production and river pollution prevention will, among other matters, probably pass out of your Council's control during the coming year. Much, however, remains to be done in other directions, to further the sanitary condition of the district and to ensure a sound foundation for the sanitary services of the future Witham.

I would like to record my appreciation of the support I have received from the Chairman and Members of the Council, the Public Health Committee and the Medical Officer of Health. My thanks are due also to the other Officers of the Council for their ready co-operation and assistance, and to the staff and workmen of my department for their loyal support.

I am, Mr. Chairman, Madam and Gentlemen,

Your obedient Servant,

E. H. C. WADHAMS,

Chief Sanitary Inspector.

SANITARY INSPECTION OF THE AREA 1947.

A total of 6,099 visits and inspections were made during the year, as follows:—

Housing Acts	270
Public Health Acts	405
Complaints (other than dwelling houses)	109
Verminous Premises	18
Slaughterhouse	578
Butchers' Shops	30
Fish Shops	26
Bakehouses	14
Restaurants	11
Ice Cream Vendors	30
Licensed Premises	14
Food Preparation Premises	34
Dairies	38
Cowsheds	28
Sampling. Milk	49
Ice Cream	6
Water	31
Sewage Effluent	39
Shops	26
Factories	65
Infectious Disease Prevention	64
Water Supplies	215
Streams, Watercourses & Ponds	32
Drainage	156
Cesspools, Septic Tanks & Pail Closets	169
Refuse Tips	186
Sewage Works and Farmland	192
Salvage	79
Rodent Control	2,764
Tents, Vans and Sheds	19
Offensive Accumulations	4
Stables and Pig Styes	12
Schools	10
Places of Amusement	8
Building Licences	151
Miscellaneous	217

In addition, a total of 798 interviews were given to owners, builders, tenants and other interested parties.

NUISANCES, Etc., ON BOOKS, WITH NUMBER OF NOTICES SERVED.

Number of Notices outstanding, 31st December, 1946 ...	13
Number of Informal Notices served during the year ...	135
Number of Statutory Notices served during the year ...	9
Number of Notices complied with during the year ...	120
Number of Notices on books, 31st December, 1947 ...	37

The following list classifies the nuisances and defects dealt with:—

Dampness; absence of Damp Proof Course ...	3
Defective roofs, gutters, rainwater pipes ...	10
Defective and dirty walls and ceilings ...	9
Defective doors, floors and windows ...	16
Defective pointing, rendering, weatherboarding etc. ...	4
Defective stoves and wash coppers ...	6
Defective yard paving ...	1
Defective well cover ...	1
Inadequate water supply ...	6
Drains and sewers choked or defective ...	22
Cesspools defective or overflowing ...	7
Basement flooding with sewage and surface water ...	3
Defective W.C. Pans ...	5
Defective sink ...	1
Defective W.W.P's. ...	2
Defective Flushing Cistern ...	1
Defective W.C. Lighting and Ventilation ...	3
Insanitary condition of W.C's. and Urinals ...	8
Insanitary ponds and watercourses ...	5
Offensive accumulations ...	2
Animals kept so as to be a nuisance ...	1
Infestations: Bed Bugs ...	2
Flies ...	6
Wasps ...	2
Rats and mice ...	114
Absence of/Defective condition of dustbins ...	166
Miscellaneous nuisances ...	4

HOUSING AND PUBLIC HEALTH ACTS.

Repair of Unfit Houses.

The defects remedied at dwelling houses in the foregoing table were mainly of the nature of nuisances or items of essential repair. During the year it became apparent however, that much of the working class property needed thorough

reconditioning, and a limited amount of inspection under the Housing (Consolidated) Regulations, 1925-32, was carried out. In all, 14 notices were served under Section 9 of the Housing Act, 1936. Of these, one had been complied with by the end of the year. *Closure of Underground Rooms.*

Of the above 14 notices, six were in respect of properties possessing underground rooms within the meaning of the Act, and the Council decided to make Closing Orders under Section 12 in respect of these rooms, the owner agreeing to build ground floor washhouse/kitchens to replace the accommodation thus lost. *Licensing of Essential Building Work.*

It was found that the difficulty of obtaining certain materials and the need to obtain licences hindered to some extent the expeditious completion of large specifications of work. This is unavoidable and due to the need for extensive new housing accommodation. I think that in future, the requirements of the local authority respecting the repair of working class property must absorb an increased proportion of the district's building licence quota. It is still noticeable that the amount of repair work licensed in respect of such property is only a minor proportion of the total amounts approved, whereas in my opinion, this type of property most urgently requires repair if large numbers of houses are not to depreciate to a stage when repair costs would be unreasonable, and demolition would have to be considered.

Existing Condemned Properties.

The most unsatisfactory aspect of the present housing shortage is the continued and unavoidable occupation of houses condemned nearly ten years ago. These houses, irremediably unfit for human habitation, steadily become worse in condition. The owners, knowing that demolition must eventually take place, have no incentive to maintain a reasonable state of repair; and the local authority, in view of the Clearance Orders, have no power to require more than some degree of weathertightness. The only remedy is the vacation and demolition of the houses. At the end of 1947, the Council's Public Health Committee asked for a special report upon these properties from the Medical Officer of Health and myself. It is to be hoped that the future housing programme will enable these unhealthy and unsightly properties to be removed.

