

DEREHAM TOWNSHIP

**A Study in Settlement
and Land Utilization**

by

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INTRODUCTION

The land use pattern of any area reflects the interrelationships between man and his natural environment. The term "natural environment" refers to the original conditions of the land whereby the surface features are unaltered by the presence of man. With the coming of man to an area, the environment begins to change as man modifies it to serve his needs or to suit his fancy. He tills the soil and extracts fish from the sea. His industries transform raw materials into manufactured products. The degree of change in the environment depends upon the cultural stage of man's security and on the physical composition of the natural environment. An area inhabited by an industrial society will evolve a different land use pattern than a pastoral society in a lower cultural stage. Similarly an area with rugged mountains and thin unfertile soils will reveal a different land use pattern than one with broad, fertile, low plains. The geology, physiography, natural vegetation, soils, and climate together with the present cultural stage of man, influence the settlement pattern of any area. This settlement pattern is reflected in the present land use.

The thesis attempts to explain the present distribution of land uses in Dereham Township, Oxford County. A necessary prerequisite to an understanding of this present land use concerns the appreciation of the physical geography of the township as well as the human factors contributing to its development. Accordingly, early chapters of the thesis outline the geology, physiography, climate, soils, and historical development of the township. With this background the present land use

is discussed under the major headings of urban land and rural land.

It is the sincere hope of the author that this geographical account of Dereham Township may promote a greater interest in geographical studies and may serve as a guide for future planning in the township.

1.

CHAPTER ONE

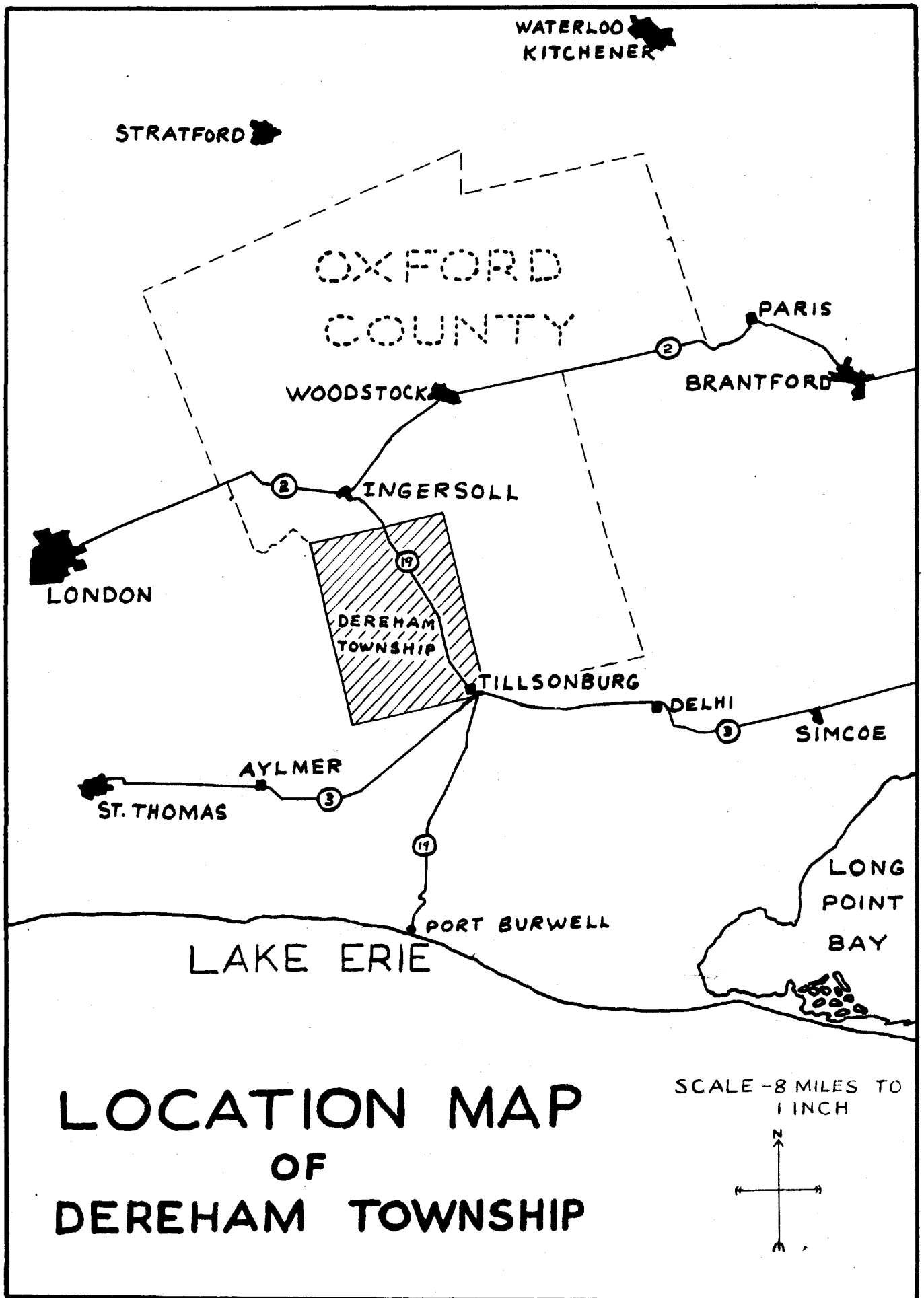
LOCATION

Dereham Township occupies the south-western corner of Oxford County. It is the largest of the eleven townships of the county, with a total area of 67,200 acres.

The township is a rectangular block of land approximately twelve miles long and nine miles wide. Its boundaries border on three counties - Middlesex, Elgin, and Norfolk. Adjoining Dereham Township are the Middlesex County townships of North and South Dorchester in the west; the Elgin County townships of Malahide and Bayham and the Norfolk County township of Middleton in the south, the Oxford County townships of North and South Norwich in the east; and the Oxford County township of Oxford West in the north.

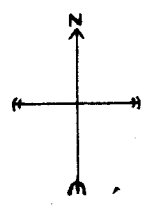
Dereham Township is divided into twelve concessions, each comprising twenty-eight lots. The concession blocks are divided evenly; after every seventh lot, north - south roads cross the township. Concession blocks average two and one-quarter miles in an east -west direction and one mile in a north -south direction.

The township is located south of the large urban centres of South -Western Ontario. It is south -east of London, south of Woodstock, and south -west of Brantford. However all sections of the township are within two hours' metering distance of the urban centres shown on Map # 2. Tillsonburg, in the south-east part of the township is only twenty-six miles from St. Thomas, thirty-four miles from London, 44 miles from Brantford, twenty-five miles from Simcoe, and sixteen miles from Lake Erie.

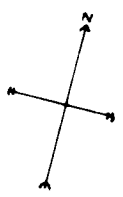
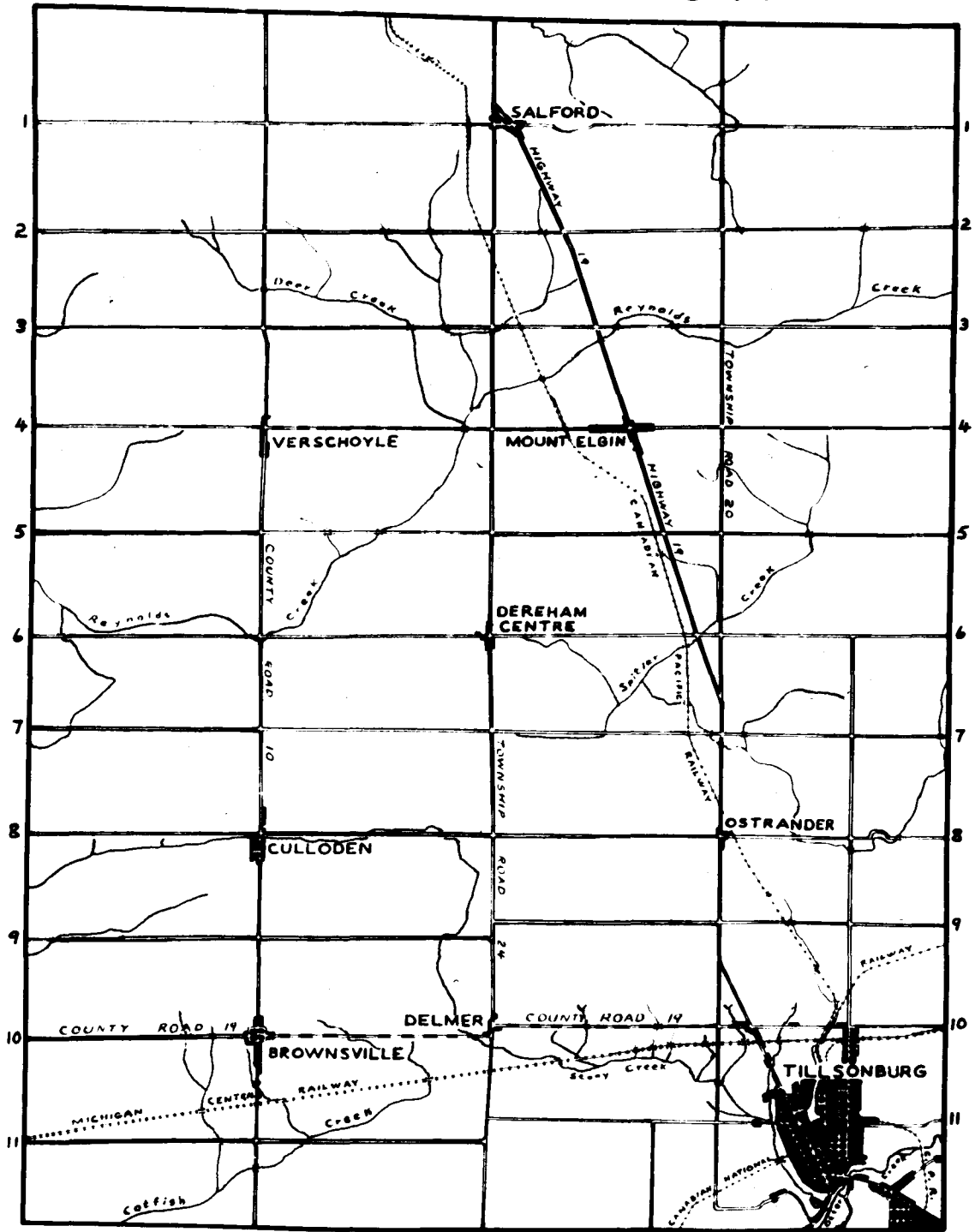


LOCATION MAP OF DEREHAM TOWNSHIP

SCALE - 8 MILES TO
1 INCH



KEY MAP OF DEREHAM TOWNSHIP



Miles Miles

- BUILT-UP AREA
- PAVED ROAD
- GRAVEL ROAD

Dereham Township is not located advantageously with respect to major through highways. Highway #3 does pass through Tillsonburg at the southern border of Dereham but the township benefits little from the huge volume of traffic on the thoroughfare. Highway #2, another important east-west route crossing Southern Ontario lies four miles to the north of the township. However, the disadvantages of Dereham Township's intermediary position are somewhat alleviated by the connecting link provided by Highway # 19.

Highway # 19 passes through the township in a north-south direction. It connects Ingersoll on Provincial Highway # 2 with Tillsonburg on Provincial Highway # 3 and is extensively used by traffic transferring from one route to the other. In the summer Highway # 19 carries considerable traffic southbound for Port Burwell and Lake Erie.

Three railroads pass through the township and are focused on Tillsonburg. The main line of the Michigan Central Railroad, connecting Windsor and Niagara Falls passes through the northern outskirts of Tillsonburg. Also a Canadian Pacific Railway branch line parallels Highway # 19 from Ingersoll to Tillsonburg to Port Burwell. This line carries Great Lakes coal northward from Port Burwell. Finally a branch line of the Canadian National Railway runs from St. Thomas to Tillsonburg before it swings northward to Brantford.

CHAPTER TWO
PHYSICAL GEOGRAPHY

I. GEOLOGY

(a) Pre - Glacial

Before the great ice ages, Dereham Township was underlain by gently undulating Palaeozoic limestones of the Norfolk formation. These calcareous limestones formed part of a broad plain dipping gradually to the south-west. Due to the thickness of glacial drift deposited over the whole township during later glacial times, these Palaeozoic rocks have contributed little to the present -day physiographic and soil pattern.

(b) Glacial

During the Pleistocene Epoch four great ice sheets advanced and retreated over Dereham Township. These continental ice sheets completely altered the landscape by dumping great amounts of glacial drift or till on top of the Palaeozoic limestones. In accounting for the final pattern of the drift, the last ice sheet, the Wisconsin glacier, is responsible in a large measure for the present -day physiography of the township.

At successive stages in the retreat of the Wisconsin glacier over south-western Ontario, terminal moraines were built. These long low ridges were formed either by boulder clay pushed into position by the ice, or by roughly sorted sands and gravels deposited at the edge of the melting ice. A large number of these moraines were formed in south-western Ontario and sections of four moraines pass through Dereham Township. The four moraines were created by the

Erie lobe of the Wisconsin glacier retreating in a south-east direction from the higher land of the Kitchener - Waterloo area to the lower land of present - day Lake Erie.¹

Melted waters from the retreating Wisconsin glacier created large inland lakes in the Lake Michigan - Lake Erie area. One such lake was glacial Lake Whittlesey. As it slowly spread eastward in the wake of the receding Erie ice lobe sands and silts from glacial streams were building a large delta along the northern shore. The extension of this shoreline as far north as Tillsonburg accounts for the sand plain in the south-east part of the Dereham Township. At the same time small deposits of gravel were laid down at the edges of spillways in certain areas.

(c) Post Glacial

Since glacial times the landscape has been modified by stream action. The greatest changes have occurred in the deltaic sand plain where the Otter Creek and its tributary Stony Creek have carved deep valleys. However streams flowing along the broad spillways of the till plains encounter more resistant sediments and so have done little dissection. Varying amounts of alluvial sediments have been deposited in the intermorainic valleys.

II. PHYSIOGRAPHY

Dereham Township may be described as an undulating plain dipping gently towards the south. Areas around Tillsonburg in the south are approximately 300 feet lower than sections in the north-east

¹ Putnam and Chapman, The Physiography of Southern Ontario, Fig.11

of the township. An alternation of hills and vales occurs throughout most of the township. The glacial drift which is spread over the township varies from 140' to 200' but averages approximately 170'.

Major Divisions

Broadly speaking, Dereham Township may be divided into two physiographic divisions: a gently undulating to rolling till plain and a flat to slightly undulating sand plain. The rolling till plain covers most of the surface area of the township; the sand plain is confined to a narrow belt to the south. The rolling till plain may be subdivided into four divisions: till moraines, level or undulating till plains, fluted till plains, and spillways. (Map p. 9)

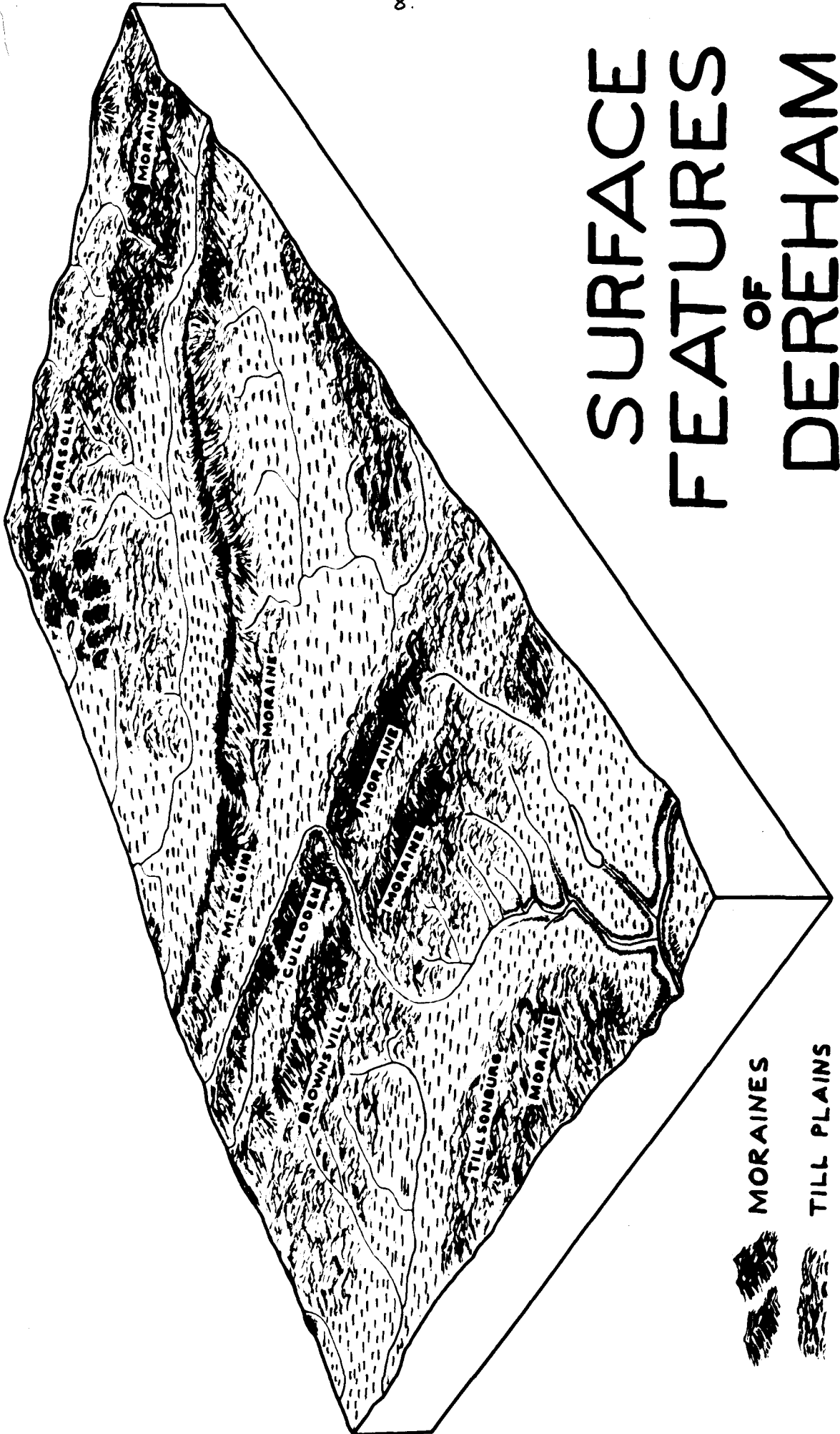
The following discussion summarizes the more important details of each type.





(a) Till Moraines

These rolling hills form the most conspicuous features of the landscape. Five moraines run in a south-west - north-east direction across the township. From north to south these terminal moraines may be called the Ingersoll, Mount Elgin, Culloden, Brownsville,¹ and Tillsonburg moraines. Although these moraines have collectively been described as ridges, only one of them, the Mount Elgin moraine, should be so named. Running through the central part of the township, its appearance as a low ridge is enhanced by the great amount of level or gently undulating land surrounding it. The other moraines resemble gently sloping, rolling land. The

¹ In Putnam and Chapman, The Physiography of Southern Ontario the Culloden and Brownsville moraines are classified as separate strands of the Norwich moraine.

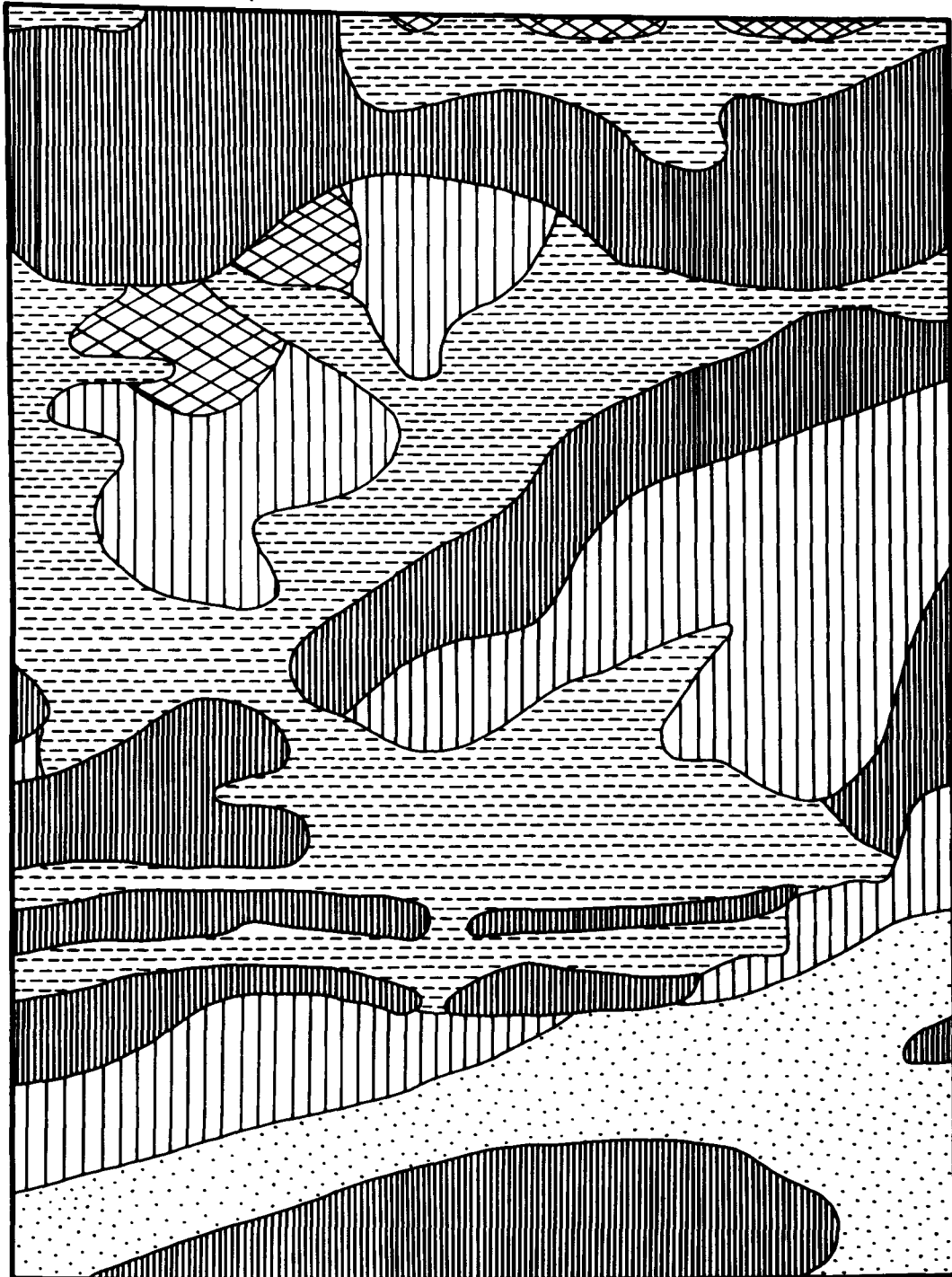
SURFACES OF DEREHAM TOWNSHIP



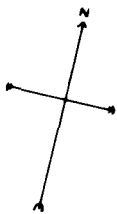
-  MORAINES
-  TILL PLAINS
-  FLUTED TILL PLAINS
-  SAND PLAINS and SPILLWAYS






PHYSIOGRAPHIC MAP OF DEREHAM TOWNSHIP

(AFTER L. J. CHAPMAN & D. F. PUTNAM)



Miles 0 1 2 3 Miles



- | | | | |
|---|------------------------------------|---|-------------|
|  | TILL MORAINES |  | SAND PLAINS |
|  | TILL PLAIN (UNDRUMLINIZED) |  | SPILLWAYS |
|  | TILL PLAIN (DRUMLINIZED OR FLUTED) | | |

Ingersoll moraine at the northern boundary of the township rises gradually in elevation towards the east. At the north-east section of the township, this moraine reaches a height of 1050 feet - the highest elevation in the township. The north-east portion of the Ingersoll moraine is separated from the Mount Elgin moraine by the upper headwaters of Reynolds Creek. From a distance these moraines appear only as gentle swells in the landscape. The Culloden and Brownsville moraines which are separated in the west by a narrow valley trough link up in the eastern section as they swing northward. The Tillsonburg moraine is perhaps the most inconspicuous of the five moraines because of its broad width and its gentle slopes. Running along the southern boundary of the township, the moraine is discontinued at Tillsonburg but reappears at the eastern edge of the township.

Structurally the moraines are composed of unsorted and unstratified boulder clay. Pale brown calcareous clays and silts are prevalent in the surface layers. Numerous pebbles are generally strewn throughout the surface soil and in some cases layers of gravel are found within a few feet of the surface soil.

(b) Level or Undulating Till Plains

For the most part the till plains comprise undulating land adjacent to the till moraines. These till plains are transition zones between the rolling moraines and the relatively flat spillways and sand plain. The surface layers of the till plain contain varying degrees of alluvium, the handiwork of glacial and post-glacial streams. These deposits are greatest on the outlying sections, of the plain contiguous to the valley floors.

(c) Fluted Till Plains

The greater relief, more variable drainage, and fluted topography distinguish the fluted till plains from the undrained till plains. Fluted till plains occur in small areas in the north of the township. The three small patches along the northern border of the township constitute parts of larger plains outside of the township. The till plains bordering the Ingersoll moraine exhibit more extensive fluting.

The fluted landscape is characterized by a series of low parallel hills arranged like ridges and separated by narrow shallow valleys. Each hill averages approximately one-half mile in length and less than one-quarter mile in width. This grooving or fluting of the landscape is the result of continental glaciation. The north-east - south-west trend of the ridges reveals the south-east passage of the glacier over the land. The poorly drained depressions contrast strongly with the well-drained ridges.

(d) Spillways

The term "spillways" indicates valleys or depressions in the landscape through which glacial streams once flowed. Glacial and post-glacial streams sorted the glacial drift of the valleys and deposited alluvial sediments along the valley floors. Consequently many of these depressions have flat bottoms in which varying depths of alluvium overlies boulder clay. Imperfect drainage invariably occurs in these low-lying areas. In fact much of the land of the spillways is today covered with muck deposits. At present flat or nearly flat plains occupy the spillway areas.

(e) Sand Plain

The lone sand plain of Dereham Township is confined to a narrow belt in the south. It forms part of a much larger sand plain which extends along the northern shore of Lake Erie west of St. Thomas to east of Simcoe.¹ A northern portion of this large sand plain extends into Dereham Township. Flat-bedded deltaic sands overlie the glacial drift of the area. These sands are much deeper in the south-eastern corner of the township than in the narrow belt west of Tillsonburg. The western portion of the sand plain composed of Berrien Sandy Loam soil has an undulating relief while the eastern section is more level. Stream dissection at Tillsonburg has cut deep valleys in the eastern sands.

Drainage Pattern

The drainage of Dereham Township is controlled largely by the moraines. The hilly uplands of the Ingersoll moraine form the major drainage divide for the township. Streams to the north of the moraine flow into the Thames River system. Streams to the south, with the exception of Reynolds Creek, are tributaries of Otter Creek and Catfish Creek which wind their way to Lake Erie.

Streams in the township have a trellised pattern. They tend to follow the vales between the moraines and hence flow predominantly in an east-west direction. Stony Creek offers a good example of trellised drainage since it flows eastward between the Mount Elgin and Culloden moraines, turns south between the Culloden

¹ Called the Norfolk Sand Plain by Putnam and Chapman.

and Brownsville moraines to Delmer, resumes its eastward flow between the Brownsville and Tillsonburg moraines, and finally turns south again just west of Tillsonburg to join Otter Creek.