In one case, the owner of an empty condemned cottage submitted a reconditioning schedule incorporating re-design and almost complete rebuilding. This was being considered by the Council at the end of 1947.

MEAT INSPECTION.

A total of 6,383 animals were inspected at the Ministry of Food Slaughterhouse during the year. This figure is considerably less than in 1946, though still above the figure for 1938. The decrease of nearly 900 in the number of beef animals killed indicates to some extent the increased issue of imported meat to the area. The proportion of condemnations remains higher than pre-war, probably because of the number of casualty animals now sent to Ministry slaughterhouses instead of to Knacker's yards.

	1938	KILLED			CONDEMNED		
		1946	1947	1938	1946	1947	
Cattle, excluding cows ...	710	1846	1162	3	22	9	
Cows ...	12	604	414	—	36	33	
Calves ...	135	1120	1245	3	5	6	
Sheep and lambs ...	2438	4191	3397	18	13	14	
Pigs ...	2266	298	195	7	3	6	
Goats ...	—	—	2	—	—	—	
Totals ...	5561	8059	6415	31	79	68	

The diseases and conditions responsible for the condemnation of whole carcasses were as follows:—

	Cows	Cattle excl Cows	Calves	Lambs and Sheep	Pigs
Generalised Tuberculosis ...	19	6	—	—	4
Tuberculosis with Emaciation	3	—	—	—	—
Septic Pericarditis ...	2	—	—	—	—
Septic Metritis ...	2	—	—	—	—
Septic Mastitis ...	1	—	—	—	—
Septic Pneumonia ...	—	1	—	—	—
Parturient Fever ...	1	—	—	—	—
Retained Foetus ...	2	—	—	—	—
Pyæmia ...	1	1	—	—	—
Sæpraemia ...	1	1	—	—	—
Enteritis ...	—	—	1	—	—
Enteritis and Emaciation ...	—	—	—	1	—
Dropsy and Emaciation ...	—	—	—	9	—
Fever ...	—	—	—	1	—
General Dropsy ...	—	—	—	1	—
Swine Erysipelas ...	—	—	—	—	1
Immaturity ...	—	—	5	—	—
Fractured pelvis, general severe bruising & Oedema	1	—	—	—	—
Died before slaughter ...	—	—	—	2	—
Unbled (Slaughtered on farm)	—	—	—	—	1
Totals ...	33	9	6	14	6

In all, a total of 22 tons 16½ cwts. were condemned during the year. Diseases responsible for condemnations were:—

Tuberculosis	31,616 lbs.
Pericarditis	1,067
Acute Septic Metritis	1,061
Septic Mastitis	794
Mammitis	164
Parturient Fever	772
Retained Foetus	1,330
Pyæmia	719
Sapraemia	1,120
Enteritis, Peritonitis	238
Pneumonia and Pleurisy	363
Dropsy	557
Fever	116
Swine Erysipelas	133
Immaturity	146
Injury and Bruising	1,174
Dead on arrival	191
Unbled Carcase	50
Actinomycosis	633
Angiomatosis	418
Cirrhosis	191
Nephritis	25
Bacterial Necrosis	54
Abscesses	152
Fatty Degeneration	15
Fluke Disease	7,623
Parasitic Infestation	400
Metallic Poisoning	5
	<hr/>
Total	51,127
	<hr/>

Early in the year, the Public Health Committee met officials of the Ministry of Food at the slaughterhouse, to discuss improvements desired by the Council in consequence of the outbreak in 1946 of food poisoning. The Ministry's representatives undertook to carry out the suggested work and to maintain good hygiene at the premises. During the year the following matters received attention:—

- Improved lighting.
- Elimination of blood pit.
- Provision of additional gut bins.
- Routine fly-proofing.

In addition, the provision of a manure pit and the installation of an intercepting catchpit on the drainage system were arranged. These improvements are probably all that can be effected without drastic alteration of the existing structure, which, as suggested by the Medical Officer of Health, would not then meet the ultimate need of the district for a properly designed and sited public abattoir.

INSPECTION OF OTHER FOOD.

Food Preparation Premises.

The number of premises where food is prepared, stored or retailed is 90, comprised as follows:—

Restaurants	9
Factory and School canteens	6
Manufacturing butchers	6
Bakehouses	5
Fried fish shops	2
Retail butchers' shops	7
Other retail food shops	34
Retail wet fish shops	3
Licensed premises	18

All are subject to inspection and generally found to satisfy the requirements of the Food and Drugs Act, 1938. A number of minor defects, listed below, were remedied upon representation by my Department:—

Structural defects	4
Redecoration or limewashing	5
Defective food storage accommodation	1
Inadequate or defective sanitary accommodation	2
Defective drainage	2
Accumulation of refuse	2
Lack of dustbins	3
Ratproofing	1
Escape of gas fumes	1
	—
Total	21
	—

Two local bakehouses are very old. Plans for the rebuilding of one are in the course of preparation, and it is hoped that the other will be replaced in the near future.

Food Hygiene Publicity.