Streams flowing on the sand plain differ greatly from those on the morainic till plain. The much softer sediments of the sand plain allow streams to cut down rapidly and form steep valley walls whereas the more resistant loams and silt loams of the till plain discourage vertical erosion. Consequently Otter Creek and Stony Creek have steep valley walls where they flow over the sand plain. Spitter Creek and Reynolds Creek which flow over the till plain are small, slow-flowing streams winding irregularly along flat-bottomed valleys.

III. CLIMATE

Dereham Township forms a part of the climatic region designated by Jones and Whittlesey as the humid continental type and by Thornwaite as the humid microthermal climate with adequate rainfall in all seasons.

In an article entitled, "The Climate of Southern Ontario",¹ Putnam and Chapman have divided Southern Ontario into fifteen climatic regions. Dereham Township falls into two of these regions: the southern half in the Lake Erie Counties and the northern half in the South Slopes. The Lake Erie Counties region, because of its lower elevation and closer proximity to Lake Erie, has a slightly more modified climate and receives less rainfall than the South Slopes region. The mean January temperature varies from 20.5° in the north

¹ D.F. Putnam and L.J. Chapman, The Climate of Southern Ontario, Scientific Agriculture 18: 8, April 1938.

to 22° in the south. The mean July temperature is more uniform, 69° in the north and 69.5° in the south. The mean annual precipitation averages 35" with a little more falling in the north-east than in the south-west. The rainfall is adequate in all months; a little over one-half falling in the growing season, April to October. The growing season varies in length between 198 days in the north and 200 days in the south. This includes the period from the middle of April to the first week in November.

IV. SOILS

The soil types of Dereham Township have been mapped by the Department of Chemistry of the Ontario Agricultural College, Guelph. Their findings form the basis for the soil types discussed in this thesis. Of the thirteen soil groups present in the township, three may be classified as silt loams, four as loams, two as sandy loams, and one each as bottom land and muck respectively.

Silt Loam Soils

These soils predominate over the whole township. Located on rolling and undulating land, they have good to fair drainage and moderate to excellent fertility.

(1) Huron Silt Loam

This prominent soil type corresponds closely with the rolling moraine land of the township. Good natural drainage results from fairly steep slopes. The brown and greyish-brown surface soil is underlain by reddish-brown clay loam and grey stony clay loam. A few stones are scattered throughout the surface layers. On the
















Photo No. 1. A soil profile of Huron Silt Loam found on the rolling morainic areas. Note the light-coloured leached A₂ horizon.



SOIL MAP OF DEREHAM TOWNSHIP

(AFTER O. A. C. SOIL SURVEY MAP)



- | | |
|---|--|
|  HURON SILT LOAM |  BERRIEN SANDY LOAM |
|  PERTH SILT LOAM |  FOX SANDY LOAM |
|  BROOKSTON SILT LOAM |  FOX SAND |
|  PARKHILL LOAM |  OSHTEMO SAND |
|  GILFORD LOAM |  BOTTOM LAND |
|  BURFORD LOAM |  MUCK |
|  GUELPH LOAM | |

16.



crests of many hills sheet erosion has removed much topsoil.

(2) Perth Silt Loam

Also abundant throughout the township, Perth silt loam soils are found on the lower slopes of the morainic hills and in areas of undulating relief. This type forms the predominant soil of the undrumlined till plains. As a result of the moderate slopes and compact nature of the soils, the natural drainage varies from fair to poor.

The soil profile is similar to the Huron silt loam except that the greyish-brown silt loam grades into mottled reddish-brown and grey stony clay loam. The mottled effect of the lower soil indicates imperfect drainage. The poorer natural drainage and greater amount of alluvium help differentiate Perth silt loam from Huron silt loam.

(3) Brookston Silt Loam

Two small patches of this soil type are found in the west-central section of Dereham Township. These are areas of nearly flat land which have poor natural drainage. Greater accumulation of alluvium in the topsoil account for a darker brown colour and less stones than the two previous silt loams.

Loam Soils

Of the four loam soils, Parkhill loam and Gilford loam are present on nearly flat land while Guelph loam and Burford loam occupy areas of more variable relief. The Parkhill and Gilford loams have been formed from flat-bedded alluvial sediments deposited on top of glacial till in former spillways. Guelph loam soils are present

on the fluted till plain to the west and north-west of Verschoyle. The two small undulating areas of Burford loam are underlain by extensive gravel deposits.

(4) Parkhill Loam

This dark-coloured loam soil is derived for the most part from alluvial sediments. It is found on some of the flattest land of the township. Numerous woodlots reflect the poor natural drainage.

(5) Gilford Loam

Gilford loam is similar to Parkhill loam in its dark-brown topsoil, its development on nearly flat land, and its imperfect drainage. However it differs from the latter in its greater degree of stoniness in the parent material.

(6) Guelph Loam

This greyish-brown loam has developed on rolling land with good natural drainage. It forms a great contrast with the poorly-drained muck soils in the hollows of the rolling land. Numerous stones are interspersed throughout the surface layers with gravel occurring at several feet depth.

(7) Burford Loam

This light brown gravelly soil differs from its predecessor by having a greater concentration of surface stones and an undulating topography.

Sandy Loam Soils

The two sandy loams of Dereham Township occupy all but the south-eastern corner of the sand plain. In reaction, these soils are slightly to moderately acidic.

(8) Berrien Sandy Loam

Occupying the more undulating sections of the sand plain,

this sandy loam has only fair to poor natural drainage. The imperfect drainage results from the heavy clay subsoil which usually occurs at depths of three feet to six feet but which may be exposed at the surface in eroded areas. Only a thin layer of light brown sandy loam and sand covers the heavy clay soil.

(9) Fox Sandy Loam

Fox sandy loam differs from Berrien sandy loam in its development on more level land, its more yellow surface layers, its greater acidity, its better drainage, and its deep layers of underlying sands. The coarse sandy subsoil accounts for the good to excessive drainage.

Sandy Soils

The sandy soils of the township are confined to a narrow area east of Tillsonburg. They have developed on gently sloping or nearly level land.

(10) Fox Sand and (11) Oshtemo Sand

These soils are similar to the Fox sandy loam in their coarse texture, good to excessive drainage, and freedom from stones. Both are lighter in colour and more acid in reaction than the sandy loams. Fox sand differs from Oshtemo sand in the greater clay content of its B horizon. To remain productive these soils need to be fertilized regularly in order to increase their organic matter, phosphate, and potash content.

Miscellaneous Soils

(12) Bottom Land

The brown to dark brown loam of this soil type is found in a narrow belt along stream courses subject to occasional flooding.

The drainage and slope are variable.

(13) Muck

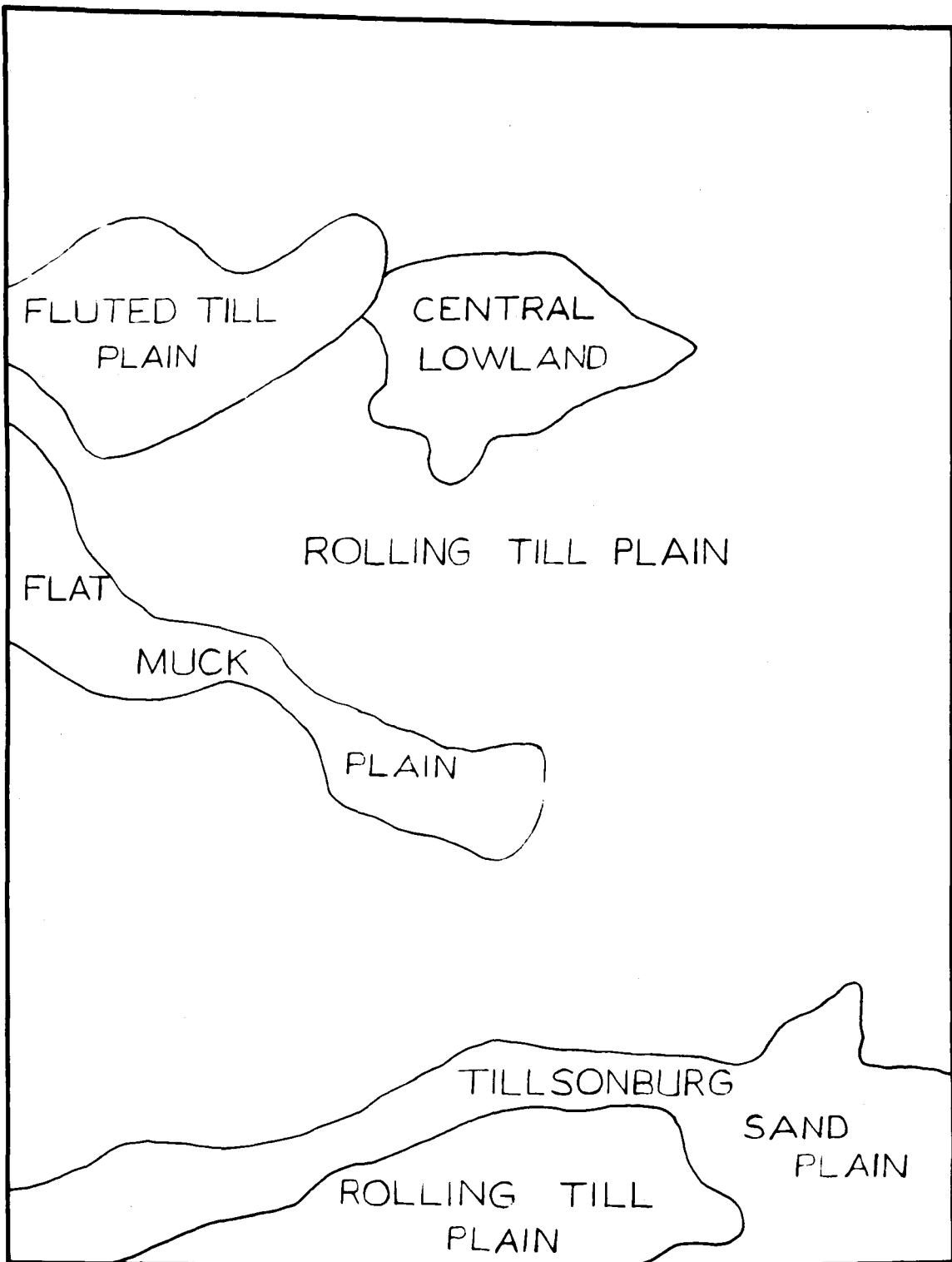
Black, partially decomposed deposits of organic matter have formed in many of the hollows of the rolling till land. These flat-floored depressions have poor natural drainage.

V. LAND TYPES

Certain areas of Dereham Township may be differentiated from each other when a combination of physical factors, such as soil, and physiography, are used as criteria. These unique areas would be known as land types. Each land type usually embraces sections with similar physical conditions. In Dereham Township five distinct areas stand out as land types.

(1) Rolling Till Plain

Comprising well over one-half of the total land surface of Dereham Township, this till plain is an undulating to rolling region characterized by well - drained silt loam soils. Almost all of the Huron silt loam and Perth silt loam soils are included in this land type. Physiographically this land type incorporates all of the moraines and most of the undulating till plain of the township. Consequently glacial till underlies most of the surface soil. In the lower valley sections the glacial till has become coated with varying depths of alluvium. Alluvial deposits are especially noticeable on the broad, gently undulating plain north and west of Ostrander.



LAND TYPES OF DEREHAM TOWNSHIP

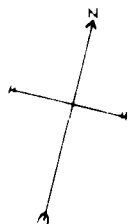




Photo No. 2. A portion of the Mount Elgin Moraine, one-half mile east of the village of Mount Elgin. This moraine appears a gently sloping ridge.



Photo No. 3. Holstein cattle grazing on the gently undulating Central Lowland two miles north-west of mount Elgin. Note the gentle swell of the Mount Elgin moraine in the distance.

(2) Central Lowland

Different topographic, physiographic, soil and drainage factors distinguish this land type from the preceding one. The nearly flat topography contrasts with the sloping land of the Rolling Till Plain. The glacial drift of the Central Lowland has been overlain by alluvial sediments which have given rise to dark-coloured, poorly drained loam soils.

The Central Lowland lies between the Salford and Mount Elgin moraines and its borders roughly follow those of the Gilford Loam soil type.

(3) Fluted Till Plain

This area is designated as a land type separate from the Rolling Till Plain primarily because of its fluted landscape. The alternation of hills and valleys presents not only a different topography but has led to the formation of different soils. Ridges and vales run parallel to one another in a north-west - south-east direction. As a result the area appears more dissected than most rolling areas of the Rolling Till Plain. Although the hills are much smaller in size than those of the Rolling Till Plain, generally their slopes are just as steep. Two contrasting types of soil have developed on the Fluted Till Plain. The slopes contain the well drained, stony Guelph loam while the vales contain much soils. The fewer drainage outlets in the fluted area account for a greater areal percentage of muck soils than in the Rolling Till Plain.

(4) Muck Plain

This land type comprises a low-lying area in which



Photo No. 4. A recently cleared muck field on the Muck Plain.
The black muck soil is being cultivated in preparation for
muck - mining.



Photo No. 5. A view of the flat to gently undulating
Tillsonburg Sand Plain, one-half mile north of Tillson-
burg. The sloping land in the foreground marks the
beginning of the Brownsville Moraine.

extensive deposits of muck have accumulated. In its natural state the area was poorly drained and marshy in many sections. Woodland, scrubland, and marsh grass formerly covered most of this area. At present some of the woodland has been cleared and the drainage has been improved everywhere.

Its level nature and special soil type distinguish the Muck Plain from the other land types of the township. This muck region is perhaps the flattest area of Dereham Township. Its muck soils exert a noticeable influence over the land utilization of the area, by limiting the type of crops which may be grown successfully and by necessitating improved drainage for crop production.