During the latter part of the year, the Council held a series of meetings, addressed by members of the Public Health Committee, the Medical Officer of Health and myself, to discuss with the managements of food handling trades the various aspects of food hygiene; to explain the danger of inattention to such matters, and to ask for co-operation in establishing a high standard of food cleanliness throughout the district. The meetings were well attended, fifty five out of seventy two firms being represented, and the discussions were lively. I am confident that such publicity can do much to effect the needed improvement in food hygiene and to remedy the faults attendant on the vast expansion of communal feeding which has occurred during the past few years.

Condemnation of Food (other than Meat).

A considerable amount of food was surrendered to my Department during the year. In no case was formal action required. Details are given below:—

	Cwt.	Stone	Lbs.
Flaked Oats	5	7	10
Fresh Fish	1	5	6
Fish, Cured	1	1	0
Boiled sweets		6	8
Milk, condensed, evaporated, & dried		5	12
Meat, tinned		4	7½
Jam and Marmalade, tinned		4	9½
Vegetables, tinned		3	13½
Sugar		3	6
Fish, tinned		1	13¼
Biscuits		1	4
Fruit, tinned		1	3½
Sausages			12
Cheese			6¾
Soup, tinned			4
Pudding, tinned			1
Semolina			1
Total	13	1	6

The following table, published by kind permission of the Chief Food and Drugs Inspector of the Essex County Council, shows the commodities sampled by his Department in the Witham Urban District during the year. One sample only was unsatisfactory, and in this case the manufacturers agreed to withdraw all existing stocks from retailers' premises.

Commodity	No. of Samples	Genuine	Adverse Reports
Anchovy Paste in pure Olive Oil	1	1	—
Aspirin Tablets BP.	2	2	—
Beef and Vegetable extract	1	1	—
Bronchial Tablets	1	1	—
Cold Cream	1	1	—
Cough Pastilles	2	2	—
Diced Carrots	1	1	—
Fish Paste	3	3	—
Gin	1	1	—
Gravy Powder	1	1	—
Indigestion Tablets	1	1	—
Kidney Soup	1	1	—
Lemon Ipecac & Squill compound	1	1	—
Meat Soup	1	1	—
Milk	10	10	—
Phensic	1	1	—
Rum	1	1	—
Saccharine Tablets	1	1	—
Sild in Tomato Sauce	1	1	—
Spaghetti in meat sauce	2	2	—
Sponge Pudding—Date	1	1	—
Strained Custard Pudding	1	1	—
Sweetening Tablets	1	1	—
Vegetable Soup with Tomato	1	1	—
Vitamin Tables	1	—	1
Whisky	3	3	—
Yeast Extract with Vegetable flavouring	1	1	—
Zinc Ointment BP.	1	1	—
Totals	44	43	1

MILK AND DAIRIES.

The standard of milk production in the district remains high, all but one of the local cowkeepers now producing designated milk. Of 92 samples submitted by the Essex County Council and my Department, only 7 were unsatisfactory, and of these 3 were taken during periods of very hot weather and cannot be regarded as representative, and one was of milk produced outside the Urban District. All unsatisfactory samples were carefully investigated, and repeat samples proved to be satisfactory. Details are to be found under "Sampling."

Cowsheds and dairies are regularly inspected. Only minor alterations and improvements have been found necessary. The unsatisfactory condition of one retail dairy, mentioned in the report for 1946, continued for some time during 1947. This business is now closed.

There is one pasteurising establishment in the district handling 4,000-5,000 gallons of milk daily. This establishment is regularly inspected. Despite difficulty in obtaining new equipment it has been maintained most satisfactorily.

Three dairies in other areas retail milk in the Urban District. To one of these it was necessary to refer complaints regarding dirty, cracked and chipped milk bottles. With the co-operation of the local authority concerned, an improvement was effected.

Once again, I would like to record my appreciation of the assistance and co-operation given by the Essex County Council Health Department's Inspectors in the control of milk production, and of the laboratory facilities provided by the County Council to assist local authorities to maintain an effective sampling procedure.

ICE CREAM

As in previous years much of the ice cream sold in the Urban District is obtained from wholesale manufacturers in other areas. Formerly the very large firms of national repute provided most of the supplies, but there has now developed a considerable sale of ice cream made by smaller and less-known firms. In addition, the manufacture of ice cream by shopkeepers for sale from their own premises, is commencing to assume pre-war proportions.

The coming into force of the Ice Cream (Heat Treatment) Regulations, 1947, on May 1st, extended the control of manufacture and distribution. The Regulations are not easy to enforce however and lack a standard of bacterial purity. The standard subsequently suggested by the Ministry of Health has no legal authority, and samples considered unsatisfactory in relation to it are useful only in demonstrating to a manufacturer that his process is at fault. This is of little value when dealing with manufacturers outside the district.

Another matter for dissatisfaction is that no legal standard exists for the composition of ice cream. Considering the wide variation in prices and palatability, there is almost

certainly as wide a variation in quality and food value; moreover these variations appear often to be inversely related—the higher the price, the poorer the commodity. I consider that the public is entitled to a guaranteed minimum value for its money.