(5) Tillsonburg Sand Plain

Perhaps the most distinctive land type of Dereham Township is the Tillsonburg Sand Plain. Its gently undulating to nearly flat landscape is intermediate between the rolling topography of the Rolling Till Plain and the flat landscape of the Central Lowland and Flat Muck Plain. The sands and sandy loam soils of the Tillsonburg Sand Plain comprise all of the sandy-textured soils of Dereham Township. These soils have developed from deltaic deposits of sand while the soils of the other land types have been derived from glacial till. Over most of the area, the drainage varies from good to excessive, depending on the depth of underlying sands. On parts of this land type rivers have carved deep valleys; whereas in those parts of the township underlain by glacial till, streams have accomplished little downcutting against the resistant boulder clay.

CHAPTER THREE

THE HISTORICAL DEVELOPMENT OF DEREHAM TOWNSHIP

PERIOD 1803 - 1840

The early development of Dereham Township was connected with the creation of the Talbot Settlement in 1803. In that year Thomas Talbot arrived at Port Talbot and began to govern his vast territory. Included in his grant was that portion of territory which was later to become Dereham Township. For the first twelve years colonization in the Talbot Settlement developed slowly. After 1815 however, increasing numbers of settlers arrived in the territory, spurred on by reports of the excellent administration of the Settlement.¹ However, Dereham Township received only a small fraction of the colonists and by 1830 the population was estimated at only 329.² The slow growth of settlement continued during the next decade. In 1840, at the end of Talbot's regime, 776 people resided in the township.³

In these early years of the nineteenth century, clearing the forest and tilling the newly-cleared land occupied most of the settler's time. The former occupation led to the early development of the lumbering industry and soon sawmills and grist mills sprang up along the streams of the township. Agricultural land was used primarily for the cultivation of wheat, oats, barley, peas, and beans. To a lesser extent potatoes and fruits were grown. Because of its higher value as human food rather than livestock feed, wheat was a more important cereal crop than oats, a condition which was later reversed.

¹ N. Macdonald, Canada, Immigration and Settlement, p. 136-137

² T. S. Shenston, The Oxford Gazetteer, p. 140

³ Ibid, p. 140

Tillsonburg received its early beginnings in this period. George Tillson is credited with founding the town in 1825. In that year Tillson became enamoured with the present site while in search of bog iron ore deposits. By 1840 there were only a few settlers in the Tillsonburg district.

PERIOD 1841 - 1871

The three decades after 1840 marked the period of most rapid development. Settlement expanded tremendously. From a mere 776 in 1840 the population of the township swelled to 2,463 in 1848¹ and 5,838 in 1871. In observing conditions in Oxford County around 1851, Thomas S. Shenston stated that Dereham Township was being settled more quickly than any other township in the county. However by 1871 Dereham was nearing its population peak. Most of the area was settled and an increasing percentage of land was being tilled.

With the flood of settlers during this period, a number of urban communities sprang into existence. Brownsville, Culloden, Mount Elgin, and Salford started their careers during the 1840's with the initiation of agriculture and lumbering in their immediate vicinities. Sawmills and grist mills soon appeared and later service industries for the communities. Delmer and Ostrander grew up about churches erected to serve the needs of the district settlers. Verschoyle and Ostrander received their initial starts as crossroads centres about which general stores and churches were built.

Tillsonburg made very little progress until the middle of the century when excellent power afforded by Otter Creek was utilized by two saw mills. A good lumber trade followed. Large quantities of oak

¹ Shenston, p. 140



Photo No. 6. A dilapidated old barn located at Culloden.

This unusually designed barn was built in 1896.

and pine were cut from the surrounding area and shipped to the United States.¹ Considerable amounts of lumber were used in building the Ingersoll - Port Burwell plank road, now a part of Highway 19. In these years Tillsonburg was known as Dereham Forge since iron ore from the neighbourhood was mined and smelted there.

During the latter 1850's and the 1860's Brownsville, Mount Elgin, Culloden, and Tillsonburg expanded steadily. At the height of their prosperity in 1867 the first three contained respectively 120, 230 and 200² people. In the same year Tillsonburg had approximately 700 inhabitants.³ All of these urban communities were service centres catering to the basic needs of the settlers. In 1867 each village contained general stores, blacksmith shops, tailor shops, carriage and wagon shops, boot and shoe shops, saw mills and grist mills. Other industries included a plow factory at Brownsville, an apple evaporating plant and a barrel factory at Mount Elgin, and cabinet shops, harness shops, foundry and machine shops, a brewery, a tannery, carding and planing mills at Tillsonburg. The expansion of cheese-making in the late 1860's prompted the establishment of cheese - box factories at Brownsville, Mount Elgin and Culloden.

While the aforementioned villages were progressing steadily, Salford, Dereham Centre, Ostrander and Delmer were becoming stagnant or were declining in importance. These places were located too close to flourishing centres to ensure continued development.

In conjunction with increased settlement, agriculture

¹ Oxford and Norfolk Gazetteer, Sutherland and Co. p. 42.
² Ibid p. 41.
³ Ibid p. 42.

developed tremendously in this period. With a rapid clearing of forest tracts, the area of arable land suitable for agriculture increased 42% in the decade 1861 - 1871. By 1871 approximately 60 % of the total acreage could be classified as improved land. On the arable land, wheat, oats, and peas occupied the greatest area. Wheat still ranked as the most important cereal, but from 1865 on, the acreage devoted to this crop declined as forage crops increased in importance. Livestock were becoming important in the farm economy and dairy cattle in particular began to play a vital part in farm administration. Their importance was reflected in the large - scale manufacture of home-made cheese and butter during the last ten years of the period. Dereham's dominant position was due mainly to the cheese - making experience of many American settlers from Herkimer County, New York. Herkimer was the leading cheese county of New York State at this time. Prior to 1855 most of the dairy cattle were grades; however after that date some selective breeding was practised and pure - bred stock were imported.

Lumbering reached its peak of importance during this period. Oak and pine were cut in large quantities. Shenston stated that 4,000,000 feet of logs were sent to the United States from Dereham Township in 1852.¹ Tillsonburg was the focal point of the lumber industry, benefitting from its location on Otter Creek. A number of dams constructed across Otter Creek and Stony Creek provided ample water - power for sawmills and grist mills.

PERIOD 1872 - 1901

During the last thirty years of the nineteenth century the

¹ Shenston, p. 136

population of Dereham Township fell from 5,838 to 3,979. This depopulation was largely the result of the greater mechanization of agriculture which decreased the amount of farm labour needed and encouraged the development of larger farms. Large numbers of unemployed rural workers migrated to the local villages and towns while many others left the township altogether.

Besides rural depopulation, this period witnessed the rise of the dairy industry. The rapid changeover from general farming to dairying was due primarily to technological factors rather than to physiographic ones although it is true that climate and soils were suited to dairy farming. However the main impetus to dairying in Dereham Township was supplied by the initiation of the factory system for the manufacture of cheese, the consequent demand for large quantities of fresh milk, the mechanization of agriculture which gave the farmers more time to care for livestock and crops suitable for winter dairying, the rapid increase of pure-bred cattle and the recognition of their superiority to grade cattle. This last factor was a result as well as a cause of the growth of dairying.

From the very first Oxford County assumed the leading role in the manufacture of cheese in factories and Dereham became the leading township in the county. The first cheese factory in Canada began operations in 1864 in one of the eastern townships of Oxford County. In the following year the first cheese factory in Dereham was built at Salford. A few years later Brownsville, Culloden, and Tillsonburg received cheese factories. During the early 1870's additional factories sprang up at several other villages. The marketing of cheese was facilitated by Dereham's proximity to Ingersoll, the cheese capital

of Canada during this period.

Of all the urban settlement of Dereham Township, only Tillsonburg showed any significant development during the period 1871 - 1901. While Culloden, Brownsville, Mount Elgin and other hamlets remained stationary or declined in size, Tillsonburg grew steadily. In 1881 there were 1,937 people in the village; in 1901 census figures revealed 2,241 inhabitants. Besides possessing a number of service industries, the village was attaining recognition as the home of the famous Tillson Mills, which produced cereals, especially oatmeal, for world-wide markets. These mills were supposed to be the birthplace of pan-dried oats, the type used for making oatmeal porridge. The Tillson Mills as well as sawmills and grist mills benefitted greatly from cheap water-power supplied by dams across Otter Creek and Stony Creek. The deep V-shaped valleys cut by these streams in the sandy soil made feasible the construction of these dams.

PERIOD 1902 - 1952

The twentieth century revealed three phases in the settlement pattern of Dereham Township. Rural depopulation continued until the early 1930's. There followed a ten year period of population stability, which was succeeded by a slow population increase during the 1940's. The 3,629 rural dwellers of 1951 constituting the highest population total since World War I.

The halting of rural depopulation was due mainly to the improved transportational facilities which allowed the rural populace to benefit from urban services without actually living in urban centres. In the last twenty-five years, improved roads and more widespread use

of automobiles have permitted farmers to utilize urban facilities almost as readily as urban dwellers themselves. Improved communications, the stabilization of agriculture in rural areas, and numerous technological advances such as hydro and refrigeration have contributed to the halting of rural depopulation.

The dairy industry blossomed forth into full maturity in the twentieth century. However it was not cheese but fluid milk which promoted this rapid expansion. The greater demand for butter coupled with a greatly reduced market for cheese curtailed the activities of many cheese factories. During the 1900's and 1910's many cheese factories extended their operations to include the manufacture of butter and some factories produced more butter than cheese.

Dairying attained its full significance after 1910, when there arose a great demand for fluid milk as well as all types of milk products. Increasing urban population, improved transportation, increased recognition of the food value of milk, and more effective sanitary regulations all contributed to this demand for fluid milk.¹ Creameries and condensed milk factories assumed increasing importance. An evaporated milk factory, established in Tillsonburg in 1908, has become increasingly significant since 1928, when the Borden Company began the production of powdered milk. A large Borden plant at Ingersoll and Carnation factory at Aylmer have absorbed more and more Dereham milk.

Specialized dairy farming meant added emphasis on livestock improvement. Increasing the milk production of the herd became

¹ H. A. Innis, The Dairy Industry of Canada, p. 8

all-important; it resulted in a greater stress on purebred cattle and in the rapid predominance of the Holstein breed. As the "black and white" capital of Oxford County in 1931, Dereham contained more milking cattle than any other township in the county. In 1941 Dereham ranked third among all townships of Ontario in the total number of cattle and the total number of milch cows.

The twentieth century witnessed a greater intensification of feed crops suitable to dairying. Cultivated hay rose from 8,651 acres in 1911 to 12,620 acres in 1941. This latter figure represented over one-third of all the field crops grown in that year. During the same thirty year period corn doubled its acreage. The introduction of the silo in the 1880's encouraged greater corn production in the twentieth century. As ensilage, corn was an important feed for cattle. The increased usage of corn accounted largely for the thirty per cent reduction in the acreage of oats from 1911 to 1941. Wheat and barley, predominantly cash crops, also declined in acreage, the former by fifty-two per cent, the latter by forty per cent. The importance of these declines in acreage can be more fully appreciated when one realizes that area of field crops during the same thirty year period increased only seven per cent.

The continued growth of larger farms was a notable feature of the twentieth century. Prior to 1902 the majority of the farms were between fifty and one hundred acres in size with a large percentage in the ten to fifty acre bracket. After 1902 the majority of the farms were still between fifty and one hundred acres but farms in the ten to fifty acre class were fast decreasing while those in the one hundred and one to two hundred acre bracket were steadily increasing. In 1861

sixteen per cent of the township's farms were included in the one hundred and one to two hundred acre class. This figure had increased to twenty-seven per cent in 1911 and to thirty-three per cent in 1941.

From 1902 - 1952, Tillsonburg consolidated its position as the leading urban centre of Dereham Township. Many industries declined or withered away but others commenced operations or expanded in size. Sawmills and carding mills lapsed into obscurity with the depletion of the local lumber supply in the 1890's and 1900's. The famous Tillson Mills were sold in 1902 and subsequently fell into disuse. In 1937 the last vestiges of the mighty mill era were washed away when the dam across Otter Creek collapsed. However Tillsonburg secured new industries to replace declining ones. Garages and machine-shops sprang up in place of blacksmith shops, harness and wagon shops. In 1900 a farm and garden implement factory began operations. This industry is still in existence although in 1931 its ownership was transferred to the Welland Vale Manufacturing Company. In 1904 a shoe factory was built on Broadway Street. In 1908 an evaporated milk plant commenced operations for the Borden Company. At first these industries produced for local markets but during the 1920's and 1930's most of them enlarged their scope to include Ontario or Canadian markets.

The advent of tobacco - growing on the sandy land south of Tillsonburg inaugurated a new era of prosperity. Previously the undeveloped sandy area immediately to the south and east of Tillsonburg had largely confined commercial and local industrial markets to the prosperous dairy region to the north and west. Thus Tillsonburg's local market was limited to one-half of its hinterland. With the coming of tobacco in 1925, settlement proceeded rapidly in the sandy

region. Tillsonburg's location became a distinct advantage for the town stood midway between the prosperous dairy region to the north and the tobacco region to the south. All of Tillsonburg's unland became an important market centre for Tillsonburg's commercial establishments and service industries. In response to tobacco expansion a tobacco - processing plant was founded. In addition the Beaver Foundry and Furnace Works began specializing in the manufacture of tobacco furnaces.

Although possessing good transportational facilities and a very prosperous hinterland, Tillsonburg's industrial position has been hindered by a lethargic attitude on the part of civic officials towards industrial expansion. During the 1930's and early 1940's a number of industrial firms considered building plants in Tillsonburg but were discouraged by civic officials presumably influenced by a combine of established industries who feared that competition in the labour market would ruin their cheap labour supply.