The registration of manufacturers and vendors and their premises is effected by the Urban Council under the Essex County Council Act of 1933. The registrations in force at 31st December, 1947 were as follows:—

Manufacturers/Vendors	4
Vendors only	7
Registered premises	11

Only one of the registered manufacturers was producing ice cream throughout the year, one having ceased to deal in ice cream when the Heat Treatment Regulations came into force, and two others having transferred to retailing the products of wholesale firms.

Of the six samples submitted for examination, two of local manufacture were unsatisfactory. In one case, quoted above, the maker decided to discontinue manufacture. In the second case after investigation and advice by my Department, follow-up samples were satisfactory. The Council has purchased a special sampling outfit and equipment, in order that sampling procedure may be extended during 1948.

WATER SUPPLIES

In addition to routine sampling of mains water for bacteriological (monthly) and chemical (periodical) analyses, various minor domestic supplies have been kept under observation. Several of these have been eliminated by the extension of the mains supply in Braxted Road and London Road, Rivenhall, and the proposed extension in Maldon Road will replace several more of doubtful quality in that vicinity. Only ninety nine houses now rely upon well water, and of these it is hoped that some may be connected to the Town service when the new main from Wickham Bishops is in use. At a few rural cottages, water has to be conveyed a considerable distance.

The unsatisfactory sample shewn under "Sampling" was probably due to some slight fault in sampling as immediate repeat samples were perfectly satisfactory.

One well supply, serving a catering establishment and sampled at the request of the owner, was found to be satisfactory.

SAMPLING

The following samples were submitted for laboratory examination during the year:—

	Number	Satisfactory	Unsatisfactory
1. <i>Mains Water:</i>			
Chemical	8	8	—
Bacteriological	28	27	1
2. <i>Well Water:</i>			
Chemical	1	1	—
Bacteriological	1	1	—
3. <i>Milk:</i>			
Tuberculin Tested	16	12	4
Accredited	25	24	1
Pasteurised	33	32	1
Ordinary	15	14	1
4. <i>Milk Rinsings:</i>			
Churn	1	1	—
Bottles	2	2	—
5. <i>Ice Cream:</i>			
Heat Treated	4	3	1
Cold Mix	2	1	1
6. <i>Food:</i>			
Meat	2	—	2
Brine Pickle	1	—	1
Butcher's Knife	1	—	1
Butcher's Wiping Cloth	1	—	1
Butcher's Block	1	—	1
7. <i>Sewage:</i>			
Crude Sewage	10	4	6
Effluent	56	44	12
Other	31	—	31
Totals	239	174	65

The items under (6) were all taken during the investigation of cases of food poisoning, previously referred to by the Medical Officer of Health.

Included in the above are 44 samples of milk and 11 of sewage effluent submitted by the Essex County Council Inspectors and 41 of sewage effluent taken by the Southend Water Works Company.

FACTORIES AND WORKSHOPS

During the year, 65 visits were paid to factories and workshops throughout the district. This does not include visits to Food Preparation Premises also classified as factories, as these have been dealt with under another heading. Conditions were found to be generally satisfactory, only a few minor defects chiefly relating to sanitary accommodation requiring attention. A close liaison is maintained with H.M. Inspector of Factories for the area.

A considerable number of outworkers are employed by local firms. At the end of 1947 the number on the register was 284, comprising:—

	Witham U.D.C.	Other Local Authorities
Glove Manufacturers	65	214
Seed Merchants	5	—

Notification of outworkers employed in other districts is made twice yearly to the 28 local authorities concerned.

SHOPS

26 visits were paid to shops, apart from those dealt with under other headings. No action was taken under the Shops Acts 1912-1938, though various minor defects were remedied after informal action. The major part of the Shops Acts administration is enforced by the County Council, whose Inspectors carried out 66 shops inspections in the Witham Urban District during the year.

CARAVANS, TENTS AND SHEDS

There is only one established caravan site in the district. This is the subject of a temporary Town Planning Development permit, renewable twice annually by the Council and subject to satisfactory reports from my Department. A large number of such vans pass through the district in the course of a year, and on eight occasions it was necessary to apply the provisions of Section 268 of the Public Health Act 1936. In all these cases, immediate removal from the district resulted.

An application to develop a riverside site as a holiday camping site was refused by the Council for the reasons that adequate water and sewage facilities were not available and the site was liable to flooding.

No action was taken during the year to control the employment of itinerant casual labourers who visit the district during the fruit and vegetable harvest seasons. It is suggested

that byelaws on the lines of the Ministry of Health's Model Byelaws for Fruit and Vegetable Pickers should be adopted.

INFECTIOUS DISEASE PREVENTION

During the year 19 cases of major infectious disease were investigated. Details of the infection involved will be found in the report of the Medical Officer of Health to whom is submitted information gained as a result of the enquiries.

In addition, 5 cases of food poisoning, two of which were contracted outside the area, were investigated.

Disinfections, 10 of which were performed, were carried out with formaldehyde vapour or disinfectant spray; infected bedding and clothing being treated with steam at the Maldon Isolation Hospital. Library books are disinfected or destroyed as the circumstances require. In addition, disinfectant is issued to occupiers of premises where infectious disease has occurred.