Since the close of World War II the general spirit of Tillsonburg businessmen has been revitalized and a more progressive attitude adopted towards industry. After 1945 industries have been predominantly those producing for Ontario or Canadian markets. The most important of these was the Livingston Wood Products Ltd., which originally manufactured wooden station wagon parts but has since added fruit baskets and plywood packaging cases. Other firms produced furniture, rubber mats and soles, and drilling pipe for oil, gas, and water companies.

Civic pride has prompted a building boom in the last few years. It started in 1948 with the construction of a new swimming pool.

Since then a separate school was built in 1949, a new arena, public school and high school in 1950, and a large hospital addition in 1952. The prosperity of the town in recent years was reflected in the thirty-three per cent population increase in the decade 1941 -1951.

CHAPTER FOUR
URBAN LAND USE

Urban land in Dereham Township is restricted to one town, Tillsonburg, and eight hamlets, Mount Elgin, Brownsville, Culloden, Salford, Verschoyle, Dereham Centre, Ostrander, and Delmer. Tillsonburg is far more important than any of the other centres. Its population of 5,330 is more than thirty times the size of the two most influential hamlets, Brownsville and Mount Elgin.

TILLSONBURG

A. LOCATION and SITE

Tillsonburg occupies a block of land in the south-east corner of the township. Although Tillsonburg is considered to be a part of Dereham Township, the town limits extend southward to incorporate a portion of Middleton Township, Norfolk County.

The town is located at the confluence of Otter Creek and Stony Creek. These streams have carved deep valleys in the sandy subsoil, giving the landscape a gullied appearance. The higher land on either side of the gullies consists of an undulating plain dipping gently towards Otter Creek. Settlement has avoided largely the valleys and has congregated on the nearly level upland terrain.

B. URBAN TRACT

Tillsonburg's urban tract reveals the influence of the environment and major roadways on the development of the town. These two factors are perhaps more important than any others in accounting for the present settlement pattern of Tillsonburg.

The chief environmental factor influencing the growth of Tillsonburg has been the presence of deep river valleys. These valleys have acted as barriers to integrated settlement. They are not conducive to extensive habitation and so divide the town into a number of separate areas. West and south of the town proper there are seven district subdivisions. The largest of these are the Simcoe Street suburban area and the Vienna Road suburban area. The former is located along Highway # 3 east of the town proper. The irregular road pattern reflects the limiting influence of the environment on urban development.

Settlement in Tillsonburg has tended to locate along major highways and through roads. Two provincial highways pass through the town. The more important one, Highway # 3 is represented by Simcoe, Oxford, and John Pound Streets. Highway # 19 runs primarily in a north-south direction along Broadway Street, Oxford Street, and Vienna Road. In addition, a paved county road which approaches Tillsonburg from the north-east finds its entrance into the town by way of Tillson Avenue. Settlement growth on the outskirts of Tillsonburg has focused upon these three routes.

C. LAND USE PATTERN

The land within the town limits of Tillsonburg can be divided into nine major categories, differentiated according to specific land uses. As outlined on the Tillsonburg Map p.79, these categories include industry, commercial establishments, housing, public or quasi -public land, parks and open spaces. In addition some idle land, agricultural land, wooded land, and bottom land are found within the town limits. Industry, Commercial establishments, and

housing are subdivided further to give a more detailed picture.

I. Industry

Industry Dependent on Local Markets

Industries of this type depend upon Tillsonburg and its hinterland for the sale of their products or services. This category includes most of the town's smaller industries. Service industries predominate with garages by far the most numerous. A list of these industries reveals twenty-one garages, five machine shops, three feed mills, three construction companies, two cleaning and dyeing plants, two printing companies, two bakeries, two dairies, one tombstone plant and one blacksmith shop. The construction companies sell builders' supplies - coal, coke, cement, lumber, tile - as well as build all types of buildings. The feed companies sell feed products primarily to local farmers and local retail firms. In addition, the Sam G. Vance Company distributes considerable quantities of feed to retail firms within a twenty mile radius of Tillsonburg and also exports much corn to the cornstarch companies. The feed companies also handle tobacco seeds and fertilizers. These industries serving local markets are scattered over the whole town, although there is a definite concentration within a three block radius of the commercial core. Most of the garages are located along the highway thoroughfare with Oxford and Simcoe Streets predominating. In that portion of Oxford Street stretching from Broadway Street to Vienna Road there are ten garages. Two of the three construction companies are situated near railway lines so they can use railway transportation for the importation of their bulky supplies.



Photo No. 7. The Tillsonburg Borden plant at the intersection of John Pound Street and Borden Crescent. Storage buildings are in the left foreground; heating plant and pump room are at the right.



Photo No. 8. The processing plant of the Norfolk Leaf Tobacco Company on Tillson Avenue.

2. Industries Dependent on Local Raw Materials

There are only a few industries dependent primarily upon raw materials from the surrounding area for their location. However the Borden Company Limited and the Norfolk Leaf Tobacco Company, two of Tillsonburg's largest industries, fall into this category. The Borden plant is located at the intersection of John Pound Street and Borden Crescent. The huge supply of milk which it receives is used almost exclusively for the manufacture of powdered milk. The powdered milk is shipped all over Canada and some is exported to foreign markets.

The Norfolk Leaf Tobacco Company operates two large plants on Tillson Avenue. The larger one is used mainly for the storage of tobacco while the smaller one processes and packs tobacco. Over five hundred people are employed in the factory during the busy season, November to April. The tobacco factory located in Tillsonburg in order to be near the tobacco belt - the source of its raw materials.

3. Industries Not Dependent on Local Raw Materials or Local Markets

This category includes most of the large industries of Tillsonburg as well as some small specialized ones. Industries in this class gain their raw materials from a wide area and sell their products over a wide area. The most important of these industries are Livingston Wood Manufacturing Limited, Welland Vale Manufacturing Company, Tillsonburg Shoe Company, Beaver Foundry and Furnace Works, Metal Fabricators Limited, Gro-Cord Rubber Company of Canada Limited, Tillsonburg Pipe and Supply Company, and Coyle Brothers Wholesale.

The Livingston Wood plant is located on Tillson Avenue

where it has access to rail transportation. The factory concentrates on the manufacture of wooden components for station wagons, the manufacture of wooden wheel blocks and other items for the automobile industry, the manufacture of crates for packaging domestic appliances including refrigerators and aeroplane frames. Although the products from the plant are shipped all over Ontario, most journey to Windsor and Detroit.

The Welland Vale plant is situated on Tillson Avenue just north of Venison Street. It specializes in the production of farm and garden tools, producing over one hundred varieties. Hay forks, hoes, rakes, spades and trowels are especially important. Welland Vale sells its products to hardware retail firms across Canada.

The Tillsonburg Shoe Company is a local firm producing work boots for trans - Canada market.

The Beaver Foundry factory specializes in the production of tobacco furnaces for kilns. These furnaces are marketed all over the tobacco belt, from St. Thomas to Simcoe.

Metal Fabricators Limited is adjacent to the Shoe Company's factory on Broadway Street. The firm manufacture hospital beds, hospital dressers, school desks and chairs which are sold to Ontario markets.

The Gro-Cerd Rubber Company is a recent addition to Tillsonburg's industries. Its main products include special rubber soles and heels for shoe companies, and neoprene matting for hospitals and factories. Its sales extend across Canada.

The Tillsonburg Pipe and Supply Company manufactures pipe and drilling equipment for gas, oil, and water companies in Southern

Ontario. The availability of cheap lots and cheap labour is mainly responsible for the location of these industries in Tillsonburg.

II. Commercial Establishments

(1) Establishments Serving The Entire Town

Commercial establishments of this type constitute the commercial core of the town. This core extends along the southern part of Broadway Street. In this commercial zone there are seven restaurants, three banks, three hotels, three theatres, three barber shops, three combined barber and billiard shops, eight groceries and meat markets, eight clothing stores, four department stores, five shoe stores, four hardware stores, five jewelry stores, three drug stores, three furniture stores, two fruit stores, two delicatessen shops, three household appliance stores, two flower shops, six taxi stands, a sport shop, a bowling alley, telephone, gas and hydro offices and order offices for the T. Eaton Company and the Robert Simpson Company. Two of the above-mentioned groceries are supermarkets, owned by the A. & P. Company and Loblaw Groceries Limited. The commercial core offers a complete line of goods for the entire town and its hinterland.

(2) Neighbourhood Commercial Establishments

All of the commercial establishments which serve only a certain section of Tillsonburg are grocery stores or general stores. These stores are located along important transportation routes in outlying sections of the town. Three of the stores are situated on Simcoe Street while others are found on Broadway Street and Tillson Avenue.



Photo No. 9. A view of Tillsonburg's commercial core at the intersection of Broadway and Oxford Streets.

III. Housing

In classifying the housing of Tillsonburg four divisions have been used. The criteria used to distinguish the four classes of houses include the assessment value, the building material, and the style and appearance.

There is no well defined pattern seen in the differentiation of housing in Tillsonburg. All four classes of housing are intermingled in many sections or even in individual blocks. However certain classes predominate in some parts of the town.

(1) First Class Housing

In this category houses are predominantly brick and imitation brick. They are substantially built and well looked after. The majority of the brick and many of the frame houses constructed in the last ten years occur in this division.

First class housing is prevalent along Hyman Street, Broadway Street north of the commercial core, and Lisgar Avenue between Venison and Concession Streets. Most of the houses on Hyman Street and Broadway Street north of Sanders Street are modern ranch style houses. There appears to be no particular reason for the concentration of first-class housing in those areas.

(2) Second Class Housing

Second class houses are generally medium-sized attractive frame houses and small to medium brick dwellings. Large brick houses in second rate condition are also placed in this category.

Second class housing is widespread throughout the town. It is especially important in those sections to the east and west of



Photo No. 10. Second class housing in a new subdivision off Tillson Avenue. Most new subdivisions in Tillsonburg contain mainly first or second class housing.



Photo No. 11. A view of the new Tillsonburg District High School on Tillson Avenue. In the left background a corner of the modern Tillson Avenue Public School is visible.

the commercial business section.

(3) Third Class Housing

Frame houses in average condition form the bulk of the third class housing. The majority of Tillsonburg's housing falls into this category. Third class housing is prevalent in many outlying regions such as the Simcoe Street settlement area, the Von street subdivision, the George Street subdivision and Tillson Avenue settlement area.

(4) Fourth Class Housing

The poorer classes of housing, from dilapidated shacks to frame houses needing extensive repairs are grouped in this bracket. A smaller number of houses occurs in this category than any others. Fourth class housing is found in isolated patches throughout the town.

IV. Public and Quasi - Public Land

In this category are grouped buildings and land publicly owned or buildings serving the public in a non-commercial manner. In Tillsonburg, public and quasi-public land comprises twelve churches, four schools (one high, one separate, two public), two hydro sub-stations a library, a town hall, a post office, a hospital, an arena, and a cemetery. Five of the twelve churches are situated on or near Bidwell Street. The town hall holds the police and fire departments of Tillsonburg, as well as municipal offices. The modern high school was built in 1950 at a cost of \$575,000. A \$170,000 public school was constructed in the same year. In 1952 a \$800,000 wing was added to the Tillsonburg and District Memorial Hospital. At the present time

negotiations are under way for the construction of a new post office at the north-east corner of Ridout and Broadway Streets.

V. Parks and Open Spaces

Land used for parks and outdoor recreation is classified under this heading. The spacious Tillsonburg Memorial Park contains most of the parkland. It is situated immediately west of Lake Lisgar. On the parkland there are picnic grounds with tables and benches, a playlot, a swimming pool, fair buildings, a softball diamond, a baseball diamond, and a half - mile horse-racing track.

In addition to Memorial Park there is a small park on Washington Grand Avenue, just behind the public library. Although the park contains swings and teeter-totters it receives little use.

With the increasing demand for new park space, plans are under way for the layout of a new park site on the Otter Creek bottom land immediately south of Van Street. It is hoped that the more central location of the new park will benefit especially the southern sections of the town.

In addition to the recreational facilities in Memorial Park, Tillsonburg offers a golf course, north of John Pound Street, a stock car track on Concession Road and a bowling green on Harvey Street.

VI. Idle Land

All non- agricultural, non- wooded, and non-bottom land which is potentially usable for building purposes is classified as idle land. There are two types of idle land in the town. First there are large areas of company-owned land left vacant for expansion purposes. Most of the huge area of idle land which extends along the

railway tracks west of Tillson Avenue is owned by the Canadian National and Canadian Pacific Railway companies. Also the idle land east of Tillson Avenue and south of Concession Street is the property of the Welland Vale Manufacturing Company. Secondly, there are sections of idle land owned by individuals and open to development but not used for building purposes as yet. The largest area of this type occurs along Potter Road and represents rough land, between Otter valley and Potter Road. Idle land is found also in considerable tracts in new subdivision areas.

VII. Agricultural Land

A good percentage of the total land area included within the town limits is occupied by agricultural land. The sandy soil surrounding the town is well-adapted to tobacco-growing and most of it is used for that purpose. Portions of at least fourteen tobacco farms fall within the town limits. This unusual concentration of agricultural land within the town limits has resulted from the town's policy of incorporating land along major routes so that new residential areas may fall within the town limits.

VIII. Wooded Land

Besides the wooded land associated with the gullies or river valleys, there are only two areas of woods within the town limits. The larger of these, known as Vienna Woods, occupies an eighty acre block east of Vienna Road. Until 1953 this tract was owned by the Public Utilities Commission of Tillsonburg. From 1928 to 1940 the woods contained the town's water supply, but following that time water was procured from South Norwich township. Since 1940 the

woods have only been used as a scenic play ground. However in the present year the land was purchased by the municipal council for the future industrial development. The proximity of this wooded land to Highway # 3 and Highway # 19 and to the C.P.R. and Port Burwell spur-line makes it very suitable as an industrial site. Furthermore the site is only fourteen miles by rail from Port Burwell, one of the best lake ports on the northern shore of Lake Erie. A much smaller wooded area flanks Lisgar Avenue. The wooded land along the river valleys gives Tillsonburg a much more wooded appearance than is actually the case.

IX. Bottom Land

Land along the side and bottom of river valleys is termed bottom land. Bottom land is generally covered with a combination of grass, scrub, and trees. Except for a small playfield area west of the Rolph Street Public School this land serves no particular purpose. In the near future a park will be created on the bottom land south of Van Street.

D. THE TOWN AND ITS UMLAND

Tillsonburg is essentially a service centre for the rich agricultural area surrounding it. The town is very fortunate in having one of the most prosperous hinterlands in Ontario. Opulent dairy and tobacco farmers spend much of their hard-earned wealth in the town. Tobacco farmers in particular are a great boon to Tillsonburg food merchants because they rarely grow garden crops and because they need huge supplies of food in the summer to feed their hired labour.

Although Tillsonburg's prosperity is still largely connected with its rich agricultural hinterland the town's major industries play an important economic role, one which will undoubtedly assure increasing significance in the future. The factories provide employment for a large number of urban workers. If the seasonal labour at the Norfolk Leaf Tobacco Company be included, that firm along with the Borden Company, Shoe Company, Livingston Wood Company, and the Welland Vale Manufacturing Company employ over 940 workers. Many of the labourers are rural dwellers living in the hamlets within an eight mile radius of Tillsonburg. With the progressive attitudes toward industrial expansion shown by Tillsonburg civic officials in the last five years, industry should shape the town's destiny in the future much more than it has in the past. The recent ratification of the proposed Vienna Woods industrial site is indeed encouraging, for a town which has neglected industrial development for so long. The price of this industrial land will be a nominal amount, probably \$200 an acre, a figure contrasting sharply with the \$2,000 an acre asking price on most land in the town. The Tillsonburg municipal council hopes that large industrial concerns will be attracted by the cheap land and good road and rail connections.

The extent of Tillsonburg's sphere of influence or its unland is vaguely defined. The boundaries of this unland are very fluid; they vary according to the criteria used to measure the influence of the town. For this thesis, the criteria used include the three areas served by Tillsonburg's banks, schools and supermarkets. By Examining these three areas the unland of Tillsonburg is established.

The umland thus designated assumes an oblong shape. Its boundaries pass through Springfield in the west, Mount Elgin in the north-west, Otterville in the north-east, Langton in the south-east, and Vienna in the south. Accordingly the umland radiates outwards eight to ten miles in the west, north, and east, and fourteen miles in the south. The absence of significant urban centres in the south accounts for the southward extension of the umland. The village of Port Burwell is the only urban centre of any size south of Tillsonburg. However farther north greater competition for the goods and services of Tillsonburg is offered by the towns of Aylmer, Ingersoll, Norwich and Delhi.

A number of reasons explain the lack of urban centres in the south. In the first place the major east-west highway routes of southwestern Ontario (Highway # 3 and # 2) were laid out several miles north of Lake Erie through heavy - textured land well suited to mixed farming and dairying. Settlement tended to concentrate on this heavy-textured land north of Tillsonburg rather than on the sandy areas to the south, relatively unproductive to dairying and mixed farming. The highways fostered the development of towns on the settled areas in the north. Paris, Woodstock, and Ingersoll grew along Highway # 2 while Simcoe, Delhi, Tillsonburg and St. Thomas developed on Highway # 3. On the other hand the sandy areas south of Tillsonburg did not become densely settled until after the initiation of tobacco - farming in 1925 and consequently did not have the same impetus towards urban development as the more northern areas.

MOUNT ELGIN

This hamlet of approximately 150 people rivals Brownsville for recognition as the second urban centre of Dereham Township. Although Mount Elgin has fewer houses than Brownsville, it has a larger number of modern dwellings. Mount Elgin's greater prosperity appears to be related to its better location.

Mount Elgin is located at the juncture of Highway # 19 and County Road # 18. It is midway between Tillsonburg and Ingersoll, being approximately eight miles from each town. The hamlet is situated on the moraine bearing its name. From the central crossroads section the land slopes away on all sides so that almost all of the hamlet's buildings are situated on sloping ground.

The settlement has expanded outwards from the crossroads area until at the present time it extends about one-third of a mile along Highway # 19 and almost three-quarters of a mile along County Road # 18.

The land-use pattern of Mount Elgin is similar to that of most small urban centres. Besides fifty-three houses there are two general stores, two machine shops, two feed mills, one creamery and cheese factory, one woodworking shop, two churches, two schools, one garage, and one community hall. The houses are principally third class. A few second and fourth class dwellings are sprinkled throughout the hamlet. The feed mills provide work for a few inhabitants. Over 90% of the grain used by these mills is imported from the West. Besides grain the mills sell flour, feed, coal, cement, posts, and wire fences.

The creamery makes some butter, although cheese leads in production. A continuation and public school serve the hamlet; each has an enrollment of between 75 and 85 pupils.

Mount Elgin functions as a service centre for a small rural area of approximately nine square miles. Its general stores, industries, churches and schools cater to the rural community. Mount Elgin is noteworthy as a haven for retired farmers who prefer the serenity of a semi-rural community to the bustle of large urban centres.

BROWNSVILLE

Brownsville is located at the crossroads of County Road # 10 and County Road # 19. The latter route is a tarvia - constructed road from Brownsville to the northern outskirts of Tillsonburg, only five miles to the east. The hamlet is situated on an undulating plain rising gently towards the north.

Settlement in the hamlet is congregated about the four central blocks and along County Road # 10. Over the latter route settlement extends for four-fifths of a mile, the bulk of it being south of County Road # 19. In keeping with most rural communities settlement is not compact; a number of open spaces occur throughout the hamlet. In Brownsville there are sixty-nine houses, two general stores, a post-office, a lunch bar, a garage, a feed mill, a tile manufacturing plant a creamery, two churches, a school, and a community hall. Housing is predominantly third and fourth class. The feed mill produces flour and feed for local farmers. The creamery, once a thriving cheese factory, now acts solely as a receiving station for milk destined for the Borden plant at Tillsonburg. The Brownsville Tile Manufacturing Company

specializes in the production of drainage tile and fire brick utilizing local clay. It markets these products in Southern Ontario centres. The community hall is used for all types of meetings as well as dancing and other social affairs.

Brownsville is similar to Mount Elgin in that it acts as a service centre for a small area. Its unland has a radius of two or three miles. The tile factory is the only industry which does not produce for local markets. It is also the major source of employment for Brownsville residents; over twenty-five people work at the plant. Over one-half of the remaining labour-force works in the hamlet also. Ten other people work in Tillsonburg factories while six do trucking of all kinds.

CULLODEN

Located two miles north of Brownsville on County Road # 10, Culloden was once on a par with Brownsville but has declined considerably. It is similar to Brownsville and Mount Elgin in its function as a service centre. Its church, school, general store and service station, garage and egg-grading station service a small rural area. The cheese factory, now closed, reflects the waning importance of the hamlet. All except four of the twenty-seven houses in the community are drab third and fourth class dwellings.

SALFORD

The little community of Salford is situated on Highway # 19, three and one-half miles to the north-west of Mount Elgin. It lies on the summit of the broad crest of the Ingersoll moraine. Settlement is concentrated along a diagonal street connecting Highway # 19 with

Township Road # 24. Along Salford's streets there are thirty houses, a combined service station and general store, a feed mill, a garage, a lunch bar, a school and two churches. Although six of the community's inhabitants are employed in Ingersoll, the majority of the residents work in the hamlet itself.

VERSCHOYLE, DEREHAM CENTRE, OSTRANDER, DELMER

These four communities are much smaller than the ones discussed previously. They are rather inconspicuous crossroads centres which have never attained prominence in the past and are unlikely to do so in the future. Each of these communities contains six to twelve houses, a school, and a church. In addition Ostrander possesses a service station and a general store; Dereham Centre a general store and community hall; and Verschoyle a general store, garage and cheese factory. Retired farmers form the bulk of the population in the centres.

SUMMARY OF URBAN CENTRES

The preliminary stages of urban growth in Dereham Township began with the construction of the Port Burwell Plank and Gravel Road (Highway # 19) and the Culloden Gravel Road (County Road # 10). In conjunction with the early settlement of the township from north to south, these pioneer roads were constructed in the north and gradually extended southward. Urban settlements developed along these roads - Salford, Mount Elgin, Ostrander, and Verschoyle first, and Tillsonburg, Culloden and Brownsville later.

During the latter 1860's when Salford, Verschoyle, Mount Elgin, Culloden and Brownsville were at the height of their prosperity, Tillsonburg began to emerge as the leading urban centre of Dereham Township. Tillsonburg's dominant position resulted from the availability of abundant water-power from Otter Creek and from its location on the Ingersoll - Port Burwell Plank and Gravel Road.

Although Tillsonburg continued to develop after 1870, the other hamlets declined appreciably. Not only was this decline due to competition from Tillsonburg but also to competition among the hamlets themselves. The hamlets were situated too close to one another to develop into large villages or towns. With the improvements in transportation and communication in the first quarter of the twentieth century Tillsonburg and Ingersoll assumed greater importance as service centres for Dereham Township while the hamlets diminished in prestige.

At the present time the condition of the eight hamlets of the township appears somewhat stagnant. Improvements in roads and communications during the last twenty-five years combined with the widespread ownership of automobiles have made rural hamlets in many cases just as desirable to live in as larger urban centres. Also many of these hamlets contain only essential service industries and therefore cannot decrease in influence without losing their identity. On the other hand the proximity of these villages to Tillsonburg and Ingersoll prevents them from expanding significantly.

CHAPTER FIVE
RURAL LAND USE

Most rural land use in Dereham Township bears a close relationship to soil, drainage, and physiography. Not only do these three factors influence the type of agriculture which has evolved in certain areas, but they help explain the extent of agricultural land, wooded land, scrubland, and idle land found therein. Since soil drainage and physiography are the three major criteria used in determining land types, it is appropriate to discuss rural land according to land types. For the purposes of this discussion, however, the Central Lowland is included within the Rolling Till Plain because its land use pattern parallels that of the Rolling Till Plain.

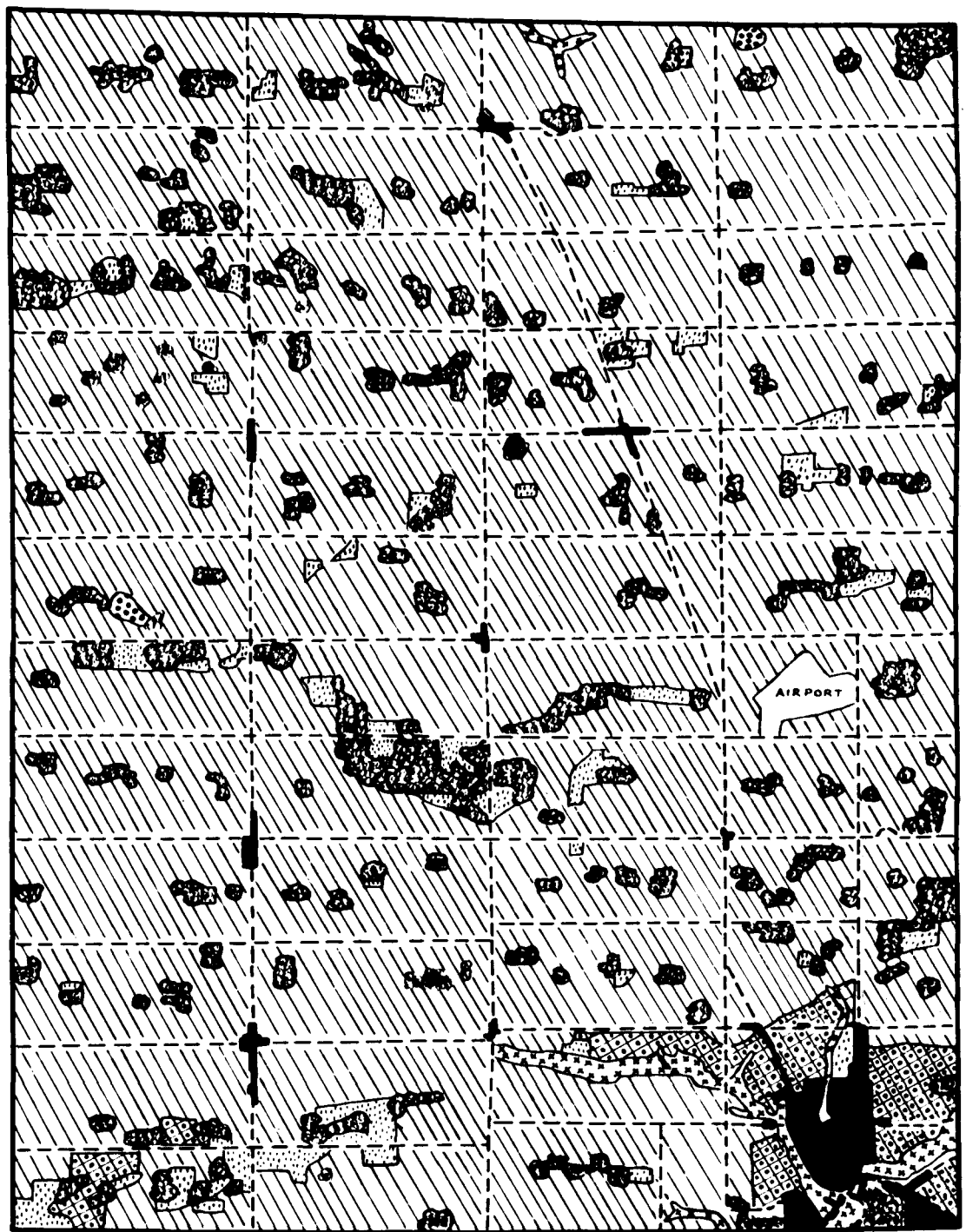
I. ROLLING TILL PLAIN

Dairy farming dominates the agricultural economy of the Rolling Till Plain. Over ninety per cent of the farms engage solely in dairying. These farms vary in size from 50 to 400 acres but the majority contain between 90 and 125 acres.