VERMIN INFESTATION

The following cases of infestation, other than by rodents, were dealt with:—

Bed Bugs	2
Fleas	2
Flies	7
Wasps	2

The freedom of the Urban District from serious vermin infestation is remarkable. The fly infestations mentioned above were due to the invasion of houses by *Musca Autumnalis*, a sub-species of the house fly, which swarms in vast numbers during the late summer and autumn. D.D.T. insecticides were used successfully in all cases.

RODENT CONTROL

The Council's efficient rodent control system has been maintained throughout the year. The effectiveness of the system in past years was well demonstrated during the period from 1st October, 1946 to 30 June, 1947 when the Ministry of Food's N.S. 12 Scheme was in operation. The district was divided into nine sectors, each of which was inspected and treated systematically. In this way all premises in the district were visited, and every infestation discovered was eradicated. Infestations found on agricultural property were referred to the Pest Control Section of the Agricultural

Executive Committee, with whom a close co-operation has been maintained. Though the number of infestations amounted to some 7% of properties inspected, it will be noticed that the majority were of a minor character. During the same period a double treatment of all district sewers was carried out.

At the completion of the scheme the Urban District could be said to be almost free from rodent infestation. It is to be remarked that the free service provided by the scheme for domestic occupiers ensured their full co-operation, and it is very much to be regretted that the free service had to end with the scheme. By a ruling of the Ministry of Health's Auditor the Council has no power to provide this free service as part of its normal control system. Many people are unwilling to give my Department a free hand in dealing with these infestations at their expense, and endeavour themselves to deal with the rodents on their premises. Such individual action has an adverse effect on district rodent control as it is seldom effective in destroying all the vermin; which sometimes re-establish infestation at the same site or elsewhere. In addition, the use of proprietary poisons often leads to "bait prejudice" which makes ultimate treatment by my Department much more difficult.

I wish once again to stress that a free domestic service, at a cost of less than $\frac{1}{3}$ d. rate, is necessary if rodent infestation is to be reduced to negligible proportions. Only by such a service will my Department become aware of all infestations immediately they occur. Whether from a public health, food conservation or merely nuisance point of view, it is obviously more sensible and economic to be able to deal with one or two rats than to be called in when a large infestation of bait-shy rodents has become established. It is therefore hoped that the promised amendment of the Rats and Mice (Destruction) Act 1919 will not be long delayed.

N.S. 12 Scheme.

Details of the control work carried out under the N.S. 12 Scheme are as follows:—

Disinfestation of Premises.

	Domestic	Industrial	Agricultural	Total
1. <i>Inspections made:</i>	2227	236	32	2495
2. <i>Infestations found:</i>				
Reservoir (Over 200)			3	
Major (20-200)			71	
Minor (Under 20)			100	

3. *Percentage of Premises Infested:*

Reservoir	.12%	of inspected premises
Major	2.84%	of inspected premises
Minor	4.01%	of inspected premises
<hr/>		
Total	6.97%	of inspected premises
<hr/>		

4. *Treatment:*

Treatment visits		902
Points laid: Rats	656	
Mice	76	
	<hr/>	732
Bodies Recovered:		
Rats	605	
Mice	76	
	<hr/>	672
Estimated Kill:		
Rats	1895	
Mice	359	
	<hr/>	2254

5. *Re-infestations:*

Minor	3
-------	---

Disinfestation of Sewers.

1. *Test Baitings:*

	Witham	Silver End
Points laid	30	Nil
Takes	2	Nil

2. *1st Treatments:*

Points laid	30	44
Takes	4	18
Bodies recovered	Nil	26
Estimated rats killed	50	140

3. *Maintenance Treatments:*

Points laid	26	23
Takes	10	12
Bodies recovered	10	5
Estimated rats killed	20	60

Cost.

	Estimated	Actual
Gross Costs:	£220	£133 18s. 0d.
Less rechargeable		£17 2s. 1d.
		£116 15s. 11d.

Of this sum only £54 7s. 0d. was borne by the district rate fund, the remainder being recoverable from the Ministry of Food.

Average Costs.

Average cost per domestic treatment	5 6 $\frac{1}{4}$ d.
Average cost per industrial treatment	7 11 $\frac{1}{4}$ d.
Average cost per sewer treatment	£6 2 1 d.
Average cost per rodent killed (recovered)	3 3 $\frac{1}{4}$ d.
Average cost per rodent killed (estimated kill)	10 $\frac{1}{4}$ d.

Total service during 1947.

The total figures for the calendar year of 1947, as distinct from the period of the foregoing scheme, are as follows:—

Inspections made	1841
Treatment Visits made	818
Infestations found:	
Minor (up to 20 rats)	106
Major (20-200 rats)	8
Reservoir (over 200 rats)	Nil
Bodies Recovered:	
Rats	474
Mice	63
Estimated kill (M.O.F. formula):	
Rats	1183
Mice	133

In addition the sewer systems of the district have been treated as follows:—

Maintenance Treatments	2
Estimated kill	90

REFUSE COLLECTION AND DISPOSAL

Collection.

The routine collection of house refuse from the whole of the Urban District has been maintained throughout the year without major interruption. Weekly collection is carried out,

except in some rural parts of the area in which a fortnightly collection is made from about 250 houses. That it was found possible to maintain the service even during the two months of extremely bad weather at the beginning of the year reflects great credit on the staff concerned.