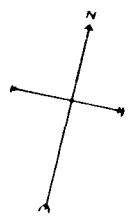
The crops which are grown on the dairy farms reflect the importance of livestock in the farm economy. The main crops, oats, corn, and hay are all important livestock feed crops. On a typical dairy farm, oats is the most significant crop from an acreage viewpoint. It is not uncommon to find 35 to 40 acres of oats on a 150 acre farm. Oats are grown so extensively because they are an important feed crop for all livestock animals - dairy cattle, hogs, sheep, horses, and chickens. On most farms oats are used entirely for feed; little if any is sold as a cash crop.








60.

LAND USE MAP OF DEREHAM TOWNSHIP



Miles Miles



- | | | | |
|---|---------------------|--|-------------|
|  | DAIRY FARMING |  | BOTTOM LAND |
|  | SCRUB and IDLE LAND |  | GRAVEL PIT |
|  | WOODLAND |  | URBAN LAND |
|  | TOBACCO FARMING | | |

Corn also occupies a considerable acreage on all dairy farms. The amount of corn used for silage or feed purposes depends upon the number of livestock and the number of silos. If the farm has one silo, 7 to 8 acres of corn is generally grown; if there are two silos, 15 acres is the usual amount. Husking corn is grown on most farms. It is stored until winter to remove moisture and then sold to local mills. In addition considerable amounts of hay are grown on all farms, forage crops comprising 33% to 45% of the total acreage of the majority of farms. Since hay is used primarily to provide bulk for dairy cattle, mineral nutrients in the form of concentrated feeds are often used to supplement a diet of hay.

Wheat acreages fluctuate more than those devoted to other crops because wheat is grown principally as a cash crop. Many farmers favour wheat cultivation as a means to supplement their income, however, at least half of the farms grow little if any wheat.

Crop yields are generally good throughout the Rolling Till Plain. Although the silt loam soils of the rolling and undulating areas are heavy and difficult to work, they are very productive when properly tilled. Unfortunately poor cultivation methods on many slopes have led to extensive erosion. Some lowland areas which are occupied by muck soils are poorly -drained and therefore relatively unproductive. However on most level areas, the drainage has been improved by the almost universal adoption of tile drainage or large drainage ditches.

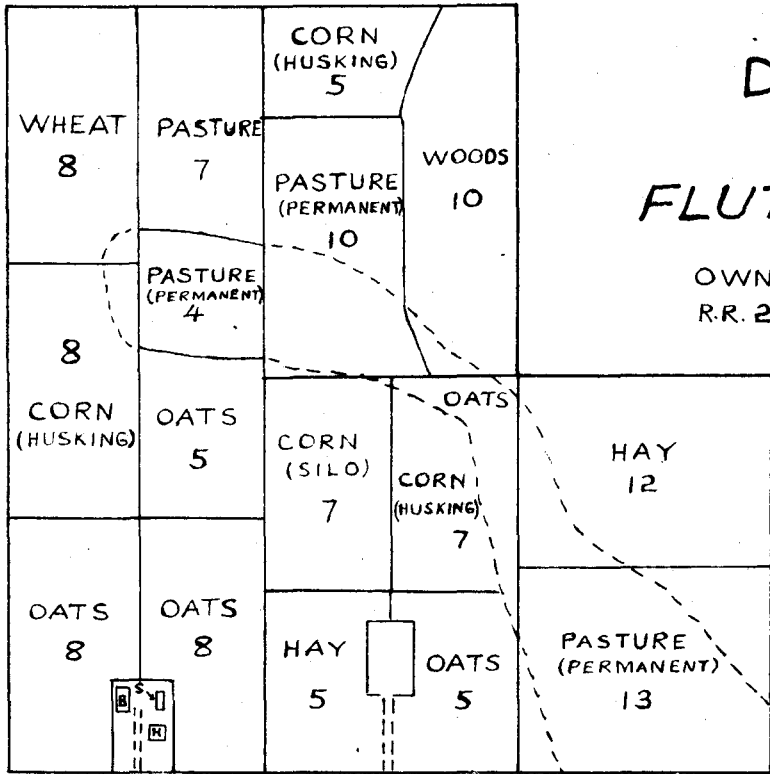
Dairy cattle and hogs are the most important types of livestock found on the farms. The size of the dairy herd varies according to the acreage of the farm and the use of the land. On most one hundred acre farms there are thirty to thirty-five head of cattle, ten to fifteen

being milch cows. Holstein cattle predominate; it is likely that this breed is found on 90% of the farms. Their popularity is due to their heavy milk production. Jersey cattle appear to be more numerous than Guernseys or Ayrshires. Purebred cattle are more numerous than grades inasmuch as the farmer can realize approximately twice the sale price for purebred stock. This stock is in increasing demand for export trade. In some districts 80% or more of the farms possess purebred cattle. On a few farms hogs are raised as a sideline of dairying.

The farm of H. Nethercott, lot 7, concession 6, was selected for special study as typical of the dairy farms of the Rolling Till Plain. This one hundred acre farm is located in undulating land. Its imperfect natural drainage has been improved by a deep drainage channel dug through the centre of the farm. The 23 acres of oats, 21 acres of pasture, 16 acres of corn, and 11 acres of hay are typical acreages for a farm of this size. However the 14 acres of wheat is above average. Mr. Nethercott's herd of twenty-five to thirty head, with twelve milking cows, is average in comparison with other farms.

Farm income in the dairy belt is derived principally from the sale of fluid milk, major markets being in Tillsonburg and Ingersoll where the milk is canned and powdered. Some farms in the south-west section of Bereham Township send milk to the Carnation factory at Aylmer. Cheese factories or creameries at Culloden, Verschoyle, Mount Elgin and Salford draw milk from areas immediately surrounding them.

The prosperity of most farmers in the Rolling Till Plain is reflected in the attractive farm buildings. Most barns are substantially built and colourfully painted. Cement silos are much more common than wooden ones. Farm houses however tend to vary more in quality than barns.



DAIRY FARM

on the
FLUTED TILL PLAIN

OWNED BY LORNE McKIBBON
R.R. 2 MOUNT ELGIN

AREA OF FARM - 125 ACRES

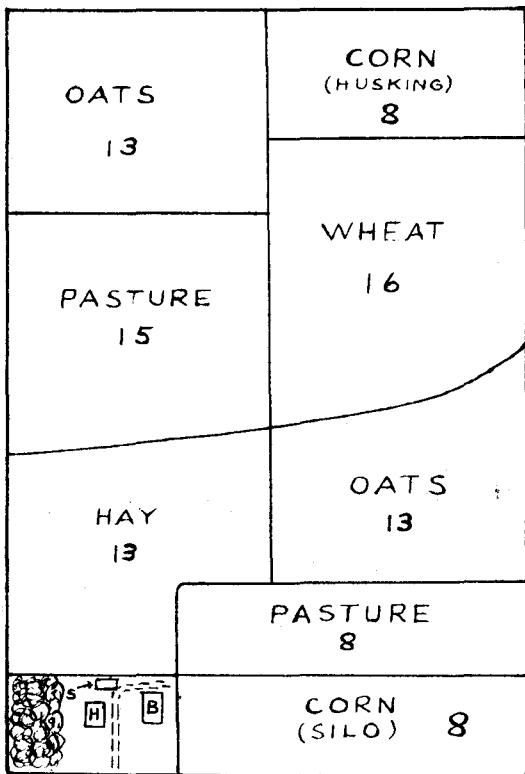
KEY

- B - BARN
- S - SHED
- H - HOUSE
- MUCK SOIL BOUNDARY

NUMBERS REFER TO
ACREAGES OF THE FIELDS



DIAGRAM 1



DAIRY FARM

on the
ROLLING TILL PLAIN

OWNED BY H. NETHERCOTT
R.R. 1 MOUNT ELGIN

AREA OF FARM - 100 ACRES

KEY

- B - BARN
- S - SHED
- H - HOUSE
- ⊗ - ORCHARD

NUMBERS REFER TO ACREAGES
OF THE FIELDS

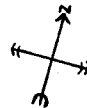


DIAGRAM 2



Photo No. 12. A painted stock barn on a dairy farm near Ostrander. It is typical of barns on the Rolling Till Plain.



Photo No. 13. One of the many drainage ditches running through the flat areas of the Central Lowland.

Although attractive brick houses predominate, many dwellings are rundown and drab in appearance.

Only a small percentage of rural land on the Rolling Till Plain is not used for agriculture. Isolated patches of wooded, scrub, and idle land occur throughout the area. Most of the larger patches are found on muck soils which because of their poor drainage have never been cleared. The vast majority of the small wooded areas, however, are woodlots owned by individual farmers and used for a variety of purposes including fuel, fence posts, and maple syrup. For the most part these woodlots are located on good agricultural land because there is little if any poor soil on the farms.

Two portions of land in this land type are used for special purposes. On the 7th concession road, east of Highway # 19, the Tillsonburg Airport occupies 612 acres of land. The airport is operated by private concerns who utilize it mainly as a training centre for local fliers. Since this air-training is at present limited, over two hundred acres of this area have been cultivated for grain crops. At the northern boundary of the township there is a gravel pit which supplies material for road construction and maintenance in Dereham and Ingersoll.

II. FLUTED TILL PLAIN

Although dairying is the major occupation of most farmers in this land type, the crop pattern on the farms bears a much closer relationship to soil and topographic factors than does the crop pattern on the farms of the Rolling Till Plain. The alternation of hill and vale, loam soils and muck soils has led to a certain fixity of crop location. The upper slopes of the hills are often too steep to plow

with a tractor and too easily eroded. Therefore they tend to be left in woods or pasture permanently. The muck soils which are so prevalent in the vales are detrimental to many crops even when the drainage has been improved. Consequently most fields in which muck soils occur are also used as permanent pasture or are planted in crops like barley and oats which grow tolerably well under these conditions. Oats are somewhat risky to grow because they may develop so much stalk that they are easily blown down when green. Muck soil could be used advantageously in growing truck crops or it could be sold. However most farmers prefer to spend all their time on dairying rather than part of it on time-consuming truck-farming and muck-mining.

In addition to influencing the location and type of crops grown, the wide variation of soils and topography over a small area encourage the formation of small or medium - sized fields. Small fields permit a more efficient use of the land since crops can be grown on the type of soil and topography for which they are best suited. Crops are not apt to be spread over much land unsuitable to their development.

Except for a greater emphasis on permanent pasture crop acreages on the Fluted Till Plain are similar to those on the Rolling Till Plain. Oats, corn, hay, and pasture predominate. A little wheat is also grown on most farms. Husking corn as well as silo corn is present on the majority of farms.

The type and number of livestock found on the farms corresponds with those on the former land type. Purebred Holsteins are the most numerous type of cattle.

Most of the fluid milk from the farms is sent to the Borden factory at Ingersoll or the Verschoyle cheese factory.

A typical dairy farm on the Fluted Till Plain selected for special study is that owned by Lorne McKibbon, lot 26, concession 4. On this 125 acre farm there are 34 acres of pasture, 24 acres of corn, 29 acres of oats, 17 acres of hay, 10 acres in woods, and 3 acres in farmsteads. All but seven of the 34 acres of pasture remain permanently in grass. most of this permanent pasture is found on marginal land - muck land and rolling land - in southern and western sections of the farm. Although McKibbon does not grow crops on his muck land he occasionally cultivates the muck to keep down weeds and loosen up the soil. However many other farmers with a tile drainage system extensively crop their muck land, growing mainly corn and oats. That part of McKibbon's farm lying north of the muck soil belt is occupied by undulating to gently rolling land which provides no major physical obstacles to the type of crops which may be grown.

Most of the woods and scrubland in this land type are found in hilly areas or sectors with muck soil. Although the soils in the land type as a whole are fenerally poorer than those of the Rolling Till Plain, the acreage in non-agricultural land is not much greater. This is so because muck marginal agricultural land used as permanent pasture and woodlots occupy poor soils instead of the predominantly good soils of the Rolling Till Plain.

III. MUCK PLAIN

No farms are found entirely on the muck plain since the area is not productive enough and is unsuitable for building purposes. However many farms situated on the borders of muck deposits in the Muck Plain sell the muck to supplement dairying or even derive their major

source of revenue from the sale of muck.

The proximity of the Muck Plain to the tobacco lands to the south has greatly stimulated muck-mining. Muck soil finds its greatest use in the greenhouses of tobacco farms. The young tobacco plants are nurtured upon this rich organic soil until the time comes for replanting the young shoots in the fields.

In addition to its major use in tobacco greenhouses, muck is sold to enrich gardens and lawns. The quantity of muck sold for these purposes is far less than that sold to tobacco farmers.

The preparation of muck soil for marketing entails considerable work. To begin with, the muck must be relatively dry before it can be exploited. Accordingly a tile drainage system is the first prerequisite. Next, all vegetative covering must be removed from the land. After clearing the land the farmer must then work the muck thoroughly in order to remove sticks and debris embedded in it and to keep the material loose and dry. Disking and harrowing also serve to aerate the muck and reduce it to a more powdery form. The material needs to be very powdery since if large particles are present tobacco roots will cling to them and break off when the plants are removed from the greenhouses. After being carefully worked in the spring and fall, the muck is scraped and piled into mounds on the field. Some farmers sell muck directly from these field mounds. However the majority screen the material to improve its quality and then stockpile it on solid ground near the house or barns. Storage of the muck in this more accessible location permits truckers to cart it away in wet weather.