The one vehicle, an 8-9 cu. yard Shelvoke & Drewry freighter, is just adequate for the amount of refuse now collected. The service has been extended to include about 250 extra premises during the past two years, and further expansion of the district will require the use of another vehicle.

Disposal.

Disposal is by means of controlled tipping on the Council's riverside land in Guithavon Valley. Negotiations, commenced in 1946, for the extension of this tipping space proceeded throughout the year, and were nearing completion in December. By that time however, it had been necessary to use an alternative site at the vicinity of Rickstones Road Cemetery, where the filling of a stagnant pond provided three months' tipping space and eliminated an unsightly and insect-ridden quagmire.

The length of the negotiations for extension of the Valley Tip was due to Railway Company's land being involved, and also to the fact that the Essex Rivers Catchment Board objected to tipping on some of the land as it provided useful flood relief space for the river Brain. Ultimately, the Board agreed to a modified tip plan in respect of land north of the Railway Viaduct, but ruled that the Council's overall programme for this area (which includes the conversion of marshland into pleasure grounds) must be delayed until a considerable river improvement scheme had been carried out. This scheme could not be put into operation within the next three years, owing to the Board's commitments elsewhere. It is hoped that the tip extension now proposed will be adequate for that period.

Salvage.

Collection of Salvage is effected in conjunction with house refuse collection, the following table showing income from salvage sold during the financial year 1947-1948:—

	£	s.	d.
Paper	311	4	1
Bones	28	12	2
Rags, etc.	31	1	6
Metal	18	18	6
Bottles and jars ...	13	13	0
Kitchen waste ...	6	4	10
Other	7	11	0
Board of Trade grant	15	9	10
	<hr/>		
	£432	14	11
	<hr/>		

This represents an increase of £40 10s. 6d. over receipts during 1946-1947, but cost of collection and disposal of salvage rose from £242 10s. 0d. to £265 leaving a net profit of £167 14s. 11d. compared with £149 14s. 5d.

The above figures represent a creditable collection for a district of the size of Witham, particularly as salvage collection throughout the country has been declining rapidly since the peak years of 1942-1943. A steady rate of collection has been maintained by consistent efforts on the part of the refuse staff, and by issue to all premises of circulars requesting the tenants' co-operation. It is felt, however, that a properly conducted campaign would bring about a considerable increase in collection. Whether a corresponding increase in profit could be expected is doubtful, but the national need of salvage materials would justify the effort.

Of materials collected, the amount of kitchen waste is least satisfactory, but it must be remembered that the district is one in which every other householder keeps poultry or rabbits, or both, and in their maintenance the district's waste food is put to good productive use.

Costs.

Total net cost of the refuse collection, disposal and salvage (detailed in the table on page 49) rose during the year by £330. Of this increase £70 was in respect of additional loan charges involved in the purchase of a new vehicle at the end of 1946, and the remainder to higher wages, the need for holiday relief labour consequent upon the award of two weeks' paid holiday to all workmen, and to drainage and other incidental expenses incurred in the use of the Cemetery Pond as a tip site.

It will be noticed however, that the increased cost of the service bears almost the same relation to total rate poundage as in 1946-1947. It is therefore not regarded as disproportionate.

REFUSE COLLECTION AND DISPOSAL AND SALVAGE

Table showing Costs for the year ending 31st March, 1948.

	Total Collection and Disposal, with depreciation or loan charges included or excluded					
	Included			Excluded		
	£	s	d	£	s	d
A. Gross Expenditure	2111	13	8	1982	9	8
B. Gross Income	434	4	5	434	4	5
C. Net Cost	1677	9	3	1548	5	3
<i>Unit Costs.</i>						
D. Net cost per ton		18	10		17	4
E. Net cost per 1,000 population	205	19	6	190	2	2
F. Net cost per 1,000 houses or premises from which refuse is collected	727	8	8	671	8	1
<i>Rate Poundage.</i>						
G. Net cost, equivalent rate in the pound		10.325d.			9.53d.	
H. Percentage of G to total rate in pound		4.34			4.004	

1.	Total refuse collected in tons (estimated)	1784
2.	Population	8144
3.	Area (statute acres)	
4.	Weight in cwts. (per 1,000 population) per day (365 days to year)	12
5.	Number of houses and premises	2306
6.	Rateable value	£42886
7.	Produce of a penny rate	£162 9s. 3d.
8.	Total rates in the £1	19s. 10d.
9.	Method of collection —mechanical vehicles	1
10.	Method of tipping. Controlled tipping, i.e. on lines of Ministry's precautions	100%
11.	Average length of journey	5½ miles
12.	Percentage of refuse collected	100

SEWAGE DISPOSAL

There are three major Sewage Disposal plants in the Urban District, two owned and maintained by the Council and one administered by the Ministry of Labour and National Service. The Urban District sewage works serve the communities of Witham and Silver End and the third plant treats sewage from the Rivenhall (Displaced Persons) Camp.

The administration of the Council's Sewage Works was transferred to the Chief Sanitary Inspector's Department in October 1945.

Witham Sewage Works.