Only a small percentage of the total acreage of any muck farm is devoted to the proportion of muck for sale. On most farms muck

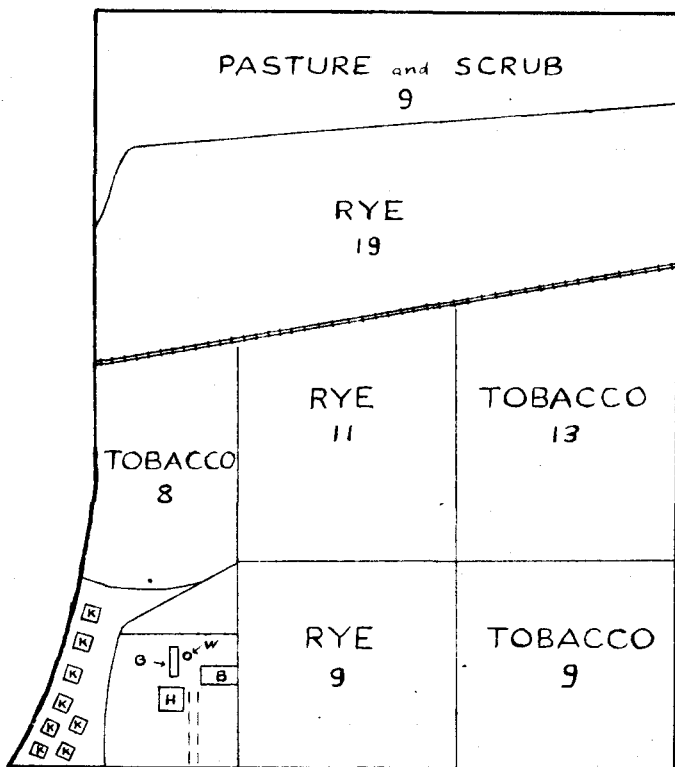
is present on only thirty to forty-five per cent of the land and generally less than one-half of this muck area is mined every year. Although some crops are grown on muck soil, most crops are found on the silt loam soils of the till areas. On those farms specializing in dairying the usual forage crops are grown. Hay, oats, and corn are the most important and muck land is also in pasture. On the few farms depending primarily upon muck sales for their income the crops are more varied and may include oats, hay, corn, wheat, barley, and soybeans. The acreages of each fluctuate accordingly to the degree of concentration on dairying.

Typical of this latter group of muck farms is one owned by Harry Couse of lot 20, concession 7. Oats and hay are grown as feed crops for the twelve head of dairy cattle present on the farm. In addition, soybeans and barley are grown as cash crops. Muck is prepared from sections of three fields. On two of these fields soybeans and barley are grown on land which is not underlain by muck soil.

The equipment necessary to operate a muck farm efficiently is quite costly. Mr. Couse possesses over \$5,000 worth of equipment. He owns two tractors; one equipped with a scraper, the other a loader costing over \$1,400. In addition he owns his own truck. The tractor loader is used to transfer muck from the field pile to the truck. Mr. Couse believes that loaders don't pay for themselves but they are a necessary implement to handle added volumes of business. Competition with other dealers limits the price of muck from \$8.00 to \$10.00 a load. This competition also restricts the number of muck producers since it is unprofitable to engage in muck farming unless a producer has sufficient acreage in muck and devotes considerable time to the production of high quality muck.



Photo No. 14. A muck pile on the farm of Harry Couse, on the border of the Muck Plain. This muck has been screened and is ready for sale.



TOBACCO FARM

on the
TILLSONBURG SAND PLAIN

OWNED BY WILLIAM VASILY
R.R.3 TILLSONBURG

AREA OF FARM - 85 ACRES

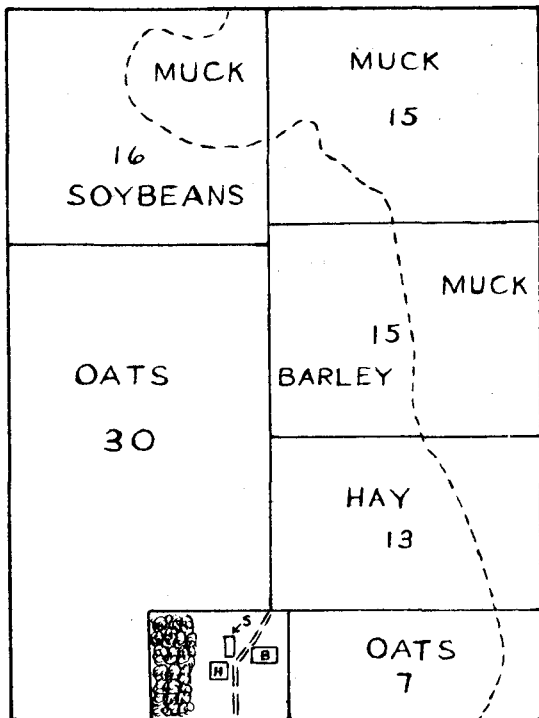
KEY

- K - KILN
- B - PACK-BARN
- G - GREENHOUSE
- W - WATER TOWER
- H - HOUSE

NUMBERS REFER TO ACREAGES
OF THE FIELDS



DIAGRAM 1



MUCK FARM

on the
FLAT MUCK PLAIN

OWNED BY HARRY COUSE
R.R.1 OSTRANDER

AREA OF FARM - 100 ACRES

KEY

- B - BARN
- S - SHED
- H - HOUSE
- ORCHARD
-

NUMBERS REFER TO ACREAGES
OF THE FIELDS



DIAGRAM 2

Wooded land, scrub land, and idle land comprise well over one-half of the total land surface of the Muck Plain. This high percentage of non-agricultural land is a direct consequence of the unsuitability of large areas of muck for agricultural purposes. Poor drainage is the chief obstacle. In addition, since muck is composed of organic matter, there is a great lack of mineral nutrients so that muck soils must be heavily fertilized with phosphate and potashes if they are to become productive. The most extensive sections of wooded land and scrub land in all Bereham Township occur on the Muck Plain. Surrounded by muck, there is also a gravel pit, located on a narrow belt of stony Burford Loam soil. This soil has developed on top of a gravel island formed in a spillway in glacial times.

IV. TILLSONBURG SAND PLAIN

Tobacco farming is not only confined exclusively to the Tillsonburg Sand Plain but within this sand plain it is the predominate type of agriculture. This is so because soil is the major locating factor for tobacco growing. Sands and sandy loams lend themselves admirably to the growing of tobacco because they are light-textured, friable, acidic soils. For good yields the subsoil must be sandy for a considerable depth. Consequently the vast majority of tobacco farms are located on Fox Sandy Loam and Fox Sand. Sandy areas which are underlain by loam or heavier soils within a few inches of the surface soil are not conducive to tobacco yields. As a result Berrien Sandy Loam areas contain only a few tobacco farms. These are found in an area stretching one-half mile east of Delmer to one-half mile west of County Road # 10.



Photo No. 15. Typical tobacco farm buildings on the Tillsonburg Sand Plain. From left to right note the kilns, water tank, greenhouses, and pack barn.



Photo No. 16. A close - up of tobacco kilns with the oil tank at left, used for heating purposes. In the right foreground observe the remnants of tobacco stalks following harvesting operations.

Most of the tobacco farms average seventy-five to one hundred acres in size and exhibit a two-crop rotation pattern, tobacco and rye being complementary crops on all tobacco farms. Rye is chosen because it grows well on sandy soil, it enriches the soil, and as a close-growing cover crop, it protects the soil from wind erosion. The acreages of the farms and the amount of land devoted to the crops vary considerably because of the marketing plan under which tobacco is sold. Almost all tobacco farmers are members of the Tobacco Growers Association. Out of that organization a number of members are elected to the Marketing Board. Due to overproduction and high cost of growing tobacco, this body controls the tobacco acreage each farm may produce (referred to as the rights of the farm) and attempts to secure an adequate price for the crop. The rights of any farm depend upon the acreage of the farm and the length of time the farm has been growing tobacco. Fifteen to thirty acres of tobacco is the usual amount for a seventy acre farm. Generally rye occupies all fields not planted in tobacco. On most tobacco farms there are one or two fields which are left in rye for a second year to produce seed for replanting the following season.

Most tobacco farmers depend solely upon the sale of tobacco for their revenue. A few farmers keep chickens and cows but these are used generally for domestic purposes. The tobacco is sold to large tobacco factories whose agents travel about the countryside grading the tobacco and contracting with the farmers for a price.

The farm of William Vasily, lot 10, concession 11, is typical of tobacco farms found on the Tillsonburg Sand Plain. The entire sixty-nine acres of cropland is devoted to tobacco and rye with tobacco occupying thirty acres. In addition there are nine acres of

pasture and scrub which form a part of Stony Creek bottom land. There are eight kilns on the farm. Since these kilns are used for curing tobacco from two farms they represent a larger group than would normally be found on a single farm of this size.

Most of the non-agricultural land on the Tillsonburg Sand Plain is found on the belt of Berrien Sandy Loam which runs southwest from Delmer. Unlike the Fox Sandy Loam, Fox Sand, and Oshtemo Sand, the Berrien soils are unsuitable for tobacco - growing. Nor, because of their sandy nature, has dairying developed on these soils to any great extent. With little agricultural demand, therefore much of the land is occupied by woods or scrub.

Considerable amounts of bottom land are present around Tillsonburg in the valleys of Stony Creek and Otter Creek. This land is idle.

CHAPTER SIX

SUMMARY AND CONCLUSIONS

SUMMARY

Geographic factors have combined to make Dereham Township one of the most important dairy regions of Ontario. Although climate and soils are favourable to the development of excellent forage crops, the township owes its high - ranking dairy position to its early importance as a cheese centre. The factory system of cheese - making originated in Oxford County and attained its early prominence in Dereham Township. The shift from household cheese manufacture to factory production stimulated milk production and promoted the development of dairy farming. The manufacture of cheese has declined considerably in the twentieth century but the greater use of milk for fluid, condensed, and powdered purposes has allowed the township to maintain its important role in dairying.

At the present time dissension is building up among dairy-men over the pricing system of milk. Overdevelopment of dairying in relation to market demand has kept basic milk prices low. This situation is aggravated by the wide price range existing between milk sold for fluid purposes and milk sold for concentrated purposes; the former type of milk brings a much higher price to dairy farmers. However the small market for fluid milk forces most Dereham Township farmers to sell their milk for concentrated purposes.

Unless an improvement in the pricing system of milk occurs within a few years, it is likely that dairying will decline somewhat and specialized cash crops and mixed farming assume greater importance.

Tobacco farming attains only minor importance in Dereham Township and will remain so in the future. Tobacco depends upon sandy - textured soils for good growth and thus is confined to the Tillsonburg Sand Plain. Areas in which sand deposits are shallow are little used for tobacco cultivation.

The town of Tillsonburg includes the southern half of Dereham Township in its sphere of influence. Besides providing goods and service to a large hinterland, Tillsonburg's commercial and industrial establishments offer employment for a considerable number of rural dwellers as well as urban residents. The majority of Tillsonburg's industries and especially the more recent ones produce for Ontario or Canadian markets.

Tillsonburg benefits from a very prosperous upland. Dairy and tobacco farmers pour money into the town, contributing to its thriving appearance. However the dependence of the town upon a rich hinterland should be lessened in the future. A progressive attitude toward industrial development holds sway in Tillsonburg at the present time. Efforts are being made to encourage new industries to locate in the town.

The seven other hamlets of Dereham Township are minor service centres catering to the needs of a small local populace. At present most of these centres are in a stagnant condition and will likely remain so.

CONCLUSION

In order to explain the importance and distribution of dairying, tobacco farming, and urban settlement in Dereham Township, it is necessary to evaluate carefully the factors which have led to

their development. Many factors which explain the importance of dairying in most districts do not apply to Dereham. It is true that climate, soils, and proximity to markets are suited to dairying in Dereham but not more so than in many other areas. The township's growth stems mainly from the early development of the factory system for cheese manufacture. There is no geographic reason which can explain the early advance of the cheese industry in Dereham Township and therefore one must attribute this development to an historical accident.

The distribution of dairying within Dereham Township is governed primarily by soil type. Heavy - textured silt loams and loams favour dairying while muck soils and sandy soils are unsuitable for dairy farming. Hence dairying is found on the better soils of the till plain which covers most of the township.

Soil is the dominant factor affecting tobacco distribution. Tobacco thrives only on sandy - textured soils and accordingly is confined to the Tillsonburg Sand Plain. Favourable climate and drainage as well as protective tariff regulations encourage tobacco - growing.

Urban settlements in Dereham function as service centres for rural areas. These centres are evenly distributed throughout the township. Tillsonburg has emerged as the leading urban centre because of its favourable site. Located on Otter Creek, Tillsonburg benefitted from cheap water power made possible by the construction of dams across Otter Creek and Stony Creek.

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










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TILLSONBURG

SCALE - 1" to 730'

- | | | |
|---|---------------------------------------|---------------------------|
|  | DEPENDENT ON LOCAL MARKETS | INDUSTRY |
|  | DEPENDENT ON LOCAL RAW MATERIALS | |
|  | NOT DEPENDENT ON EITHER OF ABOVE | |
|  | THOSE SERVING ENTIRE TOWN | COMMERCIAL ESTABLISHMENTS |
|  | THOSE SERVING A CERTAIN NEIGHBOURHOOD | |
|  | FIRST CLASS HOUSING | HOUSING |
|  | SECOND CLASS HOUSING | |
|  | THIRD CLASS HOUSING | |
|  | FOURTH CLASS HOUSING | |
|  | PARKS and OPEN SPACES | |
|  | IDLE LAND | |
|  | AGRICULTURAL LAND | |
|  | WOODED LAND | |
|  | BOTTOM LAND | |
| PUBLIC and QUASI-PUBLIC LAND | | |
| L - LIBRARY | S - SCHOOL | A - ARENA |
| H - HOSPITAL | T.H. - TOWN HALL | ☒ - CEMETARY |
| | H.S. - HYDRO SUB-STATION | + - CHURCH |
| | | P - POST OFFICE |
| — — — — — TOWN LIMITS | | |
| - - - - - BREAK IN SLOPE | | |