Details of the layout and capacity of the plant were given in the 1946 Annual Report. No major alteration or improvement was made during the year, nor was there any appreciable increase in the flow to this works. The plant remains, therefore, as previously described, overloaded to the extent of some 30-40%.

Maintenance:

In spite of this overload, and the inadequacy of sludge drying and humus retention space, the plant is capable, with careful maintenance, of producing an effluent satisfactory by Royal Commission standards, and it has been possible usually to achieve the somewhat higher standard desired by the Southend Water Works Company (Impurity Figure of 100 in terms of parts per million).

However, during the year under review, two factors have adversely affected the standard of purification and the working of the plant as a whole. The first was the prolonged spell of very severe frost during the early part of the year, during which time the normal biological activity in the percolating filters was largely suspended, even when the machines themselves were not frozen up. During this time the beds were acting more as mechanical filters of suspended matter than as biological decomposition beds, with the result that the slow resumption of normal activity had to overcome large arrears of work (in the shape of sewage solids) under the unfavourable conditions created by the presence of the solids in the beds. A certain amount of septic action and "ponding" was inevitable.

The second factor was the emission during the year of large quantities of acid metallic waste from a local galvanising plant. This plant had been expanded in 1946 to cope with a

500% increase in turnover, and the corresponding increase in waste discharged was beginning to have a noticeable effect in the Witham sewage works when, from February 1947, a series of mishaps at the factory led to intermittent discharges of abnormal strength and quantity. This situation was not brought fully under control during the year, despite all the efforts of the Council and the Company concerned. The plant became saturated with iron and zinc, chiefly in the form of sulphates and finely suspended oxides. This had a threefold effect:—

- a. The sludge took on the nature of floc and became heavier and more difficult to dry;
- b. The efficiency of the percolating beds, already handicapped by the previous bad weather, was further impaired; and
- c. The deposition of humus was retarded.

In addition the corrosion of metallic equipment was accelerated, while the effluent standard deteriorated considerably.

Spring and summer constituted the peak period of these unsatisfactory conditions, and though by the end of the year the plant was recovering, it was still receiving considerable amounts of zinc, iron and acid in the sewage and was not producing consistently satisfactory effluents.

During the whole of this period, routine sampling of trade waste, sewage and effluent was carried out and a very careful watch kept on the works. Measures were adopted to counteract the abnormal acidity of the sewage and to increase the precipitation of solid matter. The latter was not successful, as the rate of flow prevented proper flocculation in the settlement tanks, and the retention of particles of floc in the percolating beds threatened to worsen rather than improve conditions. The factory management co-operated very well in controlling as far as possible the discharge and quality of its wastes. The Counties Public Health Laboratories were employed to advise the Council in its negotiations with the Company, and at the end of the year agreement was reached whereby the latter reimbursed the Council for expenses incurred and damage done, agreed to instal a treatment plant at its factory to purify the waste to a standard acceptable to the Council, and also to pay a standard charge per 1,000 gallons entering the Council's sewers, such charge to be reduced to a nominal sum when the treatment plant came into operation. The factory plant was not completed by the end of the year, but the Company's control measures were reinforced. It could

then be said that although the sewage works was still receiving harmful waste in December (and was likely to do so for some further period) the control measures adopted were minimising the effect of the waste and the efficiency of the works was improving.

The Counties Public Health Laboratories and the South-end Water Works Company regard the continued presence of zinc in the effluent as highly unsatisfactory, but there is no possibility of reducing this below 1-2 parts per million until the factory treatment plant is working. It is to be hoped that this plant will be in operation during 1948 and that the sewage works will then resume its normal efficiency.

The above factors have prevented to some extent the investigation of the inadequacy of the present sewage disposal plant to deal with the future expansion of the district. It must be remembered however, that apart from the adverse effects of bad weather and temporarily abnormal sewage, the plant is already treating a flow 33% in excess of its designed rate from a population 25% greater than was expected when the plant was designed.

Labour.

The maintenance of the works was further handicapped by shortage of labour. During the greater part of the year the plant was understaffed, as additional labour was almost unobtainable.

Farmland.

Consequent upon the Council's previous decision, the tenancy of the 21 acres of farmland at this works was terminated at Michaelmas 1947. A sub-Committee of the Public Health Committee was appointed to manage this land, it being the Council's intention to farm it until such time as it may be required for the extension of the disposal works or other use.

SILVER END SEWAGE WORKS

This plant, also described in detail in the 1946 report, serves the community of Silver End, a population of nearly 2,000. The plant is well designed, adequate, and normally produces a very high grade effluent. The rate of flow through the works, estimated at between 90,000 and 100,000 gallons daily, indicates a higher rate of water consumption in Silver End than in other parts of the Urban District.

As at Witham, the plant was severely taxed by the bad weather during February and March. The effect here was probably worse, because the plant is more exposed, and it was only with much difficulty that the mechanical equipment was kept working at all. This plant was able, however, to throw off the ill effect of continued frost, and by the autumn had regained its normal efficiency.

During the year one new sludge lagoon was constructed, and three such lagoons were provided with drainage to convey supernatant liquid back to the works pumphouse. Sludge disposal space is now adequate. The most important fault yet to be remedied is the overflow system from the dosing chamber. This only operates when the secondary percolating beds are heavily overcharged, with the result that over many years these beds have become choked with humus from the primary beds. It is hoped by installing a quicker operating overflow system, to prevent this and thus avoid renewing the medium of the secondary beds for some years to come. For the same purpose, the secondary sprinklers have been lowered by 7 inches in order to increase the rate of discharge from the dosing chamber. This has increased the dosage of the secondary beds to 240 gallons per cu. yard per day, but it was thought (and effluent reports have since confirmed) that this is not an excessive dosage for intermittent secondary filtration.

As in 1946, trouble was again experienced with trespassers on the works. Much inconvenience was caused by the opening and closing of valves, and a few minor items of equipment were stolen. It is to be hoped that it will soon be possible to house the foreman near the site, in order that better supervision may be exercised.

RIVENHALL CAMP SEWAGE WORKS

This plant, constructed during the war to serve the Aerodrome, now treats the sewage from some hundreds of displaced persons occupying the camp under the control of the Ministry of Labour and National Service.

The plant is not working to capacity and has maintained an efficient standard of treatment.

SAMPLING OF SEWAGE, EFFLUENTS, ETC.

The 97 samples referred to under "Sewage" on page 41. were comprised as follows:—

		Satisfactory	Unsatisfactory	Total
1. <i>Witham</i>				
a. Routine:				
Sewage	1	—	1	
Effluent	30	7	37	
b. For trade Waste:				
Crude Sewage	4	17	21	
Sewage Effluent	3	3	6	
Filter Medium	—	4	4	
2. <i>Silver End</i>				
Crude Sewage	1	—	1	
Sewage Effluent	6	4	10	
3. <i>Rivenhall Camp</i>				
Sewage Effluent	3	—	3	
Totals		48	35	83

In addition, 14 special short analyses were made to check the trade waste contents of final effluent from Witham works.

OTHER SEWAGE DISPOSAL

Testing Equipment.

During the year the Council purchased a testing outfit designed by the W.P.R. Section of the Department of Scientific and Industrial Research. This outfit has proved very useful in checking the efficiency of various sections of the Council's plants at different times and conditions, when the cost of complete laboratory analysis would be prohibitive.

Privies, Pail closets, etc.

In the report of the Medical Officer of Health will be found the results of a survey carried out by my Department to ascertain the type of sewage disposal methods in use in the Urban District. It will be observed that although most of the area is sewered, there remain some parts of the district, rural in character, where proper sewage disposal does not exist. The amount of drainage to ditches is most unsatisfactory and involves constantly recurring nuisances, while the disposal of the contents of over 180 pail closets into garden ground is a matter for repeated complaints from many of the tenants concerned.

In this connection it became necessary to bring attention to the unsatisfactory condition of closets and the emptying of pails at the Rivenhall C. of E. School. Repairs and improvement of the system were carried out, but it is considered that the provision of a sewer to enable the installation of W.C.'s is the only satisfactory solution of the problem.

The Council has considered this matter and has accepted in principle the recommendation that all the Council houses not sewered should be provided with W.C.'s and the requisite disposal systems. It is hoped that the School and some of the houses mentioned above will be sewered with the proposed Rivenhall Oak estate, and future expansion of the district will probably enable others to be connected. Apart from these, there will then remain however, over a hundred properties whose needs in this connection must be considered in the near future.

RIVERS AND STREAMS

Prevention of Pollution.

The rivers Blackwater and Brain, with tributary streams, pass through the Urban District. The Council is anxious that these watercourses shall not become fouled, and a careful watch is maintained to discover and remedy any pollution which may occur. Samples of any polluting material are examined to assist in identifying its source. On two occasions during the year the attention of industrial concerns was drawn to the discharge of such matter into the river Brain. In one case, fuel oil spilt in a factory had found its way to the river via the surface water sewers, and in the other a tarry oil was leaking from a faulty valve at the local gas works. Close co-operation is maintained with the Southend Water Works Company which uses river water for its supply and is therefore equally anxious to prevent pollution.

Flooding.

During the thaw which followed the very severe frosts of February-March, both the above rivers flooded parts of their valleys. No great damage was done, and nothing harmful to the public health occurred. Certain portions of the sewer systems were under water for a short time and roads were flooded in places. The Council directed that a map should be made of the flood areas, for Town Planning and future flood prevention purposes.

STAFF

In February, 1947, Mr. H. Field commenced duty as Additional Sanitary Inspector, and was subsequently (in December) successful in qualifying as Inspector of Meat and Other Foods. The clerical assistant, J. Banks, left the Council's service in May and, on my request for a trained and experienced clerk, was replaced by Mr. R. G. Chapman. The manual staff, though several changes occurred, remained at the same strength as in 1946. Details of my Department's staff at 31st December, 1947, were as follows:—

Office:

Chief Sanitary Inspector, Meat and Foods Inspector.
Additional Sanitary Inspector.
Clerical Assistant.

Refuse Collection and Disposal:

1 foreman driver.
1 tip-foreman.
3 refuse loaders.
1 tiphand.

Sewage Disposal:

2 works foremen.
3 labourers.
1 junior labourer.

Other:

1 Disinfector/Rodent Operative (part time).

The average age of the permanent outside staff is approximately 40 years.

